Winnipeg



Winnipeg Transportation Master Plan

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Acknowledgements

The Transportation Master Plan Team would like to acknowledge the contributions of many individuals and groups who helped shape the directions presented in this plan.

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Throughout the development of the plan, the TMP team consulted with many stakeholder groups. The insights and ideas of these individuals helped in many ways to enable this plan to be tailored to the needs and aspirations of Winnipeggers.

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Preface

Transportation is a Catalyst for Growth and Change

Winnipeg and the Manitoba Capital Region are growing at a pace we have not seen in several decades. Our economy is booming as businesses take advantage of Winnipeg's unique trade position in North America. Consequently, we are welcoming more new Winnipeg residents, seeking the opportunities the region is presenting. Once here, residents are discovering a range of housing choices, livable communities and opportunities to be civically engaged – all things that have always brought great pride to Winnipeggers. By 2031, it is projected that Winnipeg and the surrounding areas will be approaching one million people.

With growth comes greater opportunities and challenges for transportation. From a transportation planning perspective, Winnipeg has been relatively fortunate in that growth in the recent past has been stable and predictable. However, the higher level of growth projected over the next two decades will require innovative and proactive transportation solutions in order to ensure the transportation system delivers the necessary performance to nurture Winnipeg's current and future economic prosperity.

Fortunately, growth and economic development also provides an opportunity to invest and shape our transportation system to improve the efficiency of the movement of people and goods by road. It will also require us to encourage more sustainable forms of travel including walking, cycling and transit.

The Transportation Plan Supports Winnipeg's Vision for Land Use Development

The integration of transportation and land use planning ensures that the vision for land use development for Winnipeg, as articulated in OurWinnipeg and Complete Communities, is achieved by providing a transportation network that supports the approved urban structure and the concept of complete communities. This includes creating a network of rapid transit routes and quality transit corridors that can become the focal points for new development and redevelopment. It also includes providing complete, safe, and accessible transportation options for all residents of all abilities from young to old.

As part of this plan, a great deal of work was done to test different land use and transportation scenarios. The way we build our city today is simply not sustainable. The path forward is to concentrate and intensify development in order to support and encourage alternatives to driving. It is clear from the scenario testing that these efforts would create significant dividends in terms of reduced congestion, increased transit ridership, reduced emissions and reduced personal transportation costs.

Improving Travel Choices is Central to this Transportation Plan

A key underlying goal of the transportation plan is to expand the range of travel options that are available to residents, workers and visitors, and to ensure that people are not dependent on one single mode. Expanded travel choice creates countless community benefits. Providing greater access and options for walking, cycling and transit will lead to improved health, increased personal mobility, more livable and socially active communities, and reduced impacts on the environment and our climate.

Included in this plan are a series of short, medium and long term strategies to:

- Ensure that transportation projects, programs, and initiatives reflect accessibility and universal design principles
- Support community stakeholders in the development and implementation of travel demand management initiatives
- Move to a road classification system that recognizes multi-modal travel needs and the concept of "complete streets"
- Ensure that the pedestrian network is planned, designed, implemented and maintained to address year-round pedestrian needs
- Work with community stakeholders to ensure that the pedestrian network changes meet their needs
- Continually improve the city-wide cycling network, to close gaps, mitigate barriers and areas of conflict between cyclists and other transportation network users
- Work with community stakeholders to ensure that the cycling network changes meets their needs
- Provide efficient and effective transit service to all areas of the city
- Further strengthen the base transit network to support the efficiency and accessibility of transit
- Implement a rapid transit network as part of the transit system to provide a viable alternative to the automobile and to reduce existing and future road congestion
- Align land use and transportation planning decisions to support the rapid transit network
- Ensure that a safe, connective and sustainable road network is part of the balanced, multimodal transportation system
- Enhance the efficiency of the road network
- Ensure an effective and sustainable goods movement network that includes key trade corridors and truck routes is part of the balanced, multimodal transportation system
- Support sustainable transportation linkages between Winnipeg and the surrounding municipalities
- Provide for an effective and appropriate level of parking supply
- Expand the existing transportation asset management program to respond to current and anticipated infrastructure maintenance requirements

One of the over-riding goals of this master plan is to ensure that sustainable transportation becomes engrained as part of our culture and that all parties are working to the same goals.

Rapid Transit the Key to a Sustainable Winnipeg

Our city needs rapid transit, not just because of what other cities are doing, but because of the power of rapid transit to shape growth and contribute to a more sustainable transportation system. Unlike road widening, building rapid transit provides capacity for the city to grow efficiently and to accommodate transportation demands for generations to come. Rapid transit is also needed to ensure viable choices to automobiles, so that road space can be freed up for essential needs including economic trade.

This report has confirmed the viability of rapid transit in multiple corridors. Initial priorities include the southwest corridor (stage one is under construction), a western corridor along Portage Avenue, and an easterly corridor, with a possible extension north on Main Street. Corridors in the northeast and southeast could be implemented as extensions to the primary corridors using staged and less expensive approaches and then converted to full rapid transit in the longer term.

Following the adoption of this master plan, the next steps will be to carry out detailed studies on specific alignments and to develop a funding and delivery strategy.

Now is the Time to Act

Many previous reports have helped to shape the recommendations in this Transportation Master Plan, including the Mayor's Trade Council report entitled "Winnipeg – Canada's Centre for Global Trade", the recent Infrastructure Council Report on funding municipal infrastructure and most importantly, OurWinnipeg. All of these reports point to the urgency of addressing existing transportation needs while building for the future. Indeed, if our City is to become the city we envision, there is much work to do.



1. Introduction

1.1 What is the Transportation Master Plan?

The purpose of this Transportation Master Plan (TMP) is to present a long-term strategy to guide the planning, development, renewal and maintenance of a multi-modal transportation system in a manner that is consistent with projected needs, and aligned with the City's growth and the overall vision for a sustainable Winnipeg and region.

In the Introduction section of OurWinnipeg, the City's long term development plan, it states:

"*More than ever before, cities are the leading production centres for culture and innovation, are the leaders on global issues like climate change, and, if they are to compete successfully for sustainable growth, are required to deliver a high quality of life. Winnipeg is no exception to this dynamic. We are now competing, on a global scale, for economic development and to create a city that offers the sustainability advantages and the quality of life that current citizens expect and that prospective citizens will value. We are early in a cycle of strong growth, the pace of which we haven't seen for decades. We're welcoming new citizens and businesses, and embracing opportunities to make our city sustainable.*"

One of the key components to providing the quality of life that all citizens value is a well planned transportation system that accommodates growth in a sustainable manner.

Between 2006 and 2031, the City of Winnipeg is expected to grow by 200,000 persons and 78,000 jobs. Similarly, the surrounding areas in the rest of the Winnipeg Census Metropolitan Area (CMA) are expected to grow by 45,100 people and 10,000 jobs. This growth will mean that the City of Winnipeg and surrounding area will be home to close to one million people by 2031.

With this growth comes both opportunities and challenges. Growth fuels changes - changes that provide opportunities such as the creation of more compact and vibrant communities, greater opportunities for economic development and increased justification for infrastructure renewal and expansion. However, rapid growth also presents challenges in that policies and infrastructure need to be in place to support growth and must be delivered in a manner that is sustainable economically, socially and environmentally.

The Winnipeg Transportation Master Plan (TMP) is intended to set out a strategic vision for transportation in Winnipeg over the next two decades. It will ensure that future transportation needs for an integrated network of highways, roads, rapid and conventional transit, cycling and pedestrian facilities can be planned and budgeted for as the City implements its future growth plan outlined in **OurWinnipeg**. The TMP also provides an updated and expanded set of policies to guide future transportation and land development decisions.

It should be recognized that the TMP is a long-term, strategic planning document and as such is not intended to address site-specific or corridor-specific issues. Rather, it is intended to present a package of actions that, when implemented over time, will help the City achieve its strategic vision. The TMP is also intended to be a dynamic document that is responsive to changing conditions over time.

1.2 OurWinnipeg and the Transportation Master Plan

The TMP was built on the strength of the vision and directions established through the development of OurWinnipeg and its supporting Direction Strategies.

The City is required by the City of Winnipeg Charter to adopt, by by-law, a development plan "which must set out the City's long-term plans and policies respecting its purposes, its physical, social and environmental and economic objectives, and sustainable land uses and development." Created with the input of more than 42,000 Winnipeggers through the innovative SpeakUpWinnipeg process, OurWinnipeg represents a collective vision that will guide the physical, social, environmental and economic development of our city for the next 25 years.

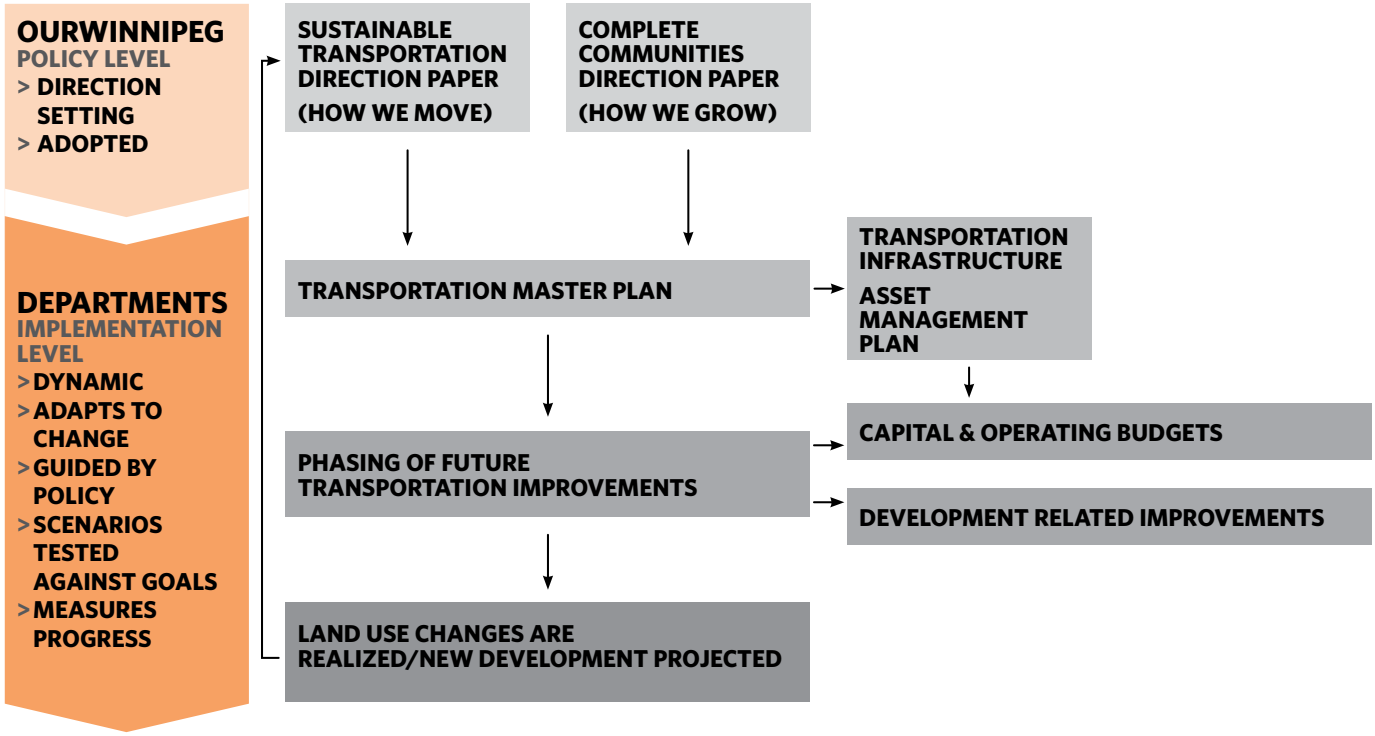
EX 1-1 The OurWinnipeg Planning Framework

Required by the **City of Winnipeg Charter**; adopted as a municipal by-law but requires provincial approval

Created at the discretion of the City of Winnipeg; approval is sole responsibility of the City



EX 1-2 Dynamic Transportation Planning and Land Use Model



OurWinnipeg is the highest-level strategy document that the City has and it includes policies and action-oriented strategies in areas including: land use; transportation; water and waste; safety; prosperity; housing; recreation; libraries; the environment; heritage conservation; opportunity; vitality; and creativity. It is supported by four direction strategies - Complete Communities, Sustainable Transportation, Sustainable Water and Waste and A Sustainable Winnipeg – each of which provides additional detail in key planning areas.

Complete Communities Direction Strategy serves as a practical and innovative "playbook" to guide land use and development in Winnipeg over the next 25 years. The strategic direction set through this strategy, along with Sustainable Transportation served as two of the key inputs into the development of the TMP. Linking how we grow with how we move is critical in building a sustainable city.

Complete Communities is based on two key pillars, each of which has considerable implications for transportation planning going forward – the creation of complete communities and the articulation of an Urban Structure.

Complete Communities

Complete communities are places that offer and support a variety of lifestyle choices, providing opportunities for people of all ages and abilities to live, work, shop, learn and play in close proximity to one another.

Characteristics of complete communities:

- Celebrate diversity and provide housing options that accommodate a range of income abilities and household types for all stages of life.
- Provide options for accessing services, amenities and community resources by ensuring that most of the daily necessities of life- services, facilities, and amenities- are readily accessible.
- Enable a range of sustainable transportation options.
- Provide options for local employment while recognizing that the Downtown, airport lands and designated employment zones will continue to be major centres of employment in the city.
- Will be a living, dynamic concept that recognizes the unique aspects that differentiate one community from another.

This overarching theme forms the backbone of the Complete Communities Direction Strategy and its characteristics serve as key principles guiding the TMP process.

Urban Structure

The second pillar of the Complete Communities Direction Strategy is the articulation of an urban structure. As part of the OurWinnipeg process, an urban structure was delineated, which provides a vision for how land uses are arranged within the city. The urban structure identifies specific areas of the City that provide the best opportunity to accommodate significant growth and development (Transformative Areas) and conversely areas that are better suited to accommodate more moderate levels of growth (Areas of Stability).

The urban structure was a fundamental element in the TMP process, as it proactively identifies future areas of growth and change. The TMP will dynamically analyze the needs of the urban structure as it evolves over time, resulting in the ability to integrate land use and transportation in a more holistic manner.

1.3 Study Area

The primary focus of this TMP is on the City of Winnipeg (Map 1). However, the surrounding Regional Municipalities within the Capital Region (see Map 2) also play a major role in influencing travel patterns in and around the City and associated infrastructure needs. Therefore, several regional transportation elements are identified in this plan.

1.4 How was the Plan Prepared?

This TMP was prepared by IBI Group in association with MMM Group Limited and McCormick Rankin Corporation. The development of the TMP was guided by a Steering Committee and an Advisory Committee. The Steering Committee consisted of representatives from the City's Public Works, Planning, Property and Development, and Winnipeg Transit departments. The Advisory Committee consisted of representatives from the Green Action Centre, Winnipeg Access Advisory Committee, the Mayor's Environmental Advisory Committee, Winnipeg Chamber of Commerce, Winnipeg Parking Authority and a local transportation academic.

The preparation of the TMP consisted of the following major components:

- Confirmation of the vision for sustainable transportation;
- Development of a state-of-the-art transportation model;
- Assessment of strategic transportation and land use alternatives based on OurWinnipeg and the Complete Communities Direction Strategy;
- Identification and assessment of directions and strategies to support integrated planning and transportation choice;
- Identification and assessment of specific directions and strategies related to pedestrian, cycling, transit, and road networks, integrated planning, transportation demand management (TDM), accessibility, parking and goods movement; and,
- Development of :
  - » options for funding the transportation network,
  - » recommendations for implementation, and
  - » a performance measurement plan.

To support the noted tasks, research was conducted in the following areas:

- Transportation Trends, Issues and Opportunities
- Requirements related to the road, transit, active transportation and goods movement networks
- Parking and Travel Demand Management
- Financing and Implementation
- Measuring and Monitoring Performance

1.5 Public and Stakeholder Input

A range of consultation activities provided the opportunity for members of the public to help shape this document. Major activities included:

- Three open houses in November 2010, July 2011 and October 2011
- A web-survey to solicit views on transportation, with over 500 responses
- Hosting of three Advisory Committee meetings
- Preparation of newsletters to inform the public at various stages of the plan

Individual meetings with 16 stakeholder groups including:

- Active Transportation Advisory Committee
- Urban Development Institute
- Economic Development Winnipeg
- CentrePort Canada
- Manitoba Trucking Association
- Mayor's Seniors Advisory Committee
- Post Secondary Student Unions
- Immigration and Refugee Organizations
- Manitoba Section of the Institute of Transportation Engineers
- Unicity Taxi and Duffy's Taxi
- Rapid Transit Coalition
- Aboriginal Council of Winnipeg
- Winnipeg Access Advisory Committee
- Winnipeg Airports Authority
- Winnipeg BIZ Associations
- Winnipeg Chamber of Commerce

In addition to formal meetings, comments were solicited through the project page on the SpeakUpWinnipeg website at www. transportation.speakupwinnipeg.com/

Through these consultation activities, many issues were identified and ideas generated. These have been considered and are referenced in the relevant sections of this document.



1.6 Implementing Mechanisms

The Transportation Master Plan will be implemented through:

- The City's short-, medium- and long-range financial plans including annual budgets, the five-year capital forecast and strategic financial plans;
- Various transportation and land use plans, projects, and initiatives;
- Strategic internal and external partnerships; and,
- The OurWinnipeg Implementation Strategy.

To ensure the successful implementation of this long-range transportation plan, the City will monitor relevant external conditions, progress on achievements and actions taken to identify if the goals and objectives are being met, and whether changes to the plan are required.

HOW THIS DOCUMENT IS ORGANIZED

Where applicable, each section of the Transportation Master Plan (TMP) begins with a high-level description of the relevant component and continues with details of how they are to be implemented. The sections are organized as follows:

KEY DIRECTION

Each section has a Key Direction. It is meant to summarize the main thrust of the section and like a goal, it provides a description of the results that the City is hoping to achieve. The rest of each section is based on this Key Direction.

DIRECTIONS

Under each Key Direction are a number of supporting Directions that describe the City's objectives concerning the specific component of the TMP in more detail.

ENABLING STRATEGIES

The enabling strategies come from each Direction. They are the strategies that will guide the City to fulfilling the Directions for each component of the TMP.



FLICKR: DAVE.COURNOYER

2. Key Strategic Goals

As described in Section 1.2, the Sustainable Transportation Direction Strategy was developed as part of OurWinnipeg. Sustainable Transportation identified a vision and five Key Strategic Goals which are critical to achieving a balanced and sustainable transportation system for Winnipeg. These goals form the basis for this Transportation Master Plan (TMP) and the directions and strategies contained within it.

KEY STRATEGIC GOAL ONE:

A transportation system that is dynamically integrated with land use

An integrated approach to land use and transportation maximizes the efficiency and effectiveness of its transportation infrastructure, creating an efficient, sustainable and vibrant city. An important component of integrated transportation and land use is that it minimizes both the number and length of trips people need to make.

KEY STRATEGIC GOAL TWO:

A transportation system that supports active, accessible and healthy lifestyle options

Provision of adequately maintained walking, cycling and other forms of active transportation facilities are all part of achieving this goal. A safe and secure transportation system in which pedestrians, cyclists and motorists coexist is also essential. In addition, ensuring equitable access to mobility and a high quality of life for all citizens, regardless of their personal ability level, requires universal access to the transportation system.

KEY STRATEGIC GOAL THREE:

A safe, efficient and equitable transportation system for people, goods and services

In order to ensure sustainable economic growth that supports Winnipeg as the region's economic engine, an efficient, cost-effective transportation system for the timely and equitable movement of goods, services and people must be an essential element. To achieve this goal, we will need to utilize technology such as ITS (Intelligent Transportation Systems) and other transportation systems management tools, transportation demand management, strategic major street network improvements, rapid transit, and other innovative ways to move people, goods and services.

KEY STRATEGIC GOAL FOUR:

Transportation infrastructure that is well maintained

A well-maintained transportation system promotes economic vitality and a positive city image. It is an essential part of any truly sustainable transportation plan that the major assets, the transportation infrastructure and the transit system, be managed to enable future generations to continue to enjoy a high of level of mobility and accessibility. Investing in a measurable approach in the maintenance of the street, transit, pedestrian and cycling infrastructure will ensure the continued economic and social viability of the City.

KEY STRATEGIC GOAL FIVE:

A transportation system that is financially sustainable

Financial sustainability is an essential goal in the development of the Transportation Master Plan for the next 20 years. This requires a review of the cost and benefits of each component of the Transportation Master Plan as they are developed and an assessment of potential additional sources of funding and program delivery to ensure financial sustainability for future generations.

3. Current and Future Conditions

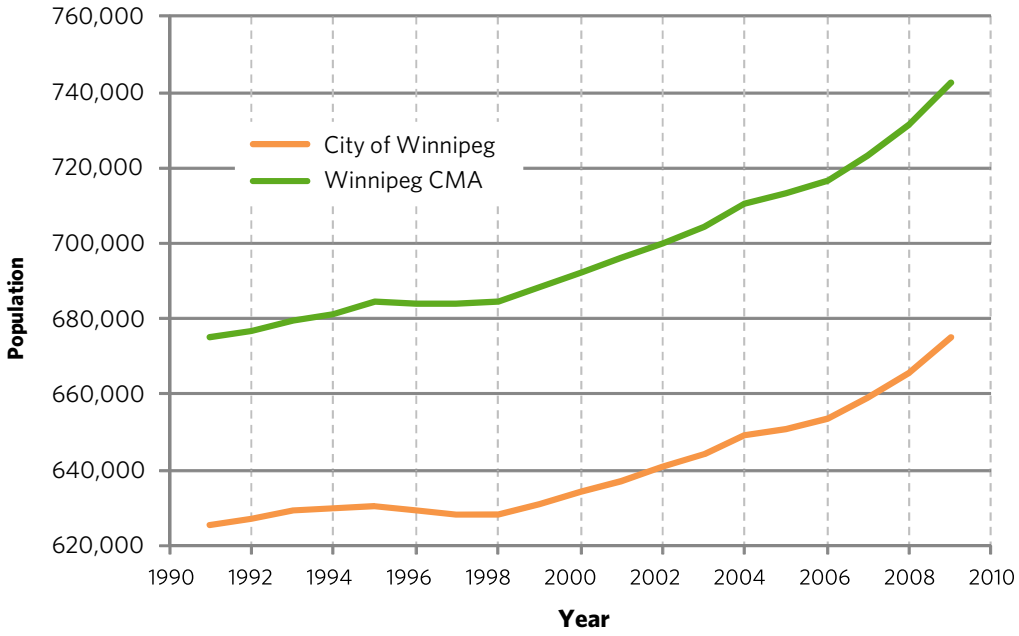
3.1 Current Conditions

Land Use

After a period of relatively limited growth during the 1990's, Winnipeg's population has started to increase more rapidly.

Winnipeg's population has been steadily increasing after a period of limited growth in the 1990s. The City of Winnipeg was home to an estimated 675,100 people in 2009, compared to 625,200 in 1991 and 637,200 in 2001 (see EX 3-1). The City has grown by over 44,000 over the past 10 years. The growth is driven primarily by increased immigration and a net increase from migration from other parts of the country.

