Winnipeg

FINAL REPORT

WINNIPEG TRANSPORTATION MASTER PLAN 2050:

2024 PEDESTRIAN AND CYCLING STRATEGIES

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LAND AND WATER ACKNOWLEDGMENT

The City of Winnipeg is located in Treaty One Territory, the home and traditional lands of the Anishinaabe (Ojibwe), Ininew (Cree), and Dakota peoples, and in the National Homeland of the Red River Métis. Our drinking water comes from Shoal Lake 40 First Nation, in Treaty Three Territory.

TABLE OF CONTENTS

(CLICK BELOW TO NAVIGATE)

SECTION 1

INTRODUCTION

SECTION 1
INTRODUCTION

1.1 BACKGROUND

The City of Winnipeg is a vibrant and growing community in the heart of the Canadian prairies. As the largest city in Manitoba, the 750,000[1] residents who called Winnipeg home in the most recent census represented 56 percent[2] of Manitoba's total population. Incorporated in 1873, Winnipeg's growth and development patterns were originally shaped by the railway, which supported the farming and agricultural industry of the region. Situated in the fertile Red River floodplain, the highly productive agricultural lands of the area have long defined the local character and economic life of Winnipeg, and as such, farmland has historically influenced the settlement pattern and growth of the community. Today, Winnipeg has many natural and economic assets that attract many people to live in and visit the city, and to enjoy its services, amenities, and distinct culture.

Winnipeg's land use and development patterns are shaped by its major road and rail transportation networks. These are critical to support the local and regional economy. However, the City also recognizes the importance of developing a multi-modal and sustainable transportation system and has continually sought improvement opportunities for transit and active modes of transportation such as walking and cycling. Promoting walking and cycling as attractive and convenient transportation choices can help reduce automobile dependence, increase physical activity levels, improve public health, reduce infrastructure demands, and create more livable and vibrant communities. Enabling walking and cycling is a key part of the vision and directions to increase transportation choices in several of the City's plans, including OurWinnipeg, Complete Communities, and the Transportation Master Plan. This update to the 2015 Pedestrian and Cycling Strategies (PCS) is a component of the Transportation Master Plan 2050 (TRANSPORTATION 2050) project.

[1] *2021 Census of Population, Statistics Canada*

[2] *City of Winnipeg Population 749,607*
Province of Manitoba Population 1,342,153, 2021
- Census of Population, Statistics Canada

Winnipeg's unique physical geography provides several opportunities and challenges for promoting walking and cycling.

Its flat topography, vibrant and growing downtown, large educational institutions, and scenic and expanding pathway system present exceptional opportunities for supporting walking and cycling in many areas of the city. However, development in Winnipeg has historically followed a pattern of outward growth, creating many neighbourhoods and destinations that favour automobile use over walking, cycling, or transit. There are 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, several highways and major streets, as well as the numerous rail corridors present significant barriers to walking and cycling within Winnipeg. The climate also plays a role in people's decision to choose active modes in the winter months. This is due in part to temperature but also to user comfort. As the separated cycling network builds out this should attract more users in the winter. The 2021 Census reports that 82.7 percent of Winnipeg commute trips for the employed labour force were by car, truck, or van while 9.2 percent of commute trips were by transit. Walking and cycling only account for approximately 4.7 percent and 1.3 percent of all commute trips, respectively.

The City invests in pedestrian and bicycle infrastructure and support measures; however, there are opportunities to develop a more complete active transportation network and create a balanced and multi-modal transportation system that provides more transportation options for both residents and visitors to Winnipeg.

The City of Winnipeg is committed to providing greater transportation options resulting in improved quality of life, attractive neighbourhoods, and vibrant city streets. Guided by Our Winnipeg, Complete Communities, the Climate Action Plan, the Winnipeg Poverty Reduction Strategy, and TRANSPORTATION 2050, the Pedestrian and Cycling Strategies update continues to support the City's goals of ensuring travel options and creating a sustainable transportation system to meet the needs of all residents and visitors.

1.2 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 Winnipeg, are increasingly recognizing that promoting walking and cycling can result in a more balanced transportation system that is equitable, sustainable, safe, 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 citizens 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:

What is All Ages and Abilities?

The *Pedestrian and Cycling Strategies* focuses on creating a city-wide network of walking and cycling infrastructure that are comfortable for people of all ages and abilities (AAA), in particular children, women, and seniors, to walk and/or ride a bike. AAA principles focus on providing safe, comfortable, and equitable infrastructure such as multi-use pathways, protected bike lanes that are physically separated from traffic, and cycling routes such as neighbourhood greenways that have low traffic volumes and speeds. While these types of infrastructure are generally accepted as AAA, defining infrastructure as AAA is subjective and based on the user's experience and perspective.

1.2.1 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.
- **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[3] 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[4]. 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[5]. 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

[3] [4] [5] [6] *Extracted from Winnipeg's Pedestrian and Cycling Strategies (2015)*

- **Walking and cycling infrastructure is a more efficient use of space** since 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 save travel time** as walking or cycling can often be faster and more affordable than travelling by car or bus particularly for short local trips in congested urban environments. 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.
- **Enhancing active transportation keeps Winnipeg competitive among walkable and bikeable cities** since cities that invest in pleasant and efficient pedestrian and cycling facilities attract young people who are choosing active transportation over automobile ownership[7].
- **Many benefits are accrued by the individual pedestrian or cyclist** yet most 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. This results in a cost savings to society in the form of reduced taxes and/or premiums for health care.

[7] [8] [9] *Extracted from Winnipeg's Pedestrian and Cycling Strategies (2015)*

1.2.2 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[8]. Physical activity has been proven to improve psychological wellbeing and prevents weight gain and obesity[9]. Walking and cycling are some of the most affordable and accessible ways to add exercise to a daily routine.

1.2.3 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 these modes more visible and viable, resulting in reduced risk of collisions. Streets designed for lower vehicle speeds feel safer for both pedestrians and cyclists. Studies have shown that lower motor vehicle speeds exponentially increase survival rates for both pedestrians and people riding bicycles involved in collisions with vehicles[10]. 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.

1.2.4 ENVIRONMENT

Walking and cycling are considered sustainable forms of transportation and alternative to the personal vehicle. 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[11]. 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 efforts towards climate change mitigation. Supporting sustainability is a priority; supporting walking and cycling can protect and improve Winnipeg's natural environment.

1.2.5 SOCIETAL BENEFITS[12]

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.

- **Prioritizing active transportation mirrors shifting trends in transportation mode choice[13].** A major societal shift is taking place among individuals born between 1981 and 2001. This demographic increasingly chooses 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.
- **All ages and abilities creates active communities for both young and old.** 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.
- **All ages and abilities accommodates people in an equitable way.** Many people who cycle do so out of necessity opposed to choosing that mode for other reasons. A robust all ages and abilities cycling network provides more equitable access to transportation options. The public realm, including active transportation infrastructure must be designed to accommodate all people, including those with accessible needs for walking and wheeling. Bike lanes often present a barrier between the sidewalk and vehicular lane. This must be considered and overcome by creating accessible crossings of the bike lane.

[10] [11] [12] [13] *Extracted from Winnipeg's Pedestrian and Cycling Strategies (2015)*

1.3 PURPOSE

The purpose of this update is to review and update the 2015 PCS with recommendations for improvements. The updated PCS aligns with the TMP2050 as both documents serve as the City's blueprint for planning, investing, developing, and operating its walking, cycling, transit, and road networks over the next three decades.

The update has three primary goals:

1. To fulfill the five-year review and update recommended by the 2015 PCS
2. To align the PCS with the TMP2050, the updated OurWinnipeg 2045 and Complete Communities 2.0 and other City plans, policies, and strategies
3. To ensure the PCS remains a leading walking and cycling plan by integrating new and innovative best practice recommendations

Ultimately, as with the 2015 PCS, the updated Strategies seek to maximize transportation options by ensuring accessibility, comfort, and safety of walking and cycling in Winnipeg, and by establishing directions for walking and cycling policies, infrastructure, and programs over the next 25 years and beyond. By doing so, the updated Strategies are intended to provide a detailed implementation plan with short, medium, and long-term priorities for walking and cycling improvements throughout the city.

1.4 METHODOLOGY

The PCS Update retains the long-term vision for walking and cycling set by the 2015 PCS. It continues to be supported by seven overarching guiding goals (or principles), and six strategic directions with supporting actions. The update focuses on the following four tasks:

1. **Assess and evaluate the current state of existing network:** This involved two components: (1) the assessment of the planning, policy, and regulatory context within which active transportation takes place in Winnipeg; and (2) evaluation of the performance of the existing walking and cycling networks in Winnipeg using volume and usage data from traditional and 'big data' telemetric sources. Results from this component are summarized in Appendix B.
2. **Conduct a five-year review of 2015 Pedestrian and Cycling Strategies:** A review was conducted of the 2015 PCS to identify progress to date with respect to implementation, as well as opportunities for making the document more user-friendly and inclusive of ongoing and recently completed applicable City studies (e.g., applicable walk/bike projects, precinct plans, and others). Results from this component are incorporated throughout the document including the implementation plan in Chapter 4.
3. **Identify new issues and opportunities:** The purpose of this component was to identify new issues, opportunities, and enhancements to ensure the PCS continues to be a leading walking and cycling plan in Winnipeg. The results from this component are summarized in Chapter 2 and incorporated into Chapters 3 and 4.

1.5 COMMUNICATIONS AND ENGAGEMENT

Fully understanding the perspectives and expectations of all users was fundamental to creating a plan that reflects Winnipeggers' diverse needs, wants, and priorities. The TMP2050 undertook a robust public engagement process that included the Pedestrian and Cycling Strategies update. This process included three phases of engagement: visioning and issues identification; strategic direction review; and plan confirmation. Full reports for all phases of engagement can be found in an appendix of TMP50. Results related to walking and cycling of each of these rounds of public engagement are summarized in Appendix B of this report.

EXHIBIT 1.1: KEY DOCUMENTS

Name	Source	Publication Date
OurWinnipeg 2045	City of Winnipeg	2022
Complete Communities Direction Strategy 2.0	City of Winnipeg	2022
Road Safety Strategic Action Plan	City of Winnipeg	2022
Community Energy Investment Roadmap	City of Winnipeg	2022
Winnipeg's Climate Action Plan	City of Winnipeg	2018
Winnipeg Transit Master Plan	City of Winnipeg	2021
Winnipeg Poverty Reduction Strategy	City of Winnipeg	2021
Winnipeg Parks Strategy	City of Winnipeg	2022
Manitoba Capital Region Transportation Master Plan	Winnipeg Metropolitan Region	2014
Manitoba Climate and Green Plan	Province of Manitoba	2017
South Perimeter Design Study Final Report	Province of Manitoba	2020
Transportation Master Plan*	*City of Winnipeg*	*2011*

**Not reviewed as it is planned to be replaced by TMP50.*

1.6 CONNECTIONS TO OTHER PLANS

Nine key documents speak directly to pedestrians and cyclists (see Exhibit 1.1). These were explicitly considered in the development of the PCS update. This section provides an overview of relevant pedestrian and cyclist related content in each of these documents. Note that although the 2011 Transportation Master Plan is acknowledged as a key document it has not been reviewed as it is being replaced by TMP2050 and predates the 2015 PCS.

1.6.1 OURWINNIPEG 2045

OurWinnipeg is the City's foundational planning document intended to guide 25 years of growth and development as per the City of Winnipeg Charter. OurWinnipeg places emphasis on the following six sustainable development goals (which are also the TRANSPORTATION 2050 goals):

1. Leadership and good governance
2. Environmental resilience
3. Economic prosperity
4. Good health and well-being
5. Social equity
6. City building

Important considerations from the document as it relates to active transportation are:

- ***Objective 2*** under the Environmental Resilience Goal calls for prioritization of sustainable transportation as the mobility option of choice. However, there are no associated policies specifically relating to active transportation.
- The Economic Prosperity Goal identifies two policies related to active transportation:
  - *Policy 3.11 – Community Economic Development* calls for the support of local enterprises and employment through "strategic investment in transit, active transportation, and a pedestrian-oriented public realm, that results in well-connected, mixed-use activity nodes, to enable residents to participate in economic activity in close proximity to where they live."
  - *Policy 3.17 – Sustainable Transportation Connectivity* calls for the prioritization of enhancements to the public transit system and active and public transportation network to "improve their viability and access to places such as educational institutions, employment opportunities, recreation and library facilities, providers of essential goods and services and health providers, especially for neighbourhoods most impacted by poverty."

- ***Objective 2*** under the Good Health and Well-Being goal calls for support of positive health outcomes through the built and natural environments. One of the policies under this goal is specific to active transportation:
  - *Policy 4.12 – Inclusive Public Places* calls for investment in "inclusive pedestrian-oriented public amenities, and active transportation in prioritized development areas on Urban Mixed Use Corridors and other priority routes, to promote year-round accessibility, physical activity and social interaction."
- ***Objective 2*** under the City Building goal calls for integration of resilient land use, transportation, and infrastructure planning, and investments. Eight policies under this goal are specific to active transportation:
  - *Policy 6.14 – Corridors* calls for the prioritization of creating and maintaining vibrant pedestrian and transit-oriented places in Urban Mixed Corridors
  - *Policy 6.17 – Urban Mixed Use Corridors* calls for the creation of a "comfortable pedestrian environment and attractive public realm along Urban Mixed Use Corridors through design guidelines and infrastructure investments."
  - *Policy 6.16 – Complete Streets* calls for the application of complete street principles in Urban Mixed Use Corridors, and other areas as appropriate, "to enhance the safety and usability of a mixed transportation network based on a hierarchy of users which safeguards those most at risk of fatality and injury."
  - *Policies 6.18 and 6.31 – Transit-Oriented Development* call for the support of Rapid Transit Corridors through, among other things, a pedestrian and cycling-friendly environment. Further, there is a desire for a more balanced modal split through "the integrated planning and development of compact, walkable and connected mixed-use neighbourhoods, that enable a transition to active and public transportation mobility."
  - *Policy 6.19 – Mixed Use Centres* calls for the designation of Mixed Use Centres, which have the "ability to accommodate major retail uses and become pedestrian-friendly areas connected by multiple modes of transportation."
  - *Policy 6.20 – Major Redevelopment Sites* calls for the designation of these sites to provide transformative, sustainable, well-designed and walkable urban environments.
  - *Policies 6.35* and *6.36 – Inclusive Public Spaces* call for the practice and enforcement of a high standard of urban design that supports a pedestrian-oriented urban environment. Further, there is desire to "leverage investment in public amenities in partnership with private investors, to create a safe, vibrant, and pedestrian-oriented public realm in areas prioritized for mixed-use development."

1.6.2 COMPLETE COMMUNITIES 2.0

Complete Communities is a citywide secondary plan that guides growth, development, and land use in the city, and whose primary focus is to describe Winnipeg's physical characteristics and introduce an Urban Structure that creates a framework for the city's future physical growth and development.

Important considerations from the document as it relates to active transportation in Winnipeg's Transformative Areas are:

DOWNTOWN

- ***Goal 4*** – Ensure land use decisions reduce the impact of automobile use to enhance the pedestrian experience downtown
  - *Policy 4.1* calls for a reduction of surface parking lots downtown, particularly in areas with high pedestrian activity.
- ***Goal 6*** - Ensure walking is a mode of preference, and that pedestrian comfort, convenience, and amenity continue to be primary determinants of design decisions
  - *Policy 6.1* calls for the development of design guidelines for downtown pedestrian infrastructure that consider the unique characteristics of each district.
  - *Policy 6.3* calls for complementation or enhancement of established or planned pedestrian routes and weather-protected walkway system "in accordance with the Winnipeg Pedestrian and Cycling Strategies"
  - *Policy 6.4* calls for investment in pedestrian improvements that promote direct, efficient, and enjoyable connectivity between defined districts, destinations, and clusters.
  - *Policy 6.5* calls for enhancement of the connectivity between downtown districts by improving pedestrian and cycling infrastructure "in accordance with the Winnipeg Pedestrian and Cycling Strategies, and supporting development and redevelopment along strategic routes."
  - *Policy 6.9* calls for a study of curbside management best practices to "ensure curbside space is managed equitably by the various users of this resource."
  - *Policy 6.10* calls for continued and enhanced snow clearing service on streets, sidewalks, the Riverwalk, and strategic park spaces downtown to maintain year-round mobility and access.

- ***Goal 7*** - Ensure the sustainability of the transportation network by encouraging mode shifts and transportation demand management.
  - *Policy 7.2* calls for the promotion of Transportation Demand Management (TDM) to promote carpooling, car sharing, walking, public transit, cycling, vehicles for hire, and other active or sustainable modes of travel.
  - *Policy 7.3* calls for the growth of Winnipeg's pedestrian and cycling network in accordance with the Winnipeg Pedestrian and Cycling Strategies.
  - *Policy 7.4* encourages secure long-term bike parking infrastructure downtown at destinations that include major transit stations, public buildings, parks and open spaces, entertainment venues, residential buildings, and major employment, shopping, and dining destinations.
  - *Policy 7.5* indicates that the river system "continues to be incorporated into the pedestrian network within, to, and from Downtown year-round, including river access points to the formal Riverwalk system as well as access points to winter river trail."
- ***Goal 8*** - Prioritize pedestrian comfort, convenience, and amenities downtown.
  - *Policy 8.3* calls for the design of a new system of pedestrian wayfinding signage and maps that are clear, easy to understand, and easily updateable by City of Winnipeg staff.
- ***Goal 9*** - Take a leadership role in creating high-quality streets, parks, plazas, and buildings downtown.
  - *Policy 9.3* calls the creation of pedestrian places and spaces downtown that effectively accommodate all ages and abilities throughout the year.

CORRIDORS

- ***Goal 3*** - Ensure Corridors provide a comfortable pedestrian environment and attractive public realm.
  - *Policy 3.1* and *Policy 3.7* call for the prioritization of a comfortable pedestrian environment and attractive public realm on developments along Urban Mixed Use Corridors, as well as on Regional Mixed Use Corridors.
  - *Policy 3.5* calls for design of the public realm and right-of-way "to promote improvements to the pedestrian and cycling environment, including pedestrian- and transit-oriented streetscaping enhancements."
  - *Policy 3.9* calls for pedestrian-oriented improvements to the design of the public realm and right-of-way on Regional Mixed Use Corridors.

RAPID TRANSIT CORRIDORS

- ***Goal 2*** - Promote transit-supportive land use and urban form at rapid transit stations and along Rapid Transit Corridors
  - *Policy 2.3* calls for support for the establishment of high-quality, pedestrian-oriented public spaces along Rapid Transit Corridors, with particular attention paid to Rapid Transit stations.

COMMERCIAL AREAS AND MIXED USE CENTRES

- While no specific goals or policies have been identified in the document, part of the vision for these areas is that "Over the long term, they will become vibrant, pedestrian-friendly areas connected by multiple modes of transportation, offering a variety of housing options, activities, services, and jobs."

MAJOR REDEVELOPMENT SITES

- Part of the vision for these sites is that "the redevelopment of these sites will embody the principles of sustainability within a well-designed, walkable environment."
  - *Policy 2.3* calls for the creation of strong, multi-modal, and active transportation linkages from each major redevelopment site to downtown, other major redevelopment sites, mixed use centres, corridors, parks, major attractions, and employment areas.
- ***Goal 3*** - Design Major Redevelopment Sites as Complete Communities that embody principles of sustainability within a well-designed, walkable, and active transportation friendly environment.
  - *Policy 3.8* calls for promotion of "complete streets, enabling safe and convenient spaces for pedestrians, cyclists, public transit ridership and motorists to promote physical activity, health, and active transportation."

NEW COMMUNITIES

- ***Goal 3*** - Develop new communities as sustainable, adaptable, and Complete Communities
  - *Policy 3.7* - "Enable safe and convenient spaces for pedestrians, cyclists, public transit ridership and motorists to promote physical activity, health and active transportation."
  - *Policy 3.8* - "Promote a comfortable pedestrian environment and attractive public realm by:
    - Minimizing front building setbacks from the public street to define the street edge;
    - Encouraging front doors that face the public street;
    - Discouraging residential uses from backing on to public streets, including collector streets; and
    - Minimizing the impacts of vehicular access and parking on the public realm by encouraging the use of back lanes, limiting the widths of front driveways, promoting access to multi-family and commercial buildings off of secondary streets, and locating parking above or below-grade, behind the primary building, or beside the building provided high-quality screening is provided.
- ***Goal 4*** – Maximize connection within neighbourhoods and between existing and future adjacent neighbourhoods.
  - *Policy 4.1* indicates that, wherever possible, New Communities should "direct and efficient vehicular and active transportation connections to adjacent existing neighbourhoods and plan for future connections to land that has yet to be developed to facilitate inter-neighbourhood travel, reduce travel distances, and facilitate efficient transit service."
  - *Policy 4.2* addresses internal connections and it strongly encourages the provision of a highly permeable network of local streets and paths to maximize connectivity within the neighbourhood.
- ***Goal 5*** – Develop New Communities with high-quality neighbourhood design.
  - *Policy 5.1* calls for the development and implementation of a set of neighbourhood site design guidelines for New Communities in concert with key stakeholders. These guidelines should consider, among other issues, multi-modal connections with adjacent neighbourhoods

ESTABLISHED NEIGHBOURHOODS

- ***Goal 8*** - Facilitate the redevelopment of Established Neighbourhoods that contributes to the further development of walkable, bikeable and transit-oriented communities in accordance with City Pedestrian and Cycling strategies. The following eight policies are specifically associated with this goal.
  - *Policy 8.1* – "Protect, maintain and expand the pedestrian network within Established Neighbourhoods to create a more comfortable and accessible pedestrian environment."
  - *Policy 8.2* – "Public investments in the public realm should improve the quality of the pedestrian network and fill in gaps. Particular focus should be given to improving access to high frequency transit, schools, libraries, recreational facilities, and other commercial amenities."
  - *Policy 8.3* – "Strongly discourage any development that negatively impacts the pedestrian network.
  - *Policy 8.4* – "For properties with public lane access, vehicular access should be taken from the public lane in order to reduce potential conflict between pedestrians using sidewalks and motor vehicles crossing the public right-of-way to access private property."
  - *Policy 8.5* – "All developments should provide a private pedestrian pathway that connects to a public sidewalk or multi-use pathway where present."
  - *Policy 8.6* – "Consider the deployment of traffic calming measures that can improve the quality and safety of the pedestrian and cycling environment where required in Established Neighbourhoods."
  - *Policy 8.7* – "Maintain the established street and sidewalk grid."
  - *Policy 8.8* – "Strongly encourage additional connections to the AT network to fill network gaps."
  - *Policy 8.9* – "Work with local neighbourhoods to further pedestrian and cycling safety initiatives such as the implementation of traffic calming measures and school route planning."

EMPLOYMENT LANDS

- *Policy 7.1* calls for the requirement that Employment Land areas be designed to, among other things, "facilitate a high standard of transit and active transportation connectivity." In addition, they should provide direct connections to transit service and infrastructure and amenities for pedestrians, cyclists, and transit.

MOBILITY

With respect to Mobility, the following are important considerations pertaining to active transportation:

- ***Goal 2*** - Provide a safe, efficient, and equitable transportation system for all to support Complete Communities and the urban structure.
  - *Policy 2.1* calls for the strategic development of accessible, well-connected networks of walking and cycling infrastructure, supporting the concept of complete communities "as directed by the Pedestrian and Cycling Strategies."
  - *Policy 2.2* requires the provision of opportunities to access multiple modes of transportation by people of all ages and abilities to improve quality of life, economic vitality, and system efficiency.
  - *Policy 2.5* requires that transportation projects, programs, and initiatives reflect accessibility and universal design principles.
- ***Goal 5*** - Provide bicycle parking and end-of-trip facilities to reduce barriers to active transportation.
  - *Policy 5.2* calls for an update to the Winnipeg Zoning By-law and the Downtown Zoning By-law "to enhance requirements for high-quality bicycle parking and end-of-trip facilities where appropriate in new developments city-wide."
  - *Policy 5.3* calls for the development of bicycle parking guidelines "to illustrate bicycle parking and end-of-trip facility designs to further facilitate the implementation of high-quality bicycle parking facilities."
  - *Policy 5.4* calls for the continued expansion of partnerships with Business Improvement Zones (BIZs) and individual businesses "to implement short-term bicycle parking in the public right-of-way."
  - *Policy 5.5* calls for the development of "a program to support businesses in existing developments to retrofit existing buildings to provide long-term, secure bicycle parking."
- ***Goal 6*** – Use the development review and approval process to achieve integrated land use and transportation outcomes.
  - *Policy 6.1* calls for the incorporation of pedestrian, bicycle, and transit system connections into the plan approval process. In addition, there should be "a checklist to provide land development guidance regarding bicycle and pedestrian network design, and pedestrian, bicycle, and transit-supportive site planning."
  - *Policy 6.2* requires that "pedestrian, cycling, and transit network plans are integrated into new secondary plans and when updating existing secondary plans."
  - *Policy 6.3* requires that "new development incorporates pedestrian and cycling connections to both existing and planned pedestrian and cycling networks."

PARKS AND RECREATION

- ***Goal 1*** - Ensure land designated for public parks, recreation facilities and supporting open space is sufficient to provide all Winnipeggers ample, year-round opportunities for physical recreation, leisure, play, sport, natural experiences, and active transportation.
  - *Policy 1.4* identifies the need to, "Create and designate spaces that increase walking and cycling opportunities and promote active mobility connectivity" through the following:
    - Enhance the linear park system through the acquisition of riverbanks and rail corridors.
    - Coordinate (complement and supplement) park trail and pathway improvements with planned active transportation networks and transit service to increase access to parks and amenities.
    - Make new and existing parks and facilities more accessible to people walking and cycling.
- ***Goal 3*** - Reduce physical, geographic, social, financial and environmental barriers to accessing parks and recreation spaces and natural areas.
  - *Policy 3.1* includes designing recreation facilities and parks spaces to ensure that they are safe, easy to access and use, and welcoming to all people regardless of age, ability, gender, geography, or cultural background.
  - *Policy 3.3* identifies the need to ensure that community and regional parks and facilities can be serviced by all modes of transportation.

URBAN DESIGN

Regarding Urban Design, the following considerations relate to active transportation:

- ***Goal 1*** - Enhance Winnipeg as an exceptional and distinct city through design.
  - *Policy 1.4* calls for the support of exemplary winter city design "through site planning and building techniques that encourage year-round use of streets and civic spaces, facilitate walking and cycling, maximize sun exposure, minimize wind, and facilitate snow storage and removal."
- ***Goal 2*** - Promote the design of Winnipeg as a city of vibrant and exciting places
  - *Policy 2.5* states that "in areas with a high concentration of pedestrian activity, make pedestrian movement a priority by adding and/or widening sidewalks, adding curb extensions, and better defining pedestrian crossings to help improve accessibility and movement to and from destinations."
- ***Goal 3*** - Promote the design of a liveable and beautiful city.
  - *Policy 3.7* calls for the improvement and expansion of pedestrian wayfinding information Downtown as well as in Mixed Use Centres and Corridors. In particular, this policy calls for the development of pedestrian and cycling wayfinding guidelines.

1.6.3 ROAD SAFETY STRATEGIC ACTION PLAN

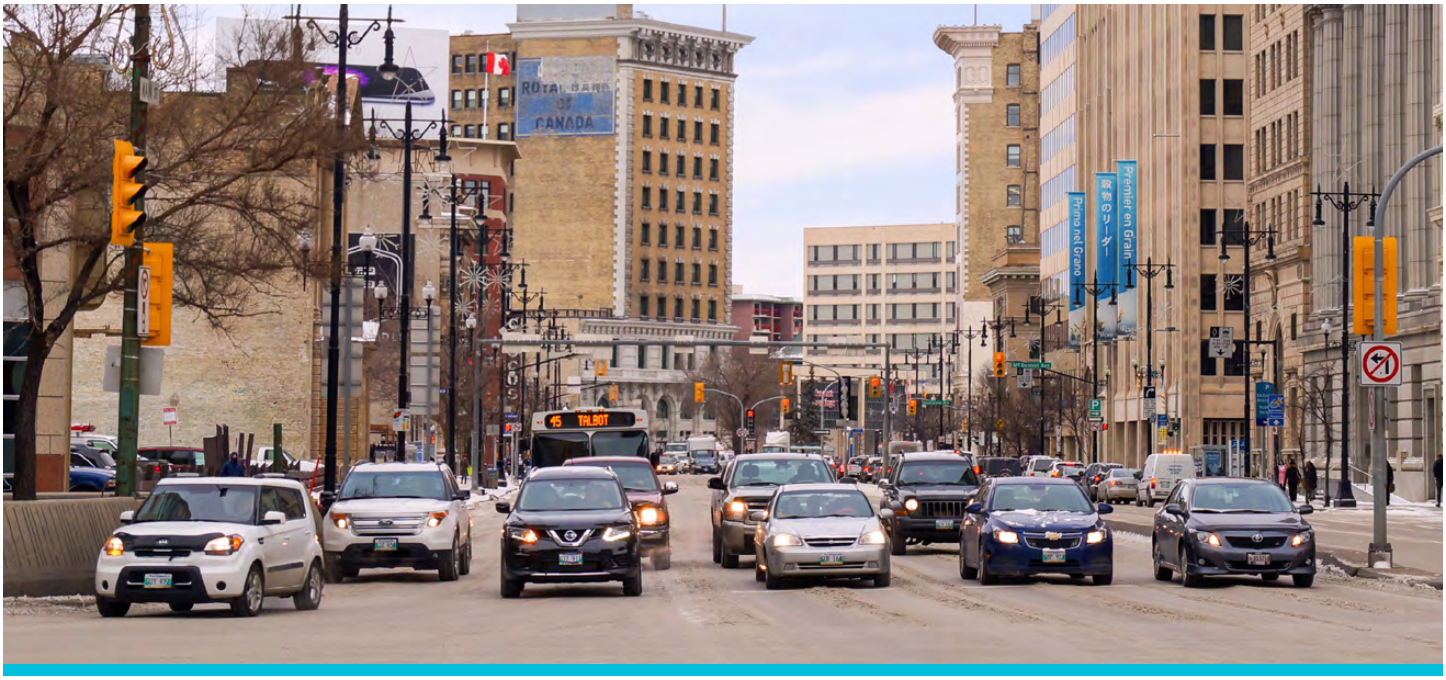
Over the last 10 years, Winnipeg has seen an annual average of 13 fatal collisions and 145 collisions resulting in serious injuries. In fact, while fatal collisions have decreased year over year, the number of injury-causing collisions has increased over the last 20 years. Serious injuries and deaths on the road are preventable – and Winnipeggers are amid a cultural shift to a mindset that no longer tolerates such incidents.

On July 21, 2022, Council approved the Winnipeg Road Safety Strategic Action Plan, which will serve as a roadmap for implementing both short-term solutions and long-term investments to ensure the City is doing its part in preventing serious injury and death on our roads.

The plan consists of 67 actions to help Winnipeg reach its goal of a 20 percent reduction in fatal and serious injury collisions over the next five years, with a long-term vision of a transportation system that allows people of all ages and abilities to safely move around without experiencing death or serious injury. Actions are grouped within five focus areas:

- Pedestrians
- Cyclists
- Signalized intersections
- Speed
- Road safety culture

The Plans vision statement: “A transportation system that allows people of all ages and abilities to safely move around without experiencing death or serious injury” focuses the plan’s single goal of “20 percent reduction in fatal and serious injury collisions over the next five years.” All five of the focus areas include policies related to enhancing safety of those walking and cycling.



1.6.4 COMMUNITY ENERGY INVESTMENT ROADMAP

OurWinnipeg 2045 sets a climate target for Winnipeg, having the city meet or exceed net zero emissions by 2050. Meeting this target requires action from residents, businesses, and governments locally and around the world. The Community Energy Investment Roadmap (CEIR) shows us how we can achieve this target.

CEIR uses detailed energy and emissions modelling to see the costs and benefits of action and inaction through the development of three different scenarios:

- Business-As-Usual illustrates energy consumption and greenhouse gas emissions if Winnipeg no longer makes changes into the future.
- Business-As-Planned includes changes expected from Federal and Provincial policies and regulations, as well as existing plans underway in Winnipeg to improve efficiency and reduce emissions.
- Net Zero details the pathway to achieving the City's emissions target. Within this scenario, fossil fuels are removed entirely from the city in the building and transportation sectors at the macro and micro scale. Systems in this scenario are retrofitted and replaced with more efficient versions and clean electricity is the primary fuel source.

The CEIR builds upon other City plans, including Winnipeg's Climate Action Plan, and the Winnipeg Transit Master Plan. It can be used in decision-making by the City of Winnipeg, organizations, businesses and community groups across sectors to reach net zero emissions by 2050.

The CEIR includes an action related to active transportation indicating that by 2050, 50 percent of <2km trips are made by walking and <5km trips are completed by cycling or other human-powered modes of transportation.

The plan also presents a mode split target for 2050 where 27 percent of trips are made by active transportation.

1.6.5 WINNIPEG'S CLIMATE ACTION PLAN - 2018

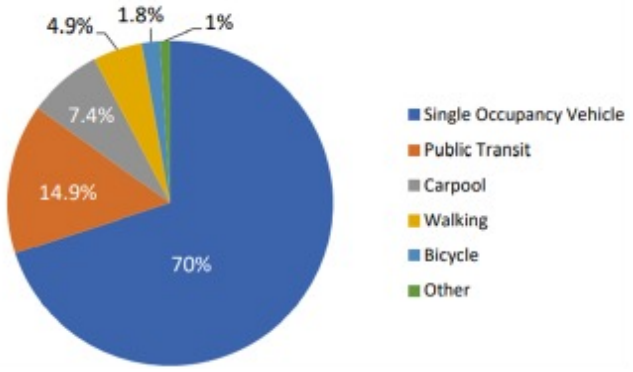
Winnipeg's Climate Action Plan – Planning for Climate Change provides a framework to mitigate climate change by reducing greenhouse gas (GHG) emissions. Specific City-wide GHG reduction targets stated in the plan are a 20 percent reduction by 2030 relative to 2011 levels and an 80 percent reduction by 2050 relative to 2011 levels. Key inputs to these targets include:

- Having Winnipeg be recognized as a leading Winter City in greenhouse gas emissions reductions.
- Co-benefits from climate change action that increases economic activity, health outcomes, social equity, and affordability.
- Facilitating compact development and healthy neighbourhoods that are connected through a network of active and transit-oriented mobility options. This is specifically stated to include strategic integration of climate action within both land use and transportation decision-making.

A specific transportation sector target of a 17 percent reduction in GHG's by 2030 relative to 2011 is identified in the plan.

To achieve this transportation GHG reduction the City seeks to facilitate a mode shift away from personal automobile travel and towards active transportation networks and lower emissions modes (transit, carshare, carpool). The transportation sector performance indicators envisioned to achieve the 17 percent reduction target by 2030 *include doubling the walking/ cycling mode share for primary travel to work trips (*from 6.7 percent to 14 percent shown in) and to establish an active transportation network of 800 km, which essentially represents *completion of the active transportation network proposed in the 2015 Pedestrian and Cycling Strategies.*

EXHIBIT 1.2: MODES OF TRANSPORTATION USED FOR COMMUTING TO WORK IN WINNIPEG [14]



[3] [14] *Extracted from Winnipeg's Pedestrian and Cycling Strategies (2015)*

The climate plan acknowledges that personal vehicle travel is the predominant mode of transportation in Winnipeg (81percent of total weekday traffic). Reasons for personal vehicle preference include:

- Winnipeg is lower density.
- People are less likely to use alternate forms of transportation when it is cold, bicyclists may be discouraged by icy road conditions and potential transit riders may be less likely to wait outside in the cold at a bus stop.

By choosing to engage in active transportation modes, Winnipeg residents can contribute to a substantial reduction in GHG emissions. The City can do its part by developing and maintaining high quality active transportation infrastructure.

STRATEGIC DIRECTIONS AND ACTIONS

The plan's core component is a series of six strategic directions with supporting actions.

- Investments in active transportation infrastructure and enhanced maintenance over winter months ensure people-powered transportation is more convenient, accessible and increases road safety. Using transit, walking, or cycling to get around contributes to increased physical health and mental health benefits through increased social connectedness and interaction.
- Peg City Car Co-op – This carshare program has over 800 members who are meeting their transportation needs by supporting travel primarily by transit, cycling and walking, and only making use of a vehicle when it is needed.
- The Winnipeg Repair, Education and Cycling Hub (W.R.E.N.C.H) – Is a non-profit charity that makes bikes accessible for the public by providing programming, education and resources; supporting school and community bike shops and promoting bicycling within the city and elsewhere. Since 2014, The WRENCH has been the official Stewards of the bicycle section at the Brady Road Resource Management Facility. On a regular basis, volunteers sort through the discarded bikes and ensure reusable parts are pulled out for their bike build and repair program.

Pedestrian and cyclist related priority actions identified for implementation in 2018 to 2022 (short-term) include the following. While the time threshold for these actions has passed, many are yet to be completed or are ongoing:

- Establish a dedicated Climate Action Reserve Fund to support implementation of this Action Plan.
- Create an annual capital program for departmental sustainability and climate initiatives. Applications should be accepted by all departments.
- With every new transit, cycling or pedestrian infrastructure investment, launch an education and awareness campaign targeting city residents who live and work in the areas served by the infrastructure to gain the most from the City's investments in infrastructure (including GHG emissions reductions)
- Improve active transportation connectivity to transit services by installing sidewalks and cycling routes to link stops with the surrounding community and provide bike racks at stops and on buses.
- Implement the policies included in the Transit Oriented Development Handbook, which guides and facilitates mixed-use, pedestrian-oriented infill development along high frequency transit corridors.
- Require sidewalks in new residential developments to ensure safe walking routes to transit stops.
- Accelerate the implementation of the Pedestrian and Cycling Strategies (e.g., through increased funding and staffing).
- Continue to fund the Bike Education and Skills Training Program currently run by the Green Action Centre in partnership with Seven Oaks School Division and MPI. Work with partners to pilot, improve, and expand the program to other school divisions.
- Continue to fund and develop W.R.E.N.C.H, an organization focusing on core area education and outreach on bike repair.
- Continue to partner and promote initiatives that encourage active transportation (e.g., Bike to School Month and Commuter Challenge).

- Enhance operation and maintenance of pedestrian and cycling infrastructure during winter months through re-prioritization of snow-clearing activities, assessing equipment needs, and engaging the active transportation community.
- Update the City's Snow Clearing Priorities to align with sustainable transportation modal shift goals. Adopt Priority 1 Pedestrian and Cycling snow clearing network Policy and associated budget that is separate and distinct from road priority snow clearing routes.
- In new transit-oriented development, ensure there are active transportation linkages and connections to facilitate a connected, diverse, and sustainable transportation network.

Pedestrian and cyclist related priority actions identified for implementation in 2022 – 2026 (medium-term) include:

- Identify park and ride infrastructure needs based on expected neighbourhood density and transit connectivity and ensure that neighbourhood planning integrates connections for individuals walking, cycling, or driving.
- Prioritize capital investments in active transportation to establish connected and integrated corridors for walking and cycling, which includes a downtown bike grid 'hub' with 'spokes' of protected bike lanes radiating outward along with supporting infrastructure that includes bike racks, infrastructure, and lighting.

- Allocate further resources and staff capacity to the active transportation division of the Public Works Department in line with recommendations from the Pedestrian and Cycling Strategies.
- Use development approval processes to encourage private active transportation infrastructure and infrastructure such as secure bike parking and shower facilities.

UPCOMING EXTERNAL FUNDING OPPORTUNITIES

External funding sources and partnership opportunities identified in the Climate Action Plan include:

- Green Municipal Fund (Federation of Canadian Municipalities)
- The Low Carbon Economy Fund
- Conservation Trust Fund
- Climate and Green Fund
- Urban Sustainability Directors Network Fund
- National Resources Canada grants and incentives

Many of these funding sources are relevant to active transportation project.

PERFORMANCE INDICATORS AND DATA

To support and monitor performance indicators for the Transportation sector goals, the Climate Plan identifies the following data needs:

Continuous investment is required to understand the baseline conditions of transportation mode shares, including developing a robust means to track:

- Auto Use (Single Vs Multi-Passenger)
- Transit Usage
- Active Transportation Numbers
- Vehicle Kilometers Traveled by Mode Share
- Vehicle Counts and Type
- Activity Rates

Much of this data (vehicle use) may be tracked already via Manitoba Public Insurance and Statistics Canada. Collaboration with these entities is suggested to help streamline data collection efforts. Also, the City should track the total network of active transportation trails and dedicated lanes (in addition to sidewalks). Finally, the City should monitor and report on the use of fossil fuels vs alternative energy supplies for the corporate fleet and transit.

1.6.6 WINNIPEG TRANSIT MASTER PLAN

The 2021 Winnipeg Transit Master Plan identifies improvement of multi-modal mobility as one of its key goals. The plan aims transit to function as one component of the broader multimodal transportation network, working seamlessly with the bicycle and pedestrian network. Winnipeg transit will improve multi-modal mobility by:

- Ensuring On-Request services connect to the Primary Transit Network and major neighbourhood activity centres at universally accessible locations.
- Providing active transportation connections to stations, junctions, and mobility hubs.
- Offering incentives when transferring between transit and shared services (e.g., rideshare, bikeshare, and carshare).
- Continuing to provide new active transportation connections and routes parallel to new rapid transit corridors.
- Enhancing and defining the use of mobility hubs to support connections between transit and other mobility options.

Specifically for pedestrians, access to transit, and connections between routes at transit junctions, will be designed to be simple, accessible, and safe. Pedestrian-friendly amenities will help provide seamless connections between transit and active modes of transportation. Transit stops and stations will have amenities appropriate to their service class and usage and will be universally accessible. Some amenities proposed for pedestrians along

transit lines and at stations include pathways and waiting areas that are friendly, natural, well-lit, and secure.

The plan proposes mobility hubs at rapid transit stations that will provide some critical bicycle facilities like secure bicycle parking, bicycle repair station, and bike and scooter share services at key stations. Amenities proposed along transit lines and at stations for bicyclist and scooter users include protected pathways, secure parking, and bike and scooter share programs.

1.6.7 WINNIPEG PARKS STRATEGY

The Parks Strategy provides a vision of a parks system that fosters the wellbeing of individuals, communities, and natural environments by enabling all to engage in meaningful, accessible outdoor experiences and activities. This vision directly shapes the Strategy's values, operating principles, and goals, and sets a framework to achieve five strategic objectives. Most relevant is Strategy 4 which calls for improving access and is described as follows:

Broaden the reach of the parks system by coordinating improved connections, enhancing safety, and expanding opportunities for sharing park information.

The connection component is covered in sections on context and policy. Context summarizes and assesses connections to, through, and within parks via active modes that align with parks goals for promoting health and active living, and with the city's goal of decreasing reliance on personal vehicles. The context section includes support for the implementation of the Pedestrian and Cycling Strategies and a listing of proposed priority Parks System Connections. Lastly, the context section summarizes wayfinding and communication tools to connect people to parks.

Connection policies in the Parks Strategy include a general intent to coordinate park trail and pathway improvements with planned active transportation networks. There are five policies to align with active transportation needs for City-wide connectivity, three policies regarding wayfinding, and seven policies regarding internal park connectivity. To support these policies there are ten implementation strategies relate to connection.

1.6.8 MANITOBA'S MADE-IN-MANITOBA CLIMATE AND GREEN PLAN - 2017

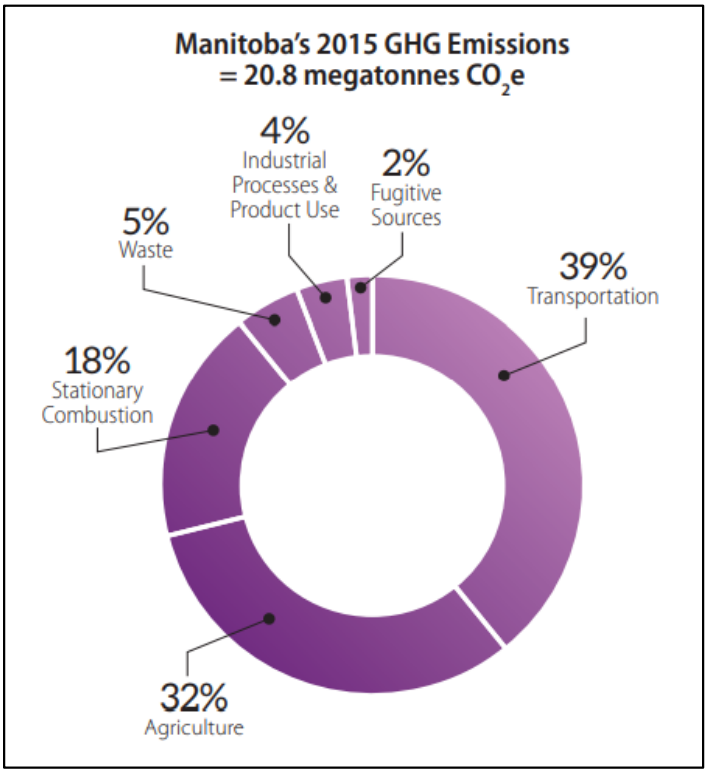
A Made-in-Manitoba Climate and Green Plan is a strategic framework issued by the Province of Manitoba based upon the vision of Manitoba being Canada's cleanest, greenest and most climate resilient province. The plan recognizes that the City of Winnipeg was developing its own climate change action plan at the time of issuance.

Using 2015 data, the plan states that Transportation is Manitoba's largest source of carbon pollution, representing 39 per cent of the province's total carbon output. The plan goes on to indicate that despite fuel-efficiency gains and stricter emissions standards for vehicles, more cars and trucks on the road have resulted in higher carbon emissions from transportation in the province. It indicates that 93 percent of transportation in Manitoba currently relies on fossil fuels.

Specific to active transportation the plan indicates the following:

"More and more Manitobans are rediscovering the freedom of biking, walking, running, and taking public transportation. There are, more than 12,000 daily cyclists in Winnipeg in May and June. Such activities can help reduce harmful emissions, improve health, and save money, too. Options to support greater use of active or public transportation are being considered including more bike paths and lanes."

EXHIBIT 1.3: TRANSPORTATION EMISSIONS



1.6.9 CAPITAL REGION TRANSPORTATION MASTER PLAN 2014

The Capital Region Transportation Master Plan (CRTMP) provides a strategy to guide the planning and implementation of transportation system improvements and land use policies, to address both future development and the movement of people and goods within the Capital Region in a way that is socially, environmentally, and economically sustainable. The CRTMP considered all modes of travel, including active transportation, and provided a long-term framework for the Capital Region for a 20-year period and beyond.

COMMUNITY AND STAKEHOLDER ENGAGEMENT

Engagement for the master plan included an online survey, key stakeholder workshop, and Council and staff workshop provided input to the transportation planning model which was used in the development of future travel patterns. summarizes the inputs received from these engagement events relative to active transportation.

KEY STRATEGIC GOALS

Key strategic goals in the CRTMP include two goals related to active transportation. They are:

- *Promote safety for all users of the transportation system.*
  Safety and security for all users of the transportation system, including pedestrians and cyclists is an essential component to maintain and improve the quality of life in the Capital Region.
- *Provide reasonable alternatives to cars for travelling, including walking, cycling and transit.*
  Allow for a reduction in auto dependence and a healthier region by providing greater degree of travel option choices in the Capital Region.

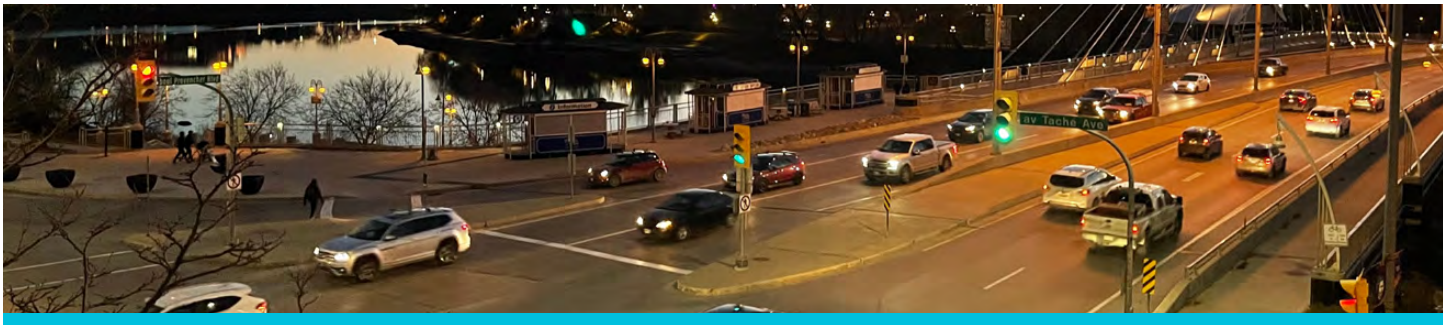


EXHIBIT 1.4: CRTMP ENGAGEMENT RESULTS

Event	Results
Online Survey	A need for alternative modes of transportation including active transportation and regional transit.
Key Stakeholder Workshop	Consider regional active transportation and transit.
Council and Staff Workshop	Benefits and implementation strategies for rural transit and active transportation were also popular discussion points, including educating the public on these benefits.

CAPITAL REGION GROWTH PROJECTIONS

A questionnaire that was circulated to municipal CAO's or other staff resulted in several comments regarding development of active transportation infrastructure within the RMs around Winnipeg, including connections into Winnipeg such as the East St. Paul connection with the Northeast Pioneers Greenway under PTH 101.

Specific comments are listed in the following table.

EXHIBIT 1.5: CRTMP ACTIVE TRANSPORTATION COMMENTS FROM MUNICIPALITIES AROUND WINNIPEG

RM	Future visions and projections
Macdonald	Demand for recreational cycling and walking opportunities is growing in La Salle and Oak Bluff.
Headingley	Locally, there is a high level of interest in active transportation and multi-purpose trails.
St. Francois Xavier	The St. Francois Xavier Secondary Plan calls for a network of active transportation paths.
Rockwood	The RM is considering utilizing an abandoned rail line for active transportation.
West St. Paul	The active transportation route that runs parallel to PTH 9 could be expanded further north and south and incorporated into new subdivisions.
East St. Paul	The RM is encouraging an active transportation overpass of PTH 101 to connect the Gateway Road multi-purpose trail in the City of Winnipeg with the active transportation infrastructure along Raleigh Street and Rebeck Road.
Stonewall	The Town is expanding its active transportation network through the acquisition of a former rail line for a multi-purpose path and the expansion of its sidewalk network.

RECOMMENDATIONS FROM THE CRTMP

The two recommendations within the CRTMP related to active transportation are:

- Encourage land use patterns and development design that accommodate transit users, cyclists, pedestrians, and the mobility challenged.
- Undertake an active transportation study for the Capital Region.

The land use and development design recommendation does stress the importance of appropriate pedestrian and cycling connections at municipal boundary points to ensure a seamless user experience that encourages active movement between jurisdictions.

Ensuring communities are designed to accommodate alternative modes of transportation and are accessible to all results in more sustainable communities. Designing development so that multiple transportation modes are considered from the start is easier and less costly than trying to retrofit such measures later. Creating pedestrian-oriented, mixed use communities allows people to walk to their destinations and makes it easier to cycle or to make use of transit. Other cities in Canada, like Calgary, already do this as part of their review of new development. Some settlement areas within the Capital Region already have significant active transportation (AT) infrastructure in place, however many do not. Even in smaller urban centres, having sidewalks and bicycle racks in place will encourage the use of these modes.

Recognizing the existence of Provincial AT policy, the CRTMP stresses the importance of undertaking an AT study that is specific to the Capital Region to ensure compatibility with the general goals of the broader action plan. As well, the CRTMP suggests that such a study could identify currently abandoned rail corridors and potential future rail abandonments across the Capital Region for their potential reuse as AT corridors.

IMPLEMENTATION AND MONITORING

The final component of the CRTMP is the identification of a performance measurement framework to regularly monitor progress towards strategic goals. This section of the master plan recognizes that a number of these indicators would require increases in data collection efforts and may not be achievable with the resources available. The table below provides an excerpt of the framework components that relate to active transportation.

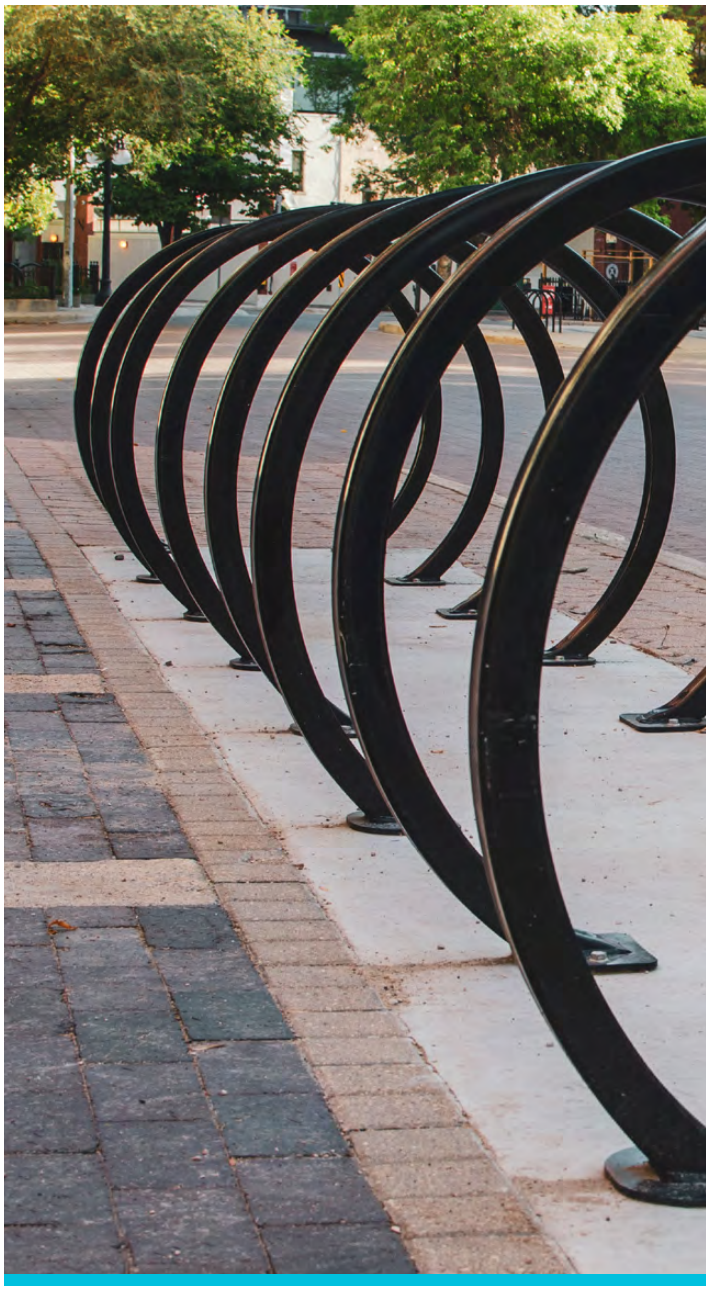


EXHIBIT 1.6: CRTMP PERFORMANCE MEASUREMENT FRAMEWORK

Strategic Goal	Performance Indicator	Data Source
Integrate and coordinate transportation planning with land use planning	AT mode share – Indicates a ratio of how many people use active transportation versus other modes of transportation.	Obtained through an Origin-Destination Travel Survey
Promote safety for all users of the transportation system	Reported pedestrian collisions – Indicates the number of incidents related to pedestrians on a given road. Reported cyclist collisions – Indicates the number of incidents related to cyclists on a given road.	Manitoba Public Insurance
Provide reasonable alternatives to cars for travelling, including walking, cycling and transit	Bicycle infrastructure available (km) – Indicates the total amount of cycling infrastructure in the Province. This will provide a baseline and a format for measuring success and highlight where improvements should be directed. Pedestrian infrastructure available (km) – Indicates the total amount of pedestrian infrastructure in the Province. This will provide a baseline and a format for measuring success and highlight where improvements should be directed.	Manitoba's 3-year, four-point action plan to support active transportation calls for the creation of an inventory of existing infrastructure.

1.6.10 SOUTH PERIMETER DESIGN STUDY FINAL REPORT

The South Perimeter Design Study provides a functional design for PTH 100 from Portage Avenue to Fermor Avenue as well as for a proposed St. Norbert by-pass. From an active transportation perspective, PTH 100 presents a barrier for pedestrians and cyclists. Therefore, a key consideration from the study is the locations where active transportation infrastructure across PTH 100 are proposed to be accommodated. The locations where active transportation infrastructure has been proposed to be accommodated in the recommended plan are:

- PTH 1W (Portage Avenue) interchange
- PR 241 (Roblin Boulevard) interchange
- Harte Trail / Grand Trunk Trail / PR 427 (Wilkes Avenue)
- Between Kenaston Boulevard and PTH 75 (Pembina Highway)
- PR 200 (St. Mary's Road) interchange (note this project is under construction at the time of this writing)
- Seine River crossing.

1.7 REPORT ORGANIZATION

This document blends information from the 2015 PCS with the four PCS update objectives as identified in the methodology. The report is organized in four chapters and two appendices. This chapter provides introductory and process information. Chapter 2 identifies issues and opportunities based on the current state of walking and cycling in Winnipeg (Appendix B) and the first round of public engagement on the TMP2050 project. Chapter 3 reaffirms the strategic directions from the 2015 PCS and provides updates to the planned pedestrian and cycling networks and strategic direction actions. Chapter 4 provides an update to the implementation plan for the strategies. Appendix A presents a series of opportunities to be considered in the form of templates and Appendix B summarizes the current state of walking and cycling as of 2020, primarily from the planning, network, activity, safety, and maintenance perspective.

SECTION 2

ISSUES AND OPPORTUNITIES

SECTION 2

ISSUES AND OPPORTUNITIES

This section summarizes new issues and corresponding opportunities as they relate to pedestrian and cycling across Winnipeg. It draws upon a variety of sources (e.g., data, consultation, policy review, etc.) to identify current challenges faced in Winnipeg and presents a framework of opportunities to improve the conditions for cycling and walking within Winnipeg in the context of the PCS Update.

2.1 CHALLENGES AND ISSUES

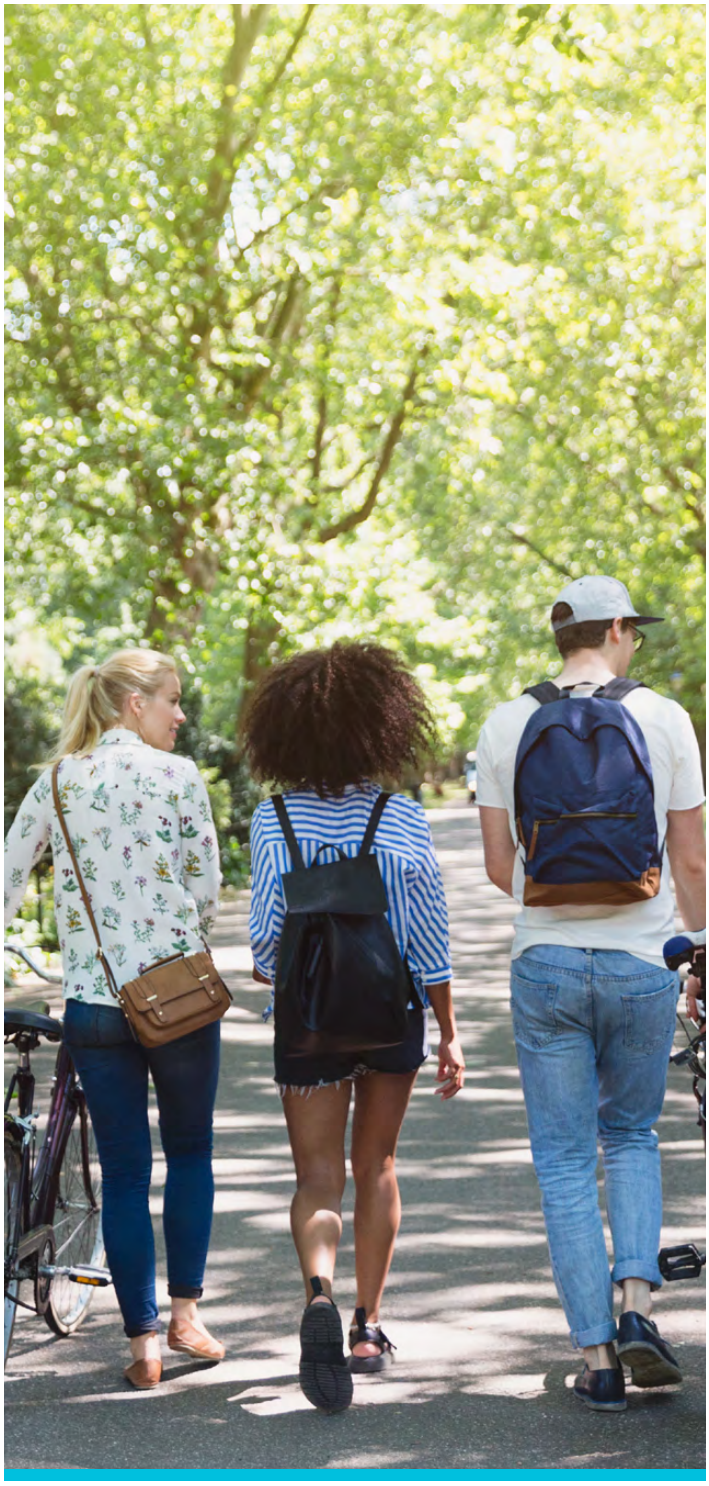
2.1.1 APPROACH

The identification of challenges and issues was based upon the review of multiple inputs (listed in Section 2.1.2) which provide a wholistic view of the new challenges faced in Winnipeg as it relates to cycling and walking. Input from public consultation, data analysis, stakeholder engagement, and jurisdictional review revealed a series of new issues to be considered. Challenges and issues were categorized into six categories based on the four sections of analysis proposed in our work method alongside other pedestrian and cycling related issues that have been identified through the update process.

These include:

- Active transportation winter maintenance
- Micromobility
- Active transportation transit integration
- Human resources and funding
- Pedestrian issues
- Cycling issues

A seventh category considered as part of this process is the role and efficacy of the Winnipeg Active Transportation Advisory Committee. Memos specific to Human and Financial Resources and the Active Transportation Advisory Committee were delivered separately on March 24, 2021.



2.1.2 SOURCES

The following list identifies the sources used to identify the challenges and issues:

- TMP2050 Phase 1 Engagement Report, Appendix C, as prepared by Probe Research, November 2020
- TMP2050: Stakeholder Engagement Report Phase One Current State: Where are we now?, as prepared by Scatliff + Miller + Murray, December 2020
- Transportation Master Plan 2050: Online Survey
- Transportation Master Plan 2050: Online Mapping Result
- Technical Memorandum PEDESTRIAN AND CYCLING STRATEGIES UPDATE Technical Memorandum 1 – Current State Analysis, prepared by MORR, October 7, 2020
- Technical Memorandum - Winnipeg Pedestrian and Cycling Strategy Jurisdictional Survey prepared by Mobycon, December 15, 2020

2.1.3 THEMES AND CATEGORIES

Drawing upon the review of relevant sources, issues were categorized into themes based on the tasks presented in the work plan. Exhibit 2.1 presents the challenges and issues as categorized.

EXHIBIT 2.1:
CATEGORIZATION OF CHALLENGES AND ISSUES

Theme	Challenges and Issues	
Active Transportation - Winter Maintenance	• Snow clearing • Impacts of new development	• First and last mile connections • Lack of separated infrastructure
Micromobility	• Public interest • Current transportation network • Northern climate • Safety	• Cost, funding, and human resources • Availability and accessibility • Regulatory compliance
Active Transportation - Transit Integration	• Access to transit infrastructure • Lack of amenities at transit infrastructure	• Bicycle accommodation on transit • Social Safety
Human Resources and Funding	• Infrastructure deficit • Active transportation budget	• Active transportation program staffing
Pedestrian Issues	• Safety • Personal Security	• Sidewalk Quality • Proximity to Destinations
Cycling Issues	• Safety • Connectivity	• Convenience

ACTIVE TRANSPORTATION WINTER MAINTENANCE

A listing and description of specific challenges and issues related to winter maintenance of active transportation infrastructure is provided in Exhibit 2.2.

EXHIBIT 2.2: ACTIVE TRANSPORTATION WINTER MAINTENANCE CHALLENGE/ISSUE DESCRIPTION

Challenge/Issue	Description
Snow Clearing	• In 2019 we updated our Council-approved policy on snow clearing and ice control to help prioritize many sidewalks and cycling infrastructure (P2AT, P3AT) alongside priority roads (P1). This infrastructure is cleared within 36 hrs of a snowfall of >5cm. • Snow clearing timelines for their city active transportation infrastructure is 36hrs. This is significantly longer than peer jurisdictions which indicated a roughly even split between 12 hr or 24 hr. • 27 percent of sidewalks and 51 percent of bike infrastructure are included in the top priority winter maintenance category. • P1 and P2 priority infrastructure both have the same 36hr timeframe for clearing. This may present an opportunity to redistribute resources to clear high priority infrastructure in a shorter timeframe. • The P1 cleared cycling network exhibits significant gaps in connectivity which poses an increased barrier to cycling in winter conditions. • 30 percent of Winnipeggers indicated that sidewalks were cleared in a timely manner as opposed to 53 percent who indicated roads were cleared in a timely manner. • 38 percent of Winnipeggers (85 percent of pedestrians) indicated snow removal as one of their top 3 reasons for not walking as much as they'd like in the winter. • 36 percent of cyclists indicated they would cycle more in the winter with "regular snow clearing" on their route. • Cleared snow often ends up stored in cycling infrastructure reducing their usability. • Snow build-up around bicycle parking infrastructure discourages their use and renders them useless during winter months. • As active transportation users are more greatly impacted by winter conditions, snow storage infringing on their operating space and amenities is likely to impact users' decisions to use these modes.
Impacts of New Development	• Active transportation infrastructure in peripheral/suburban neighbourhood is more likely to receive lower maintenance priority, even though these are areas where many residents live. • Lack of winter maintenance of active transportation infrastructure in these areas limits the likelihood of users accessing higher order transit on a year-round basis. • The continued development of low density single-family residential developments creates an increased financial burden on maintaining future infrastructure. Ensuring maintenance of (AT) infrastructure in areas of low density has high per person cost borne by taxpayers.

