

MANITOBA CAPITAL REGION TRANSPORTATION MASTER PLAN

FINAL REPORT

Prepared For:

Partnership of the Manitoba Capital Region

Submitted By:

MMM Group Limited

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TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	What is the Capital Region Transportation Master Plan?	3
1.2	City of Winnipeg Transportation Master Plan	3
1.3	Study Area.....	3
1.4	Partnership of the Manitoba Capital Region.....	4
2.0	COMMUNITY AND STAKEHOLDER ENGAGEMENT	5
2.1	Open Houses - Round #1	8
2.2	Online Survey	9
2.3	Municipal Questionnaire	10
2.4	Stakeholder Workshop #1.....	10
2.5	Partnership of Manitoba’s Capital Region All Council Meeting, April 2013	11
2.6	Open Houses Round #2	12
2.7	PMCR Member Council and Staff Workshop #2	12
2.8	Summary of Community and Stakeholder Engagement Process Events ...	13
3.0	KEY STRATEGIC GOALS	15
4.0	CAPITAL REGION GROWTH PROJECTIONS	16
4.1	Capital Region Municipal Profiles.....	16
4.2	Population Growth	20
4.3	Capital Region Land Use Growth Areas	23
4.4	Future Vehicle Trip Projections – Transportation Planning Model	24
4.4.1	Modelling Process.....	24
4.4.2	Modeling Outcomes	24
4.4.3	Level of Service / Volume-Capacity Ratio Analysis	25
4.4.4	Limitations of Modelling Process.....	28
5.0	RECOMMENDATIONS	29
5.1	Regional Coordination	29
5.2	Land Use / Transportation Integration Recommendations.....	32
5.3	Transportation Network Recommendations	37
5.3.1	Highway Infrastructure Improvements.....	37
5.3.2	Corridor Access Management.....	42
5.3.3	Technology Improvements.....	43

5.3.4	Asset Management/Preservation Recommendations	44
5.4	Active Transportation Recommendations.....	45
5.5	Transit and Ride-Sharing Recommendations	46
5.6	Air and Rail Recommendations.....	48
5.6.1	Air Recommendations.....	49
5.6.2	Rail Recommendations	50
5.7	Goods Movement Recommendations	51
6.0	IMPLEMENTATION AND MONITORING.....	53
6.1	Implementation	53
6.1.1	Development Plan Review	53
6.2	Updates and Monitoring.....	59
6.2.1	Updates	59
6.2.2	Monitoring.....	59

APPENDIX A – Open House Boards

APPENDIX B - TransCAD Model

STANDARD LIMITATIONS

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1.0 INTRODUCTION

The Capital Region Transportation Master Plan (CRTMP) was accomplished through the cooperation and collaboration of the Province of Manitoba and the Partnership of the Manitoba Capital Region, and is the first regional transportation plan of its kind in Manitoba. The key goals established in the TMP reflect the input of many stakeholders and the objectives of the Provincial Land Use Policies and the Partnership of the Manitoba Capital Region. The plan reflects the understanding that as the population of the Manitoba Capital Region increases, there is a need to plan for transportation infrastructure that crosses municipal boundaries. The TMP ensures there will be a coordinated approach to regional transportation planning for all modes of travel, which will be integrated with land use planning in each member municipality and planning district.

The TMP is not a static document and will require periodic review, depending upon the level of development and growth experienced regionally. The TMP includes a number of recommendations, including additional key strategies and studies that will be required in order to achieve its goals. Each of the studies identified support the intent of planning regionally. All member municipalities should refer to the TMP and other complimentary studies when reviewing their development plans, to ensure their planning documents align appropriately. The TMP is a comprehensive and user-friendly document that will help guide future regional transportation and development decisions and ultimately strengthen the region as it grows.

MMM Group Limited (MMM) was retained by the Partnership of the Manitoba Capital Region (PMCR) to prepare the TMP for the Region. The CRTMP builds upon the Winnipeg TMP completed by the City of Winnipeg and approved by Winnipeg City Council in late 2011, which focussed on the area within the City limits. The Capital Region is illustrated on Figure 1.1.