EX 3-1 Historic Population, City of Winnipeg and Winnipeg CMA 1990-Present



Source: City of Winnipeg and Statistics Canada, 2010. **Note**: Winnipeg CMA refers to the Census Metropolitan Area, an area encompassing the City of Winnipeg and surrounding urban areas.



Winnipeg's key industries and related employment are strongly tied to transportation.

In 2006, employment in the City of Winnipeg was about 353,000 and represented approximately 96% of total employment in the Winnipeg Census Metropolitan Area (CMA). Growth of jobs between 2001 and 2006 was an estimated 3,300 for the City of Winnipeg and 3,500 for the entire Winnipeg CMA, or about a 1% annual growth rate.

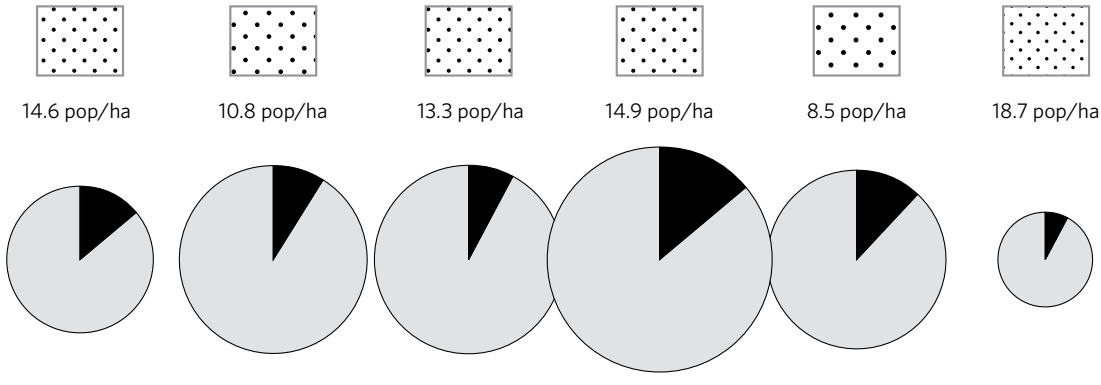
Key industries in Winnipeg are manufacturing, trade, health care and transportation. Due to its geographic location, Winnipeg is a key intermodal and freight hub. Major transportation employers include Canadian National Railway (CN), Canadian Pacific Railway (CPR), Burlington Northern Santa Fe Railway (BNSF) and three of the largest trucking industry companies in Canada. It is also home to major aerospace and transportation-related manufacturers such as Boeing and New Flyer. 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.

There needs to be greater recognition for the connection between transportation and land use in Winnipeg.

Winnipeg compares favourably to similar-sized cities in Canada in terms of population density, with somewhat higher densities than some of the peer cities (EX 3-2). Similarly, when comparing transit ridership, Winnipeg fares well in all-day transit mode share, which is likely a result of consistent all-day capture of trips, whereas other cities experience strong peak period transit mode shares with drops outside of peak periods. Transit rides per capita are lower in Winnipeg, but higher in cities with established rapid transit systems. For example, Ottawa's Transitway bus rapid transit system and Edmonton and Calgary's light rail transit systems attract high ridership numbers due to their attractiveness as a mode choice.

EX 3-2 Comparison of Peer City Population Densities and Transit Ridership

	WINNIPEG	EDMONTON	CALGARY	OTTAWA	QUEBEC CITY	HAMILTON
EXISTING URBAN AREA (EUA)	43,200 ha	78,000 ha	74,400 ha	63,900 ha	76,100 ha	33,500 ha
EUA POPULATION	631,800	843,800	991,800	953,300	643,800	626,000
EUA POPULATION DENSITY	14.6 pop/ha	10.8 pop/ha	13.3 pop/ha	14.9 pop/ha	8.5 pop/ha	18.7 pop/ha
TRANSIT RIDERSHIP PER CAPITA	68.3 rides/capita	87.5 rides/capita	87.8 rides/capita	104.8 rides/capita	83.2 rides/capita	44.1 rides/capita
ALL DAY TRANSIT MODE SHARE	14% transit share	9% transit share	8% transit share	14% transit share	12% transit share	8% transit share



SOURCE: IBI GROUP, BASED ON TAC URBAN TRANSPORTATION INDICATORS - FOURTH SURVEY AND CUTA 2009 URBAN TRANSIT STATISTICS. NOTE THAT TAC USES EXISTING URBAN AREAS FOR ITS POPULATION AND DENSITY CALCULATIONS, WHICH IS DIFFERENT FROM BUILT AREA DENSITY CALCULATIONS IN THE PREVIOUS SECTION.

Roads

Winnipeg is unique in that there are no major expressways through the City.

In total, Winnipeg has approximately 6,500 lane-kms of roadway, or an estimated 9.7 lane-kms per thousand residents. More than half, 3,710 lane-kms, are local roads, with 1,050 and 1,762 lane-kms of collector roads and arterial and multi-lane streets, respectively, making up the rest of the roadway network.

Winnipeg's road network (Map 1) is intended to accommodate pedestrians, cyclists, transit, motorists and goods movement. It consists of local streets that primarily provide access to individual properties, collector roads that primarily connect adjacent land use and secondarily provide through traffic movement for shorter distance trips, and arterial roads that primarily provide traffic movement across the City. This is advantageous in that the "barrier effect" created by expressways in some other cities has been avoided to a large extent; on the other hand, it can significantly limit the efficiency of the network for longer distance trips and goods movement.

A number of strategic road network projects have allocations included in the City's 2012-2016 Five-Year Capital Forecast, such as the Louise Bridge, Pembina Highway CN Underpass, and Waverley Street CN Rail Grade Separation. Other roadway infrastructure projects, such as the Plessis Road CN Rail Grade Separation (north of Dugald Road), William R. Clement Parkway Extension to Bishop Grandin Boulevard, the Bishop Grandin Boulevard Extension Easterly from Lagimodiere Boulevard, and an additional road link to East St. Paul (an initiative by the rural municipality of East St. Paul), have been contemplated but do not have allocations in the 2012-2016 Five-Year Capital Forecast for further conceptual or preliminary design.

The primary system of movement for vehicles to and from surrounding Regional Municipalities and beyond the Capital Region is the provincial highway system.

Transit

Since 2002, Winnipeg Transit ridership has increased at annual levels of 1% to 3% but costs per capita have remained stable. This is in part a reflection of efforts to improve the efficiency and attractiveness of transit.

The City of Winnipeg is served by Winnipeg Transit, providing a network of 89 routes throughout the City: 54 conventional routes, 28 express routes, 3 downtown shuttles, and 4 demand-response suburban routes. In 2009, Winnipeg Transit served 43,870,050 (Canadian Urban Transit Association, 2009) transit trips with a fleet of 545 vehicles. In addition, Winnipeg's Handi-Transit provides services for those with physical disabilities and, in future, those with cognitive disabilities. The Handi-Transit service performs registration, scheduling, and trip confirmation functions. Service delivery is contracted out to 11 contractors operating accessible sedans and vans.

While the annual number of transit trips has been increasing, the market penetration of transit in Winnipeg, as measured by trips per capita, is still low in comparison with peer transit systems – 77% of that achieved in Calgary and Edmonton and 57% of that in Ottawa. However, it should be noted that the way in which ridership is measured varies from city to city and service area population is sometimes difficult to define, especially when there are large park-and-ride lots serving rural populations outside the service area.

The cost-recovery rate of Winnipeg Transit is high in comparison with other transit systems, although average fares are similar. For many years Winnipeg's revenue/cost ratio has been around 60%, compared with Ottawa (43%), Edmonton (44%) and Calgary (52%). However, while a high cost-recovery factor is beneficial in terms of municipal finances, there can be unintended consequences in terms of overall service provision. While in the case of Winnipeg, the high revenue/cost ratio is attributable in part to the efficiency of the operation, it may also be attributable to the lack of investment in off-peak services (peak services in general have a higher cost-recovery than off-peak services). In some suburban parts of Winnipeg, headways are quite long (30 to 60 minutes) during off-peak periods, which makes it difficult to attract new riders.

One of the most significant enhancements to the transit system over the past few years has been the development of "Transit Quality Corridors". Quality corridors essentially utilize a combination of traffic signal optimization, geometric improvements at intersections, diamond lanes, queue jump lanes, transit priority signals, and queue bypass lanes to improve bus travel times. Major stops in these corridors have been upgraded with new shelters (many heated), benches, posted route and schedule information, and new signage. Quality corridors implemented to date include Pembina Highway, St. Mary's Road, St. Anne's Road, Henderson Highway, Regent/Nairn, McPhillips Street, Portage Avenue, Main Street and Marion/Goulet.

Winnipeg Transit is also a leader in the use of modern technology to provide passenger information. A new automatic vehicle location (AVL) system, called "iBus" has been installed on all transit vehicles. With this GPS-based system in place, a suite of passenger information tools, marketed as "TransitTOOLS", has been implemented to provide real-time passenger information.

Active Transportation

Winnipeg has been expanding its active transportation network.

Active Transportation (AT) refers to any human-powered mode, which mainly includes walking, cycling and rolling. The first major stride towards implementing active transportation policy in the City of Winnipeg was the council approval of the Active Transportation Study in 2006. The approved study served as a resource in formulating

future active transportation policies and programs for the City of Winnipeg. Along with the approval of the study was a directive to develop an Implementation Plan based on the guiding principles of the Active Transportation Study. The Implementation Plan was prepared by the Department of Public Works and adopted by Council in April 2007.

Since 2007, the City has been expanding the AT network significantly. For example, funding for AT capital projects in 2009 was more than $3 million, compared to $300,000 in 2006. Existing and funded AT network includes about 150 kilometres of multi-use pathways, 61 kilometres of neighbourhood pathways and 64 kilometres of bike lanes, sharrows and bike boulevards, for a total of 274 kilometres of AT facilities.

The tri-level government stimulus program announced in late 2009 resulted in $20.4 million to expand the network to 375 kilometres in 2010/2011.

Despite these investments, there are still many gaps and deficiencies in the AT network that need to be addressed including ensuring that the sidewalk network is complete and accessible for all residents.

Goods Movement

Winnipeg is a key intermodal and freight hub due to its geographical location.

Winnipeg is a destination on the main lines of the CPR, CN and BNSF railway networks, and provides direct connections to U.S. rail corridors. CN's Symington Yard is one of the largest in the world, with a capacity of over 3,500 rail cars. Winnipeg is also home to large, key CPR facilities and over 2,000 CPR employees. There are over 1,800 lane-kilometres of designated truck routes and more than 40 million goods movement trips are made within and through the City on an annual basis.

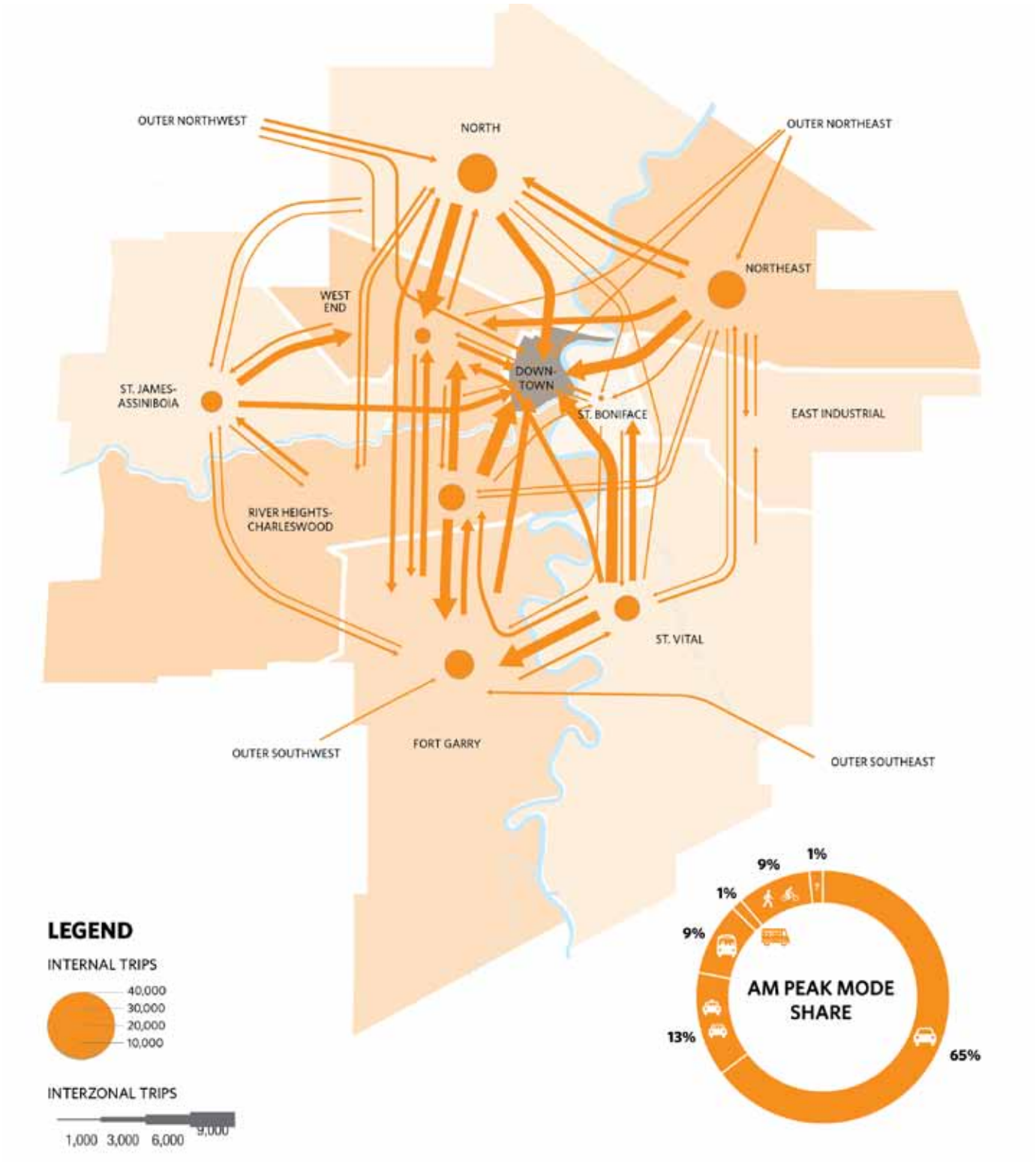
Travel Demand

Over 2 million daily trips are made in Winnipeg.

About 310,000 trips, or 15%, are made between 7:00 a.m. and 9:00 a.m. (AM peak period); with 88% of morning trips remaining in the city. Key travel patterns in the AM peak period over a ten-zone system are summarized in EX 3-3. Major destinations include Downtown Winnipeg and industrial and commercial areas in the vicinity of the airport. Large proportions of AM peak period trips are internal to each zone include school trips and other potential short trips.

Data from the Winnipeg Area Transportation Study show auto drivers hold a 65% share of morning peak period trips with an additional 13% share for car passengers and taxis (EX 3-3). Transit and non-motorized trips account for 9% each of morning trips.

EX 3-3 Travel Flows over 1,000 Trips and Mode Share - AM Peak Period



3.2 Future Base Case Conditions

Population, Employment and Demographics

Including surrounding areas, the Winnipeg Census Metropolitan Area (CMA) is forecast to be home to nearly a million people by 2031.

The population of the City of Winnipeg is expected to grow to approximately 850,000 by 2031, an increase of 31% from 2006. Similarly, the population in the rest of the Winnipeg Census Metropolitan Area (CMA) is expected to grow to approximately 103,000, an increase of 78% from 2006. This rate of growth is unprecedented and it will present a significant challenge for decision makers on where the growth is accommodated and what the growth will look like. Most of this growth is expected to be realized through international immigration, with a net rate of approximately 10,000 new residents per year toward the end of the planning horizon .

In terms of economic growth, Winnipeg's gross domestic product (GDP) is projected to grow at an average of 2.5% compounded annually to 2031. The unemployment rate is expected to fall to 4.2% by 2031, compared to 4.4% in 2006, with a slight decrease in participation rate due to an aging population and early retirement.

It is forecasted that 88,000 new jobs will be created in the City of Winnipeg and surrounding areas by 2031. The majority of these jobs will be in the service industry or targeted to key strategic sectors including manufacturing and financial services.

Like other Canadian cities, Winnipeg will experience large changes in the age distribution of the population over the next 20 years.

By 2031, the number of people of 60 and over is forecast to increase from 18% of the population to 23%. This shift will have implications for accessibility to transit. More focus will be required on providing services for people with special needs and to achieve this within a manageable budget.

Two other demographic trends that should be noted are the increases in immigrants and of the aboriginal community in Winnipeg. The City must shape and market itself to be attractive to migration and immigration to draw and maintain highly skilled and desirable workforce and employers. A balanced transportation system with a high degree of mobility choice is a key determinant to locational decisions by immigrants and migrants.

Implications of Growth

If current trends in household size and vehicle ownership continue through 2031, there will be over 100,000 new households and over 120,000 additional cars.

Forecasts of population and employment growth based on current development trends show that there will be continued pressure to grow outward. This will result in travel flows becoming more dispersed in the future.

Major employment developments and continued expansion of industrial areas in the outer areas will shift travel from traditional destinations such as Downtown. Shifting employment patterns will draw a portion of transit commuters away from areas that currently enjoy high levels of transit use from commuter traffic such as Downtown and areas near the Downtown. To maintain transit mode shares and maintain a vibrant Downtown and near-downtown areas, attention must be paid to transit service provision and enhancements to/from these areas.

Increased population and employment will also result in increased auto trips and increased congestion on Winnipeg streets. An increase of 50% in vehicle-kilometres traveled in the morning peak hour is anticipated. Although in general, the planned road network can accommodate trip growth without significant congestion, there will be choke points where travel demand will exceed capacity, particularly at limited access locations such as river and railway corridor crossings. However, these locations also present an opportunity for solutions such as transit lanes to allow buses to have priority access through these choke points, which would provide travel time savings for transit users. These choke points also provide an opportunity for applications that advise motorists on how to modify their travel.

3.3 Alternative Land Use and Transportation Scenarios

Land Use Scenarios

Winnipeg has a unique opportunity over the next 20 years to shape how and where the City grows. The OurWinnipeg process articulates a vision which defines an urban structure and establishes a framework to enable development that supports this vision. This vision is based on the concept that the City is made up of transformative areas and areas of stability, both of which will accommodate growth, albeit different types of growth. To achieve this vision, much work will have to be done to fully implement the plan, including the development of a supportive transportation network that provides sustainable transportation choices to all areas of the city.

As part of the TMP, several combinations of land use and transportation scenarios were examined and tested using a state of the art travel demand model developed for this purpose. The objective of this exercise was not to recommend a preferred land use scenario, but to examine how various sustainability indicators respond to different land use and transportation inputs, and to use these to guide the development of transportation networks and policies.

Four land use scenarios involving increasingly concentrated growth forms were examined. All of the land use scenarios are based on a supply and demand forecast. The demand for housing and jobs is a constant across all of the scenarios and is based on Conference Board of Canada population and housing projections to 2031. The supply of dwelling units and jobs varies across the scenarios, in both quantity and location.

SCENARIO 1 - PLAN WINNIPEG SCENARIO

This scenario is a business as usual scenario of growth for the City of Winnipeg. The former development plan, Plan Winnipeg 2020 Vision, is assumed to be in force and that Policy Plate A remains as the land use strategy. The scenario does assume that some of the lands identified on Plate A as Rural will be redesignated to Neighbourhood over time as the existing Neighbourhood lands develop. The development densities used in this scenario are based on the low end of densities identified in background research completed for the City of Winnipeg and on recent applications for development within the City. In this scenario, the City's supply of dwelling units falls short of the projected demand by approximately 20,000 dwelling units. This shortfall consists primarily of multi-family units which the Conference Board projections identify as a dwelling type for which demand will continue to grow. This demand for housing units would not disappear and people would have to find substitute housing options. Options could be other forms of housing within the City such as single family homes or perhaps housing outside the City. This scenario results in the development of the majority of land available within the City without providing dwellings for the projected population.

SCENARIO 2 – OURWINNIPEG ADOPTION

This scenario illustrates a possible growth for the City following the guidance of the Urban Structure identified in OurWinnipeg and Complete Communities. In this scenario, the Complete Communities urban structure map replaces Plan Winnipeg 2020 Vision Plate A as the land use strategy for the city. Development densities consistent with the low end of densities identified in the City's background research and recent development applications are applied to New Communities. This scenario also adds residential capacity to a number of transformative areas identified in Complete Communities. The supply of dwelling units in this scenario falls short of the projected demand for multi-family units. There is remaining capacity in the scenario but the dwelling types do not match the demand. This leaves some areas vacant and available for development or only partially developed in 2031.

SCENARIO 3 – OURWINNIPEG ADOPTION AND IMPLEMENTATION

Scenario 3 illustrates a possible development scenario for the City if the vision of OurWinnipeg and Complete Communities are pursued with the tools and strategies that they describe. This scenario follows the same urban structure as Scenario 2 but development densities are generally increased across the board. The densities used in this scenario are based on the high end of densities identified in the City's background research, recent development applications, and Winnipeg's Transit Oriented Development Handbook, as well as targets from other cities in Canada. The supply of dwellings exceeds the projected demand for all dwelling types and a significant capacity for development remains in 2031.

SCENARIO 4 – OUR WINNIPEG ADOPTION AND FOCUSED IMPLEMENTATION

Scenario 4 illustrates another possible development scenario for the City if the vision of the new development plan and Complete Communities are pursued with the tools and strategies that they describe in a more focused way. This scenario focuses the development of multi-family dwellings in the downtown, in mixed-use centres, along arterial corridors, and in major redevelopment sites. This scenario follows the same urban structure as Scenario 2 and 3 and development densities are the same as Scenario 3. Identifying areas in which to focus development changes the distribution of growth within the city for the next 20 years and in turn will influence the delivery of city services and the expansion or enhancement of city networks. The supply of dwellings exceeds the projected demand for all dwelling types and a significant capacity for development remains in 2031.

Transportation Scenarios

Three broad transportation network scenarios were tested in combination with the above land use scenarios as outlined in the table below.

EX 3-4 Strategic Transportation Network Scenarios

	Scenario A: Committed Improvements	Scenario B: Initial Rapid Transit	Scenario C: Full Rapid Transit
Transit	First phase of Southwest rapid transit plus modest transit improvements.	Completion of West, Southwest and East rapid transit corridors plus increased transit service levels.	Completion of all five rapid transit corridors identified in OurWinnipeg.
Roads	Committed roads only (CentrePort Canada Way and Kenastan/ Waverly extensions).	All planned roads in strategic network (Chief Peguis Trail extensions, William R. Clement Parkway and Bishop Grandin Blvd. Extensions).	All planned roads in strategic network per Scenario B.

Implications

The general conclusions of the assessment of integrated land use and transportation scenarios are as follows:

- In order to support rapid transit, densities in the mixed-use corridors, mixed-use centres, and major redevelopment sites will need to be increased. This can be achieved through the application of policies and tools under OurWinnipeg and Complete Communities.
- The land use scenario involving significantly higher concentration of land use (Scenario 4) would further support rapid transit and other sustainable transportation objectives.
- The completion of the strategic road network is required to maintain the integrity of Winnipeg's transportation system for goods movement, and does not undermine the goals of sustainable transportation.
- It is appropriate to plan for rapid transit in multiple corridors.