Challenge/Issue	Description
First and Last Mile Connections	• At present, residential streets are primarily low priority in winter maintenance schedules, however this limits access to more frequently cleared priority active transportation infrastructure. This reduces attractiveness of active transportation during winter months as poorly maintained first and last mile connections serve as a barrier to those looking to use active modes in the winter.
Lack of Separated Infrastructure	• 60 percent of cyclists in Winnipeg indicated they would cycle more in the winter if there were more separated cycling infrastructure. • Bike lane striping has limited conspicuity during winter conditions to snow coverage, wear from salt, sanding and plowing. • Bike lanes with a lack of physical barrier are prone to significant narrowing during winter conditions because of being cleared as part of the roadway. They can become locations for snow storage, intentionally or otherwise.

MICROMOBILITY

Micromobility is emerging in cities around the world and has largely taken shape in the form of shared bicycles or shared electric scooters. These vehicles can be docked, requiring them to be returned to defined stations or hubs, or dockless, allowing them to be parked wherever the user ends their trip. Micromobility has the potential to address many challenges faced in cities today including:

- Mobility choice
- Access to transit
- Access to shops and services
- Mobility equity
- Greenhouse gas emissions
- Automobile congestion

All these challenges are inherently linked, and many can also be attributed to car dependence. Micromobility systems provide people with more choices for how they wish to travel around their city. Bicycles and e-scooters can greatly expand one's travel radius in comparison to walking and in a research survey for the Transportation Master Plan Study Report, 77 percent of respondents said that the distances between the places people want to walk is a problem for pedestrians. Long walking distances between origins and destinations can limit access to shops and services for those who do not have access to other modes of transportation. This also impacts mobility equity as those who cannot drive a vehicle and do not have access to frequent transit are disproportionately impacted.

In addition to offering an alternative to walking trips, micromobility can help transit users access transit stops. Generally, people are less likely to use transit if they feel stops are too far from their origin and/or destination. Walking time to and from stops can add a significant amount of time to one's overall trip. This overall trip time can be reduced with micromobility providing first and last mile connections between stops and origins/destinations. This is of particular importance for the rapid transit network in Winnipeg which has less frequent stops than local routes and thus requires people to travel further to access the BRT system. As the system is expanded, as outlined in the Draft Winnipeg Transit Master Plan, micromobility can help ensure the system is accessible and well-used.

Finally, micromobility can contribute to a reduction in automobile congestion and greenhouse gas emissions by replacing automobile trips as well as improving access to transit. Micromobility vehicles are typically zero or low emission vehicles. They have the potential to replace automobile trips over short to moderate distances which helps to reduce road congestion and greenhouse gas emissions, the latter of which is a Key Strategic Goal in the 2011 Winnipeg Transportation Master Plan and an objective toward achieving the goal of Environmental Resilience in the Draft OurWinnipeg 2045 Development Plan.

While there are specific challenges to implementing micromobility, outlined below, the benefits and potential to address greater issues city-wide makes micromobility an important aspect of the overall transportation system.

EXHIBIT 2.3: MICROMOBILITY CHALLENGE/ISSUE DESCRIPTION

Challenge/Issue	Description
Public interest	• About 35 percent of Winnipeggers stated they were interested in using an electric bike or Mobility as a Service and though only slightly over 20 percent are interested in using an electric scooter. • High cost of personal electric bicycles creates a significant barrier to greater interest from the public. • The relatively recent popularity and implementation (globally) of micromobility devices such as e-scooters means many Winnipeggers have likely not had the opportunity to try them or experience how they integrate with the public realm. • As active transportation users are more greatly impacted by winter conditions, snow storage infringing on their operating space and amenities is likely to impact users' decisions to use these modes.
Current transportation network	• Current transportation network does not support the same level of access and efficiency for those who travel by active modes compared to the automobile. The growing bike network still presents many gaps which impacts general users' likelihood of using micromobility devices which would operate in this space. • There are emerging conflicts between micromobility and pedestrians in shared infrastructure (multi-use paths). The speed differential between micromobility devices and average cycling speeds may also become an issue on the separated bike network as ridership of both increases. • About 35 percent of those travelling by active modes and 25 percent of those travelling by transit indicated difficulty getting around the city.

Challenge/Issue	Description
Northern climate	• Inadequate snow and ice clearing/maintenance of streets, cycling lanes, and pathways would make use of micromobility devices difficult in winter. • Cold weather and snow may negatively impact technology (e.g., batteries, communication with personal devices, etc.) • Inclement weather may discourage people from using micromobility.
Safety	• Safety outside a vehicle is a major concern for Winnipeggers. • Busy roads are a major obstacle for active transportation users who feel threatened when sharing roadways with vehicles. • Inconsistencies in the active transportation network can leave users stranded and/or forced into unsafe conditions. This is an issue if micromobility were permitted in this space as well. • Stakeholders in the neighbourhood advisory group discussions identified a need for more lighting throughout the active transportation network to improve the perception of safety.
Cost, funding, and human resources	• Lack of policies and regulations, particularly where micromobility could operate and where micromobility vehicles can park. • Establishing a system, developing policies and regulations, maintaining the system, and enforcing regulations may be costly and there are no staff resources currently available for this task. • How will the costs of the system be funded?
Availability and accessibility	• Some believe the availability of the technology and data to run a system is limited. • A micromobility system may leave residents behind if it is not accessible to them. Limited access to the technology required to use the system (a smartphone with data), a lack of technological awareness to operate the vehicles, and a lack of resources to afford use of the system can limit its accessibility. • About a third of Winnipeggers do not incorporate technologies such as GPS, apps for bus routes and times, apps for booking rides (Taxicab, Uber), or electronic signs at transit stops into their transportation routine. These people would likely need to adopt new practices to use micromobility.

ACTIVE TRANSPORTATION TRANSIT INTEGRATION

A listing and description of specific challenges and issues related to transit integration is provided in Exhibit 2.4.

EXHIBIT 2.4: ACTIVE TRANSPORTATION TRANSIT INTEGRATION CHALLENGE/ISSUE

Challenge/Issue	Specifics
Safe access to transit infrastructure	• Lack of safe crossing opportunities (including mid-block crossings) to access transit infrastructure based on the 2019 Transit Integration with Active Modes memo (MORR). • 373 transit stops along arterial and collector roadways that are located further than 100 m from the nearest intersection or pedestrian corridor. These locations are unlikely to have pedestrian crossing control. • Of the 145 locations with more than 2 ped collisions in the last 10 years, 141 are at intersections and 4 are mid-block. There are 410 transit stops located within 100 m of these collision locations. • Lack of proper pedestrian (or cycling) infrastructure to connect active transportation users to the transit stop or transit terminal. • Sidewalk gaps on transit routes • Sidewalks that do not meet the 1.5 m practical minimum width (1.8 m recommended per Transportation Association of Canada [TAC]) along transit routes. There are 20 km of inadequate sidewalk along transit routes as compared to 322 km that are not along transit routes. • Gaps in cycling network to connect to bus stops. • Cycling infrastructure types that are unfit for the roadway characteristics (e.g. traffic speed and volumes) • Missing curb ramps and/or sidewalk connectors to access transit infrastructure. • There is a total of 587 transit stops (1 percent of all transit stops) that do not have a platform or sidewalk and another 100 stops that have a platform but are not connected to a sidewalk. • Insufficient active transportation infrastructure maintenance to ensure all season accessibility to transit infrastructure
Provision of active transportation amenities at transit infrastructure.	• TMP survey respondents indicated inadequate provision of amenities undermines the attractiveness and comfort for transit users who arrive by walking or cycling. Their concerns primarily included: • Lack of hard surfaced landing platform at some bus stops • Requests for additional benches and shelters at transit stops to provide resting and weatherproof opportunities. • Requests for safe and secure bike parking at high activity transit stops/stations.
Bicycle accommodation on transit	• Transit currently provides front-mount bicycle racks only on some of their vehicles. This limits the reliability of the service to users. • Existing provision of bike racks is limited to summer months which impacts service reliability for users.
Security	• Based on TMP survey result, feeling unsafe walking at night was commonly cited as a barrier to walking more and thus decrease the likelihood to access public transit.

HUMAN RESOURCES AND FUNDING

A listing and description of specific challenges and issues related to human resources and funding is provided in Exhibit 2.5.

EXHIBIT 2.5: HUMAN RESOURCES AND FUNDING CHALLENGE/ISSUE DESCRIPTION

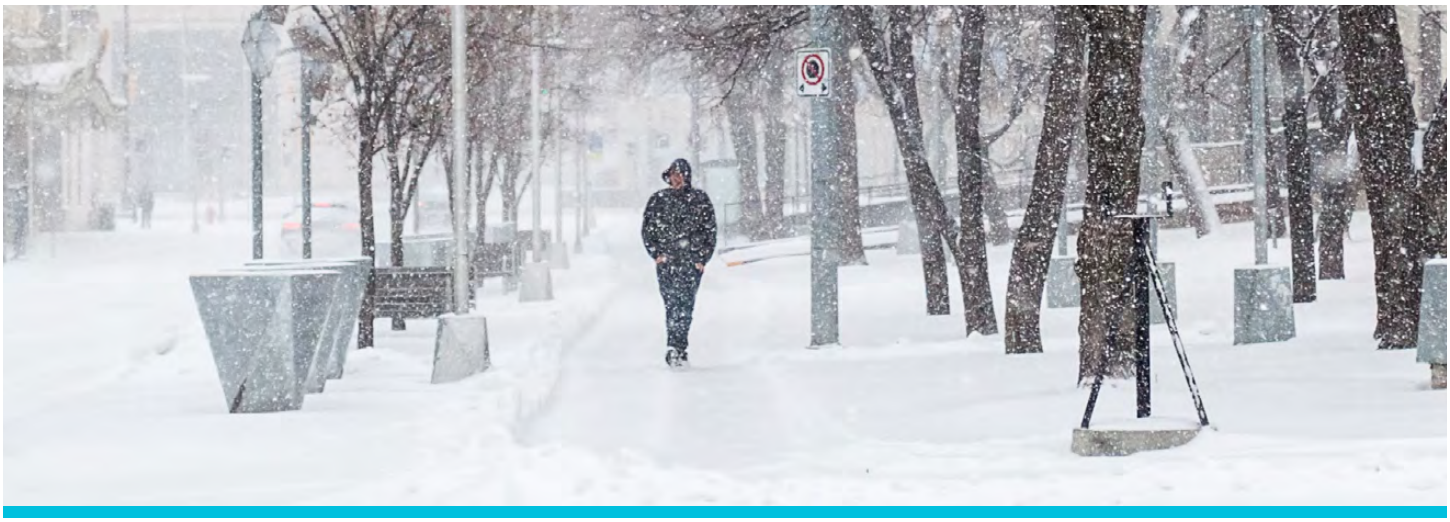
Challenge/Issue	Description
Infrastructure deficit	• Poor road and sidewalk conditions are listed by over 75 percent of all Winnipeggers as one of their top 3 transportation concerns. • Deficit made up of funds required to maintain assets to an appropriate condition but lack of identified sources for maintenance funds. • 2018-2027 total infrastructure deficit of approximately $6.9 billion, ~$1.9B of which are roads.
Active transportation budget	• The Winnipeg active transportation budget decreased from $5-10M in 2018 to $2-3M in 2020 despite goals of growing active transportation mode share and a significant number of projects identified in the planning pipeline. • 2020 budget on par with or below many peer cities in active transportation spending for similar transportation capital budgets.
Active transportation staffing	• Staffing in the active transportation group is only 50 percent of PCS 2015 recommendation. Review in PCS update recommends expanding the group to four FTE positions with one seasonal FTE and to consider how future growth of the team may be shaped to accommodate increased funding availability. • There are far fewer staff working in infrastructure construction than the number of projects. This discrepancy is not seen for other staff roles (e.g., planning/design studies, programming, etc.)

PEDESTRIAN ISSUES

A listing and description of specific challenges and issues related to pedestrians is provided in Exhibit 2.6.

EXHIBIT 2.6: PEDESTRIAN CHALLENGE/ISSUE DESCRIPTION

Challenge/Issue	Specifics
Traffic Safety	• Pedestrians account for 33 percent of traffic fatalities and 10 percent of serious injuries. They are significantly overrepresented in collisions as walking only accounts for 5-10 percent of trips. • Safety 87 percent of Winnipeggers listed safety as “very important” or greater and was the top traffic concern identified. • 77 percent of pedestrians indicated there aren’t enough safe places to cross busy streets. • 14 percent of arterial street km and 15 percent of collector street km lack sidewalks. • Active transportation users often forced into unsafe situations (onto the roadway) near construction sites. (e.g. blocked sidewalks or bicycle paths/lanes)
Security	• Not feeling safe while walking at night top concern for walkers and non-walkers. • Perceptions of personal safety are multifaceted and rely on a spectrum of issues including illumination, presence of others, and broader socioeconomic factors.
Proximity to locations	• The top reason for not walking as stated by Winnipeggers is that destinations are too far from the origin. • 74 percent of Winnipeggers indicated they grocery shop within their neighbourhood and 44 percent indicated they access recreation facilities. • Perceived trip distance for pedestrians is often correlated to the attractiveness of the pedestrian environment and presence of significant barriers such as crossing major roadways.



CYCLING ISSUES

A listing and description of specific challenges and issues related to cycling is provided in Exhibit 2.7.

EXHIBIT 2.7: CYCLING CHALLENGE/ISSUE DESCRIPTION

Challenge/Issue	Specifics
Safety	• From 2012 to 2018 cyclists represented 12 percent of traffic fatalities and 4 percent of serious injuries. They are significantly overrepresented in traffic collisions as they occupy only 1-2 percent of all trips. • 75 percent of collisions involving cyclists occurred on Arterial roadways while 45 percent involved collectors and 45 percent at local streets. 95 percent of bicycle collisions occurred at intersections which account for the >100 percent sum of collisions related to each road type. • Busy roads are a major obstacle for active transportation users who feel threatened when sharing roadways with vehicles. • Bad or Angry drivers are listed as a top concern for cyclists in Winnipeg. • 3/5 cyclists said they would cycle more in winter with protected infrastructure, • 3/5 of Winnipeggers indicated they wish they biked more. • Active transportation detours and signage needs at construction sites/during road maintenance. • Active transportation users often forced into unsafe situations (onto the roadway) near construction sites. (e.g. blocked sidewalks or bicycle paths/lanes)
Connectivity	• Gaps in cycling network are a top concern for cyclists in Winnipeg. This is reported more heavily amongst women and parents. • While bike infrastructure in Winnipeg have grown by 75 percent since 2015, there still existing significant gaps and discontinuities in many existing routes. • Lack of frequent and safe bridges, and grade separated crossings create significant detours for active users. Best practice indicated that major barriers (including waterways, rail lines, and high-speed roads) in a cycling network should have a safe crossing every 750m - 1250m. • A lack of comprehensive wayfinding renders navigating the network challenging for new users or those in unfamiliar areas.
Convenience	• Through public consultation cycling was the only mode which convenience was not indicated as a top reason for choosing that form of mobility. This reflects that cycling in Winnipeg has not developed to a point where users find its convenience an attractor. • Ease of driving (93 percent report it's easy to get around by car) further impacts the relative convenience of cycling. • The 400m service area used to evaluate bike network coverage leaves many residents at a potentially impractical distance from the bike network. • Lack of safe place to lock up bike among top concerns for cyclists

Challenge/Issue	Specifics
Public Perception	• Public perception of cycling has the potential to impact not only the number of people willing to try cycling, but also the safety of cyclists on the road because of aggressive driving. • Perception of cycling can also have impacts on the ability to move active transportation projects forward based on the general sentiment around cycling's value to Winnipeg's mobility system. • 67 percent of Winnipeggers that "always drive" indicated that compared to 5 years ago more cyclists are not following the rules of the road, as compared to only 50 percent for Winnipeggers who do not always drive". This reflects a broader understanding that those who may cycle or walk more often better understand the behaviours and experience of cyclists.

2.2 OPPORTUNITIES

Based on the challenges and issues identified, a review of potential opportunities was undertaken. This review included a literature review as well as input based on the consulting teams experience with similar projects. Opportunities have been arranged according to the theme as well as the specific challenge or issue they address. Though many opportunities may apply to multiple issues and themes, they have been assigned to one theme considered most relevant.

A more detailed review of the opportunities presented can be found in the templates in Appendix A. The templates include the results of the literature review along with a high-level analysis of the implications of each opportunity. The opportunities identified range in type covering interventions planning, design, operations, maintenance, data issues, application of advanced technologies, land use, and more.

EXHIBIT 2.8: POTENTIAL OPPORTUNITIES BY THEME

Theme	Challenges and Issues	Potential Opportunities
Active Transportation - Winter Maintenance	• Snow clearing • First and last mile connections • Local recreation opportunities • Lack of separated infrastructure	• Re-balance active transportation infrastructure clearing • Community-run trail maintenance program
Micromobility	• Proximity to destinations • Public interest • Current transportation network • Northern climate • Safety • Cost, funding, and human resources • Availability and accessibility	• All Ages and Abilities Infrastructure • Awareness and Education Campaigns • Pilot Programs • Micromobility task force • Private Micromobility Service Providers • Incentive programs
Active Transportation - Transit Integration	• Access to transit infrastructure • Lack of amenities at transit infrastructure • Bicycle accommodation on transit • Social Safety	• Improve pedestrian connections to transit within walk shed • Transit-Oriented Development • Add pedestrian and cyclist amenities at transit infrastructure. • Bicycle accommodation on transit • Bus stop spot improvement program
Human Resources and Funding	• Infrastructure deficit • Active transportation budget • Active transportation infrastructure construction resources	• Internal Cost Sharing • National and Provincial Funding • Build on existing routes • Increase Staffing
Pedestrian Issues	• Safety • Security • Proximity to locations	• Pedestrian Crossing Program • Targeted Illumination • State of Walking and Cycling Report • Road Safety Strategic Action Plan
Cycling Issues	• Safety • Connectivity • Convenience • Public Perception	• Road Safety Strategic Action Plan • Complete Streets Policy • Neighbourhood Greenways • Construction zone mitigation strategy • State of Walking and Cycling Report

2.3 SUMMARY

The issues presented in this chapter were identified based on review of a variety of sources including TMP2050 public consultation documents, relevant data, policy review, stakeholder input, and a survey of peer jurisdictions. The outcomes of this review have identified a set of targeted actions and, in doing so, also illuminated the need to focus on four overarching themes that can improve the outcomes for active transportation across Winnipeg.

Safety is perhaps the most fundamental element to providing a public realm that enables and encourages active transportation. If users are not safe or do not feel safe, many will not choose to walk or cycle for trips where it might otherwise be desirable. To address safety at a systemic level, a framework for all streets should be developed to ensure that, moving forward, safety for all users is the first criteria considered in design. The idea is consistent with current discussions as a part of the Winnipeg Road Safety Strategic Action Plan, the Reduced-Speed Neighbourhood Pilot and ongoing implementation of best practice neighbourhood greenways.

As equity should be considered a precondition to all active transportation programs and projects, an equity screening tool should be developed that will be used to identify the equity impacts of all new projects and programs. The key intent of this tool is to ensure a broad range of potential impacts are documented for each project. This provides the potential to address equity impacts up front or to be reviewed on a systemic basis later. An equity scan also allows for the formulation of more clearly defined (city-wide) equity goals. Measuring equity is the first step to achieving more equitable outcomes.

The tool should seek to identify in a reasonably efficient manner how a project may impact various user groups including:

- Pedestrians and cyclists
- Those with mobility and visual impairments (accessibility)
- Gender
- Geographic locations
- Equity deserving groups or neighbourhoods
- Race

Equity in design also means considering a broad range of users in infrastructure selection and design guidance. To operationalize this various design users should be identified for active transportation infrastructure design:

- Identify “design users” to inform infrastructure design standards:
  - Formalize the cities All Ages and Abilities approach in design standards where the most vulnerable are used as benchmarks.
  - Applying this approach ensures infrastructure cater to everyone: including parents cycling alongside young children or those with mobility challenges who may need to be accompanied by another person, etc.

Such an approach explicitly ensures that designers better understand the intention of the infrastructure. Active transportation infrastructure has often suffered from a lack of design guidance that states the intended user in detail in the same way that a control vehicle is identified for roadways. This is important from an equity lens as failing to do so can exclude individuals often those on the margins from using public space.

Supportive land use is a precondition to promoting active transportation. Though many trips undertaken in Winnipeg are short, Winnipeggers' report that destinations are not close enough to walk to and that cycling is not seen as convenient. This means that a large portion of these short trips that remain within the neighbourhood are still completed by private motor vehicle, leading to extra emissions, added traffic safety concerns, and higher parking requirements. If the right conditions are met short trips are the easiest to switch to active transportation. To this end, Winnipeg should strive to create communities where the land use supports trips that are safe, comfortable, and convenient for people of all ages and abilities to make most of their local trips by active modes.

Performance monitoring of any undertaking relies on good quality data and through the work completed for this study it has become evident that there is a need for high quality data that can be transformed into information that provides critical understanding for decision-making. There are at least three types of data that are beneficial for planning, design, operations, and maintenance of active transportation infrastructure: safety data, volume data, and asset data.

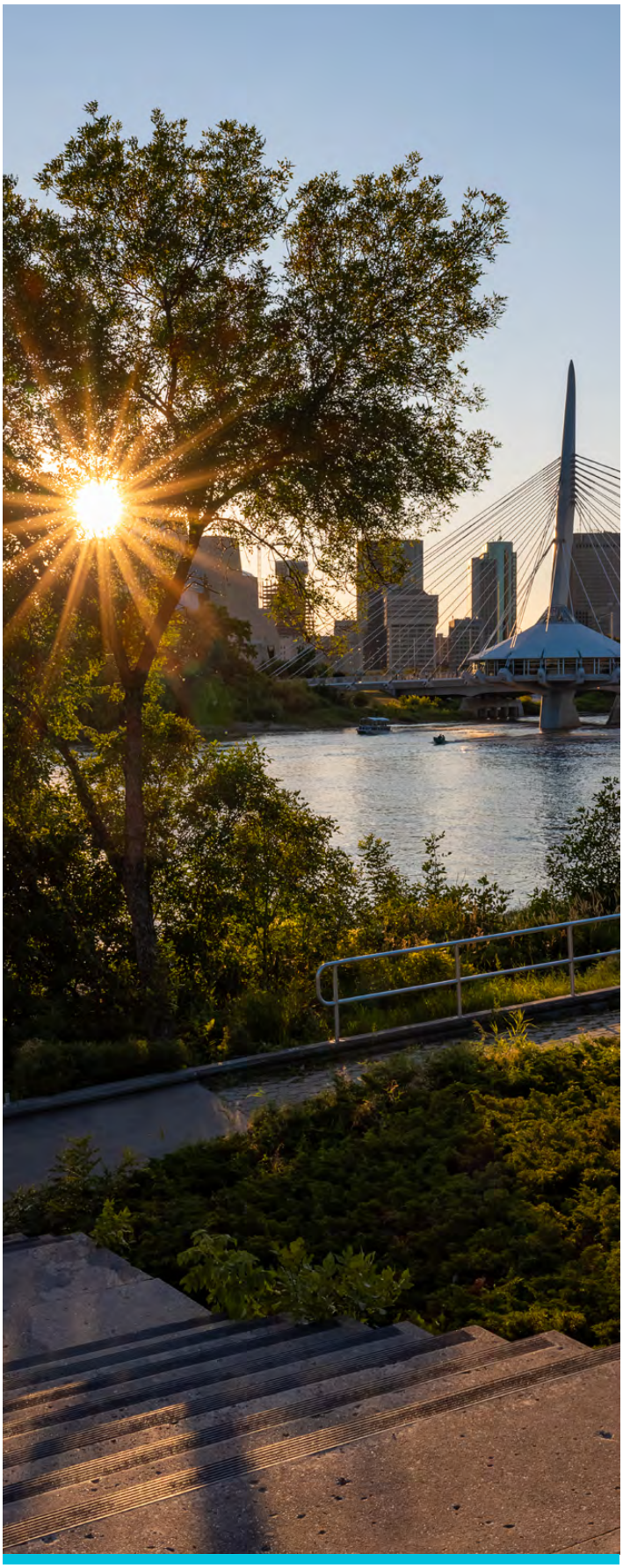
The collection and analysis of some types of safety data are already part of regular operations (e.g., collision and injury data). However, there are other types of safety data that are outside the scope of the current mandate but that could provide insight into the safety performance of AT infrastructure. This includes slip and fall incidents on sidewalks, and conflicts (e.g., pedestrians and cyclists, pedestrians and motor vehicles, cyclists and motor vehicles).

Volume data is fundamental for many decisions involving pedestrian and cycling infrastructure. While the City of Winnipeg has initiated aspects of pedestrian and bicycle counting in some areas of the city, there is still a need for pedestrian and bicycle traffic monitoring programs to ensure information on average daily volumes by user type is available to inform performance evaluation, safety analysis, planning, design, operations, and maintenance of active transportation infrastructure. This data can be collected through a combination of permanent and targeted location counts. The increased use of video-based traffic counts also presents opportunities to more easily count pedestrians and cyclists alongside typical vehicle turn volume counts.

Asset data, which includes attributes of the physical infrastructure where pedestrians and cyclists travel, is currently collected as part of regular operations. However, it is important to ensure this information also includes content specific to the pedestrian and cycling networks (e.g., road surface condition for both sidewalks and bicycle infrastructure in winter and non-winter months, pavement markings, and others).

The targeted findings from this review include:

- Many issues identified across the categories (winter maintenance, micromobility, transit integration) result in opportunities that focus on the need for safe connected, separate infrastructure for active users.
- Potential opportunities span the spectrum of planning, design, operations, maintenance, data issues, and land use interventions, though planning and design continue to present the greatest barriers to significantly increasing active transportation usage in the near term.
- As a winter city, Winnipeggers that choose active transportation modes are more severely impacted by winter maintenance in all corners of the active transportation experience. Significant opportunities exist to improve the experience of pedestrians, cyclists, and transit users through prioritization of these modes.
- Challenges facing the implementation of micromobility focus on uncertainty resulting from its relatively recent introduction to the market. Key lessons from peer jurisdictions will continue to inform best practice that can help alleviate concerns for both the City of Winnipeg and the public.



SECTION 3

STRATEGIC DIRECTIONS AND ACTIONS

SECTION 3

STRATEGIC DIRECTIONS AND ACTIONS

3.1 STRATEGIC DIRECTIONS BACKGROUND

The vision and directions contained within the previous OurWinnipeg, Complete Communities, and Transportation Master Plan charted the course for the strategic directions in the 2015 Pedestrian and Cycling Strategies. This section describes the overarching strategic framework of 2015 PCS; it has been retained for the PCS update.

3.1.1 VISION

The vision and goals inform the overall direction of the strategies and serve as the basis for the directions and recommended action areas. In particular, the vision has been designed to describe the broad aspirations for the future of walking and cycling in Winnipeg. The vision consists of a series of inspirational statements that act as the framework to guide the direction of walking and cycling in Winnipeg into the future. The vision statement for the Strategies describes the future desired “end state”, or result, of implementing the Strategies.

- Walking, wheeling and cycling are safe, convenient, practical, and attractive transportation choices for people of all ages and abilities.
- Equitable access to walking and cycling provides greater transportation choices for residents and visitors in neighbourhoods across Winnipeg. This will improve personal mobility, promote healthy living, and reduce greenhouse gas emissions, thus contributing to quality of life and community well-being.
- The community is engaged in transparent processes to invest in and prioritize cost-effective, progressive, and innovative infrastructure, support programs, and policies.
- Walking and cycling infrastructure are strategically integrated with land use to foster walkable and bicycle-friendly communities in existing and new neighbourhoods.
- Walking and cycling infrastructure will be maintained in good repair, operational in all seasons, including establishment of priority networks for winter maintenance.
- Winnipeg is recognized as a leading Winter City in promoting walking and cycling throughout the year.

3.1.2 GUIDING PRINCIPLES

The vision is supported by seven guiding principles that align with the City's overarching objectives as stated in prior versions of Our Winnipeg, Complete Communities, and the Transportation Master Plan. They provide the foundational elements that shape the specific walking and cycling directions and actions.(Please note: this verbiage has been adjusted from 2015 to maintain consistency between principles; the revised wording does not alter each's meaning.)

- **Integrated with land use:** Strategically develop accessible, well-connected networks of walking and cycling infrastructure, supporting the concept of complete communities.
- **Active, accessible & healthy:** Make daily walking and cycling convenient, accessible, active, healthy travel modes for people of all ages and abilities.
- **Safe, efficient & equitable:** Winnipeg's pedestrian and cycling networks will be designed, maintained, and developed to ensure accessible, safe, and efficient use for all users, while balancing needs of different users and trip types sharing the networks.
- **Meaningfully designed & maintained:** Provide a high-quality network of pedestrian and cycling infrastructure that are planned, designed, implemented, and maintained to address year-round access.
- **Financially sustainable:** Plan and implement cost-effective, financially sustainable walking and cycling infrastructure and networks, with due consideration for economic, health, and environmental cost benefits.
- **Environmentally considerate:** Invest in walking and cycling as environmentally friendly modes of transportation as one way to help the City and Province meet and surpass climate change and emission reduction goals.
- **Transparent:** Continuously engage with the community as part of a transparent process to develop the Pedestrian and Cycling Strategies, and to implement the initiatives identified within the Strategies.

3.1.3 STRATEGIC DIRECTION

The strategic directions are:

1. Improve connectivity

- Expand the bicycle network
- Expand and enhance the sidewalk network
- Address barriers

2. Improve convenience

- Provide bicycle parking and end-of-trip infrastructure
- Increase and improve multi-modal connections

3. Improve safety & accessibility

- Provide accessible infrastructure
- Improve pedestrian and cyclist safety
- Provide pedestrian / cyclist crossing treatments
- Well-lit and visible pedestrian and cyclist infrastructure
- Develop safe routes to school

4. Improve maintenance

- Maintain the sidewalk network
- Maintain the bikeway network

5. Improve vibrance

- Enhance streetscapes and the public realm
- Land development and site design

6. Increase awareness

- Enhance wayfinding, signage, and trip planning
- Improve education and awareness
- Increase marketing and communication

3.2 UPDATED PEDESTRIAN AND CYCLING NETWORKS

3.2.1 SIDEWALK NETWORK

Expanding and enhancing the sidewalk network is a fundamental part of making walking a convenient and attractive transportation choice in Winnipeg. Winnipeg has an extensive sidewalk network, particularly within the downtown core and mature neighbourhoods throughout the city. One of the key components of a walkable neighbourhood is the sidewalk, as the sidewalk essentially functions as the roadway for pedestrians. Multi-use pathways also make up a portion of the pedestrian network, these are further discussed in the Cycling Network section. Sidewalks have many advantages.

- They provide a safe travel area for all transportation system users who need or want to walk to their destinations or for part of their trip (e.g., people using wheelchairs, the elderly, people pushing strollers, people with visual impairments, children, and people who take the bus).
- Sidewalks significantly reduce pedestrian collisions with motor vehicles. Research has found in residential and mixed residential areas, pedestrian collisions are more than two times as likely to occur at locations without sidewalks compared to locations with sidewalks.
- Sidewalks provide separation between motor vehicles and pedestrians.
- Beyond safety benefits, sidewalks promote high quality urban and suburban environments by providing sociological benefits.
  - They are representative of inclusive city building for children, seniors and those with accessible needs.
  - They provide space for social interaction including patios, dog walking and other recreation.
  - The provide space for children to play, travel and learn to ride bikes, which in turn creates comfort and piece of mind for parents.

Best practices for sidewalks are described below.

Wide sidewalks can create a more comfortable environment, providing enough space for people to walk side-by-side, allow space for people to pass each other, and allow enough space with those using mobility aids such as wheelchairs, walkers, and canes to safely navigate.

Accessibility features such as accessible curb ramps, tactile surfaces, and accessible pushbuttons provided throughout the walking environment are important to encouraging mobility for pedestrians of all ages and abilities.

Clear sidewalk width where utilities, bus stops, and street furnishings do not reduce the overall pedestrian width is important to ensuring sidewalks remain accessible. Obstructions within the sidewalk zone such as light poles, overgrown vegetation, and bus shelters can be problematic especially for people using mobility aids.

Adequate lighting that illuminates the sidewalk and provides visibility of the surrounding area can prevent criminal activity and support a safer pedestrian environment.

Weather protection such as awnings and/or street trees provide a canopy over the sidewalk area can protect pedestrians from sun, rain, snow, and wind. In addition, it helps to frame the pedestrian environment and establish a pedestrian scale.

Sidewalk maintenance that address surface smoothness, cracks and upheaval can improve pedestrian accessibility.

Boulevard space between the roadway and sidewalk provides pedestrian comfort, as well as increased safety due to increased separation from motorized traffic. Further, a boulevard provides space for various street hardware (signs, lighting poles, fire hydrants), and streetscaping elements. Additionally, boulevards are preferred in terms of maintenance as they allow for more efficient maintenance continuity in both summer and winter.

Winnipeg's sidewalk network is illustrated in Map 1. Actions with respect to sidewalks propose to address network gaps, widen substandard sidewalks, and maximize sidewalk widths in areas of high demand and/or high use of mobility devices. Addressing sidewalk network gaps on arterial and collector streets is proposed via a prioritized approach that is described and mapped in Section 4.1.4. Gaps on local streets require a different approach that must first determine, in consultation with industry and based on study since 2015, the level of sidewalk provision on new streets and in infill areas.

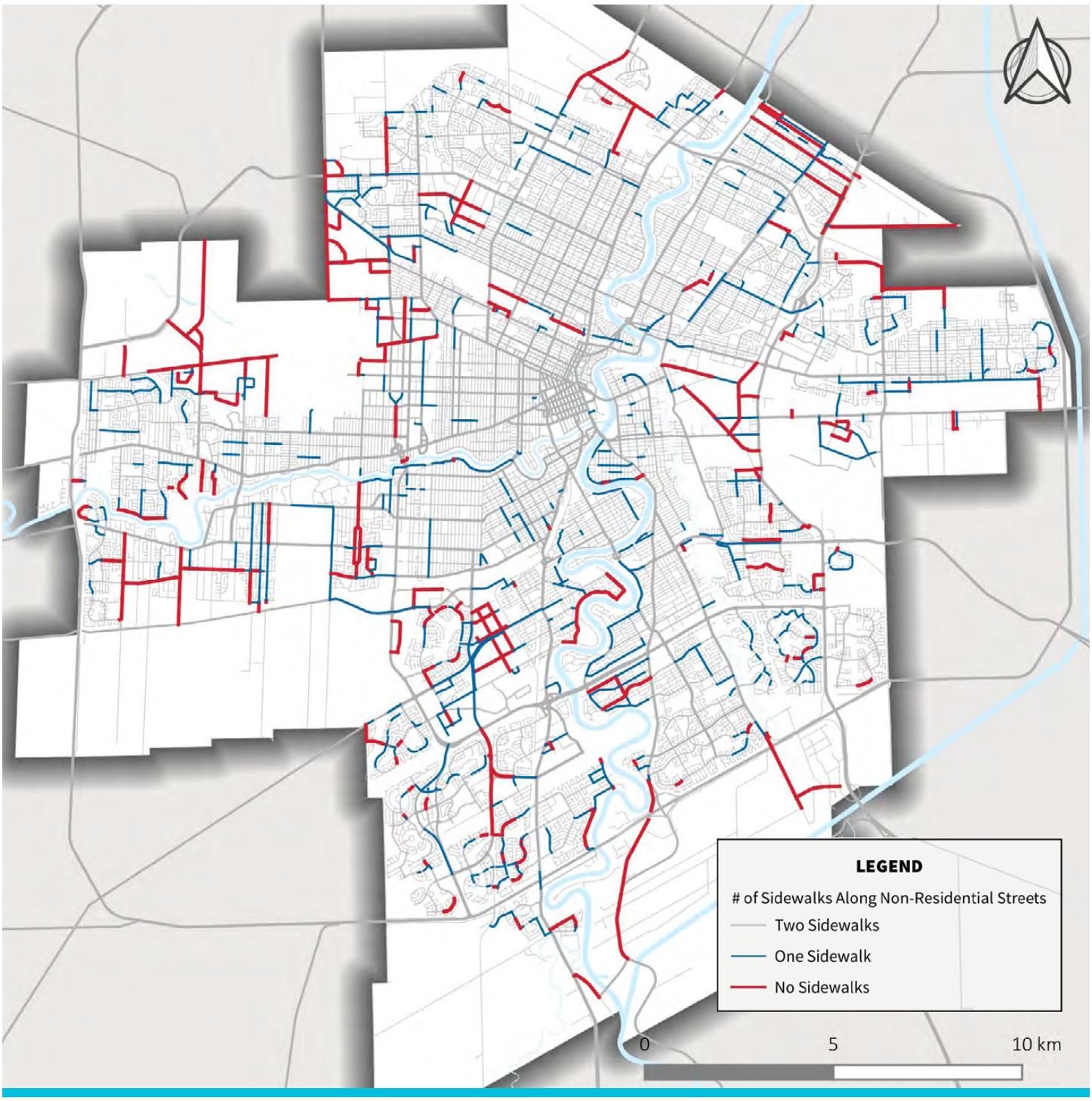
RECOMMENDATIONS FOR SIDEWALK REQUIREMENTS IN WINNIPEG

This document upholds the 2015 recommendations for updating sidewalk requirements in Winnipeg.

EXHIBIT 3.1: SUGGESTED SIDEWALK REQUIREMENTS FOR WINNIPEG

Road Class	Land Use	Sidewalk Requirement	# of Sidewalks
Public Lane	All	No	None
Local	Residential	Yes, if adjacent land use is a school	2
		Yes, and on both sides of the street if, • Adjacent land use includes multi-family dwellings and commercial sites • Connectivity is needed to a transit stop, including access from the frontage road to the bus stop • Connectivity is needed to recreational areas • There is a potential safety problem related to pedestrians	1 (at least)
		No, for cul-de-sacs	None
	Commercial	Yes, and on both sides of the street if, • Connectivity is needed to transit stops • There is a potential safety problem related to pedestrians	1 (at least)
	Industrial	Yes, and on both sides of the street if, • Connectivity is needed to transit stops • There is a potential safety problem related to pedestrians	1 (at least)
Collector	Residential	Yes	2
	Commercial	Yes	2
	Industrial	Yes	1 (at least)
Arterial	All	Yes	2
Expressway	All	No	As required

MAP 1: SIDEWALK NETWORK



3.2.2 BICYCLE NETWORK

PRIMARY AND SECONDARY BICYCLE NETWORK

Developing a dense, well-connected, and comfortable network of bicycle infrastructure for all users is critical to enabling cycling.

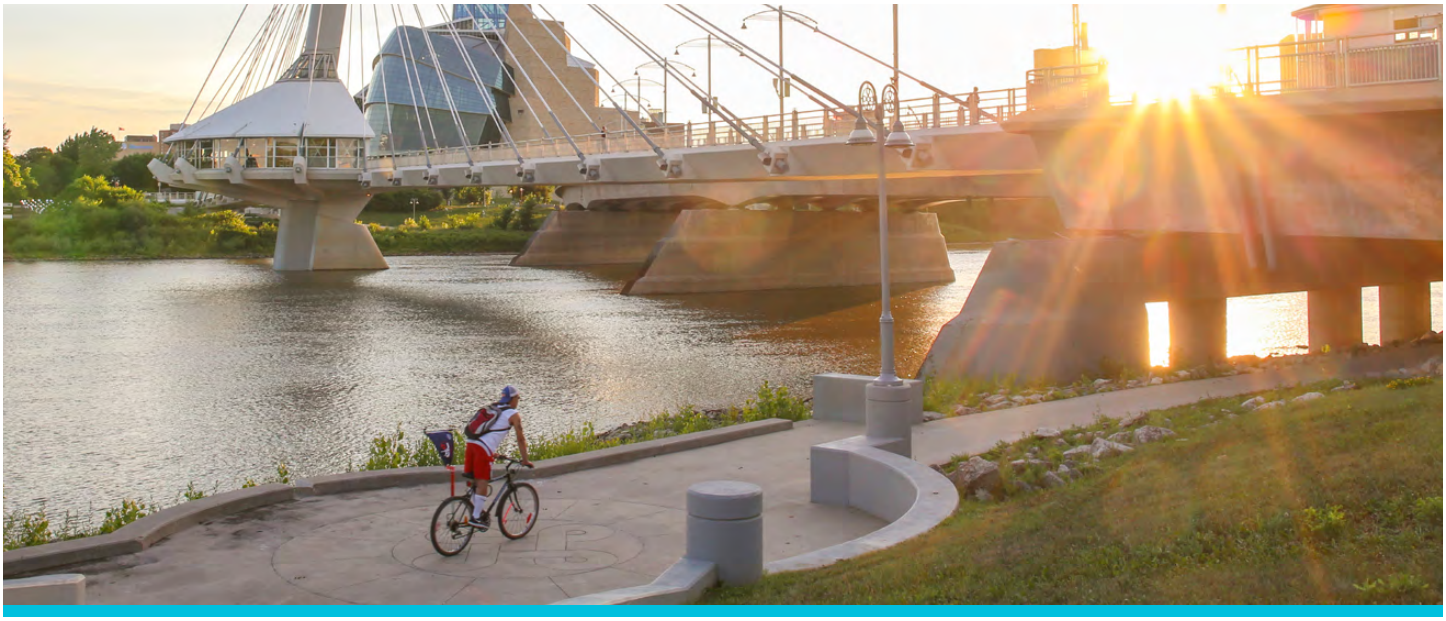
The 2015 bicycle network design had the stated intent to create a dense, well connected, and comfortable network. As a roadmap for future investment, the bicycle network was proposed with the hub and spoke concept that aimed to create a city-wide network of high-quality infrastructure that are attractive to people of all ages and abilities. Downtown was the main hub identified in Winnipeg and bicycle arterials were proposed along key corridors that connect downtown with all neighbourhoods and regional mixed-use corridors (which are arterial streets leading out of the downtown) and centres (which is Downtown and major shopping areas).

Regional mixed-use centres

- Polo Park area
- McPhillips & Leila area
- Regent / Lagimodiere area
- St Vital Centre
- Kenaston / McGillivray area
- Kenaston / Sterling Lyon area
- Portage Avenue West / Racetrack Road
- Downtown

Regional mixed-use corridors

- Pembina Highway
- Portage Avenue
- Main Street
- Henderson Highway
- St. Mary's Road
- St. Anne's Road
- Nairn / Regent Avenue West



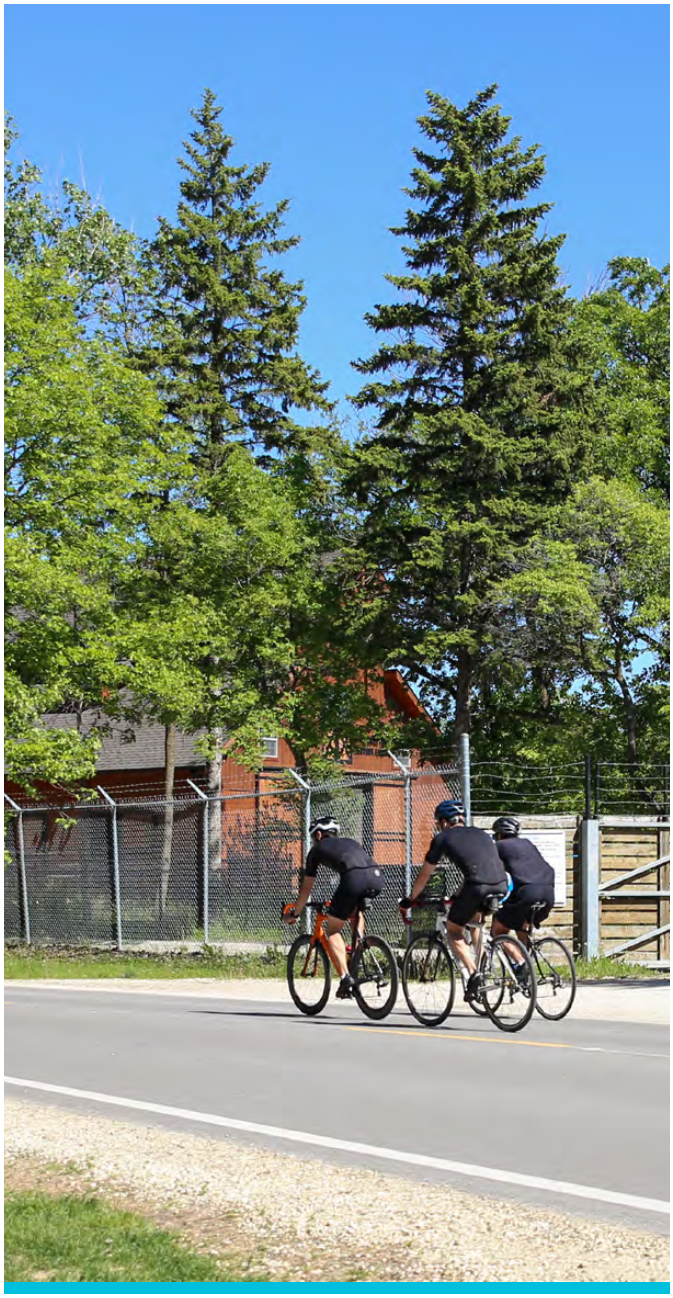
Additionally, a cycle ring was proposed to provide inter-neighbourhood connectivity and connect with other key destinations in the city with local neighbourhood greenways to complete the network.

The general idea of hub and spoke remains relevant as does the underlying intent of a dense, well connected, and comfortable network. However, through the update process it was identified that a review of the existing network was needed to provide GIS mappable network planning principles to verify that the 2015 network currently meets its intent in a way that is transparent, defensible, data driven, and reproducible.

The PCS update included an enhanced look at the bicycle network to:

- Reducing the reliance on the arterial road network for primary routes
- Confirm and update network design to ensure that it is in line with best practices investigated through literature review, jurisdictional scans, and expert advice
- Provide a basis for balancing competing transportation requirements as identified through the TMP2050 component projects
- Provide a means of exploring network alternatives for challenging routes at the PCS Update level and a methodology to consistently evaluate alternate routes during future Walk Bike projects.

The review resulted in an updated bicycle network based around primary and secondary routes. It is important to note that primary and secondary routes speak to the intended functions of the routes, and not the infrastructure treatment. Infrastructure treatment is independent of primary and secondary designation and is based upon safety considerations (traffic volumes, speeds, and the presence of trucks and buses). Primary and secondary terminology matches the terminology employed in other aspects of TRANSPORTATION 2050.



The primary network is intended for longer distance trips (generally 2 km to 7 km) connecting to major destinations (major parks, downtown, university, hospital, employment centres) and is laid out with an 800-metre buffer. The primary network was laid out to ensure that there is at least one primary route through every neighbourhood in Winnipeg. The primary network is distinct from the former spine network in the following ways:

- Expands key destinations beyond the downtown to other significant destinations including major parks, universities, and employment centres
- Moves away from the premise of regional shopping centres being major generators for cycling activity
- Has an explicit intent to link all neighbourhoods in Winnipeg
- Reduces reliance on adding routes to major radial arterials; primary routes are not linked with major streets and can be located on off-road paths or any classification of street
- Has been constructed using a GIS mapping-based approach that explicitly reflects all inputs and can be used to make appropriate routing adjustments at more detailed study levels

Secondary routes are meant for short connections to local destinations like schools, libraries, parks, community centres, and local commercial destinations. The combined primary and secondary network retains a 400 m spacing from bicycle infrastructure downtown and 800 m from bicycle infrastructure outside of downtown which is consistent with the 2015 PCS.

The proposed primary and secondary cycling route network for Winnipeg is illustrated in *Map 2;* in addition to displaying the primary and secondary network, *Map 2* displays several additional route designations for added context.

- **Rails to trails** refers to active transportation infrastructure being built on former rail line property.
- **Multimodal Corridor Studies** are defined in the Transportation Master Plan as follows:

An in-depth planning study to identify improvements to an existing street, when adding or enhancing transit and/or cycling facilities to a street with a constrained right-of-way. Multi-modal corridor studies will serve as a proactive planning tool for the Regional Street Renewal Program and will follow the complete streets decision making framework embedded within the updated Transportation Standards Manual. This includes assessing existing conditions, defining the relationship between a street and its adjacent land in consultation with the public and stakeholders, identifying alternative solutions, and developing preferred future conditions for all modes of transportation. Where physical constraints or design complexities exist, multi-modal corridor studies can also look at parallel corridors to meet user needs in a manner that improves safe mobility for all through a general location. Detailed guidelines for multi-modal corridor studies will be developed as an outcome of TMP2050 (TMP2050, Policy 3.1.1. action I).

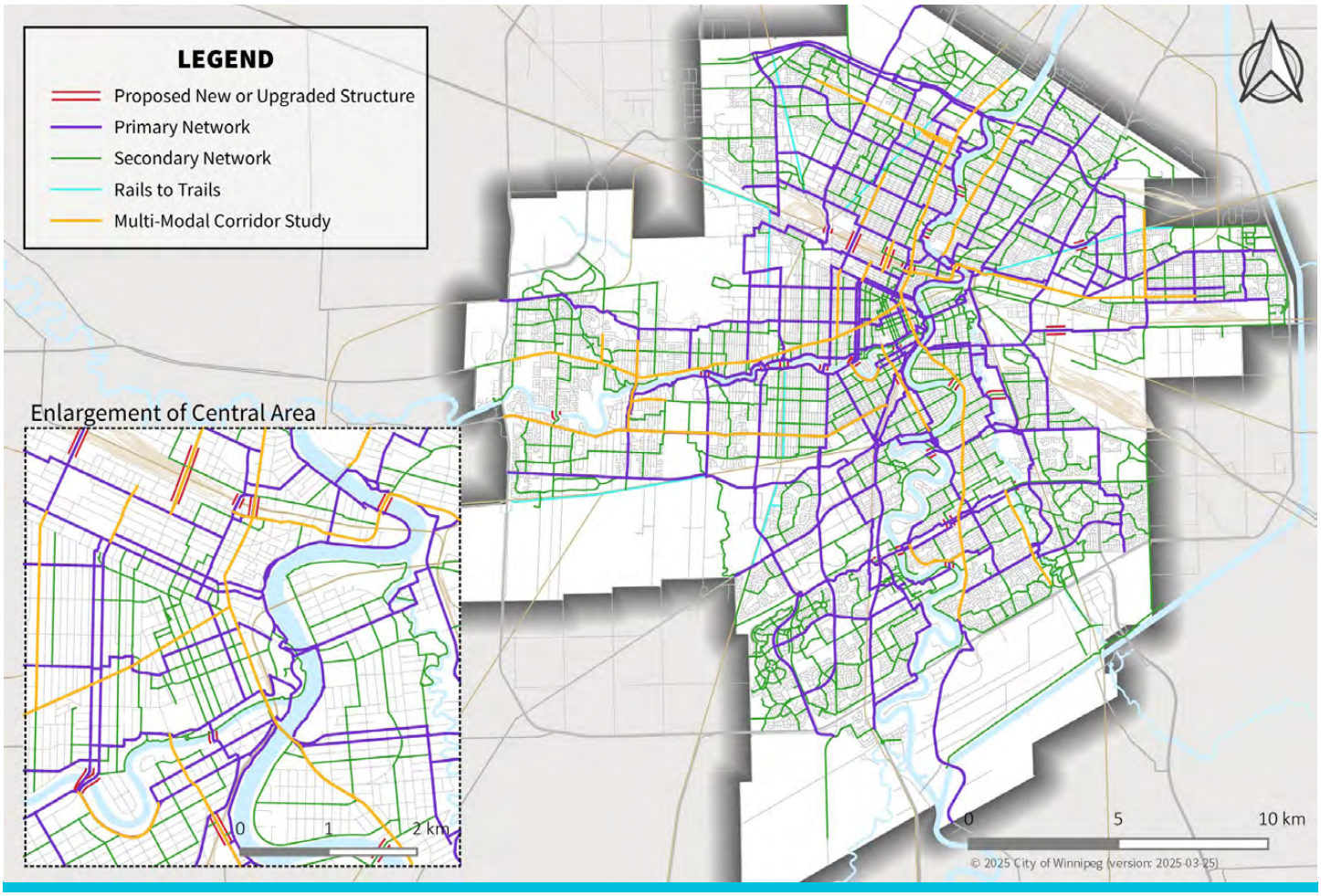
- **Spur Routes** are bicycle facilities that do not serve any particular destination or connectivity within the network. Typically, these are existing routes located in parks and recreation areas.

PROPOSED 2024 BICYCLE NETWORK MAP

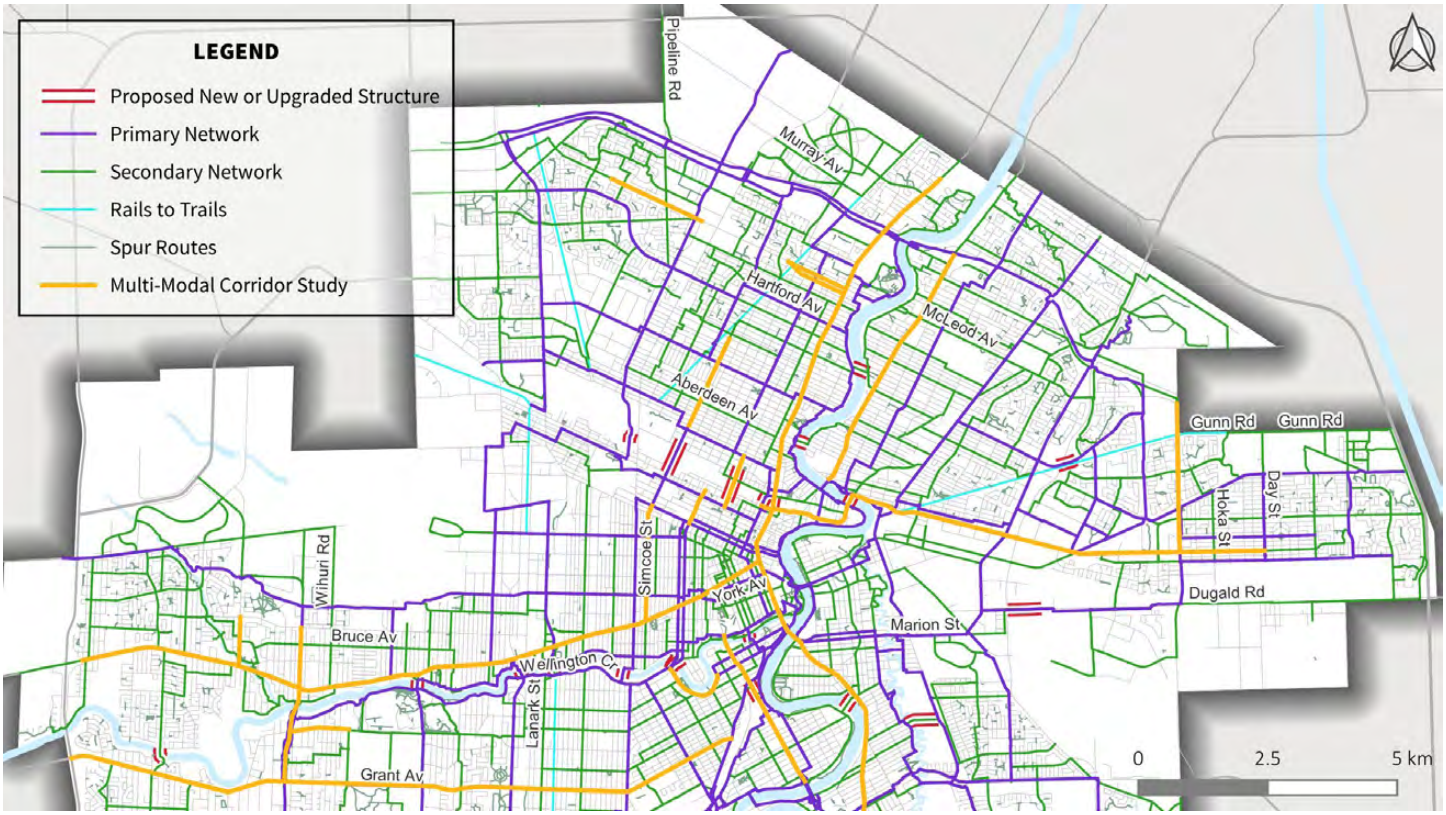
Notes on how to read this map:

- The map is intended to define the future bike network. However, in some cases the routes identified may also be interpreted as desire lines opposed to definitive alignments. This result would be based on new information and more in-depth study where some routes may be more appropriately served on alternate alignments. This applies to all AT infrastructure delivery methods not limited to WalkBike Studies, Pedestrian and Cycling Program Projects, Multi-modal Corridor Studies and Road Renewal Projects.
- The map presents proposed routes but does not indicate a proposed infrastructure. Infrastructure selection requires investigation into the existing context and it is more appropriate to make this decision at the time of study and implementation. Infrastructure selection is based on best practice guidance including TAC and other current North American manuals and in the future technical design guidance as part of City Transportation Standards. Meeting the goal of creating all ages and abilities infrastructure often requires physically separating bicycles from automobiles. The other common approach is mixing these users but limiting motor vehicle speeds and volumes.

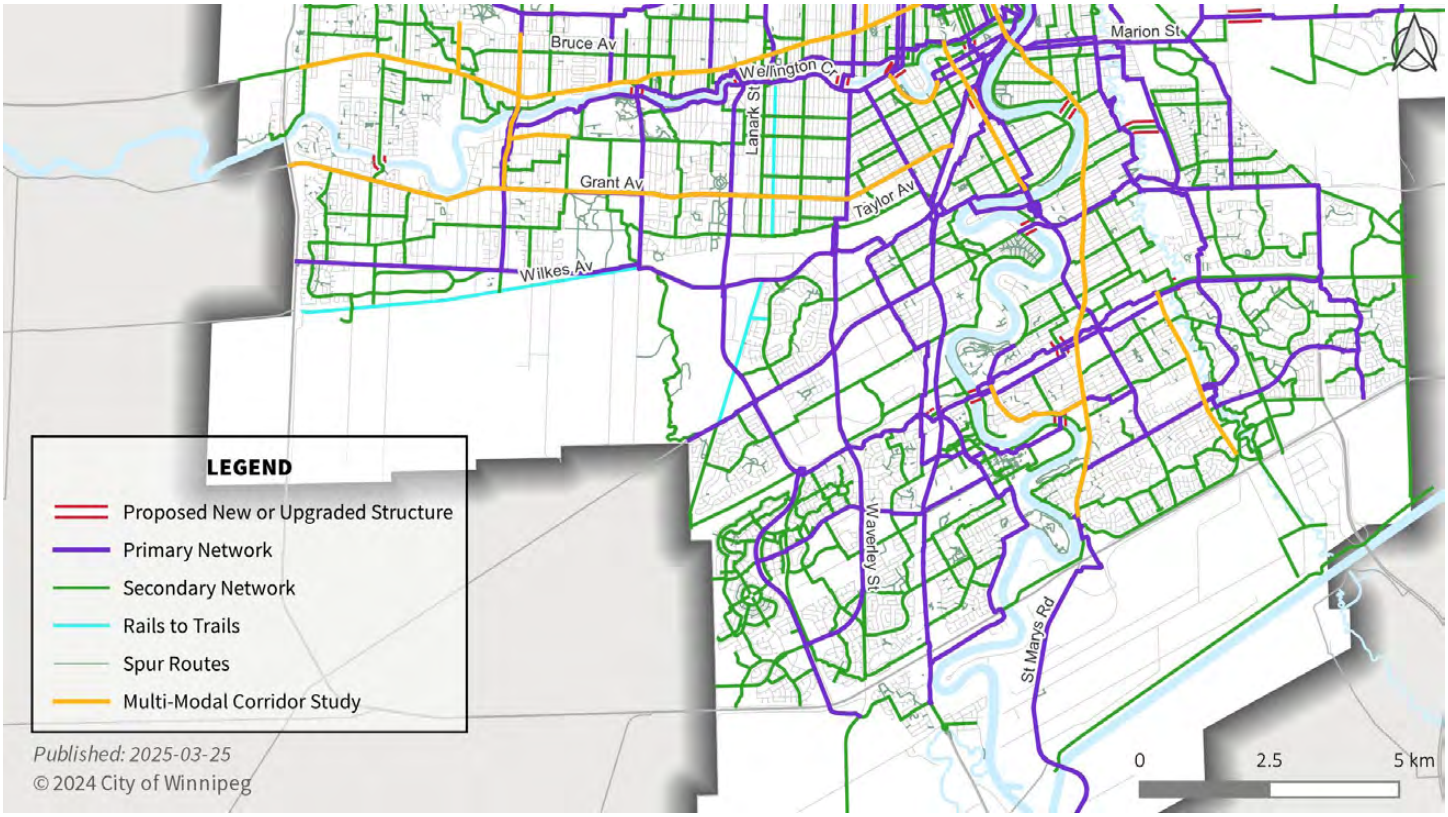
MAP 2: PRIMARY AND SECONDARY CYCLING NETWORK



MAP 3: PRIMARY AND SECONDARY CYCLING NETWORK – NORTH



MAP 4: PRIMARY AND SECONDARY CYCLING NETWORK – SOUTH



BICYCLE INFRASTRUCTURE TREATMENTS

Infrastructure treatment is independent of primary and secondary designation and is based on the alignment context. There are a number of types of bicycle infrastructure that we can consider for different contexts, as shown in the following visual summary. Infrastructure types have been grouped into three classifications based on common characteristics.

PHYSICALLY SEPARATED BICYCLE INFRASTRUCTURE

Multi-use pathways are physically separated from motor vehicles and provide sufficient width and supporting infrastructure to be used by cyclists, pedestrians, wheelers and other non-motorized users. If an off-road pathway is intended only for cyclists it is referred to as an "off-road bicycle pathway" and if it is intended for cyclists, pedestrians, and other non-motorized users it is referred to as an "off-road multi-use pathway" or more commonly a "multi-use path". Off-road pathways can have paved or unpaved surfaces. Pathway surfacing plays a large role in comfort for cyclists, with paved or firm surfaces often preferable for cyclists use, including asphalt, stone dust, fine limestone, or gravel screenings. Multi-use pathways are considered AAA infrastructure.

Protected bicycle lanes (or cycle tracks) are physically separated from motor vehicle travel lanes but are located within the street right-of-way. Physical separation is most often by some form of concrete curb; planters or other longitudinal raised elements can also be used. Protected bicycle lanes can operate with unidirectional and bi-directional travel. Protected bicycle lanes are a hybrid type of bicycle infrastructure combining the experience of an off-road path with the on-street infrastructure of a conventional bicycle lane. Protected bicycle lanes are considered AAA infrastructure.

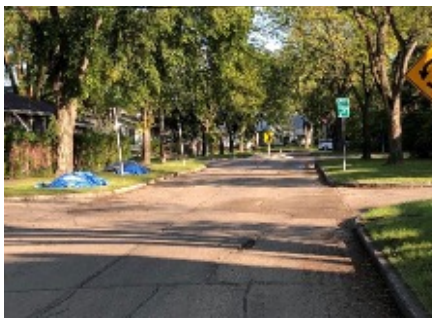
BUFFERED OR UNBUFFERED BICYCLE LANES

Buffered bicycle lanes provide more protected space for cyclists than a conventional bicycle lane, typically through a painted buffered or 'shy' zones on one or both sides of the cyclists. Plastic posts can be used to delineate the lanes. These lanes may be further separated from traffic by a parking lane. Buffered bicycle lanes are not considered AAA infrastructure.

Painted bicycle lanes are separate lanes that are designated exclusively for bicycle travel and are demarcated by pavement markings. Bicycle lanes are not considered AAA infrastructure.

Bicycle accessible shoulder where intended for bicyclist use, and provided enough width is available, paved shoulders on the edge of roadways can serve as a functional space for bicyclists in the absence of other infrastructure with more separation or delineation. Bicycle accessible shoulders are not considered AAA infrastructure.

MIXED TRAFFIC INFRASTRUCTURE



Neighbourhood greenways are routes on local streets and where appropriate collector streets with low vehicle speeds and volumes. Neighbourhood greenway routes include a range of treatments to reduce traffic volumes, slow down traffic, and improve safety for walking, bicycling, and driving. A critical component of Neighbourhood Greenways are the treatments implemented at major intersections along the infrastructure. Treatments range from signage, one block travel restrictions for vehicles, bike signals, and pavement markings to varying degrees of traffic calming (speed humps, traffic circles, etc.). The design of greenways can vary from route to route, but it is critical that these treatments are present as they work together to create a safe and comfortable cycling environment. Neighbourhood greenways can be considered AAA infrastructure when traffic volumes and speeds are sufficiently low enough that all users of all abilities feel safe and comfortable to walk and/or bike on the street.

Advisory bike lanes are used on low-volume streets that are too narrow for the installation of conventional bicycle lanes and standard-width travel lanes for motor vehicles. Dashed bicycle lanes are marked on the outside of the roadway with a single narrow two-way vehicle lane occupying the middle of the roadway. The dashed bicycle lane line permits motorists to merge into the bicycle lane to negotiate oncoming traffic when no bicyclists are present. This treatment has not yet been implemented on a street in Winnipeg. Advisory bike lanes are not considered AAA infrastructure.

The following provides some details as to treatments for neighbourhood greenways, protected bicycle lanes, and buffered bicycle lanes.

TREATMENTS - NEIGHBOURHOOD GREENWAYS

Route signage can be implemented along neighbourhood greenways easily and with low cost with the application of bicycle route signage to identify the road as a bicycle route.

Pavement markings can be placed on the roadway to identify the route as a neighbourhood greenway. Bikeway pavement markings in North America are not as highly standardized, and as a result, cities are still experimenting with different designs.

Traffic calming treatments do not restrict motor vehicle access but are effective in reducing speeds and volumes and improving safety for pedestrians and cyclists, and can include traffic circles, speed humps, and curb extensions.

Speed restrictions in some cities have posted all neighbourhood greenways at 30 km/hr, to further reduce speeds and created a calmed traffic environment that is safe and comfortable for both pedestrians and cyclists.

Intersection treatments should be at critical locations on a neighbourhood bikeway are where these infrastructure intersect major roads. Crossing treatments can be used to assist cyclists, pedestrians, and others in crossing major roads, and to minimize potential conflicts with motor vehicles. The range of crossing treatments that are typically considered where neighbourhood greenways intersect major roads are median islands and signalized crossings.

Traffic diversion measures refer to devices that restrict motor vehicle movement at intersections, while allowing unrestricted movements for cyclists and pedestrians. This include diverters, directional closures, right-in/right-out islands, and refuge median islands.