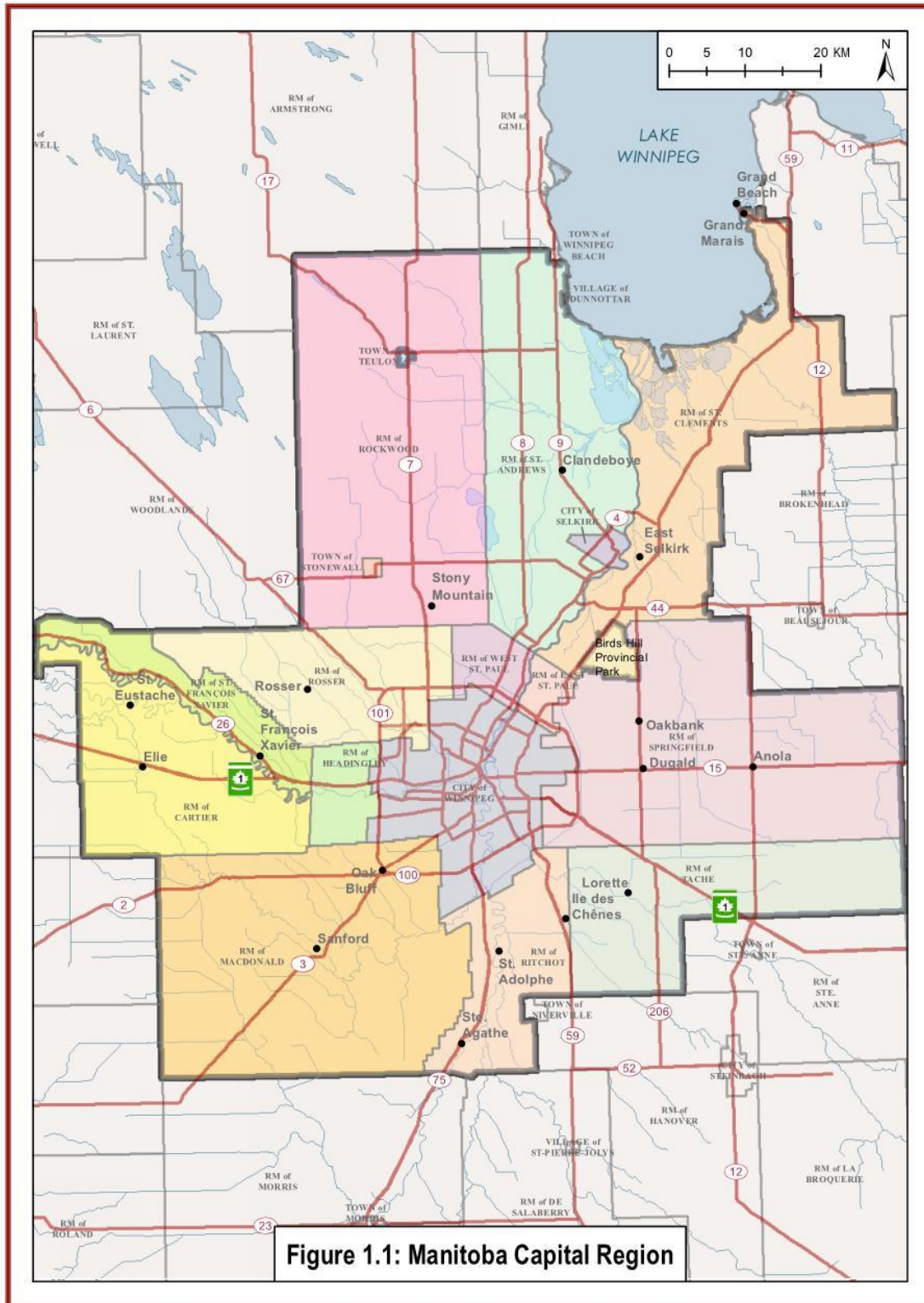


Figure 1.1: Manitoba Capital Region

1.1 What is the Capital Region Transportation Master Plan?

The Capital Region Transportation Master Plan (CRTMP) provides a strategy to guide the planning and implementation of transportation system improvements and land use policies, to address both future development and the movement of people and goods within the Capital Region in a way that is socially, environmentally, and economically sustainable. The CRTMP considers all modes of travel, including vehicles, transit, active transportation (AT), rail, and air services. It presents a long-term framework for a multi-modal transportation system to meet the forecast needs of the Capital Region over the next 20 years and beyond.