The land use and transportation scenarios included in the modeling all show a growth in automobile use, associated congestion, as well as increased greenhouse gas (GHG) emissions. Given the status quo assumptions for car ownership, household size, and the forecasted growth in population this is to be expected. While reductions in the energy intensity of Winnipeg's transportation system and per capita GHG emissions are possible outcomes of some of the modeled land use and transportation scenarios, the anticipated significant population growth will challenge Winnipeg to achieve an overall reduction in GHG emissions. This emphasizes the importance of implementing the holistic approach to transportation choice described in Section 5.0.

3.4 Network Constraints and Opportunities

Refer to **MAP 3**

Winnipeg's transportation system is functioning reasonably well, accommodating peak demand, although congestion levels are high in some specific areas during weekday peak periods. This can be attributed to the City's early planners, who laid out wide rights-of-way that have been expanded in response to growth. In addition, the City's period of slow growth in the 1990s meant that travel demand growth was not as great as predicted when the road network was planned in the 1960s and 1970s. There are, however, constraints to the City's transportation system that must be considered when developing long-term transportation policy, which are illustrated on Map 3.

With two major rivers, the Assiniboine and Red, and both the CN and CPR mainlines passing through the city, congestion in Winnipeg is generally isolated to river and railway crossings and the downtown. The limited number of river crossings result in recurrent congestion at some bridges, but usually only during peak periods.

In addition, while several railway-road crossings are grade separated, others remain at-grade. Rail traffic is expected to increase as Winnipeg grows its freight transportation sector, which will lead to more frequent blockages of roadways at at-grade crossings. As travel demand on the roads increase, bottlenecks may also form at existing at-grade crossings, leading to congestion. Again, these delays will occur mainly during peak periods.

As grade separations of both waterways and railways are capital intensive, crossings will remain a major network constraint in Winnipeg. In addition, some structures are approaching the end of their life cycles, raising the need to rehabilitate, reuse, or replace.

Gaps in the active transportation network are also seen as a present network constraint, making it difficult for those on foot or bicycle to efficiently travel to their destination. Dedicating road space at existing river and rail crossings, new AT-only crossings, or adaptive reuse of structures are all approaches that could be taken to improve active transportation connectivity. Bridging gaps with the regional trail network can also increase access to surrounding communities and recreational opportunities.

Forecasted congestion in Winnipeg, also shown on Map 3, will introduce new constraints on the transportation system. Most of this new congestion is expected in the periphery of the city, predominantly resulting from the growth of freight traffic bypassing the city core, development of new communities within Winnipeg, and increased flow of commuters from communities outside of Winnipeg. Much of this congestion could be mitigated if action is taken today to plan for providing attractive, competitive transportation alternatives to reduce the reliance on single-occupant vehicle travel in these areas. New communities must be built to support and encourage walking, cycling, and transit. As well, implementation of Intelligent Transportation Systems (ITS) could improve the efficiency of the existing road network.

The recommendations contained in the remainder of this TMP aim not only to address the observed and predicted constraints to how we move around Winnipeg, but also to achieve the sustainable vision of OurWinnipeg and provide the greatest quality of life for all citizens.


River Ave
OUT of the BLUE
TRADER

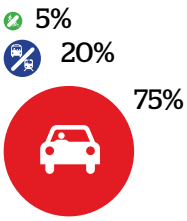
4. Integrating Transportation and Land Use

Over the past several decades, we have predominantly built our communities, workplaces, and shopping and leisure areas to accommodate car use. This pattern has largely come at the expense of other modes of travel, making transit, walking, and cycling less attractive, and in some cases, impossible choices. Car-oriented land development has also meant Winnipeg's urban area has expanded disproportionately to population growth. From 1945 to 1974, the City's population increased by 150%, but the built-up area increased by just 97%. Since 1974, the City's population has increased only 15%, but the built-up area increased by 50%. This shift in density of newer communities and the separation of land uses continue to challenge the transportation system as trip lengths increase and walking, cycling and transit become less convenient options.

The way we build our cities has a direct impact on the way we move. Low densities favour car usage while medium to high mixed use neighbourhoods promote walking, cycling, and transit.

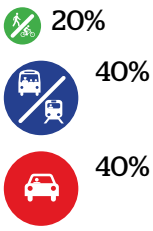
Low-Density Suburban





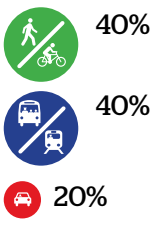
Mixed-Use Transit Village





High-Density Downtown Residential





Source: IBI Group

A key goal in OurWinnipeg is to accommodate a greater proportion of the City's future growth within the existing built boundary. This would be accomplished through redevelopment and intensification in the City's transit-supportive land use areas: the downtown, mixed-use centres, mixed-use corridors, and major redevelopment sites. Increasing transportation choice to and from these areas will be essential to encourage growth. In addition, increased density will be needed to justify major transportation investments such as rapid transit. Complete Communities and the Transit Oriented Development Handbook have established density objectives for the different transit supportive land use areas. The TMP addresses these objectives from a transportation perspective.

It is recognized that a large proportion of Winnipeg's growth will still take place in new communities beyond the existing built-up area. The goal for OurWinnipeg is to ensure new communities are developed in a sustainable manner, which includes both urban form and transportation choice. This means designing and building new communities with compact urban form and road and transportation networks that are more conducive to public transit, walking, and cycling. The result would be new communities that provide greater choice in housing, employment, and transportation.



Building complete communities is more than just density - it is also about creating vibrant and well designed streetscapes and enhancing the sense of place

KEY DIRECTION

The integration of transportation and land use planning ensures that the vision for land use development for Winnipeg, as articulated in OurWinnipeg and Complete Communities is achieved by providing a transportation network that supports the urban structure and the concept of complete communities.

DIRECTION ONE

Ensure that land use and transportation decision making tools, including procedures, standards, and guidelines, are structured to reflect an integrated consideration of land use and transportation issues.

ENABLING STRATEGIES

a) Review current processes undertaken to coordinate land use, economic development, and transportation planning, and update as required to reflect a more integrated approach.

b) Finalize and adopt new guidelines for the preparation of transportation impact studies.

c) Review proposed transportation projects and programs to ensure they support the concept of complete communities and the urban structure.

d) Explore opportunities to utilize transportation investments to leverage development potential in transformative areas.


Office
DEPOT
FMS 682

5. Transportation Choice

Today, the predominant mode of travel in the City of Winnipeg is by private automobile, a trend that began in the 1960s as development patterns became more auto-oriented. Relatively slow growth in the recent past has spared Winnipeg from the congestion being experienced in fast growing urban centres; however, with forecasted increases in growth, Winnipeg has the opportunity to find a different means of accommodating more people and more travel demand.

Providing greater transportation choice will be the key to reducing Winnipeg's reliance on automobile travel. The City has already moved toward increased choice by investing in quality transit corridors, taking the first steps toward rapid transit, and pursuing significant improvements to the active transportation network. By increasing transportation choice, the quality of life, economic vitality, and system efficiency can be significantly improved.

KEY DIRECTION

Providing opportunities to access multiple modes of transportation to people of all ages and abilities will improve the quality of life, economic vitality, and system efficiency.

The following sections outline several opportunities to enhance and improve travel choice. Section 5.1 has general applicability to the transportation system, while Sections 5.2 to 5.4 discuss mode-specific initiatives.

5.1 General Applicability

5.1.1 Accessibility and Universal Design

According to Statistics Canada's Participation and Activity Limitation Survey, approximately 16% of Manitoba's population has some form of disability, a rate that increases to 48% when factoring in only the population over the age of 65. Rates of disability are expected to increase dramatically in the future, presenting significant challenges for ensuring the transportation system remains equally accessible to everyone.

Winnipeg's infrastructure was predominantly constructed in a period when universal design and accessibility were not broadly recognized. In recent years, increased attention to the needs of persons with disabilities has led to advances in ensuring new construction is universally accessible and developing programs to retrofit existing infrastructure.

In 2001, Winnipeg City Council passed a Universal Design Policy, which requires all new and substantial renovations of civic buildings and infrastructure to follow Universal Design criteria. From this policy, the City also developed the Universal Design Guiding Principles and subsequently Accessible Design Standards which provide guidance to create an accessible built environment.

The City's policy on Universal Design builds on the following ideas:

- That all people in a community must be considered and understood when providing an integrated public service. Diverse and inclusive communities are what make us an exciting and vibrant community.
- That providing people with choices that help them use their environment in a functional and respectful way creates an inclusive city.
- That ensuring our environment is easy to navigate and clearly understood creates a welcoming city.
- That safety is integral in an accessible city.
- That Winnipeg is a comfortable place for everyone to live, visit, do business and play in.

Through consultation with persons with disabilities and advocacy groups, many issues still persist in creating a barrier-free transportation system. Accessibility of public transit continues to improve with continued expansion of the Easy Access route network and introduction of new features such as automatic stop announcements. Nevertheless, public transit is still seen as a key issue in creating a universally accessible transportation network.

DIRECTION ONE

Ensure that transportation projects, programs, and initiatives reflect accessibility and universal design principles.

ENABLING STRATEGIES

a) Include accessibility and universal design implications in project scoping, to ensure adequate budget and design requirements are considered at all stages – planning, design, implementation and maintenance.

b) Demonstrate leadership in transportation projects by incorporating barrier-free and universal design principles.

c) Continue to provide capital funding to retrofit existing infrastructure to remove barriers to access in the transportation network.

d) Identify accessibility barriers in the transportation network as part of integrated planning processes.

e) Ensure that transportation policies and implementation tools (procedures, guidelines, standards, etc.) related to universal design and accessibility are monitored and updated to ensure consistency with current understanding of accessibility needs.

5.1.2 Transportation Demand Management

Transportation demand management (TDM) policies and programs work to influence whether, why, when, where and how people travel. Implementation of TDM can focus on marketing, education, or improvements to infrastructure that support a reduction in travel demand (overall or at specific times of the day) or a shift of that demand to other modes such as walking, cycling or transit. TDM can provide economic, environmental and social benefits, in that it can help to reduce or defer the need for major road infrastructure improvements, reduce emissions and congestions, and improve public health and accessibility of employment opportunities.

DIRECTION ONE

Develop and implement a series of TDM policies and programs.

ENABLING STRATEGIES

f) Require TDM plans as part of transportation impact studies.

g) Prepare TDM plans for major transportation projects.

h) Develop an internal TDM strategy.

i) Support innovative parking strategies that allow for reductions in parking space requirements.

DIRECTION TWO

Support community stakeholders in the development and implementation of TDM initiatives.

ENABLING STRATEGIES

j) Provide multi-modal network information, directions, alerts, and assistance to enable efficient use of the transportation system.

k) Support an integrated approach to marketing sustainable travel to optimize the value of investments in transit and active transportation.

l) Partner with transportation-sharing programs (e.g. car sharing, bike sharing) to promote these services to residents and visitors, and facilitate their growth and long-term viability.

m) Encourage carpooling and high-occupancy vehicle travel.

n) Continue to support existing sustainability programs in school transportation.

o) Collaborate with the neighbourhoods to develop a local approach to traffic calming.

p) Continue to partner with organizers of large events to provide a broad range of travel options to attendees.

5.1.3 Complete Streets

Complete Streets are designed and operated to balance the safety and mobility needs of all users, respecting the relative regional and localized context of the street within the urban structure. Determining how any given street (or portion thereof) can become a complete street requires a good understanding of each mode's functional requirements related to that street in it's local context and in each mode's broader network context. Pedestrians, cyclists, transit users, and motorists of all ages and abilities are able to safely move along and across a complete street. By improving opportunities for other modes of travel, Complete Streets can also reduce dependence on automobiles and enhance economic and urban development opportunities.

Complete Streets can include a variety of features: road narrowing, on-street parking, bicycle lanes, bus lanes, sidewalk expansion, streetscape, speed limit reductions. EX 5-1 demonstrates potential approaches to accomodate different modes and develop complete streets within a traditional road classification framework.

To expand the range of mobility options, a Complete Streets strategy would guide the expansion, reconstruction, rehabilitation, maintenance, and operation of the street network.

DIRECTION ONE

Balance the needs of all users of the street to support complete communities and the urban structure.

ENABLING STRATEGIES

q) Develop the Complete Streets Strategy in consultation with interested stakeholders.

r) Align the Strategy with the road network classification system described in Section 5.4.

s) Develop the Complete Streets Strategy in consultation with interested stakeholders.

t) Incorporate into the Strategy the need to ensure that encroachments into the right-of-way balance the public good, private needs, street operations, and safety. Potential strategies to accommodate different modes and complete streets features are presented in EX 5-1.

EX 5-1 Elements of Complete Streets

Network	Road Category	Pedestrian	Cyclist	Transit	Parking	Motorist	Goods Movement
Provincial Road Network	Provincial Truck Highway	Design AT into overpasses/ interchanges		Potential express and regional bus service	Not Permitted	Primary focus	Provide direct access into goods movement facilities
	Provincial Roads	Sidewalks in urban areas safe crossings	Paved Shoulders		Permitted where required		
Winnipeg Road Network	Major Arterials	Sidewalks separated by boulevards	Separated bike facilities where road speed >50km/h	Diamond lanes, dedicated rapid transit, transit priority	Permitted in commercial areas	Maximize efficiency but design with regard for other road users	Primary roadways for heavy-duty vehicles
	Minor Arterials	Sidewalks on both sides	Bike lanes or cycle tracks	Signal priority, enhanced bus stop amenities	Encourage on-street parking to reduce off-street parking requirements	Balance movement with other road user needs	Discouraged except for direct access to origin/ destination
	Collector	Sidewalks on both sides	Bike lanes or bike boulevards	Local on-street bus routes			
	Local	Sidewalks and consideration for shared space				Traffic calming measures, encourage low speed	

Colour Legend

Primary focus	Accomodate with caution	Discouraged

5.2 Active Transportation

Refer to **MAP 4**

Active transportation (AT) can provide safe, affordable, and efficient transportation opportunities for people to incorporate physical activity into their daily lives and gain associated health benefits. Along with the personal health benefits of increasing active modes of travel, come the broader community benefits – reduced greenhouse gas emissions, improved air quality and maximizing the use of existing infrastructure. A transportation network that supports active modes also supports the concept of complete communities by providing transportation choice while improving neighbourhood connectivity and vitality.

Although walking and cycling are the predominant active modes, rolling, paddling, skating, and skiing - while typically more season specific - are also ways in which people self-propel. Including infrastructure for active modes of travel is crucial to making active transportation a competitive travel option within Winnipeg and the broader region. The needs of AT network users can vary significantly. The active mode choice, as well as, the age and ability of the users, and the primary purpose of the trip – for recreation or primarily to get from point A to point B, can significantly change the needs of the network users.

Over the past decade significant momentum has been gained Active Transportation. Major achievements in that time period include:

- Approval of the 2005 Active Transportation (AT) Study and associated Implementation Plan,
- Appointment of an active transportation coordinator,
- Establishment of an active transportation advisory committee (ATAC),
- Increased capital budget for annual AT action plans,
- Leveraged significant funds from other levels of government to expand the network, and
- Increased public awareness of AT initiatives.

With many recent efforts having focused primarily on cycling, a more specific focus on pedestrian network improvements is required to provide a broader range of AT mode options and to promote a city and a transportation system that is accessible to all.

KEY DIRECTION

Winnipeg's AT networks will to be designed, maintained and developed to ensure the accessible, safe, and efficient use for all users while balancing the needs of the different AT modes and trip types that all share the networks.

DIRECTION ONE

Ensure that AT networks are planned, designed, implemented and maintained to address year-round access.

ENABLING STRATEGIES

a) Create and maintain an up-to-date database of AT facilities.

b) Develop a process to monitor effectiveness of AT networks.

c) Allocate sufficient funding in future capital and operating budgets to complete the AT networks.

d) Work with regional partners to create safe connections to the regional AT networks.

e) Formalize a prioritization process for facility investments.

f) Explore opportunities to expand the AT network in rail, hydro, and other available corridors.

g) Encourage pedestrian- and cycling-supportive site design in all developments.

h) Continue to work with local school divisions and schools to establish programs that encourage active travel to and from schools.

i) Include design guidelines for a range of pedestrian and cycling infrastructure within the AT facilities design guide to provide safe pedestrian and cycling opportunities for a range of ages and abilities.

DIRECTION TWO

Work with community stakeholders to ensure that changes to AT networks meet the needs of their respective users.

ENABLING STRATEGIES

j) Engage with communities to mitigate conflicts between different users of the transportation system.

k) Continue to expand the information available to the general public on all AT facilities and programs.

l) Promote programs and events that support and encourage walking, cycling, rolling, paddling, skating, skiing, and any other form of active transportation that can safely share the City's transportation networks.

m) Provide or support education to all transportation system users to improve understanding of and compliance with safe operations in the integrated transportation system by all.

n) Seek innovative and new partnerships to support AT programs and facilities.

5.2.1 Walking

Most trips begin and end with walking. This highlights the need to make sure that the places where people walk, whether on lands adjacent to the network on the network itself are well designed for pedestrian accessibility.

Walking also presents a very practical travel option for entire trips. Where destinations are within reasonable distances, walking can be a competitive transportation option. Given the practical limitations of walking, speed and time, increasing the trip distance where walking can serve as the primary mode for a trip, depends on the successful integration of the pedestrian network with the broader transit network.

Walkable urban environments are the most important consideration to enhancing walking as a mode choice for entire trips. These environments provide opportunity to walk to everyday destinations for work, shopping, education and recreation. Universally accessible sidewalks are the most basic infrastructure necessary to enable walking.

What we heard about walking in Winnipeg:

- Higher priority on active transportation, particularly pedestrians, is necessary.
- Walkable communities should be an important focus.
- More pedestrian areas are needed.
- Improve pedestrian connection to transit.



This infrastructure when combined with neighbourhood design that incorporates a full range of destinations, higher residential densities, and quality of urban design, provide for environments that are deemed truly "walkable". Walkability supports the city's commitment to complete communities, as the benefits of more walkable neighbourhoods where more trips are taken by walking include improved safety resulting from more 'eyes on the street', enhanced urban vitality and economic opportunities by encouraging smaller, local storefronts, and increased social interaction.

Year round maintenance of the pedestrian facilities is important to ensuring accessibility and usability of the network. This becomes increasingly important as Winnipeg's population ages and factors heavily in individual mode choice.

DIRECTION ONE

Ensure that the pedestrian network is planned, designed, implemented, and maintained to increase the competitiveness of walking as a transportation mode choice.

ENABLING STRATEGIES

o) Develop a city-wide pedestrian strategy that provides integrated guidance for the City's efforts to support pedestrian activity and connectivity.

p) Develop a strategic approach to identifying the need for and prioritization of pedestrian amenities such as trees and street furniture.

q) Coordinate pedestrian network development with urban design efforts and strategies.

r) Continue and enhance incentives and funding programs to stimulate and encourage streetscape and pedestrian realm improvements.

s) Maintain the walking network to address year-round pedestrian needs.

5.2.2 Cycling

Bicycling offers the most energy efficient mode of transportation. Many trips made daily in Winnipeg are of a length that could be potentially accomplished by bike.

While extensive improvements to the cycling network have recently been made to improve the connectively and quality of facilities on the network, a number of significant gaps and barriers remain to challenge network connectivity. Further definition of neighbourhood level networks is required to support both localized neighbourhood bike travel and connectivity to the broader city-wide network. Opportunities to integrate transit service with bike facilities also exist to provide cyclists with reasonable alternatives for moderate and long distance trips.

What we heard about cycling in Winnipeg:

- Need to improve safety at conflict zones, such as intersections.
- Need more connections to regional trail system.
- Many gaps in the network that need to be filled and barriers addressed.
- More bike parking and get building owners to provide facilities for cyclists.





Seasonal on-street bicycle parking is a flexible and effective means of encouraging active transportation

In seeking further improvements to and use of the network, it must be acknowledged that there is a significant range in the ages and abilities of cyclists, and that trip purpose – recreational vs. utilitarian – also influences whether the network is deemed responsive to user needs. Efforts to improving cycling as a viable mode will be most successful if they include year-round maintenance of at least a core network, as well as efforts to educate both the users of the cycling network and users of the broader network to ensure safe and respectful interaction.

DIRECTION ONE

Continually improve the city-wide cycling network (Map 4), to close gaps, mitigate barriers and areas of conflict between cyclists and other transportation network users.

Refer to **MAP 4**

ENABLING STRATEGIES

t) Develop a city-wide cycling strategy that provides integrated guidance for the City's efforts to support cycling activity and connectivity.

u) Consider the creation of a network of cycling spines or super corridors that link the city's main activity nodes and provide connectivity to local and regional cycling networks.

v) Develop an all-season maintenance strategy for a core cycling network.

5.3 Transit

Refer to **MAP 5**

Transit will play a continuing essential role in Winnipeg's transportation mix. Its basic function will remain to satisfy the mobility needs of Winnipegers, but will be expanded with a greater appreciation of the city-shaping role of transit. Winnipeg can see examples of how high-quality transit can shape neighbourhoods by looking to our past. Former streetcar lines on Portage, Main, Notre Dame, Sargent, and Osborne, among others, all contributed to creating the mixed-use main streets within the Winnipeg's inner city. The medium density residential neighbourhoods that surrounded these corridors reflect the desirability and need for residents to live near high-quality transit. However, the shift to an auto-oriented development pattern in the latter part of the 20th century weakened the connection between transit and land use, consequently reducing the ability for transit to effectively serve the City's mobility needs. The TMP aims to leverage strategic improvements to the transit network to not just create a more reliable, competitive, and convenient alternative to driving, but to also catalyze urban transformation and intensification along major transit corridors and promote transit-supportive development throughout Winnipeg.

What we heard about transit in Winnipeg:

- Ongoing service enhancements to frequency and coverage are required.
- Transit needs to be easy to understand and use for new immigrants.
- Transit should be affordable.
- Communities should be designed to minimize walking distances to transit



A RENEWED VISION FOR TRANSIT

The TMP presents a renewed vision for public transit in Winnipeg, building on recent successes and investments to substantially improve the perception, comfort, reliability, and convenience of taking transit. The introduction of rapid transit and subsequent network changes present an opportunity to redefine transit's role in our City and communities. However, these changes will not result in substantial gains in ridership without transit-supportive land use and maximized transportation choice policies. To implement this vision, and expand transit in Winnipeg, an integrated system of two transit service networks is proposed: a base transit network and rapid transit. Both networks are predicated on two mutually supportive components: complete network coverage and high-quality service.