TREATMENTS - PROTECTED BICYCLE LANES

Concrete barriers provide a solid separation between cyclists and motorists. Concrete barriers can vary in width with wider barriers providing further separation between cyclists and motor vehicles which may aid in motorist sightlines at private approaches and intersections. Wide concrete barriers may also provide space for aesthetic improvements in the right-of-way such as planters or public art. When adjacent motor vehicle parking or loading areas, wide concrete barriers can provide motor vehicle passengers space to safely load and unload their vehicle away from the protected bike lane. Concrete barriers may be constructed as either cast-in-place curbs which are permanent features in the right-of-way or via pin-in-place curbs which can be more easily modified if needed. Pin-in-place curbs are not appropriate on high speed arterials with heavy truck traffic as they present significant maintenance concerns.

Elevation of the entire length of the protected bicycle lane is the most expensive form of separation with the exception of major crossings. This includes separate drainage on the protected bicycle lane, such as it is done in Copenhagen, and to some degree in the Netherlands. Consideration of this treatment must include if parking is immediately adjacent the raised bicycle lane to ensure the lane is wide enough to allow for motor vehicle door swing and safe cyclist passage

Parked cars can be used in a 'floating' parking lane as separation, with the advantage of being a relatively inexpensive barrier between cyclists and motor vehicle traffic. Considerations for installing a parking protected bicycle lane include discouraging motor vehicles from encroaching into the bike lane. This may be accomplished with the use of bollards or poly-posts, enhanced paint markings, and signage. Additional design consideration should include stripping parking or construction of 'sightline islands' near intersections and private approaches to reduce sightline obstructions for drivers turning across the bicycle lane.

Visual / surface treatments differentiate protected bicycle lanes from pedestrian infrastructure with treatments such as pavers and surface materials. This distinguishes between areas for pedestrians and cyclists and can be enhanced with landscaping features to further separate users.

TREATMENTS - BUFFERED BICYCLE LANES

Painted buffer includes two painted lines with a buffer space between. This provides extra space between cyclists and vehicles but is permeable by vehicles. A basic enhancement to a buffered bicycle lane is providing a hatched painted area where the width of the buffer permits.

Bollards are an inexpensive form of horizontal separation can be using bollards or delineator posts. These can be cheap, simple, and quick solutions to separation, and can have the same impact of making cyclists feel adequately separated from vehicles.

CROSSING TREATMENTS

The critical locations throughout the network are where bicycle routes intersect with major roads. At these areas, there is a need for treatments that distinguish cyclists and separate bikeways at intersections. As an intersection is the interchange between motorists, pedestrians, and cyclists, it is important that intersections with bicycle infrastructure have treatments to reduce conflict between bicyclists and other road users. Treatment should serve to increase the level of visibility, denote clear right-of-way, and facilitate eye contact and awareness with other modes. Intersection treatments can improve movements for bicyclists and can be coordinated with timed or specialized signals. Crossing treatments to improve safety at an intersection for bicyclists can include elements such as colour, signage, medians, signal detection and pavement markings. The type of treatment required depends on the bicycle infrastructure, whether there are intersecting bicycle routes, street function and land uses. Some examples of crossing treatments that can be used throughout Winnipeg include:

Coloured conflict zone markings can be used at intersections, driveways, merge areas and other conflict zones to raise visibility of cyclists and to highlight areas of potential conflicts.

Bicycle lane markings through intersections and conflict zones serve to position cyclists appropriately as they traverse the intersection and to alert motorists of the potential presence of cyclists in the intersection.

Bicycle boxes can be used at signalized intersections to provide cyclists an opportunity to position themselves ahead of queued vehicles, and to proceed through the intersection when the signals turn green in advance of vehicles.

Two-stage turn boxes or "Copenhagen lefts" are used for making left turns from a separated cycling infrastructure. This allows for a safe two stage crossing, rather than trying to merge into traffic. The painted box provides a space for the bike to queue prior to the second stage of the turn.

Enhanced bicycle signal crossings can include full signals or pedestrian and bicycle activated signals which can be activated by a cyclists using a range of technologies, such as bicycle loop detectors, bicycle pushbuttons, or wireless detection at traffic signals. Dedicated bicycle signal heads can also be considered.

Two-stage median crossings or refuge islands, are positioned in the middle of the roadway, allowing cyclists to cross the road in two stages instead of one. The median refuge islands provide cyclists (and pedestrians) the ability to safely wait in the middle of the road, before making the second stage of their crossing. This allows cyclists to deal with one direction of traffic flow at a time.

Crossbikes or crossrides are pavement markings that indicate a crossing zone in which a cyclist does not need to dismount. These pavement markings may be combined with a pedestrian crosswalk or may be used to indicate a separate bicycle crossing.

3.2.3 STRUCTURES

The Red River, Assiniboine River, and rail corridors create significant barriers within the walking and cycling networks, creating challenges to those navigating Winnipeg on foot or bicycle. Currently, several dedicated pedestrian/bicycle bridges exist in Winnipeg: For example, the Disraeli pedestrian / bicycle bridge, the Esplanade Riel Bridge, the Forks-South Point Park Bridge and the Assiniboine Park/Overdale Street Bridge. In addition, several bridges feature separated paths for pedestrians or cyclists adjacent to motor vehicle traffic, such as the Norwood Bridge and the rail bridge from Sir John Franklin Park.

To enhance mobility throughout the pedestrian and bicycle network, there are two primary strategies recommended to address these rail, river, and road barriers throughout Winnipeg:

- **Upgrade existing crossings** to accommodate bicycle and pedestrian infrastructure. This can include providing bicycle lanes or paths on crossings, improving shared sidewalks, widening sidewalks, adding lighting and illumination and/or access / egress improvements. Many of these upgrades would be triggered by reconstruction or replacement of the structure due to condition.
- **Construction of new crossings** to facilitate connectivity between neighbourhoods and key destinations that are currently isolated from one another. New crossings can serve to provide more permeability and mobility throughout the network for pedestrians and cyclists and can support natural desire lines where possible. Most new crossings are proposed across either the Assiniboine River or Red River or rail lines.

The locations in the following table and figure are recommended to be considered for crossing upgrades to better support people walking and cycling in Winnipeg.

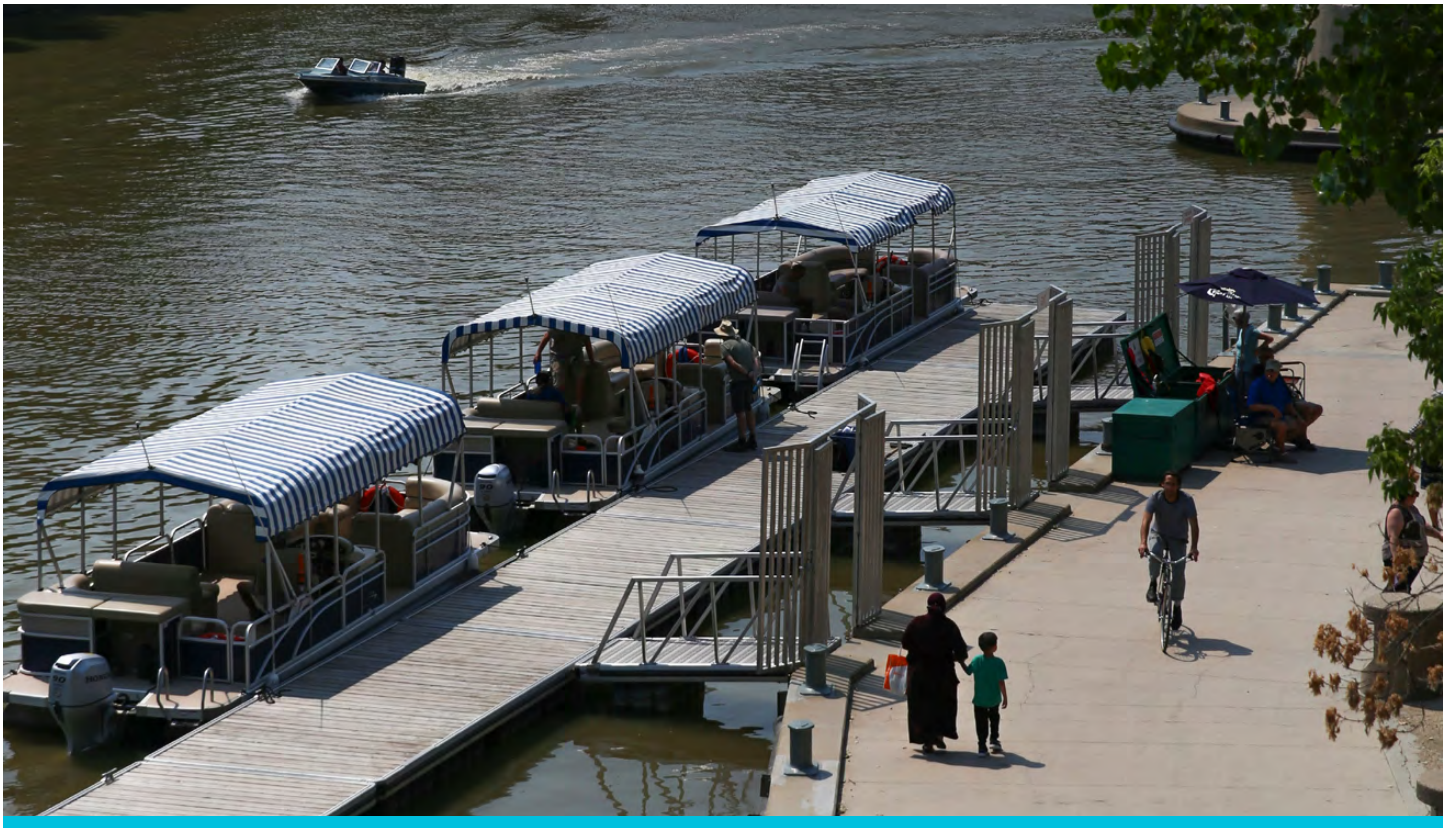
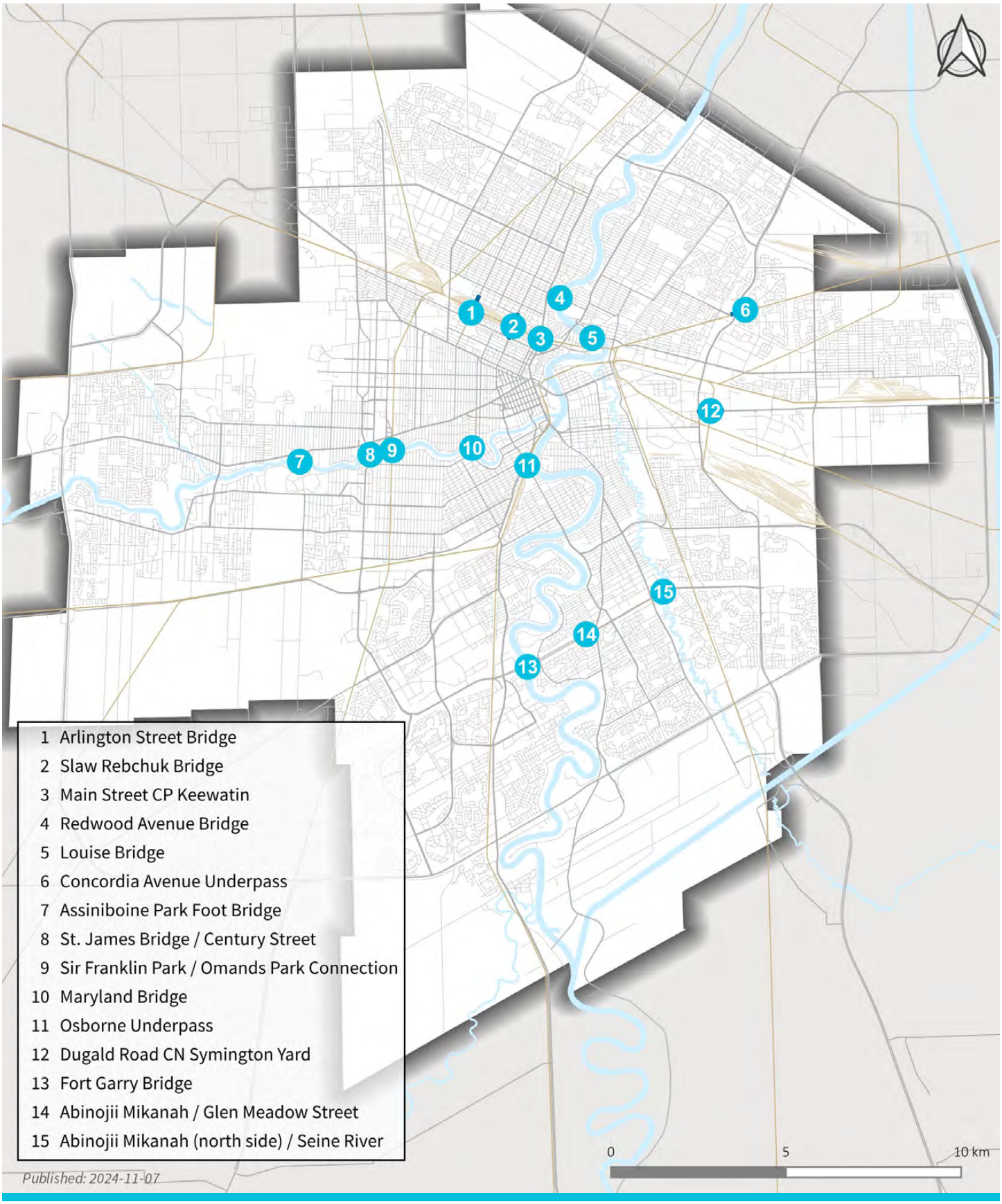


EXHIBIT 3.2: RECOMMENDED CROSSING UPGRADES

ID	Structure	Designation	Comment
1	Arlington Street Bridge	Primary	Design study has been completed for a new structure.
2	Slaw Rebchuk Bridge	Secondary	Consideration in a future reconstruction.
3	Main Street CPR Keewatin	Primary	Princess or King connection under rail line are potential new crossing alternates to study that would remove the need to upgrade Main Street.
4	Redwood Avenue Bridge	Secondary	Consideration in a future reconstruction.
5	Louise Bridge	Secondary	Pedestrian and cyclist accommodation to be incorporated into reconstruction/replacement.
6	Concordia Avenue Underpass	Primary	Design study has been completed to add pedestrian and cyclist accommodation at underpass.
7	Assiniboine Park Foot Bridge	Primary	Widen infrastructure when reconstructed/replaced.
8	St. James Bridge / Century Street	Primary	Design is incorporated in Route 90 Taylor to Ness plans.
9	Sir Franklin Park / Omand Park Connection	Secondary	Widen bridge over the Assiniboine River for pedestrians and cyclists.
10	Maryland Bridge	Primary	Widen infrastructure for pedestrians and cyclists.
11	Osborne Underpass	Primary	Add bicycle accommodation at underpass or nearby.
12	Dugald Road CN Symington Yard	Primary	Widen infrastructure for pedestrians and cyclists.
13	Fort Garry Bridge	Primary	Widen shared pedestrian and cyclist infrastructure on south structure.
14	Abinojii Mikanah / Glen Meadow Street	Secondary	Install wider underpass structure when replaced
15	Abinojii Mikanah (north side) / Seine River	Secondary	Widen existing culvert to accommodate pedestrian and cyclist infrastructure on the north side.

MAP 5: RECOMMENDED CROSSING UPGRADES

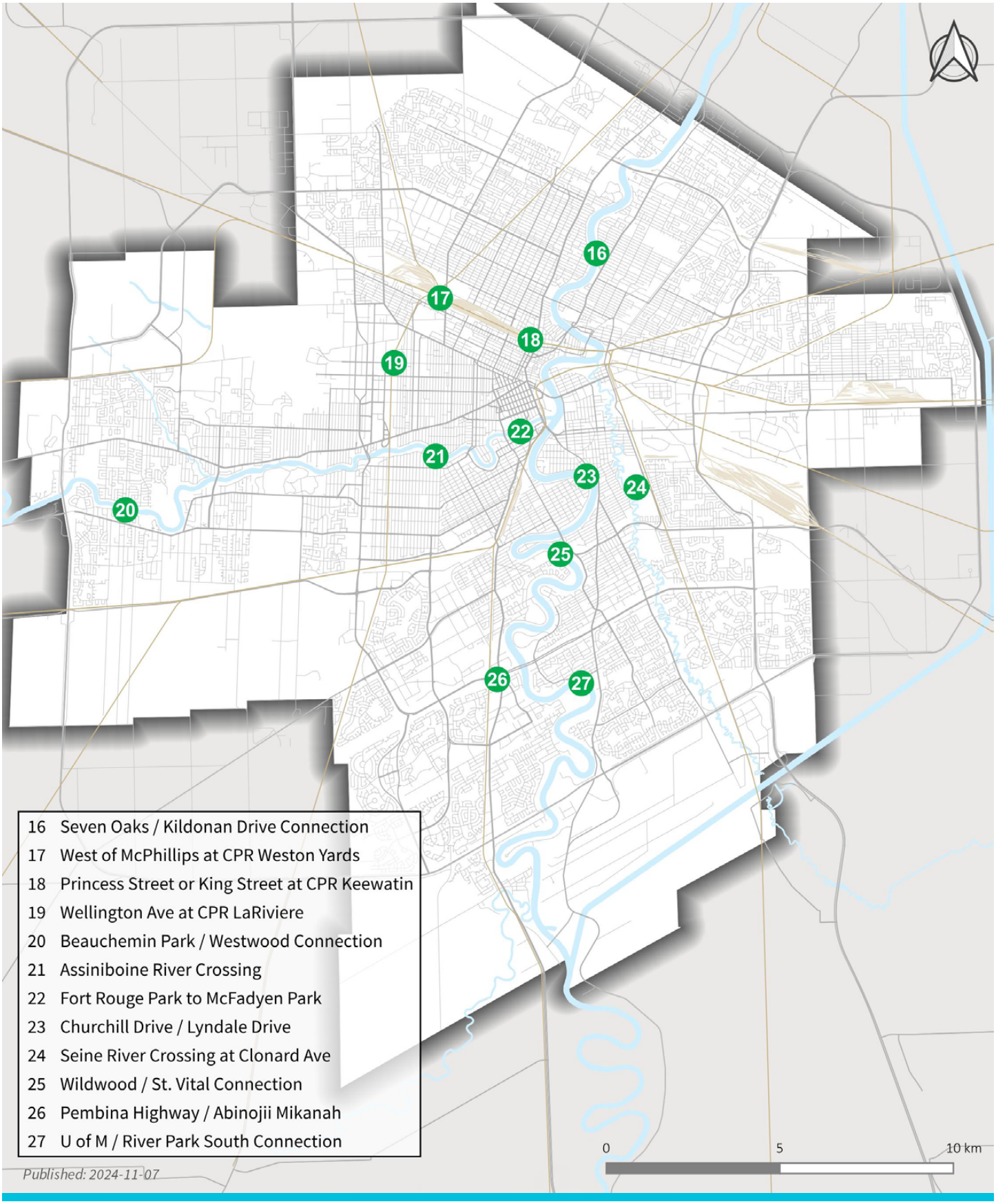


The locations in the following exhibit and map are recommended to be considered for new crossings to better support people walking and cycling in Winnipeg.

EXHIBIT 3.3: RECOMMENDED NEW CROSSINGS

	New Crossing	Designation	Comment
16	Seven Oaks / Kildonan Drive Connection	Primary	Study required to determine crossing location between Redwood and Kildonan Bridges.
17	West of McPhillips at CPR Weston Yards	Primary	Alternate to McPhillips underpass.
18	Princess Street or King Street at CPR Keewatin	Primary	Study required to consider location options including upgrading existing Main Street underpass
19	Wellington Ave at CPR LaRiviere	Primary	Study confirmed that grade separation is required.
20	Beauchemin Park / Westwood Connection	Secondary	Alternate to West Perimeter.
21	Assiniboine River crossing (Wolseley - River Heights)	Primary	Study required to determine a crossing location.
22	Fort Rouge Park to McFadyen Park	Primary	Initial design work has been completed.
23	Churchill Drive / Lyndale Drive	Secondary	Identified on Winnipeg Transit Master Plan Long Term Map.
24	Seine River Bridge connecting Egerton to Archibald St at Clonard Ave	Secondary	Result of 2017 Seine River Crossing Study.
25	Wildwood / St. Vital Connection (Oakenwald - Fermor)	Primary	Study required to determine implications of crossing.
26	Pembina Highway / Abinojii Mikanah	Secondary	Initial design work has been completed.
27	University of Manitoba River Park South Connection	Primary	Associated long term Rapid Transit bridge identified in the Winnipeg Transit Master Plan.

MAP 6: RECOMMENDED NEW CROSSINGS



3.2.4 PARKING

Every trip by bicycle requires that the bicycle be parked at the end of the trip. In many cases, this means locking the bicycle on the street, where it could be stolen. The fear of theft or vandalism is a significant deterrent to cycling. The City recommends registering bike with an organization known as 529 Garage. Bike data registered with 529 Garage is accessible by jurisdictions across the world, including the City of Winnipeg. The City will access users' contact information from 529 Garage when attempting to return recovered bikes. As many as 3,000 bicycles are reported stolen each year in Winnipeg. The City of Winnipeg recovers up to 1,000 bicycles each year, with less than 10 percent returned to their rightful owners. Regardless of whether a bicycle is worth $100 or $5,000, no one wants to have their bicycle stolen, particularly if they depend upon it for transportation. Consequently, providing safe and secure parking at key locations throughout the city is a significant means of facilitating cycling. In addition, other end-of-trip infrastructure, such as change rooms, showers, and maintenance and storage service, are an integral part of making the bicycle transportation system more convenient. In Winnipeg and other winter cities, the provision of change rooms, shower, and/or storage facilities for cyclists and their gear can support cycling year-round.

There are many different types of bicycle parking, which can be suitable in certain situations but not others. One of the key considerations in providing bicycle parking is to locate the 'right' bicycle parking facility in the 'right' place. The determination of what is the best facility for a specific location is driven by the needs and motives of the users (such as the purpose of the trip, length of the trip, and length of stay); as well as a variety of other factors at the location in question (such as adjacent land uses, available space, and safety). Bicycle parking is typically categorized as either short-term or long-term. As shown below, short-term generally refers to use of less than two hours, while long-term generally refers to use beyond two hours. Exhibit 3.4 summarizes the differences between short-term and long-term bicycle parking.

EXHIBIT 3.4: SHORT-TERM AND LONG-TERM PARKING COMPARISON

Criteria	Short-Term	Long-Term
Parking duration	Less than two hours	More than two hours
Fixture types	Bicycle racks	Lockers, racks in secured area
Weather protection	Unsheltered or sheltered	Sheltered or enclosed
Security	Unsecured, passive surveillance (eyes on the street) or active surveillance (monitored cameras)	Secured, active surveillance
		Unsupervised:
		"Individual-secure" such as bicycle lockers
		"Shared-secure" such as bicycle room or cage
		Supervised:
		Valet bicycle parking
		Paid area of transit station
Typical land uses	Commercial or retail, medical/healthcare, parks and recreation areas, community centers	Multi-family residential, office, workplace, parkades, educational.

Short-term bicycle parking typically consists of bicycle racks distributed in the public right-of-way in commercial areas and at key destinations throughout the city. Short-term bicycle parking can take a variety of forms, such as a Post-and-Ring Rack or Inverted 'U' Rack. Bicycle racks are generally oriented to residents and visitors, who may stop in the area for shopping or other personal business and should be located as close to destinations as possible in convenient locations and highly visible for users. It is desirable to provide a limited number of covered bicycle racks to provide protection from the elements.

Long-term bicycle parking is more secure than typical bicycle racks. It may include bicycle lockers, which can be rented by individuals, or larger secure facilities, such as bicycle rooms or cages, secure bicycle parking areas, or Bike Stations. Long-term parking is generally oriented to cyclists who need to park a bicycle for an entire day or longer. Major employment areas, transit stations, and areas with high cycling activity are ideally suited to long-term parking infrastructure, and they can also be required in private developments.

VISUAL SUMMARY - SHORT-TERM BICYCLE PARKING:

On-street bicycle racks can be a single or small group of racks provided within the public right-of-way, typically on the sidewalk.

Bicycle corrals can be a small to medium group of short-term bicycle racks located on-street, typically by replacing one or motor vehicle parking spaces. Bicycle corrals minimize sidewalk clutter, free up space for pedestrians and other uses (such as sidewalk cafes), and increase bicycle parking at locations with high demand.

Bicycle shelters are bicycle racks grouped together within structures with a roof that provides weather protection. Bicycle shelters provide convenient short-term and long-term bicycle parking.

Temporary event parking typically consists of portable racks that meet the demand for an event. Racks are clustered together, providing a higher level of security than if people were to park the bicycles on their own. Event staff can monitor the area, providing people with peace of mind while they are away from their bicycle.

VISUAL SUMMARY - LONG-TERM BICYCLE PARKING:

Bicycle lockers are a large metal or plastic stand-alone boxes and offer the highest level of bicycle parking security available. They are appropriate for daily and overnight parking. They have the additional advantage that cyclists' gear and other accessories can be securely stored along with the bicycle, thus giving cyclists more flexibility in their travel arrangements.

Bicycle rooms and cages are locked rooms or cages which are accessible only to bicycle users, and which may contain bicycle racks to provide extra security against theft. Bicycle rooms are best used in areas where there is a moderate to high demand for parking, and where those who would use the bicycle parking are from a defined group, such as a group of employees.

Bike station is a full-service building facility specially designed to serve all cycling needs including parking, storage, showers, changing rooms, bicycle repair, information centres, and coffee shops.

3.2.5 SECURITY

Properly placed lighting is thought to discourage criminal activity, enhance natural surveillance opportunities, and reduce fear of those walking and cycling after dark. Another positive aspect of well-lit and visible pedestrian and cycling infrastructure is that lighting can also influence user's feelings about the environment from an aesthetic as well as a safety standpoint. A bright, cheerful environment is much more pleasing than one that appears dark and lifeless. The ability to feel good about one's environment is important in developing a sense of pride and ownership, and to making places feel more safe and secure. Providing lighting and illumination throughout sidewalk, pathway, crosswalk and bicycle route design is an important consideration, allowing safe and comfortable use of the network both day and night. This is especially important during the winter months as both the morning and evening commutes take place in the dark.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN PRINCIPLES FOR OFF-ROAD PATHWAYS BEST PRACTICES:

Lighting and illumination especially on off-road pathways, should generally be provided to support safety and functionality. The requirement for lighting will be influenced by the type and intensity of use and by the context of a particular path. Lighting should be considered a requirement in medium to heavily used bicycle and multi-use pathways, pathways through parks / open space without ambient lighting from adjacent streets or which are obscured from public view, and locations with hazards, conflict points, and areas of safety concern.

Clear sightlines are a way of promoting natural surveillance, by placing physical features and people in ways that maximise the ability to view what is happening in a space. Especially for pathway design, maintain reasonably long forward sightlines to enhance visibility, particularly at access points and at approaches to curves for pathways not located adjacent to roads.

Fencing with a more open decorative design as opposed to solid fencing should be used for pathways, to enhance visibility. Also seek to minimize fence heights where required. Fencing, some forms of landscaping, and locked doors are examples of physical barriers that can create spaces that appear less open and with more concealed areas.

Maintenance and servicing inspection and operation of pathway infrastructure and other pedestrian and cycling infrastructure is importation to show it is a priority area. CPTED principles adhere to the 'Broken Window Theory' which suggests that one "broken window" or nuisance will lead to others and ultimately to less surveillance and deterioration of an area. Neglected and poorly maintained infrastructure are seen to be an attraction of criminal activity.

3.2.6 STREETSCAPE AMENITIES

STREETSCAPE AMENITIES – VISUAL SUMMARY

Street furnishings or street furniture is a term used to describe objects within the public right-of-way that are for public use, as a shared resource. Street furniture can include benches, tables, seating, garbage cans, and bollards.

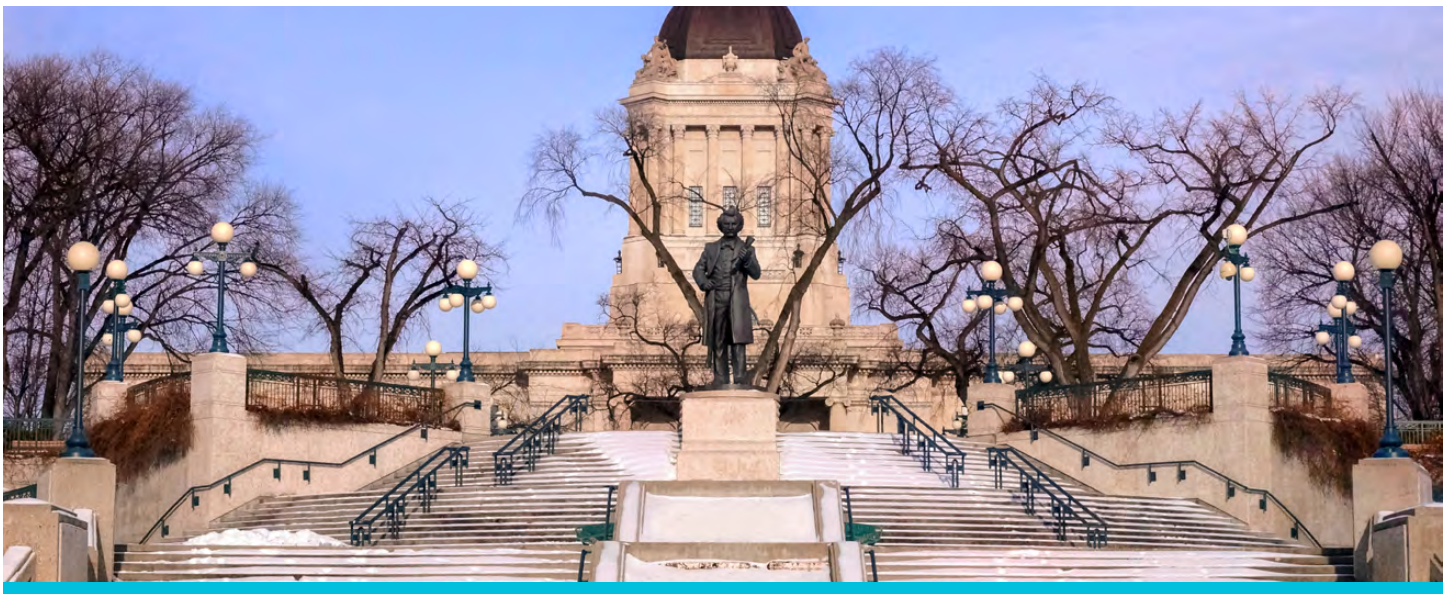
Planters & street trees can be placed within the public realm on planting strips, medians, and along sidewalks. Street trees can benefit an area by providing shade and rain protection, creating a safer, more interesting and attractive public realm , and also by absorbing precipitation and producing less water runoff.

Banners & gateway features add liveliness to the street, designate districts, and highlight significant areas, while also promoting events and history.

Wide sidewalks can allow a more comfortable walking experience. Wider sidewalks can create opportunities for more furnishings and greenery and support more opportunities for resting and interacting with a space.

Public art can contribute to creating a sense of place and community identity. Public art can effectively enliven and enhance the public realm, through providing interesting built environment features, and providing opportunities for people to interact with their environment.

Patios for cafes and restaurants create formal places for people to rest, socialize, put eyes on the street, an add overall vibrancy and street life to an area.



3.3 STRATEGIC DIRECTION ACTIONS

This section presents a list of 94 actions, which represent one of the main implementation tools of this document. This table provides supporting information on each action as contextual background information. References to Actions carried over from the 2015 PCS are shown in the PCS Ref.# column. Section 4 also presents these actions in format applicable to use when implementing them.

3.3.1 STRATEGIC DIRECTION 1: IMPROVE CONNECTIVITY

Expanding and enhancing the pedestrian and cycling networks described in Section 3.2 is a fundamental part of making walking and cycling more convenient and attractive travel options in Winnipeg. Actions under the strategic direction of improving connectivity are summarized in Exhibit 3.5.

EXHIBIT 3.5: ACTIONS FOR IMPROVING CONNECTIVITY

	Action	Description	Rationale	PCS Ref.#
1.1	Eliminate gaps in the sidewalk network (see Figure 51) on collector and arterial streets.	Ongoing process to build sidewalks through the capital program.	Capital renewal provides the opportunity to address sidewalk gaps efficiently and cost-effectively.	1A ii
1.2	Continue sidewalk infill through the Pedestrian and Cycling Program.	Infill program addresses sidewalk gaps on streets that are not in the 5-year window for capital renewal.	Infill program provides links to important neighbourhood destinations like schools and community centres.	1A iii
1.3	Update sidewalk requirements on local roads for new developments in consultation with stakeholders.	Include changes to local street provisions in new developments.	Recommendations from a consultant study of local street requirements have not yet been considered. The intention is to expand the provision of sidewalks on local roads through an update to transportation standards for local roads. 2015 PCS recommends updating City Standards to including sidewalks on one side of the road.	1A i
1.4	Implement infrastructure on the pedestrian and cycling networks through capital road rehabilitations and reconstructions.	Ongoing process to integrate the addition of pedestrian and bicycle infrastructure into rehab and reconstruction projects. New cycling infrastructure should connect to or terminate at existing cycling infrastructure or at destinations (schools, parks, etc.).	Leverages funding and resources to add pedestrian and bicycle infrastructure cost effectively with street renewal.	1A vi, and 1B x

	Action	Description	Rationale	PCS Ref.#
1.5	Increase the priority of street renewals that complete a segment of the pedestrian and/or cycling networks when multiple streets of similar conditions are prioritized.	Make active transportation a tiebreaking factor for street renewals with otherwise equal priority.	Prioritize build-out of active transportation infrastructure.	New
1.6	Upgrade substandard sidewalks to current standards during street or sidewalk rehabilitations, renewal or reconstruction whenever technically feasible.	Some areas of the city have sidewalks that are narrower than the current 1.5 metre minimum.	Provided there are no utility or tree conflicts, sidewalks should be widened to at least 1.5 metres when they are renewed or reconstructed.	1A iv
1.7	Maximize clear sidewalk width as part of renewals and reconstructions where data indicates high pedestrian use and/or high use of mobility aids, strollers, etc.	Widen the clear width of sidewalks through paving and placement of street elements.	High pedestrian use and high mobility device use sidewalks should have clear sidewalk widths greater than minimums to comfortably accommodate users.	1A v
1.8	Ensure transit stops are connected to the sidewalk network where feasible.	Ensure transit stops are connected to the sidewalk network where feasible. New Transit stops should be located where they can be connected to the sidewalk network to provide connectivity for pedestrians accessing Winnipeg Transit. Sidewalk infill programs should target connecting existing Transit stops to the sidewalk network.	Winnipeg Transit should be accessible to pedestrians of all ages and abilities via the sidewalk network in accordance with Winnipeg Transit Master Plan.	2B v, and 2B vi, and 3A v

	Action	Description	Rationale	PCS Ref.#
1.9	Accelerate the implementation of the bicycle network in accordance with Figure 52 (Prioritized Network) ensuring that priority is given to building out the primary network.	Give the implementation of the primary bicycle network a higher priority in capital planning.	Building out the primary network connects all City neighbourhoods and major destinations.	1B i
1.10	Plan for Regional Street bicycle infrastructure as part of multi-modal corridor studies.	Consider all modes in undertaking corridor studies on Regional Streets as directed in the TMP.	Recognizing that all users need to be considered in planning for Regional Street corridors and that one user type cannot lead this process.	New
1.11	Continue to expand the City's neighbourhood greenway network as a tool to expand the cycling network on local roads and where appropriate, collector roads.	Integrate lower speed limits into infrastructure selection for local streets.	Lower speeds open up opportunities to introduce neighbourhood greenway treatments on local streets.	New
1.12	Collaborate with the Metro Region and Province of Manitoba to support the extension of the City's bicycle network to surrounding communities.	Share network planning maps with the Metro Region and Province of Manitoba to identify future points of infrastructure connection at City Limits.	Planning needs to be coordinated at boundaries and crossings of the perimeter highway to ensure that future infrastructure are linked for travel between municipalities.	1B vii
1.13	Adapt and calibrate TAC and other current best practice guidance for bicycle infrastructure selection to Winnipeg conditions.	Ensure that the most appropriate tools and infrastructure are used and considered for Winnipeg's winter climate.	The field of bikeway planning and design continues to evolve and Winnipeg must stay current with ongoing refinements to best practice in planning and design.	1B ix

	Action	Description	Rationale	PCS Ref.#
1.14	Design new neighbourhoods and streets with safe and comfortable infrastructure for pedestrians and cyclists.	Consider pedestrian and cyclist needs in the design of all new streets considering intended speeds and projected traffic volumes.	Appropriate pedestrian and cyclist accommodation should be integrated into every new street to avoid the need for future retrofits.	1B xiii
1.15	Where possible, utilize existing hydro and rail rights-of-way and surplus road rights-of-way as a means to provide comfortable, direct pedestrian and cycling routes.	Include consideration of pedestrian and bicycle infrastructure when reviewing use of surplus lands.	Existing rights-of-way have the potential to provide high quality routes for pedestrian and cycling infrastructure.	1B xiv
1.16	Implement new structures for pedestrians and cyclists as indicated in Section 3.	Plan, design, and implement new structures across rivers and rail lines for pedestrians and cyclists.	New structures facilitate connectivity between neighbourhoods and key destinations that are currently isolated from one another. New crossings can support natural desire lines where possible.	1C ii
1.17	Plan for implementation of cycling infrastructure and network connections where possible and required on new and reconstructed bridges, overpasses, and underpasses.	Bicycle infrastructure implementation is included in the design scope for new and reconstructed bridges.	Structures are high cost and long lasting. It is critical that bicycle infrastructure be integrated to overcome water, rail, and street barriers.	1C i
1.18	Ensure new cycling infrastructure connect to the existing network or terminate at an appropriate location (e.g., a park).	Planning for connectivity to avoid creating new gaps in the network or to destinations.	Try to avoid a negative user experience.	New

	Action	Description	Rationale	PCS Ref.#
1.19	Acquire strategically important properties.	In some cases, ideal routing for active transportation infrastructure is through private property. Where possible this option should be considered.	There are properties, that if acquired, would substantially improve connectivity, reduce costs, or allow for currently infeasible links. In some cases, we have been acquiring land over time to this end, but a few small gaps remain.	New
1.20	Support the acquisition of riverbank lands to enhance greenspace and for the expansion of the river trail network through the development applications.	Coordinate with Parks and Open Space Division in recommending acquisition of riverbank lands in all applicable development applications.	This will help expand the overall AT network and open further riverbank lands for public use and enjoyment.	New

3.3.2 STRATEGIC DIRECTION 2: IMPROVE CONVENIENCE

For walking and cycling to be attractive and competitive transportation choices, they need to be as convenient as possible. The most important factor in the convenience of walking and cycling is that distances between destinations be appropriate for these transportation modes. This can be achieved by ensuring that the networks are dense enough by upgrading and installing the required infrastructure as discussed in Strategic Direction 1.

The supportive actions are intended to help make walking and cycling a more convenient and comfortable experience for residents of all ages and abilities. The actions focus on enhancing accessibility and creating strategic transit-related improvements that can enhance the ease and ability of walking and cycling throughout Winnipeg. Actions under the strategic direction of improving convenience are summarized in Exhibit 3.6.

EXHIBIT 3.6: ACTIONS FOR IMPROVING CONVENIENCE

	Action	Description	Rationale	PCS Ref.#
2.1	Continue to implement short-term parking at City of Winnipeg facilities and secure long-term parking and end of-trip facilities (showers, change rooms, etc.).	Providing bicycle facilities at City sites would require identifying the type and quantity of bicycle parking and end-of-trip facilities required for various transit and municipal buildings and the expected demand for spaces. This can include the provision of short-term facilities at locations and buildings that see a lot of visitor activity, as well as the consideration for longer-term bicycle storage (such as bicycle rooms and changing facilities) where there are high concentrations of employees.	Improving bicycle parking and end-of-trip facilities at municipal buildings can send a clear message to residents and businesses that we support cycling as a means of transportation. Such proactive investments can benefit employees, residents, and visitors to Winnipeg and can increase access to City services.	2A i
2.2	Update the City-wide Zoning By-law and Downtown Zoning Bylaw to enhance requirements for cycle parking and end-of-trip facilities in new developments city-wide.	The City should build upon current regulations by updating both the City-wide Zoning Bylaw and Downtown Zoning Bylaw to specify requirements for both short and long-term bicycle parking and end-of-trip facilities based on the number of employees and floor area of various land uses, and should also include flexible parking standards, with reduced motor vehicle parking requirements for employment sites that construct end-of-trip facilities.	Regulatory initiatives can be a powerful tool to incorporate bicycle accommodation within new developments. Winnipeg's City-wide Zoning Bylaws require new developments in various land use types to provide bicycle parking but does not currently specify bicycle parking types (long-term or short-term), while the Downtown Zoning Bylaw does not include any bicycle parking requirements.	2A ii, and 2A iii

	Action	Description	Rationale	PCS Ref.#
2.3	Continue to partner with BIZes, businesses, and other partners to implement short-term bicycle parking, and where possible maintenance stations, in the right-of-way.	This can include working with business organizations to replace on-street parking in strategic locations with seasonal, higher-capacity bicycle parking opportunities (such as bicycle corrals) that provide good access to local businesses.	It is important that incentives be in place to encourage existing businesses and multi-unit dwellings to provide bicycle parking and end-of-trip facilities.	2A v
2.4	Ensure bicycle parking is provided in the public right-of-way.	Funding for bike racks.	By ensuring that people can access Winnipeg by bike, there can be less reliance on the need to drive (and park) contributing to more pedestrian, cycling, and transit-friendly environments. Having ample bicycle parking in high activity areas (e.g. mixed-use centres and corridors) not only adds to the convenience, but also adds an aesthetically interesting feature to the streetscape.	5B iii
2.5	Encourage all event coordinators to provide adequate temporary bicycle parking to serve corporate-sponsored and large community events.	This approach has already been in use in Winnipeg, such as at events at the Princess Auto Stadium, where secure parking and bicycle valet options are provided. Similarly, a number of cities throughout North America provide valet service, provided by non-profit organizations and funded partially by user fees and/or corporate sponsorship in order to reduce costs to the City and event organizers.	Large community events can induce traffic congestion and overwhelm motor vehicle parking capacity. One way to mitigate such challenges is to work with event organizers to provide and promote the use of temporary secure bicycle parking and/or bicycle valet programs.	2A vii
2.6	Facilitate development of a publicly available full-serve bicycle parking station or long-term secure bike parking in an area of high cycling activity. If successful, plan to implement other similar facilities at key locations in the city.	Select a high demand location and partner such as the University of Winnipeg to implement a full serve parking station modeled after locations such as Toronto's Union Station	Long term parking options are required to support cycling as a mode choice.	2A ix

	Action	Description	Rationale	PCS Ref.#
2.7	Create and continually update a digital inventory of secure public bicycle parking locations and repair stations on the city website.	Maintaining a GIS inventory of bicycle parking and repair stations.	This location-based data can be incorporated into bicycle applications and maps.	2A x
2.8	Continue to support community groups or bicycle shops on programs to store, repair, and redistribute abandoned bicycles.	Continue to provide support to The WRENCH and other similar organizations.	Reuse of bicycles and increasing the supply of affordable bicycles are beneficial outcomes that are best delivered by external groups.	2A xi
2.9	Accelerate and coordinate implementation of pedestrian and cycling related actions as approved in Winnipeg's Transit Master Plan.	Provide support and coordinate implementation of pedestrian and cycling infrastructure to support the roll-out of the Winnipeg Transit Master Plan.	Winnipeg Transit Master Plan implementation provides a opportunity to introduce pedestrian and cycling infrastructure to build out the network in a coordinated fashion to the benefit of all users.	New
2.10	Explore implementation of a bike share program with private industry and/or local community partners.	A study reviewed bike-share programs in other jurisdictions. A request for expressions of interest was issued with only one response. The findings were that private for-profit sharing is limited and not feasible. The City should still engage with industry and potential partners to assess market and feasibility in the event that new opportunities arise.	Bikeshare programs provide affordable access to bicycles for short distance trips and solve the 'last mile' problem for users of public transportation. High activity areas such as Downtown Winnipeg, University of Manitoba, and commercial corridors could potentially support a bike share system in the future. Accessible and convenient bike share systems can be attractive to the most casual riders and visitors and could encourage more Winnipeg residents and visitors to try cycling.	2B vii

	Action	Description	Rationale	PCS Ref.#
2.11	Explore, develop and promote park-and-cycle infrastructure (where people can park their car and cycle the remainder of the trip) using existing Winnipeg Transit park-and-ride lots (such as Charleswood Centre) and at strategic new locations towards outer Winnipeg (such as in Transcona).	Create options for potential cyclists who currently drive long distances from the edge of Winnipeg or beyond who may want to cycle to their destination once they are within a reasonable cycling distance.	Enable cycling opportunities where trip length is a barrier to cycling.	New

3.3.3 STRATEGIC DIRECTION 3: IMPROVE SAFETY AND ACCESSIBILITY

Walking and cycling infrastructure should be safe and usable by people of all ages and abilities, including seniors, children, and people with disabilities. For pedestrians and cyclists, fragmented infrastructure (including sidewalks, pathways, and bicycle routes), uncomfortable environments, low-accessibility infrastructure, and challenging street crossings can make it more difficult and less desirable to walk or cycle. These types of conditions create safety concerns, either real or perceived, which are very influential on whether someone chooses to walk or cycle to their destination.

Actions under the strategic direction of improving safety and accessibility are summarized in Exhibit 3.7.

EXHIBIT 3.7: ACTIONS FOR IMPROVING SAFETY AND ACCESSIBILITY

	Action	Description	Rationale	PCS Ref.#
3.1	Continue to provide accessible curb ramps with truncated dome detectable warning surfaces at intersection locations within City Standards.	The City installs truncated dome detectable warning surfaces at intersections for new construction or retrofit projects, and curb ramps are also provided at the time of new construction.	These features are critical to facilitate those with visual disabilities and/or using mobility aids to more comfortably navigate through Winnipeg's street network. The City should continue to identify locations where providing ramps, tactile strips, and accessible signals should be prioritized, whether at the time of new development or retrofit. Doing so will ensure that over time, more crossings city-wide are safe and comfortable for people with disabilities or mobility impairments.	3A i

	Action	Description	Rationale	PCS Ref.#
3.2	Continue to upgrade existing and design future pedestrian and cycling infrastructure to meet Universal Design Standards.	Apply Universal Design Standards to new streets and rehabilitations and reconstructions.	Integrating the design standards into street design increases the accessibility of the network over time. Request has been received from advocates for consideration of adaptive bikes in infrastructure design.	3A vi
3.3	Review pedestrian crossing times at signalized intersections and update according to TAC and the Manual of Uniform Traffic Control Devices for Canada (MUTCDC) based on pedestrian walking speed and population demographics.	Incorporate updates to pedestrian crossing times based on TAC guidelines for walking speeds as traffic signal timing plans are reviewed and updated.	Increasing pedestrian crossing times in areas with high concentrations of children, seniors, and people with disabilities increases the number of users that are accommodated by the signal control.	3A vii
3.4	Reduce pedestrian crossing distances by providing narrower roads and lanes and considering curb extensions or median islands where feasible, particularly in areas with high concentrations of children, seniors and people with disabilities.	Reviewed annually through Capital road renewal program and pedestrian and cycling program. Implemented in new areas through development agreements.	Shortening crossing distances and providing refuge benefits pedestrians, increases pedestrian visibility, and reduces their exposure to vehicular traffic.	3A viii
3.5	Implement pedestrian crossing control in accordance with current City guidelines and practices to identify locations where control is needed and for selecting appropriate control treatments.	Pedestrian crossing control guidance is applied to assess requests for crossing control.	Pedestrian crossing control guidance assists with identifying locations where control is needed and selecting appropriate control treatments.	3C iii
3.6	Consider continuous-sidewalk intersection designs for key pedestrian areas where feasible.	Continuous sidewalks maintain the sidewalk grade through private approaches or intersections to demonstrate greater priority for pedestrians and lower vehicle speed.	Enhance pedestrian safety through greater design prominence and lower vehicle speeds.	New

	Action	Description	Rationale	PCS Ref.#
3.7	Embed improvements to pedestrian safety, comfort and convenience in all road work undertaken Downtown including in the capital budget planning of road renewal projects.	Ensure scope of downtown capital projects include necessary improvements to pedestrian infrastructure.	Leverage capital funding for capital projects downtown.	New
3.8	Ensure bicycle detection or actuation is included at signalized intersections where required.	Bicycle detection allows cyclists to activate a change in traffic signal phasing. Detection is intended to be incorporated into any new capital work.	Bicycle detection makes traffic signal control responsive to the presence of cyclists and decreases user delay and frustration.	3C v, and 3C vi
3.9	Continue to follow standards to ensure CPTED principles are followed in pedestrian and bicycle infrastructure design.	Crime Prevention Through Environmental Design principles are applied through the design process to maximize personal safety in the built environment.	Personal safety is an important consideration for encouraging use of pedestrian and bicycle infrastructure. Insufficient lighting and low visibility in areas of the city such as underpasses, overpasses, pathways, and sidewalks can cause many residents to feel unsafe walking or cycling. Crime Prevention through Environmental Design (CPTED) is an approach to urban design that supports the provision of good lighting and visibility for pedestrians and cyclists as one of the most effective crime deterrents.	3D iii
3.10	Improve illumination of pedestrian and cycling area in existing underpasses and where personal security concerns exist	Improved illumination and open design concepts can be introduced into the rehabilitation of pedestrian and cycling underpasses.	Visibility and lighting are especially important for women, children, and the elderly.	3D i
3.11	Where feasible, provide illumination along new pedestrian and cycling infrastructure. Prioritize retrofit lighting on infrastructure based on safety performance and equity considerations.	New infrastructure should include lighting whenever feasible. Due to cost, prioritization is needed to implement lighting on existing infrastructure where the need is greatest.	Visibility and lighting are especially important for women, children, and the elderly.	3D ii

	Action	Description	Rationale	PCS Ref.#
3.12	Where possible, provide separate off-road paths for pedestrians and cyclists where there is space to provide minimum standard widths for both user types. Where separation is not possible, provide a wide clear path of travel to better accommodate the sharing of the space.	Where space permits pedestrian and cyclist areas can be identified using different paving surfaces, rumble strips, and pavement markings.	There is a concern among those with low mobility and low and no vision in sharing space with people cycling. This is compounded by higher sustained speeds of e-devices.	New
3.13	Monitor and implement best practice designs where pedestrians interact with cyclists to ensure crossings and curbside access are safe and accessible.	Practice is evolving for safely managing conflicts between users in response to legal challenges. Continue to improve upon interactions between pedestrians and cyclists through design.	Use design to reduce conflicts between pedestrians and cyclists. Uncontrolled crossings of cycling infrastructure present challenges for disabled people.	New
3.14	Accelerate implementation of actions related to pedestrians and cyclists in the Road Safety Strategic Action Plan.	Road Safety Strategic Action Plan identifies focus areas and actions to reduced fatal and major injury collisions in the City.	Pedestrians and cyclist collisions are focus areas for the action plan and the PCS Update needs to support implementation of the actions.	New
3.15	Support and facilitate the implementation of Active and Safe Routes to School plans as an input to capital planning.	Active and Safe Routes to School is a term used to describe an international movement to improve children's safety as they walk and bicycle to school.	Promotion of the Active and Safe Routes to School program is an important initiative to support the safety of students walking and cycling to school in Winnipeg and is important as it educates both students and parents on road and traffic safety, and the benefits of walking and cycling. Continuing to support the development of Active and Safe Routes to School plans is an important initiative to support pedestrian and cyclist safety in Winnipeg.	3E i
3.16	Work with Manitoba Infrastructure to revise the Highway Traffic Act to align with the City's active transportation goals.	Ongoing policy discussions between City and Province to identify issues with Traffic Act provisions related to active transportation.	Implementation of active transportation amenities can introduce conflicts with HTA requirements that could not have considered these amenities when initially developed.	New

3.3.4 STRATEGIC DIRECTION 4: IMPROVE OPERATIONS AND MAINTENANCE

To enable walking and cycling in all seasons, winter cities such as Winnipeg need to maintain sidewalks and bikeways year-round, including snow removal in the winter. While implementation of actual infrastructure to promote walking and cycling is seen typically as a top priority, undertaking ongoing rehabilitation and maintenance of infrastructure needs to be an equally important focus. Maintenance is an important part of enabling more walking and cycling, as pedestrians and cyclists can be uniquely sensitive to the physical condition of infrastructure, in comparison to motorists. For example, maintenance-related issues such as potholes, irregular surfaces, and debris on sidewalks, roadways, and pathway infrastructure can be unsafe and particularly uncomfortable, affecting the comfort and appeal of walking or cycling. In addition, the lack of accessible and/or well-maintained infrastructure can have significant impacts on mobility and accessibility for the full range of users.

Actions under the strategic direction of improving operations and maintenance are summarized in Exhibit 3.8.

EXHIBIT 3.8: ACTIONS FOR IMPROVING OPERATIONS AND MAINTENANCE

	Action	Description	Rationale	PCS Ref.#
4.1	Complete initial pedestrian infrastructure inventory, including condition, which will inform the asset management program. Continue to maintain this inventory database on an ongoing basis.	Creation of a GIS based sidewalk inventory was initiated in 2020.	An inventory of sidewalks with condition is critical to managing the maintenance of the asset.	4A i
4.2	Add equity as a consideration in asset management program for sidewalk renewal.	Once the sidewalk inventory is complete consider whether the sidewalk is within a high poverty area when prioritizing maintenance.	Well maintained sidewalks are critical infrastructure in high poverty areas.	New
4.3	Use surface condition data to inform priorities for bicycle infrastructure renewal. Prioritize maintenance of the Primary Network.	Asset management approach to condition-based bicycle infrastructure maintenance.	Maintenance is critical to the ever-expanding bicycle network. Maintenance activities need to be data driven to maximize effectiveness.	New
4.4	Continue to incorporate new knowledge on the safe accommodation of pedestrians and cyclists in work areas in the Manual of Temporary Traffic Control.	Updated accommodations are introduced as part of Manual updates and then implemented as part of temporary traffic control plans.	Manual has received updates to better accommodate pedestrians and cyclists, but knowledge is being generated continuously on this topic at the national and international level.	4B ii

	Action	Description	Rationale	PCS Ref.#
4.5	Refine and update the Council approved Snow Clearing and Ice Control Policy through public and stakeholder input to help make walking and cycling convenient and accessible for people of all ages and abilities, year-round. Consider if specific active transportation infrastructure should have a higher priority classification than streets.	The updated Council-approved policy on snow clearing and ice control increased priority for active transportation; however, priority is still aligned with the street network. There may be active transportation infrastructure that warrant snow clearing earlier than the highest priority streets.	Explore whether there are active transportation infrastructure that should be considered independently of the street network hierarchy.	4A iv, and 4A v
4.6	Continue to refine and update priority network of off-road pathways for snow removal in response to internal and external input.	Priority network was updated in 2019 and input is being received on the new network each winter.	Snow clearing prioritization is an ongoing process and input is still being gathered in response to significant changes made in 2019.	4A vi
4.7	Update winter cycling priority network with updated Bicycle Network plan.	Any updates to the bicycle network map need to be incorporated into the winter active transportation priority network.	Network alignment is required for maintenance.	4B iii
4.8	Continue to design bicycle routes to facilitate snow removal and snow storage.	Include snow storage and snow removal equipment considerations in the design of bicycle infrastructure.	Bicycle infrastructure must be efficiently cleared of snow for winter operations in a manner that is consistent with City practice and equipment.	4B iv
4.9	Develop and implement community support programs to encourage community sidewalk snow removal on residential streets and grooming of multi-use winter trails that fall outside of City's regular winter maintenance.	Volunteer run program providing snow clearing outside of the City's process to accelerate snow removal. Can be funded by citizen donation and corporate sponsorship.	To provide ample winter recreational opportunities for public in a cost-effective manner. There may be capacity to improve snow clearance times through volunteer efforts of external groups.	4A vii

	Action	Description	Rationale	PCS Ref.#
4.10	Coordinate bicycle infrastructure maintenance with Operating Programs, refine the sweeping program, and continue to invest in annual pathway renewal and pavement marking.	Ensure that new and existing infrastructure is clean and well-marked.	Coordinated maintenance is an important component of a safe and positive cycling experience.	4B i
4.11	Leveraging advanced technologies in active transportation traffic monitoring, and following guidance from TAC's Traffic Monitoring Guide, develop a traffic monitoring program for pedestrian traffic volumes.	Improve monitoring to increase understanding of pedestrian activity for analysis, design, and road safety investigations.	Quality data is critical to monitoring the performance of the pedestrian network. Pedestrian activity should be monitored within the transit network, on various infrastructure types, and in areas with high low-income and newcomer populations. The existing design of the pedestrian traffic monitoring program for downtown should continue to be operated.	New
4.12	Leveraging advanced technologies in active transportation traffic monitoring, and following guidance from TAC's Traffic Monitoring Guide, develop a traffic monitoring program for bicycle traffic to support decisions regarding cycling activity.	Improve monitoring to increase understanding of bicycle activity for analysis, design, and road safety investigations.	Quality data is critical to monitoring the performance of the bicycle network. Bicycle counting should be implemented on various infrastructure types and in areas with high low-income and newcomer populations.	New
4.13	Add a Bicycle and Pedestrian Design Engineer position to the Transportation Division.	Staff resource to implement actions under Connectivity and other strategic directions.	Additional resources are needed to implement the strategic directions.	New
4.14	Add Project Manager positions to the Transportation Division.	Staff resource to implement actions under Connectivity and other strategic directions.	Additional resources are needed to implement the strategic directions.	New

3.3.5 STRATEGIC DIRECTION 5: IMPROVE VIBRANCY

The vibrancy of a place depends on the level of positive and acceptable human activity that takes place within it. In turn, the level and type of activity that happens in a place is greatly influenced by the physical and urban design of that place, and the activity that is planned to take place there and/or can be accommodated in the place.

Walking and cycling can help create vibrant, liveable streets and support healthy, active lifestyles for people of all ages and abilities. The Pedestrian and Cycling Strategies presents an opportunity for infrastructure, programs, and policies to enable more walking and cycling; however, land use must be supportive to create areas where people want to walk and cycle.

Actions under the strategic direction of improving vibrancy are summarized in Exhibit 3.9.

EXHIBIT 3.9: ACTIONS FOR IMPROVING VIBRANCY

	Action	Description	Rationale	PCS Ref.#
5.1	Improve interdepartmental efficiency in identifying pedestrian and cycling requirements for development agreements.	Ongoing through an ad hoc approach. Development reviewed for pedestrian and bicycle considerations through internal circulation.	Internal review process is critical to ensure that pedestrian and cyclists needs are met in new developments.	5A i
5.2	Work with the development industry and other stakeholders to support the practical implication of walkable and cyclable communities.	Ongoing through approval process. Reviewed through land development internal circulation and communicated with applicants.	Industry support is critical to effective implementation of pedestrian and cycling infrastructure in new developments.	5A ii
5.3	Incorporate minimum pedestrian, bicycle, and transit network requirements into the zoning bylaws.	Accommodate minimum accommodation in new developments.	It is important that these modes be accommodated in association with new development so as not to create new gaps in infrastructure.	5A iv
5.4	Ensure that pedestrian, cycling and transit network plans are developed to support walkability and bikeability considerations in local area plans.	Ongoing through approval process. Reviewed through land development internal circulation and communicated with applicants.	It is important that pedestrian and cyclist needs be considered in all higher-level planning processes.	5A v

	Action	Description	Rationale	PCS Ref.#
5.5	Develop guidance regarding bicycle and pedestrian network design, and pedestrian, bicycle and transit supportive site planning in new developments.	Determine the need for additional guidance to support accommodation of active modes in planning and development processes.	To provide land development guidance to developers on how their project aligns with City aspirations for complete and sustainable communities, and where areas of improvements may exist.	5A iii
5.6	Consider the provision of pedestrian, cycling, and transit infrastructure in an update to the Development Agreement Parameters.	Consider specific requirements with industry with respect to infrastructure in development agreements.	It is important that new areas are not deficient in pedestrian and bicycle infrastructure.	New
5.7	Ensure site design in redevelopment sites to enhance pedestrian and bicycle connectivity within mixed use centres and corridors.	Ongoing through approval process.	Redevelopment introduces an opportunity to enhance pedestrian and bicycle accommodation on development sites.	5A vii
5.8	Ensure that an internal street and pathway network within the development site together provide an acceptable level of pedestrian and cycling connectivity.	Ongoing. Consideration within neighbourhood connectivity review.	Internal review process is critical to ensure that pedestrian and cyclists needs are met in new developments.	5A x
5.9	Achieve pedestrian and cycling connections from new development sites to surrounding existing and anticipated networks.	Ongoing. Consideration within neighbourhood connectivity review.	Internal review process is critical to ensure that pedestrian and cyclists needs are met in new developments.	5A xi
5.10	Continue to support downtown development by upgrading sidewalks where required as redevelopment occurs.	Ongoing through approval process. Need for sidewalk improvements or widenings identified as part of downtown development projects.	Development projects often trigger a need for sidewalk renewal and provide an opportunity to incorporate widening considerations into the design.	5A vi
5.11	Develop pedestrian-oriented street designs in the Downtown.	Ensure Downtown design guidance results in appropriate pedestrian infrastructure.	Encourage pedestrian activity Downtown.	New

	Action	Description	Rationale	PCS Ref.#
5.12	Integrate placemaking features within rights-of-way Downtown where suitable in alignment with Downtown planning initiatives.	Make the pedestrian environment attractive Downtown.	Encourage pedestrian activity Downtown.	New
5.13	Create vibrant streetscapes and places in conjunction with partners by providing public amenities such as street trees and vegetation, planters, patios, plazas, parklets, banners, and public art and supporting special programming along mixed use centres and corridors and in the downtown.	Ongoing with specific emphasis on tree provision.	A vibrant streetscape encourages active transportation mode choices.	5B i
5.14	Increase tree cover along streets and pathways to mitigate the urban heat island effect and improve the comfort of active transportation, in conjunction with the Winnipeg Urban Forest Strategy.	Make active transportation more pleasant by providing shade and relief during warm weather.	Make use of active transportation more inviting.	New

3.3.6 STRATEGIC DIRECTION 6: IMPROVE AWARENESS

A range of support initiatives to increase education and awareness around walking and cycling must be in place to encourage people to walk and cycle more in Winnipeg. These types of programs and initiatives to increase awareness can help people to learn how to use Winnipeg's streets safely as a pedestrian or a bicycle user. Measures to increase awareness are considered 'softer' measures for promoting walking and cycling, since they involve no engineered features or design mechanisms.

Actions under the strategic direction of improving awareness are summarized in Exhibit 3.10.

EXHIBIT 3.10: ACTIONS FOR IMPROVING AWARENESS

	Action	Description	Rationale	PCS Ref.#
6.1	Develop and keep up-to date a digital City-wide Cycling Map.	Cycling Map is produced by Public Works.	It is important to update the map regularly.	6A iii
6.2	Adapt existing wayfinding guidelines from elsewhere, to suit Winnipeg's needs.	Budget was allocated in 2018 for this task. As numerous guidelines exist the City has the option of adopting guidelines from elsewhere. Wayfinding can include agreed-upon protocols for route naming and identification of destinations, as well as the consistent design and application of route markings and cycling signage.	A common and consistent City-wide wayfinding system for both pedestrians and cyclists is required. Best practices from other cities indicate that signage with directions, destinations, distances, and travel times to key destinations are important.	6A i
6.3	Support industry partners in the creation of a new pedestrian wayfinding program including signage and maps for the Downtown.	Undertake a study to determine a design approach and then look for partners for implementation.	Wayfinding is an important network feature is specific contexts.	6A ii
6.4	Update cycling and pedestrian infrastructure data for internal and external use annually to help inform decision making.	Update Bicycle Network published on iView and City's Open Data Portal annually.	Providing up to date data for internal and external users assists with decision-making.	New

	Action	Description	Rationale	PCS Ref.#
6.5	Coordinate with third party trip planning providers to ensure bicycle and pedestrian data is accurate and up to date.	Data maintenance and sharing with an external group.	Interactive trip planning tools should be developed for both pedestrians and cyclists. This type of tool could make bicycle and pedestrian available data in an open format to support development of third-party mobile applications for walking and cycling.	New
6.6	Support the development of Bicycle-Friendly Business Districts.	Bicycle Friendly Business Districts can vary in their specifics, but they all allow a business district to "brand" itself as welcoming to customers who arrive by bicycle.	Bicycle Friendly Business Districts can increase awareness about cycling by establishing initiatives that encourage residents, visitors, and employees to cycle to shops and restaurants.	6B v
6.7	Support the development of a bicycle tourism initiative.	Bicycle tourism can take many forms from businesses catering to cycle touring, renting bicycles, or creating self-guided tours by bike.	Promoting cycling for tourism can result in local economic development benefits, and activities to promote bicycle tourism could include the City working with local organizations and businesses to promote cycling.	6B vi
6.8	Work with partners to develop and deliver information materials outlining the benefits of walking and cycling.	This can include providing walking and cycling informational pamphlets, or information on skills training courses at community centres to reach underrepresented populations. The City should also work with its partners, including advocate groups, non-profit associations, and other government agencies to develop and deliver targeted outreach programs.	Targeting walking and cycling education towards more vulnerable and underrepresented populations (i.e. new immigrants, Indigenous, low income, seniors, and children and youth) can lead to City-wide benefits.	6B vii

	Action	Description	Rationale	PCS Ref.#
6.9	Work with the Province and Manitoba Public Insurance to include information about cycling and cycling infrastructure as part of driver education and included in driver's license test.	City involvement in public facing information disseminated by the Province and MPI.	The Province and MPI are essential partners to educating road users about cycling and cycling infrastructure.	6B x
6.10	Work with partners to develop an education campaign about walking and cycling, targeted towards motorists.	Work with MPI on this initiative (e.g. 60 Second Driver commercials).	Leverage MPI's education capabilities with motorists.	6B ix
6.11	Continue to implement the AT Communications Strategy and Action Plan to promote walking and cycling.	Promote the use of walking and cycling infrastructure and strive toward mode shift goals.	Using city-wide campaigns to deliver positive messaging to promote walking and cycling. Campaigns and city-wide communications through various forums such as radio advertisements, bus shelter advertisements, online/website and others can be important way to reach out to all communities and to increase more awareness about walking and cycling.	6C iii
6.12	Continue to support bike education through training programs in schools.	An example is the Bike Education and Skills Training program.	Working towards a generational change in transportation habits to increase the number of users which supports meeting sustainable mode split targets.	6B iv
6.13	Support the provision of adult education and cycling skills training throughout the City year-round.	Funding and promotion.	It is important that adult cyclists understand the rules of the road and have the necessary bicycle handling skills.	6B xi

	Action	Description	Rationale	PCS Ref.#
6.14	Continue to support and advertise special events and programs to promote walking and cycling city-wide and at a neighbourhood level.	Funding and promotion.	Public events such as an IceCycle event, Sunday street closures, Ciclovias, Bike to Work Day/ Week, Walk to Work Day/Week, International Walk to School Day, and other events can encourage uptake in walking and cycling and gain momentum for active transportation.	6B xii
6.15	Work with vulnerable groups and find out what their key issues are in order to better communicate with them.	Engagement with representatives from vulnerable groups.	By focussing communication efforts for different vulnerable and underrepresented groups, we can gauge what prevents these groups from participation in walking and cycling, what are the best forums for participation, and what are the perceptions about walking and cycling.	6C ii
6.16	Investigate micromobility for potential future legalization and impacts that it may have on issues such as higher speeds, requirements for new or modified infrastructure, and conflicts with other users.	Micromobility has largely taken shape in the form of shared bicycles or shared electric scooters. These vehicles can be docked, requiring them to be returned to defined stations or hubs, or dockless, allowing them to be parked wherever the user ends their trip.	Micromobility has the potential to address many challenges faced in cities today including mobility choice, access to transit, access to shops and services, mobility equity, greenhouse gas emissions, and automobile congestion. Micromobility systems provide people with more choices for how they wish to travel around their city. People walking on multi-use paths are reporting discomfort and conflicts with high-speed e-bikes and bicycles.	New
6.17	Add a bicycle and pedestrian education and outreach coordinator position to the Transportation Division	Staff resource to implement actions under Awareness and other strategic directions.	As per Section 4.1.6, additional resources are needed to implement the strategic directions.	New
6.18	Develop a photo library of local walking and cycling infrastructure in all seasons and in use by people of all ages and abilities.	Consider hiring professional photographers to ensure high quality images.	Create database of existing photos to be used for marketing, education, and engagement projects and programs by all City departments.	New

	Action	Description	Rationale	PCS Ref.#
6.19	Encourage local community groups to become stewards of neighborhood greenways. For example, through local tree planting, boulevard gardens, local art, community branding, banners, or other aesthetic improvements.	Consider funding and other support for community groups to make neighbourhood greenways distinctive streets to travel on by bike.	Creating distinctive neighbourhood greenways assists users with wayfinding, creates inviting routes to travel by bicycle and encourages a sense of community.	New

SECTION 4

IMPLEMENTATION AND MONITORING

SECTION 4

IMPLEMENTATION AND MONITORING

4.1 IMPLEMENTATION PLAN

4.1.1 OVERVIEW

The Pedestrian and Cycling Strategies provide a framework for making walking and cycling more safe, convenient, and comfortable modes of transportation in Winnipeg. This framework includes a series of strategic directions, and actions that together provide a comprehensive package of solutions to enable walking and cycling, including engineering, programming, and education initiatives.