The CRTMP recommends a number of key highway improvements to address current and projected future road capacity issues. It contains a number of policy recommendations related to land use, transit, cycling, and pedestrian initiatives that could provide options for future travel and reduce single occupant vehicle travel. It also comments on measures to protect key rail and air services within the Capital Region.

It should be noted that the CRTMP, as a long-term strategic plan, does not address site-specific or corridor needs such as intersection configuration or traffic control options.

1.2 City of Winnipeg Transportation Master Plan

The City of Winnipeg, which is part of the Capital Region, completed a Transportation Master Plan (TMP) as part of the OurWinnipeg process. The TMP was approved by Winnipeg City Council in November 2011. While Winnipeg's TMP focused on the needs of the urban area, it also recognized the importance of ensuring that the transportation needs of the remainder of the Capital Region be coordinated with those of Winnipeg. The Winnipeg TMP specifically notes that "The provision of effective and efficient regional transportation links in the Capital Region is essential to economic prosperity". As a result, CRTMP is intended to compliment and build upon the concepts and principles identified in the City of Winnipeg TMP.

1.3 Study Area

The focus of the CRTMP was on the cities, towns and municipalities which surround the City of Winnipeg as illustrated in Figure 1.1. However, it is recognized that the City of Winnipeg plays a very significant role in influencing travel in these areas.

For clarity and simplicity, when reference is made to the *Capital Region* in this document, it is the portion of the Capital Region **outside the City of Winnipeg**.

1.4 Partnership of the Manitoba Capital Region

The Partnership of the Manitoba Capital Region (PMCR) is an organization consisting of municipalities that make up the capital region, who have been collaborating in various forms since 1999. The member Municipalities include:

- City of Winnipeg
- City of Selkirk
- Town of Stonewall
- Rural Municipalities of:
 - Cartier
 - East St. Paul
 - Headingley
 - Macdonald
 - Ritchot
 - Rockwood
 - Rosser
 - St. Andrews
 - St. Clements
 - St. Francois Xavier
 - Springfield
 - Taché
 - West St. Paul

These Municipalities represent a diverse mix of land uses and development patterns. The predominant land use in the Capital Region is agricultural, with urban centres and other development spread throughout the Region. Many of these communities act as satellite or bedroom communities which generate commuter and other types of traffic to and from the City of Winnipeg, which is the largest member of the PMCR in terms of population and employment. The Red River and Assiniboine River flow through the region, with corridors along both rivers generally experiencing significant development.

In 2009, the Partnership of the Manitoba Capital Region (PMCR) developed a regional vision framework intended to support and encourage long range thinking and integrated planning. The PMCR's Vision Statement is: *"A safe, healthy, efficient, prosperous and strong Capital Region with a strong Capital City, where the public, governments, and organizations work together cooperatively, enhancing community development opportunities, effectively managing resources, and providing all citizens with a high quality of life"*. This framework introduced a regional perspective on development and set priorities in four areas:

- Collaborative Regional Development
- Transportation and Shared Services
- Environment and Water Quality
- Economic Development

The CRTMP is one of the initiatives identified by the PMCR and is the first of its kind to address transportation issues from a regional perspective

The CRTMP was prepared by MMM under the guidance and direction of, and with funding from the project's Steering Committee, which was made up of representatives of the PMCR, Manitoba Infrastructure and Transportation, and Manitoba Local Government.

2.0 COMMUNITY AND STAKEHOLDER ENGAGEMENT

Engaging the public and key stakeholders was essential to the development of a meaningful and comprehensive CRTMP.