A HIGH-QUALITY TRANSIT EXPERIENCE

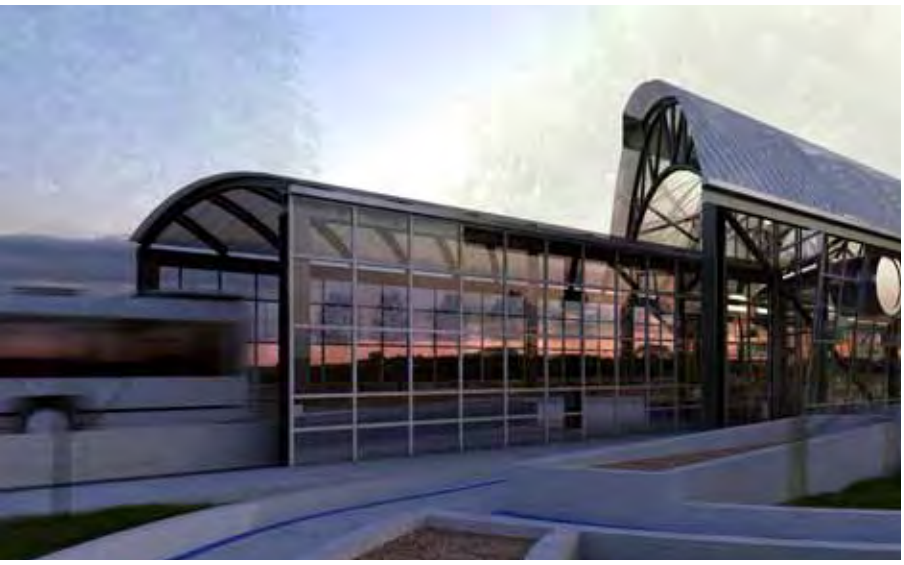
The objectives around developing a convenient, high quality, and attractive transit experience in Winnipeg include providing the following:



- **good coverage:** transit will be within a 5-minute walk for all Winnipegers at most times;
- **direct service:** the integrated route network will be designed to minimize deviation from a direct route to destinations, to avoid circuitous routings, and to minimize the need to transfer;
- **frequent service:** setting minimum service headways and improving loading standards to trigger more frequent service on busy routes;
- **fast service:** minimize delays and provide greater priority for transit to allow for faster travel times;
- **reliable service:** through active and effective route management, transit priority, and providing real-time service information to customers; and
- **comfortable ride:** designing the transit vehicles, stations, stops, and shelters to enhance the comfort, safety, and legibility of the transit experience.

BASE TRANSIT NETWORK

The base transit network includes most of the City's on-street mainline, express, and suburban feeder fixed-route bus system. In addition, it includes the dial-a-ride (DART) demand-responsive service for low ridership areas. The base network will provide efficient and accessible service on Winnipeg's street system, offering good coverage throughout the City, operating at convenient intervals, providing direct travel between major origins and destinations, meeting local travel needs in our neighbourhoods, and integrating effectively with rapid transit services. The base network will include further enhancements to the Quality Corridors recently implemented on major arterial streets. These corridors feature transit priority measures to improve speed and reliability, high-frequency service, enhanced customer amenities (such as heated shelters), and real-time passenger information displays. Creating a high-quality transit experience in the base transit network will be the guiding direction behind the TMP's transit strategy.



Rapid transit will transform the way we move around Winnipeg while creating distinctive places around well designed stations

RAPID TRANSIT

Rapid transit is envisioned on four corridors in Winnipeg in the TMP by 2031, with an additional two corridors beyond 2031. The rapid transit network will permit high-demand corridors to be served by high-speed routes that use exclusive rights-of-way to bypass traffic congestion on the street system. Rapid transit stations will become multi-modal transportation hubs, where base network services either connect with trunk rapid transit routes or join the rapid transit corridors from the street system to provide seamless travel, and where bicycle parking and park and ride facilities are fully integrated with rapid transit service. Stations will be supported by land use policies to encourage creation of mixed-use transit villages and transit-oriented developments.

KEY DIRECTION

Expansion of Winnipeg's transit network and services will enhance transit as a mode choice if it provides good coverage and a basic level of service to all areas of the City and an effective network of rapid transit.

DIRECTION ONE

Provide efficient and effective transit service to all areas of the city.

ENABLING STRATEGIES

a) Update service guidelines for the introduction of service into new communities, minimum service frequencies, hours of service, bus stop and bus shelter placement, and funding of service expansion.

b) Where appropriate, the transportation network will be designed to maximize transit route coverage and directness, and allow for direct and safe active transportation linkages.

c) Adopt a fare strategy that prioritizes service improvements over fare freezes or reductions.

d) Develop partnerships with social service agencies to increase funding outside of transit to provide subsidized transit fares for residents with low income or special needs.

e) Further adopt intelligent transportation systems (ITS) where appropriate to enhance service reliability, performance monitoring, and system management.

f) Ensure transit services are fully accessible and barrier-free by 2020, including accessible fleet, stops, and stations. Continue to introduce accessible customer service and information features.

g) Expand opportunities for transit park-and-ride through shared-use agreements with owners and operators of large parking facilities in proximity to rapid transit stations and major stops on Quality Corridors.

h) Integrate transit with active transportation by providing bicycle parking and improved pedestrian connections, bicycle racks on buses, and developing safe and convenient pedestrian and cycling routes to and from transit stops and stations.

i) Monitor and implement innovative initiatives that improve the transit experience, including communications and information strategies, promotional activities, and customer appreciation programs.

j) Manage fleet and operations to maximize environmental benefits of transit and explore and implement opportunities to reduce energy consumption and emissions.

5.3.1 Base Transit Network

The base transit network is an important component of the city-wide transit strategy and a critical support for rapid transit. It expands the reach of the transit system into all neighbourhoods, providing local service and access to destinations on the transportation network.

DIRECTION ONE

Further strengthen the base transit network to support the efficiency and accessibility of transit.

ENABLING STRATEGIES

k) Provide at least 30-minute service on all transit routes at all times.

l) Expand route coverage so that 95% of city residences are within a 5 to 10 minute walk of transit service.

m) Explore feasibility of providing inter-municipal transit services which serve centres outside the city.

n) Continue to implement Quality Corridors as a first stage to the implementation of rapid transit.

o) Complete and expand the on-street transit priority program and incorporate transit priority measures in all roadway projects on transit routes, where desirable.

p) Continue Winnipeg Transit's bus stop and shelter upgrade program to improve customer comfort.

q) Restrict the use of diamond lanes to transit vehicles and bikes.

r) Support transit oriented development along high frequency transit corridors.

5.3.2 Rapid Transit

Rapid transit is necessary for Winnipeg's on-going growth. It is needed to ensure that residents are provided with a viable alternative to the automobile, to reduce existing and future road congestion, and to build a transportation system that is capable of serving future generations. Rapid transit is also essential for shaping land use in a manner that achieves the objectives of OurWinnipeg and Complete Communities.

It is important to identify the corridors where rapid transit will help contribute to a mode shift to transit, reduce road congestion and promote new development and redevelopment.

The concept of a rapid transit system for Winnipeg has been contemplated for more than four decades. Rapid transit has been identified in some form or virtually all major plans since the 1970's including:

- Winnipeg Area Transportation Study (1968)
- Plan Winnipeg (1986)
- Plan Winnipeg...Toward 2010 (1993)
- TransPlan 2010 (1998)
- Plan Winnipeg 2020 (2001)
- OurWinnipeg (2010)

In addition, there have been numerous studies of rapid transit in one or more corridors including the following:

- Monorail for Portage Corridor (1972)
- Southwest Transit Corridor Study (1973)
- Rapid Transit Task Force (2005)

Progress on the development of a rapid transit system over the past few decades has largely been constrained by need and funding. Because Winnipeg has not been growing rapidly and congestion has been manageable, it has been difficult to justify major investments in rapid transit. However, this is no longer the case with an expected growth of 240,000 people in the Capital Region by 2031.

The construction of Winnipeg's first rapid transit infrastructure, Stage 1 of the Southwest Rapid Transit Corridor between Queen Elizabeth Way and Jubilee Avenue, represents a major milestone for the City and is a turning point for the transportation system. Scheduled to open for service in 2012, the new bus rapid transit corridor will greatly improve the speed, reliability, comfort and convenience of transit travel between Downtown and the various neighbourhoods and destinations in southwest Winnipeg.

As part of the preparation of this TMP, a substantial amount of work was carried out to confirm the need and justification for rapid transit, to assess its potential in different corridors, and to identify potential routing options for further study.

Five potential rapid transit corridors were identified in the OurWinnipeg Sustainable Transportation document:

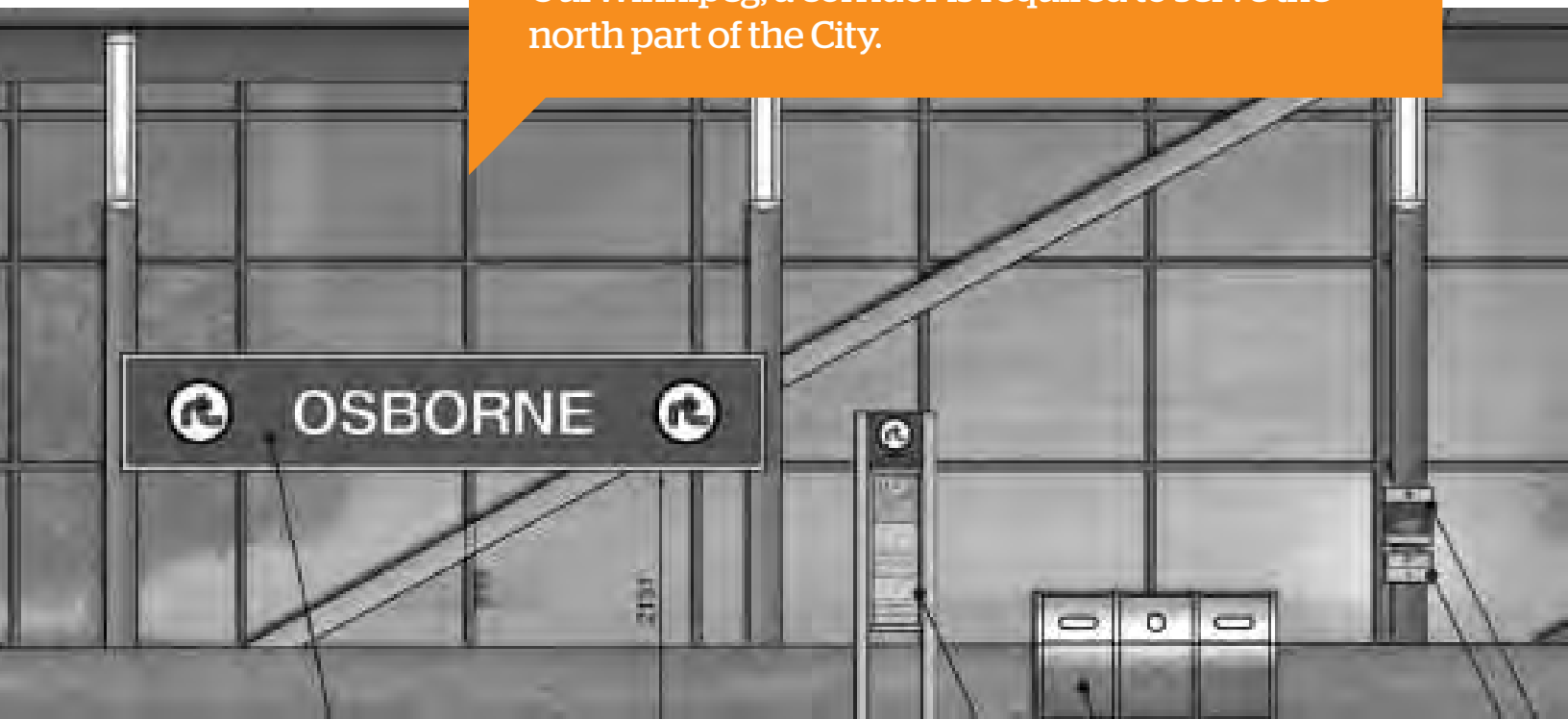
- a Southwest corridor, generally following Pembina Highway
- a Western Corridor along or parallel to Portage Avenue
- an Eastern corridor following Regent Avenue
- a corridor to the Northeast following the Raleigh/Gateway corridor
- a corridor to the Southeast following the CPR Emerson line

In addition, further analysis of rapid transit identified several other corridors warranting assessment as to their potential for rapid transit including Main Street North, Henderson Highway, Grant Avenue and Notre Dame/McPhillips.

A number of indicators were used to assess the potential for rapid transit in each corridor and to guide decisions on phasing. These indicators are summarized in EX 5-2, with descriptions of each corridor following the exhibit.

What we heard about rapid transit in Winnipeg:

- Rapid transit is needed so Winnipeg can become a more sustainable city.
- Investment in rapid transit cannot be postponed.
- Bus Rapid Transit may be more cost-effective and flexible solution than LRT.
- LRT is more attractive and preferred by the development community.
- In addition to the corridors identified in OurWinnipeg, a corridor is required to serve the north part of the City.



EX 5-2 Summary of Rapid Transit Corridors

Indicator	Rapid Transit Corridor					
	Southwest	West	East	North	Southeast	Northeast
	Graham Mall to U of M	Portage & Main to Century	Graham Mall to Lagimodiere	Graham Mall to Burrows	Nairn to Bishop Grandin	Nairn to Perimter Hwy
Length (km)	13.5	4.9	5.8	2.5	7.3	7.3
2031 Peak Point Ridership (peak hour) (1)	1800	2050	1600	3200	250	500
2031 Average residential and employment density within 500 m of corridor (total residents+jobs per ha) (2)	76	151	90	187	23	35
Number of Regional Mixed-Use Centres within 1 km. (3)	0	1	1	0	0	0
Number of major redevelopment sites within 1 km (4)	5	0	1	1	1	1
Estimated capital cost $millions (LRT)(5)	$700	$340	$405	$177	-	-
Estimated capital cost $millions (BRT)	$275 for Stage 2	$146	$174	$76		
Recommendation on Phasing	Before 2031	Before 2031	Before 2031	Before 2031	Beyond 2031	Beyond 2031

NOTES

(1) Estimated based on Winnipeg Travel demand Model. Typically 1,200 passengers per hour is considered the minimum threshold for dedicated rapid transit facilities.
(2) Ideally densities of 125 persons plus jobs per hectare are required to support rapid transit along the majority of the corridor.
(3) Based on mixed use centres identified in OurWinnipeg.
(4) Based on major redevelopment sites identified in OurWinnipeg.
(5) Estimated potential capital costs based on LRT technology. Costs will vary based on alignment, level of grade separation, vehicle types and number of stations. Costs are indicative for the purpose of identifying potential funding needs over the long term and will be refined through further studies.

SOUTHWEST CORRIDOR

Implementing Stage2 of the Southwest Corridor is an early priority to capitalize on the investments in the soon to be opened Stage1 project.

The current rapid transit development program has selected the Southwest corridor as the priority and Stage 1 of this corridor is under construction and scheduled to open in the spring of 2012. Stage 1 will extend to Jubillee Avenue and Stage 2 is planned to extend to Pembina and Bison. When completed, a network of transit routes will use this new infrastructure and existing transit priority measures (such as the Graham Transit Mall and Main Street diamond lanes) to provide fast reliable transit service between the downtown and the southwest part of the city (including the University of Manitoba, and residential, commercial, and industrial areas).

This rapid transit corridor will serve existing residential areas in southwest Winnipeg (having a total population of 75,000), the 30,000 students and staff at the University of Manitoba, the new stadium complex at the University of Manitoba, the developing Waverley West area (with a planned population of 30,000 and new employment centres by 2031), as well as the TOD development underway in the Fort Rouge Yards, and similar development proposed for the Southwood Golf Course lands, the former Sugar Beet lands near Pembina & Bishop Grandin, and the Parker lands west of Pembina and south of the CN main line.

There are two possible alignments of the Stage 2 extension of the southwest corridor to be considered in a future detailed alignment study. Past plans have identified the CN Letellier Subdivision as a possible alignment for the Stage 2 extension under a joint-use agreement with the railway. There is also the potential for an alignment along the hydro corridors (see Map 5), which would serve the emerging communities on the Parker and Taylor lands.

WESTERN CORRIDOR

The Western corridor would extend from the downtown core to Polo Park. Although future studies will need to confirm the alignment, Portage Avenue is seen as having the greatest potential for rapid transit. It has very high existing ridership and has a relatively high walk-in market that would benefit from some level of higher-order transit. West of Polo Park, congestion tapers off and there is less need for rapid transit by 2031.

One of the objectives of the Western corridor is also to connect the James Armstrong Richardson International Airport with rapid transit. This could be achieved by an extension of the Portage Avenue corridor northward on St. James or Route 90, labelled in Map 5 as the Airport Link. Technology for this link would not necessarily have to be the same as the Portage Avenue corridor provided Polo Park functioned as a major mobility hub.

In assessing different options for Portage Avenue (and other corridors), consideration will be given to the idea of constructing a European-style light rail system. These types of systems are being considered in many cities across North America and are best described as a hybrid between traditional light rail (such as Calgary) and streetcars (such as Toronto).

EASTERN CORRIDOR

The provision of an exclusive rapid transit facility from Downtown and east across the Red River would provide significant benefits to existing developed residential and commercial areas and to new areas in the vicinity of the corridor such as planned commercial lands along the north side of Reenders Drive, and residential lands west of the future Edward Schreyer Parkway north of the frontage properties on Regent Avenue. It would also facilitate redevelopment and intensification in Point Douglas, along Higgins Ave. and Sutherland Ave. It would also allow transit to bypass congestion on crossings of the Red River.

There are still significant questions to be answered on the alignment of the Eastern corridor as it relates to the crossing of the Red River. One opportunity that has emerged is constructing a new multi-modal bridge to replace the aging Louise Bridge.

NORTHERN CORRIDOR

There are at least two options for connecting the north end and surrounding employment areas with rapid transit. Previous rapid transit plans identified a corridor paralleling the CPR Winnipeg Yards and then northward along the CPR Winnipeg Beach or Arborg Subdivision. However, based primarily on ridership potential, Main Street between Portage and Jefferson is considered the preferred corridor. A rapid transit corridor on Main Street could be combined with the Western corridor if the latter utilized Portage Avenue.



EXAMPLE OF AN "URBAN" LIGHT RAIL APPLICATION, WITH TRAINS RUNNING IN DEDICATED RIGHT-OF-WAY ALONG STREET CORRIDOR, AND MODERN LOW-FLOOR VEHICLES.

FUTURE CORRIDORS

OurWinnipeg identified two longer-term corridors, one to the Northeast and one to the Southeast. The Northeast corridor could utilize the former CPR Marconi subdivision adjacent to the Gateway/Raleigh corridor and the Northeast Pioneers Greenway and could markedly improve transit service for Elmwood, East Kildonan, and North Kildonan, including planned development north of Bonner Avenue up to the City limits, as well as serving current and planned development in the rural municipality (RM) of East St. Paul. There is sufficient space in these rights-of-way to enhance and expand transit facilities in these areas.

Although preliminary ridership forecasts do not suggest a demand that would justify full rapid transit, integrating transit services in the Henderson Highway corridor with the Gateway corridor combined with efforts to introduce higher density uses along the corridor may improve its viability for rapid transit. The cost to develop rapid transit in this corridor would also be lower as there are few constraints and an existing right-of-way is available. Nevertheless, at this time this corridor is considered a longer term (beyond 2031) initiative. In the near term, it could serve as a major feeder corridor into the primary rapid transit network.

The Southeast corridor, which is proposed as utilizing the CPR Emerson Subdivision right-of-way, could effectively serve the growing south-eastern part of the city, south of Island Lakes. It could also provide service to the former Canada Packers lands south of Marion Street. This corridor could be designed as a network of service extending into Windsor Park, Southdale, Royalwood, Island Lakes, Southland Park, and Sage Creek.

DOWNTOWN CIRCULATOR

In addition to the main rapid transit corridors, there have been, over the years, suggestions for a downtown circulator. Downtown circulators, often using modern streetcars, have become increasingly popular in the past few years to attract and circulate passengers in downtown environments and help encourage redevelopment towards livelier and more sustainable places to live and work. The success of the Portland Streetcar and other similar initiatives has enhanced this concept of revitalizing old streetcar corridors and downtown corridors with fixed rail, high-quality local transit service.

Winnipeg already has a downtown circulator - the Downtown Spirit network of three bus routes. There are merits in taking this concept to the next level, possibly utilizing streetcar-type technology. The intent would be to increase connectivity between the business/shopping/entertainment districts, the Forks, the new Canadian Museum for Human Rights, and the Exchange District. Such an investment could stimulate further residential development in the core while facilitating tourism. The streetcar could operate on rails, likely in mixed traffic with traffic signal priority or other transit priority measures, and with low-floor vehicles powered by overhead catenary wires.

Further work is required to determine the appropriateness of a downtown circulator for Winnipeg. This will include an evaluation in terms of cost effectiveness, travel and environmental benefits, and land use and development opportunities, compared to other potential options such as expanding the current Downtown Spirit bus service or relying more on the regional rapid transit network.

QUALITY CORRIDORS

The Quality Corridor concept was introduced in Winnipeg between 2007-2009 and refers to high-performance and high-frequency on-street bus routes that are assisted by transit priority measures (diamond lanes, transit priority signals, queue jump lanes, etc.), and whose major stops are upgraded to include heated shelters, real-time bus departure displays, benches, posted route and schedule information, and other amenities.

Map 5 identifies the proposed quality corridor network which will span across the city to create a comprehensive system of high-quality transit services to support the rapid transit network.

DIRECTION ONE

Implement a rapid transit network as part of the transit system to provide a viable alternative to the auto mobile and to reduce existing and future road congestion.

ENABLING STRATEGIES

s) Adopt the rapid transit network shown on Map 5 as the preferred long-term network for the City.

t) Continue to evaluate and adjust the rapid transit network.

DIRECTION TWO

Align land use and transportation planning decisions to support the rapid transit network.

ENABLING STRATEGIES

u) Implement Light Rail Transit (LRT) or Bus Rapid Transit (BRT) by selecting the technology that best complements the land uses within the service area of each rapid transit corridor.

v) Support transit oriented development along rapid transit corridors and at rapid transit stations.

w) Initiate detailed integrated corridor planning, alignment, and technology assessment studies for the rapid transit corridors as shown on Map 5

x) Initiate studies for the Stage 2 Southwest Rapid Transit Corridor, as an immediate priority.

y) Initiate studies for the Portage Avenue/Airport Link corridor, the Eastern corridor and the Main Street North corridor.

z) Initiate an analysis of the potential for the implementation of a streetcar-based downtown circulator.