The Actions are organized under each of the six strategic directions and have been updated as part of the PCS update as described in Section 3.3. The comprehensive package of actions is intended to guide Winnipeg's planning and capital investment decisions as well as on-going operations and maintenance activities to enable walking and cycling over the next decades towards 2050. To deliver clear directions and priorities, this document provides a vision for the future of walking and cycling over the long-term. However, recognizing that the long-term vision will require significant investment, an implementation strategy is required to prioritize improvements and identify short-term, medium-term, and long-term improvements.

Based on this, this chapter presents an implementation and phasing strategy, identifying priority actions over the short-term (zero to five years), medium-term (five to 10 years), and long-term (10 years and beyond). Within the short-term initiatives, the implementation and phasing strategy also identifies 'quick win' initiatives that could be implemented within the next two years.

4.1.2 IMPLEMENTATION PRINCIPLES

The implementation strategy is based on several principles.

- **The Pedestrian and Cycling Strategies are the first step, not the last step.** The Pedestrian and Cycling Strategies and the PCS Update are the first strategies of their kind developed for Winnipeg and represent a comprehensive package of planning, engineering, programming, and education initiatives to enable walking and cycling. However, the Strategies are intended to lay the foundation for implementing the plan over the short, medium, and long-term. In that regard, the Strategies should be seen as the first step in a long-term commitment to enabling walking and cycling. Implementation of the Strategies will require sustained and dedicated financial and staff resources over the long-term.
- **The Pedestrian and Cycling Strategies is a flexible and living document that should be reviewed and updated frequently.** This was the first update to the PCS and was initiated at roughly the five-year interval specified in the original Pedestrian and Cycling Strategies. The City should continue to monitor progress implementing the Strategies on a regular basis and should continue its commitment to reviewing and updating the Strategies approximately every five years to update changing priorities and needs and to reflect completed projects.
- **When appropriate, public consultation should take place to implement recommendations.** Some initiatives require more detailed input and technical work. Projects should move forward with close consultation with partners, stakeholders, and the public as we move forward with priorities in the Strategies.
- **Successful implementation of the Strategies requires increased funding levels, increased staff resources, improved monitoring, and continued collaboration with stakeholders.**

Many actions recommended in these strategies simply direct the City to begin or continue collaborating with stakeholders. It is the intention of the strategies that this collaboration be conducted through the existing Active Transportation Advisory Committee (ATAC). The Active Transportation Advisory Committee (ATAC) was approved by Council on April 25, 2007. The role of the ATAC is both strategic and responsive. It advises the Director of Public Works on the strategic direction of the program as well as makes recommendations on unexpected issues.

The Active Transportation Advisory Committee (ATAC) provides advice and recommendations on Active Transportation policies, programs, priorities, infrastructure, and standards to the Director of Public Works; inform the public about active transportation and, where possible and appropriate, provide opportunities for public input; and to provide a forum in which issues can be discussed among the various stakeholder groups with the intent of reaching consensus on these issues.

4.1.3 ACTIONS

This section groups and prioritizes each action identified under each of the six strategic directions. The tables on the following pages summarize the priorities for each action and include the following information:

- **Timeframe:** Each action is identified as either a short-term (zero to five years), medium-term (five to 10 years), and long-term (10 years and beyond). In addition, many Actions will be implemented an on an on-going basis, in which case they are shown under each category. It should also be noted that these priorities may change over time. If an opportunity should arise to implement an Action identified for a medium or longer-term time-frame in the Strategies over the short-term, such as through a redevelopment opportunity or other capital project, the City should seek to maximize these opportunities as they arise.
- **Collaboration:** Many actions require collaboration among departments. In some cases, this collaboration extends outside the City to other agencies or organizations, such as businesses, non-profits and external stakeholders.

The table on the following pages summarize time frame and responsibility for each identified Action from Section 3.3.

EXHIBIT 4.1: ACTION TIME-FRAME AND COLLABORATION

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
STRATEGIC DIRECTION 1: IMPROVE CONNECTIVITY					
1.1	Eliminate gaps in the sidewalk network (see Figure 51) on collector and arterial streets.	✓	✓	✓	PP&D, Transit
1.2	Continue sidewalk infill through the Pedestrian and Cycling Program.	✓	✓	✓	PP&D
1.3	Update sidewalk requirements on local roads for new developments in consultation with stakeholders.*	✓			PP&D, Transit
1.4	Implement infrastructure on the pedestrian and bicycle network through capital road rehabilitations and reconstructions.	✓	✓	✓	Transit
1.5	Increase the priority of street renewals that complete a segment of the pedestrian and/or cycling networks when multiple streets of similar conditions are prioritized.	✓	✓	✓	N/A
1.6	Upgrade substandard sidewalks to current standards during street or sidewalk rehabilitations, renewal or reconstruction whenever technically feasible.	✓	✓	✓	N/A

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
1.7	Maximize clear sidewalk width as part of renewals and reconstructions where data indicates high pedestrian use and/or high use of mobility aids, strollers, etc.	✓	✓	✓	N/A
1.8	Ensure transit stops are connected to the sidewalk network where feasible.	✓	✓	✓	Transit
1.9	Accelerate the implementation of the bicycle network in accordance with Figure 52 (Prioritized Network) ensuring that priority is given to building out the primary network.*	✓	✓	✓	N/A
1.10	Plan for Regional Street bicycle infrastructure as part of multi-modal corridor studies.	✓	✓	✓	Transit
1.11	Continue to expand the City's neighbourhood greenway network as a tool to expand the cycling network on local roads and where appropriate, collector roads.*	✓	✓	✓	PP&D
1.12	Collaborate with the Metro Region and Province of Manitoba to support the extension of the City's bicycle network to surrounding communities.	✓	✓	✓	ES
1.13	Adapt and calibrate TAC and other current best practice guidance for bicycle infrastructure selection to Winnipeg conditions.*	✓			N/A
1.14	Design new neighbourhoods and streets with safe and comfortable infrastructure for pedestrians and cyclists.	✓	✓	✓	PP&D
1.15	Where possible, utilize existing hydro and rail rights-of-way and surplus road rights-of-way as a means to provide comfortable, direct pedestrian and cycling routes.	✓	✓	✓	PP&D, ES
1.16	Implement new structures for pedestrians and cyclists as indicated in Section 3.	✓	✓	✓	PP&D, ES, Transit
1.17	Plan for implementation of cycling infrastructure and network connections where possible and required on new and reconstructed bridges, overpasses, and underpasses.	✓	✓	✓	Transit
1.18	Ensure new cycling infrastructure connect to the existing network or terminate at an appropriate location (e.g., a park).	✓	✓	✓	N/A

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
1.19	Acquire strategically important properties.	✓	✓	✓	PP&D
1.20	Support the acquisition of riverbank lands to enhance greenspace and for the expansion of the river trail network through the development applications.	✓	✓	✓	PP&D
STRATEGIC DIRECTION 2: IMPROVE CONVENIENCE					
2.1	Continue to implement short-term parking at City of Winnipeg facilities and secure long-term parking and end of-trip facilities (showers, change rooms, etc.).	✓	✓		All Departments
2.2	Update the City-wide Zoning By-law and Downtown Zoning Bylaw to enhance requirements for cycle parking and end-of-trip facilities in new developments city-wide.	✓			PP&D
2.3	Continue to partner with BIZes, businesses, and other partners to implement short-term bicycle parking, and where possible maintenance stations, in the right-of-way.	✓	✓	✓	PP&D, PS, BIZs
2.4	Ensure bicycle parking is provided in the public right-of-way.	✓	✓	✓	PP&D, Transit, BIZs,
2.5	Encourage all event coordinators to provide adequate temporary bicycle parking to serve corporate-sponsored and large community events.	✓	✓	✓	PP&D, CA-ED
2.6	Facilitate development of a publicly-available full-serve bicycle parking station or long-term secure bike parking in an area of high cycling activity. If successful, plan to implement other similar facilities at key locations in the city.*	✓			BIZs, PS
2.7	Create and continually update a digital inventory of secure public bicycle parking locations and repair stations on the city website.		✓	✓	Transit, CS
2.8	Continue to support community groups or bicycle shops on programs to store, repair, and redistribute abandoned bicycles.	✓	✓	✓	CG, PS
2.9	Accelerate and coordinate implementation of pedestrian and cycling related actions as approved in Winnipeg's Transit Master Plan.	✓	✓	✓	Transit

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
2.10	Explore implementation of a bike share program with private industry and/or local community partners.	✓	✓		PP&D, CG, PS
2.11	Explore, develop and promote park-and-cycle infrastructure (where people can park their car and cycle the remainder of the trip) using existing Winnipeg Transit park-and-ride lots (such as Charleswood Centre) and at strategic new locations towards outer Winnipeg (such as in Transcona).		✓		Transit
STRATEGIC DIRECTION 3: IMPROVE SAFETY & ACCESSIBILITY					
3.1	Continue to provide accessible curb ramps with truncated dome detectable warning surfaces at intersection locations within City Standards.	✓	✓	✓	PP&D
3.2	Continue to upgrade existing and design future pedestrian and cycling infrastructure to meet Universal Design Standards.	✓	✓	✓	PP&D, Transit
3.3	Review pedestrian crossing times at signalized intersections and update according to TAC and the Manual of Uniform Traffic Control Devices for Canada (MUTCDC) based on pedestrian walking speed and population demographics.	✓	✓		PP&D
3.4	Reduce pedestrian crossing distances by providing narrower roads and lanes and considering curb extensions or median islands where feasible, particularly in areas with high concentrations of children, seniors and people with disabilities.	✓	✓	✓	PP&D
3.5	Implement pedestrian crossing control in accordance with current City guidelines and practices to identify locations where control is needed and for selecting appropriate control treatments.	✓	✓	✓	N/A
3.6	Consider continuous-sidewalk intersection designs for key pedestrian areas where feasible.	✓	✓	✓	PP&D
3.7	Embed improvements to pedestrian safety, comfort and convenience in all road work undertaken Downtown including in the capital budget planning of road renewal projects.	✓	✓	✓	N/A

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
3.8	Ensure bicycle detection or actuation is included at signalized intersections where required.	✓	✓	✓	N/A
3.9	Continue to follow standards to ensure CPTED principles are followed in pedestrian and bicycle infrastructure design.	✓	✓	✓	PP&D
3.10	Improve illumination of pedestrian and cycling area in existing underpasses and where personal security concerns exist.	✓	✓		ES
3.11	Where feasible, provide illumination along new pedestrian and cycling infrastructure. Prioritize retrofit lighting on infrastructure based on safety performance and equity considerations.	✓	✓	✓	ES
3.12	Where possible, provide separate off-road paths for pedestrians and cyclists where there is space to provide minimum standard widths for both user types. Where separation is not possible, provide a wide clear path of travel to better accommodate the sharing of the space.	✓	✓	✓	PP&D
3.13	Monitor and implement best practice designs where pedestrians interact with cyclists to ensure crossings and curbside access are safe and accessible.*	✓	✓	✓	PP&D, Transit
3.14	Accelerate implementation of actions related to pedestrians and cyclists in the Road Safety Strategic Action Plan.*	✓			N/A
3.15	Support and facilitate the implementation of Active and Safe Routes to School plans as an input to capital planning.	✓	✓	✓	PP&D, ES
3.16	Work with Manitoba Infrastructure to revise the Highway Traffic Act to align with the City's active transportation goals.	✓	✓		ES

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
STRATEGIC DIRECTION 4: IMPROVE MAINTENANCE					
4.1	Complete initial pedestrian infrastructure inventory, including condition, which will inform the asset management program. Continue to maintain this inventory database on an ongoing basis.	✓	✓	✓	N/A
4.2	Add equity as a consideration in asset management program for sidewalk renewal.	✓	✓	✓	N/A
4.3	Use surface condition data to inform priorities for bicycle infrastructure renewal. Prioritize maintenance of the Primary Network.	✓	✓	✓	N/A
4.4	Continue to incorporate new knowledge on the safe accommodation of pedestrians and cyclists in work areas in the Manual of Temporary Traffic Control.	✓	✓	✓	N/A
4.5	Refine and update the Council approved Snow Clearing and Ice Control Policy through public and stakeholder input to help make walking and cycling convenient and accessible for people of all ages and abilities, year-round. Consider if specific active transportation infrastructure should have a higher priority classification than streets.	✓			N/A
4.6	Continue to refine and update priority network of off-road pathways for snow removal in response to internal and external input.	✓			N/A
4.7	Update winter cycling priority network with updated Bicycle Network plan.*	✓			N/A
4.8	Continue to design bicycle routes to facilitate snow removal and snow storage.	✓	✓	✓	N/A
4.9	Develop and implement community support programs to encourage community sidewalk snow removal on residential streets and grooming of multi-use winter trails that fall outside of City's regular winter maintenance.	✓	✓	✓	N/A
4.10	Coordinate bicycle infrastructure maintenance with Operating Programs, refine the sweeping program, and continue to invest in annual pathway renewal and pavement marking.*	✓	✓	✓	N/A

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
4.11	Leveraging advanced technologies in active transportation traffic monitoring, and following guidance from TAC's Traffic Monitoring Guide, develop a traffic monitoring program for pedestrian traffic volumes.	✓	✓	✓	N/A
4.12	Leveraging advanced technologies in active transportation traffic monitoring, and following guidance from TAC's Traffic Monitoring Guide, develop a traffic monitoring program for bicycle traffic to support decisions regarding cycling activity.	✓	✓	✓	N/A
4.13	Add a Bicycle and Pedestrian Design Engineer position to the Transportation Division.*	✓			N/A
4.14	Add Project Manager positions to the Transportation Division.*	✓			N/A
STRATEGIC DIRECTION 5: IMPROVE VIBRANCY					
5.1	Improve interdepartmental efficiency in identifying pedestrian and cycling requirements for development agreements.	✓			PP&D
5.2	Work with the development industry and other stakeholders to support the practical implication of walkable and cyclable communities.	✓			PP&D
5.3	Incorporate minimum pedestrian, bicycle and transit network requirements into the zoning bylaws.	✓			PP&D
5.4	Ensure that pedestrian, cycling and transit network plans are developed to support walkability and bikeability considerations in local area plans.	✓	✓	✓	PP&D, Transit
5.5	Develop guidance regarding bicycle and pedestrian network design, and pedestrian, bicycle and transit supportive site planning in new developments.*	✓			PP&D, Transit
5.6	Consider the provision of pedestrian, cycling, and transit infrastructure in an update to the Development Agreement Parameters.	✓			PP&D
5.7	Ensure site design in redevelopment sites to enhance pedestrian and bicycle connectivity within mixed use centres and corridors.	✓	✓	✓	PP&D, PS

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
5.8	Ensure that an internal street and pathway network within the development site together provide an acceptable level of pedestrian and cycling connectivity.	✓	✓	✓	PP&D
5.9	Achieve pedestrian and cycling connections from new development sites to surrounding existing and anticipated networks.	✓	✓	✓	PP&D
5.10	Continue to support downtown development by upgrading sidewalks where required as redevelopment occurs.	✓	✓	✓	PP&D
5.11	Develop pedestrian-oriented street designs in the Downtown.	✓			PP&D
5.12	Integrate placemaking features within rights-of-way Downtown where suitable in alignment with Downtown planning initiatives.	✓	✓	✓	PP&D
5.13	Create vibrant streetscapes and places in conjunction with partners by providing public amenities such as street trees and vegetation, planters, patios, plazas, parklets, banners, and public art and supporting special programming along mixed use centres and corridors and in the downtown.	✓	✓	✓	PP&D
5.14	Increase tree cover along streets and pathways to mitigate the urban heat island effect and improve the comfort of active transportation, in conjunction with the Winnipeg Urban Forest Strategy.	✓	✓	✓	N/A
STRATEGIC DIRECTION 6: IMPROVE AWARENESS					
6.1	Develop and keep up-to date a digital City-wide Cycling Map.	✓	✓	✓	N/A
6.2	Adapt existing wayfinding guidelines from elsewhere, to suit Winnipeg's needs.*	✓			N/A
6.3	Support industry partners in the creation of a new pedestrian wayfinding program including signage and maps for the Downtown.	✓	✓	✓	PP&D, BIZs, ES, CG
6.4	Update cycling and pedestrian infrastructure data for internal and external use annually to help inform decision making.	✓	✓	✓	N/A

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
6.5	Coordinate with third party trip planning providers to ensure bicycle and pedestrian data is accurate and up to date.	✓	✓	✓	N/A
6.6	Support the development of Bicycle-Friendly Business Districts.	✓	✓	✓	BIZs, PP&D, ES, PS
6.7	Support the development of a bicycle tourism initiative.	✓	✓	✓	PP&D, ES
6.8	Work with partners to develop and deliver information materials outlining the benefits of walking and cycling.	✓	✓	✓	PS, ES, CG, PP&D
6.9	Work with the Province and Manitoba Public Insurance to include information about cycling and cycling infrastructure as part of driver education and included in driver's license test.	✓			ES
6.10	Work with partners to develop an education campaign about walking and cycling, targeted towards motorists.	✓			ES
6.11	Continue to implement the AT Communications Strategy and Action Plan to promote walking and cycling.	✓	✓	✓	CG, ES
6.12	Continue to support bike education through training programs in schools.	✓	✓	✓	CG, ES
6.13	Support the provision of adult education and cycling skills training throughout the city year-round.	✓	✓	✓	CG, ES
6.14	Continue to support and advertise special events and programs to promote walking and cycling city-wide and at a neighbourhood level.	✓	✓	✓	CG, ES
6.15	Work with vulnerable groups and find out what their key issues are in order to better communicate with them.	✓	✓	✓	CG, ES, PP&D, CS
6.16	Investigate micromobility for potential future legalization and impacts that it may have on issues such as higher speeds, requirements for new or modified infrastructure, and conflicts with other users.*	✓			PP&D, ES
6.17	Add a bicycle and pedestrian education and outreach coordinator position to the Transportation Division.*	✓			N/A

#	Action	Short Term	Medium Term	Long Term	Collaborating Department(s)
6.18	Develop a photo library of local walking and cycling infrastructure in all seasons and in use by people of all ages and abilities.	✓			N/A
6.19	Encourage local community groups to become stewards of neighborhood greenways. For example, through local tree planting, boulevard gardens, local art, community branding, banners, or other aesthetic improvements.	✓	✓	✓	PP&D, CG, BIZs

* *Represents an action that is listed as a quick win in* ***Section 4.1.5.***

[1] **NOTE:** CS = *Community Services* CA - ED = *CA - Economic Development*

Transit = *Winnipeg Transit* PP&D = *Planning, Property and Development* PS = *Private Sector*

ES = *External Stakeholders* CG = *Community Groups* BIZs = *Business Improvement Zones*

4.1.4 NETWORK PRIORITIZATION

Building out the pedestrian and cycling networks represents a significant long-term investment. As resources and capacity to built the network have limitations the following network prioritization was developed to identify higher priority needs to organize the sequence of implementation.

The priorities for sidewalks and cycling infrastructure are presented on two individual maps, both in tiers representing highest, high, medium, low, and lowest priorities. The general intention is to focus investment from the high to low end of the prioritization spectrum. However, this is not a completely rigid system. Investment in new walking and cycling infrastructure needs to be able to capitalize on opportunities that may arise. Examples of potential scenarios where lesser tier priorities may be considered include synergies with other projects, grant opportunities that may have specific criteria, new gaps or demands in the network created by other transportation projects or new developments and new information not available at the time of the creation of this document.

SIDEWALKS

Sidewalk priority was determined for collector and arterial streets with no existing sidewalks or one existing sidewalk using a points-based system. Local roads are excluded from the map as standards for sidewalks on local roads require updating and more clarity is required related to the trade-offs that are often required in retrofit situations. Until more defined standards are in place, the addition of sidewalks on existing local roads will be considered on a case-by-case basis. The applicability of a local road as a candidate will be based on the list of factors in Sidewalk Priority Scoring for Sidewalk Gaps outlined below. Streets with a multi-use path were treated like they have two sidewalks. The system scoring is summarized in Exhibit 4.2.

EXHIBIT 4.2: SIDEWALK PRIORITY SCORING FOR SIDEWALK GAPS

Factor	Points	Multiplier for No Existing Sidewalks (x2)	Multiplier for One Existing Sidewalk (x1)
Mixed Use Corridor	7	14	7
Transit Route in Winnipeg Transit Master Plan	6	12	6
High Poverty Area	5	10	5
Land Use Proximity*	4	8	4
Truck Route	2	4	2
None	1	2	1

** Within 400 m of post-secondary school, hospital, seniors home (if available in GIS), recreation centre, library, or park. Within 200 metres of a school.*

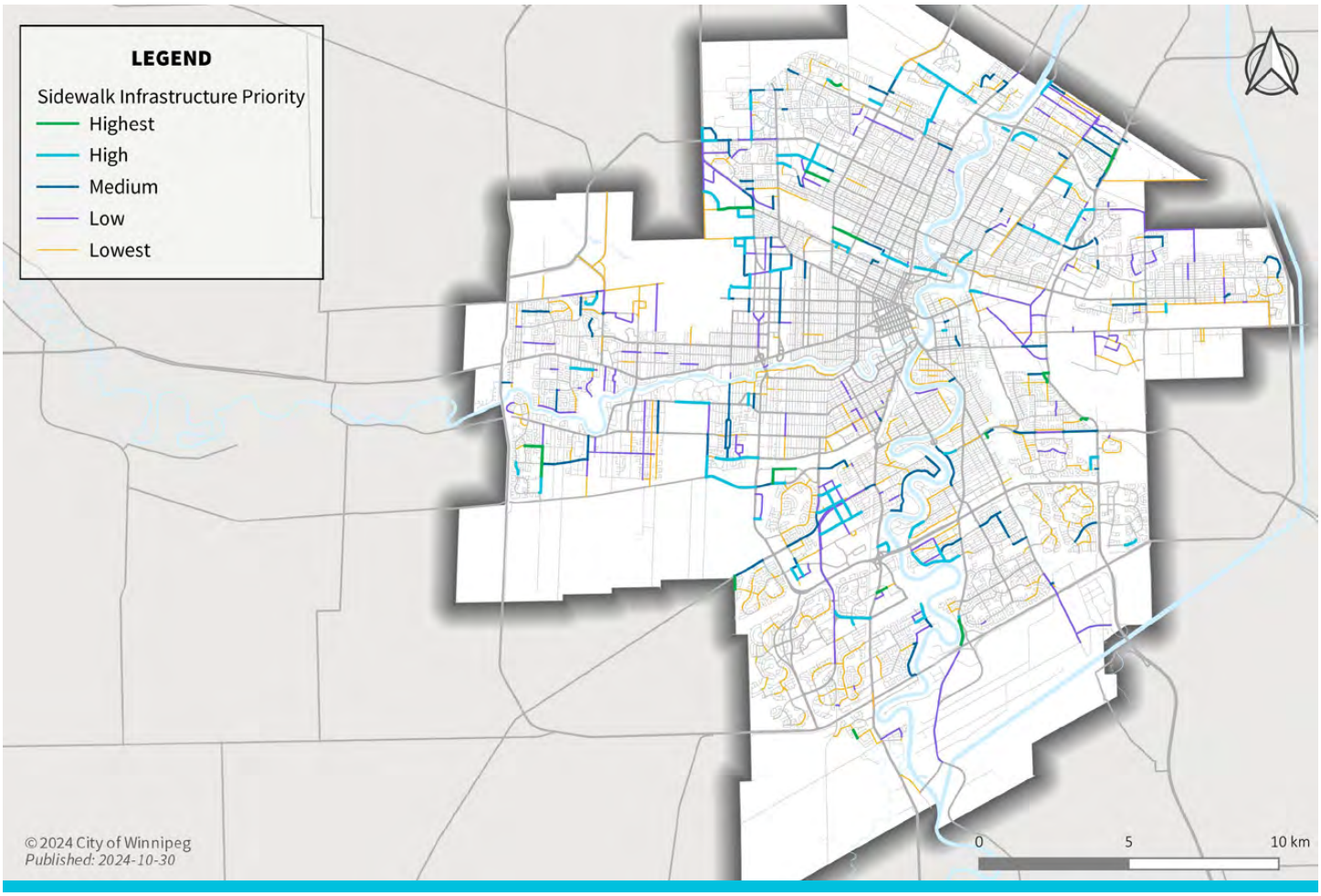
EXHIBIT 4.3: SIDEWALK PRIORITY SCORING RANGES

Priority	Score Range
Highest Priority	17-30
High Priority	10-16
Medium Priority	6-9
Low Priority	2-5
Lowest Priority	0-1

The intent of the scoring system is to emphasize addressing sidewalk gaps based on demand, equity considerations, and safety.

The resulting sidewalk priority is illustrated in Map 7.

MAP 7: SIDEWALK GAP PRIORITY



BICYCLE INFRASTRUCTURE

The bicycle network and infrastructure improvements should be planned and targeted where there is the greatest opportunity to increase the number of cycling trips. Prioritization of bicycle infrastructure considered the following five factors.

EXHIBIT 4.4: BICYCLE PRIORITY SCORING

Factor	Points
Primary Network	3
Gap in Current Network	2
Geographic Areas of Higher Poverty	2
>1 Historical Bike Injury Collisions (Safety)	2
Long Term Transit Network	1

1. **Designation as primary or secondary route.** Primary route construction is favoured to prioritize building out network coverage that links all neighbourhoods, connects to major destinations (major parks, downtown, university, hospital, employment centres), and with an 800-metre buffer spacing. The bicycle network plan will complete discontinuous primary bicycle routes, while expanding the connected system, and making navigation easier. An important aspect of connectivity is the degree to which the network serves important destinations. Thus, in addition to connecting the existing primary network into a cohesive whole, achieving primary network connectivity involves extending the network into the areas where people want to go.
2. **Gap in primary network.** This factor considers gaps in the existing 2020 network from the perspective of building out the full network. Two types of gaps are considered. One is a network gap where there is a reasonably short gap between sections of existing infrastructure that is planned to be a long-term route. The second is a control gap where an existing route does not have a controlled crossing of a Regional Street.
3. **Within geographic areas of higher poverty (concentrated or not).** Bicycling is one of the most affordable forms of urban transportation. Though bicycling has played a large role in recreation in recent memory, its importance as an integral and affordable part of the complex urban transportation system has been rediscovered. Equitable access for all people means that people in all neighborhoods can successfully complete a bicycle trip. In Winnipeg, many households do not have access to a car; many residents are too young or too old to drive or are incapable due to illness or disability; or are simply unwilling to drive. Transportation choices for these users may include walking, riding a bicycle, taking transit or carpooling. The bicycle network plan strives to achieve equity in two ways – through bringing cycling infrastructure to populations with limited transportation choices, and by distributing infrastructure evenly throughout the city. There are communities in Winnipeg that would especially benefit from increased transportation options, and a more comprehensive and accessible bicycle network can increase mobility for all populations. In

particular, the cycling network must be designed to serve historically under-served populations, including low-income households, Indigenous populations, immigrant populations, and people over 65 years old and under 19 years old who have unique mobility needs. The bicycle network should provide equitable coverage throughout the city, allowing residents in all areas reasonable access to the bicycle network. Also, the bicycle network should be designed to distribute high quality infrastructure across the city so residents can reach all destinations.

4. **Safety (two or more collisions within a segment).** Although safety performance monitoring for the cycling network is still evolving to a greater level of sophistication, collisions involving cyclists are an important indicator of the need for cycling infrastructure. Subsequently, safety performance in the form of two or more collisions within a segment is a consideration of the prioritization of bicycle infrastructure.

5. **Within one kilometre of a Rapid Transit Route.** With the recent adoption of Winnipeg's Transit Master Plan, it is important to support transit-bicycle trips as a complete rapid transit network is rolled out for Winnipeg.

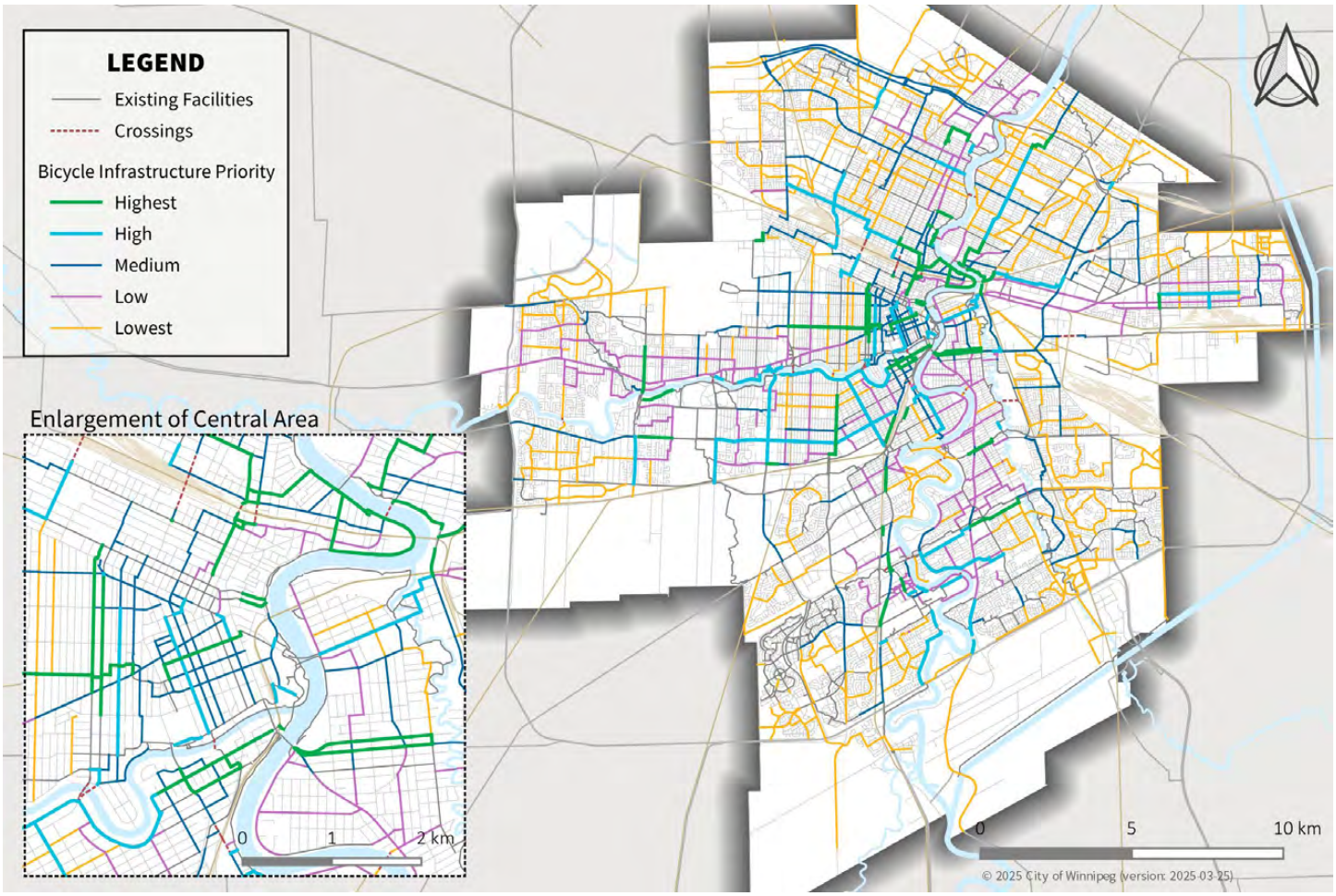
Results from the application of bicycle infrastructure prioritization are in the table below:

EXHIBIT 4.5: BICYCLE PRIORITY SCORING RANGES

Priority	Score Range
Highest Priority	6-10
High Priority	4-5
Medium Priority	2-3
Low Priority	1
Lowest Priority	0

Results from the application of bicycle infrastructure prioritization are illustrated in Map 8.

MAP 8: BICYCLE NETWORK PRIORITIZATION MAP



4.1.5 QUICK WINS

The implementation plan identifies several new high priority actions and network improvements to be undertaken over the short-term. In addition to these short-term actions identified in the implementation tables, focusing on "quick wins" will move forward implementing the updated strategies immediately and build momentum. Selections for quick wins are based on the complexity of the action, the level of control of the action within Public Works, and alignment with other City actions already in progress. The ability to implement quick wins will be somewhat contingent on adding the four positions within Public Works that are included in the quick wins list. Quick wins that should be prioritized over the next one-two years, include:

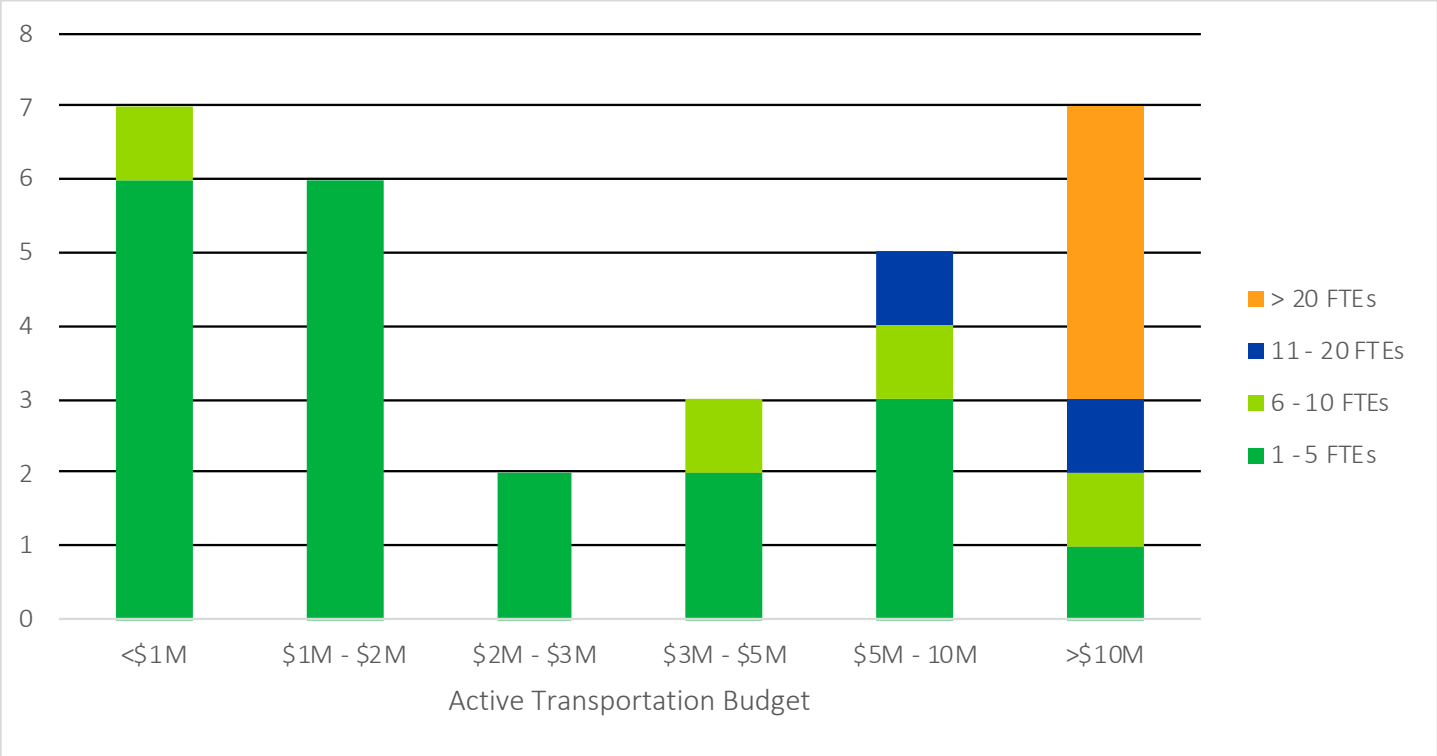
- **Improve connectivity**
  - *1.3* Update sidewalk requirements on local roads for new developments in consultation with stakeholders.
  - *1.9* Accelerate the implementation of the bicycle network in accordance with Map 6 (Prioritized Network) ensuring that priority is given to building out the primary network if feasible.
  - *1.11* Continue to expand the City's neighbourhood greenway network as a tool to expand the cycling network on local roads and where appropriate, collector roads.
  - *1.13* Adapt and calibrate TAC guidance for bicycle infrastructure selection to Winnipeg conditions.
- **Improve convenience**
  - *2.6* Facilitate development of a publicly available full-serve bicycle parking station or long-term secure bike parking in an area of high cycling activity. If successful, plan to implement other similar facilities at key locations in the city.
- **Improve safety and accessibility**
  - *3.13* Monitor and implement best practice designs where pedestrians interact with cyclists to ensure crossings and curbside access are safe and accessible.
  - *3.14* Accelerate implementation of actions related to pedestrians and cyclists in the Road Safety Strategic Action Plan.
- **Improve operations and maintenance**
  - *4.7* Update winter active transportation priority network with updated Bicycle Network plan.
  - *4.10* Coordinate bicycle infrastructure maintenance with Operating Programs, refine the sweeping program, and continue to invest in annual pathway renewal and pavement marking.
  - *4.13* Add a Bicycle and Pedestrian Design Engineer position to the Transportation Division.
  - *4.14* Add Project Manager positions to the Transportation Division.
- **Improve vibrance**
  - *5.5* Develop guidance regarding bicycle and pedestrian network design, and pedestrian, bicycle and transit supportive site planning in new developments.
- **Increase awareness**
  - *6.2* Adapt existing wayfinding guidelines from elsewhere to Winnipeg's needs.
  - *6.16* Investigate micromobility for potential future legalization and impacts that it may have on issues such as higher speeds, requirements for new or modified infrastructure, and conflicts with other users.
  - *6.17* Add a bicycle and pedestrian education and outreach coordinator position to the Transportation Division.

4.1.6 HUMAN RESOURCES

The staffing section of the jurisdictional survey explored the allocation of full-time equivalents (FTEs) within active transportation branches/groups. **Exhibit 4.6** illustrates the reported distribution of FTEs based on the active transportation budget of a given jurisdiction.

We currently employ two full time FTEs: a senior active transportation planner and a liveable streets specialist. The 2024 Capital Budget includes two temporary FTEs: active transportation project managers. This policy calls for two additional FTEs: bicycle and pedestrian education and outreach coordinator and bicycle and pedestrian education design engineer.

EXHIBIT 4.6: NUMBER OF FTES ACCORDING TO ACTIVE TRANSPORTATION BUDGET



The Active Transportation Branch staffing structure both existing and proposed is as follows:

- Senior active transportation planner (existing)
- Liveable streets specialist (existing)
- Active transportation project managers (two approved temporary positions)
- Bicycle and pedestrian design engineer (to be created)
- Bicycle and pedestrian education and outreach coordinator (to be created)

Based on review of roles that exist in peer cities, this proposed structure appears to be very similar to other comparable cities under the current budget in the Pedestrian and Cycling Program. However, the 2024 capital budget forecasts the Pedestrian and Cycling Program to dramatically increase from the $2 million range up to over $7 million. Considering this and that the work of active transportation branch is tied to road renewal projects, which budget is not considered here, additional FTEs will be recommended in the future through the business case process. These would be in the form of project managers and supporting roles.

Responses from the jurisdictional survey indicate a varied use of seasonal staff within active transportation groups. Nine cities reported anywhere from 1-5 seasonal staff, though the number of seasonal staff did not appear to have any correlation with the cities' active transportation budget.

Moving forward, Winnipeg should consider bringing on seasonal staff to the active transportation branch for any project or program delivery needs that respond to the often-seasonal nature of active transportation projects, and construction in general.

4.1.7 COST ESTIMATES

SIDEWALK COST ESTIMATING AND PRIORITIZATION

Sidewalk cost estimating

Class 5 cost estimates for building out the sidewalk network with sidewalk on both sides of collector and arterial streets are provided in Exhibit 4.7. Costs are provided by priority timeframes to provide a sense of the level of need by the importance of filling a sidewalk gap.

EXHIBIT 4.7: SIDEWALK COST ESTIMATING

Priority	Collector Streets	Arterial Streets	TOTAL
Highest	$9 million	$1 million	$10 million
High	$38 million	$12 million	$50 million
Medium	$32 million	$8 million	$40 million
Low	$75 million	$27 million	$102 million
Lowest	$19 million	$0.7 million	$20 million
TOTAL	**$173 million**	**$49 million**	**$222 million**

These cost estimates were created using the following methods and assumptions:

- All collector and arterial roads were costed as requiring sidewalks on both sides of the street if two sidewalks were not already present. Multi use paths were considered as a sidewalk on one side of the street.
- The cost estimates did not include roads classified as:
  - Parks Access
  - Private
  - Provincial Road
  - Provincial Trunk Highway
  - Ramp
  - Transit
- Infrastructure costs for sidewalks on new and updated grade separated structures are excluded. Structure costs are included in the bicycle network costs.
- Costs per meter have been based on standard costs (2024) as follows:
  - Collector Sidewalks: $425/m
  - Arterial Sidewalks: $495/m

BICYCLE NETWORK COST ESTIMATING

Network cost estimating

Class 5 cost estimates for the bicycle network are provided in Exhibit 4.8. Rounded costs are provided using a breakdown of the network by priority in Primary Route, Secondary Route, and Multimodal Corridors categories.

EXHIBIT 4.8: BIKE NETWORK COST ESTIMATING

Priority	Primary Network	Secondary Network	Multi Corridors	TOTAL
Highest	$73 million	$2 million	$10 million	$85 million
High	$132 million	$5 million	$38 million	$174 million
Medium	$177 million	$120 million	$19 million	$316 million
Low	$9 million	$345 million	$17 million	$371 million
Lowest	$11 million	$752 million	$32 million	$796 million
TOTAL	**$402 million**	**$1,224 million**	**$116 million**	**$1,742 million**

These cost estimates were created using the following methods and assumptions:

- Except for painted bike lanes, costs for upgrading existing bike infrastructure to improved infrastructure types have not been included. Therefore, these estimates are only for new infrastructure and upgrades to painted bike lanes.
- Rails to Trails routes have not been included unless they are part of the PCS bike network
- Costs per meter have been based on the following infrastructure types and locations as presented on Map 8: Bicycle Network Prioritization Map.
  - Multi-use paths: not located along a road alignment
  - Protected bike infrastructure: all non-local roads as well as local roads with truck and/or Transit
  - Neighbourhood greenways: local roads with no truck or transit
- Costs per meter based on the recommended infrastructure types were set at the following amounts (2024 dollars):
  - Multi-use paths: $700/m
  - Protected bike infrastructure: $2350/m for one-way streets and $4750/m for two-way streets
  - Neighbourhood greenways: $250/m
- Spur routes, such as those going through park areas and not serving network connectivity pieces, have been excluded from the cost estimate.
- Multi-modal corridor studies have been estimated assuming the inclusion of a protected bike lane. Any multi-modal corridor studies that result in no cycling infrastructure, parallel infrastructure on alternate routes, or any painted or buffered bike lanes implemented in lieu of protected bike lanes would reduce costs.

STRUCTURES COST ESTIMATING

Cost estimates for each structure have been provided, though different methods have been used for some of the structures. Where possible, project-specific cost estimates have been provided based on preliminary design reports. Where these estimates are not available, costs have been estimated using high-level unit costs per meter squared combined with estimates for the width and length of each structure.

Exhibit 4.9 shows 2022 cost estimates for the new and improved bike and pedestrian structures that are anticipated to be in the Pedestrian and Cycling Program, including assumptions for each structure, lengths, widths, and cost per square meter.

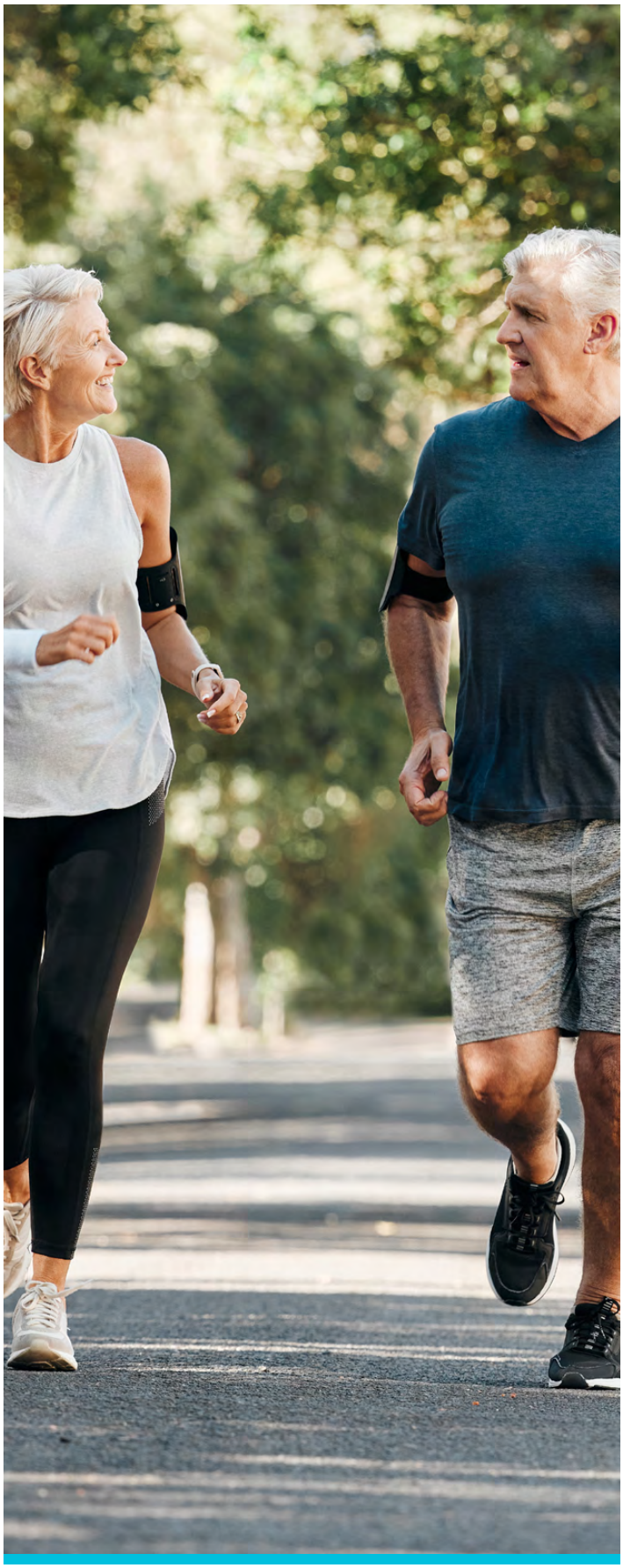
EXHIBIT 4.9: STRUCTURES COST ESTIMATING

ID	Crossing	Network Designation	Priority	New/ Improved Structure	High Level Unit Cost (/m2)	Length (m)	Width (m)	Total Cost
6	Concordia Avenue Underpass	Primary	Short-term	Improved	Preliminary design cost estimate used (2024)			$2,500,000
7	Assiniboine Park Foot Bridge	Primary	Long-term	Improved	$14,000	150	6	$12,600,000
9	Sir Franklin Park / Omand Park Connection	Secondary	Medium-term	Improved	$14,000	150	6	$12,600,000
14	Abinojii Mikanah / Glen Meadow Street	Secondary	Long-term	Improved	$13,000	40	3	$1,560,000
15	Abinojii Mikanah (north side) / Seine River	Secondary	Long-term	Improved	$12,500	8.4	6	$630,000
16	Seven Oaks / Kildonan Drive Connection	Primary	Long-term	New	$16,000	330	6	$31,680,000
17	West of McPhillips at CPR Weston Yards	Primary	Medium-term	New	$12,000	50	6	$3,600,000
18	Princess Street or King Street at CPR Keewatin	Primary	Medium-term	New	$12,000	45	6	$3,240,000
19	Wellington Ave at CPR LaRiviere	Primary	Long-term	New	$13,000	60	6	$4,680,000
20	Beauchemin Park / Westwood Connection	Secondary	Long-term	New	$14,000	200	6	$16,800,000
21	Assiniboine River crossing (Wolseley River Heights)	Primary	Long-term	New	$14,000	160	6	$13,440,000
22	Fort Rouge Park to McFadyen Park	Primary	Medium-term	New	Preliminary design cost estimate used			$34,542,878
23	Churchill Drive / Lyndale Drive	Secondary	Long-term	New	$16,000	250	6	$24,000,000
24	Seine River Crossing at Clonard Ave	Secondary	Long-term	New	Functional design cost estimate used			$8,941,000
25	Wildwood St. Vital Connection (Oakenwald - Fermor)	Primary	Long-term	New	$16,000	250	6	$24,000,000
26	Pembina Highway / Abinojii Mikanah	Secondary	Medium-term	New	Preliminary design cost estimate used			$19,400,000
	TOTAL							**$214,213,878**

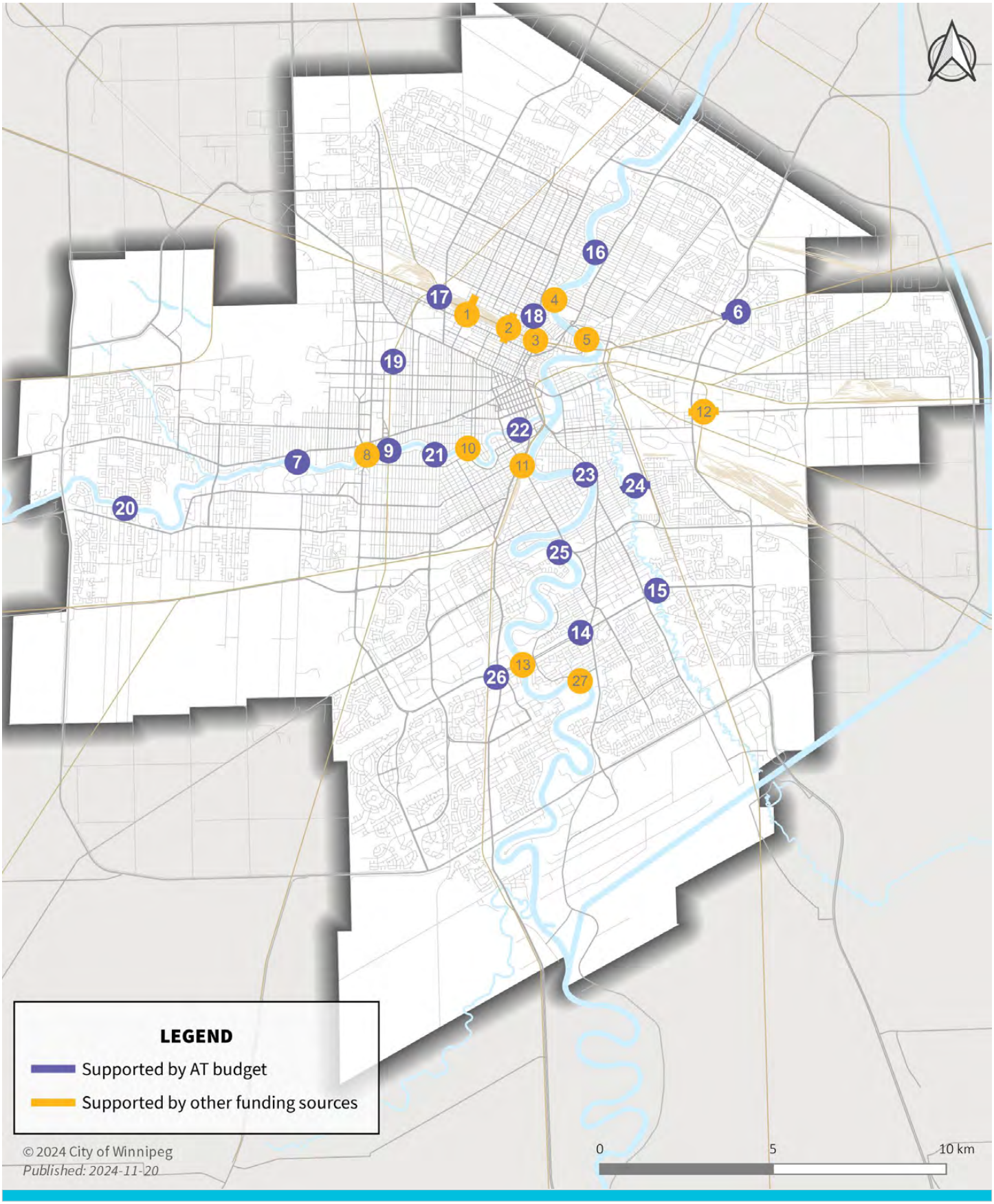
Where not specified as coming from preliminary or functional design cost estimates, these cost estimates were created using the following methods and assumptions:

- Costs for improved structures assumed that 6m width of AT infrastructure is required and subtracted the width of any existing infrastructure to get the required additional width.
- Costs per square meter for improved structures were assumed to be the same as new structures for the required additional width.
- Only structures anticipated to be in the City's active transportation budget have been included.
- Priorities of structures have been determined using engineering judgement, rather than the methodology applied to the rest of the bike network.

Map 9 shows the structures included in the proposed active transportation network; this includes some structures that are not expected to be included in the active transportation budget and therefore have been excluded from the cost estimate.



MAP 9: PEDESTRIAN AND BIKE STRUCTURES



4.2 MONITORING PLAN

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

The monitoring program needs to be:

Meaningful. The monitoring strategy should yield meaningful results and point to the success in achieving the vision, goals and targets of the Pedestrian and Cycling Strategies.

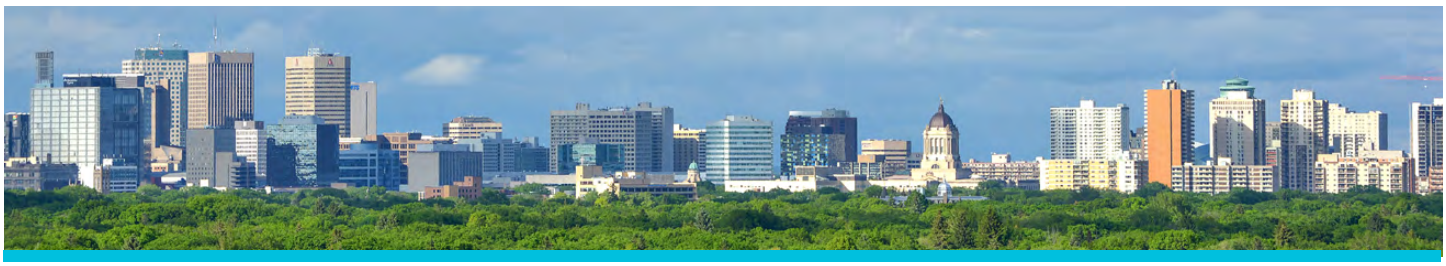
Measurable. The monitoring program needs to establish criteria that are readily measurable and for which data or information can be readily obtained.

Manageable. The monitoring program needs to take into account resource limitations and will identify measures where information is accessible or data is simple to collect.

The monitoring program will focus on identifying 'measures of success' for two components: first, the degree of progress in implementing the plan, and secondly, the outcomes of the plan. Measures of success are described in the table below, including general measures of success for the overall Pedestrian and Cycling Strategies, as well as specific measures of success related to each Strategic Direction.

General measures of success:

Measures of success
Walking and cycling mode share (work)
Walking and cycling mode share (all trips)
Walking and cycling volumes on key corridors
Walking and cycling funding levels
City staff resources
Proportion of short-term only activities completed
Proportion of ongoing activities starting in the short-term that have been initiated



STRATEGIC DIRECTION #1 - IMPROVE CONNECTIVITY

Measures of success	Action(s)
Total length of sidewalk network	1.1, 1.2, 1.3, 1.4, 1.5
Total length of bicycle network (by infrastructure type)	1.4, 1.5, 1.9
Total km of “All Ages and Abilities” bicycle network	1.4, 1.5, 1.9
Percent of city dwellings within 400 m (200 m in downtown) of the cycling network	1.4, 1.5, 1.9
Proportion of local streets with a sidewalk on at least one side in new developments	1.3
Number of kms of sidewalk less than 1.5 metres wide	1.6
Number of kms of bicycle network needed to close gaps identified in Figure 52	1.4, 1.5, 1.9, 1.11
Proportion of primary cycling network constructed.	1.4, 1.5, 1.9
Number of kms of sidewalk needed to close gaps identified in Figure 51	1.1, 1.2, 1.4, 1.5
Percent of transit stops connected to a sidewalk	1.8
Number of multi-modal corridor studies completed	1.10
Number of kms of reduced speed neighbourhood greenways implemented	1.11
Proportion of new streets constructed with safe and comfortable infrastructure for pedestrians	1.14
Number of river, rail, and road crossing structures that accommodate pedestrians and cyclists	1.16, 1.17
Number of properties acquired to increase connectivity of the pedestrian and cycling network, or to support acquisition of riverbank lands	1.19, 1.20

STRATEGIC DIRECTION #2 - IMPROVES CONVENIENCE

Measures of success	Action(s)
Proportion of municipal facilities with bicycle parking	2.1
Number of municipal facilities with end of trip facilities	2.1
Annual amount of funding provided to support partners in implementing projects to improve convenience, such as all types of bicycle parking, bicycle repair and redistribution, and support for special events	2.3, 2.4, 2.5, 2.8
Number of secure bicycle parking spaces at transit stations	2.9
Proportion of buses with bicycle racks	2.9
Proportion of bus stops with shelters	2.9
Proportion of City within desired transit service area	2.9

STRATEGIC DIRECTION #3 - IMPROVE SAFETY AND ACCESSIBILITY

Measures of success	Action(s)
Percent of signalized intersections with curb ramps and detectable warning surface tiles at all pedestrian crossing locations	3.1, 3.2
Percent of signalized intersections with accessible pedestrian signals at all pedestrian crossing locations	3.2
Number of intersections with continuous sidewalk intersection designs in key pedestrian areas	3.6
Proportion of traffic signals along bicycle routes with bicycle detection, actuation, or automatic service (e.g. sync phase)	3.8
Proportion of underpasses with illumination for pedestrians and cyclists	3.10
Proportion of multiuse pathway length with dedicated lighting	3.11
Percent of pedestrian and cyclist related RSSAP recommendations initiated	3.14
Number of schools which have an Active and Safe Routes to School Plan	3.15

STRATEGIC DIRECTION #4 -IMPROVE OPERATIONS AND MAINTENANCE

Measures of success	Action(s)
Proportion of sidewalk length in good or better condition in geographic areas of higher poverty.	4.2
Proportion of priority cycling network length in good or better condition	4.3
Proportion of winter cycling priority network designated as priority active transportation routes for snow clearing	4.5, 4.6, 4.7
Proportion of sidewalk designated as priority active transportation routes for snow clearing	4.5
Walking and cycling volumes on key corridors in Winter season	4.5, 4.6, 4.7
Proportion of multi-use pathway length that are part of the winter cycling priority network and designated as priority active transportation routes for snow clearing	4.6
Proportion of cycling network designated for regular street sweeping	4.10
Proportion of desired sidewalk network designated for regular street sweeping	4.10
Proportion of on-street cycling network that can be painted 2x per year	4.10
Length (km) of sidewalks renewed	4.10
Length (km) of bike lanes renewed	4.10
Length (km) of multi-use paths renewed	4.10
Number of 311 complaints about infrastructure condition and maintenance	4.3

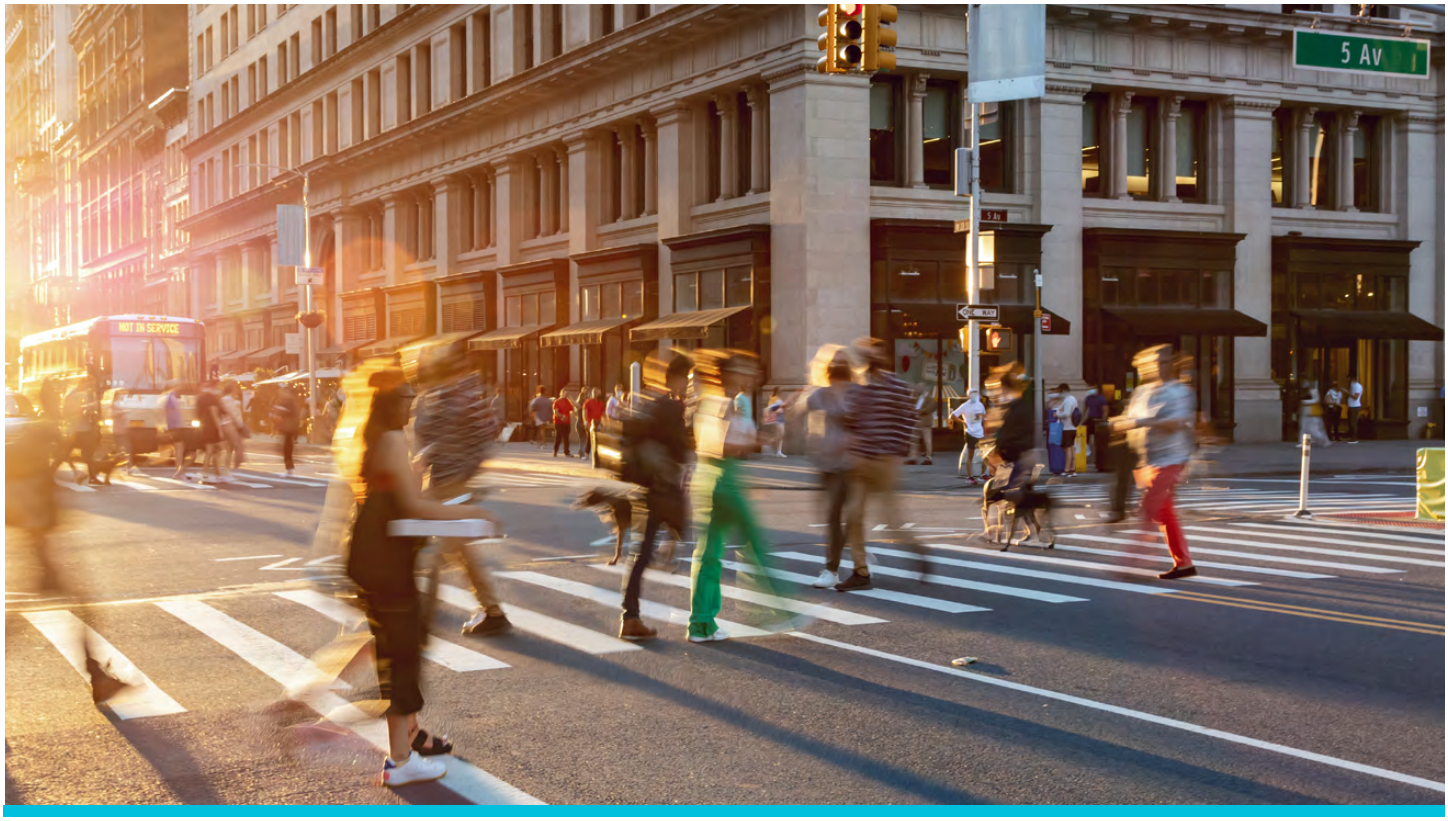
STRATEGIC DIRECTION #5 - IMPROVE VIBRANCE

Measures of success	Action(s)
Proportion of city dwellings in new developments within 400 m of the cycling network	5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.8
Ratio of sidewalk to street centerline length in new developments	5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.8
Proportion of city dwellings in new developments within desired transit service area	5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.8
Sidewalk coverage along all mixed-use centers and corridors	5.7
Bicycle network coverage within 400m of all mixed-use centers and corridors	5.7
Proportion of sidewalk length in good or better condition in downtown	5.10, 5.12
Number of trees planted near sidewalks and cycling infrastructure.	5.13, 5.14

STRATEGIC DIRECTION #6 - INCREASE AWARENESS

Measures of success	Action(s)
Number of unique views of the digital cycling map	6.1
Number of unique views of the cycling network map on iView	6.4
Number of unique views of the cycling network map on Open Data	6.4
Number of downloads of the cycling network map on Open Data	6.5
Number of active transportation wayfinding signs	6.2, 6.3
Citizens reached through engagement/promotion activities	6.8, 6.11, 6.14, 6.15
Citizens reached through education activities	6.9, 6.10, 6.12

To assist in monitoring these, and other, measures of success, current pedestrian and cycling monitoring initiatives should be expanded. A comprehensive Pedestrian and Cycling Strategy Monitoring Program should also be developed and implemented, starting with short-term priority actions. This Pedestrian and Cycling Strategy Monitoring Program will help to identify baselines for each of these measures of success. This should be followed up by communicating the results of its Pedestrian and Cycling Monitoring Program.