The approach to community and stakeholder engagement that was taken was, to a large degree, shaped by the code of ethics, core values and best practices of the International Association for Public Participation (IAP2), including:

Awareness of, and access to, the process – While not every resident of the Capital Region was heard from, broad public awareness of the process was created through multiple, convenient ways to participate.

Representative participation - For every issue, some voices are louder than others. Therefore, public and stakeholder input was obtained on how to ensure that the community and stakeholder engagement was most representative of all residents of the Capital Region.

An iterative process – All of the components of the community and stakeholder engagement process were evaluated continually by honing the process, tools and messages to ensure the maximum utility and success.

Openness, transparency, timeliness – These are essential to build credibility and buy-in for the process.

Based on the above, the CRTMP community and stakeholder engagement process involved:

- Two rounds of public open houses
- A questionnaire for the PMCR member municipalities
- An online survey
- A presentation at the 2013 Manitoba Planning Conference
- A key stakeholder workshop
- A council and staff workshop

The locations of the community and stakeholder engagement events are illustrated on Figure 2.1. Appendix A contains the material used in the two rounds of Open Houses.

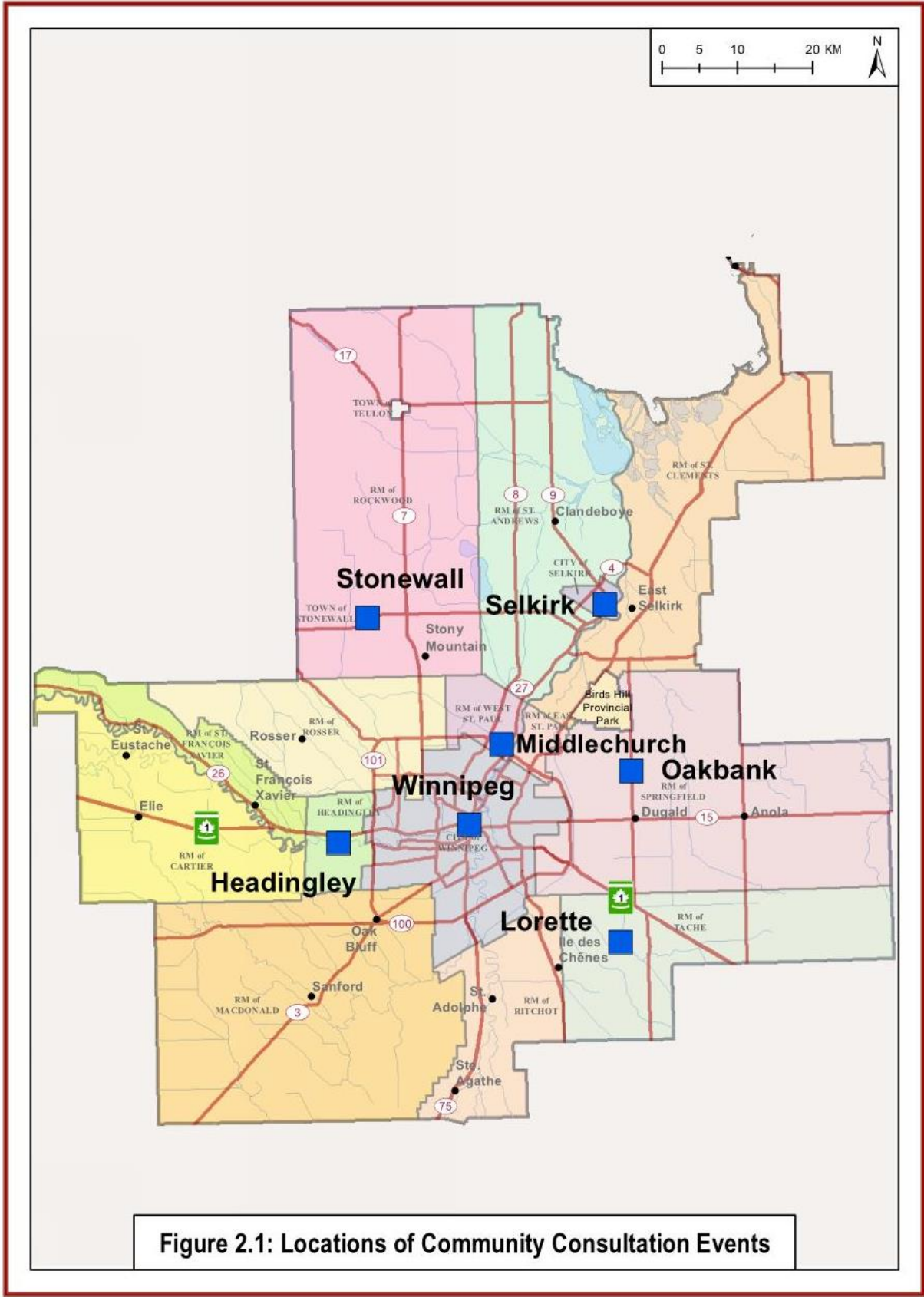


Figure 2.1: Locations of Community Consultation Events

2.1 Open Houses - Round #1

Introductory Capital Region open houses were held in Headingley, Lorette, Selkirk and Winnipeg as part of the community and stakeholder engagement process. These open house events introduced the CRTMP and asked for people's transportation related ideas and issues.



The majority of attendees were residents and/or business owners in the Manitoba Capital Region. Information boards were displayed which included:

- The goals and process for developing the CRTMP.
- CRTMP considerations for existing and potential future land uses, methods of transportation, and road networks throughout the Region, and how they would be considered in the CRTMP.
- Linkages to the existing City of Winnipeg TMP.

Results of the First Open Houses

Some of the common themes and comments received from this round of Open Houses were as follows:

- Seasonal variations of traffic volumes fluctuate significantly in the Capital Region and have an impact on many communities.
- The plan should consider existing and future active transportation routes.
- Regional transit opportunities should be investigated as a means to reduce the number of automobile commuters travelling daily and should be encouraged.