5.4 Road Network

Refer to **MAP 6**

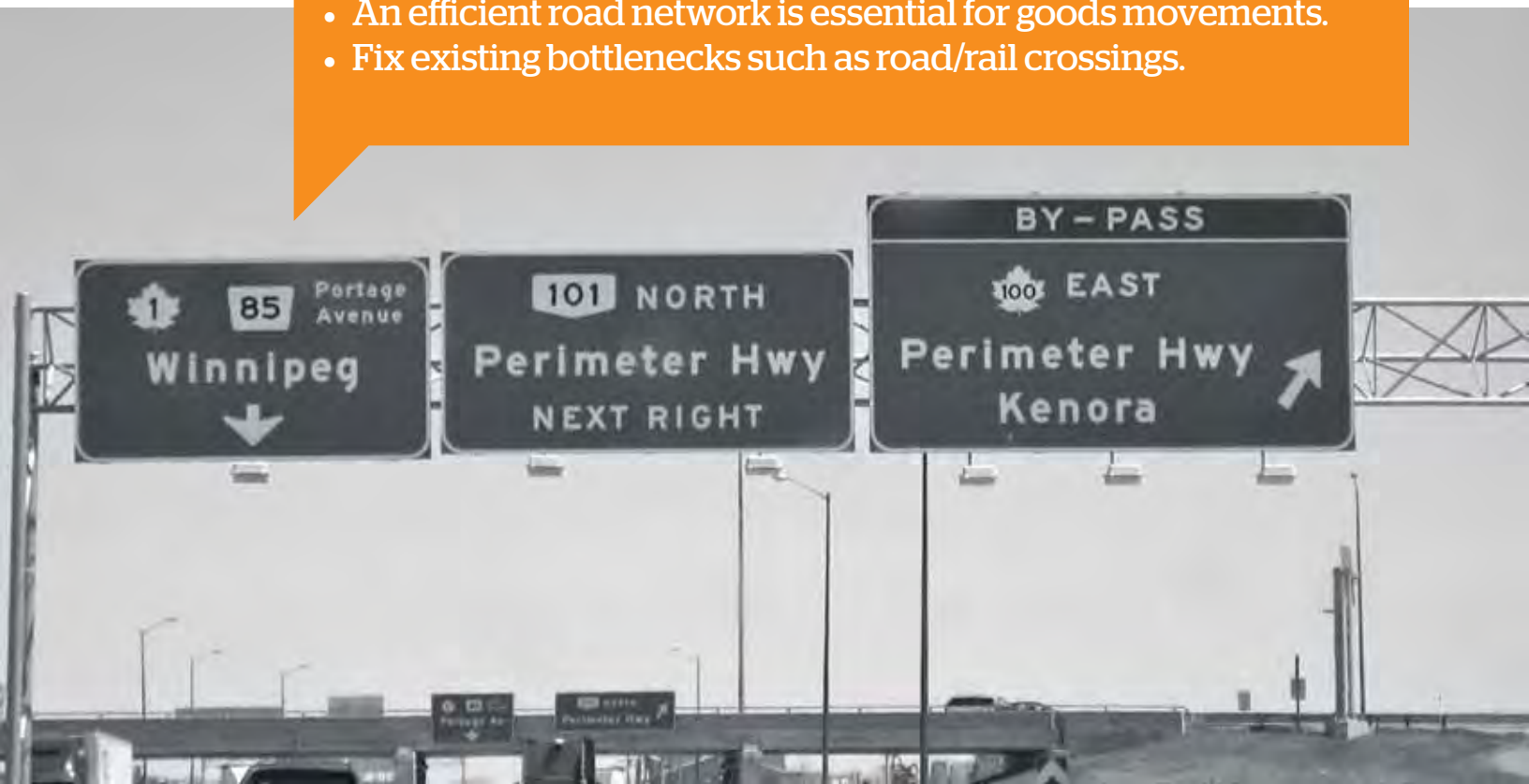
Future growth and increasing demands to efficiently move people and goods within and through Winnipeg will intensify the needs for a safe, connective and sustainable road network.

5.4.1 Road Network Improvements

Sustainable Transportation identified a conceptual major street network illustrating potential improvements, which has been further revised to reflect current plans, as shown in Map 6. The network shown consists of strategic roads that will enable the efficient movement of goods and people in and around Winnipeg. It includes an inner ring route, the perimeter highway, connecting roads between them, and key railway grade separations. The most significant proposed improvements include the construction of the CentrePort Canada Way and related connections, and extensions to William R. Clement Parkway, Chief Peguis Trail, Bishop Grandin Boulevard and improvements to Kenaston Boulevard (Route 90).

What we heard about roads in Winnipeg:

- Implementing a Complete Streets policy or by-law would ensure issues such as accessible design are always considered.
- Road expansion is counter to environmental principles.
- Focus on maintaining existing roads.
- An efficient road network is essential for goods movements.
- Fix existing bottlenecks such as road/rail crossings.



Investment in new infrastructure and expansion of the strategic road network cannot solely accommodate future growth and demands. In addition, strategies and initiatives to enhance the existing road network in Winnipeg must also be implemented. They should reflect best practices for policy, design features, and ITS to foster a full range of mobility options and increase safety for all users.

While the City has invested $2.3M per year since 2008 to implement a traffic signal management system which has resulted in improving the movement of motorists on major routes without the need to implement more expensive solutions such as adding traffic lanes or grade separation, traffic signals in Winnipeg are dated and fail to meet the demands of the current expectations of the transportation users.

Nearly one third of field equipment consists of electromechanical controllers, which are over 50 years old, and much of the electronic equipment is reaching its useful life. Traffic signal plant has deteriorated significantly over the last 30 years and reflects the need to invest in a proper preventive and replacement maintenance program.

The opportunity exists to take the strategic investment of the new traffic signal management system initiated in 2008 to form the basis for the implementation of a modern and integrated traffic signal management system, to implement ITS solutions, and to establish a traffic management centre to more efficiently and proactively address traffic management problems. Traffic management centres have existed for many years in most major Canadian cities, including Vancouver, Calgary, Edmonton, Ottawa, Montreal and Toronto and serve as the nerve centre to manage emerging congestion and traffic operations problems, assist enforcement and emergency agencies in safety and security matters and support rapid transit operations. In more recent years, traffic management centres have also expanded their role and provide information to motorists and the media through the internet, or through personal mobile technologies or on-board vehicular navigation systems.

In addition to the improvements and additions to the Strategic Road Network and traffic signal management system, it will also be necessary to undertake other modifications to the existing major street network at key locations to replace transportation infrastructure that is beyond its useful life and to mitigate existing spot congestion problems. Examples include assessing the options for replacement of the Arlington Street Bridge, widening of the Pembina Highway and Osborne Street Underpasses, and construction of a Grade Separation at Waverley Street and the CN Mainline.

KEY DIRECTION

In order to accommodate increasing demand as well as efficiently and effectively move people and goods within and through Winnipeg, a safe, connective and sustainable road network is required as part of a balanced, multi-modal transportation system.

DIRECTION ONE

Ensure that a safe, connective and sustainable road network is part of the balanced, multi-modal transportation system.

ENABLING STRATEGIES

a) Adopt the Strategic Road Network as illustrated on Map 6

b) Conduct planning and detailed design studies of the improvements to the Strategic Road Network shown in EX 5-3 and illustrated in Map 7.

Refer to **MAP 7**

c) Conduct an annual review of the priority assigned to the Strategic Road network improvements in consultation with the Planning, Property and Development Department as part of the monitoring process described in greater detail in Section 10.

DIRECTION TWO

Enhance the efficiency and effectiveness of the existing road network.

ENABLING STRATEGIES

d) Identify congestion hotspots in the road network that provide an opportunity to support sustainable modes and transportation demand management.

e) Seek to improve access and efficiency of the taxi system by expanding on-street taxi zones and more equitable enforcement of no stopping zones.

f) Investigate opportunities to implement alternatives to roadway expansion and widening.

g) Continue to implement localized improvements to the existing major road network that reduce congestion for all modes.

h) Evaluate the applicability of roundabouts as a substitute for full signalized intersections in the design of new roadway projects to improve safety and reduce congestion and operational costs.

i) Minimize negative impact of property access on multi-modal functionality of strategic roadway network.

j) Extend the implementation of the traffic signal management system to other key routes and establish a traffic signal optimization program.

k) Integrate the traffic signal management system with traffic operations and ITS solutions to improve the efficiency of the road network in a sustainable manner.

l) Implement a modern traffic management centre to monitor, manage and react efficiently to emerging congestion and unexpected traffic, security or emergency conditions.

EX 5-3 summarizes and prioritizes the Strategic Road Network and other major road network improvements that are illustrated on Map 7. There are two groups of projects shown on EX 5-3:

- Projects that are part of the approved 2011 Capital Budget or 2012-2016 Five Year Capital Forecast; and,
- Projects that are NOT part of the approved 2011 Capital Budget or 2012-2016 Five Year Forecast that have been identified as being required to accommodate future travel demand to 2031

The latter group of projects has been further characterized as Short Term (by 2016), Medium Term (by 2021), and Long Term (by 2031) based on the analysis of the additional travel demand described in Section 3.3, Alternative Land Use and Transportation Scenarios.

It should be noted that the priority of the Strategic Road Network improvements illustrated in EX 5-3 will be reviewed on an annual basis as part of the requirements necessary to ensure that transportation and land use planning continue to be integrated. As such, changes to patterns of development that are not currently anticipated and/or other factors may result in the need to alter the priority of one or more of the Strategic Road Network improvements.

EX5-3 Summary of Road Network Improvements

Timeframe	Category	Link	Total Estimated Cost ($M)[1]
Short-term (by 2016)	Strategic Road Network Improvements	Kenaston (Route 90) - Ness to Taylor	$129
		CentrePort Canada Way and Connecting Roads [2]	n/a
		Chief Peguis Trail - Henderson to Lagimodiere [2]	n/a
	Other Major Road Network Improvements	Pembina Underpass [2]	$14.3
		Traffic Signal Management System [2]	$4.6
		Marion-Goulet Connection - Youville to Lagimodiere	$70
		Plessis Road Widening and Grade Separation at CN Mainline	$75
		Louise Bridge [3]	TBD[4]
		Waverley West Arterial Roads [2]	n/a
		Disraeli Bridge and Overpass [2]	n/a
		Sub-Total Short-term	**$292.9+**
Medium-term (by 2021)	Strategic Road Network Improvements	Chief Peguis Trail – Main to McPhillips	$110
		Bishop Grandin - Lagimodiere to Fermor	$80
		Edward Schreyer Parkway - Plessis to Chief Peguis	$60
		Fermor Avenue - Lagimodiere to Plessis	$40
		William R. Clement Parkway - Grant to Wilkes	$60
	Other Major Road Network Improvements	St. Mary's Road Widening - St. Anne's to Marion	$60
		Arlington Bridge [3]	TBD[5]
		Osborne Street Underpass [3]	TBD[4]
		Grade Separation at CN Mainline between Taylor and Sterling Lyon[3]	TBD[4]
		Sub-Total Medium-term	**$410+**
Long-term (by 2031)	Strategic Road Network Improvements	Chief Peguis Trail – McPhillips to Route 90	$130
		Bishop Grandin - Kenaston to McGillivray	$100
		William R. Clement Parkway - McGillivray to Wilkes	$100
		Silver Avenue - Century (Route 90) to Sturgeon	$90
		Chief Peguis Trail - Edward Schreyer Parkway to PTH101	$110
		PTH 6 Extension – CentrePort Canada Way to PTH 101	$150
		Sub-Total Long-term	**$680**
		TOTAL	**$1382.9+**

[1] All figures in 2011$ and do not account for inflation. Preliminary estimate only unless otherwise noted – subject to further review at preliminary/detailed design stage.

[2] Project included in adopted 2011 Capital Budget and/or 2012-2016 Five Year Forecast.

[3] Project included in adopted 2012-2016 Five Year Forecast for Design and/or Property Acquisition Only.

[4] To be determined after design.

[5] To be determined after study of options

5.4.2 Road Network Classification System

The City of Winnipeg currently uses a two-category system to classify its road network. Streets are either identified as Regional Streets or Non-Regional Streets; this simple classification system primarily relates to road function and budgeting considerations.

In order to respond to the range of urban contexts and multi-modal function needs, a further refinement of the current road classification system will be necessary. It should incorporate roadway policies, design features, and ITS to foster a full range of mobility options and increase safety for all users.

DIRECTION ONE

Develop a roadway network classification system to bring greater transparency to the management of the roadway network.

ENABLING STRATEGIES

m) Adopt the primary road network classification as outlined in EX 5-4 which will support priority setting for road network expansion, rehabilitation, reconstruction, and maintenance; access management; and the functionality of the strategic road network.

n) Develop an integrated road network classification system that is built upon the primary road network to align with the Complete Streets Strategy identified in section 5.1.3, and identify appropriate design and operating guidelines for new roads, rehabilitation, and reconstruction.

EX 5-4 Recommended Primary Road Network Classification

Network	Road Category	Design Features
Provincial Road Network	Provincial Truck Highway	Under the jurisdiction of the Manitoba Infrastructure and Transportation (MIT). Typically classified as "freeway" or "expressway" under the under the Transportation Association of Canada (TAC) Geometric Design Guidelines. Includes Perimeter Highway (PTH 100 & 101), and several provincial highways (PTHs 1 to 3, 6 to 9, 15 and 59).
	Provincial Roads	Provincial roads not classified as PTH. Mostly two-lane, undivided highways without curbs in rural areas.
Winnipeg Road Network	Major Arterials	Efficient flow of traffic. Higher speeds (60-90 km/h), limited access, larger traffic volumes (15,000-40,000 veh/day), limited parking.
	Minor Arterials	Promote traffic movement, connectivity. Moderate speeds (50-70 km/h), large traffic volumes (5,000-20,000 veh/day), limited parking during peak,
	Collector	Support land access and traffic movement. Moderate speeds (50-70 km/h), moderate traffic volumes (8,000-12,000 veh/day), fewer parking restrictions.
	Local	Access for all road users. Lower speeds (30-50 km/h), low traffic volumes, residential parking restrictions only.

6. Goods Movement

Refer to **MAP 8**

Increasing demands in global trade and transportation efficiencies, as well as growth in major industrial employment sectors, will create a number of challenges to accommodate goods movement trips through and within Winnipeg.

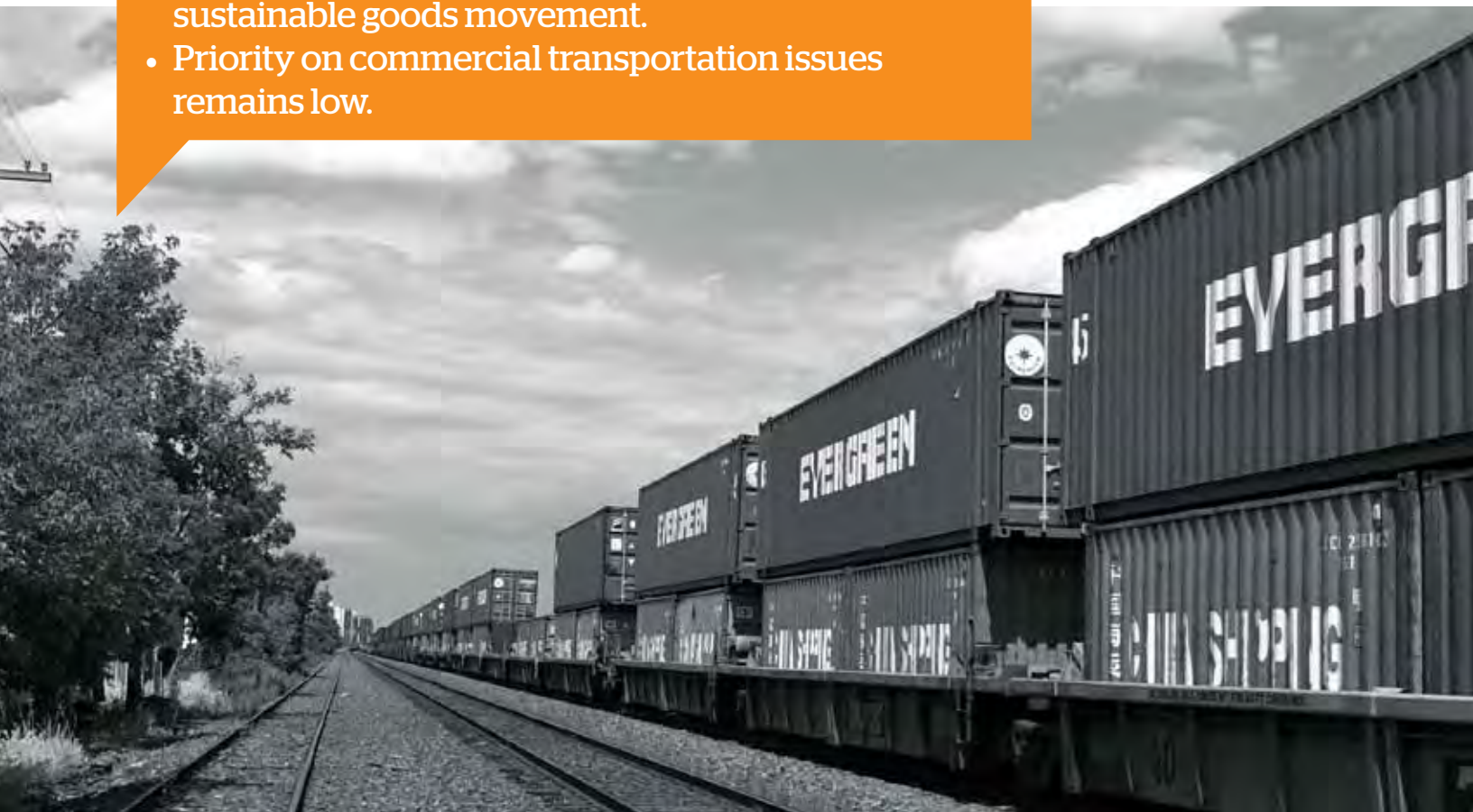
Winnipeg's geographical location, positions it as a key intermodal and freight hub. It links road and rail corridors from the east and west to the Mid-Continent Trade Corridor which connects Canada, the United States and Mexico.

The City has a well-established transportation infrastructure that accommodates more than 40 million goods movement trips annually. Large repair and intermodal facilities from the main Canadian railway companies, and the number one airport in Canada based on dedicated cargo freighters, are located in Winnipeg. This network is critical to the City's economy and support of the transportation and trade industries by providing over 1,800 lane-kilometres of designated truck routes.

CentrePort Canada is a major initiative for the governments of Manitoba and Canada. The development of an inland port that will be utilized for goods movement and processing will ultimately provide a high concentration of goods movement and commuter travel.

What we heard about goods movement in Winnipeg:

- Productivity and efficiency are key elements to sustainable goods movement.
- Priority on commercial transportation issues remains low.



Winnipeg's gross domestic product is projected to grow at an average of 2.5% compounded annually to 2030 and 88,000 new jobs are forecast by 2031 (Conference Board of Canada, 2007). The majority of these jobs will be in the service industry or targeted to key strategic sectors including manufacturing and financial services.

All employment sectors have unique locational characteristics and transportation needs. Providing and maintaining an effective road network to employment lands and large industrial centres will accommodate current and future goods movement demand. This will be key to reducing the growing pressures on transportation infrastructure and minimizing impacts to neighbouring residential and commercial developments.

KEY DIRECTION

Balancing the needs of efficient and sustainable goods movement with those of complete communities will allow the City to remain economically competitive while maintaining neighbourhood liveability.

DIRECTION ONE

Ensure an effective and sustainable goods movement network that includes key trade corridors and truck routes is part of the balanced, multi-modal transportation system.

ENABLING STRATEGIES

a) Adopt and implement the goods movement network as identified on Map 8.

b) Continue to work with the transportation industry to direct higher volumes of goods movement towards the network.

c) Continue to work with stakeholders such as the Winnipeg Airports Authority to support the 24-hour operations of the James Armstrong Richardson International Airport as a major centre for goods movement and commercial activity.

d) Explore and support opportunities for innovative goods movement and service that respond to changing delivery methods.

e) To reduce peak-hour demands, encourage sustainable loading and delivery practices and review related City policies and design standards.

f) Use intelligent transportation systems (ITS) to minimize traffic flows and travel times while improving safety on the goods movement network.

g) Use ITS to collect data on truck movements and volumes to improve efficiency of the transportation network.

h) Continue to build on strategic partnerships with higher levels of government, key freight, rail and air agencies, and industry stakeholders.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7. Regional Connections

Manitoba's Capital Region includes the City of Winnipeg and its surrounding municipalities, an area with a radius of approximately 50 kilometres from downtown Winnipeg. Main communities in the Capital Region include St. Andrews, East St. Paul, West St. Paul, Selkirk, and Stonewall, connected primarily through the provincial highway network.

As discussed earlier, it is anticipated that population in the Capital Region outside of the City of Winnipeg will increase substantially in the future. The Conference Board of Canada forecasts that areas surrounding the City will grow to over 103,000 people by 2031 resulting in a doubling of trips to/from the Capital Region outside Winnipeg. The concern with this increase in travel is that it primarily impacts the transportation network within the City.

The coordination of transportation planning on a regional scale will therefore be essential. The provincial government has taken initial steps to coordinate the planning and delivery of services in the Capital Region, including the development of guiding principles for the region and establishing a Regional Planning Advisory Committee. The City of Winnipeg will continue to participate and contribute to ongoing discussions on the future of governance and service delivery in the Capital Region.

KEY DIRECTION

The provision of effective and efficient regional transportation links in the Capital Region is essential to economic prosperity.

DIRECTION ONE

Support sustainable transportation linkages between Winnipeg and the surrounding municipalities.

ENABLING STRATEGIES

a) Participate with surrounding Capital Region municipalities in the development of coordinated transportation objectives

b) Support a framework for regional multi-modal transportation service delivery.

c) Explore the feasibility of developing a Regional Transportation Authority to plan, implement, and deliver transportation infrastructure and services.

d) Support the development of a transportation demand management (TDM) strategy for the Capital Region.

8. Parking

Parking policies should be context-sensitive to ensure that parking is provided where it is needed; opportunities for modal shift are created; and parking is integrated with the urban landscape.

Parking policy influences both transportation and land use patterns in the City. Currently, off-street parking in Winnipeg outside of the downtown is regulated by the city's Zoning By-law, which sets out minimum requirements for the provision of parking. The number of parking spaces required in the by-law is dependent on the proposed land use (residential, office, retail, etc.) and are based on various measures, such as the number of occupants, number of units, and the size of the development. Winnipeg's parking standards are similar to other Canadian cities.

In Downtown Winnipeg, off-street parking is regulated by the Downtown Zoning By-law, which does not contain minimum parking requirements. The Downtown Winnipeg Parking Strategy identifies parking management as a tool to support strategic economic development and transportation demand management. It also outlines policies to ensure parking infrastructure contributes to a more walkable and vibrant downtown.

The Winnipeg Parking Authority (WPA) is a special operating agency of the City of Winnipeg responsible for the management of on-street parking, residential parking permits, and several city-owned parking facilities. It also contributes to the supply of bicycle parking throughout the City.

What we heard about parking in Winnipeg:

- Reduce parking demand through financial disincentives and TDM programs.
- Ensure clarity consistent enforcement of on-street parking regulations.
- Reduce number of large surface parking lots in the downtown.



KEY DIRECTION

Parking should facilitate access for bicycle and motor vehicle users of the transportation network to adjacent development in a manner that supports the concept of complete communities.

DIRECTION ONE

Provide for an effective and appropriate level of parking supply.

ENABLING STRATEGIES

a) Review parking standards contained within the City's zoning by-laws to ensure consistency with the vision and objectives in OurWinnipeg, Complete Communities, and the TMP.

b) Develop parking standards according to urban structure classification that include maximum parking regulations and shared parking to reduce parking over supply.

c) Provide opportunities in the development approval process to reduce the number of parking spaces required by the Zoning By-law. Considerations for parking reduction include:
- proximity to rapid transit corridors and stations;
- proximity to transit routes operating at a high frequency;
- proximity to municipally-owned parking facilities;
- providing parking spaces for car sharing; and
- entering into shared parking arrangements with adjacent development.

d) Allow for payment in-lieu of providing parking or to reduce parking requirement, with specific targets for the use of such payment to develop municipally-owned shared parking facilities.

e) Continue to develop municipally-owned parking facilities through the Winnipeg Parking Authority in key locations.