APPENDIX A

DETAILED OPPORTUNITIES TEMPLATES

1.1.1 PRIORITIZE ACTIVE TRANSPORTATION INFRASTRUCTURE CLEARING

Overview

Safety is a major concern for residents that can be addressed with the provision of safe infrastructure. This infrastructure, however, cannot be expected to only be used during the warmer months. Year-round maintenance is necessary to encourage the development of walking and cycling habits that last regardless of the season or the weather.

Sidewalks, Off-road pathways, and on-street lanes permitting active transportation and micromobility should provide an acceptable day to day level of service throughout winter by ensuring adequate snow-clearing and de-icing and salting or sanding as necessary.

The City has taken considerable steps to improve the prioritization of active transportation facilities through their Council-approved policy on snow clearing and ice control as updated in 2019. However, a 36hr clearing timeframe for the highest priority facilities continues to present a significant barrier for those that rely on active transportation on days with significant snowfall.

Future steps to improve active transportation winter maintenance should consider identifying a higher priority network of active transportation facilities (ex: P0AT) which would have a shorter timeframe for clearing 12hr-24hr and not be tied to the clearing of the road network. Enhanced prioritization of active transportation facilities should be accompanied with increases to the winter maintenance budget. Historical spending patterns would indicate that winter clearing in Winnipeg is chronically underfunded.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☒ Operations	☒ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Advantages

Advantages	Public Agency	Public
Enhanced safety	X	X
Improved reliability		X
Improved mobility		X

Disadvantages

Disadvantages	Public Agency	Public
Cost	X	X
Time required to maintain	X	
Requires political support	X	

Images

PHOTO SOURCE:
HTTP://DANDYHORSEMAGAZINE.COM/BLOG/2016/12/13/WINTER-CYCLING-TIPS-FROM-COPENHAGENIZE/

PHOTO SOURCE:

HTTPS://CALGARYHERALD.COM/NEWS/LOCAL-NEWS/WINTER-BIKING-ENTHUSIASTS-GEARING-UP-FOR-CALGARY-WINTER-CYCLING-CONGRESS

1.1.2 COMMUNITY-RUN TRAIL MAINTENANCE PROGRAM

Overview

Promotion and support of community initiatives are important to provide ample winter recreational opportunities for the public in a cost-effective manner. These initiatives that maintain groomed multi-use winter trails in open space that fall outside of the City's regular winter maintenance. The volunteer run program could be funded by citizen donation and corporate sponsorship.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☒ Operations	☒ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☒ Low	☐ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

Ottawa, Ontario – for approximately $50k every winter, the community-run program grooms a 16-kilometre-long multi-use trail along the Sir John A. MacDonald pathway to facilitate winter recreational activities, including snowshoeing, walking, cycling and cross-country skiing.

Key Sources

- Sir John A. Macdonald Winter Trail

Advantages

Advantages	Public Agency	Public
Improved open space accessibility		X
Promotes active living		X
Cost-effective	X	X

Disadvantages

Disadvantages	Public Agency	Public
Community driven and depends on community interests		X

Images

PHOTO SOURCE:
WWW.WINTERTRAIL.CA

1.1.3 ALL AGES AND ABILITITES INFRASTRUCTURE

Overview

Safety is a key concern for residents of Winnipeg, particularly the safety of those outside a motor vehicle. A safe, coherent, connected, network of sidewalks, cycling infrastructure, and pathways that are comfortable to users of all ages and abilities is necessary to encourage active transportation including the potential introduction of micromobility devices beyond a bicycle. Achieving this requires effective policies, decision-making, and design.

Several considerations are necessary to create a safe network for micromobility and other active transportation users. The network must be coherent and connected so users can travel throughout the city on a designated network without the fear of becoming stranded or forced into unsafe situations with vehicles. Consistent wayfinding would help to mitigate the risk to users, particularly if the network is disconnected or incomplete, by guiding them to safe routes that permit micromobility use. The network should also consist of cycling facilities appropriate for the given street context with emphasis on ensuring safety for vulnerable users. Sufficient lighting is often overlooked but is another important element to improve the users' perception of safety and allow the facilities to be used day or night as well as on the shorter days of the year in the fall and winter.

Additional Information			
Type of Application			
☒ Planning	☒ Design	☐ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☐ Medium	☒ High	☐ Unable to Access

Key Sources

- City of Calgary, (2021)

Application in Other Jurisdictions

- Calgary, Alberta – Micromobility was introduced to the city beginning in the fall of 2018 and was permitted on pathways and bike lanes. From October 2018 to October 2020, 1.9 million trips were taken by over 200,000 unique users.
- Portland, Oregon – With an extensive cycling network, the City of Portland permitted shared bikes and e-scooters on cycle facilities with success.

Advantages

Advantages	Public Agency	Public
Enhanced safety	X	X
Reduced congestion		X
Improved mobility		X

Disadvantages

Disadvantages	Public Agency	Public
Cost	X	
Requires political support	X	

Images

PHOTO SOURCE: HTTPS://TWITTER.COM/CHRISSCHAFER/STATUS/1150050890625298433

PHOTO SOURCE: HTTPS://CYCLEPALOOZA.CA/EVENT/CALGARYS-CENTRE-CITY-CYCLE-TRACK-NETWORK-ENGAGEMENT/

1.1.4 AWARENESS AND EDUCATION CAMPAIGNS

Overview

Micromobility is a new technology that many people are unfamiliar with. This can lead to considerable opposition to the technology as people do not know how it may impact their city. Additionally, because of a lack of awareness there can be a lack of public interest as people may not believe micromobility is beneficial to them. As environmental sustainability and innovation have been identified as values of stakeholders surveyed in Winnipeg, awareness and education campaigns can be tailored to these topics to appeal to the public.

Such campaigns can be carried out directly by the municipal government or can be done in partnership with another agency, such as the police department, local health unit, or a local non-governmental organization. Additionally, some providers like Bird and Lime have engaged in extensive rider education initiatives in dozens of cities across the USA.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☐ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☒ Other
Approximate Cost			
☒ Low	☐ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Effort for Implementation			
☒ Low	☐ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- Arlington, Virginia – The City uses a multi-modal campaign to encourage everyone to be a PAL—Predictable, Alert and Lawful. This campaign educates motorists, pedestrians, cyclists, and micromobility users about how these devices work and educating users about the importance of being predictable.
- Baltimore, Maryland – The Baltimore Police Department's Training Unit recommended officers give warnings to riders, rather than tickets during the first year of operation. The department also developed a business card-sized educational piece that officers can use to start a conversation with riders.
- Atlanta, Georgia – The Atlanta Police Department filmed a Public Service Announcement to help the public understand the city's new scooter ordinance, including education on where users could ride, tips for riding with traffic, giving pedestrians the right-of-way and parking dos and don'ts.

Key Sources

- Governor's Highway Safety Association, (2020)

Advantages

Advantages	Public Agency	Public
Enhanced perception of safety	X	X
Relatively low cost	X	
Increased public awareness		X

Disadvantages

Disadvantages	Public Agency	Public
Difficult to determine effectiveness	X	

Images

IMAGE SOURCE: HTTPS://WWW.COMMUTERPAGE.COM/TOOLS-RESOURCES/BE-A-PAL-SHARE-OUR-STREETS/

IMAGE SOURCE: HTTPS://WWW.GHSA.ORG/SITES/DEFAULT/FILES/2020-08/GHSA_MICROMOBILITYREPORT_AUG31UPDATE.PDF

1.1.5 PILOT PROGRAMS

Overview

Pilot programs can be used for a variety of projects and are a common approach to implementing micromobility systems. A pilot implements a project or program for a defined length of time in order to test implementation and operation. They can be evaluated by a number of factors including cost, staff workload, relationship with partners, and public acceptance. Pilots typically range from anywhere between 3 months and 2 years.

In order to implement a pilot project, a municipality must determine how long the project will run, how it will be evaluated, and how often it will be evaluated (e.g., once complete or at regular intervals while in operation). Other considerations that are not necessarily unique to pilots include whether to procure equipment or enter into a contract with a service provider and how micromobility will be regulated and enforced.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- Calgary, Alberta – The City implemented a two-year pilot project from October 2018 to October 2020 leading to a staff recommendation to Council to permanently permit the technology.
- Portland, Oregon – The City of Portland has implemented two separate e-scooter pilots since 2018, having already had a bikeshare system since 2016. Evaluation of the pilots showed great success with 62percent of people saying they had a positive impression of e-scooters at the end of the first pilot.
- Montreal, Quebec – The city has had a bikeshare system since 2009 which has been one of the most successful bikeshare programs in Canada. However, in 2019, the City introduced e-scooters to its offering of micromobility options on a pilot project lasting 90 days but decided not to continue with this form of mobility following completion of the pilot.

Key Sources

- City of Calgary, (2021)
- Cities, Health, & Active Transportation Research Lab, (2020)

Advantages

Advantages	Public Agency	Public
Temporary commitment	X	
Flexibility to make changes	X	
Clear timeline for evaluation	X	
Lower cost than full implementation	X	
Small scale easier to manage	X	

Disadvantages

Disadvantages	Public Agency	Public
Requires political support	X	
Limited time to adapt if timeline is short	X	X

Images

Image source: https://electricautonomy.ca/2019/12/05/ontario-e-scooter-pilot-cleared-for-takeoff/

1.1.6 MICROMOBILITY TASK FORCE

Overview

Committees and task forces can help advance the development and implementation of a micromobility system. Having a group focusing time and effort on research and development of policies and regulations can speed up the process and result in better outcomes. Having a group comprised of diverse stakeholders (e.g. city staff, elected officials, general public, etc) can reduce the workload on city staff and work to bridge the gap between municipal interests and the public interest.

Leading such a taskforce may be considered by the existing ATAC. Consideration would need to be given to the process of selecting members of the public to ensure an informed and capable group is established. A clear mandate, timeline, and structure for providing feedback is essential to create an effective committee or task force.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☒ Low	☐ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Effort for Implementation			
☒ Low	☐ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- New Urban Mobility Alliance – While not associated with a specific municipality, this organization brings together policy makers, researchers, and advocates to develop actionable information about new mobility with a focus on improving local policies.
- Pedestrian and Cycling Advisory Committees – Several municipalities across Canada have an active transportation advisory committee to assist with the delivery of active transportation projects.

Key Sources

- www.numo.global
- Federation of Canadian Municipalities

Advantages

Advantages	Public Agency	Public
Reduced workload on staff	X	
Potential for public involvement	X	X
Improved efficiency of developing outcomes	X	
Low cost if volunteer-based	X	

Disadvantages

Disadvantages	Public Agency	Public
Potential for a lack of meaningful feedback (depending on capacity of members)	X	

1.1.7 PRIVATE MICROMOBILITY SERVICE PROVIDERS

Overview

In many cities, private service providers such as Lime, Bird, or Roll enter into a contract with the City to provide micromobility services. These services often include funding and operation of the system, reducing risk and workload for municipal governments.

In order to use this method of service provision, a competitive procurement process may be required, depending on local policies. A detailed contract outlining the responsibilities of the company providing services is needed.

Application in Other Jurisdictions

- Calgary, Alberta – From 2018 to 2020 the City worked with service providers Lime, Bird, and Roll to carry out a two-year pilot project. The project was deemed successful and resulted in a staff recommendation to continue the partnership.
- Ottawa, Ontario – In 2020 the City of Ottawa hired Bird, Lime, and Roll to provide an e-scooter system in the city as a pilot. The City is bringing back e-scooters in 2021 with operators being selected through a competitive procurement process.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Effort for Implementation			
☒ Low	☐ Medium	☐ High	☐ Unable to Access

Key Sources

- City of Calgary, (2021)
- City of Ottawa, (2021)

Advantages

Advantages	Public Agency	Public
Relatively low risk	X	
Proven technology	X	X
Reduced workload on staff	X	
Lower cost than implementing own system	X	

Disadvantages

Disadvantages	Public Agency	Public
Less control over the system	X	x

Images

IMAGE SOURCE: HTTPS://WWW.BOSTONGLOBE.COM/METRO/MASSACHUSETTS/2018/08/03/WITH-BIRD-SCOOTERS-ABOUT-PULLED-DECIDED-CAMBRIDGE-STREETS-DECIDED-FREE-ONE-FREE-WITH-BIRD-SCOOTERS-ABOUT-PULLED-OFF-CAMBRIDGE-STREETS/TI3JQNOHLR55RMEYG5JSTK/STORY.HTML

IMAGE SOURCE: HTTPS://WWW.INTELLIGENTTRANSPORT.COM/TRANSPORT-NEWS/88460/OVER-100-MILLION-RIDES-HAVE-NOW-BEEN-MADE-WITH-LIME/

1.1.8 INCENTIVE PROGRAMS

Overview

The cost of purchasing a subscription or paying a per-minute fare to use micromobility services can be prohibitive for people with low incomes. When implementing a system, it is important to consider how the system can be inclusive to all populations, ensuring the system is not exclusive. If residents are unsure of whether a micromobility system is worth their money, free trials can be offered to let people test the system before deciding to invest. If residents know they wish to use the service but cannot afford the fees, discounts can be offered to ensure everyone can make use of the service.

When selecting a micromobility service provider, consider if they offer free trials or discounts at their expense. If such services are not offered, develop a municipally funded discount program, as is done for Winnipeg Transit with the WINNpass.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Effort for Implementation			
☒ Low	☐ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- Portland, Oregon – As part of the e-scooter pilot program, providers are required to offer discounted pricing for residents living on low incomes. Discounts and eligibility depend on the company operating the scooter but ranges from 50percent off all rides to reduced unlock and per-minute rates.
- Bird Access & Lime Access – Service providers Bird and Lime both offer an "Access" program that offers discounted fares to low-income users. Lime also offers a large discount on the purchase of a Lime scooter or electric assist bike, geared toward those who do not have a smartphone. It is not clear whether these discounts apply in Canadian cities.

Key Sources

- Lime, (2021)
- Bird, (2021)

Advantages

Advantages	Public Agency	Public
Enhanced accessibility		X

Disadvantages

Disadvantages	Public Agency	Public
Difficult to determine cost (dependent on uptake)	X	

Images

IMAGE SOURCE: HTTPS://WWW.PORTLAND.GOV/TRANSPORTATION/ESCOOTERPDX/LOW-INCOME-PRICING-PLANS

1.1.9 ACTIVE TRANSPORTATION - TRANSIT NETWORK INTEGRATION

Overview

At the planning level, circulation networks (including transport networks) should be organized to share resources and maximize coverage. This could include high quality walkways and crosswalks around rapid transit corridor, parallel bike lanes along the corridor and feeding to transit stops and stations.

Pedestrian accessibility includes three critical components:

(1) distance from the neighbourhood to the corridor;

(2) crossing the corridor to access the station; and

(3) circulation inside the stations.

Techniques to integrate BRT and the bicycle network include:

- Conduct cycling connectivity study as part of the BRT expansion planning work.
- Ensure bicycle facilities exist on higher-volume, higher-speed roads approaching BRT stations to avoid gaps in access to the BRT stations from all approaches.
- Consider connectivity of BRT stations to existing high-usage bicycle routes, such as greenways. This will allow cyclists to ride to the stations, or ride to a different BRT line.
- Assign funding to upgrade the cycling infrastructure within 2.5 kilometers of BRT stations (i.e., 10 mins ride) alongside BRT capital costs.

Additional Information			
Type of Application			
☒ Planning	☒ Design	☐ Operations	☒ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☐ Medium	☒ High	☐ Unable to Access

Key Sources

- ITDP BRT Planning Guide

Application in Other Jurisdictions

- Ottawa (Canada) – Ottawa's bus rapid transit route is one of the world's most effective bus transit systems. Combined with the O-Train, they service every urban community and transport more than 50 percent of all people entering downtown. Extra attentions have been paid to ensuring safety and permeability for walking and cycling around catchment areas for rapid transit stations.

Advantages

Advantages	Public Agency	Public
Enhanced safety and accessibility to transit		X
Facilitate trip chaining		X

Disadvantages

Disadvantages	Public Agency	Public
Prerequisite for Bus Rapid Transit service / planning	X	
Long term strategy	X	

Images

Photo Source - Chapman Mills Dr. Ottawa (Google)

1.1.10 TRANSIT ORIENTED DEVELOPMENT

Overview

Today, more than ever, BRT technology is meaningful for its potential to provide cities with extensive, affordable, and high-quality public transport grids on which to redirect urban growth into walkable, convenient, well-connected, small-footprint and highly livable districts. BRT projects small and large bear the seeds of the walkable and public transport-oriented city. Walking is the foundation for sustainable and equitable access and mobility in a city. Restoring it or maintaining it as the primary mode of travel is pivotal to the success of inclusive TOD. Bicycles and other means of people-powered transport also activate streets and greatly increase the ridership catchment area of transit stations. They are highly efficient and consume little space and few resources. Cycling friendliness is therefore a fundamental principle of TOD. The City of Winnipeg has published the Transit-Oriented Development Handbook in 2011. By designating more transit-oriented land use around existing and future rapid bus stations, it creates a policy environment to prioritize walking and cycling and thus foster the active transportation-transit integration.

Additional Information			
Type of Application			
☒ Planning	☒ Design	☐ Operations	☐ Maintenance
☐ Data-related	☒ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☐ Medium	☒ High	☐ Unable to Access

Application in Other Jurisdictions

- Oakland (USA) – the Fruitvale Transit Village was designed by and for the neighbourhood surrounding the station, with the goal to increase pedestrian and bicycle traffic and revitalize the neighbourhood.

Key Sources

- ITDP BRT Planning Guide
- City of Winnipeg Transit-Oriented Development Handbook (2011)

Advantages

Advantages	Public Agency	Public
Enhanced accessibility to transit		X
Densified mixed land use increases active transportation demands		X
Improved active transportation amenities and infrastructure near transit facilities		X

Disadvantages

Disadvantages	Public Agency	Public
Prerequisite for Bus Rapid Transit service / planning	X	
Long term strategy	X	

1.1.11 IMPROVE AMENITIES AT RAPID TRANSIT

Overview

To ensure transit services are attractive for people who arrive by walking and cycling, appropriate on-site amenities need to be provided for user safety and comfort, such as heated shelters, e-bike charging storage locker and secured bike parking.

Although there are high levels of success for these measures in other Canadian, American, and European cities it is noted that Winnipeg Transit has experienced issues with on-site amenities in terms of underutilization or misuse. Therefore, it is imperative to assess the site conditions in its implementation, making sure the safety and network connectivity standards are met while amenities can be provided in an equitable manner.

Planned BRT expansions should include ample supply of both short- and long-term bike parking solutions at major stations alongside other amenities such as bicycle repair stands, e-bike charging, etc. Smaller stations still require sufficient accommodation for cyclists but scaled accordingly.

All BRT stations should be designed in such a way that they are comfortable to access and wait in for all users throughout the year taking into considerations the exposure to weather experienced by pedestrians.

Additional Information			
Type of Application			
☒ Planning	☒ Design	☐ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Key Sources

- The Société de transport de Montréal
- Groningen Cycling Strategy 2015-2025

Application in Other Jurisdictions

- Groningen (Netherlands) – the Zuidhorn Park & Ride in the city of Groningen offers a variety of bicycle parking options, including two-tiered bike racks and e-bike charging and storage lockers.
- Montreal (Canada) – near the Lionel-Groulx station, transit users who arrive by bike can enjoy free use of the controlled-access bike shelter. Advance registration is required to access the shelter, using an electronic key loaded on their OPUS card.

Advantages

Advantages	Public Agency	Public
Facilitate trip chaining		X
Improve comfort and security		X

Disadvantages

Disadvantages	Public Agency	Public
Increase in operating costs	X	

Images

PHOTO SOURCE - HTTPS://GOO.GL/MAPS/MQQX7KBWWWPPFB1S8

PHOTO SOURCE - HTTP://WWW.STM.INFO/EN/INFO/ADVICE/BICYCLES/BIKE-SHELTER-LIONEL-GROULX-STATION

1.1.12 BICYCLE ACCOMODATION ON BUSES

Additional Information			
Type of Application			
☐ Planning	☐ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Overview

Currently, Winnipeg cyclists can take their bikes along for their bus ride using racks installed on the front of select Winnipeg Transit buses, in all seasons but winter.

Expanding this program to all buses that operate along BRT and other primary bus routes during all seasons would improve the reliability and predictability of the service for users. Expansion of this program should focus on providing consistent, predictable service such that users can easily understand and predict which buses they should expect to have accommodation for bicycles.

Expansion of this program should be accompanied with education and awareness programming which helps users get comfortable with loading and unloading their bikes onto the bus. This may include having a rack in a fixed location (such as a BRT stop) to let passengers practice using the system.

Application in Other Jurisdictions

- Edmonton (Alberta) – Since 2014, all full-size and articulated buses are equipped with bike racks which are used in four seasons.
- Ottawa (Ontario) - OC Transpo operates the Rack & roll program on all buses which operate on their BRT system. However, this system is limited to three season use.
- York Region (Ontario) – York Region transit (Viva) has an extensive offering of bike racks on busses along with online instructional videos for how to use them, other promotional materials, and trial locations and staff to assist passengers with becoming comfortable with their use.

Key Sources

- City of Edmonton
- City of Ottawa
- York Region

Advantages

Advantages	Public Agency	Public
Facilitate trip chaining		X

Disadvantages	Public Agency	Public
Increase in operating costs	X	
Can slow boarding times	X	X

Image

Photo Source - City of Ottawa

1.1.13 BUS STOP SPOT IMPROVEMENT PROGRAM

Overview

For numerous transit stops that do not have a landing platform or sidewalk connections, a spot improvement program with budget allocation can be developed to address their connectivity issues. Improvements can include building standard bus stop and amenity pad, sidewalk connectors and curb ramps.

Criteria for selection priority can be based on the number of public inquiries or the number of boarding/alighting passengers at the transit stop.

Additional Information			
Type of Application			
☐ Planning	☒ Design	☐ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☒ Low	☐ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Effort for Implementation			
☒ Low	☐ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- Edmonton (Canada) – Edmonton Transit has a similar program in place to tackle approximately 30 bus stops every year to improve user accessibility.

Key Sources

- City of Edmonton

Advantages

Advantages	Public Agency	Public
Improve accessibility to bus stops		X

Disadvantages

Disadvantages	Public Agency	Public
Increase in capital costs	X	

1.1.14 INTERNAL COST SHARING

Overview

Funding for active transportation projects explicitly through active transportation plans is often limited, but many cities have drawn upon other internal funding sources that can be applied to various project types. This is to say that the burden of funding active transportation projects is shared by multiple departments or programs due to the broad reaching impacts of active transportation programs. Departmental budgets that fund projects related to road safety, environment/sustainability, COVID-19, public health, and transit can be potential sources of funding for active transportation related projects. Coordinating multiple funding sources within the City can present opportunities to fund projects that may not have been fully budgeted at the planning stage or that don't cleanly into one departments mandate. Development charges are also a common local funding source for capital intensive active transportation infrastructure projects.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☐ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☒ Other
Approximate Cost			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Effort for Implementation			
☒ Low	☐ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- City of Ottawa
- City of Vaughan
- Vancouver

Key Sources

- City of Ottawa

Advantages

Advantages	Public Agency	Public
Local funds may be easier to access than other levels of government funding	X	

Disadvantages

Disadvantages	Public Agency	Public
Local funding sources are limited	X	
Funding amounts are limited	X	

1.1.15 PROVINCIAL AND FEDERAL FUNDING OPPORTUNITIES

Overview

Provincial and federal funding sources represent additional opportunities for funding and can result in greater amounts. Programs will vary by province so research into the Manitoba context would be required. Examples of this level of funding may include active transportation grants, infrastructure capital cost sharing, road safety grants, sustainability initiatives, COVID-19 recovery funding, and stimulus programs. Programs geared to more specific projects may also be available. Federal programs drawn upon from peer jurisdictions include:

- Building Canada Fund
- Public Transit Infrastructure Fund (PTIF)
- Investing in Canada Infrastructure Program
- Federation of Canadian municipalities
- Green Municipal Fund (FCM)
- Federal gas tax transfer
- Trans Canada Trail Funding
- Rail Safety Improvement

Additional Information			
Type of Application			
☐ Planning	☐ Design	☐ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☒ Other
Approximate Cost			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Effort for Implementation			
☒ Low	☐ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- Ontario – Examples of specific funding opportunities in Ontario include the Ontario Municipal Commuter Cycling Program, Ontario Municipal Infrastructure Program, and the York Region Pedestrian and Cycling Municipal Partnership Program.
- British Columbia – Examples include the TransLink Walking Infrastructure to Transit program and the TransLink Bicycle Infrastructure Capital Cost Sharing program.
- Alberta – Examples include the Municipal Sustainability Initiative and the Municipal Stimulus Program.

Key Sources

- York Region, (2020)
- Winnipeg PCS Jurisdictional Review

Advantages

Advantages	Public Agency	Public
May provide greater funding amounts	X	
Variety of programs and applications	X	

Disadvantages

Disadvantages	Public Agency	Public
May be more difficult to access than internal sources	X	
Coordination of funding matching	X	

1.1.16 BUILD ON EXISTING ROUTES

Overview

One way to reduce costs while significantly improving the quality of cycling infrastructure is to focus on improving existing routes before seeking to expand or build new infrastructure. This approach will take on different forms depending on the application. In a cycling network, improvements aimed and improving comfort and safety of existing routes may be installing physical separation elements for a bike lane along a busy route before building a new route. This may also include adding short connections to key destinations from existing routes. Projects will also be more cost-efficient if completed in tandem with other resurfacing or reconstruction projects.

Making efficient use of funds is equally as important as acquiring funding. Effective budgeting and prioritization of projects is key to achieving goals with a limited budget. Policies with respect to improvements and maintenance establish a supportive basis for decision-making.

Additional Information			
Type of Application			
☒ Planning	☐ Design	☐ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- Waterloo, Ontario – In 2019 the Region began a pilot project making minor improvements to existing cycling infrastructure to test different separated cycling lane treatments including bollards and rubber curbs.
- Cambridge, Massachusetts – In 2019, the City passed a Cycling Safety Ordinance that made it a requirement to build protected cycling infrastructure on streets in the Cambridge Bicycle Plan when they are being reconstructed. In October 2020 this ordinance became law.

Key Sources

- Adams, B., (2019)
- Cambridge Bicycle Safety, (2019)

Advantages

Advantages	Public Agency	Public
Cheaper to implement	X	
Easier to implement	X	
Improves mobility		X
Improves safety (cyclists)	X	X
Potentially more politically favourable	X	

Disadvantages

Disadvantages	Public Agency	Public
Slower improvement of transportation network	X	X

Images

PHOTO SOURCE: HTTPS://WWW.KITCHENERTODAY.COM/LOCAL-NEWS/REGION-APPROVES-SEPARATED-BIKE-LANES-FOR-UNIVERSITY-DISTRICT-1655654

1.1.17 PEDESTRIAN CROSSING SAFETY PROGRAM

Overview

Safe crossing of major roadways is identified as a major barrier to walking for Winnipeggers. As such a broad reaching program to roll out controlled pedestrian crossing measures at key locations across the city would improve safety, comfort, and convenience.

Crossings may be identified on a resident request basis alongside a staff review of adjacent pedestrian volumes, land use, and historic safety data. Improvements may include the installation of a controlled crossing, or at locations where a crossing already exists, improved safety measures such as a raised crossing, bulb-outs, or a refuge island may be considered. Similar measures should be considered at signalized intersections alongside leading pedestrian phases or protected phasing where appropriate.

Such a program which does not have preidentified projects allows for flexibility as new and evolving demands are identified across the city.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Advantages

Advantages	Public Agency	Public
Enhanced safety	X	X
Improved connectivity		X
Flexible	X	X

Disadvantages

Disadvantages	Public Agency	Public
Flexible	X	
Can become politically driven	X	X

1.1.18 TARGETED ILLUMINATION PROGRAM

Overview

Encouraging walking any time of day requires that pedestrians feel safe. This includes traffic safety, but also personal security. Winnipeggers have identified feeling safe while walking at night as their top concern while walking.

While feelings of safety rely on many issues related to public safety and other socioeconomic conditions, illumination is considered the most readily available measure that can improve feelings of safety at night.

As Winnipeg already provides illumination on many of its facilities, it is proposed that a targeted illumination improvement program be considered. This program would consult with communities to identify particular corridors and locations that suffer from under illumination given the context. This may include, but not limited to:

- Public art pieces that include lighting
- Pedestrian scale lamp posts to supplement roadway lighting
- Ground level lighting along multi-use pathways and through parks

As feelings of unsafety while walking at night are felt disproportionately by women, particular attention should be paid to engaging them fully to ensure concerns are addressed in a meaningful way.

Additional Information			
Type of Application			
☒ Planning	☐ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☐ High	☒ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Advantages

Advantages	Public Agency	Public
Targeted based on community input	X	X
Flexible	X	X

Disadvantages

Disadvantages	Public Agency	Public
Partial Measure	X	
Cost	X	X

1.1.19 COMPLETE STREETS POLICY

Overview

Safety is a major concern for residents that can be addressed with the provision of safe infrastructure. Collector and arterial roadways are often significant challenges to retrofit on an individual basis with safe cycling facilities as a result of a lack of political will. Complete streets policies which require the safe accommodation of all users on all streets can help alleviate these location specific challenges by establishing a new normal for how streets should be designed across the city.

Complete streets policies and guidelines have been effective tools in many cities to establishing the requirement for safe active transportation. These policies alleviate the need to re-justify the merit of safety improvements for each new project that arises.

Additional Information			
Type of Application			
☐ Planning	☐ Design	☐ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☒ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Advantages

Advantages	Public Agency	Public
Enhanced safety	X	X
Improved connectivity		X
Reduced burden on project-by-project basis	X	
Establishes clear expectations	X	X

Disadvantages

Disadvantages	Public Agency	Public
Effort to develop guidelines	X	
Requires political support	X	

1.1.20 NEIGHBOURHOOD GREENWAYS

Overview

While the neighbourhood greenway in Winnipeg is growing rapidly, it still faces significant network gaps which could take significant time to fill if major roadways are relied upon for key links in the near term. While arterials and collectors have a critical role to play in the bike network as they provide direct route options and access to the many amenities located along them, neighbourhood greenways (on local streets) can be lower cost, quicker to implement and less impactful to the broader transportation network in the near term. They also provide opportunity to improve the overall quality of space on these streets through reducing noise, emissions, and increased greening.

For neighbourhood greenways to be successful they need to achieve an AAA level of comfort, along with a high level of directness by providing crossing opportunities at major roadways. The current pilot targeting traffic calming measures to achieve a 30km/h operating speed and reducing traffic volumes to <1500 ADT is critical to success. This is reflected by the experience of other cycling in cities such as Vancouver, Toronto, Portland, Montreal, and many others.

Additional Information			
Type of Application			
☒ Planning	☒ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Winnipeg should establish clear design guidance on neighbourhood greenways drawing upon the pilot program to roll them out in a pragmatic and effective manner.

Advantages

Advantages	Public Agency	Public
Enhanced safety	X	X
Improved connectivity		X
Reduced cut-through traffic		X
Limited broader impacts	X	X
Cost	X	X
Public realm improvements		X

Disadvantages

Disadvantages	Public Agency	Public
Access to major streets		X
Directness		X

Image

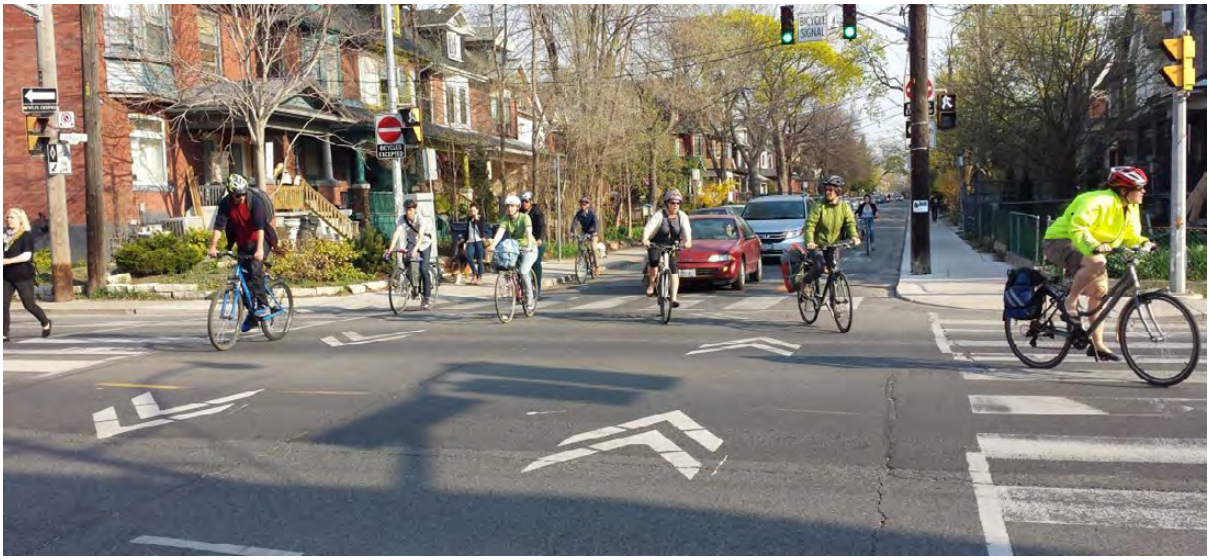


Photo Source: CycleTO

1.1.21 CONSTRUCTION ZONE MITIGATION PLANS

Overview

Construction impacts all users of the right of way but tends to have more significant impacts on pedestrians and cyclists. Often when site redevelopment occurs sidewalks and cycling facilities are the first to impacted. Roadway construction also impacts active transportation users to a greater extent as they are more sensitive to surface changes.

Contractors should be required to submit construction zone mitigation plans which outlines the measure they will take to ensure that the mobility and safety of pedestrians and cyclists is maintained. These plans must be accompanied by an enforcement strategy that ensures the measures proposed are undertaken.

The City of Winnipeg should also develop its own guidelines for how it will maintain a similar level of service for pedestrians and cyclists during a construction project. This includes installing temporary detours when key routes are not accessible.

Additional Information			
Type of Application			
☒ Planning	☐ Design	☒ Operations	☐ Maintenance
☐ Data-related	☐ Land Use	☒ Policy or Regulation	☐ Other
Approximate Cost			
☐ Low	☒ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Application in Other Jurisdictions

- Copenhagen
- North Vancouver
- Ottawa

Advantages

Advantages	Public Agency	Public
Enhanced safety	X	X
Improved network reliability		X

Disadvantages

Disadvantages	Public Agency	Public
Enforcement effort	X	
Negotiation with contractors	X	

1.1.22 STATE OF WALKING AND CYCLING REPORT

Additional Information			
Type of Application			
☒ Planning	☐ Design	☒ Operations	☐ Maintenance
☒ Data-related	☐ Land Use	☐ Policy or Regulation	☐ Other
Approximate Cost			
☒ Low	☐ Medium	☐ High	☐ Unable to Access
Level of Success in Other Places			
☐ Low	☐ Medium	☒ High	☐ Unable to Access
Effort for Implementation			
☐ Low	☒ Medium	☐ High	☐ Unable to Access

Overview

The purpose of a state of conditions report is two-fold. On the one hand, it holds the local government accountable for keeping up with their active transportation goals and promises, while on the other hand is well as gauges public perception on existing conditions. Results included in the report cover modal share, funding spent, travel time, conditions of facilities, trip types, perception of safety, crash data, as well as survey results of what the public would like to see done to further improve conditions for active transport.

Modelled after Copenhagen's biennial *Bicycle Account* report, Memphis, Tennessee, also publishes the *State of Bicycling*. In 2016 York Region, ON also published a *State of Cycling* report describing their progress and gaps in cycling policy, infrastructure, and cyclists themselves. Similarly, city staff should seek to develop a similar report for Winnipeg to be issued on an achievable frequency to gain insight into the status of cycling. Currently there are limited procedures in place to collect cycling related data in Winnipeg. An appropriate data collection program with the components outlined in the overarching themes in the summary will be important to moving a state of cycling report forward.

Copenhagen's *Bicycle Account* - http://www.cycling-embassy.dk/wp-content/uploads/2018/02/CPH-Bicycle-Account-2016.pdf

Memphis', TN, *State of Bicycling* - https://bikepedmemphis.files.wordpress.com/2015/06/state-of-bicycling-2016-final.pdf

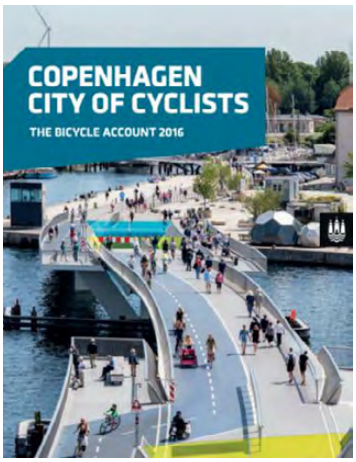
Advantages

Advantages	Public Agency	Public
Accountability	X	
Provides insight on public perception		X

Disadvantages

Disadvantages	Public Agency	Public
Requires administrative effort	X	

Images



STATE OF BICYCLING REPORT OF MEMPHIS, TN, 2016 (LEFT) AND COPENHAGEN'S BICYCLE ACCOUNT 2016 (RIGHT).

APPENDIX B

CURRENT STATE OF WALKING AND CYCLING IN WINNIPEG

TABLE OF CONTENTS

CURRENT STATE OF WALKING AND CYCLING IN WINNIPEG

Land Use Demographics and 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.

Demographics

- **Winnipeg is rapidly growing, and this is expected to continue in the future.** In 2021, Winnipeg's population was approximately 750,000 residents[1]. This had increased from 660,000 in 2011 – an increase of 13.6percent over this period. By 2050, the city's population is expected to grow by an additional 160,700 residents[2] as reported by the Winnipeg Metropolitan Regions' 20-50 Regional Growth and Servicing Plan. 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 Complete Communities.

  In 2021, the broader Winnipeg metropolitan area's population was 835,000[3]. Close to 90percent of the region's population resides in Winnipeg.

- **Winnipeg has relatively low population density but this is increasing with the recent levels of population growth.** Currently, Winnipeg has a population density of approximately 1625 persons per square kilometre, or approximately 16.3 persons per hectare, as reported by Statistics Canada. 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.

- **Winnipeg has a higher-than-average youth population, and this balances the future increase in the aging population.** The age distribution in Winnipeg is like many Canadian cities. According to the 2021 census, young people aged 15-24, made up 13.2percent of Winnipeg's population, which is slightly higher than the national average for this age group (12.4percent). Young people predominantly rely on transit, walking and cycling to access school and services. Winnipeg's

[1] 2021 Census of Population, Statistics Canada

[2] Metro economics, urbanMetrics, 2020

[3] 2021 Census of Population, Statistics Canada

population is aging and residents over the age of 65 make up 17.0percent 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 between 2011 and 2016 with an average 8,000 new immigrants per year moving to the city, according to the 2016 census. Newcomers often rely on public transit, walking and cycling more as they get settled in a new city.

- **Winnipeg has one of the largest Indigenous populations in Canada.** According to the 2021 Census, 2.9percent of Winnipeg's urban population is reported as First Nations and 6.0percent as Metis. The median age of the first nations population in Winnipeg is between 25-34 years old compared to 39 years of age for the non-indigenous 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.

- **Winnipeg maintains a robust employment rate through large local employers in the agriculture and manufacturing sectors.** In 2021, there were approximately 367,000 employed in the labour force in Winnipeg, which represented approximately 90percent of total employment in the Winnipeg metropolitan area, according to the 2021 census. 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.**[4] 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,

[4] Extracted from Winnipeg's Pedestrian and Cycling Strategies (2015)

the neighbourhood profile of Fort Gary reveals that young people aged 15 to 25 make up 17.7percent of the population, yet only 3.3percent of the total population walks (and 1.3 percent cycles). This may indicate an opportunity to increase walking and cycling levels in this area.

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 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 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.

Land development and community design have 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[5].

- **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,

[5] Extracted from Winnipeg's Pedestrian and Cycling Strategies (2015)

Osborne Village, South Osborne, Point Douglas, River Heights, and the Burrows / Inkster neighbourhoods. Within downtown, most residents are near 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 Centre, University of Manitoba, University of Winnipeg, RRC Polytech (Exchange District and Notre Dame), St. James industrial area and the airport industrial lands. Examining travel demand by sector or areas enables us to improve conditions for walking and cycling through planning, policy, and programing. Appropriate travel demand management strategies can be employed to reduce vehicle trips.

- **Community facilities.** Many of Winnipeg's important cultural and civic facilities are 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 to enable non-motorized transportation when visiting these locations.

- **Schools.** Winnipeg has six school divisions and sub-districts, with a total of 363 schools (under Provincial jurisdiction. Winnipeg also has numerous post-secondary institutions including the University of Manitoba, University of Winnipeg, Canadian Mennonite University, Université de Saint-Boniface, and RRC Polytech, 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.

- **Major transit nodes.** 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. 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 regional, community and neighbourhood parks, community gardens, scenic trails, and pathways. There are over 1,200 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-road trails and pathways can be used for utilitarian trips and incorporated into pedestrian and cycling networks.

Public opinion on walking and cycling

This section presents the results from each of the three phases of public engagement that was part of the TRANSPORTATION 2050 process. The project presented a variety of transportation issues that were grouped into seven key directions. Key Direction 6: *enhance active transportation opportunities* was presented alongside the other directions to solicit feedback through online meetings and survey. The information distilled from these events was used to gauge current public opinion on walking and cycling in Winnipeg. a listing of what was heard, organized under the headings of values, current use, transportation wants, and transportation barriers.

Phase 1

This phase is presented as a listing of what was heard, organized under the headings of values, current use, transportation wants, and transportation barriers.

1. **Values**
    a. Winnipeggers value safety above all else when it comes to transportation. *Three in five say safety is "extremely important" as they move about the city.*
    b. Reliability is also of great importance to Winnipeggers. *This idea emerged and was ranked highly through work with stakeholders.*
    c. Convenience is a major consideration for most Winnipeggers when choosing what transportation type to use. *The exception to this is cyclists, who do not list convenience as a top reason to cycle.*
    d. Care for the environment is a key reason why Winnipeggers carpool, take transit, bike or walk. *This was listed among the top three reasons for using each transportation type. The exception to this is walking, where the environment was listed in the top three reasons in the online survey but did not appear in the top three of the statistically significant survey.*
    e. Personal health is a key reason why Winnipeggers walk or bike. *Health was listed in top three reasons for using each transportation type.*
    f. Cost savings is a key reason why Winnipeggers carpool, walk, take transit, or bike. *This was among the top three reasons for carpooling, taking transit, or biking. For walking, cost savings was in the top three reasons in the statistically significant survey but not the online survey.*
    g. Equity and inclusiveness are important to some Winnipeggers. *This idea emerged and was ranked highly through work with interest-specific stakeholders.*
2. **Current use**
    a. Most Winnipeggers choose to get around by car. *A notable 83percent say they always commute by car compared to 5percent who always commute on foot (or with a mobility device), 4percent who always commute by bus (including Transit Plus) and 2percent who always commute by bike.*

b. Moving around Winnipeg is seen as easiest most frequently by those who travel by car. 93*percent of car drivers/passengers find it easy to get around.*

c. Half of Winnipeggers leave their neighbourhoods to socialize, recreate, or work. *Living close to work, family and friends, affordable and healthy food, and recreation are all top considerations for Winnipeggers when choosing a place to live. However, visiting friends and family was reported as happening outside their neighbourhood by 58percent of Winnipeggers, followed by viewing arts and culture (42percent), and work (40percent).*

3. Transportation wants

a. Better maintained roads are among the topmost desired improvements by 2050. *This want was in the top three options on both the statistically significant survey (56percent want) and the online survey (42percent want).*

b. Effective expressways are among the most desired improvements by 2050. *This want was in the top three options on the statistically significant survey (38percent want). The second round of stakeholder meetings focused on 'future options and opportunities' for Winnipeg's transportation network. These included opportunities such as completion of a full ring road, and design and implementation of an inner ring road and cycling lane.*

c. Fewer potholes are among the most desired improvements by 2050. *This want was in the top three options on the statistically significant survey (33percent want).*

d. Better bike infrastructure is among the most desired improvements by 2050. *This want was in the top three options on the online survey (54percent want). Stakeholders desired the repurposing of rail lines for active transportation or light rail routes.*

e. Better bus service is among the most desired improvements by 2050. *This want was in the top three options on the online survey (45percent). Stakeholders desired the repurposing of rail lines for active transportation or light rail routes.*

f. Winnipeggers would like to shift toward more active and greener transportation alternatives. *For instance, two in five say they drive more often than they would like, and the 62percent of Winnipeggers (67.1percent online respondents) say they do not bike as often as they would like.*

g. There is an interest in improving connections between transportation modes. *Stakeholders noted a desire to combine walking or biking a portion of a single trip with another mode, such as transit or car.*

h. Winnipeggers want to get where they are going within 16-30 minutes. *Most respondents (61.4percent) indicated that a commute time of 16-30 minutes across all transportation types is most reasonable.*

4. Transportation barriers

a. Winnipeg's current network does not particularly support ease of use for those who travel by modes other than car. *Those who often travel by bike reported the greatest difficulty*

getting around (36percent indicating travel is somewhat hard or very hard). This was followed by traveling by foot (35percent indicating travel is somewhat hard or very hard), by bus (25percent indicating travel is somewhat hard or very hard).

b. Cyclists are concerned with a lack of safe public places to lock up a bike. *This was the top concern of cyclists within the statistically significant survey.*

c. Bad or angry driving causes difficulties for cyclists. *Those who say it is hard to bike in the city cited bad or angry drivers as a top reason for cycling difficulty (89percent of cyclists in statistically significant survey and top in online survey).*

d. Inconsistencies in cycling infrastructure and connections sometimes leave users stranded or forced into unsafe conditions. *Those who say it's hard to bike in the city cited gaps in bike infrastructure as a top reason for cycling difficulty (87percent of cyclists in statistically significant survey and top response in online survey). Stakeholders also identified this issue. The top locations for issues on the online mapping tool were bridges, river paths and railway crossings.*

e. Pedestrians feel unsafe walking at night. *This was the top concern of pedestrians within the statistically significant survey.*

f. Poor sidewalk conditions make it difficult to get around by foot. *Those who say it is hard to walk in the city cited poor sidewalk conditions or snow removal as a top reason for walking difficulties (85percent of pedestrians in statistically significance survey and top answer in online survey).*

g. Both pedestrians and cyclists want to be able to move around construction sites more easily. *Stakeholders noted lack of accessible alternative routes around construction sites.*

h. Transportation issues prevent some Winnipeggers from participating in activities. *More than a third of online respondents said transportation issues are the reason why they do not participate in some activities. The top answer for an activity the respondents do not participate in because of transportation issues is shopping – non-essential chosen by 50.8percent of respondents facing this barrier. Other commonly chosen answers were volunteering (41percent), attending self-development courses or recreational activities (39.7percent), accepting employment (33.3percent), and dining out (31percent).*

Phase 2

This phase is presented as an exurb from the TRANSPORTATION 2050 Phase 2 Public Engagement Report. The following outlines the results of the discussions from Key Direction 6: *enhance active transportation opportunities*

Summary

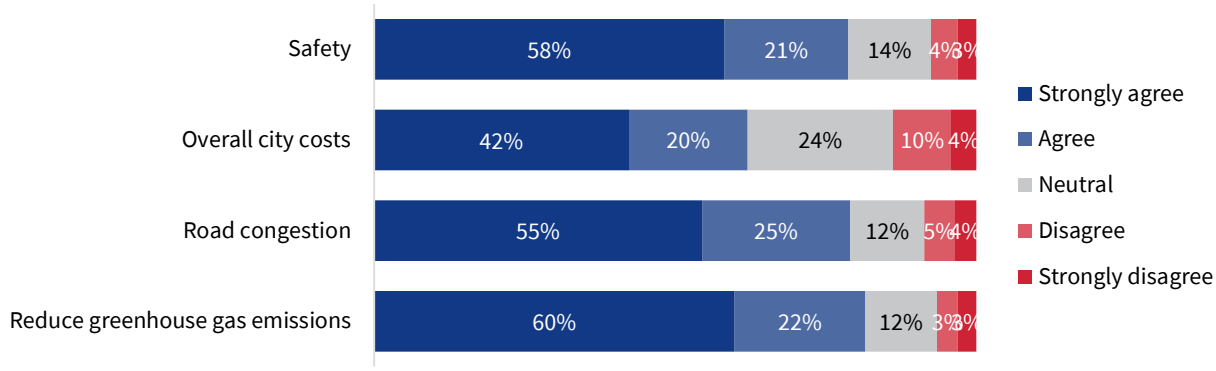
Workshop participants expressed mixed feelings about the strategies and proposed opportunities to enhance the active transportation network. While most feel the plan has potential intention to improve the

active transportation network, we heard some believe it can only be implemented if the overall budget and priorities shift to align with the Pedestrian and Cycling Strategies.

Online Survey Insight

To help gauge Winnipeggers' overall thoughts on active transportation, online survey participants were asked to consider improving connectivity in active transportation networks as a strategic approach. Specifically, they were asked whether they believe actions related to this strategy could support improvements to the four key issues facing the City's transportation network:

Graph 14: Strategy 6.1 Improve connectivity in the active transportation networks - Do you believe this strategy will support improvements to...
615 responses



With that in mind, the survey also asked whether implementation of this strategic approach would have a positive impact on their own lives. Most respondents (77 percent) feel such an approach would have either a strongly positive or positive change on their life. 15 percent of respondents feel this would have a neutral change on their life, 6 percent feel it would have a negative or strongly negative impact on their life and 2 percent are unsure (Appendix M).

COMMON THEMES

Some common themes emerged throughout the stakeholder and public workshops, including participants desire for the City to:

- Better connect the active transportation network (cycling routes in particular) as Winnipeggers will not use it if it has gaps
- Enhance winter maintenance as it is key to achieving year-round mode shift

- Anticipate and strategize ways to overcome resistance from Winnipeggers if road space is reallocated away from cars to active modes (recognizing this is necessary to meet active transportation and climate goals)

Participants also agreed widespread mode shift is being held up by a few key barriers, namely:

- Illumination – better lighting would create a sense of personal safety and help with visibility of obstacles and hazards
- Secure bike parking – more long-term and short-term parking is required throughout the city, at transit hubs, and at park and ride locations.
- Some suggested the City should consider partnering with businesses to implement bike parking programs
- Vehicle speeds – pedestrians and cyclists may feel safer with lower speed limits on residential streets or traffic calming measures that would otherwise lower speeds

All participants – both workshop attendees and online survey respondents – were asked what would encourage them to walk and bike more than they currently do. Results are broken down by public workshops and online survey, as the questions differed slightly.

Walking

At the public workshops, participants ranked what the City could do to encourage them to walk more than they currently do. They ranked answers in order of impact, from most impactful, to least impactful, as follows:

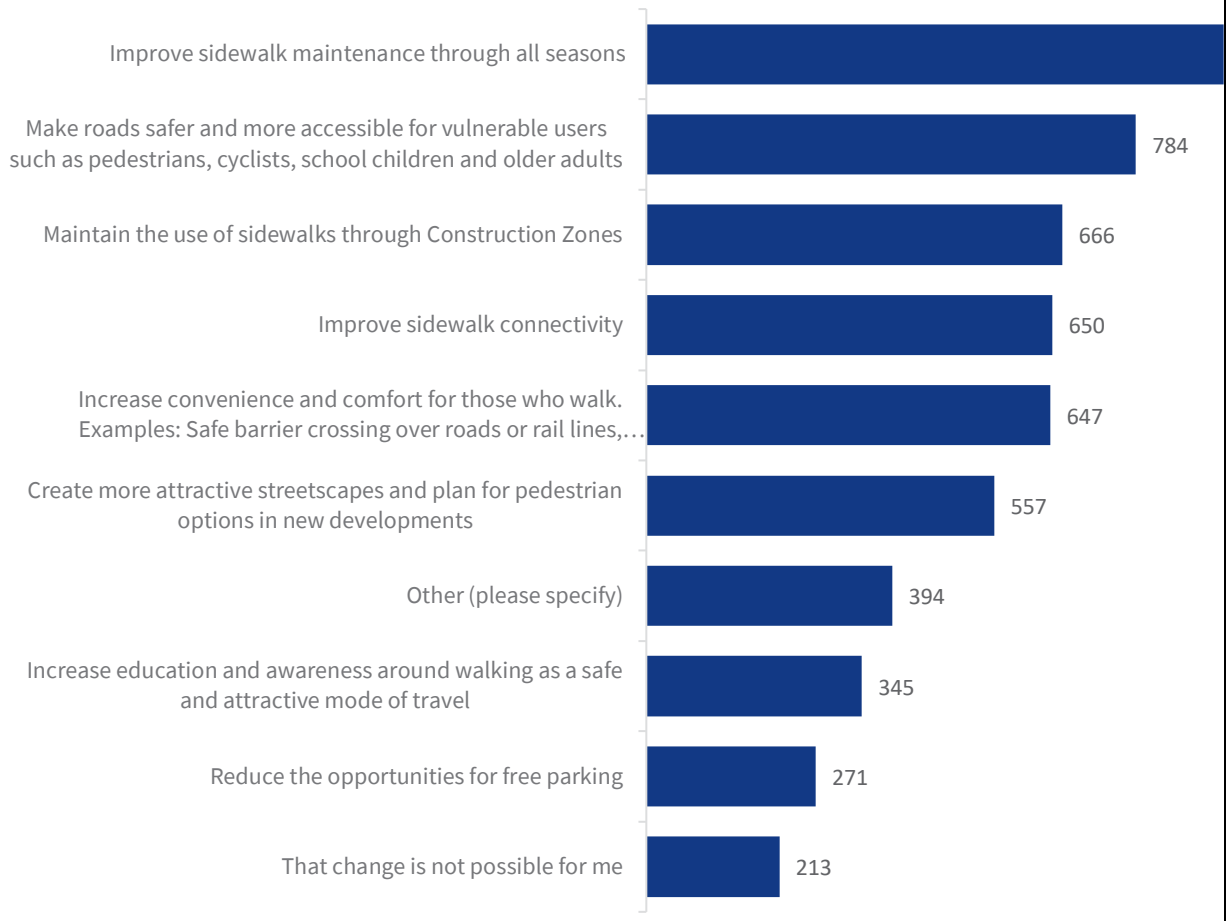
1. Improve sidewalk maintenance through all seasons
2. Make roads safer and more accessible for vulnerable users such as pedestrians, cyclists, school children, and older adults
3. Increase convenience for those who walk
4. Improve sidewalk connectivity
5. Maintain the use of sidewalks through construction zones
6. Create more attractive streetscapes and plan for pedestrian options in new developments
7. Reduce the opportunities for free parking
8. Increase education and awareness around walking as a safe and attractive mode of travel

Online Survey Insight

Online survey respondents were asked a slightly different question: what the City could do to encourage them to walk rather than drive for just one commuting trip a week.

They ranked answers in order of impact, from most impactful to least impactful, as follows (1,446 responses, multiple answers could be selected):

Graph 15: What could the City do to encourage you to walk rather than drive for just one commuting trip a week? Please choose all that apply.
1446 responses



In addition to ranking responses, participants (both workshops and online survey) indicated they may walk more often if:

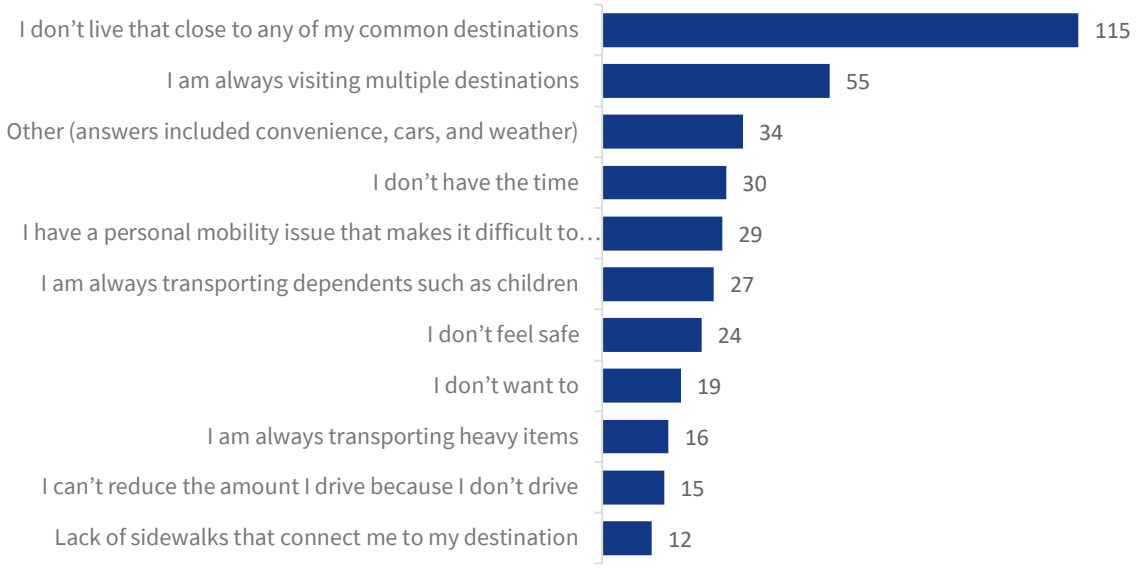
- The City were to make real-time information available online about the progress of pathway and sidewalk snow clearing
- The City added more sidewalks to the network
- They had an increased perception of safety
- Sidewalks were better illuminated
- Intersection crossings were better/safer
- More streets had more trees
- Policies/bylaws were changed

- Neighbourhoods were densified
- More bridges were crossable by active modes
- Sidewalk conditions were improved
- There was less noise pollution
- Large parking lots were more accessible and/or connected to the network
- Routes were cleaner

Online Survey Insight

Online survey respondents who indicated walking more is not an option for them were asked to provide more details (multiple answers could be selected):

Graph 16: You indicated that a shift to walking more is not an option for you. Please tell us if any of these reasons apply:
173 responses



Cycling

Workshop participants also ranked what the City could do to encourage them to bike more than they currently do. They ranked answers in order of impact, from most impactful, to least impactful, as follows:

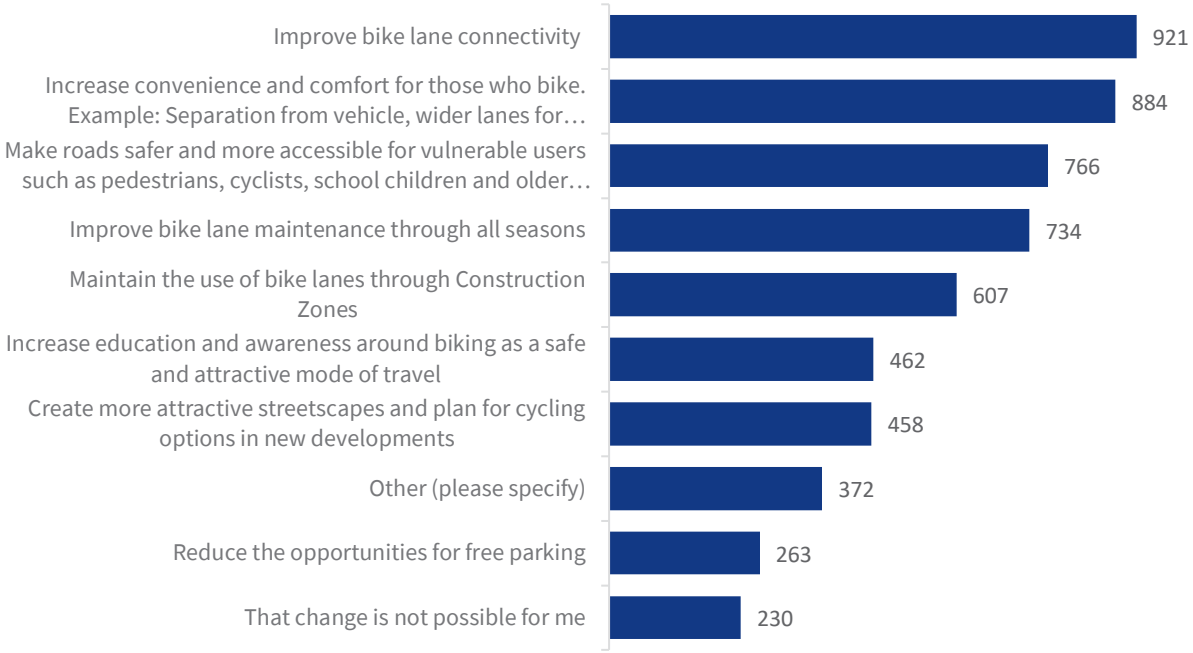
1. Improve bike lane connectivity to the network
2. Make roads safer and more accessible for vulnerable users such as pedestrians, cyclists, school children, and older adults
3. Improve bike lane maintenance through all seasons
4. Increase convenience and comfort for those who bike

5. Maintain the use of bike lanes through construction zones
6. Increase education and awareness around biking as a safe and attractive mode of travel
7. Create more attractive streetscapes and plan for cycling options in new developments
8. Reduce the opportunities for free parking

Online Survey Insight

Online survey respondents were once again asked a slightly different question: what the City could do to encourage them to bike rather than drive for just one commuting trip a week. They ranked answers in order of impact, from most impactful to least impactful, as follows (1,416 responses, multiple answers could be selected):

Graph 17: What could the City do to encourage you to cycle rather than drive for just one commuting trip a week?
1416 responses



In addition to ranking responses, participants (workshops and online survey) indicated they may bike more often if:

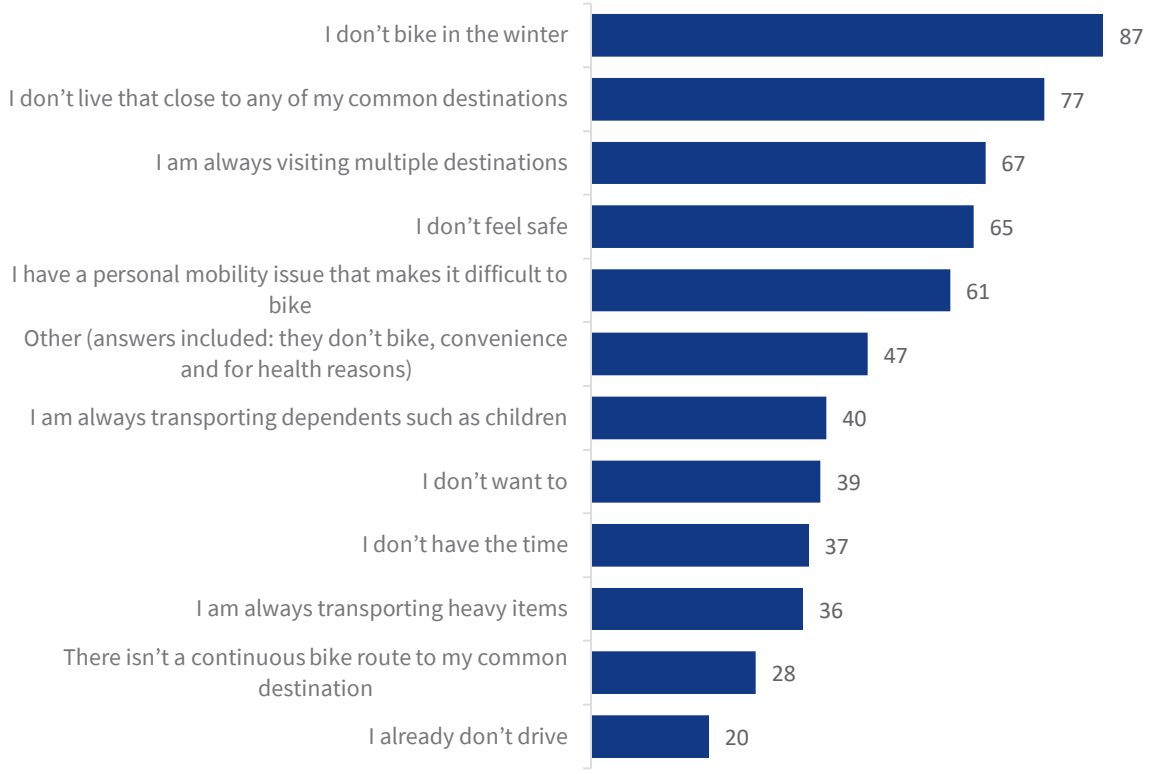
- The City was to provide more secure bike parking
- They felt safer

- Bike lanes were separated from vehicle traffic
- Crossings and intersections were easier/safer to navigate
- Vehicle lanes were narrowed to slow traffic
- More active transportation bridges were built
- Bike lanes and/or streets were better lit
- Railway crossings were improved
- Wayfinding was better
- The road and path surface were improved (reduced potholes, uneven paving, etc.)