Structured parking is encouraged, particularly in the city's transit supportive growth areas, to reduce the negative impact of surface parking and increase developable land area. Incorporate ground floor uses where possible to provide active and pedestrian supportive frontages

f) Increase the supply of short-term on-street parking.

g) Develop strategies to manage on-street parking spaces in commercial areas that encourage short-term use.

h) Continue to provide flexible pricing options for on-street permit parking.

i) In downtown, regional mixed-use centres, and major redevelopment sites, the parking supply will be managed on a district scale. For example, the total number of parking spaces in a specified geographic area could be capped at a figure that can be supported by local road infrastructure and reflective of accessibility by other modes of transportation.

j) Develop parking design guidelines to encourage high quality parking facilities by reducing impact on the environment, integrating into streetscapes, and maximizing safety and security.



9. Asset Management

Existing infrastructure requires ongoing maintenance and rehabilitation to ensure safe operations and reach their expected useful life. Cities across North America are facing financial challenges to balance competing needs between expanding the transportation system to meet growth and managing existing assets, Winnipeg will be no different.

In recent years, while the majority of infrastructure investments have been directed to expansion, major expenditures to renew aging infrastructure have also been made such as the renewal of the Disraeli Bridge and Overpass.

However, Winnipeg will continue to face increasing financial pressures over the next decade to address transportation infrastructure needs to meet future demand and as existing assets age and reach their useful life span.

Funding shortfalls will result in the growth of the City's infrastructure deficit. An estimated $2.0 billion deficit is projected for existing transportation infrastructure, and an additional $3.0 billion deficit for new strategic transportation infrastructure (Executive Policy Committee, 2009).

Timely maintenance of infrastructure assets reduces the potential for unscheduled repairs and service interruptions, as well as more expensive investments in rehabilitation and replacement.

Strategic asset management of transportation infrastructure can help make informed decisions about how to best allocate limited resources. This is required to maintain the transportation network in a state of good repair, while not comprising on safety, level of service, or the life expectancy of assets.

This asset management section of the Transportation Master Plan carries forward and expands on the recommendations of the Strategic Infrastructure Reinvestment Policy (SIRP) report approved by Council in 1998. It includes strategies to guide infrastructure investment based on sound lifecycle and cost-benefit assessments, best asset management practices and financially-sustainable approaches.

KEY DIRECTION

Continuing support for a transportation asset management program will enable the existing and future transportation infrastructure to be maintained in a state of good repair, while not comprising on safety, level of service, or the life expectancy of assets.

DIRECTION ONE

Expand the existing transportation asset management program to respond to current and anticipated infrastructure maintenance requirements.

ENABLING STRATEGIES

a) Refine the existing Transportation Asset Management program to consider the needs of all users in the planning, engineering and financing phases of all new and rehabilitation transportation projects.

b) Update the SIRP report with a transportation-specific component to reflect best practices in transportation asset management and reflect new infrastructure projects.

c) Continue to implement the following recommendations of the 1998 SIRP report until an updated report is adopted:

- » Subject new or rehabilitation projects to life cycle costing analyses.
- » Minimize deferral of existing infrastructure maintenance and only defer when impacts to its useful life and life cycle are minimal.
- » Factor maintenance costs into initial cost to ensure additional funding is in place for future incremental maintenance costs.
- » Support computerized management systems for maintenance programs.
- » Encourage and implement advanced techniques, improved technologies, best practices and sustainable materials in infrastructure building and maintenance.

d) Coordinate preventative or planned maintenance with new or redevelopment projects to reduce duplication in work, minimize impacts on service, and reduce additional strains on an asset's useful life.

e) Review and refine the current policy for street cleaning, snow removal and ice control, and ongoing maintenance as it relates to the multi-modal transportation network.

f) Consider the adaptive re-use of structures for other modes, such as active transportation.

g) Follow environmentally sustainable principles and practices, including the recycling and reuse of building materials, using energy efficient lighting and signal devices, and following best stormwater management practices.

h) Implement an asset management system for traffic control devices.

i) Update and maintain transportation planning tools to meet future requirements and integrate with traffic operations.

10. Implementation, Funding, and Plan Monitoring

It is essential to have a comprehensive implementation, funding, and plan monitoring framework as part of the transportation master plan. It provides guidance for the actions to be taken by different stakeholders and city agencies in the short-, medium-, and long-term. Most importantly, it provides the framework necessary to evaluate and monitor the progress of the plan.

10.1 Implementation Strategy

The following section outlines the strategy to implement the Directions and Enabling Strategies of the Transportation Master Plan (TMP). It reflects the vision of OurWinnipeg as it relates to transportation while supporting the strategic directions of Complete Communities, Sustainable Transportation, and A Sustainable Winnipeg.

Enabling Strategies

EX 10-1 summarizes the enabling strategies identified throughout the plan, providing the timeframe of the action within the short-, medium-, and long-term. Actions that initiated in an earlier time frame, but continued through the later periods are denoted with a ▶ symbol.

Connections to the key strategic goals of the Transportation Master Plan are indicated in the table. Partners in the implementation of each enabling strategy and an estimate of the level of effort and potential capital budget impact are also included.

EX10-4 Summary of Transportation Master Plan Enabling Strategies

	Enabling Strategy	Timeframe: Short	Timeframe: Medium	Timeframe: Long	Support Key Strategic Goal #: 1	2	3	4	5	Partners	Level of Effort	Capital Impact	Operational Impact
4.0 Integrating Transportation and Land Use													
a)	Review and update current processes to coordinate land use, economic development and transportation planning.	●			▮		▮			Public Works, Transit, PPD	Medium	Low	Low
b)	New guidelines for the preparation of transportation impact studies.	●			▮					Public Works, Transit, PPD	Low	Low	Low
c)	Review transportation projects and programs to ensure they support the concept of complete communities.	●	▶	▶	▮					Public Works, Transit, PPD	Low	Low	Low
d)	Explore opportunities to utilize transportation investments to leverage development potential in transformative areas.	●	▶	▶					▮	Public Works, Transit, PPD	Low	Low	Low
5.1 General Applicability													
a)	Include accessibility and universal design implications in all stages.	●	▶	▶		▮	▮			Public Works, Transit, PPD	Low	Low	Low
b)	Demonstrate leadership by incorporating barrier-free and universal design principles.	●	▶	▶		▮	▮			Public Works, Transit, PPD	Low	Low	Low
c)	Continue to provide capital funding to retrofit existing infrastructure to remove barriers to access.	●	▶	▶		▮	▮		▮	Public Works, Transit, PPD	Low	Medium	None
d)	Identify accessibility barriers as part of integrated planning processes.	●	▶	▶	▮	▮	▮			Public Works, Transit, PPD	Low	Low	Low
e)	Ensure transportation policies and implementation tools related to universal design and accessibility are monitored and updated.	●	▶	▶		▮	▮			Public Works, Transit, PPD	Low	Low	None
f)	Require TDM plans as part of transportation impact studies.	●	▶	▶		▮	▮			Public Works, Transit, PPD	Low	Low	Low
g)	Prepare TDM plans for major transportation projects.	●	▶	▶	▮	▮	▮			Public Works, Transit, PPD	Medium	Low	Medium
h)	Develop an internal TDM strategy.	●			▮	▮	▮			Public Works, Transit, PPD	Medium	Low	Low
i)	Support innovative parking strategies that allow for reductions in parking space requirements.	●	▶	▶	▮					Public Works, Transit, PPD	Low	None	Low
j)	Provide multi-modal network information, directions, alerts, and assistance.	●	▶	▶	▮	▮	▮			Public Works, Transit, PPD	Low	Low	Medium
k)	Support an integrated approach to marketing sustainable travel.	●	▶	▶			▮			Public Works, Transit, PPD	Medium	None	Low
l)	Partner with transportation-sharing programs to promote these services and facilitate their growth and long-term viability.	●	▶	▶			▮		▮	Public Works, Transit, PPD	Low	Low	Low
m)	Encourage carpooling and high-occupancy vehicle travel.	●	▶	▶		▮				Public Works, PPD	Low	Low	None

Enabling Strategy		Timeframe			Support Key Strategic Goal #					Partners	Level of Effort	Capital Impact	Operational Impact
		Short	Medium	Long	1	2	3	4	5				
n)	Continue to support existing sustainability programs in school transportation.	●	▶	▶			▮			Public Works, Transit, PPD	Low	None	Low
o)	Collaborate with the neighbourhoods to develop a local approach to traffic calming.	●	▶	▶			▮			Public Works, PPD	Low	Low	Low
p)	Continue to partner with organizers of large events to provide a broad range of travel options to attendees.	●	▶	▶		▮	▮			Public Works, Transit, PPD	Low	None	Low
q)	Develop Complete Streets Strategy.	●			▮	▮	▮			Public Works, Transit, PPD	Low	Low	Low
r)	Align Complete Streets strategy with road network classification system.		●	▶			▮			Public Works, Transit, PPD	Low	Low	Low
s)	Develop the Complete Streets Strategy in consultation with interested stakeholders.	●				▮	▮			Public Works, Transit, PPD	Low	None	None
t)	Incorporate into Complete Streets Strategy the need to ensure that encroachments into the right-of-way balance the public good, private needs, street operations, and safety.		●	▶		▮	▮			Public Works, Transit, PPD	Low	Low	Low
5.2 Active Transportation													
a)	Create and maintain an up-to-date AT facilities database.	●	▶	▶				▮		Public Works	Low	Low	Low
b)	Develop a process to monitor effectiveness of AT network.	●						▮		Public Works	Low	Medium	Low
c)	Allocate sufficient funding in future capital and operating budgets to complete the AT networks.	●	▶	▶				▮	▮	Public Works	Low	Medium	Low
d)	Work with regional partners to create safe connections to the regional AT networks.	●	▶	▶	▮	▮	▮			Public Works, PPD	Low	None	Low
e)	Formalize a prioritization process for facility investments.	●							▮	Public Works, PPD	Low	None	None
f)	Explore opportunities to expand the AT network in rail, hydro, and other available corridors.		●	▶	▮	▮				Public Works, Transit, PPD	Low	Medium	Low
g)	Encourage pedestrian- and cycling-supportive site design in all developments.	●	▶	▶	▮	▮				Public Works, Transit, PPD	Low	None	None
h)	Continue to work with local school divisions and schools to establish programs that encourage active travel to and from schools.	●	▶	▶		▮	▮			Public Works, School Boards	Low	None	Low
i)	Include design guidelines for a range of cycling infrastructure within the AT facilities design guide.	●	▶	▶	▮		▮			Public Works, PPD	Low	None	None
j)	Engage with communities to mitigate conflicts between different users of the transportation system.	●	▶	▶	▮	▮	▮			Public Works, Transit, PPD	Low	Low	Low
k)	Continue to provide and expand information to the general public on AT facilities and programs.	●	▶	▶		▮				Public Works, Transit, PPD	Low	Low	Low

Enabling Strategy		Timeframe			Support Key Strategic Goal #					Partners	Level of Effort	Capital Impact	Operational Impact
		Short	Medium	Long	1	2	3	4	5				
l)	Promote programs and events that support and encourage various forms of active transportation.	●	▶	▶		▮				Public Works, Transit, PPD	Low	Low	Low
m)	Provide or support education for all transportation users to improve understanding and compliance.	●	▶	▶		▮				Public Works, Transit, PPD	Low	Low	Low
n)	Seek innovative and new partnerships to support AT programs and facilities	●	▶	▶					▮	Public Works, Transit, PPD	Low	None	None
o)	Develop a city-wide pedestrian strategy.	●				▮				Public Works, Transit, PPD	Medium	Low	Low
p)	Develop a strategic approach to identifying the need for and prioritization of pedestrian amenities.	●			▮		▮			Public Works, Transit, PPD	Low	Low	Low
q)	Coordinate pedestrian network development with urban design efforts and strategies.	●	▶	▶	▮					Public Works, PPD	Low	None	Low
r)	Continue and enhance incentives and funding programs to stimulate and encourage streetscape and pedestrian realm improvements.	●	▶	▶	▮	▮				Public Works, PPD	Low	Medium	Low
s)	Maintain the walking network to address year-round pedestrian needs	●	▶	▶		▮	▮	▮		Public Works	Low	Low	Low
t)	Develop a city-wide cycling strategy that provides integrated guidance for the City's efforts to support cycling activity and connectivity	●				▮	▮			Public Works, Transit, PPD	Medium	Medium	Low
u)	Consider the creation of a network of cycling spines or super corridors.		●	▶	▮	▮				Public Works, PPD	Low	Medium	Low
v)	Develop an all-season operations and maintenance strategy for a core cycling network.	●						▮		Public Works	Low	Low	Low
5.3 Transit													
a)	Update service guidelines.	●					▮			Transit, PPD	Medium	Low	Low
b)	Design network to maximize transit route coverage and directness; allow for direct and safe active transportation linkages.	●	▶	▶			▮			Transit	High	Low	Low
c)	Adopt a fare strategy that prioritizes service improvements over fare freezes or reductions.	●					▮		▮	Transit	Low	None	Medium
d)	Develop partnerships with social service agencies to increase funding for subsidized transit fares.	●					▮		▮	Transit	Low	None	Low
e)	Further exploit ITS to enhance service reliability, performance monitoring, and system management.	●						▮		Transit, Public Works	Medium	Medium	Low
f)	Ensure transit services are fully accessible and barrier-free by 2020.		●				▮			Transit, Public Works	High	High	Low
g)	Expand opportunities for transit park-and-ride.		●			▮	▮			Transit, PPD	Medium	Potentially High	Low
h)	Integrate transit with active transportation.	●	▶	▶	▮	▮				Transit, Public Works	Medium	Low	Low

Enabling Strategy		Timeframe			Support Key Strategic Goal #					Partners	Level of Effort	Capital Impact	Operational Impact
		Short	Medium	Long	1	2	3	4	5				
i)	Monitor and implement innovative initiatives that improve the transit experience.	●	▶	▶			▮			Transit	Low	TBD	TBD
j)	Manage fleet and operations to maximize environmental benefits; reduce energy consumption and emissions.	●	▶	▶				▮		Transit	Low	Low	Low
k)	Provide at least 30-minute service on all transit routes at all times.		●	▶			▮			Transit	Low	Low	High
l)	Expand route coverage so that 95% of city residences are within a 5-10 minute walk of transit.		●	▶		▮	▮			Transit, PPD	Low	Medium	High
m)	Explore feasibility of providing inter-municipal transit services which serve centres outside the city.		●	▶			▮			Transit	Low	Low	Medium
n)	Continue to implement Quality Corridors as a first stage to the implementation of rapid transit.	●	▶	▶	▮		▮			Transit, Public Works	High	High	Medium
o)	Complete and expand the on-street transit priority program.	●	▶	▶			▮			Transit, Public Works	Low	Medium	Low
p)	Continue Winnipeg Transit's bus stop and shelter upgrade program.	●	▶	▶		▮	▮			Transit	Low	Medium	Low
q)	Restrict the use of diamond lanes to transit vehicles and bikes.	●	▶	▶		▮	▮			Transit, Public Works	Low	Low	Low
r)	Support transit oriented development along high frequency transit corridors.	●	▶	▶			▮			Transit, PPD, Public Works	Low	None	None
s)	Adopt the rapid transit network as the preferred long term network for the City.	●			▮	▮	▮		▮	Transit, Public Works	High	High	Low
t)	Continue to evaluate and adjust the rapid transit network.	●	▶	▶	▮					Transit, PPD, Public Works	High	High	Low
u)	Select best technology (LRT or BRT) that complements each rapid transit corridor.	●			▮		▮			Transit, PPD, Public Works	Medium	None	Low
v)	Support transit oriented development along rapid transit corridors and at rapid transit stations.	●	▶	▶	▮					Transit, PPD, Public Works	Low	None	None
w)	Initiate detailed integrated corridor planning, alignment, and technology assessment studies for the rapid transit corridors.	●			▮					Transit, PPD, Public Works	High	TBD	Low
x)	Initiate studies for the Stage 2 Southwest Rapid Transit Corridor.	●			▮					Transit, PPD, Public Works	High	TBD	Low
y)	Initiate studies for the Portage Avenue/ Airport Link corridor, the Eastern corridor and the Main Street North corridor.		●	▶	▮					Transit, PPD, Public Works	High	TBD	Low
z)	Identify potential supporting systems (e.g. streetcar-based downtown circulator).		●		▮					Public Works, Transit, PPD	High	TBD	Low
5.4 Road Network													
a)	Adopt the strategic road network as illustrated in Map 3.	●			▮		▮			Public Works, MIT	High	High	Medium
b)	Conduct planning and detailed design studies of the improvements to the Strategic Road Network (EX 1, Map 4).	●	▶	▶					▮	Public Works	High	High	Low

Enabling Strategy		Timeframe			Support Key Strategic Goal #					Partners	Level of Effort	Capital Impact	Operational Impact
		Short	Medium	Long	1	2	3	4	5				
c)	Conduct an annual review of Strategic Road network improvements of the TMP monitoring process.	●	▶	▶				▮	▮	Public Works	Low	Low	Low
d)	Identify congestion hotspots that provide an opportunity to support sustainable modes and TDM.	●	▶	▶			▮			Public Works, Transit, PPD	Medium	Medium	Low
e)	Seek to improve access and efficiency of the taxi system (expanding on-street taxi zones, enforcement of no stopping zones).	●				▮	▮			Public Works	Low	Low	Low
f)	Investigate alternatives to roadway expansion and widening.	●	▶	▶	▮	▮	▮		▮	Public Works	Medium	TBD	Low
g)	Continue to implement localized improvements to the existing major road network that reduce congestion for all modes.	●	▶	▶				▮		Public Works, Transit, PPD	Medium	Medium	Low
h)	Evaluate the applicability of roundabouts.	●			▮	▮	▮		▮	Public Works	Low	Low	Low
i)	Minimize negative impact of property access on multi-modal functionality of strategic roadway network.	●	▶	▶	▮					Public Works, PPD	Low	Low	None
j)	Extend implementation of traffic signal management system to other key routes and establish a traffic signal optimization program.	●					▮			Public Works, Transit	Low	Medium	Low
k)	Integrate traffic signal management system with traffic operations and ITS solutions to improve the efficiency of the road network in a sustainable manner.	●					▮			Public Works, Transit	Low	Medium	Low
l)	Implement modern traffic management centre to monitor, manage and react efficiently to emerging congestion and unexpected traffic, security or emergency conditions.	●					▮			Public Works, Transit	Low	Medium	Low
m)	Adopt the primary road network classification.	●			▮		▮	▮	▮	Public Works, PPD	Low	Low	Low
n)	Develop an integrated road network classification system and identify appropriate design and operating guidelines for new roads, rehabilitation, and reconstruction.	●					▮	▮	▮	Public Works, Transit, PPD	Low	Medium	Low
6.0 Goods Movement													
a)	Adopt and implement the goods movement network (Map 5).	●	▶	▶	▮		▮			Public Works. PPD	Medium	Medium	Low
b)	Continue to work with the transportation industry to direct higher volumes of goods movement towards the network.	●	▶	▶	▮		▮			Public Works. PPD	Low	None	None
c)	Continue to work with stakeholders to support the 24-hour operations of airport.	●	▶	▶			▮			Public Works, Airport	Low	None	None
d)	Explore and support opportunities for innovative goods movement and service that respond to changing delivery methods.	●	▶	▶		▮	▮			Public Works	Low	None	None

Enabling Strategy		Timeframe			Support Key Strategic Goal #					Partners	Level of Effort	Capital Impact	Operational Impact
		Short	Medium	Long	1	2	3	4	5				
e)	Encourage sustainable loading and delivery practices and review related City policies and design standards.	●	▶	▶			▮			Public Works, PPD	Medium	Low	None
f)	Use ITS to minimize traffic flows and travel times, and improve safety on the goods movement network.	●	▶	▶			▮			Public Works	Medium	Low	Low
g)	Use ITS to collect data on truck movements and volumes to improve efficiency of the transportation network.	●	▶	▶			▮	▮		Public Works	Medium	Low	Low
h)	Continue to build on strategic partnerships with higher levels of government, key freight, rail and air agencies, and industry stakeholders.	●	▶	▶			▮	▮	▮	Public Works, CAO	Low	None	None
7.0 Regional Connections													
a)	Participate with surrounding Capital Region municipalities in development of coordinated transportation objectives	●	▶	▶			▮			Public Works, CAO, MIT	Low	None	None
b)	Support a framework for regional multi-modal transportation service delivery.	●			▮		▮			Public Works, CAO, MIT	High	TBD	TBD
c)	Explore the feasibility of developing a Regional Transportation Authority.		●						▮	Public Works, CAO, MIT	High	TBD	TBD
d)	Support the development of a transportation demand management (TDM) strategy for the Capital Region.		●	▶		▮	▮			Public Works, CAO, MIT	Low	None	Low
8.0 Parking													
a)	Review parking standards contained within the City's Zoning By-law (ensure consistency with the vision and objectives in OurWinnipeg, Complete Communities, and TMP).	●			▮		▮			Public Works, PPD, WPA	Medium	None	Low
b)	Develop parking standards according to urban structure classification.	●			▮		▮			Public Works, PPD, WPA	Medium	None	Low
c)	Provide opportunities in the development approval process to reduce the number of parking spaces required by the Zoning By-law.	●	▶	▶		▮	▮			Public Works, PPD, WPA	Low	None	Low
d)	Allow for payment in-lieu of providing parking.	●	▶	▶					▮	Public Works, PPD	Low	None	Low
e)	Continue to develop municipally-owned parking facilities in key locations through the Winnipeg Parking Authority.	●	▶	▶			▮		▮	Public Works, PPD, WPA	Medium	Medium	Low
f)	Increase the supply of short-term on-street parking.	●	▶	▶			▮			Public Works, PPD, WPA	Low	Low	Low
g)	Develop strategies to manage on-street parking spaces in commercial areas that encourage short-term use.	●	▶	▶		▮		▮		Public Works, PPD, WPA	Low	None	Low
h)	Continue to provide flexible pricing options for on-street permit parking.	●	▶	▶		▮			▮	Public Works, PPD, WPA	Low	None	Low
i)	Manage parking supply on a district scale in downtown, regional mixed-use centres and major redevelopment sites.	●	▶	▶	▮		▮			Public Works, PPD, WPA	Low	None	Low
j)	Develop parking design guidelines.	●			▮		▮			Public Works, PPD, WPA	Medium	None	None

	Enabling Strategy	Timeframe			Support Key Strategic Goal #					Partners	Level of Effort	Capital Impact	Operational Impact
		Short	Medium	Long	1	2	3	4	5				
9.0 Asset Management													
a)	Refine the existing Transportation Asset Management program.	●						▮		Public Works, Finance	Medium	Low	Low
b)	Update the SIRP report with a transportation-specific component.	●						▮		Public Works, Finance	Medium	None	Low
c)	Continue to implement recommendations of the 1998 SIRP report until an updated report is adopted	●	▶	▶				▮		Public Works, Finance	Medium	Medium	Low
d)	Coordinate preventative or planned maintenance with new or redevelopment projects.	●	▶	▶				▮		Public Works, Finance	Low	Low	Low
e)	Review and refine the current policy for street cleaning, snow removal and ice control, and ongoing maintenance.	●	▶	▶				▮		Public Works, Finance	Low	None	Low
f)	Consider the adaptive re-use of structures for other modes.	●	▶	▶				▮		Public Works, Finance	Low	TBD	TBD
g)	Follow environmentally sustainable principles and practices	●	▶	▶				▮		Public Works, Finance	Low	None	Low
h)	Implement an asset management system for traffic control devices.	●	▶	▶				▮		Public Works, Finance	Medium	Low	Low
i)	Update and maintain transportation planning tools to meet future requirements and integrate with traffic operations.	●	▶	▶				▮		Public Works, Finance	Low	Low	Low
10.2 Funding													
a)	Address existing infrastructure needs and reverse trend of deferred infrastructure investments through best practices, preventative maintenance and asset management program.	●	▶	▶				▮	▮	Public Works, CAO, Finance	Medium	Low	High
b)	Invest in strategic transportation infrastructure to support Complete Communities and encourage sustainable modes of travel.	●	▶	▶	▮	▮			▮	Public Works, Finance	Medium	High	Low
c)	Work with federal and provincial partners to secure infrastructure investment.	●	▶	▶					▮	Public Works, CAO, Finance	Medium	None	None
d)	Encourage the establishment of a federal and/or provincial transportation infrastructure delivery strategy.	●	▶	▶					▮	Public Works, CAO, Finance	Medium	Low	Low
e)	Work with province to outline a stable and predictable long-term funding strategy for rapid transit.	●	▶	▶					▮	Public Works, Finance	Medium	None	None
f)	Explore and assess applicability and acceptability of new financing tools and revenue sources to fund infrastructure projects within existing frameworks.	●	▶	▶					▮	Public Works, Finance	Low	None	None
g)	Assess applicability and acceptability of new approaches to financing such as those recommended in 2011 IFC report.	●	▶	▶					▮	Public Works, Finance	Low	None	None

Early Action Items

Demonstrating action early in the implementation of the TMP will be important to assure its long term success. The implementation plan identifies several "Early Actions" that may have a major impact on the transportation network. They would also build public and political support and momentum for the overall TMP. These "Early Actions" are identified below.

COMPLETE STREETS

The initiation of a Complete Streets strategy for Winnipeg should be a key priority that would have a significant impact. As the strategy is developed, opportunities should be identified to pilot and demonstrate complete streets, such as scheduled and budgeted road rebuilding projects. Wherever possible, these pilot projects should be publicized and marketed widely with educational and awareness programs and organizing community events and street festivals to mark its completion.

RAPID TRANSIT

The Southwest Rapid Transit Corridor is just the first step to a network of rapid transit throughout the City of Winnipeg. It will offer a glimpse of how fast and reliable transit can be a competitive and attractive alternative to driving. Maintaining the momentum from this initial investment into the overall rapid transit network will be important to ensure the rest of the network is built in a timely manner. Securing the commitment and the funding to complete the Southwest Rapid Transit Corridor to the University of Manitoba will further demonstrate the benefits of rapid transit. The City can take proactive steps to continue to prepare other corridors for rapid transit by building up ridership through increased frequencies and limited stop service. Marketing and branding of these corridors to make future rapid transit "visible" in communities should also be considered to increase public awareness and support.

ACTION ON REGIONAL TRANSPORTATION

The third early action will be to begin addressing regional transportation issues in Manitoba's Capital Region, as significant growth in travel demand between Winnipeg and surrounding areas is predicted. In the short term, a Regional Transportation Working Group composed of representatives from Capital Region municipalities and Manitoba Infrastructure and Transportation should be created. This Working Group will establish a much needed dialogue and framework from which regional transportation issues can be addressed. It can also explore the feasibility of establishing a regional transportation authority, which can improve the coordination and delivery of transportation infrastructure and services on a regional scale.

EXPAND THE TRAFFIC SIGNALS MANAGEMENT SYSTEM

The continuation and expansion of the traffic signals management system will build upon the initiative that began in 2008. It will enable the implementation of intelligent transportation system (ITS) solutions, and allow for the establishment of a traffic management centre to

address traffic management problems more efficiently and pro-actively.

10.2 Funding

Since 2006, investments in Winnipeg's transportation network have been focused on expanding the system and, to a large extent, have been through funding assistance from the provincial and federal governments.

Capital Expenditures

The 2011 Capital Budget projects the City will return to historic levels of capital expenditure in roads, transit and active transportation. However, very few new transportation facilities are included in the current 2012-2016 Five-Year Capital Forecast. This TMP identifies a number of new short-, medium- and long-term capital projects that will require increased levels of investment.

EX 10-5 Estimated Annual Capital Expenditures Required for Transportation Master Plan Implementation (all figures in thousands, 2011$)

Capital Budget Component	Existing Level of Capital Expenditures[1]		Short Term (by 2016)	Medium Term (2017-2021)	Long Term (2022-2031)
TMP Monitoring and Updates [2]	$250	0.1%	$250	$250	$250
Walking / Cycling [3]	$2,827	1.3%	$3,280	$3,830	$4,449
Local and Community Transit [4]	$28,272	13.4%	$26,734	$31,355	$33,795
Roads – Base [5]	$72,819	34.5%	$113,704	$100,729	$113,704
Roads – Strategic [6]	$79,349	37.6%	$54,162	$99,562	$96,527
Subtotal*	$183,517	100.0%	$198,131	$235,727	$248,726
Rapid Transit [7]	$27,600	15.0%	$55,000-$140,000	$26,400-$61,500	$26,400-$61,500

* Full costs exclusive of provincial or federal grants and other sources of funding. Excludes Water/Stormwater and "Other" capital expenditures.

1 Based on 5-year average from 2007-2011 annual budget reports.

2 **Planning/Engineering Studies:** estimates $250,000 annually for 2012-2031 for strategic studies and monitoring of TMP.

3 **Walking/Cycling:** Existing average excludes major expenditure peak in 2010. Forecast assumes an annual 5% increase through 2016, and 2% annually thereafter.

4 **Local/Community Transit:** Based on average spending from 2012-2016 forecasted average, plus $4 million per year between 2017-2020 for accessibility improvements. Beyond 2017, expenditure based on 2012-2016 forecasted average plus 1% annual increase.

5 **Roads - Base:** Medium-term estimate based on 2012-2016 forecasted average for street improvements, regional and local streets, and other street projects (except studies), estimated construction costs for bridges/culverts/underpass/overpass projects beyond 2016 as noted in 2011 capital budget project sheets, and other medium-term major road network improvements (EX 5-3). Assumes the following costs for medium-term projects: $100 M for Louise Bridge; $50 million for Arlington Bridge; $70 M for Osborne St. Underpass; and $50 M for Grade Separation at CN Mainline between Taylor and Sterling Lyon. Long-term estimate based on 2012-2016 forecasted average only.

6 **Roads - Strategic:** Expenditures based on estimated costs of strategic projects (EX 5-3: $129M short-term, $350M medium-term, $680M long-term), plus annual payments of PPP projects (Disraeli Bridge and Overpass, Charleswood Bridge, Chief Peguis Trail) as noted in 2011 capital budget.

7 **Rapid Transit:** Assumes completion of Southwest corridor by 2016, and remaining west, east and north corridors by 2031. Range of costs based on BRT and LRT technologies.

Operating Expenditures

The City's operating budget has remained stable, with continued support for transportation planning, public works, and transit goals. Operating costs for roadway construction and maintenance has been decreasing over the past five years, while the operating grant for public transit has been increasing. In total, transportation components of the operating budget, or $114 million in 2011, make up approximately 13% of the City's total annual operating budget expenditures, a percentage that has decreased in recent years.

EX 10-6 Estimated Annual Operating Expenditures Required for Transportation Master Plan Implementation (all figures in thousands, 2011$)

Operating Budget Component	Existing Level of Operating Expenditures[1]		Short Term (by 2016)	Medium Term (2017-2021)	Long Term (2022-2031)
Walking / Cycling [2]	$0	0%	$825	$825	$825
TDM [3]	$0	0%	$100	$100	$100
Transit, including RT corridors [4]	$40,331	25%	$46,935	$51,601	$59,936
Roads – Base [5]	$118,814	75%	$120,624	$123,558	$128,989
Roads – Strategic [6]	$0	0%	$249	$821	$2,438
Subtotal	$159,145	100%	$168,731	$176,456	$190,345

1 Based on 5-year average from 2007-2011
2 **Walking/Cycling**: Based on $2,200 per km for maintenance of cycling and off-road pathways, and 375 kms of active transportation network. Sidewalk maintenance costs included in Roadway Base costs
3 **TDM**: Annual estimate of $100,000 for TDM programs
4 **Transit**: Transit subsidy 2012-2013 based on 2011 preliminary operating budget. Beyond 2013, estimate 2% annual increase in level of subsidy. Assumes notional increase for rapid transit.
5 **Roads - Base**: Does not include roadway revenues (e.g. frontage levies). Forecasted budget assumes 4% annual increase based on higher operating costs for increased levels of construction and maintenance for roadway assets (decrease deferred maintenance).
6 **Roads - Strategic**: Estimates based on average operating costs per lane-kms of $17,300. Forecast expenditures based on construction of new strategic projects as follows: 24 lane-kms (2012-2016), 39.2 lane-kms (2017-2021) and 141.6 lane-kms (2022-2031) built annually over the respective time periods (i.e. 14.2 lane-kms built every year between 2022 and 2031).

KEY DIRECTION

In order to adequately fund the future growth and maintenance requirements of the multi-modal transportation network it will be necessary to address the expected capital funding shortfalls.

DIRECTION ONE

Provide adequate funding for the growth and maintenance requirements of the multi-modal transportation network.

ENABLING STRATEGIES

a) Address existing infrastructure needs and reverse the trend of deferred capital infrastructure investments through best practices, preventative maintenance and the Asset Management Program discussed in Section 9.

b) Invest in strategic transportation infrastructure to support Complete Communities and encourage sustainable modes of travel.

c) Work with federal and provincial partners to secure infrastructure investment for major multi-modal transportation projects that support economic development.

d) Encourage the establishment of a federal and/or provincial transportation infrastructure delivery strategy.

e) Work with province to outline a stable and predictable long term funding strategy for implementing the rapid transit network.

f) Explore and assess the applicability and acceptability of new financing tools and revenue sources to fund infrastructure projects within existing frameworks.

g) Assess the applicability and acceptability of new approaches to financing such as those recommended in the Infrastructure Funding Council (IFC) report of 2011.

10.3 Plan Review and Updates

The Winnipeg Transportation Master Plan is not intended to be a static document. It must be regularly reviewed to ensure it meets the transportation needs of the City. Changing community expectations, growth patterns, and development pressures can necessitate a re-investigation of the Plan, as would changes in the expected timing of major rapid transit infrastructure. The on-going review process will involve:

- Annual updates through Winnipeg's Five-Year Capital Forecast and budgeting process.
- Preparation of an annual report to Council on local transportation conditions, behaviours, needs and trends with joint input from other departments. In addition to the performance measurement indicators presented in EX 10-7, this annual report will include:
  - » Summaries of public feedback on transportation issues and projects implemented
  - » Updates on public and private sector TDM initiatives (i.e. carpooling, preferential parking, transit service delivery, flexible work hours, cycling facilities);
  - » Status of provincial initiatives, policies and funding programs; and
  - » Any need to review, amend or update components of the TMP.

The TMP requires regular updating to remain relevant and effective in dealing with the City's transportation needs. Therefore, it is further recommended that the Plan undergo a full review every five years in association with future statutory reviews of OurWinnipeg.

Plan Monitoring

Performance measurement is necessary to gauge the effectiveness of the policies, programs and infrastructure improvements in achieving the Plan's strategic goals and enabling strategies. The performance measurement program provides a framework for the City to track changes in land use patterns, demographic characteristics, system performance and mode choice over time. This information will allow the City to assess the success of actions taken and provide guidance in further implementation of the TMP.

A proposed performance measurement framework is outlined in EX 10-7, structured according to the five strategic goals of the TMP. This list represents a desirable set of indicators for monitoring the implementation of the TMP and resulting transportation performance. It is recognized that many of these indicators require additional data collection and all may not be achievable given current data and staffing resources.

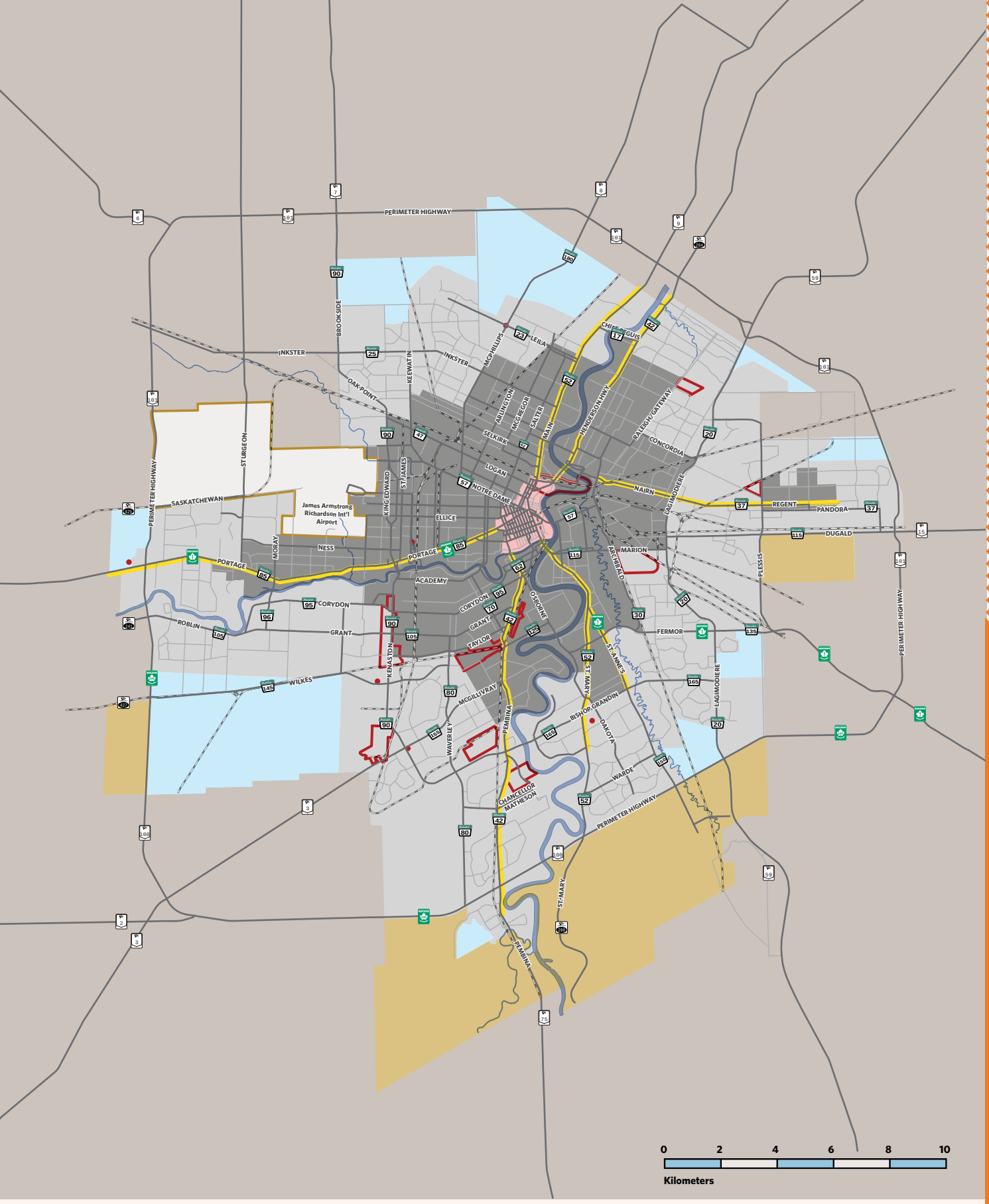
In general, comprehensive performance measurement should be conducted every five years in conjunction with updates to the Transportation Master Plan. Some indicators may be monitored more frequently given the nature of the data and their collection methods. Moreover, corridor and area-specific monitoring may be warranted to monitor localized changes from key strategic projects such as the implementation of rapid transit corridors.

EX 10-7 Proposed Performance Measurement Framework

Key Strategic Goal	Indicators
Integration with Land Use	• Population density (population per ha) • Employment density (employment per ha) • Employment self-containment (% of employed labour force working in Winnipeg) • Automobile ownership (automobiles per capita) • AM peak period & all day transit mode share • Neighbourhood traffic complaints received (number) • Residential transit accessibility (proportion of households within 400 m of Transit Stops) • Employment transit accessibility (proportion of employment within 400 m of Transit Stops)
Supports Active, Accessible, Healthy Lifestyles	• Average journey to work trip distance (km) • Sidewalk coverage (percent of collector and arterial roads with sidewalks or pathways on both sides) • Bicycle facility supply (kilometres of bicycle lanes, shoulder lanes, and multi-use paths) • AM peak period & all day bicycle mode share • AM peak period & all day walk mode share
Safe, Efficient, and Equitable	• AM peak period and all-day transit supply (AM peak period transit seat-km per capita) • Average auto commute time (minutes) • Average transit commute time (minutes) • Reported pedestrian collisions (number) • Reported road injuries and fatalities • Number of signalized intersections operating at LOS D or better • Average AM peak period auto trip travel time (minutes) • AM peak period & all day auto occupancy • Average truck travel times
A Well-Maintained Transportation System	• Response times for road repairs and maintenance • Service standards for snow clearing • Average time between inspections of structures • Average age of key transportation structures • Average age of transit vehicles • Estimated transportation infrastructure deficit
Financially Sustainable	• Capital investment in local municipal transportation projects ($/capita) » Roads » Transit (local enhancements) » Pedestrian facilities » Cycling facilities • Operating investment in local municipal transportation projects ($/capita) » Roads » Transit (local supporting initiatives) » Pedestrian facilities » Cycling facilities » Transportation Demand Management (TDM)

MAPS

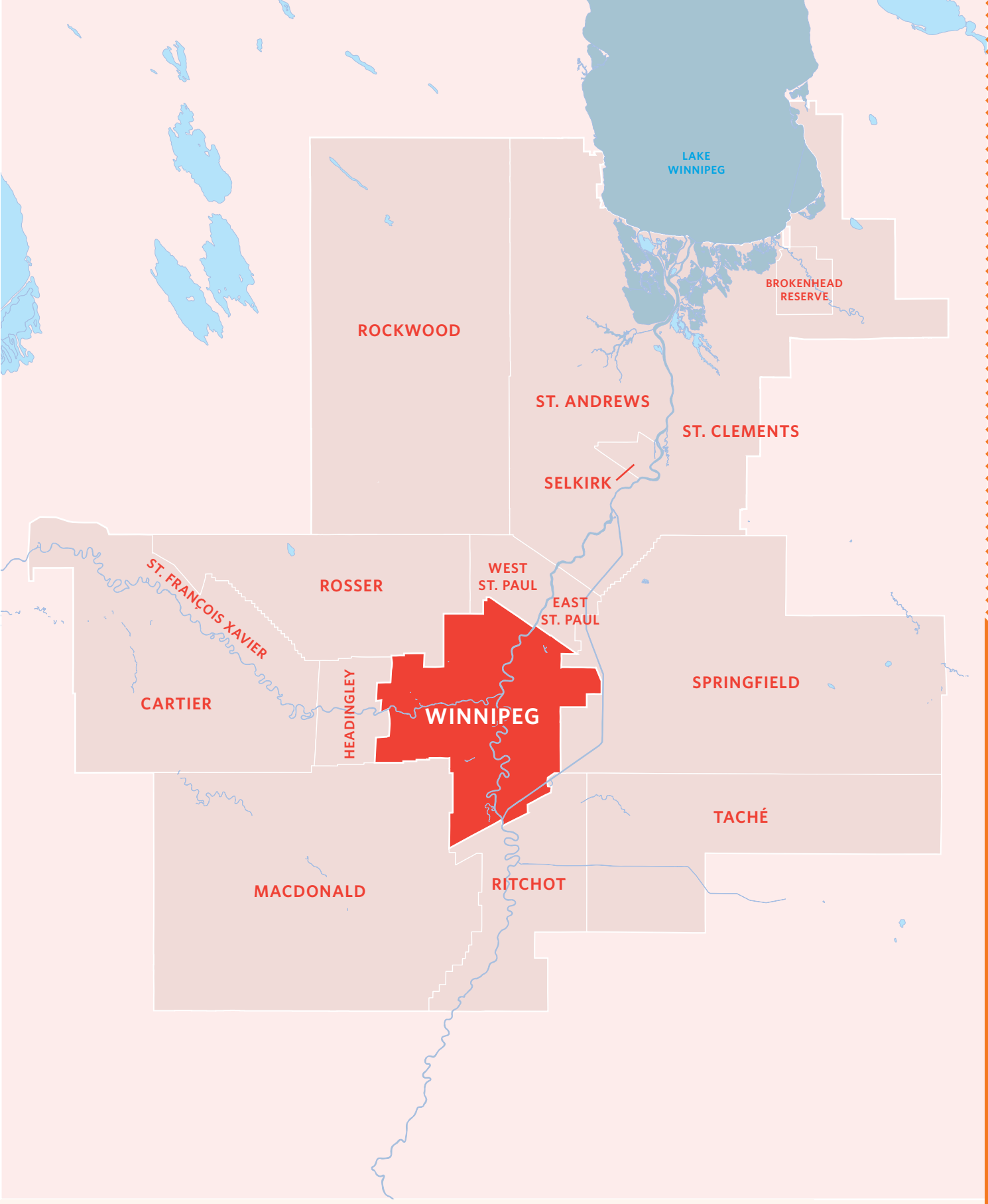
MAP 1 Context Map



LEGEND

- Road
- City Route (Route 90)
- Railway
- Downtown
- Regional Mixed Use Corridor
- Regional Mixed-use Centre
- Major Redevelopment Site
- Mature Communities
- Recent Communities
- New Communities
- Airport Area
- Rural and Agricultural