Online Survey Insight

Online survey respondents who indicated biking more often is not an option for them were asked to provide more details (multiple answers could be selected):

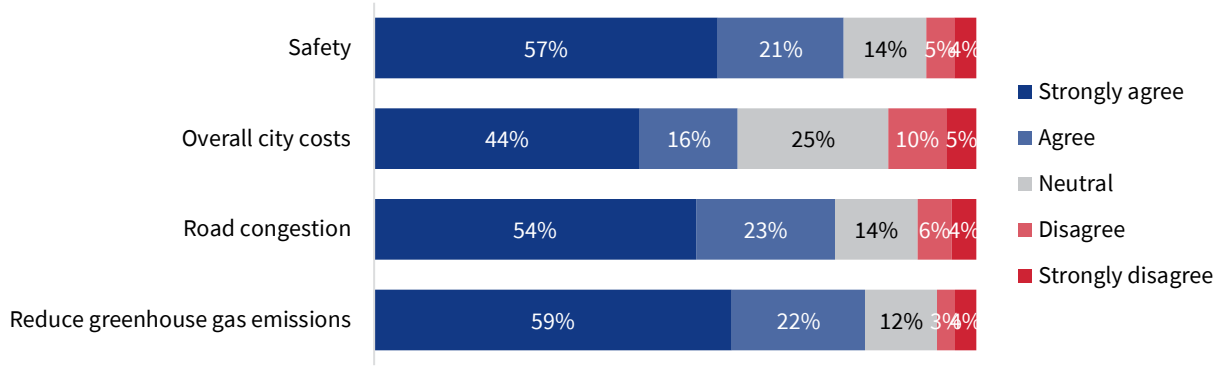
Graph 18: You indicated that a shift to biking more is not an option for you. Please tell us if any of these reasons apply:
207 responses



Online Survey Insight

Online survey respondents were asked if they believe increasing convenience and comfort for those who travel via active modes could make progress on the four key issues facing the City's transportation network:

Graph 19: Strategy 6.2 Increase convenience and comfort for those who travel via active modes - Do you believe this strategy will support improvements to...
615 responses



The majority of respondents (76 percent) feel this proposed strategy would either have a strongly positive or positive change on their life. 17 percent of respondents feel this would have a neutral change on their life, 7 percent feel it would have a negative or strongly negative impact on their life and 1 percent are unsure (Appendix M).

PRIORITIZATION OF IMPLEMENTATION OF NEW BIKE LANES

Workshop participants indicated the following additional priorities for new bike lanes:

- Safety – eliminate dangerous locations before a collision occurs
- Prioritize infrastructure near major trip generators and major destinations

PRIORITIZATION OF IMPLEMENTATION OF NEW SIDEWALKS

Stakeholders indicated the following additional priorities for new sidewalks:

- Prioritize building sidewalks adjacent to high-speed roadways (50 km/h or faster) where none currently exist
- Connect new sidewalks to schools, seniors' centres, major destinations, and commercial areas

PEDESTRIAN AND CYCLING STRATEGIES: ACTION ITEMS

All participants were asked their opinions on key action items proposed in the draft Pedestrian and Cycling Strategies.

At the public workshop, participants were asked to rank eight key action items in order of importance. They were ranked in the following order, from most important to least important:

1. Improve winter maintenance
2. TIE: Repurpose hydro and rail right-of-way and surplus road rights-of-way for active transportation
   TIE Implement the Road Safety Strategic Action Plan
3. Adapt and calibrate the Transportation Association of Canada's guidance for bike facilities
4. Better lighting
5. Include sidewalks on local streets in new developments
6. Introduce a bike share program
7. Connect to areas outside city limits

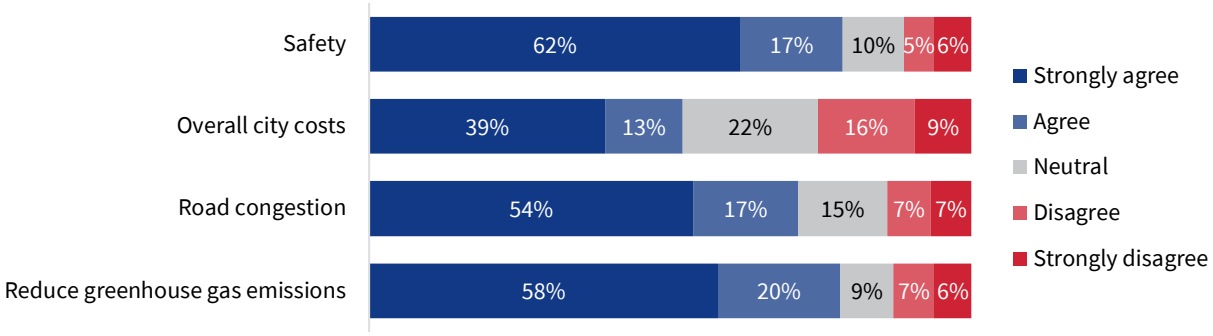
A key theme among all participants was that improved winter maintenance is key to achieve year-round shift to more active and sustainable modes of transportations. Workshop participants would like to see clearing of bike lanes prioritized over vehicular lanes and would like the City to more carefully consider details such as removal of small ridges and ensuring sidewalks are not blocked with piles of snow. Participants indicated Winnipeggers won't fully commit to active transportation unless they are able to do so year-round. Unsatisfactory winter maintenance of paths, sidewalks, and bike lanes incentivizes Winnipeggers to depend on driving.

Online Survey Insight

Online survey respondents were asked if they believe a strategic approach that improves operations and maintenance to enable walking and cycling in all seasons could improve each of the four key issues facing the City's transportation network:

Graph 20: Strategy 6.4 Enable walking and cycling in all seasons through improved operations and maintenance - Do you believe this strategy will support improvements to...

615 responses



Further to this, respondents were asked how such a strategy may impact their own lives. The majority of respondents (73 percent) feel this proposed strategy would either have a strongly positive or positive change on their life. 15 percent of respondents feel this would have a neutral change on their life, 10 percent feel it would have a negative or strongly negative impact on their life and 1 percent are unsure (Appendix M).

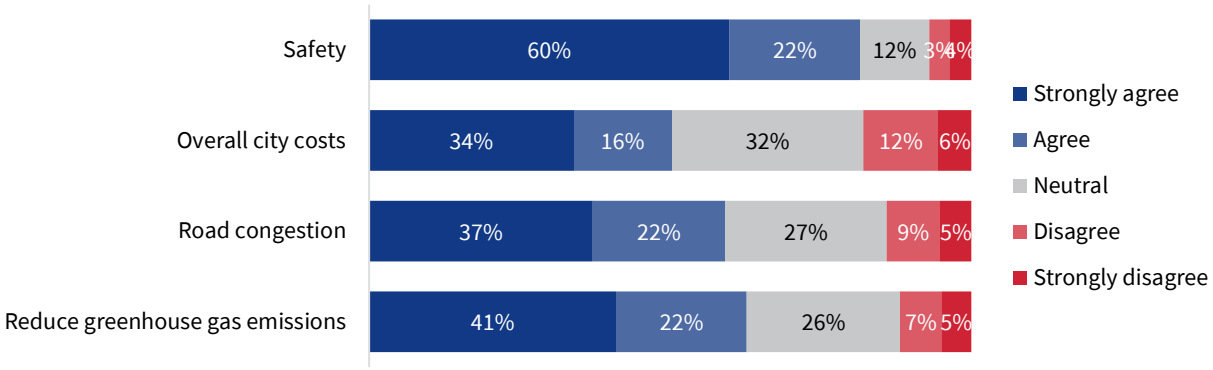
Many stakeholders were supportive of repurposing hydro and rail right-of-way, but cautioned these assets should only be converted to multi-use pathways for active modes of transportation if they enhance the overall network.

Stakeholders also indicated that improved and consistent lighting will help create physical and personal safety, thus encouraging more people to cycle.

Online Survey Insight

Related to safety, online survey respondents were asked to consider the strategic approach of making roads safer and more accessible for vulnerable users and whether they feel the strategy could advance progress on the four key issues facing the City's transportation network:

Graph 21: Strategy 6.3 Make roads safer and more accessible for vulnerable users - Do you believe this strategy will support improvements to...
615 responses



The majority of respondents (65 percent) feel this proposed strategy would either have a strongly positive or positive change on their life. 26 percent of respondents feel this would have a neutral change on their life, 6 percent feel it would have a negative or strongly negative impact on their life and 3 percent are unsure (Appendix M).

When asked about the potential implementation of a bike share program and its benefits and challenges, many indicated such a program would not be a high priority, but conceded it could be successful as it would eliminate the need for secure bike parking.

We heard the Perimeter Highway is a major physical barrier to a regional cycling network, but participants were clear that they would like to see the cycling network developed within the City before beyond its borders.

CORRIDORS

Participants were provided a list of select corridors identified as challenging for active transportation users. Many agreed the corridors are in fact challenging places to cycle and walk, and indicated they feel many Winnipeggers currently avoid using active modes on these routes because they are unsafe and uncomfortable.

Participants noted the following routes as missing from the map:

- Roblin Boulevard / Grant Avenue
- Disraeli Freeway
- Route to Transcona

- Graham Avenue
- Corydon Avenue

Throughout their respective workshops, participants were presented with potential solutions to address known issues on the pre-identified corridors and were asked to consider how they may affect nearby neighbourhoods.

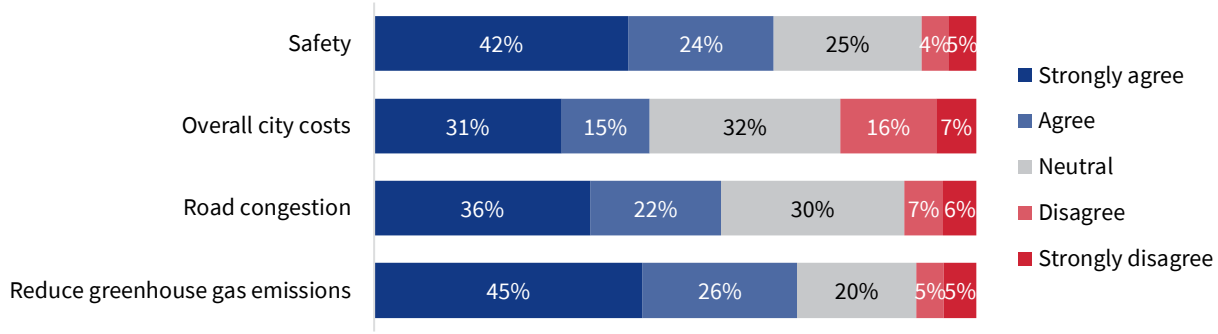
Participants generally supported reallocating road space from cars to bicycles. Most supported reallocation on the identified corridors with some noting the associated parking removal could negatively affect businesses along the corridors and suggested any changes should ensure business access. Neighbourhood advisory group members prioritized integrating active transportation on the corridors despite anticipated public opposition as they feel doing so would reduce traffic congestion in the long-term and have a positive environmental impact.

Online Survey Insight

Online survey respondents were asked to consider whether a strategic approach that creates more vibrant communities through attractive streetscapes and healthy built environments could support action on the four key issues facing the City's transportation network:

Graph 22: Strategy 6.5 Create more vibrant communities through attractive streetscapes and healthy built environments - Do you believe this strategy will support improvements to...

615 responses



Further to this, respondents were asked to consider what impact such a strategy would have on their own lives. The majority of respondents (71 percent) feel this proposed strategy would either have a strongly positive or positive change on their life. 22 percent of respondents feel this would have a neutral change

on their life, 6 percent feel it would have a negative or strongly negative impact on their life and 1 percent are unsure (Appendix M).

PREFERRED INFRASTRUCTURE

There was no consistently preferred cycling infrastructure. Some prefer to cycle on a quieter parallel route, even if it means taking a longer route, but noted that if parallel routes are chosen as formal network routes, safe crossings would be required at major roadways. Other participants indicated that they prefer to cycle on the most direct and convenient route and want to do that safely.

EDUCATION AND OUTREACH

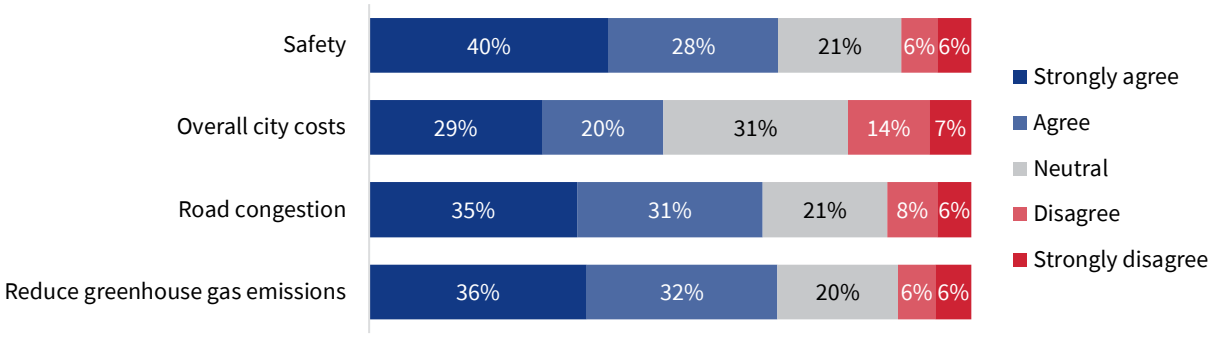
Participants across methods discussed what type of education and promotion would be needed to support a widespread shift to more active modes of transportation. Identified potential education opportunities included:

- Creating awareness about existing and new active transportation routes including through wayfinding information
- Educating on why a widespread shift to active modes is key for environmental sustainability
- Working with workplaces and schools to encourage switch to active transportation modes
- Informing Winnipeggers where secure bike parking is located
- Teaching cycling skills in schools (B.E.S.T. program).

Online Survey Insight

Online survey respondents were asked to consider a strategic approach that increased education and awareness around walking and cycling as safe, attractive modes of travel, and whether such a strategy could support improvements to the four key issues facing the City's transportation network:

Graph 23: Strategy 6.6 Increase education and awareness around walking and cycling as safe, attractive modes of travel - Do you believe this strategy will support improvements to...
615 responses



Further to this, respondents were asked whether such a shift would have an impact on their own lives. The majority of respondents (58 percent) feel this proposed strategy would either have a strongly positive or positive change on their life. 32 percent of respondents feel this would have a neutral change on their life, 8 percent feel it would have a negative or strongly negative impact on their life and 2 percent are unsure (Appendix M).

PHASE 3

In Phase 3 of the project, Winnipeggers were invited to learn about the final draft TRANSPORTATION 2050 plan through a public information process.

We released the final draft of TRANSPORTATION 2050 to the public on June 27, 2024. This launch was promoted via news release, social media, digital advertising, radio advertising, and emails to stakeholders and previously involved individuals.

The goals of the public information program were to:

The goals for this phase were to:

- Share how Transportation 2050 could change how stakeholders and the public move around Winnipeg
- Answer questions about how the plan reimagines mobility
- Document any major concerns with the plan

We shared the contents of the plan using a three-tiered approach:

The plan itself offered the most in-depth information:

- Targets and key directions
- Relationship to other plans and policies
- Acknowledging competing priorities

- The current state of Winnipeg and its transportation challenges
- Strategic framework (vision, goals, outcomes, targets, focus areas, and objectives)
- Policies and key actions for each focus area
- Network recommendations
- An immediate action plan
- Possibilities for innovation
- Managing the infrastructure deficit and future funding options
- Future monitoring and next steps

Winnipeggers could download it online in its entirety.

Our Guide to Reimagined Mobility document told the story of the plan at a higher level.

It took readers through the main themes and details, but focused less on technical details and more on how Winnipeggers could be personally affected by the plan's outcomes. This guide was also available online, and in print in limited numbers at our public events.

Our **public information boards** offered the most at-a-glance look at the plan, but opened the door to conversation with our project team who were on site at a series of **six pop-up public information events.**

We held these information sessions at shopping centres across the city. Because the events were informal and within a larger mall environment, attendance was counted by interaction.

We considered an interaction any time an individual stopped to talk or look at the boards for more than a few minutes.

Date	Activity	Details
Tuesday, July 16, 2024	**Pop-Up Event at St. Vital Centre**	104 interactions
Wednesday, July 17, 2024	**Pop-Up Event at Outlet Collection Winnipeg**	163 interactions
Thursday, July 18, 2024	**Pop-Up Event at Garden City Shopping Centre**	143 interactions
Monday, July 22, 2024	**Pop-Up Event at Kildonan Place**	86 interactions
Tuesday, July 23, 2024	**Pop-Up Event at CF Polo Park**	312 interactions
Thursday, July 25, 2024	**Pop-Up Event at The Forks Market**	98 interactions

Attendees had the opportunity to provide their final thoughts on their concerns, wants, needs, and interests on sticky-notes. We heard several key themes:

- Winnipeggers appreciate how the plan considers multiple modes of transportation. Physically separating infrastructure and increasing safety for active modes is a priority.
- Many attendees were interested in expanded bus service, both in terms of schedule and routes. This interest was noted particularly in residential areas that currently favour personal vehicles. Respondents are eager to see transit equity in every part of the city, and are open to many options for future public transit network systems. Light rail remained a frequent topic of conversation.
- Winnipeg needs to more clearly consider seasonal maintenance for non-automobile modes – particularly on bike lanes in winter.
- People appreciate better and more sidewalks but need them to include shade and shelter. Transit users also want additional shade at bus stops.
- People remain concerned about plans for the Route 90 expansion and Arlington Bridge. These concerns related to a larger theme, namely the desire for the City to fix existing roads and bridges before adding new infrastructure to expand transportation networks.
- Goods movement was of lesser concern to respondents than other forms of transportation; those who did respond to this aspect of the plan were in favour of designated trucking routes, with twofold reasoning: safety for other transportation modes, and preservation of existing road infrastructure from heavy loads.

Generally speaking, there was a positive response among most who engaged with the public information program.

Existing pedestrian network performance and use

Performance of the existing walking network was evaluated using general and specific measures of success from the 2015 Pedestrian and Cycling Strategies. The measures were grouped into four categories:

- **Volume and usage measures**, including the walking mode share for work trips, the walking mode share for all trips, and the pedestrian volumes on key corridors.
- **Connectivity measures**, including the total length of the sidewalk network, the proportion of sidewalks that are at least 1.5 m wide, and the proportion of streets with a sidewalk on at least one side.
- **Safety and accessibility measures,** including the proportion of traffic signals including accessible pedestrian signals, the proportion of traffic signals with pedestrian countdown timers, and the proportion of fatal and major injury collisions involving pedestrians.
- **Maintenance measures,** including the distribution of sidewalks by surface condition and the total length of sidewalks designated to be cleared within 36 hours of more than 5 cm snow accumulation.

The first category is one of the general measure categories from the 2015 PCS, while the last three categories align with the 2015 PCS key strategic goals of improving connectivity, improving safety and accessibility, and improving maintenance.

The following sections outline the evaluation process and results for each category of measures.

Volume and usage

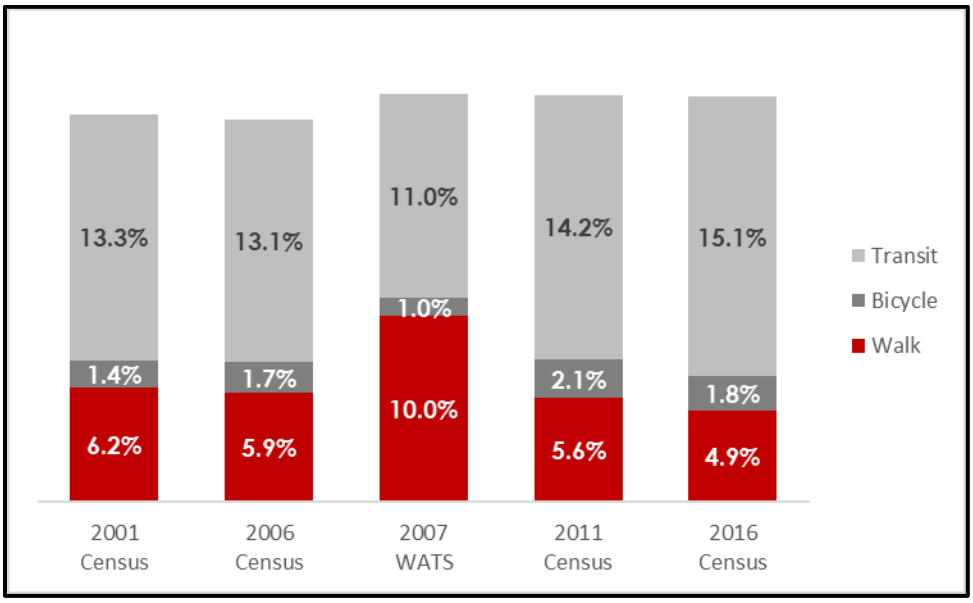
Volume and usage data were obtained from several sources:

- Canada Census *Journey to Work* data. The *Journey to Work Data* included mode split data aggregated to the city level. Data was considered from the 2001, 2006, 2011, and 2016 Censuses, which allowed the study team to consider how mode splits were changing over time.
- Data from the 2007 *Winnipeg Area Travel Survey (WATS)*. While outdated, WATS includes data on mode splits aggregated to the level of 30 "districts" in Winnipeg and the surrounding municipalities.
- Pedestrian count data as part of pedestrian-only counts, and combined pedestrian and bicycle counts. The counts included locations at intersections, as well as mid-block counts on active transportation paths. Counts were taken from as early as 2009 to as recent as 2020.
- Continuous count data collected as part of MORR's project titled *Developing a Pedestrian Counting System for Downtown Winnipeg and Quantifying Pedestrian Activity in Multi-Use Paths*, completed in 2017. Data included pedestrian continuous counts from 2016 at eight locations downtown and from 2014 at an additional seven locations on multi-use paths throughout Winnipeg.
- Telemetric data from the *Streetlight Data*a from *Streetlight* is obtained from cell phone and vehicle-based GPS systems and aggregated and anonymized to protect privacy. The data can be used to show the spatial distribution of pedestrian activity, aggregated into 51 zones covering Winnipeg. *Streetlight* data is provided in terms of an index representing the relative proportion of activity between and within each zone, and not the actual number of trips.

Census and WATS

Exhibit 0.1 shows Canada Census walking mode split data for commuting trips, including data from the 2001, 2006, 2011, and 2016 Censuses. The 2021 Census has been omitted as commuting was significalty impacted by the COVID-19 Pandemic. Exhibit 0.1 also shows data from the 2007 WATS. WATS did not distinguish between commuting and other trips, so the mode split shown is averaged from all trips occurring during the AM and PM peak period. Most trips during the AM and PM peak period are likely commuting trips, but those periods would also include some non-commuting trips, such as recreational trips. As such, the splits from WATS should be considered as somewhat different than the Census commuting trip data. For context Exhibit 0.1 also shows the commuting mode share by transit and by cycling.

EXHIBIT 0.1: **MODE SPLITS – COMMUTING TRIPS FROM CENSUS AND WATS DATA**



From the 2001 through 2016 Censuses, walking accounted for approximately 5percent of commuting trips. The walking mode share has decreased in each Census from a high of 6.2percent in the 2001 Census to a low of 4.9percent in the 2016 Census. WATS data shows walking accounting for 10percent of AM and PM peak period trips—significantly more than the Census figures from any of the four Censuses considered. This is likely due to WATS including all peak period trips, which would include some recreational walking trips and other trips for non-commuting purposes such as walking trips from work. The total non-personal vehicle split was consistent with the Censuses, with WATS showing smaller bicycle and transit mode splits than the Censuses.

Figure 1 shows mode split data for all trips. Census data on mode splits was limited to commuting trips, so 2007 WATS was the only available data source for mode splits considering all trips.

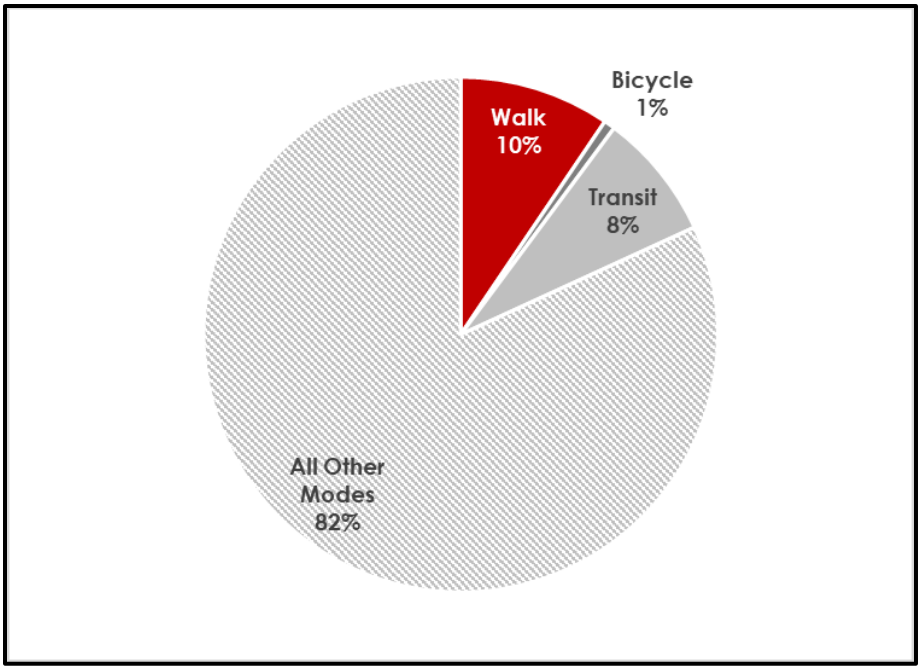


FIGURE 1: MODE SPLIT – ALL TRIPS 2007 WATS DATA

The WATS data showed walking accounting for 10percent of all trips, consistent with the walking mode split for the AM and PM peak periods, as shown in .

Count data

Figure 2, Figure 3, and Figure 4 show pedestrian volume data from the counts.. The data was not from a planned pedestrian counting program, but rather was a group of counts collected for various reasons, including pedestrian crossing warrant analyses, signal timing programs, and Safe Routes to School projects. The counts are therefore spatially limited, and do not provide exhaustive coverage of the city. Count periods were as short as four hours to as long as twenty-four hours.

Counts were collected between 2009 and 2020, and no adjustment factors were applied to old counts. Where locations had more than one count, the volumes from the most recent count were used in the figures. Future count data beyond 2020 and in the future is tracked and reported by other methods.

Figure 2 shows volumes for the weekday AM peak hour, using volumes from the highest pedestrian hour between 7:00 AM and 9:00 AM at each location.

Figure 3 shows volumes for the weekday PM peak hour, using volumes from highest pedestrian hour between 4:00 PM and 6:00 PM at each location.

Figure 4 shows volumes from the one-hour period with the highest pedestrian volume at each location. The highest pedestrian volume hour could occur at any time of day and was not necessarily consistent from location to location. The source counts also had different durations meaning that the highest pedestrian volume may simply reflect the highest during the count period.

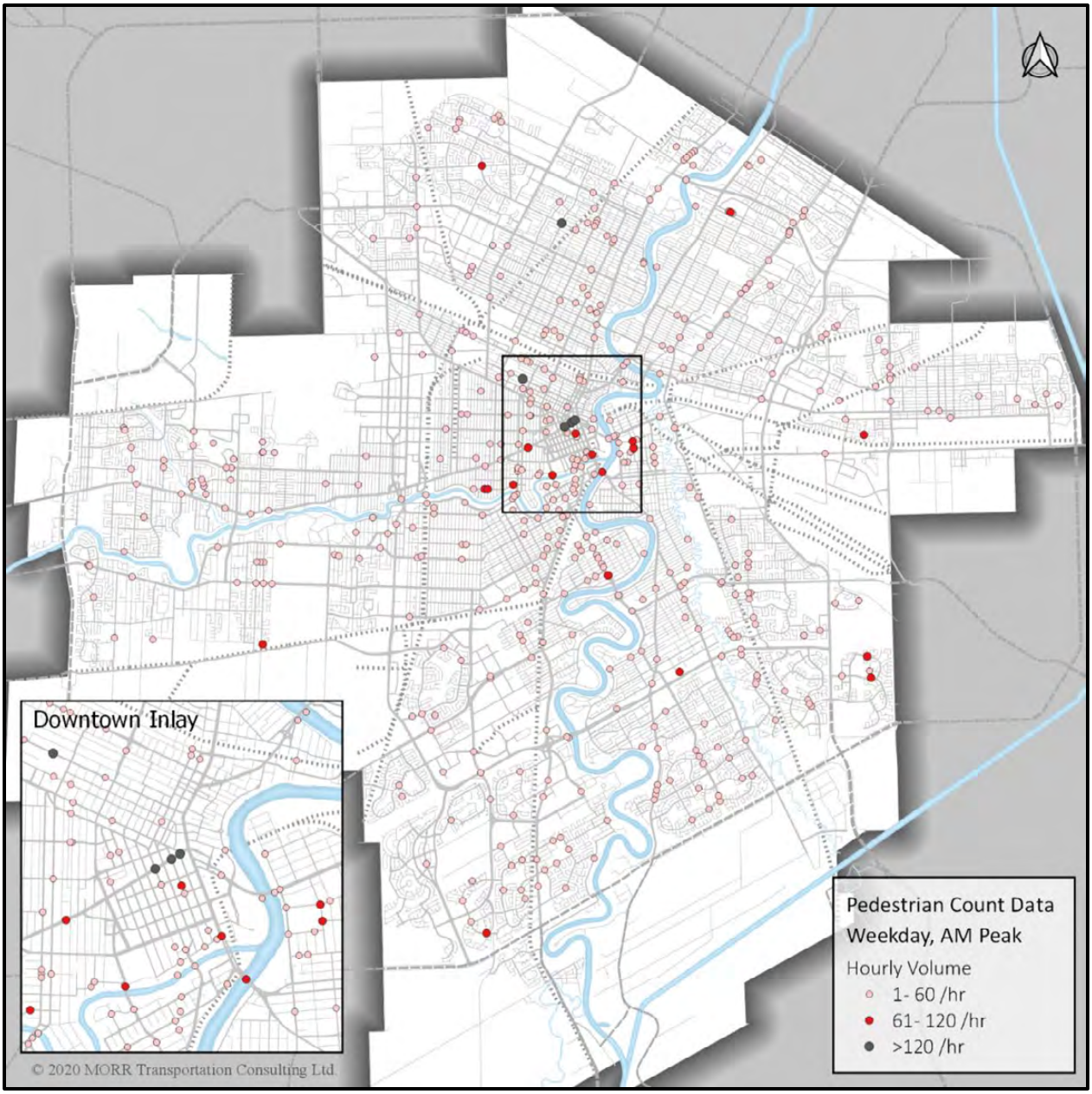


FIGURE 2: PEDESTRIAN VOLUMES – AM PEAK HOUR

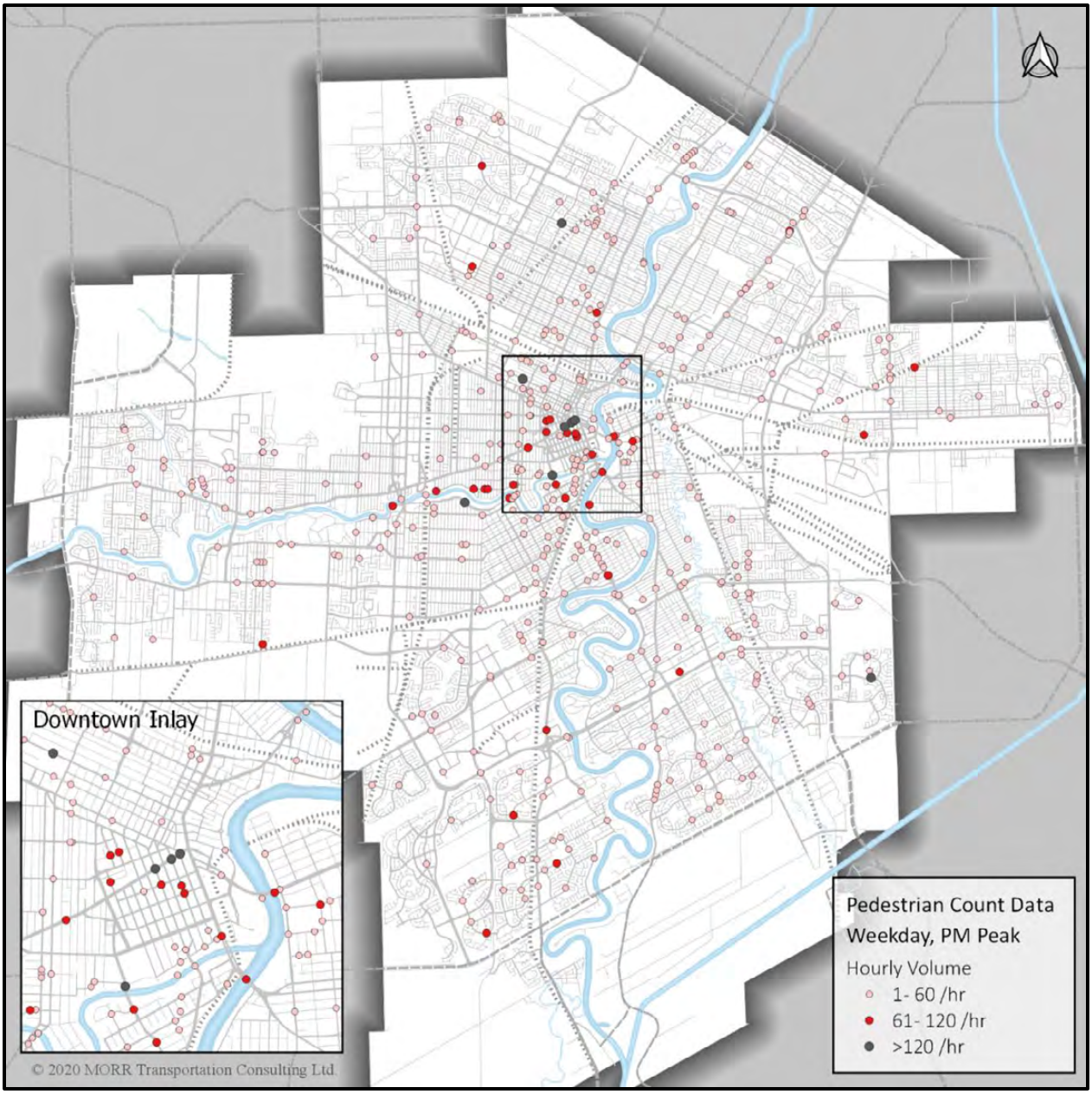


FIGURE 3: PEDESTRIAN VOLUMES – PM PEAK HOUR

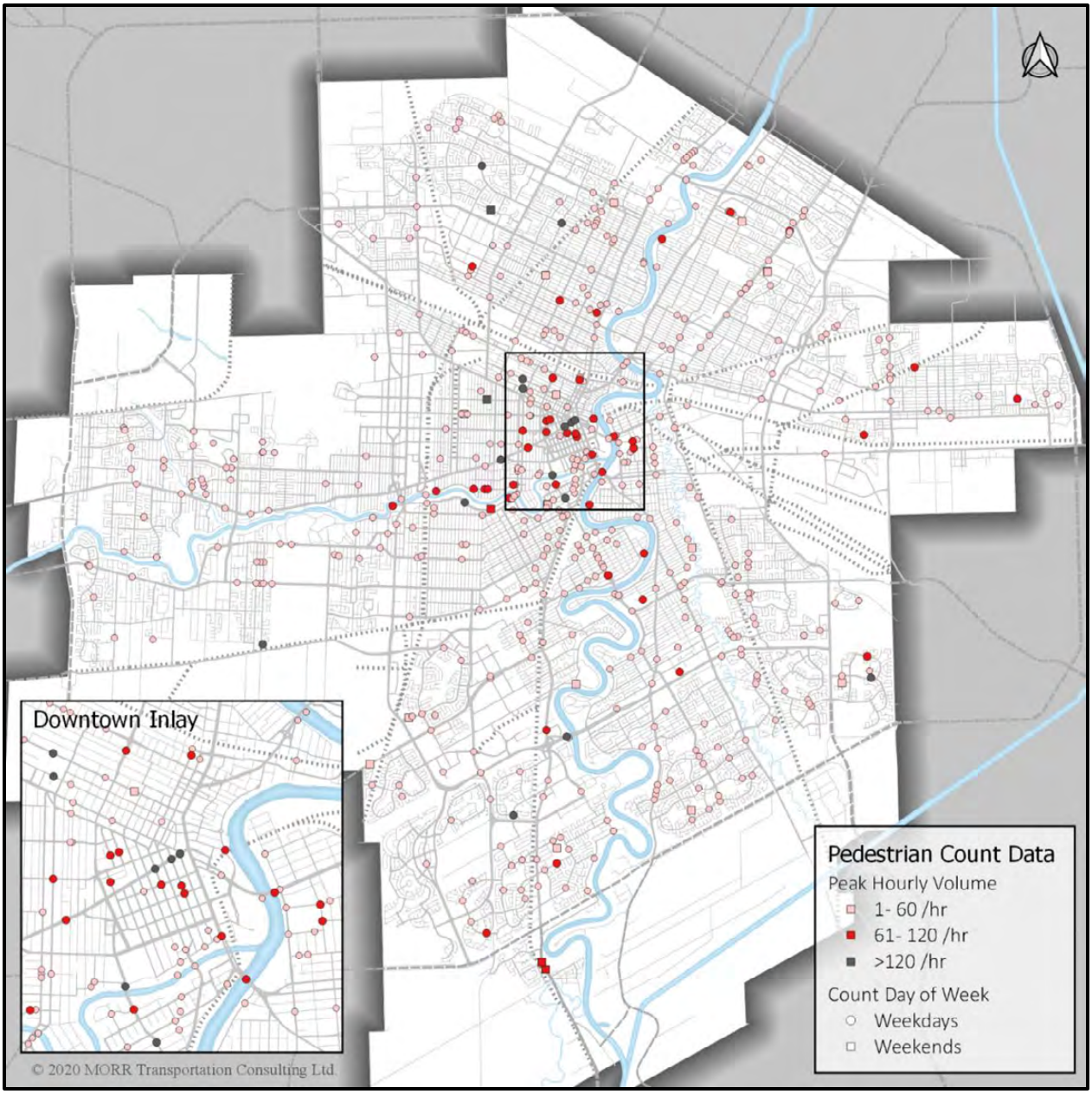


FIGURE 4: PEDESTRIAN VOLUMES – HIGHEST HOUR IN A GIVEN DAY

In all time periods pedestrian volumes were clustered around downtown, particularly along Portage Avenue between Smith Street and Fort Street. High volumes were also present along Osborne Street between the Osborne Street Bridge and Wardlaw Avenue. High volumes were also present at isolated suburban locations including:

- The Maples neighborhood, along Leila Avenue
- Sage Creek, east of Lagimodiere Boulevard
- Bishop Grandin Boulevard near the Fort Garry Bridge
- Markham Road near Bison Drive
- The Harte Trail near Elmhurst Road

In the morning peak hour there were several high-volume locations near schools, including on Rue Aulneau near Université de Saint-Boniface, on Sage Creek Boulevard near Sage Creek School, and on Wolseley Avenue near Laura Secord School. High count locations were also present on Pembina Highway near the St. Norbert Farmers Market in the highest volume hour, occurring outside of the weekday morning and afternoon peak hours.

The morning peak hour had fewer high-volume locations than the afternoon peak hour.

Continuous count data

In 2017 MORR completed a project titled *Developing a Pedestrian Counting System for Downtown Winnipeg and Quantifying Pedestrian Activity in Multi-Use Paths*. The project considered continuous count data from eight sites in downtown and an additional seven sites on multi-use paths around Winnipeg. The continuous count data was used to identify traffic pattern groups—trends in temporal pedestrian volume characteristics by day-of-week and hour-of-day. The project identified three pedestrian traffic pattern groups:

- Urban utilitarian – Drawn from sites in the area downtown and more than two blocks from Canada Life Centre. This group showed most pedestrian activity on weekdays, with the highest peak during the day occurring between 11:00 AM and 1:00 PM, with a secondary peak from 4:00 PM to 5:00 PM.
- Urban utilitarian arena – Drawn from sites within two blocks of Canada Life Centre. Compared to the Urban Utilitarian group, this group showed more activity on weekends. The highest peak during the day still came between 11:00 AM and 1:00 PM, and there was still a secondary peak from 4:00 PM to 5:00 PM, but there was an additional secondary peak from 9:00 PM to 10:00 PM, likely representing people leaving after events at Canada Life Centre.
- Recreational multi-use paths – Drawn from sites on multi-use paths spread around Winnipeg. This group showed relatively consistent activity throughout the week, and daily activity peaked from 7:00 PM to 8:00 PM.

Figure 5, Figure 6, and Figure 7 show the day-of-week and hour-of-day fluctuation in pedestrian activity for each of the traffic pattern groups.

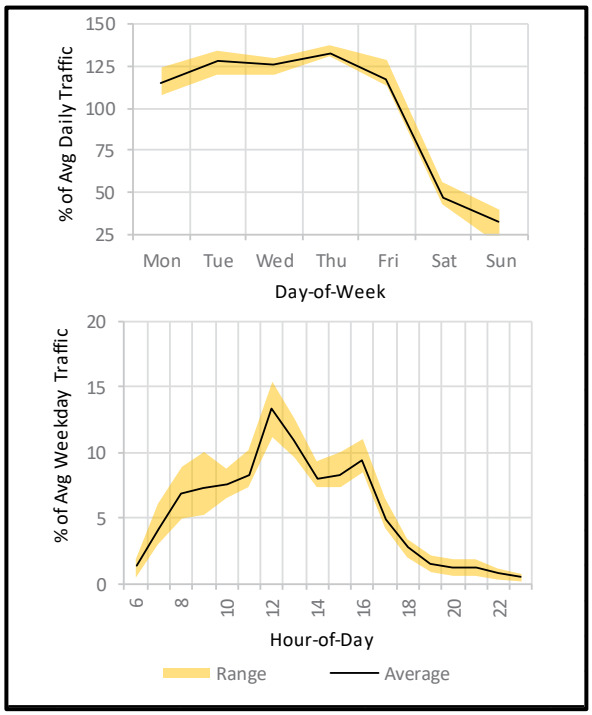


FIGURE 5: URBAN UTILITARIAN PEDESTRIAN ACTIVITY

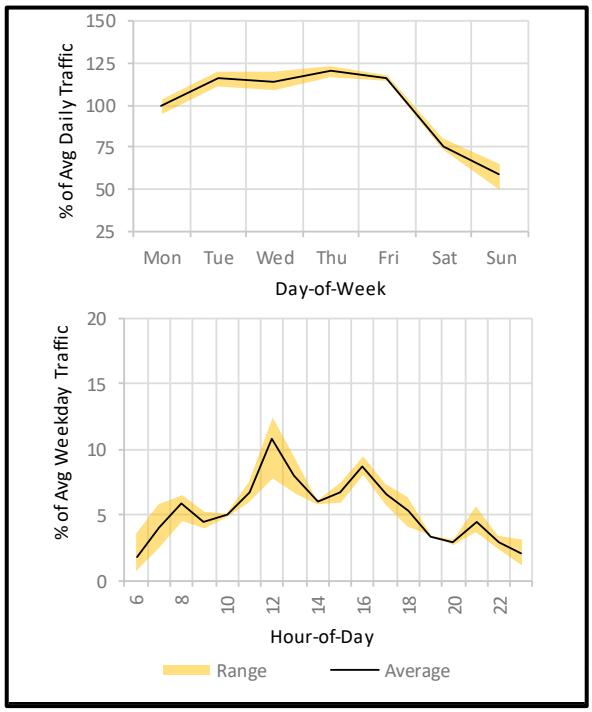


FIGURE 6: URBAN UTILITARIAN ARENA PEDESTRIAN ACTIVITY

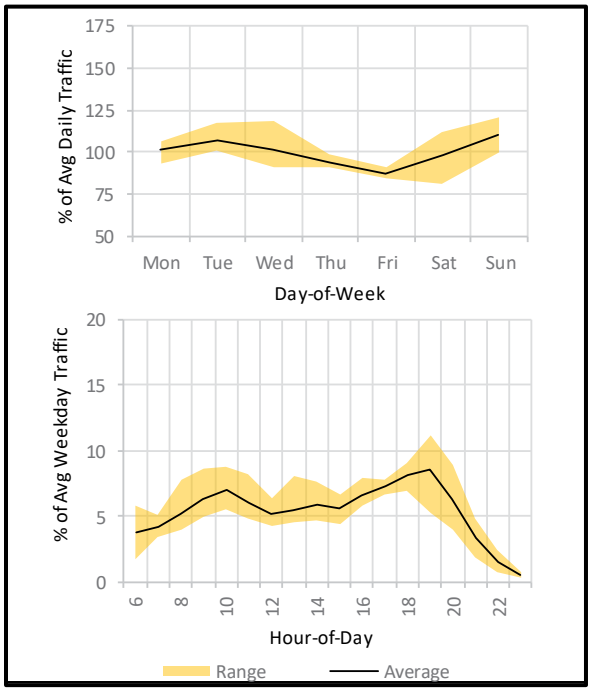


FIGURE 7: RECREATIONAL MULTI-USE PATH PEDESTRIAN ACTIVITY

Telemetric data

Figure 8, Figure 9, Figure 10, and Figure 11 illustrate the spatial distribution of telemetric pedestrian data, with each figure representing a different time period. Data was taken from weekdays (Tuesdays, Wednesdays, and Thursdays). Each figure includes four sub-figures:

- The top left figure shows the distribution of pedestrian trip origins. Zones colored darker have more pedestrian activity beginning within their borders.
- The top right figure shows the distribution of pass-through activity. Zones colored darker have more pedestrian trips passing through, but neither beginning nor ending within the zone.
- The bottom left figure shows the distribution of pedestrian trip destinations. Zones colored darker have more pedestrian activity ending within their borders.
- The bottom right figure shows total pedestrian activity, as the sum of the origin activity, pass-through activity, and destination activity.

Zone boundaries were taken from the Streetlight Data set, as defined by the Core Framework of the TMP2050 study, in 2020.

Figure 8 shows telemetric data from the weekday AM peak period (7:00 AM – 9:00 AM).

Figure 9 shows telemetric data from the weekday Noon peak period (12:00 PM – 2:00 PM).

Figure 10 shows telemetric data from the weekday PM peak period (4:00 PM – 6:00 PM).

Figure 11 shows telemetric data from the weekday Evening peak period (7:00 PM – 9:00 PM).

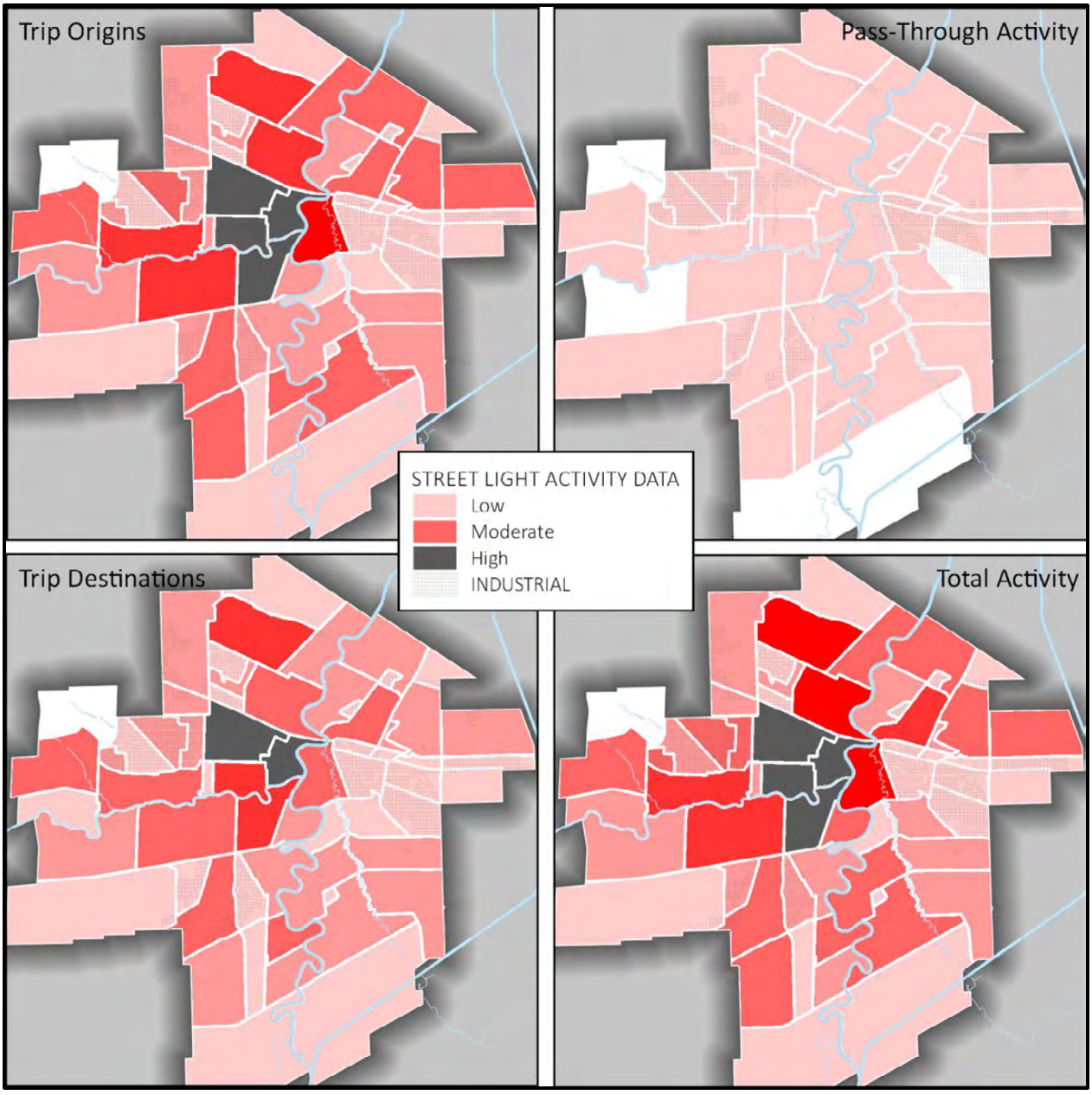


FIGURE 8: PEDESTRIAN TELEMETRIC DATA – AM PEAK PERIOD

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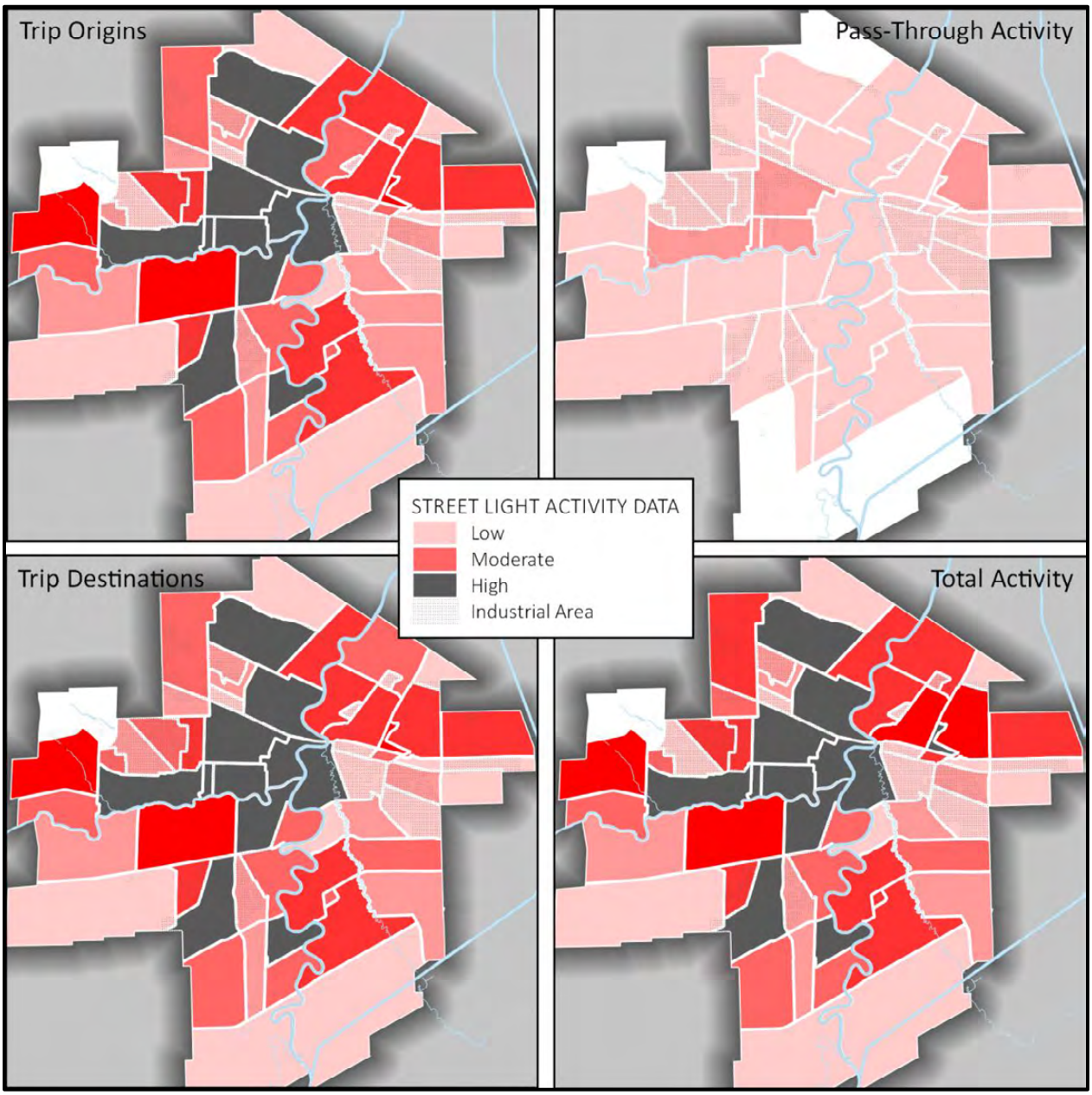


FIGURE 9: PEDESTRIAN TELEMETRIC DATA – NOON PEAK PERIOD

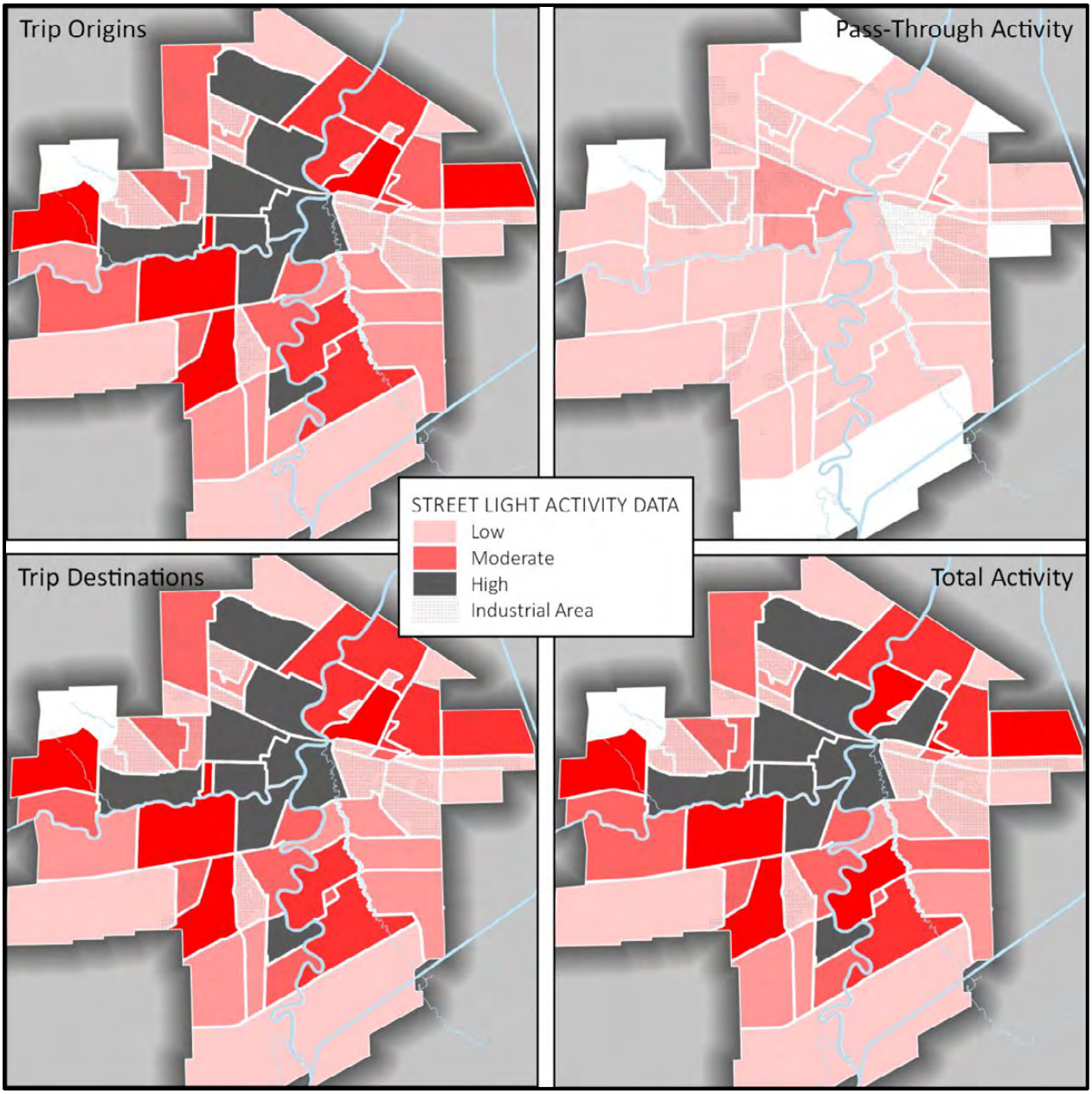


FIGURE 10: PEDESTRIAN TELEMETRIC DATA – PM PEAK PERIOD

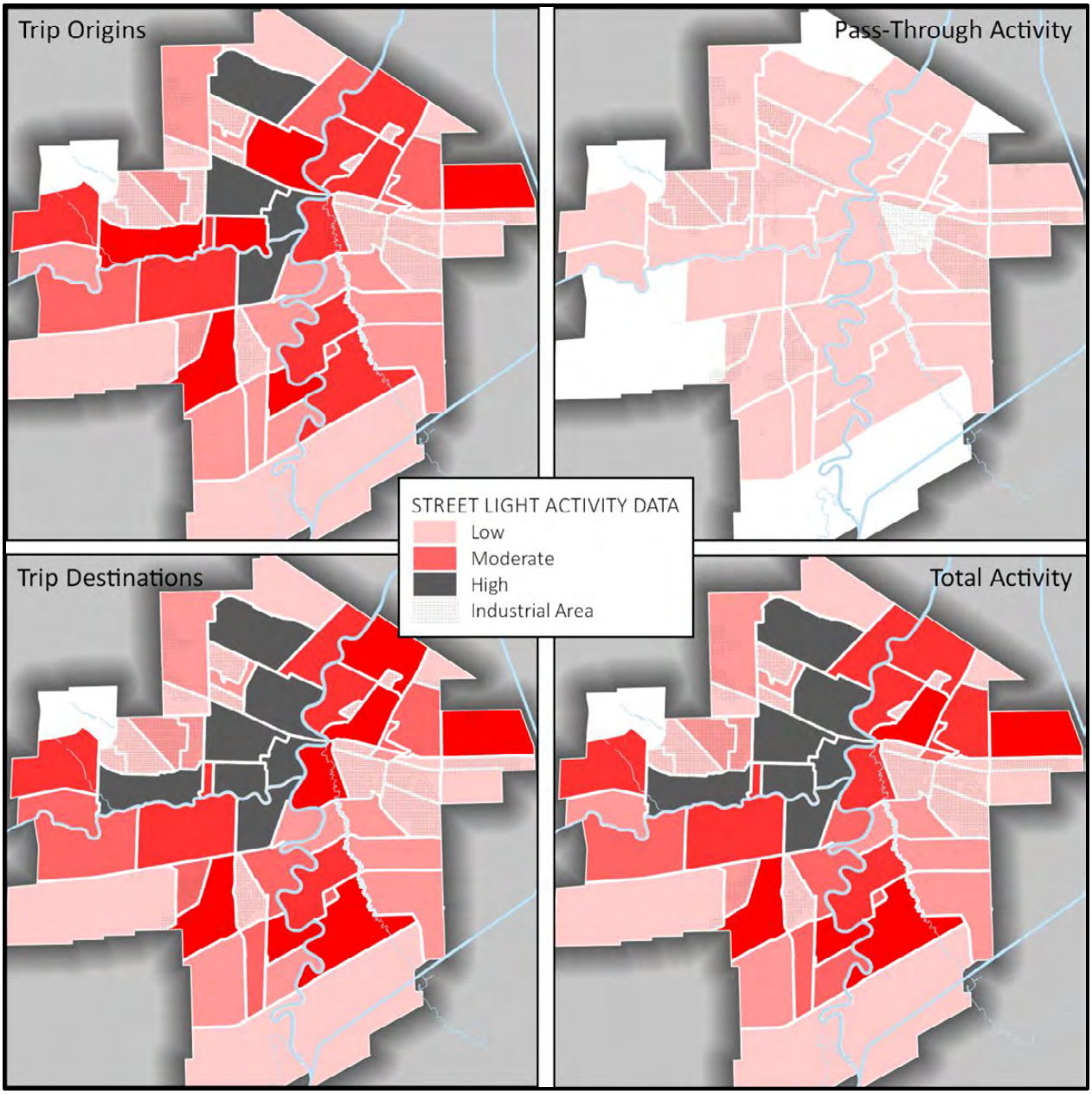


FIGURE 11: PEDESTRIAN TELEMETRIC DATA – EVENING PEAK PERIOD

There was little pass-through activity, indicating that most walking trips were either contained within one zone, or between neighbouring zones. This is intuitive given that the zones are large relative to typical walking trip distances—few walking trips are long enough to begin in one zone, pass through another, and end at a third zone.

The Downtown and West End zones were the only zones showing high levels of origin and destination pedestrian activity through all time periods considered. The lunch and afternoon peak periods had the most zones showing high pedestrian activity, with high activity zones adjacent to downtown and extending into the outer suburbs, including the Maples and Fort Garry, and at the University of Manitoba.

The telemetric data is largely consistent with the count data, in that both sources show most activity in downtown and the areas adjacent to downtown, with scattered activity in suburban areas. However, compared to the count data, the telemetric data shows more activity in Tuxedo, St. James, East Kildonan, and around the University of Manitoba. Some of the discrepancies could be due to count coverage—more counts in those areas could reveal the activity shown in the telemetric data.

Connectivity

Connectivity data was represented in the form of a Shapefile with active transportation infrastructure in Winnipeg, and a separate Shapefile representing city streets. The following points were taken from the Shapefile data:

- The total length of sidewalk network was 2,670 km. That figure is equivalent to 84percent of the 3,173 centreline-km of road pavement in the city.
- In addition to the sidewalks, the city has 710 km of active transportation paths, trails, and other walking infrastructure.
- 94percent of sidewalks (by length) were at least 1.5 m wide. Exhibit 0.2 shows the distribution of sidewalk widths.

EXHIBIT 0.2: **SIDEWALK WIDTH**

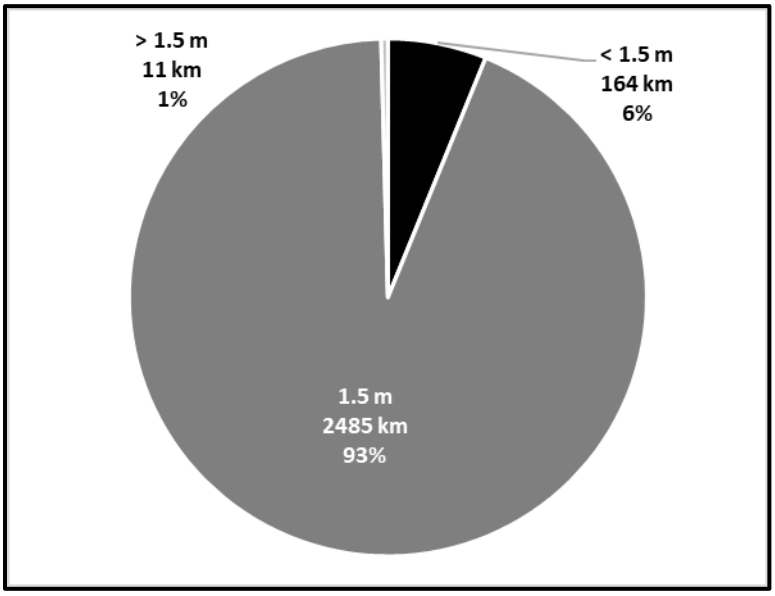
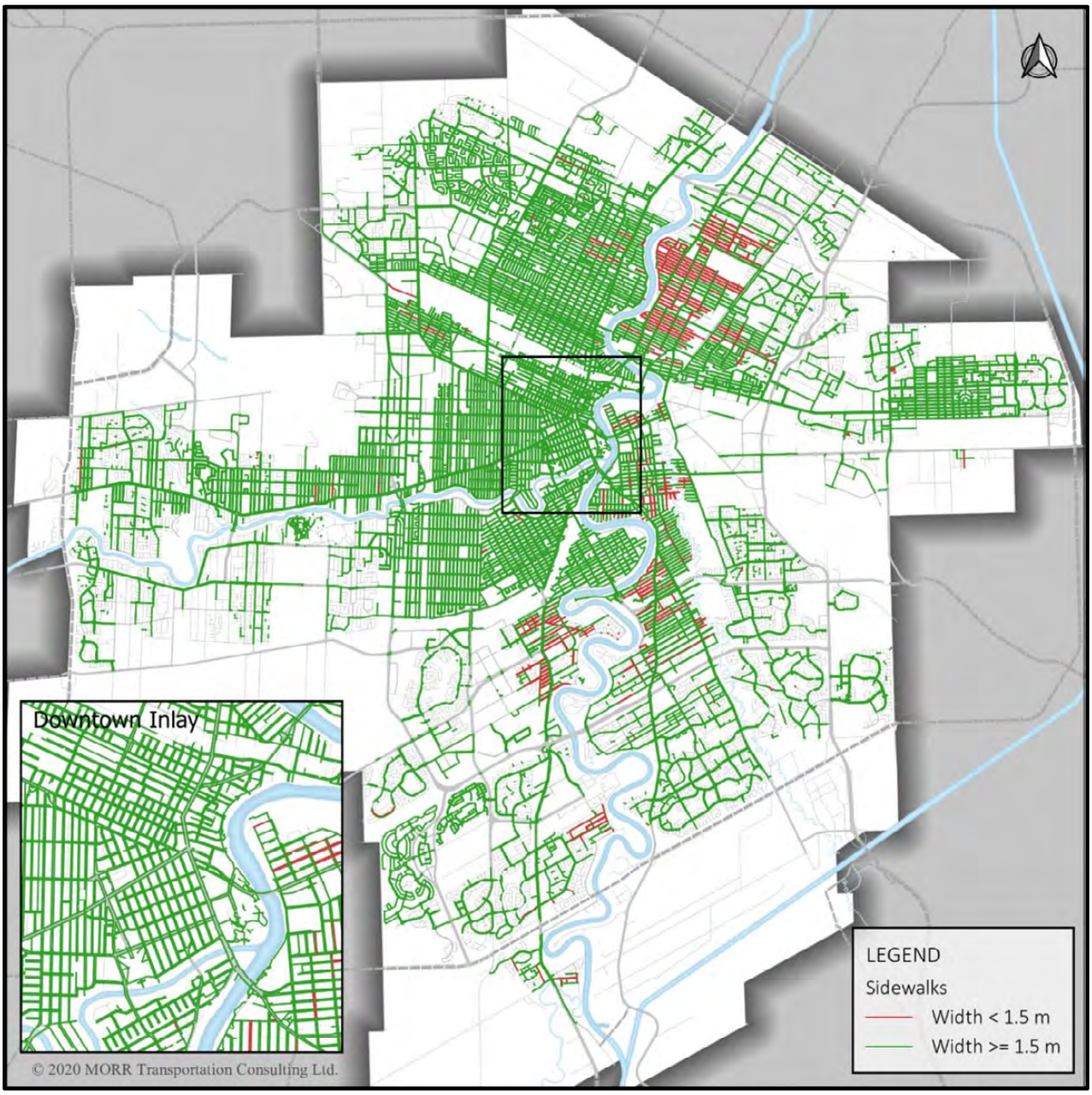


Exhibit 0.3 shows the spatial distribution of sidewalks by width (less than 1.5 m vs more than 1.5 m wide).