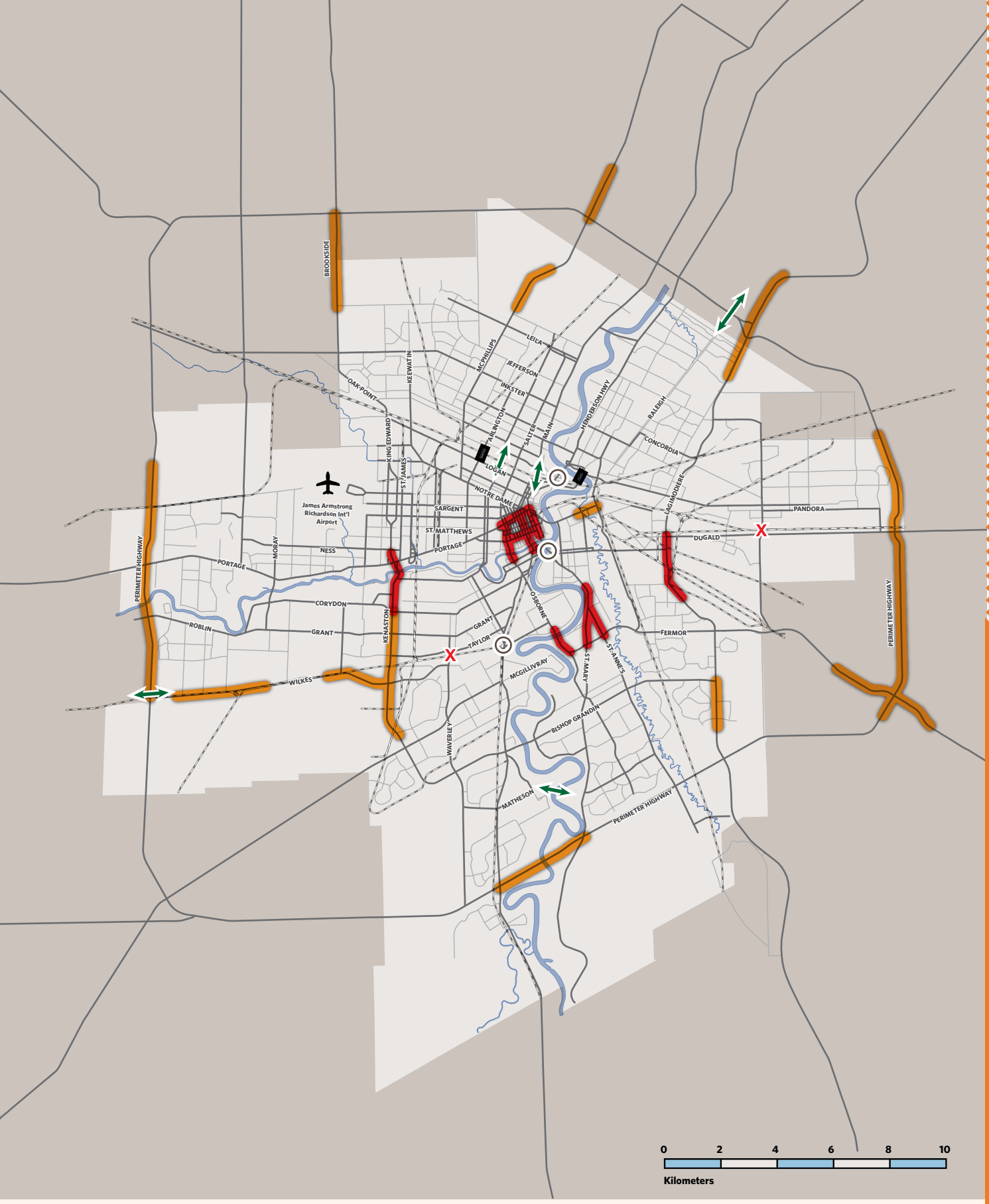
N



MAP 2 Manitoba's Capital Region

N

MAP 3 Network Constraints

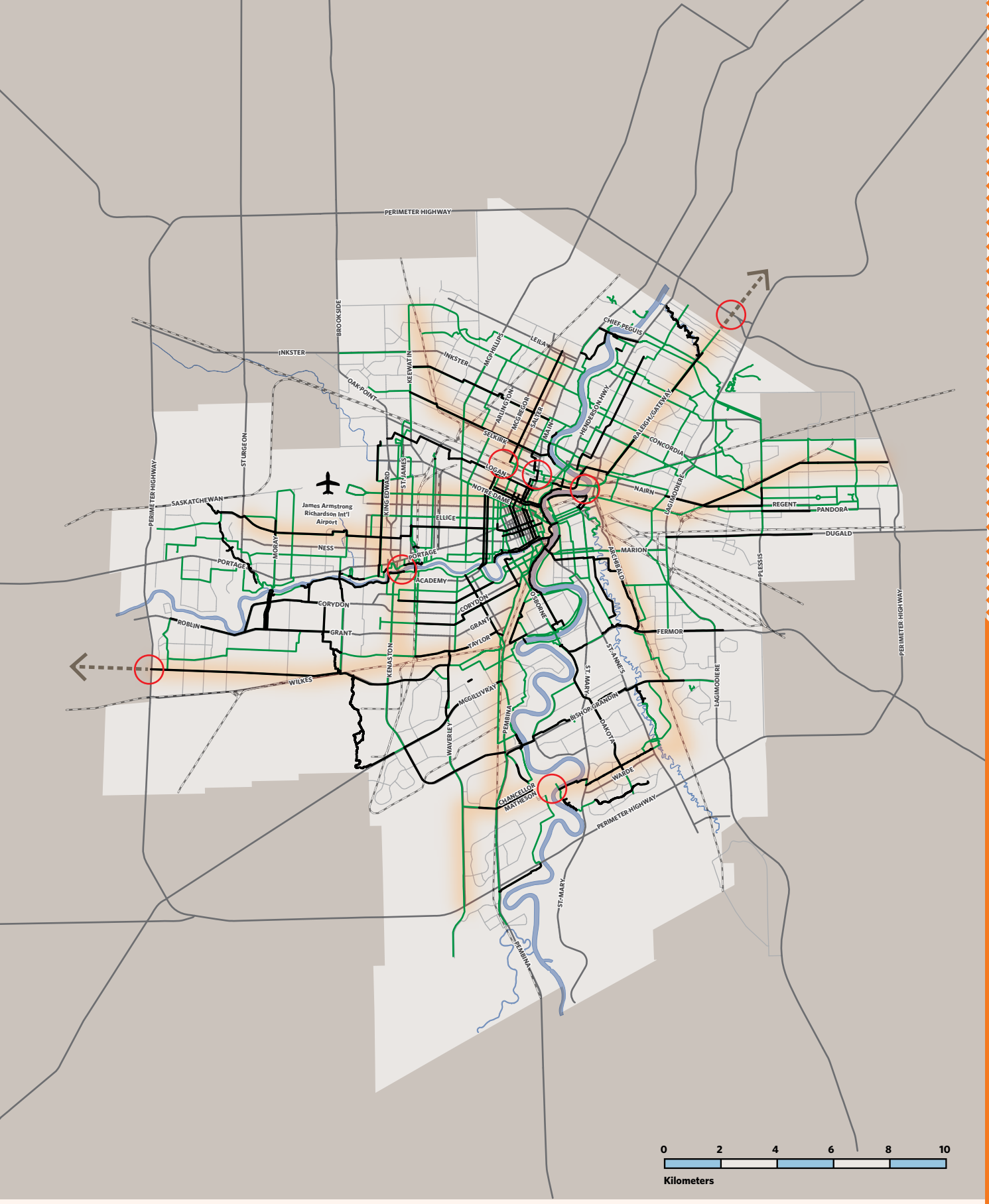


LEGEND

- Existing Recurrent Congestion
- Predicted Congestion (2031)
- Missing Active Transportation Link
- X — High volume at-grade rail crossing
- Bottleneck
- Aging Bridge

N

MAP 4 Active Transportation

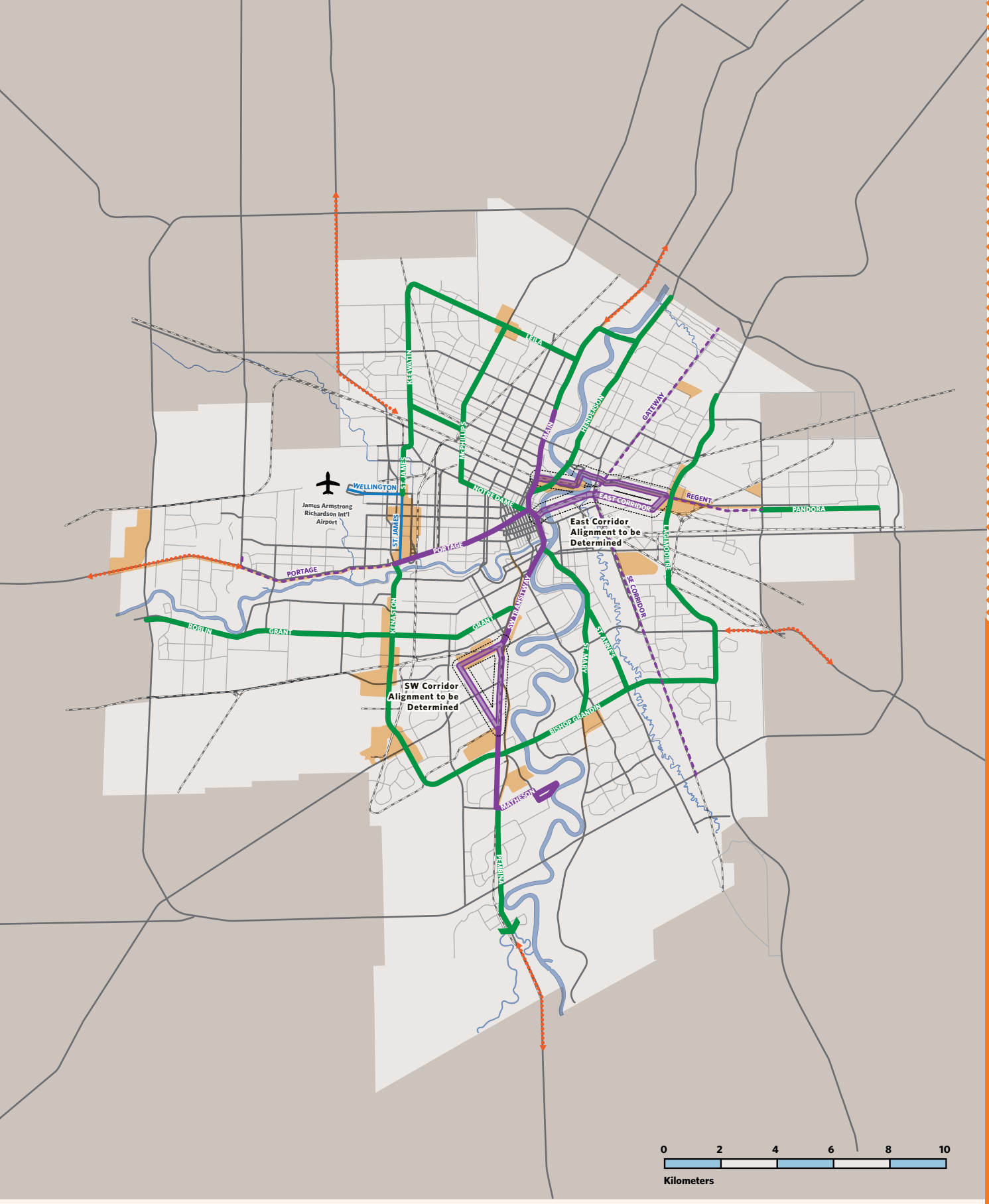


LEGEND

- Existing AT Network
- Proposed additions to AT Network
- Conceptual Bicycle Spines/Super Corridors
- Regional Trails
- Proposed Crossing Improvements

N

MAP 5 Rapid Transit

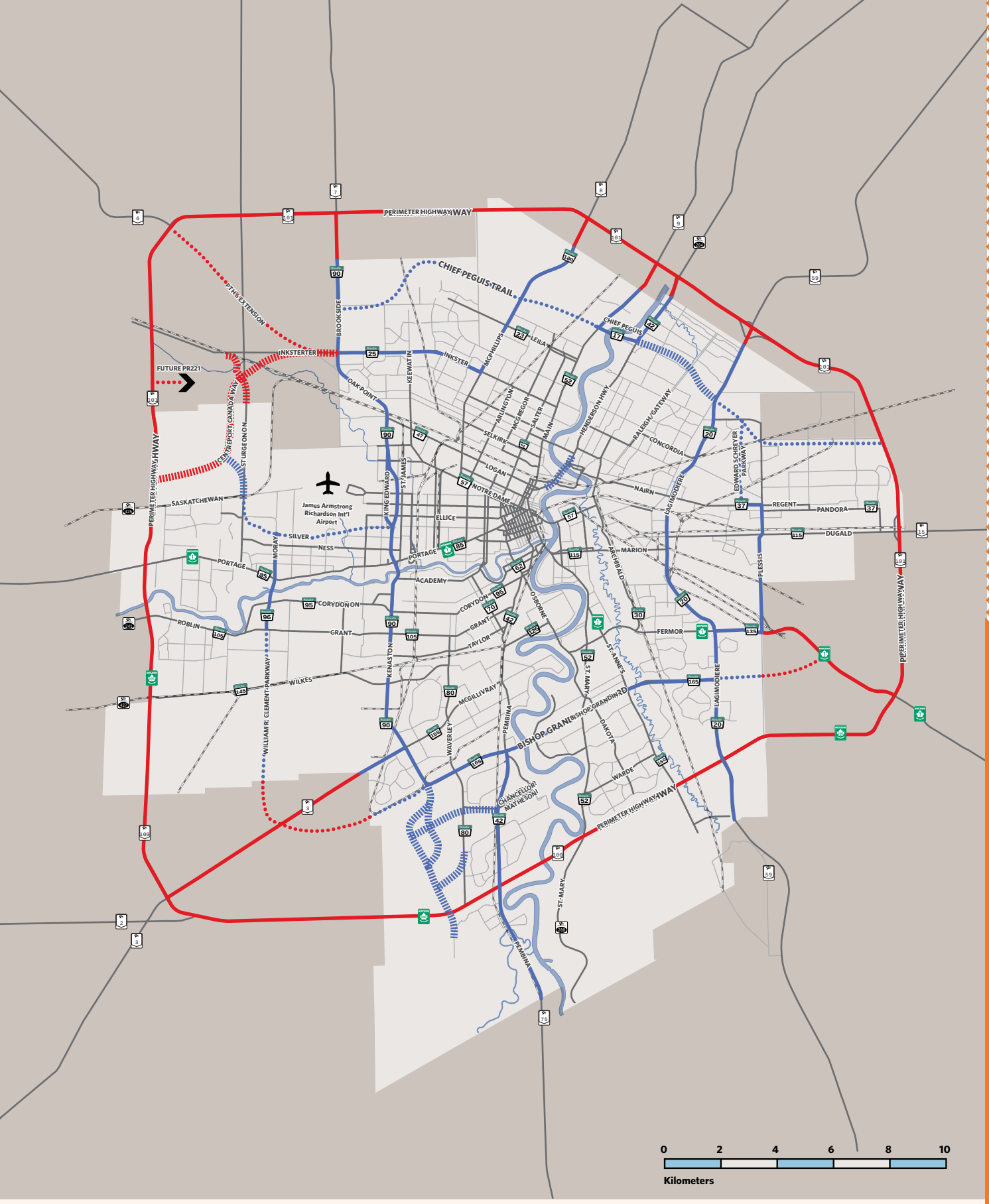


LEGEND

- Potential Quality Corridors
- Rapid Transit Corridor (to 2031)
- Rapid Transit Corridor (beyond 2031)
- Airport Link
- Potential Regional Connections
- Transit-supportive Growth Areas

N

MAP 6 Strategic Road Network

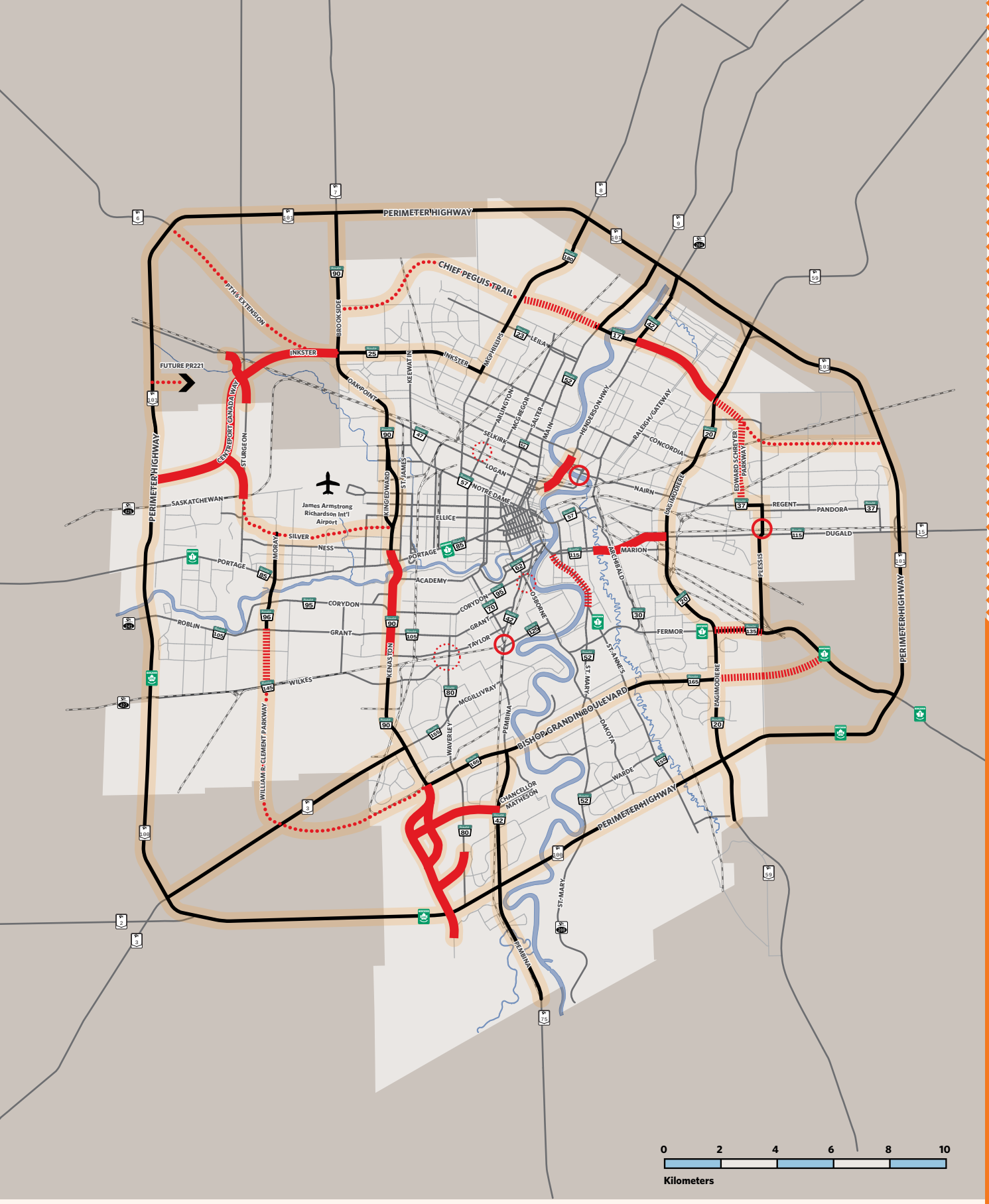


LEGEND

- Existing Provincial Roadway
- Committed Provincial Roadway
- Future Provincial Roadway
- Existing City Roadway
- Committed City Roadway
- Future City Roadway
- Route 80 — City Route

N

MAP 7 Road Network Implementation

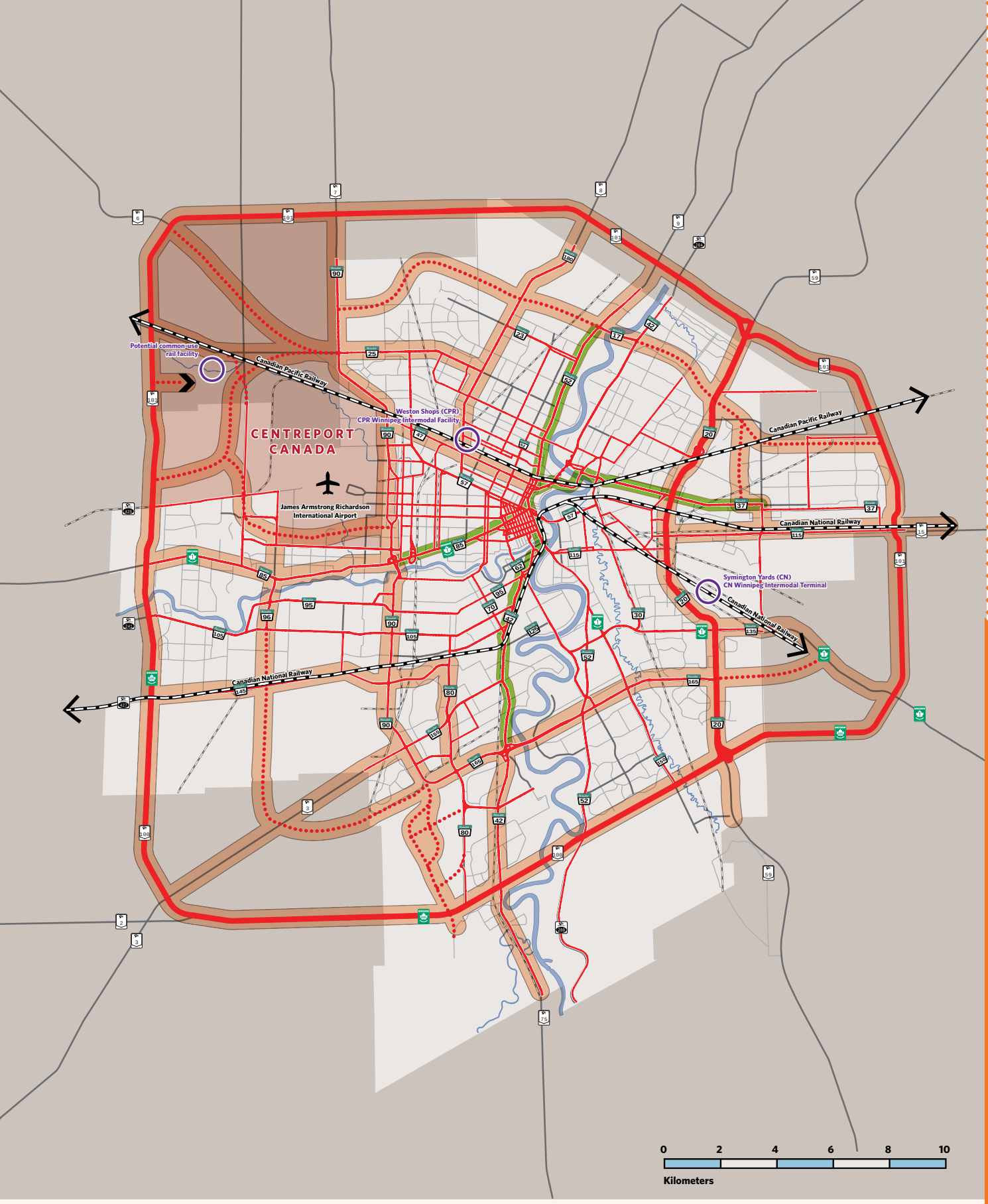


LEGEND

- Short Term
- Medium Term
- Long Term
- City Route (Route 80)
- Strategic Road Network

N

MAP 8 Goods Movement



LEGEND

- Existing Truck Routes
- Future Truck Routes
- Mainline Railway
- Strategic Goods Movement Network
- Strategic Goods Movement Network - Mixed Use Corridor
- Rail Intermodal Facilities

N