EXHIBIT 0.3: SIDEWALK WIDTH

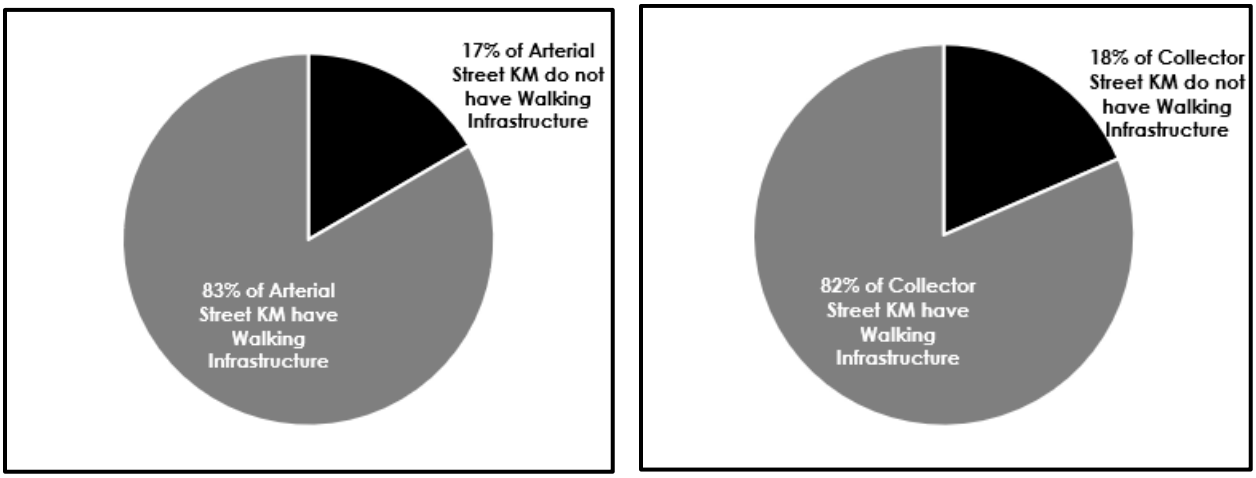


Sidewalks less than 1.5 m wide were concentrated in East Kildonan, with some other presence in Fort Garry, St. Boniface and Old St. Vital.

Approximately 85percent of arterial or collector street-centreline-kilometres (as defined in the street shapefile) have sidewalks or walking infrastructure on at least one side. A smaller percentage of local streets have sidewalks, reflecting development policies that do not require sidewalks on local streets.

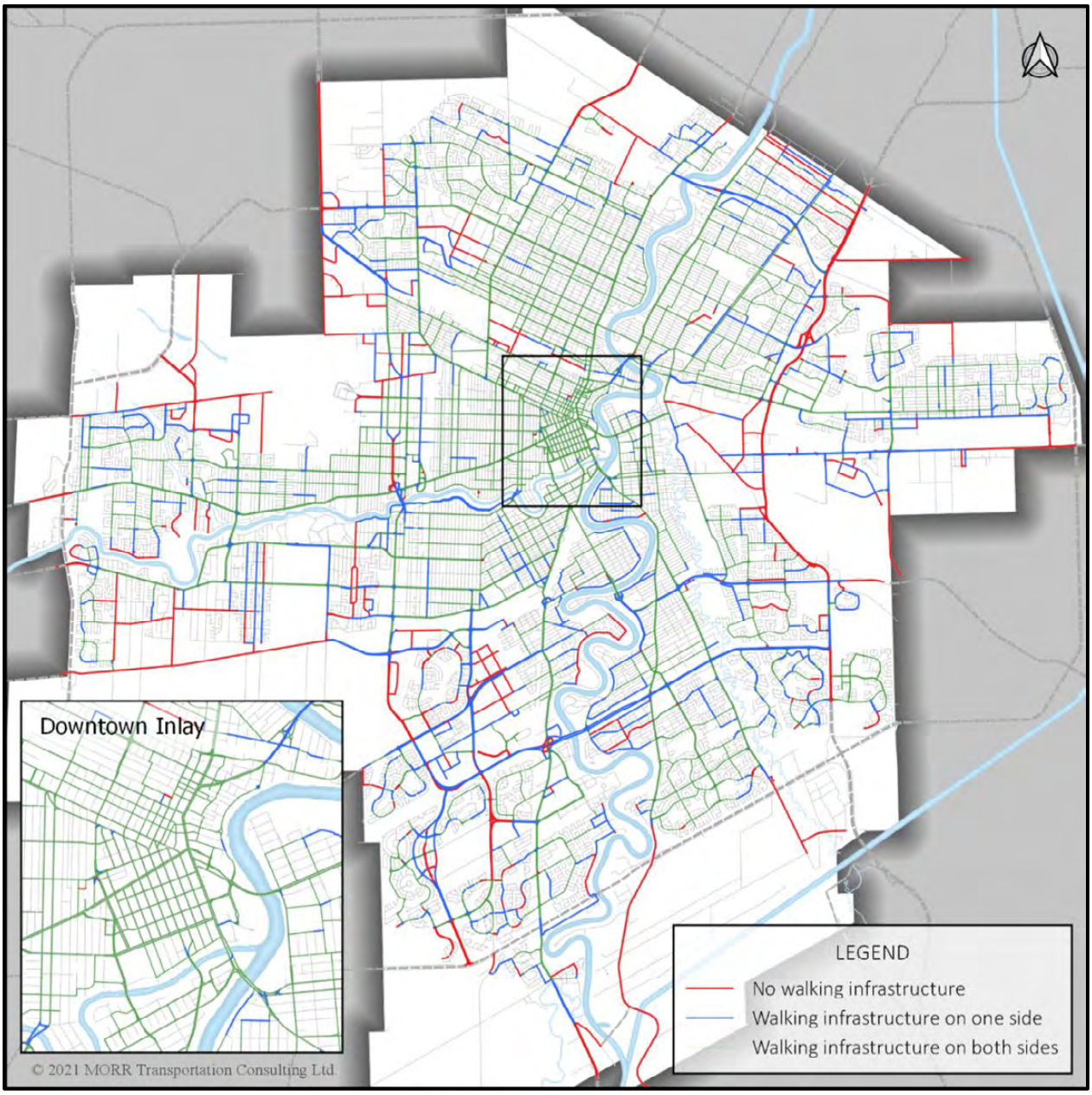
Exhibit 0.4shows the percentage of arterial and collector street kilometres with and without sidewalks and walking infrastructure.

EXHIBIT 0.4: **ARTERIAL AND COLLECTOR STREET KM WITH AND WITHOUT WALKING INFRASTRUCTURE**



Map 1 shows arterial and collector streets with walking infrastructure on one side, both sides, or neither side.

MAP 1: **GAPS IN WALKING INFRASTRUCTURE**



Gaps in walking infrastructure (arterial and collector streets with no sidewalks or paths) are distributed around the edges of the city, with very few gaps in downtown or the areas adjacent to Downtown. Significant stretches of main north-south routes are without walking infrastructure, most notably Lagimodiere Boulevard and to a lesser extent Kenaston Boulevard, Waverley Street, and Sturgeon Road. Lands along those routes are not developed with pedestrian-oriented uses so pedestrian activity is likely to be low, but the lack of walking infrastructure also creates gaps for longer-distance pedestrian trips, and pedestrian trips at the start or end of transit trips. Some industrial areas showed a lack of sidewalks, including industrial areas in Fort Garry, St. Boniface, Tyndall Park, and St. James near Winnipeg James Richardson International Airport. Those gaps are of particular concern for people using transit to travel to and from work. Finally, there

are some gaps along suburban collector streets in residential areas, including in Charleswood, Wildwood, Fort Garry, and North Kildonan.

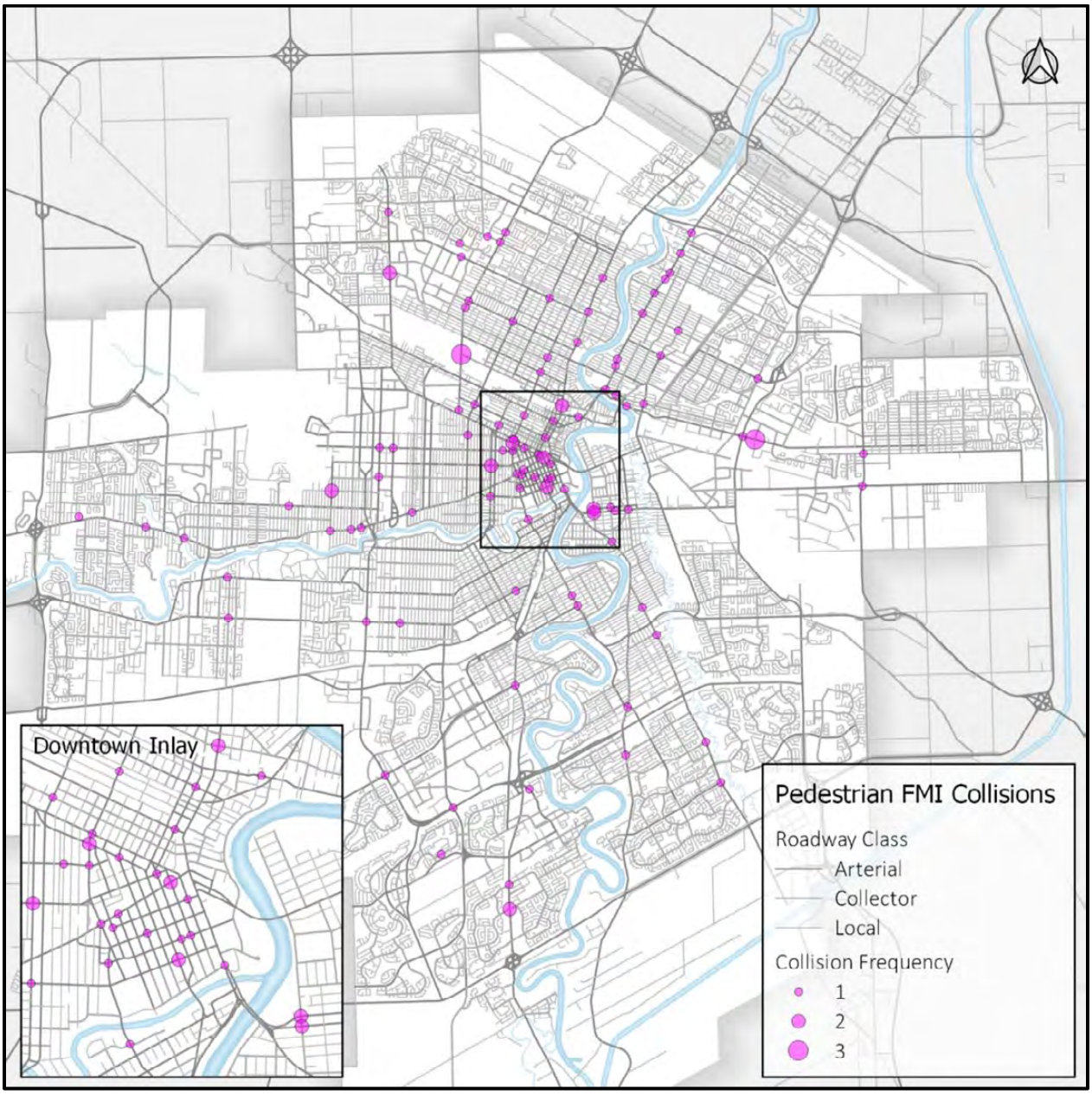
Safety and accessibility

The following information is relevant to pedestrian safety and accessibility:

- The City now has Actuated Pedestrian Signals (APS) at all signalized intersections with crosswalks.
- The City now has Pedestrian Countdown Signals at all signalized intersections with crosswalks.
- Pedestrian collision data summaries were generated as part of the initial phase of the City of Winnipeg's *Winnipeg Road Safety Strategic Action Plan* and are replicated here. Collision data covered a period from 2012 to 2018. During that period, pedestrians accounted for 33percent of collision fatalities and 10percent of major injuries resulting from collisions. Recall from Section 0 that Census data showed walking accounting for 5-10percent of commuting trips, and data from the *Winnipeg Area Travel Survey* (WATS) showed walking accounting for 10percent of all trips. Pedestrians are therefore overrepresented in collision fatalities, and proportionally represented in major injury collisions.

Map 2 shows the spatial distribution of pedestrian collisions resulting in fatal and major injuries (FMI collisions) from 2012 to 2018. Going forward this information will be tracked and reported separately as part of the Road Safety Strategic Action Plan.

MAP 2: **PEDESTRIAN FATAL AND MAJOR INJURY COLLISIONS**

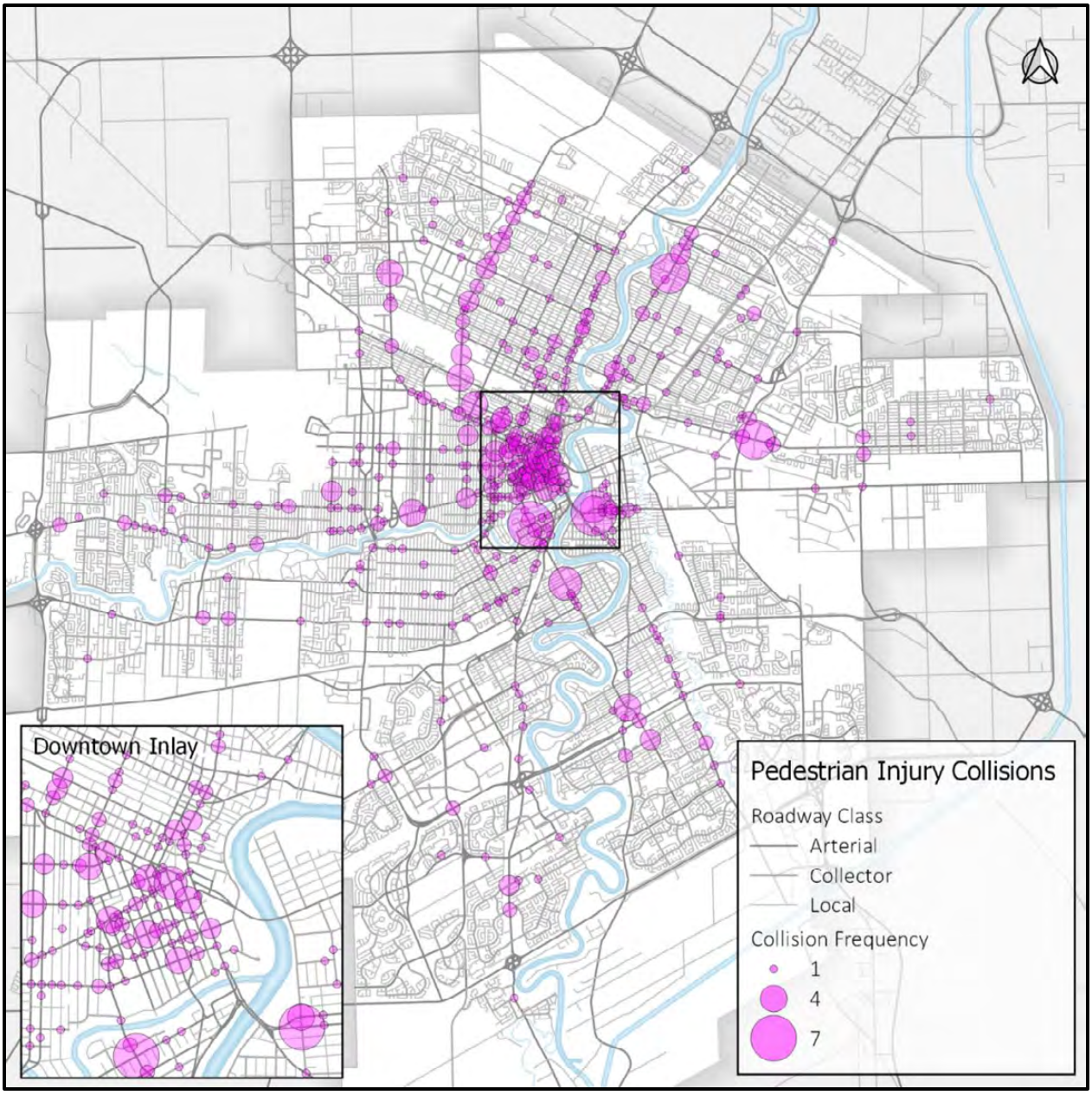


Pedestrian FMI collisions were mostly concentrated in and adjacent to downtown, with other FMI collisions spread along arterial routes, particularly in the north and west areas of the city. No location had more than three pedestrian FMI collisions. Two locations had three pedestrian FMI collisions—Regent Avenue near Kildonan Place shopping centre, and McPhillips Street at Jarvis Avenue, near McPhillips Street Station Casino. Both locations involved activity centres along major arterial routes. All other locations had two or fewer pedestrian FMI collisions.

The sample size for pedestrian FMI collisions was relatively small—32 fatal injury collisions and 113 major injury collisions, for a total of 145 collisions. It is therefore difficult to draw detailed conclusions on the spatial distribution of pedestrian collisions. As such, the study team also considered the distribution of all pedestrian injury collisions, a data set including 789 collisions from 2012 through 2018.

Map 3 shows the spatial distribution of pedestrian injury collisions.

MAP 3: **PEDESTRIAN INJURY COLLISIONS**



Pedestrian injury collisions were concentrated in and around downtown, with two of the highest injury collision locations on main routes leading into downtown. There were also high pedestrian injury collisions at suburban commercial centers, including Kildonan Place Shopping Center and a commercial node on Henderson Highway near McLeod Avenue. Moderately high collision locations were also present at St. Vital Centre, Osborne Village, Marion/Goulet area, and a commercial node on Keewatin Street near Burrows Avenue.

Many injury collisions were also distributed along arterial routes, particularly McPhillips Street, Main Street, St. Anne's Road, and Portage Avenue. Collisions were most prevalent in the sections of those routes where

the street network follows a gridded pattern, with many intersections on the arterial, and commercial and residential land uses along the arterial. The data showed moderate numbers of collisions at arterial intersections with hierarchical street patterns, but the figures at those intersections were low enough to suggest that the total number of collisions was lower on hierarchical arterial streets than on arterial streets where the street pattern is gridded. This may also reflect the land use along arterial streets—gridded street patterns more often have street-oriented commercial land uses along arterial streets, whereas hierarchical street patterns often have commercial uses set far back from Arterial streets, resulting in less pedestrian activity immediately adjacent to the arterial.

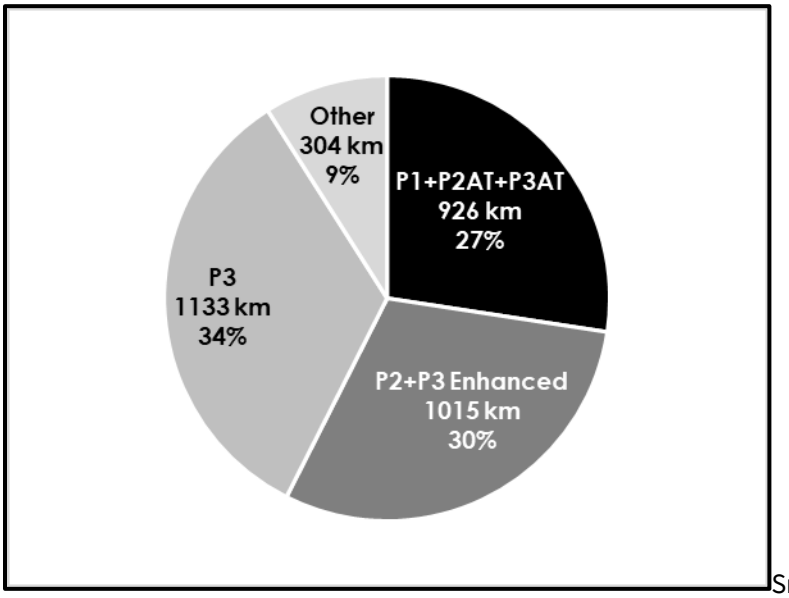
Maintenance

Relevant to sidewalk maintenance practices:

- A project is underway to evaluate sidewalk surface condition. The project includes a multi-year data collection process, which is intended to guide future investment. Once data collection is complete, we will have an assessment of the overall state of sidewalk conditions and be able to identify areas with poor sidewalk conditions on an ongoing basis. Until that time we will rely on 311 inquiries and spot inspections.
- Sidewalk snow clearing performance depends on many variables, including contractor workload, geographic distribution of snowfall events, temperatures after snowfall, etc. As such, the time between the snowfall event and snow clearing varies from event to event and by area. Consequently, snow clearing performance is best tracked in real time during an event with performance needs set through policy.
- Our Council-approved policy on snow clearing and ice control classifies each street into one of three priority levels. Priority (P) 1 streets are regional streets or major routes, P2 streets are bus routes and collector streets, and P3 streets are residential streets. In 2019, the system was expanded to include categories for main sidewalks and active transportation routes on streets with bus service and/or collector streets (termed Priority P2AT) and for main active transportation routes on residential streets (termed Priority P3AT). P2AT and P3AT paths routes are now cleared as part of P1 plowing operations. This means that key sidewalks and active transportation routes receive the highest priority snow clearing, whether they fall along major routes (P1), bus routes or collector streets (P2AT) or residential streets (P3AT). P1 operations aim to have sidewalks and active transportation paths fully plowed within 36 hours of a snow fall event with more than 5 cm snow accumulation. Enhanced clearing of active transportation routes is dynamic and routes may be added over time.
- Sidewalks and walking infrastructure not included on P1 streets or in the P2AT and P3AT categories are cleared as part of P2 operations on bus routes and collector streets, and P3 operations on residential streets. For P2 operations, we aim to have sidewalks and active transportation paths cleared within 36 hours of more than 5 cm snow accumulation. For P3 operations, the we aim to have sidewalks and active transportation paths cleared within 5 days of more than 8 cm snow accumulation. Additionally, some sidewalks and walking infrastructure on P3 streets near high density residential development and/or schools are cleared as part of P2 operations. This walking infrastructure is classified as P3 Enhanced.

- Exhibit 0.5 shows the snow clearing distribution of walking infrastructure, by length. Note that the P1 category includes P2AT and P3AT infrastructure, and the P2 category includes P3 Enhanced infrastructure.

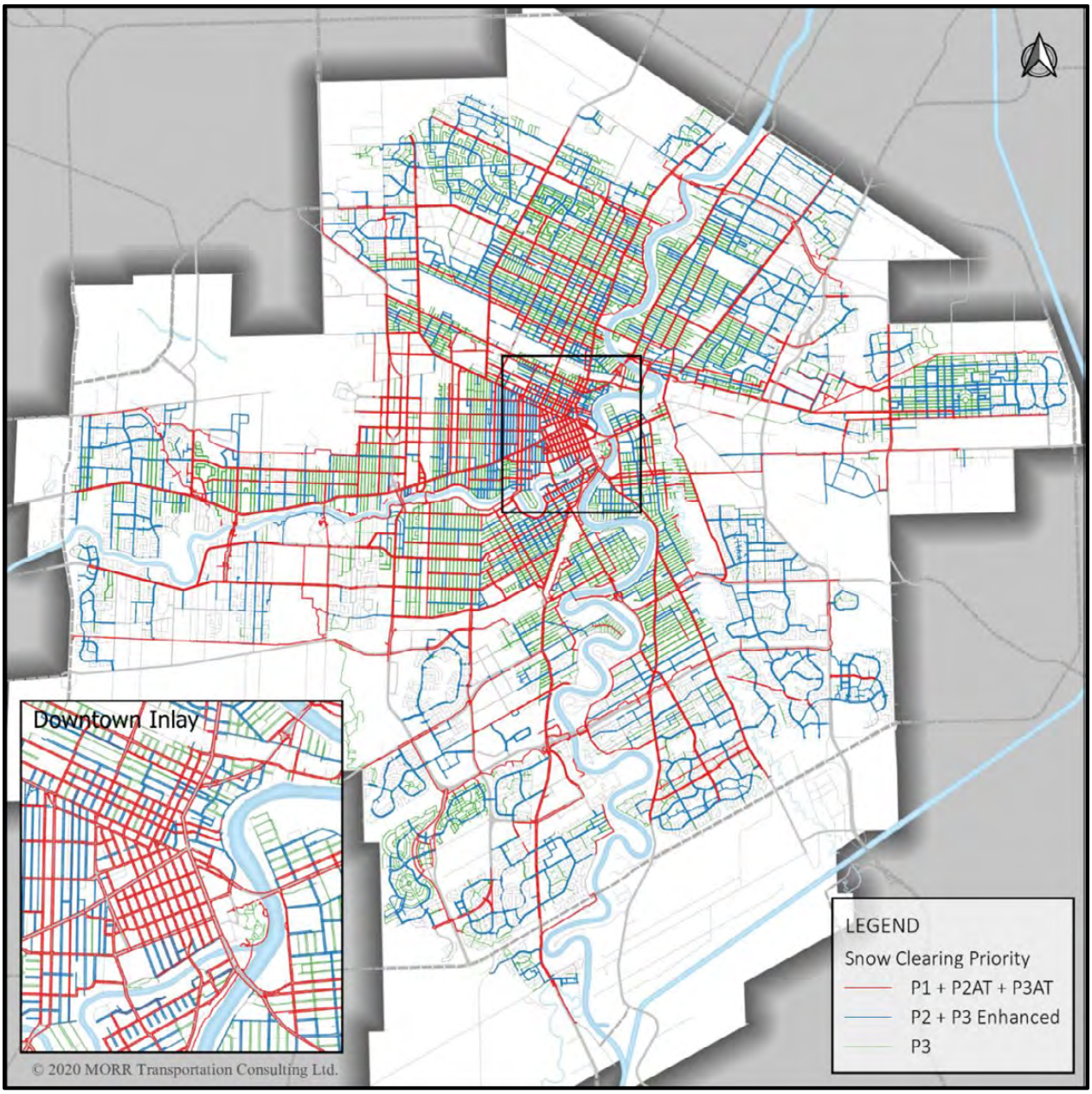
EXHIBIT 0.5: **WALKING INFRASTRUCTURE BY SNOW CLEARING PRIORITY (PERCENTAGE)**



Snow clearing priority was nearly evenly distributed between P1, P2, and P3 priority levels. Approximately 300 km of walking infrastructure (9 percent of the total network length) was not included in the priority level system—mostly trails around suburban retention ponds and other recreational trails.

Map 4 shows the spatial distribution of snow clearing priority level.

MAP 4: **WALKING INFRASTRUCTURE BY SNOW CLEARING PRIORITY (SPATIAL)**



Priority 1 (P1) routes are well-distributed throughout the city, largely following the arterial street network, but also including key collector streets. Priority 2 (P2) and P3 Enhanced routes fill in gaps between P1 routes, with a large concentration of P3 Enhanced routes serving high density residential development in the West End. Priority 2 routes also provide key connections in suburban areas, especially areas where local streets do not include sidewalks, and thus there are few P3 routes. Priority 3 routes are concentrated in the older neighborhoods with good sidewalk coverage, largely in East, West, and North Kildonan; Transcona; St James; River Heights; and Old St. Vital.

Existing cycling network performance and use

Performance of the existing cycling network was evaluated using general and specific measures of success from the 2015 Pedestrian and Cycling Strategies and supplemented with available data. This information is to be a considered a snapshot in time, mostly ending in 2020. Actions, mapping and recommendations are based upon this analysis. However, they have been reviewed and updated to 2024 context and conditions. In the future this information will be tracked by the service-based budget, the bicycle monitoring program, internal mapping processes and other tracking mechanisms as required. The following sections outline the evaluation process and results grouped by bicycle network, activity, and safety.

Bicycle network

The following data helped to define the bicycle network that comprises both bicycle infrastructure and bicycle intersection treatments.

- Bicycle infrastructure type definitions from the *Walking and Cycling Progress Report 2015-2018 and 2019 Bike Map*.
- Existing bicycle network shapefile from the 2019 Bike Map (PED_EXPORT_2019.shp). Infrastructure are defined by roadway classification and type which can be grouped by off-roads paths, on-street bikeways, and informal on-street routes. The shapefile also includes spur routes which refers to small connections primarily through parks. Links are not classified by spine and local network.
- Existing active transportation network shapefile (AT_Network.shp) curated by Public Works (Permits & Plan Approval - GIS Support Services) and provided on the open data portal. Shapefile links are identified by their reference ID to the sidewalk network (WALKWAY.shp) and road network (BLOCK_SEGMENTS_01_MAR_12.shp) which enables application of any attributes contained in those shapefiles. This shapefile is updated daily with new bicycle infrastructure that have been built and included in maintenance activities. With the limitation to City-maintained infrastructure, the shapefile does not include infrastructure that are maintained by P3 consortiums (e.g. Plenary Roads) like the Phase 2 Bus Rapid Transit facility or Disraeli Bridges infrastructure which comprise significant publicly used links in the bicycle network. Each link is defined by its infrastructure type, location (e.g., off-road vs on-road), neighbourhood, ward, city area, and spine network.
- Existing and planned bicycle network shapefile from the 2015 Pedestrian and Cycling Strategies (Bicycle_Network_Full_Buildout_With_Priorities_Rev_G.shp). Shapefile links are identified by two ID numbers that are not completely equal: none of these IDs match the 2019 Bike Map IDs nor the Existing active transportation network IDs. Each link is defined by its status (e.g., existing, new route) infrastructure type, spine network, quadrant location, and priority rank (e.g., low, moderate, high). Bicycle infrastructure include shared use lanes and shared bus/bicycle lanes which are no longer described as infrastructure types. In addition, some infrastructure are classified as multi-modal corridors which indicates that a bicycle connection is desired in this general area, but the type and alignment of corridor needs to be confirmed with further study.

- Bicycle intersection signalization shapefile (TrafficSignals_Inventory_-_Locations.xlsx) curated by Public Works (Traffic Signals Branch) and available on the open data portal. Bicycle signal locations were identified from a separate dataset provided by Traffic Signals that could by linked by Signals Location Number. Signalized intersections are further defined by signal type (e.g., vehicle and pedestrian corridor) but may be connected to many other traffic signal data sets.

Bicycle infrastructure types

Since the 2015 PCS Strategies, we have refined definitions of bicycle infrastructure. The most recent definitions are found in the 2019 Bike Maps shown in Exhibit 0.6. These new definitions are largely consistent with the 2015 PCS relative to paths, protected lanes, buffered bicycle lanes, painted lanes and neighbourhood greenways; however, other less intensive infrastructure types (diamond lanes and shared use 'sharrow' lanes) have been dropped as infrastructure types and absorbed into the informal on-street route classification.

EXHIBIT 0.6: **BICYCLE INFRASTRUCTURE DEFINITIONS FROM THE 2019 BIKE MAP.**

OFF-STREET PATHS

Multi-use Paths (paved and unpaved)
Multi-use paths are shared pedestrian and cyclist routes that are physically separated from motor vehicles. These paths can be paved or unpaved surfaces and may be subject to seasonal flooding on low lying routes. Remember, cyclists yield to pedestrians on multi-use paths.

Spur Route
Short paths, park paths or short-cuts of various surfaces and widths. Includes sidewalks that are used to access local destinations. Depending on wheel size, cyclist may need to dismount on sidewalk short-cuts (see: "Helpful Information").

ON-STREET BIKEWAYS

Protected Bicycle Lane
Protected bicycle lanes are located within the road right-of-way, but are physically separated from motor vehicle travel lanes by concrete curbs, planters, vehicle parking etc.

Buffered Bicycle Lane
Buffered bicycle lanes provide more separation from vehicles than painted lanes, typically through painted buffers and polyposts.

Painted Bicycle Lane
Cycling routes on the roadway designated by painted lanes and road markings.

Neighbourhood Greenway
Routes on streets which typically include a range of treatments to achieve lower vehicle speeds and volumes. Treatments range from signage, bike signals, and pavement markings to varying degrees of traffic calming (speed humps, traffic diverters, and traffic circles).

INFORMAL ON-STREET ROUTES

The informal routes were developed using local knowledge and experience. Street conditions may vary depending on the time of day, day of the week, and the seasons. While cycling is allowed on all Winnipeg streets, users may find these routes more comfortable.

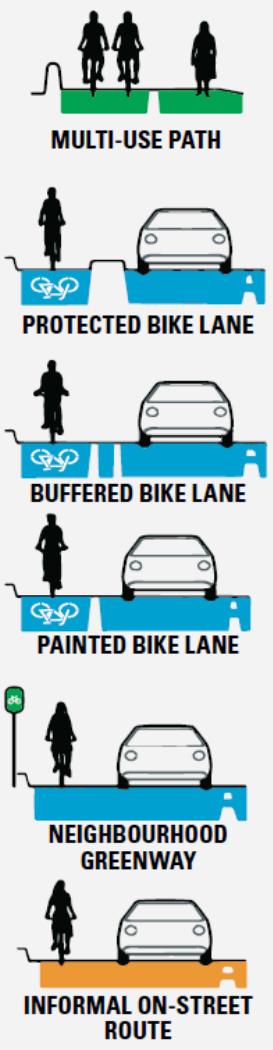
Low-stress
User suggested routes shared with vehicles typically on neighbourhood streets with lower vehicle volumes.

Medium-stress
User suggested routes shared with vehicles typically on major streets where no alternative connection is considered suitable. Recommended for experienced cyclists.

Note: Sharrows (painted bicycle symbol only) are shown on this map as informal facilities.

AREA OF CAUTION

Denotes a difficult area or intersection on the formal and informal network. Locations were identified using local knowledge and experience. Other unmarked situations may present difficulty to some cyclists.



Existing 2020 bicycle network

The 2020 bicycling network shown in Exhibit 0.7, was developed based on the 2019 Bike Map and updated with new infrastructure from the active transportation network and design drawings from WalkBike projects on the winnipeg.ca (see Exhibit 0.8) that are identified as constructed.

EXHIBIT 0.7: **EXISTING 2020 BICYCLE NETWORK.**

EXHIBIT 0.8: **LIST OF COMPLETE AND ONGOING BIKE/WALK PROJECTS FROM 2015 TO 2020.**

Active Transportation Project	Status	Study	Design	Construction
Bishop Grandin Walk Bike Bridge Over Pembina Highway Study	Plan Complete	☒	☒	
East Fort Garry Walk Bike Project	Plan Complete	☒		
River Road to Rivergate Drive Connection	Plan Complete	☒	☒	
Seine River Crossing	Plan Complete	☒		
Southeast Corridor	Plan Complete	☒	☒	
Wolseley to West Alexander Corridor	Plan Complete	☒	☒	
St. Boniface to Downtown Walk Bike Project	Ongoing		☒	
Wolseley to Downtown Walk Bike Project	Constructed/Ongoing	☒	☒	☒
Osborne to Downtown Walk Bike Bridge and Connections	**Constructed**	☒	☒	☒
Downtown Bike Lane System and Street Improvements	**Constructed**	☒	☒	☒

Active Transportation Project	Status	Study	Design	Construction
Princess Protected Bike Lane	Plan Complete	☒	☒	
Chevrier Walk/Bike Improvements	**Constructed**	☒	☒	☒
Chief Peguis Greenway Extension from Henderson Hwy to Main St	**Constructed**	☒	☒	☒
Keewatin Street Multi-Use Pathway – Inkster Blvd to Burrows Ave	**Constructed**			☒
North East Pioneers Greenway Connection to Archibald Street	**Constructed**			☒
Fermor Avenue Bridge over Seine River Rehabilitation and Roadworks	**Constructed**	☒	☒	☒
Memorial Protected Bike Lanes	**Constructed**		☒	☒
Route 90 Improvements Study (2018)	Plan Complete	☒	☒	
Pembina Highway Buffered Bicycle Lane	**Constructed/Ongoing**		☒	☒

Active Transportation Project	Status	Study	Design	Construction
Empress Street and Overpass Reconstruction and Rehabilitation Study	**Constructed**	☒	☒	☒
Transcona Trail Extension	Cancelled			☒
North Winnipeg Parkway between St. John's Park and South of Redwood Avenue	Ongoing			☒
Southwest Transitway	**Constructed**		☒	☒
Waverley Underpass Project	**Constructed**			☒
A Better Bridge for Arlington	Ongoing	☒	☒	
Chief Peguis Trail Extension West	Ongoing	☒	☒	
Adjustable Bike Lane Curbs	Complete			☒
Lyndale Drive Retaining Wall	**Constructed**	☒	☒	☒
St. Matthews Avenue Protected Bike Lanes	**Constructed**			☒
West Alexander to East Exchange Corridor	**Constructed**	☒	☒	☒

Active Transportation Project	Status	Study	Design	Construction
West Alexander Pedestrian and Cycling Corridor	Constructed	☒	☒	☒
Yellow Ribbon Greenway Extension to St. Matthews Avenue	Constructed	☒	☒	☒

EXHIBIT 0.9 **SUMMARIZES THE LENGTH OF BICYCLE INFRASTRUCTURE THAT EXISTED IN 2015 COMPARED TO THE LENGTH IN 2020. THE LENGTH OF ALL INFRASTRUCTURE TYPES INCREASED SINCE 2015 WITH THE LARGEST PROPORTIONAL INCREASE (OTHER THAN BUFFERED BICYCLE LANES) IN PROTECTED BICYCLE LANES AT 242PERCENT. OVERALL, THE TOTAL LENGTH OF BICYCLE INFRASTRUCTURE INCREASED 75PERCENT FROM 221 KM IN 2015 TO 388 KM IN 2020. THIS HAS RESULTED IN AN INCREASE OF 27PERCENT IN THE AREA COVERED WITHIN 400 METRES OF BICYCLE INFRASTRUCTURE.**EXHIBIT 0.9: **CHANGE IN BICYCLE INFRASTRUCTURE LENGTH (KM) FROM 2015 TO 2020.**

Infrastructure Type	2015 Total (km)	2020 Total (km)	percent Change
Multi use pathway (paved)	149	234	57percent
Multi use pathway (unpaved)	14	65	349percent
Protected bicycle lane	4	15	242percent
Buffered bicycle lane	0	8	800percent
Painted bicycle lane	12	20	66percent
Neighborhood greenway	41	46	12percent
TOTAL	221	388	75percent
Area (km^2) within 400 meters of bicycle network.	167	213	27percent

Exhibit 0.10 shows the length (km) of each bicycle infrastructure type disaggregated by their location in geographic areas of higher poverty, as defined by the City of Winnipeg[6]. Total roadway length is indicated to understand the proportion of the city that is designated as being within geographic areas of higher poverty relative to the transportation network. The figure reveals:

- 60percent of bicycle infrastructure are multi use pathways (paved) and considered accessible by people of all ages and abilities.

GEOGRAPHIC AREAS OF HIGHER POVERTY COMPRISE 5PERCENT OF THE TOTAL ROADWAY NETWORK AND 9PERCENT OF THE BICYCLE NETWORK. THE TABLE INDICATES THAT GEOGRAPHIC AREAS OF HIGHER POVERTY HAVE A LOWER PROPORTION OF PHYSICALLY SEPARATED INFRASTRUCTURE WHICH MAY BE A RESULT OF GEOGRAPHIC AREAS OF HIGHER POVERTY BEING IN AREAS WITH MORE DENSE ROAD NETWORKS AND LESS AVAILABLE SPACE FOR SEPARATED INFRASTRUCTURE. EXHIBIT 0.10: **BICYCLE INFRASTRUCTURE LENGTH (KM) BY TYPE AND GEOGRAPHIC AREAS OF HIGHER POVERTY.**

		Proportion of City-Wide Total	
Infrastructure Type	**City-wide (percent of total)**	**Not Higher Poverty**	**Higher Poverty**
Multi use pathway	234 (60percent)	94percent	6percent
Multi use pathway (unpaved)	65 (17percent)	95percent	5percent
Protected bicycle lane	15 (4percent)	87percent	13percent
Buffered bicycle lane	8 (2percent)	63percent	38percent
Painted bicycle lane	20 (5percent)	70percent	30percent
Neighborhood greenway	46 (12percent)	87percent	13percent
TOTAL	388	91percent	9percent
Total Roadway Length	3175	95percent	5percent

Bicycle infrastructure maintenance program

Snow clearing performance depends on many variables, including contractor workload, geographic distribution of snowfall events, temperatures after snowfall, etc. As such, the time between the snowfall event and snow clearing varies from event to event and by area. Consequently, snow clearing performance is best tracked in real time during an event with performance needs set through policy.

The Council-approved policy on snow clearing and ice control classifies each city street into one of three priority levels. Priority (P) 1 streets are regional streets or major routes, P2 streets are bus routes and

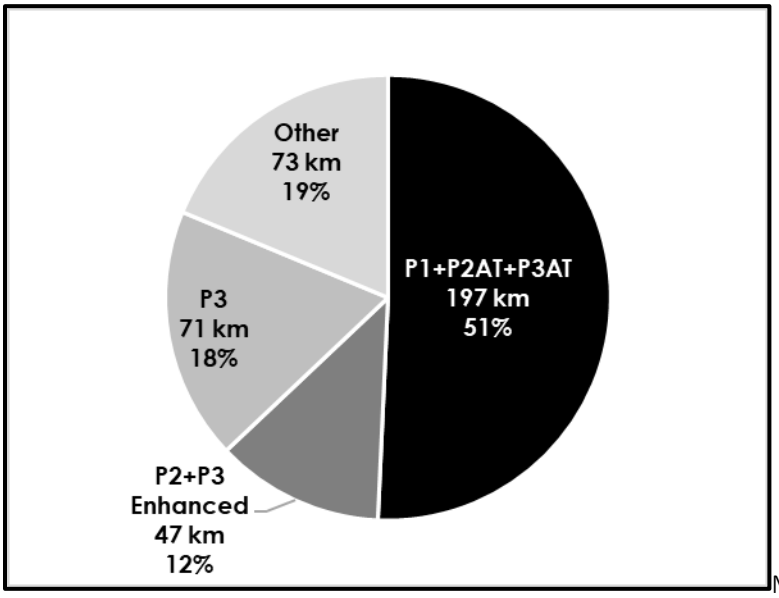
[6] City of Winnipeg (2020) *Administrative Report: Defining Higher Needs Neighbourhoods*. Standing Policy Committee on Protection, Community Services and Parks, City of Winnipeg. 2020-03-04. Link.

collector streets, and P3 streets are residential streets. In 2019, the system was expanded to include categories for main sidewalks and active transportation routes on streets with bus service and/or collector streets (termed Priority P2AT) and for main active transportation routes on residential streets (termed Priority P3AT). P2AT and P3AT path routes are now cleared as part of P1 plowing operations. This means that key sidewalks and active transportation routes receive the highest priority snow clearing, whether they fall along major routes (P1), bus routes or collector streets (P2AT) or residential streets (P3AT). P1 operations aim to have sidewalks and active transportation paths fully plowed within 36 hours of a snow fall event with more than 5 cm snow accumulation.

On-street bicycle infrastructure not included on P1 streets or in the P2AT and P3AT categories is cleared as part of P2 and P3 operations depending on the street's priority level. For P2 operations, we aim to have sidewalks and active transportation paths cleared within 36 hours of more than 5 cm snow accumulation. For P3 operations, we aim to have sidewalks and active transportation paths cleared within 5 days of more than 8 cm snow accumulation.

Exhibit 0.11 shows the snow clearing distribution of bicycle infrastructure, by length. Note that the P1 category includes P2AT and P3AT infrastructure, and the P2 category includes P3 Enhanced infrastructure. As the figure shows, most bicycle infrastructure are cleared as part of the top priority level (i.e., P1/P2AT/P3AT). Approximately 20percent of bicycle infrastructure-kilometres were not included in the priority level system—mostly trails around suburban retention ponds and other recreational trails.

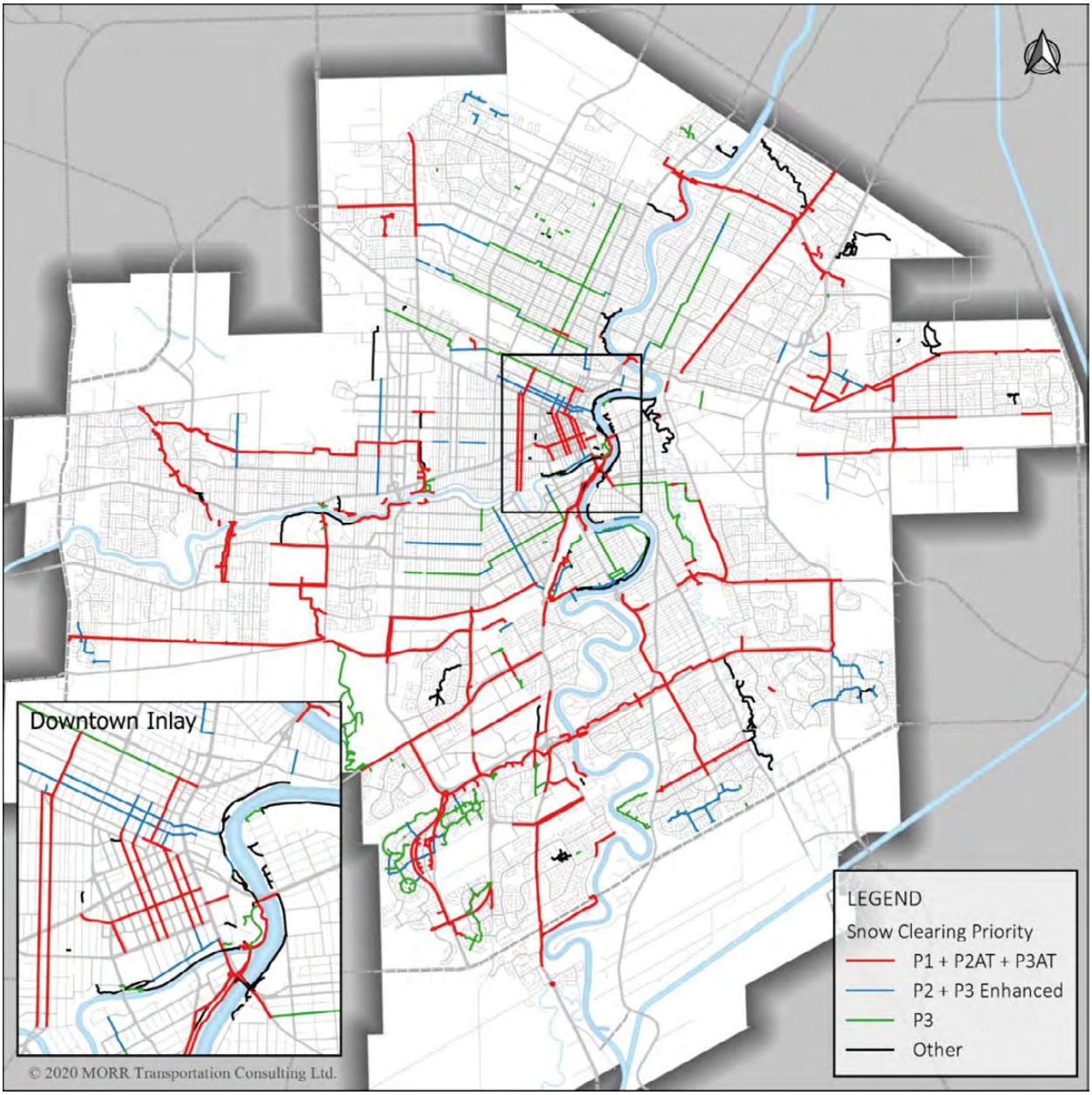
EXHIBIT 0.11: **PROPORTION OF BICYCLE INFRASTRUCTURE BY SNOW CLEARING PRIORITY**



Map 5 shows the spatial distribution of snow clearing priority level for the 2021-2022 winter. Priority 1 (P1) routes are mostly multi use pathways and are well-distributed throughout the city with exception of the north west quadrant. P2 and P3-Enhanced routes comprise higher-level on-street bicycle infrastructure (i.e., buffered and painted bicycle lanes). Priority 3 routes are primarily neighbourhood greenways. The figure shows that there are significant gaps in the network; they may be the result of an incomplete network but are more pronounced in winter

considering that snow accumulation may prevent the ability to use other road infrastructure to connect between bicycle infrastructure.

MAP 5: **2021-2022 BICYCLE INFRASTRUCTURE SNOW CLEARING PRIORITY MAP**



Proposed bicycle network (2015 PCS)

The proposed 2015 bicycle network, shown in Map 6, represents the existing (2015) and planned bicycle network that was developed as part of the *2015 Pedestrian and Cycling Strategies*. This 2015 network was referenced along with the existing 2020 bicycle network () to develop the recommended bicycle network.

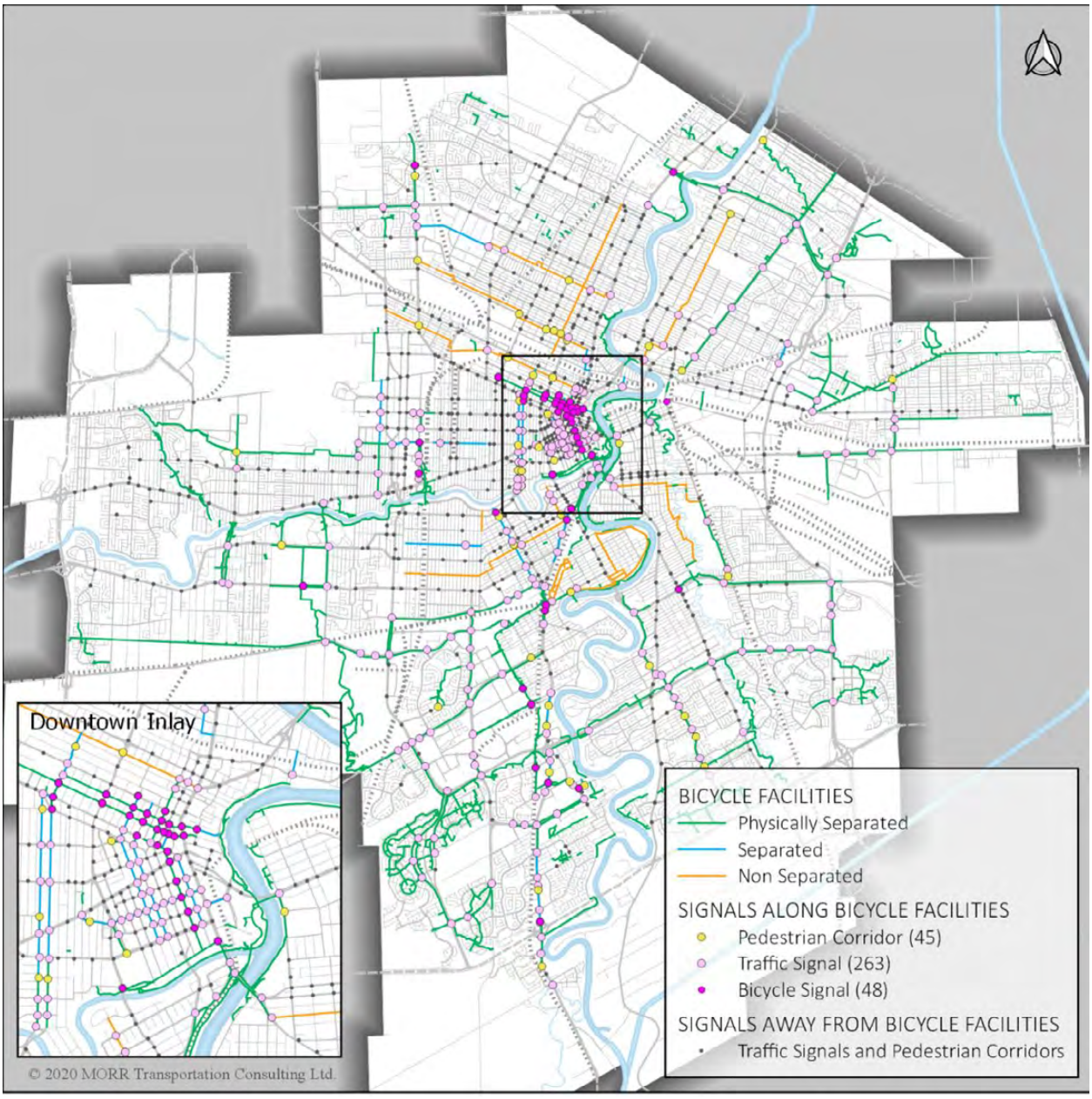
MAP 6: **BICYCLE NETWORK FROM THE 2015 PCS.**

Existing 2020 bicycle signalization

Map 7 shows the location of bicycle signals (traffic signals with bicycle signal heads), traffic signals (traffic signals without bicycle signal heads), and pedestrian corridors and highlights those that are located along existing bicycle infrastructure. Signalized intersections located along bicycle infrastructure are highlighted because these intersections would be potential candidates for bicycle signals. The figure reveals the following:

- There are 48 bicycle signals along bicycle infrastructure. A majority are located downtown and along physically separated bicycle infrastructure.
- There are 263 traffic signals along bicycle infrastructure (there are 681 traffic signals city-wide).
- There are 45 pedestrian corridors along bicycle infrastructure (there are 185 pedestrian corridors city-wide).

MAP 7: **EXISTING 2020 SIGNALS ALONG BICYCLE INFRASTRUCTURE.**



Bicycle activity

Bicycle activity was evaluated with the following data sources:

- City-wide bicycle activity data from the Statistics Canada *Journey to Work Survey* data. The *Journey to Work Data* included mode split data aggregated to the city level. Data was considered from the 2001, 2006, 2011, and 2016 Censuses, which allowed the study team to consider how mode splits were changing.

- District-level bicycle activity data from the *2007 Winnipeg Area Travel Survey (WATS)*. While outdated, the WATS includes data on mode splits aggregated to the level of 30 "districts" in Winnipeg and the surrounding municipalities.
- Zone-level telemetric bicycle activity data from the *Streetlight Data* platform. Data was from May to September 2019 for all days of the week. Data from *Streetlight* is taken from cell phone and vehicle-based GPS systems and aggregated and anonymized and to protect privacy. The data can be used to show the spatial distribution of pedestrian activity, aggregated into 51 zones covering the city. *Streetlight* data is provided in terms of an index representing the relative proportion of activity between and within each zone, and not the actual number of trips.
- Short-duration bicycle count data as part of bicycle-only counts, and combined pedestrian and bicycle counts. The counts included locations at intersections, as well as mid-block counts on active transportation paths. Counts were taken from as early as 2009 to as recent as 2020.
- Continuous bicycle count data from the 10 continuous bicycle count devices installed along multi use pathways in 2014. This data is collected using Eco-counter ZELT equipment that continuously detects the passage of a bicycles using inductive loop sensors. The raw count data was automatically validated by MORR to remove any obviously erroneous data from further analysis. It is our understanding that the accuracy of these devices had not been verified between 2016 and 2019 inclusive so, despite validation efforts, results may be inaccurate.

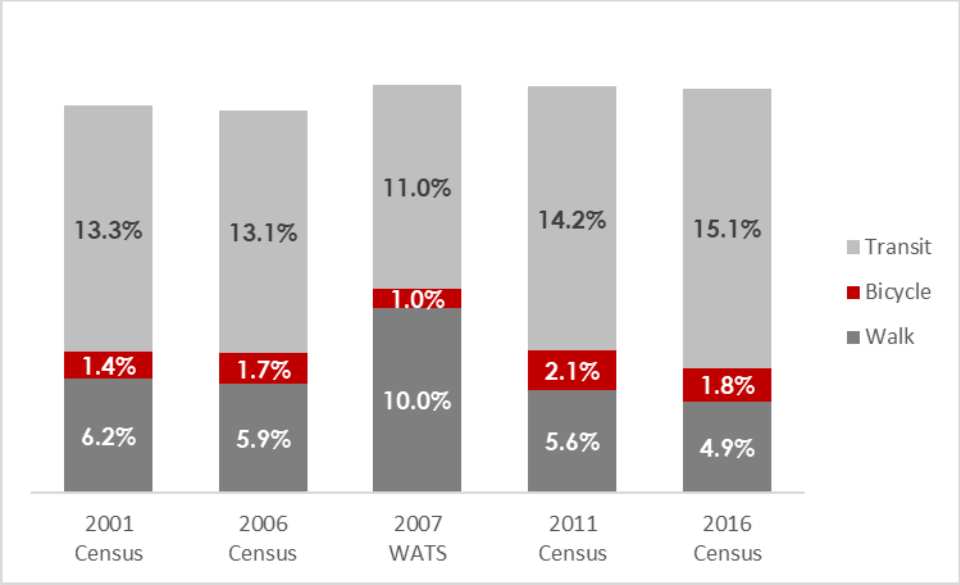
The following data sources were also reviewed but excluded as described below:

- Airsage telemetric bicycle activity data provided by Winnipeg Transit and collected in 2019 as part of developing the Winnipeg Transit Master Plan. Airsage data was found to be of no value to this study because it did not disaggregate trips by mode of travel.
- Strava app activity data was not acquired from Strava Metro due to the known bias of its data toward recreational cyclist who use the app for a narrow purpose.

Census & WATS Travel Survey

shows Canada Census cycling mode split data for commuting trips, including data from the 2001, 2006, 2011, and 2016 Censuses. The figure also shows data from the 2007 WATS. WATS did not distinguish between commuting and other trips, so the mode split shown is averaged from all trips occurring during the AM and PM peak period. Most trips during the AM and PM peak period are likely commuting trips, but those periods would also include some non-commuting trips, such as recreational trips. As such, the splits from WATS should be considered as somewhat different than the Census commuting trip data. For context also shows the commuting mode share by transit and by walking.

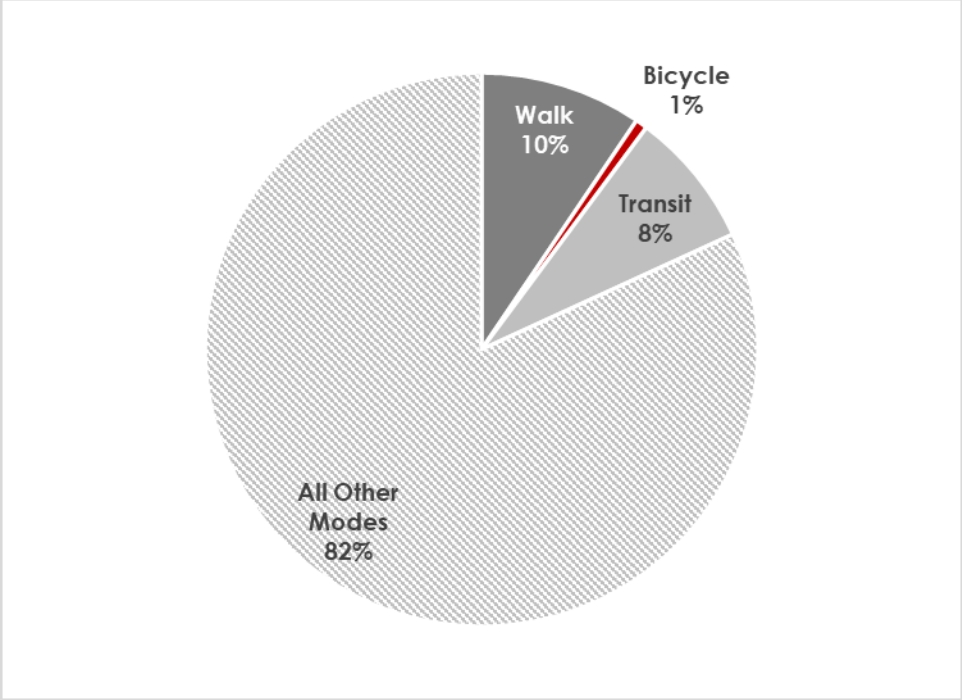
EXHIBIT 0.12: **MODE SPLITS – COMMUTING TRIPS FROM CENSUS AND WATS DATA**



From the 2001 through 2016 Censuses, cycling accounted for approximately 1.5 to 2percent of commuting trips. The cycling mode share has increased in general from a low of 1.4percent in the 2001 Census to a high of 2.1percent in the 2011 Census. WATS data shows cycling accounting for 1.0percent of AM and PM peak period trips—less than the Census figures from any of the four Censuses considered. This is likely due to WATS including all peak period trips, which reflects higher trips by walking and a reduced proportion of cycling trips relative to the Census commuter trip data. The total non-personal vehicle split was consistent with the Censuses, with WATS showing smaller bicycle and transit mode splits than the Censuses.

shows mode split data for all trips from WATS. Census data on mode splits was limited to commuting trips, so WATS was the only available data source for mode splits considering all trips. The WATS data showed cycling accounting for 1.0percent of all trips, approximately consistent with the bicycling mode split for the AM and PM peak periods, as shown in Exhibit 0.12.

EXHIBIT 0.13: **MODE SPLIT – ALL TRIPS FROM WATS**

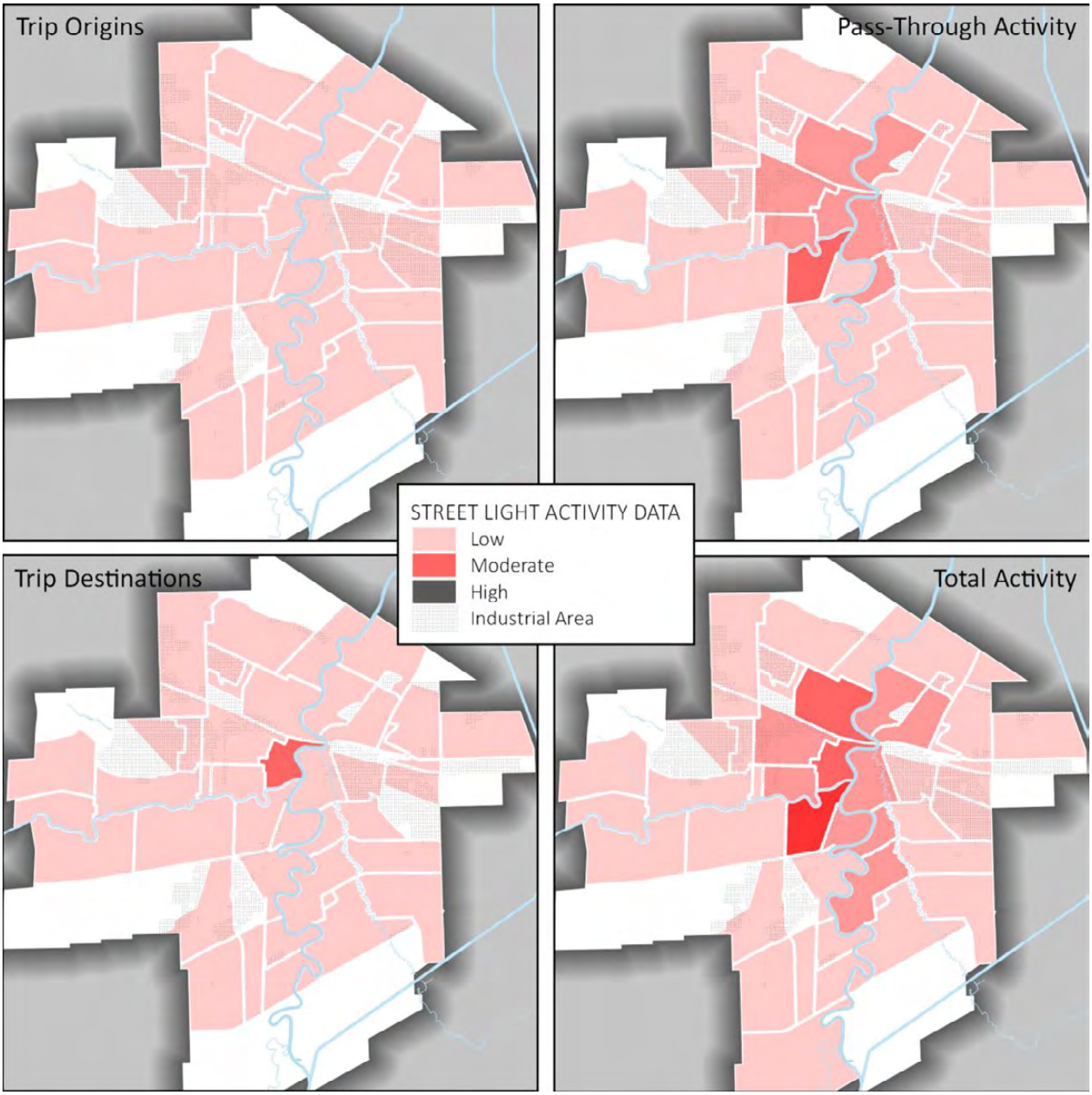


Streetlight telemetric activity data

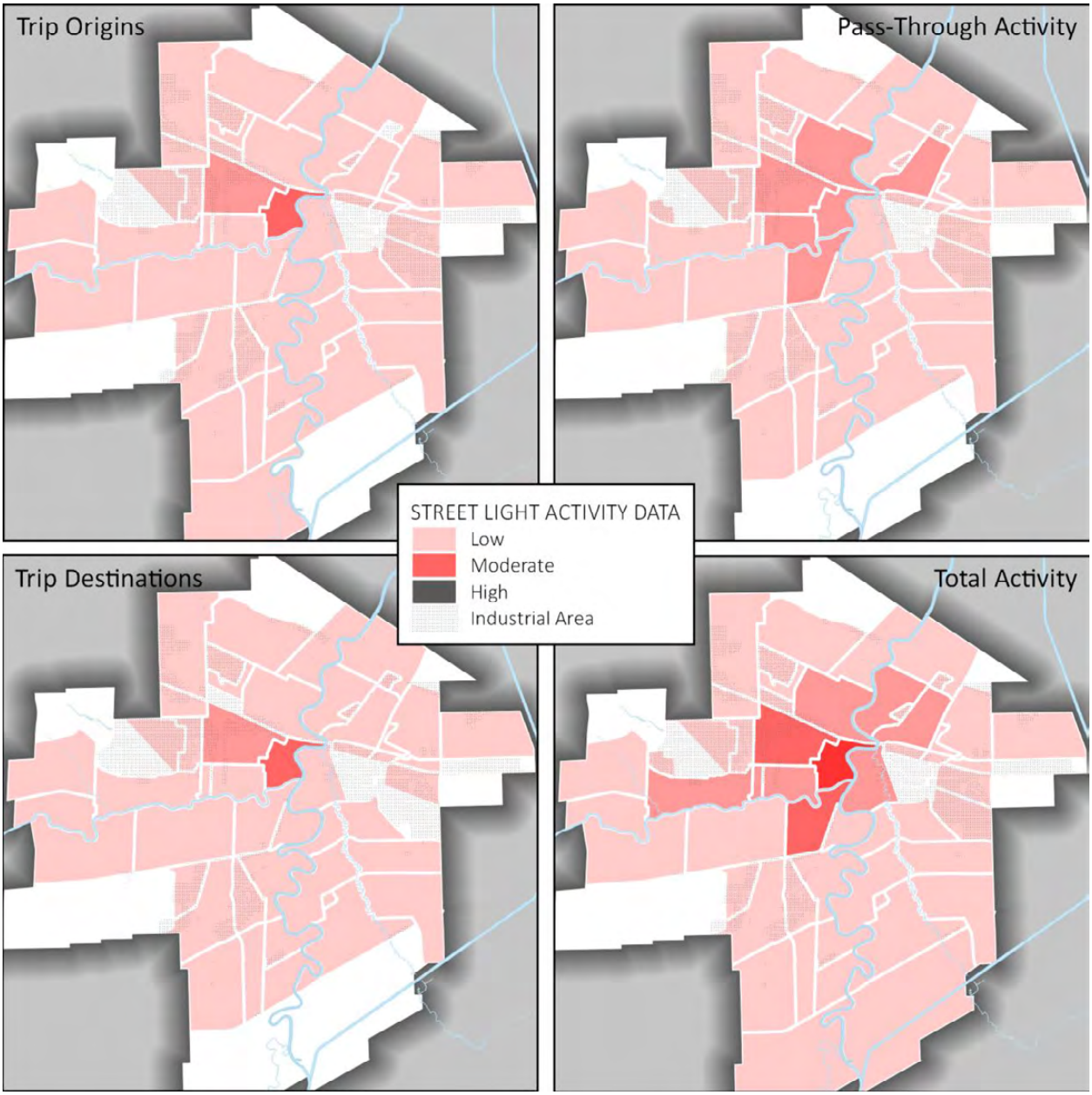
Map 8, Map 9, Map 10, and Map 11illustrate the spatial distribution of telemetric data, with each figure representing a different time period. Data was taken from weekdays (Tuesdays, Wednesdays, and Thursdays) in 2020. Each figure includes four sub-figures:

- The top left figure shows the distribution of bicycle trip origins. Zones colored darker have more bicycle activity beginning within their borders.
- The top right figure shows the distribution of pass-through activity. Zones colored darker have more bicycle trips passing through, but neither beginning nor ending within the zone.
- The bottom left figure shows the distribution of bicycle trip destinations. Zones colored darker have more bicycle activity ending within their borders.
- The bottom right figure shows total bicycle activity, as the sum of the origin activity, pass-through activity, and destination activity.

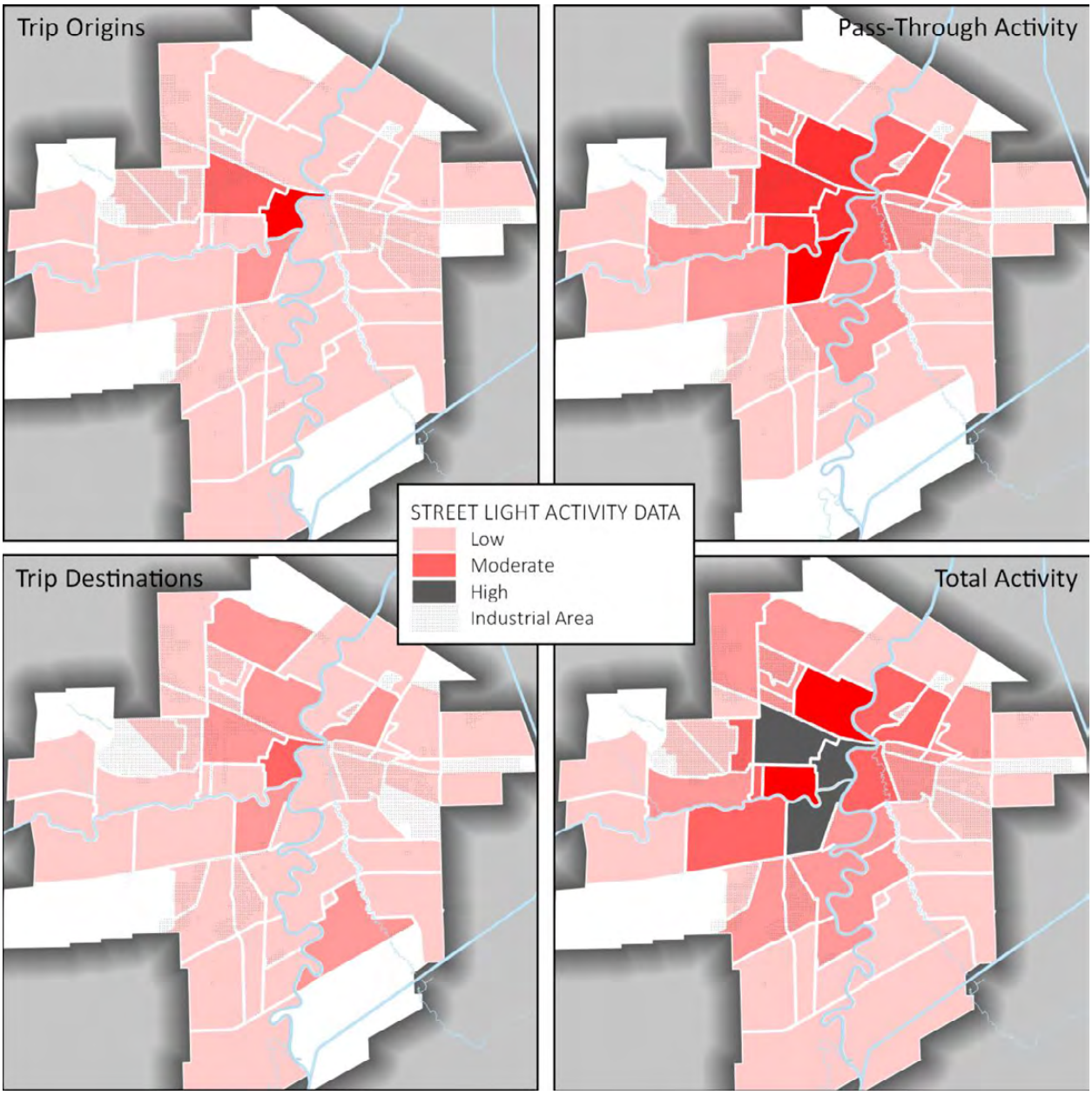
MAP 8: **BICYCLE TELEMETRIC DATA – AM PEAK PERIOD**



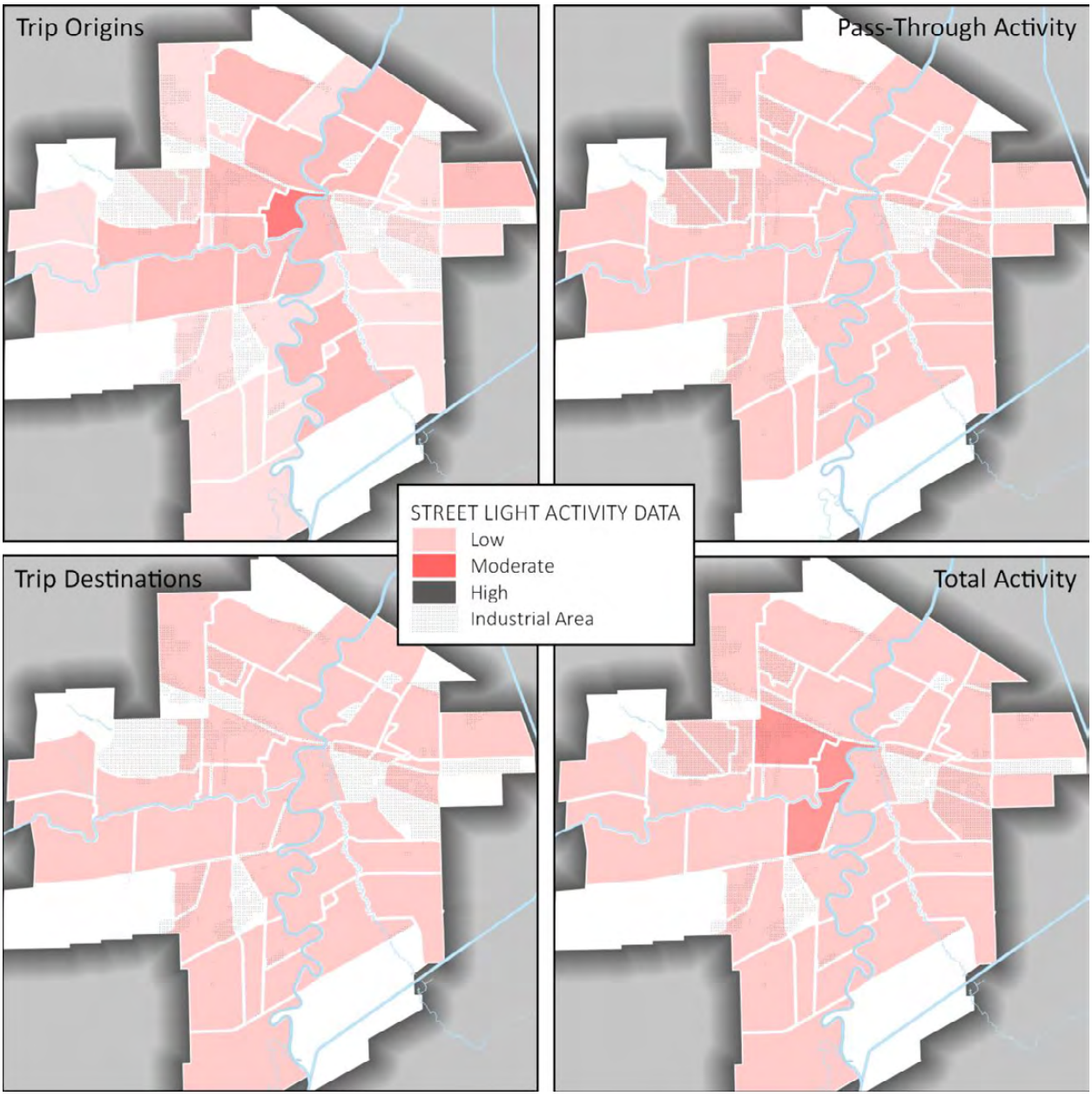
MAP 9: **BICYCLE TELEMETRIC DATA – NOON PEAK PERIOD**



MAP 10: **BICYCLE TELEMETRIC DATA – PM PEAK PERIOD**



MAP 11: **FIGURE 12: BICYCLE TELEMETRIC DATA – EVENING PEAK PERIOD**



Unlike pedestrian activity, there was considerably more pass-through activity with cyclists. This is expected given that cycling trip distances are considerably longer than walking trips and many trips may pass-through multiple zones.

The afternoon peak has the largest magnitude of bicycle activity with high levels in downtown, Crescentwood and Daniel McIntyre and moderate levels in Point Douglas and Wolseley. All these neighbourhoods border downtown and have a large magnitude of pass-through activity. Downtown, Crescentwood and Daniel McIntyre are the only three areas with moderate cycling trip origin activity. River Park South and Garden City/Maples areas are the only neighbourhood destinations located away from downtown that exhibit moderate cycling activity in the afternoon peak.

Cycling activity in the morning peak and noon peak periods is lower than the afternoon peak period and mostly contained in the downtown and neighbourhoods bordering downtown. Crescentwood has the highest cycling activity in the morning peak and downtown has the highest cycling activity in the noon peak period. The evening period has the lowest cycling activity.

The telemetric data is largely consistent with the count data, in that both sources show most activity in downtown and the areas adjacent to downtown, with scattered activity in suburban areas. However, compared to the count data, the telemetric data shows less activity in the suburbs to the south and east. Count data indicates that there is high activity along the multi use pathways in these areas but there are few counts on other infrastructure types to confirm the level of area activity.

Traffic count data

Traffic count data is the primary source for understanding bicycle traffic volume. Prior to 2020, Winnipeg had installed 10 continuous count stations in 2014 to collect short duration bicycle counts as requested for project specific purposes. In the spring of 2020, we implemented a bicycle traffic monitoring program that counts approximately 150 sites every three years. The City Bicycle Traffic Monitoring Program tracks bicycle movements throughout the city ongoing and beyond 2020. This data is reported annually online as part of this program.

Continuous bicycle count data

Continuous bicycle count data is available from 2015 to 2019 for the 10 sites location along multi use pathways in Winnipeg. Map 12 illustrates the location of the 10 continuous count sites; they cover the Bishop Grandin Greenway (BG), Harte Trail (HT), Northeast Pioneers Greenway (NE), Transcona Trail (TT), and Yellow Ribbon Greenway (YRG).

MAP 12: **LOCATION OF CONTINUOUS BICYCLE COUNT SITES**

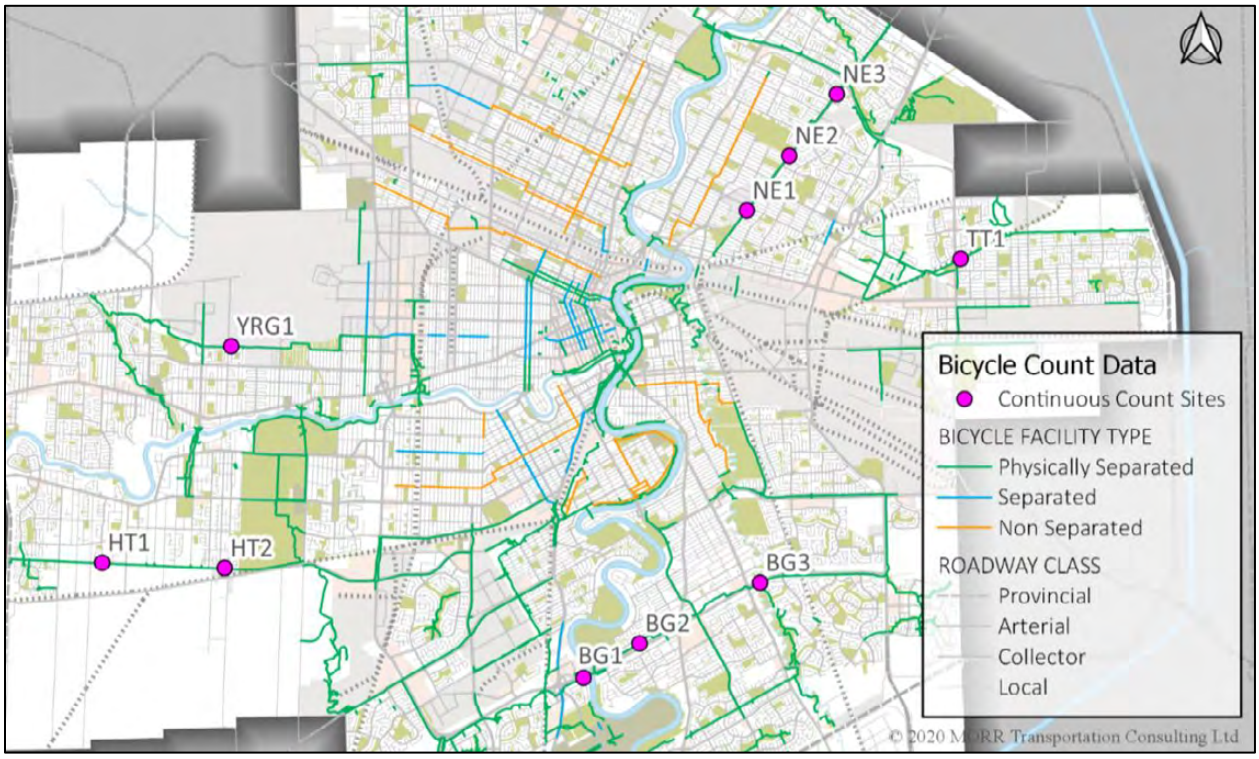


Exhibit 0.14 through Exhibit 0.15reveal the various temporal characteristics of bicycle traffic on the ten multi use pathways in Winnipeg that include annual daily traffic, monthly distribution, day-of-week distribution, and hour-of-day distribution for weekdays and weekends. Other than , 2018 data is used because two sites were removed (TT1 And YRG1) and one other site (HT2) was malfunctioning in 2019.

EXHIBIT 0.14: **ANNUAL AVERAGE DAILY BICYCLE TRAFFIC FROM 2015 TO 2019 (AADBT)**

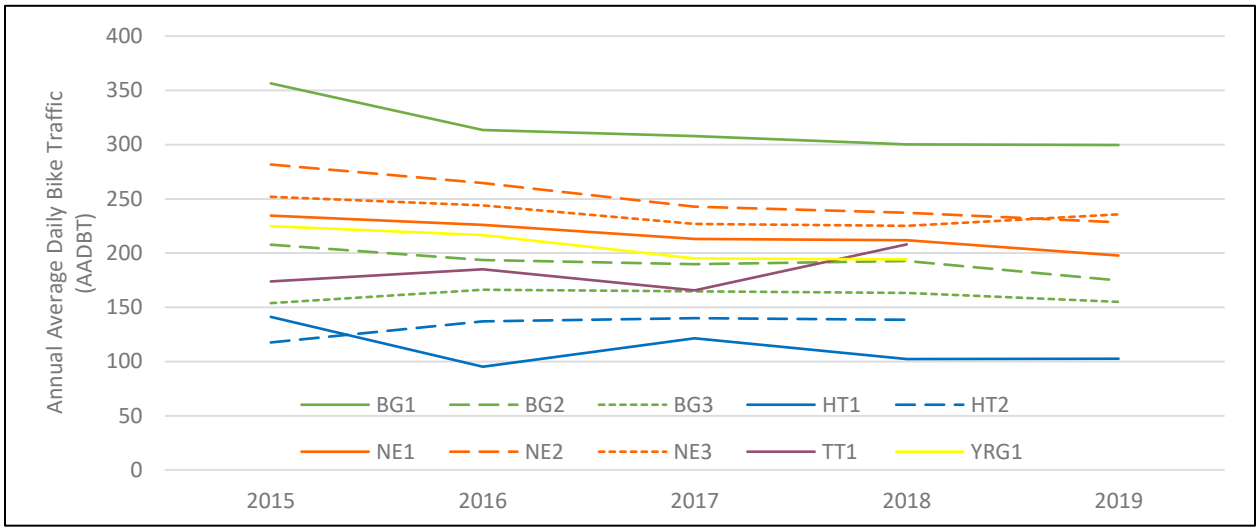


EXHIBIT 0.15: **2018 ANNUAL & SEASONAL AVERAGE DAILY BICYCLE TRAFFIC (AADBT & SADBT)**

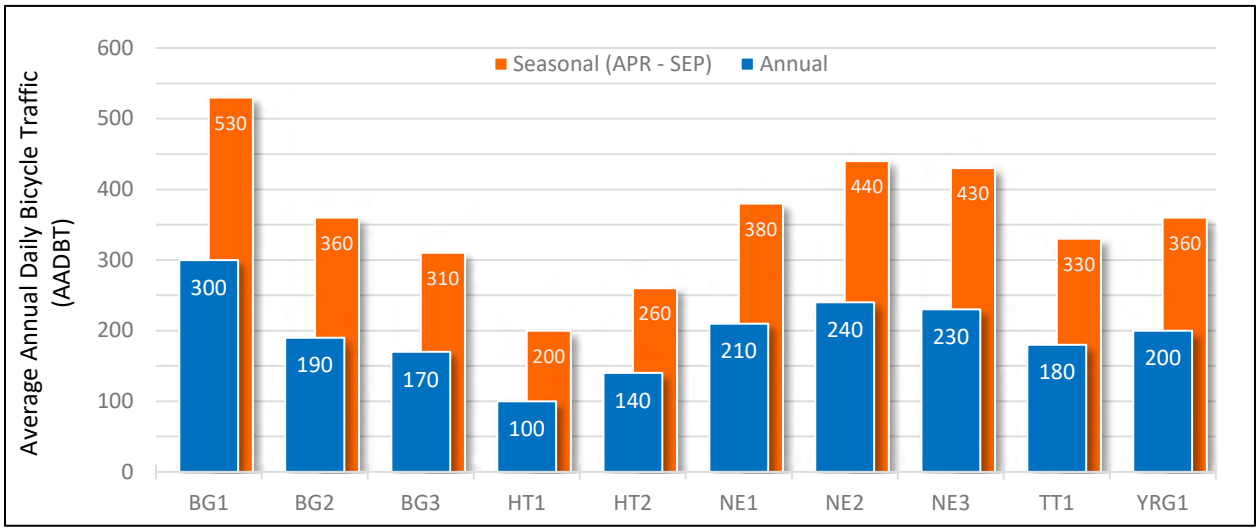


EXHIBIT 0.16: **2018 MONTHLY AVERAGE DAILY BICYCLE TRAFFIC DISTRIBUTION (MADBT)**

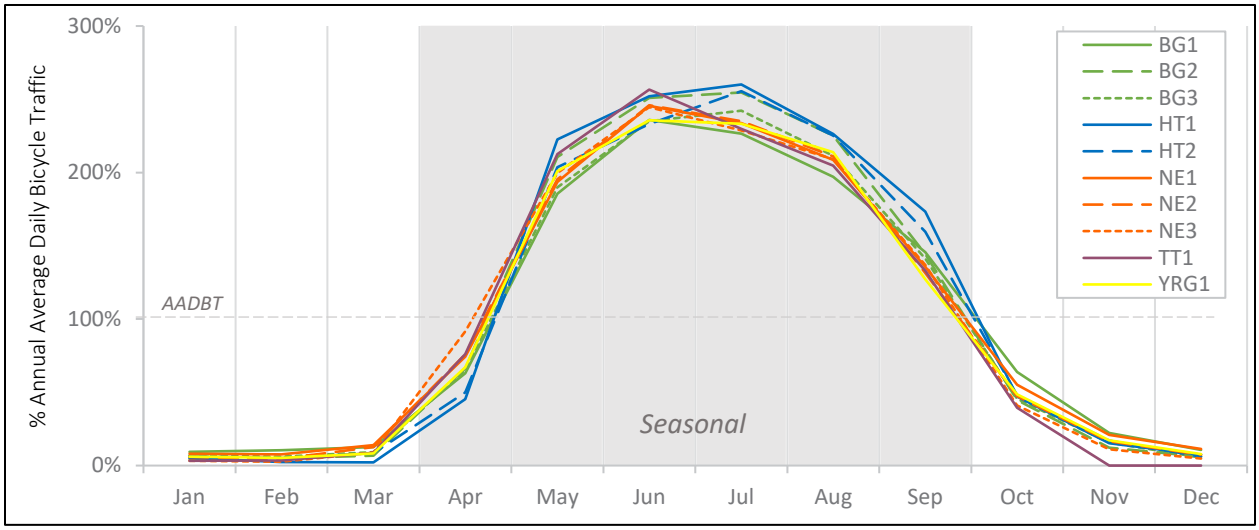


EXHIBIT 0.17: **2018 SEASONAL AVERAGE DAY-OF-WEEK BICYCLE TRAFFIC DISTRIBUTION (AADWBT)**

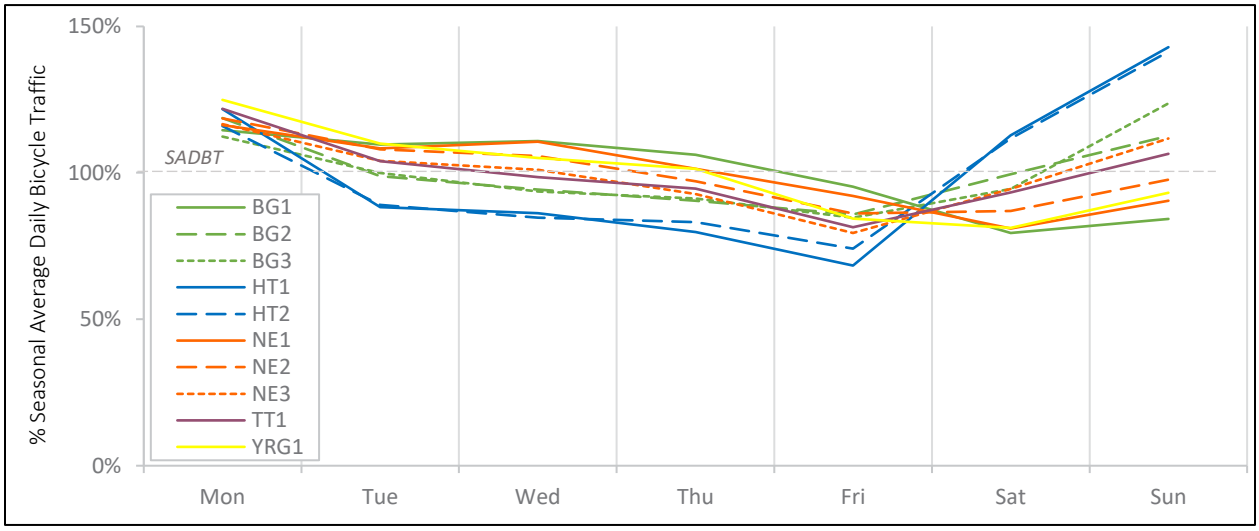
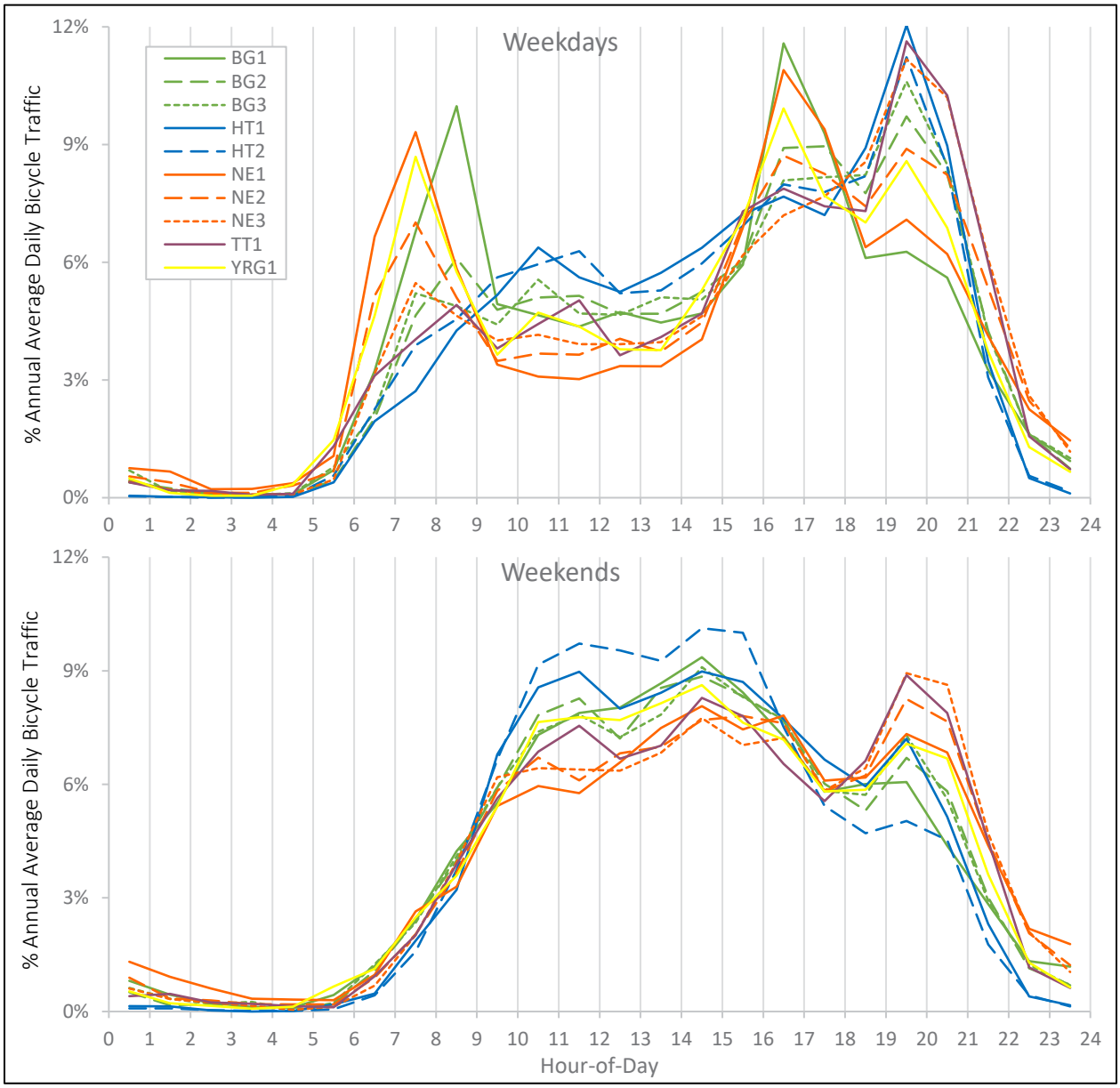


EXHIBIT 0.18: **2018 SEASONAL AVERAGE HOURLY WEEKDAY & WEEKEND BICYCLE TRAFFIC DISTRIBUTION (SAHDBT AND SAHEBT)**



In general, bicycle volumes on the multi use pathways appear to be consistent from 2016 to 2019. The highest bicycle volumes are on the Bishop Grandin Greenway and Northeast Pioneers Greenway with the BG1 site having the highest annual average daily traffic of 300 bicyclists per day. The Harte Trail had the lowest bicycle volumes of the ten sites.

As expected, seasonal (April to September inclusive) bicycle traffic is significantly higher than annual average bicycle traffic with between 1.7 and 2.0 times more bicyclists travelling between April and September inclusive than across the entire year. Further, all sites exhibit similar monthly characteristics with a sharp increase from April to May and sharp decrease from September to October. Thus, more disaggregated statistics (e.g., day-of-week and hour-of-day) do not consider data from months outside April to September.

Day-of-week seasonal traffic distribution seems to vary between continuous count sites except for Monday traffic which has the smallest variation. Bicycle volumes on the Harte Trail have a large peak on the weekend and there is a smaller weekend peak at the BG2 and BG3 sites. This pattern indicates that these sites may serve more recreational trip purposes. In contrast, the other sites have a relatively consistent day-of-week distribution.

There appears to be two distinct hourly distributions on weekdays (Tuesday to Thursday):

- BG1, NE1, NE2, and YRG1 have a large morning peak between 07:00 and 09:00, a large PM peak at 16:00, and a smaller peak at 19:00. This indicates that there may be a higher proportion of commuter traffic than recreational traffic at these sites.
- The remaining sites don't have a pronounced morning peak period and volumes seem to increase until a large evening peak at 19:00. These sites serve mainly recreational bicycle trip purposes.

Weekend travel at all sites follows a similar pattern with a six-hour peak period from 10:00 to 16:00 and a 2-hour evening peak between 19:00 and 21:00. As expected, this pattern is consistent with recreational travel.

Short duration bicycle count data

There are 180 locations with short duration bicycle count data collected between 2009 and 2020. , , and show bicycle volume data from the counts. Note that the data was not from a planned bicycle counting program, but rather was a group of counts collected for various project specific needs. The counts are therefore spatially and temporally limited, and do not provide exhaustive coverage of the city. Count periods ranged between two hours and twenty-four hours in duration and no adjustment factors were applied to counts to account for expected variation in seasonal bicycle activity. Therefore, results presented in this section only provide a general representation of bicycle activity. Where locations had more than one count, the volumes from the most recent count were used in the figures.

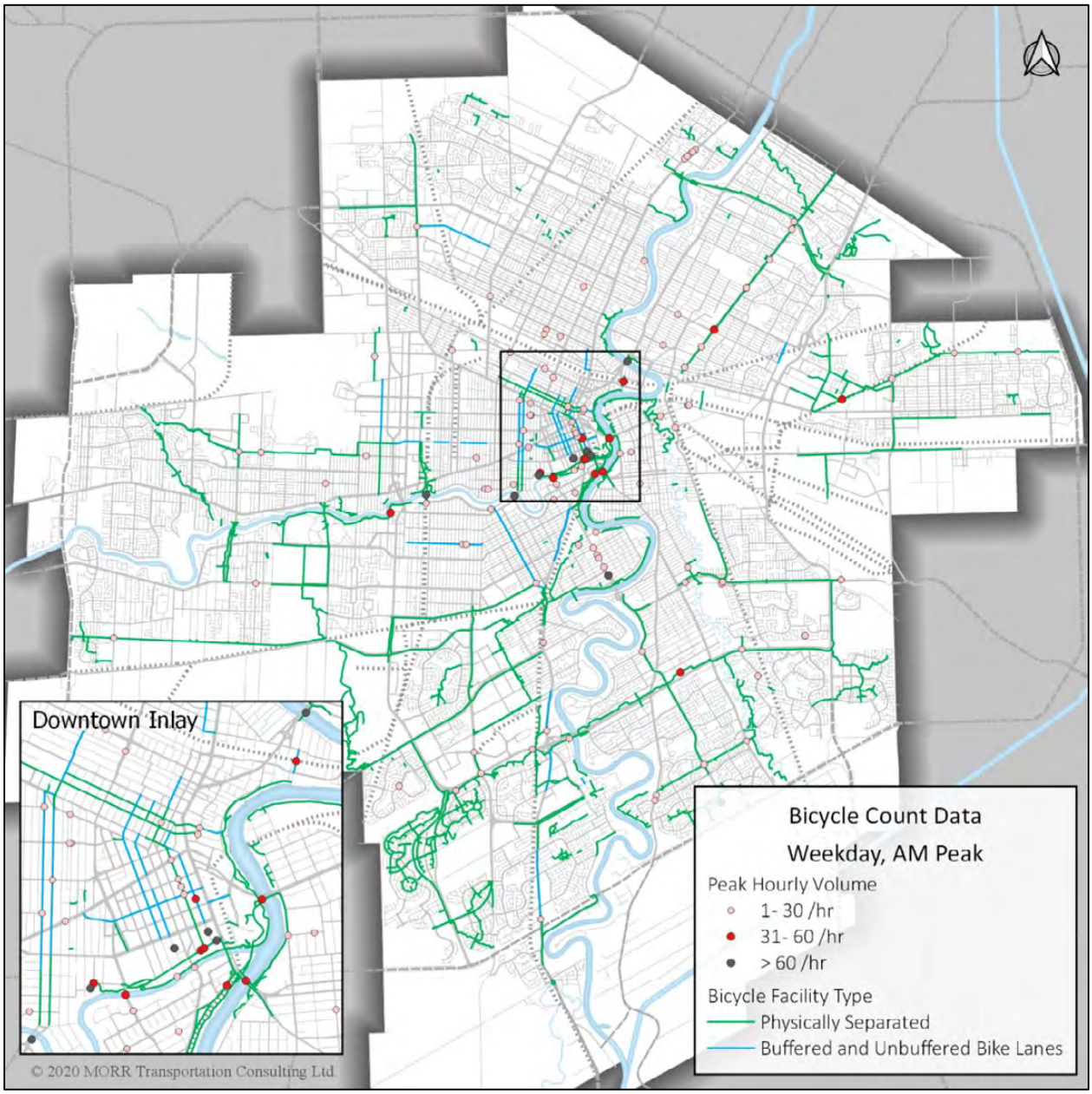
Map 13shows volumes for the weekday morning peak hour, using volumes from the highest bicycle hour between 7:00 AM and 9:00 a.m. at each location.

Map 14 shows volumes for the weekday afternoon peak hour, using volumes from highest bicycle hour between 4:00 PM and 6:00 p.m. at each location.

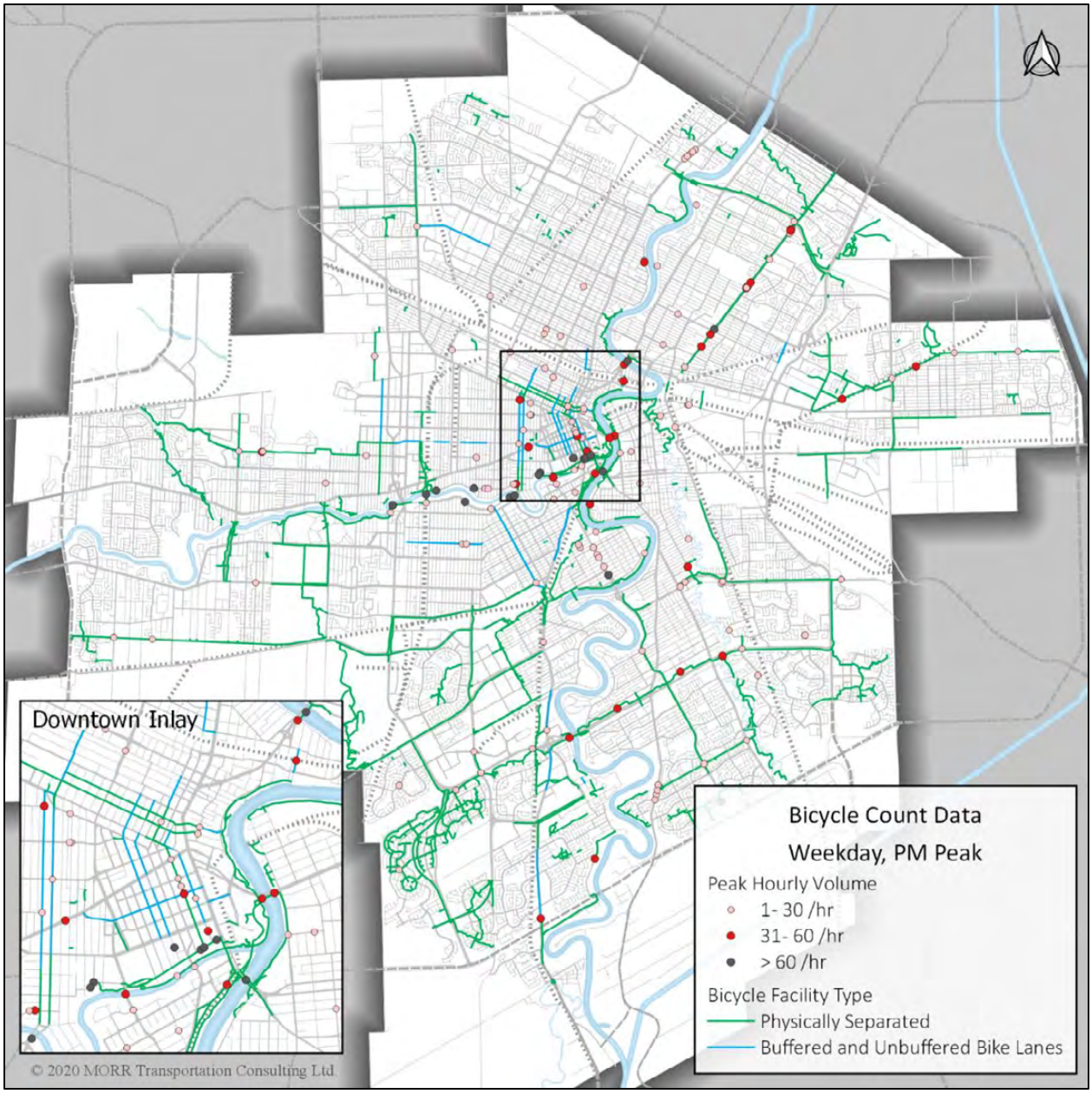
Map 15 shows volumes from the one-hour period with the highest bicycle volume at each location. The highest bicycle volume hour could occur at any time of day and was not necessarily consistent from location to location. The source counts also had different durations meaning that the highest bicycle volume may simply reflect the highest during the count period.

Bicycle volumes are higher in the afternoon peak period than the morning peak period. In the morning peak period, bicycle volumes are concentrated in the downtown, particularly on bridges, except for a few multi use pathways further from downtown. In the afternoon peak period, there is still high activity in downtown but there is also a significant increase in activity along major multi use pathways throughout the city but focused on the Northeast Pioneers Greenway, Transcona Trail, and Bishop Grandin Greenway. Other high activity roadways and areas that are not bridges or multi use pathways are: Scotia Street, Lyndale Drive, Wellington Crescent, Wolseley Avenue, Sherbrook/Maryland Street, Churchill Drive, and Kilkenny Drive.

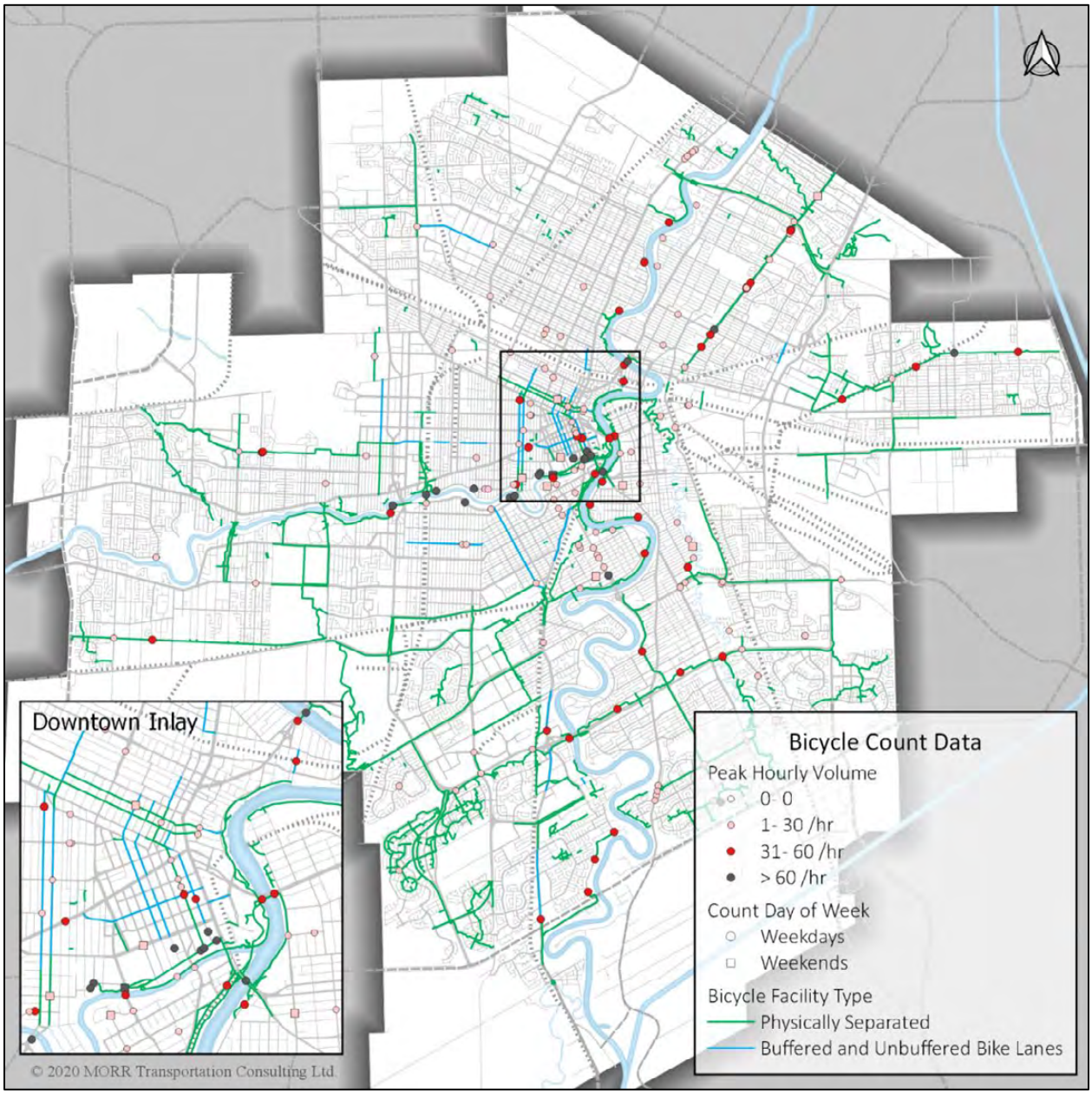
MAP 13: **BICYCLE VOLUMES - AM PEAK HOUR**



MAP 14: **BICYCLE VOLUMES - PM PEAK HOUR**


Downtown Inlay
Bicycle Count Data
Weekday, PM Peak
Peak Hourly Volume
1- 30 /hr
31- 60 /hr
> 60 /hr
Bicycle Facility Type
Physically Separated
Buffered and Unbuffered Bike Lanes
© 2020 MORR Transportation Consulting Ltd.

MAP 15: **BICYCLE VOLUMES - HIGHEST HOUR**



Cyclist safety

The following data helped evaluate cyclist safety:

- Bicyclist collision data summaries generated as part of the initial phase of we of Winnipeg's *Winnipeg Road Safety Strategic Action Plan;* these are replicated here for continuity and understanding. Collision data covered a period from 2012 to 2018.
- Crowd source conflict data was provided by BikeMaps.org. This data source relies on bicyclists to manually report any conflicts or collisions they may have had on their web site. Unlike traditional collision data, BikeMaps.org includes near miss data. Only 10 of the 152 conflicts were recorded prior to 2018 with the earliest in 2012. The data set has many other details that describe the collision including helmet use, trip purpose, incident type, collision description, terrain, time, bike light use, weather, etc.

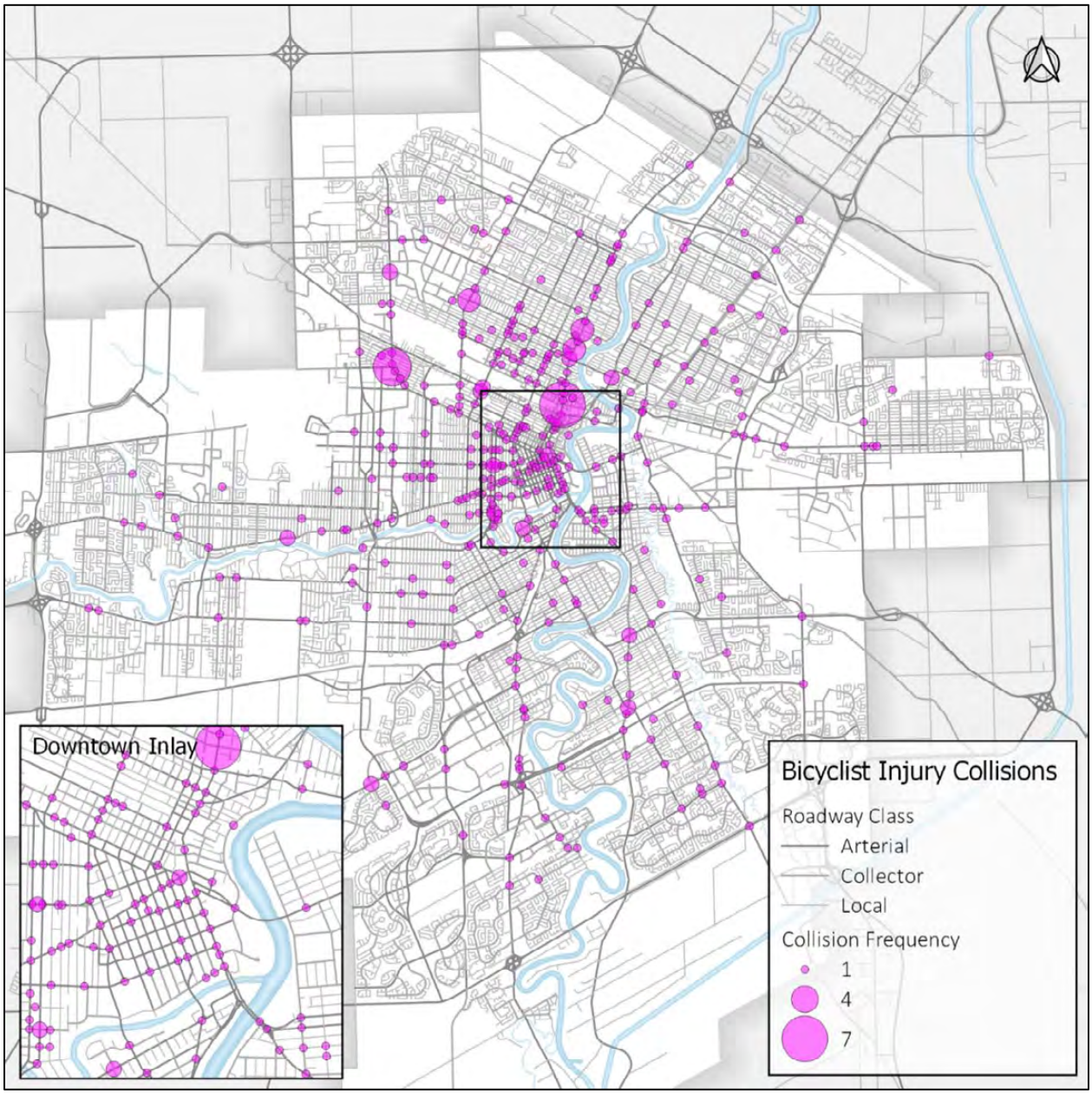
Fatal and major injury collisions involving cyclists

From 2012 to 2018, cyclists comprised over 12percent (12 of 98) of those fatally injured in a collision and about 4percent (44 of 1113) of those suffering major injuries. Census data showed cycling accounting for 2percent of commuting trips, and data from the *Winnipeg Area Travel Survey* (WATS) showed cycling accounting for 1percent of all trips. Cyclists are therefore overrepresented in fatal and major injury collisions.

A geographic analysis of injury-related cyclist collisions (fatal, major injury, minor injury, and minimal injury) is shown in . . Going forward this information will be tracked and reported separately as part of the Road Safety Strategic Action Plan. As the figure illustrates, most bicyclist injury collisions took place in the downtown area, north Winnipeg, and principally involved arterial roadways (75percent involved arterials, 45percent involved collectors, and 45percent involved locals – total proportion exceeds 100percent due to multiple involvements at intersections). The figure highlights the following corridors with a higher frequency of bicyclist injury collisions: Notre Dame Avenue, McPhillips Street, Isabel/Salter Street, Main Street, Portage Avenue, Maryland/Sherbrook Streets, and Marion/Goulet Streets.

Based on the City's geocoded collision database, an almost equal proportion of bicyclist injuries took place at signalized (52percent) and unsignalized (43percent) intersections; 4percent took place midblock.

MAP 16: **LOCATION OF BICYCLIST INJURY COLLISIONS**

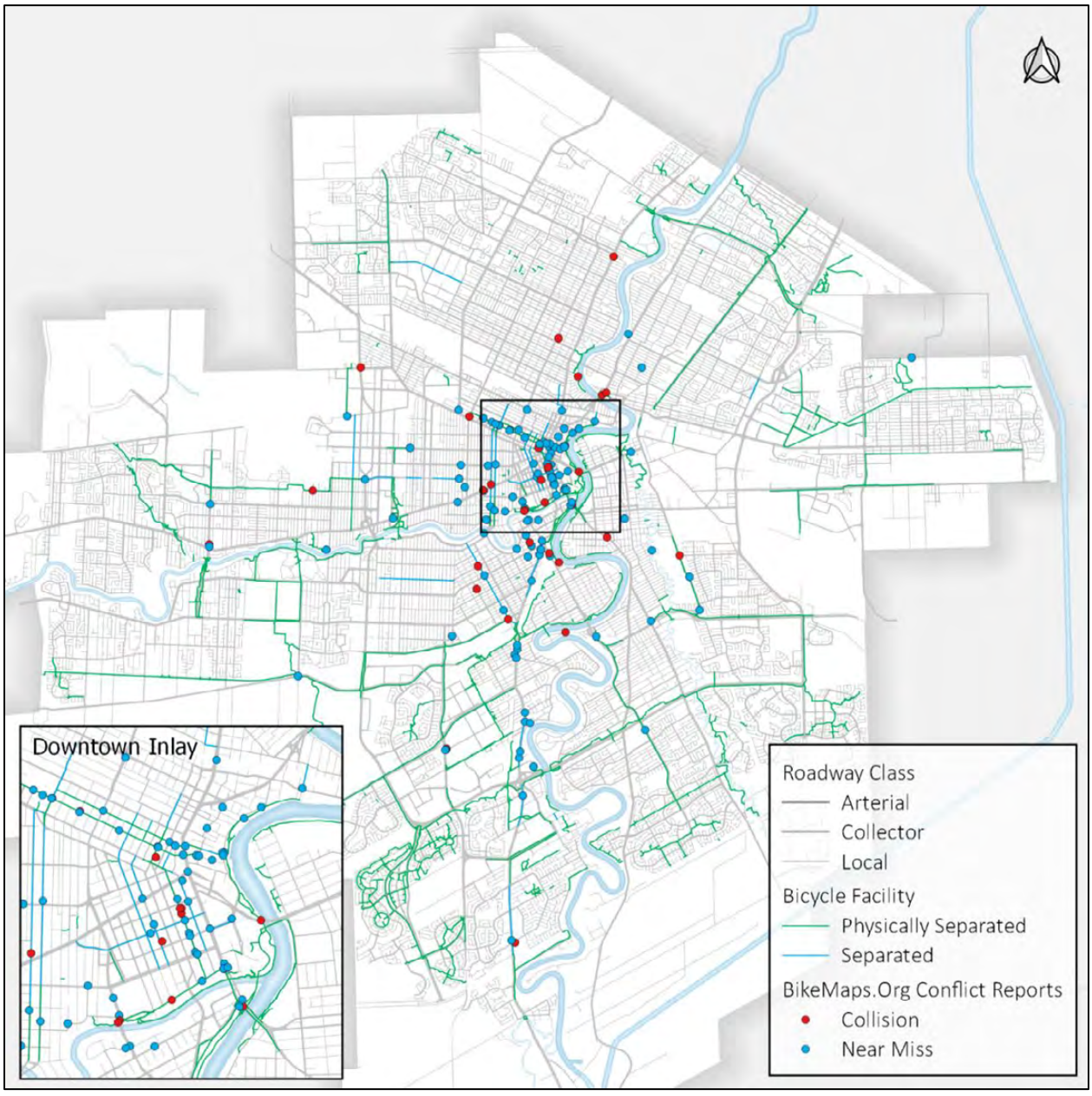


BikeMaps.org crowd-sourced safety data

The collision and near miss data provided by BikeMaps.org is shown in . The figure includes 152 reports from bicyclists reflecting 35 collisions and 117 near misses. Near miss data is important because it includes collisions between bicyclists and roadway/pathway elements that are otherwise missed by traditional collision data. Reports are generally located in downtown and along bicycle infrastructure. Some particular areas of interest are:

- Moray Street north of Portage Avenue.
- McDermot/Bannatyne Avenue east of HSC.
- Garry Street south of Portage Avenue.
- Waterfront Drive north of McDermot Avenue.
- Pembina Highway south of Osborne Street.
- Nassau Street north of Corydon Ave.
- Archibald Street north of Fermor Avenue.
- Harrow Avenue north of Pembina Highway.

MAP 17: **BICYCLE CONFLICT LOCATION FROM BIKEMAPS.ORG**

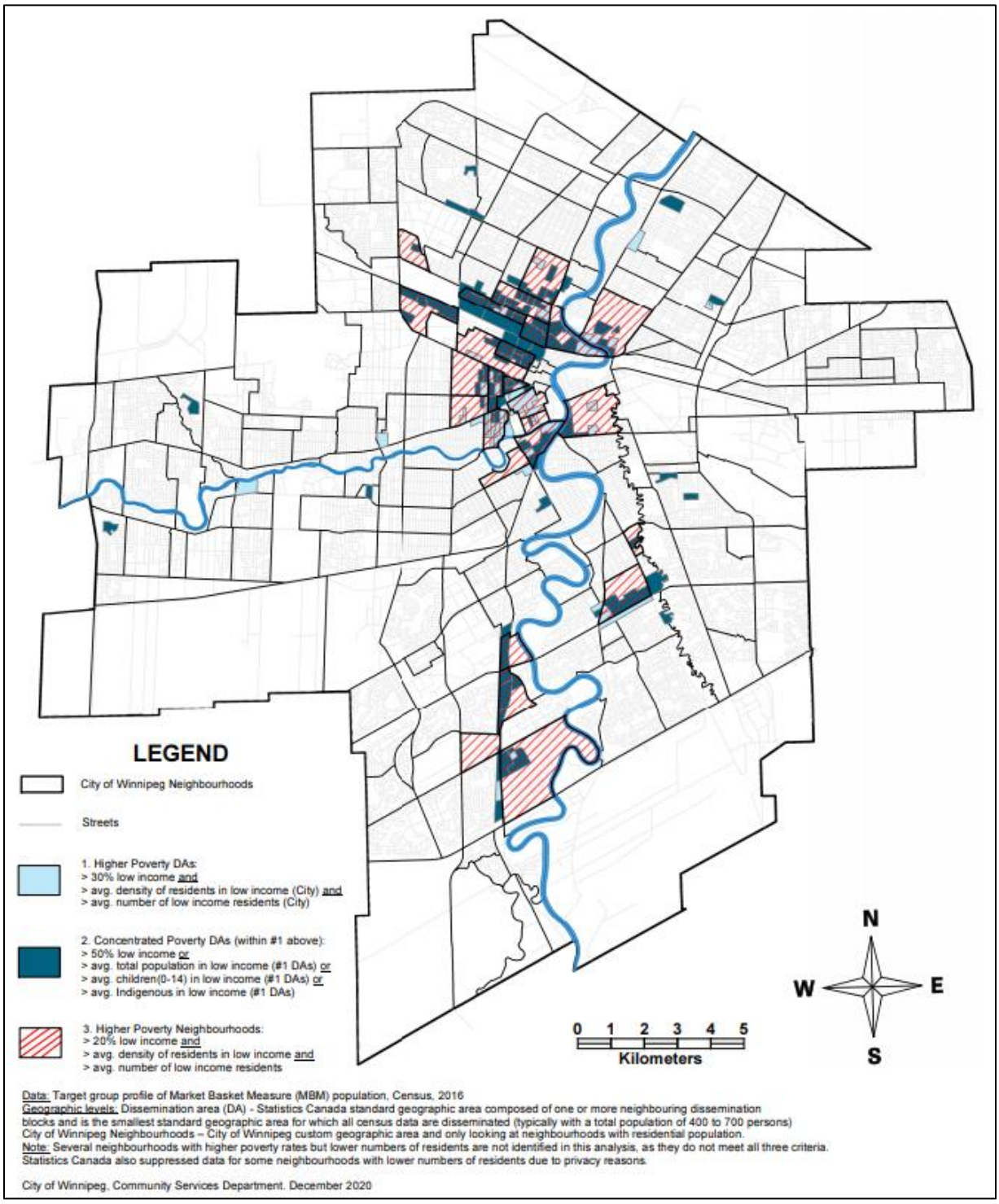


Equity analysis

In 2020, the City of Winnipeg's Community Services Department prepared a map representing geographic areas of higher poverty. According to the City, "The map was developed through analysis of low income (Market Basket Measure) data, including the prevalence (percentage of people), density (people per square km), and total number of people living in low income. Additional layered analysis was undertaken for two specific demographic groups most impacted by poverty, Indigenous residents and children (0-14 yrs.)."

The Geographic Areas of Higher Poverty map was applied as a prioritization factor for the implementation of pedestrian and cycling infrastructure and as an influencing factor in creating a higher-than-average bicycle network density in these areas. These applications are intended to recognize greater importance of walking and cycling, with a higher proportion of people relying on these modes and transit as a means of transportation.

MAP 18: GEOGRAPHIC AREAS OF HIGHER POVERTY (SOURCE: CITY OF WINNIPEG)



Funding alternatives

Cost to implement the Pedestrian and Cycling Strategies can be significantly reduced by pursuing external funding sources and partnership opportunities for many of the identified Actions. This section describes potential funding sources that we may consider helping leverage investments and maximizing ability to implement transportation improvements. The following are funding programs that peer cities draw upon to support active transportation projects. Upon further review of the programs identified, the following are programs that continue to provide funding opportunities that should be explored further:

Manitoba - Building Sustainable Communities Program

Program description:

This program provides partial funding up to $300,000 for initiatives that contribute to the creation of thriving sustainable communities in Manitoba. It covers four initiative types:

- Planning activities
- Capacity building
- Community or regional initiatives
- Capital infrastructure

Accessing funding:

The application period for 2021 closed on February 28, though this program should be monitored for opportunities to access funding in future years.

Link: https://www.gov.mb.ca/grants/pdf/bsc-guidelines.pdf

Investing in Canada Infrastructure Program (ICIP)

Program description:

The ICIP provides over $33B in funding through Infrastructure Canada for projects that address the following stated issues:

- *Help communities reduce air and water pollution, provide clean water, increase resilience to climate change and create a clean-growth economy;*
- *Build strong, dynamic and inclusive communities; and*
- *Ensure Canadian families have access to modern, reliable services that improve their quality of life.*

This is accomplished through multiple streams of funding, the three most relevant to Active Transportation projects in Winnipeg are:

- Public Transit Stream

- Green Infrastructure Stream
- COVID-19 Resilience Stream

The program provides up to 40percent of funding for municipal projects but requires the province to match a minimum of 33.3percent of eligible project costs.

Accessing funding:

Projects are delivered through a bilateral agreement with the Province of Manitoba. Submissions of projects is through Government of Manitoba. There is currently $540M listed as unallocated funding available in the transit stream, and $40M unallocated funding available in the Green Infrastructure stream.

Link: https://www.infrastructure.gc.ca/plan/prog-proj-mb-eng.html

Green Municipal Fund (Federation of Canadian Municipalities)

Description:

The GMP provides funding to a broad spectrum of projects (plans, studies, pilots, capital, etc.) that can achieve measurable reductions in GHG emissions in communities across Canada.

Though active transportation is well understood as an emissions free form of transportation, specific GHG reductions are hard to measure and therefore Active Transportation projects have traditionally been underrepresented in GMF projects.

The *Transportation networks and commuting options* has sought to remedy this by improving access to funding for Active Transportation projects amongst other TDM measures. This stream offers the following support:

- Regular loans and grants: Receive a low-interest loan of up to $5 million and a grant worth up to 15percent of the loan; cover up to 80percent of your eligible costs.
- High-ranking project loans and grants: These qualify for a low-interest loan of up to $10 million and a grant worth up to 15percent of the loan; cover up to 80percent of your eligible costs.

Accessing funding:

Access to funding is through a two-step process beginning with an initial review.

Links: https://fcm.ca/en/funding/gmf/capital-project-transportation-networks-commuting-options

Municipalities for Climate Innovation Program (Federation of Canadian Municipalities)

Description:

This 5 year, $75M program supports a wide variety of initiatives that aim to mitigate the impacts of climate change around three key themes:

- Climate change adaptation
- Greenhouse gas reduction
- Climate and asset management

The Greenhouse gas reduction and asset management streams have both funded Active Transportation related projects which could be of interest to Winnipeg when seeking future funding.

Accessing funding:

Funding access for this program is not clear, though indicates that signing up for the Partners for Climate Protection (PCP) may be a first step to receiving resources.

Link: https://fcm.ca/en/programs/municipalities-climate-innovation-program

The Federal Gas Tax Fund (GTF)

Description:

Delivers $72M in funding annually to communities in the province of Manitoba which can be used for a variety of transportation related projects including public transit, highways, and local roads and bridges.

Accessing funding:

Funding is accessed through the Government of Manitoba.

Link: https://www.gov.mb.ca/fpir/strainfrasec/fedgastax/index.html

Rail Safety Improvement Program

Description:

The Rail Safety Improvement program is administered through two streams, one of which (Infrastructure, Technology, and Research) is most applicable to Active Transportation projects. It funds projects which seek to improve safety around rail crossings which can include improved signalization, and pedestrian or cycling bridges. The program funds up to 80percent of project costs to a maximum of $500,000 per project.

Accessing funding:

Funding application for 2022-2023 projects are currently open until August 1, 2021.

Applications:https://tc.canada.ca/en/apply-rail-safety-improvement-program-infrastructure-technology-research-rsip-itr-funding

Link: https://www.infrastructure.gc.ca/prog/gtf-fte-summaries-sommaires-eng.html#mb

Trans Canada Trail Capital Improvement Program (CIP)

Description:

This program seeks to improve the Great Trail through a broad spectrum of priority areas including, comfort, wayfinding, inclusivity, and safety, among others.

The CIP provides funding for various stages of the project up to varying amounts including:

- Up to 50percent of planning costs, up to $30,000
- Up to 35percent of construction (cap varies based on improvement)

Funding is also available for smaller sums to cover improvements such as maintenance and signage.

Accessing funding:

Funding is provided to shovel ready projects with all approvals in place. Applications are open on an ongoing basis through project@tctrail.ca but must be completed before March 31, 2022.

Links:

- https://transcanadatrail.my.salesforce.com/sfc/p/#410000006Oq9/a/2M000001EHBz/wCG26_hOkheiROA95gthhBf4niFx04El.rn_gLhJ1CE
- https://thegreattrail.ca/stories/tct-cip-pai-2020/

Winnipeg

CITY OF WINNIPEG
TRANSPORTATION MASTER PLAN 2050:
2024 PEDESTRIAN AND CYCLING STRATEGIES