- Consider looking at what other similar sized cities are doing regionally to identify some best practices and generate more progressive approaches.
- Population growth and land uses differ across the Capital Region and this difference should be reflected within the plan.
- Cities, towns and urban centres in the Capital Region should become more complete communities and serve people's daily needs.

2.2 Online Survey

An online survey, hosted on the PMCR website, gathered public opinion on transportation related issues in the Capital Region. The survey was publicized through:

- Newspaper advertisements
- Project flyers distributed at the open houses

Results of the Online Survey

The large majority of the survey respondents indicated the City of Winnipeg as their primary residence. Major themes generated by the survey questions and respondent feedback included:

- There is a need for transportation infrastructure improvements throughout the region.
- Common routes travelled within the Capital Region were identified.
- The concept of “complete communities” and their applicability within the Capital Region.
- A need for alternative modes of transportation including active transportation and regional transit.
- General issues and concerns related to transportation in the Capital Region.

When considering improvements that may be required as the population increases in the Capital Region, respondents indicated that active transportation (AT) facilities should be improved. Rural transit was also considered a priority by respondents.

Other comments received included:

- Decreasing freight movement on highways by redirecting it to railways.
- Developing incentives for active transportation.
- Adding infrastructure for plug-in electric vehicles.
- AT routes should connect to existing and proposed AT routes in Winnipeg.

2.3 Municipal Questionnaire

Capital Region member Municipalities were asked to provide detailed information about local development activity and trends. In November 2012 a questionnaire was circulated to municipal CAO's and other staff. It included questions about development trends, demographics, land use, and transportation issues.

Results of the Municipal Questionnaire

The results of this survey and the background review of Development Plans and Secondary Plans in the Capital Region provided important input information for the transportation planning model which was used in the development of future travel patterns.

2.4 Stakeholder Workshop #1

Approximately 70 key stakeholders were invited to attend a half day interactive workshop to identify various transportation concerns and ideas. Key stakeholders included Capital Region Municipal representatives (elected officials and administrative staff), Provincial representatives, transportation-related organizations, and association representatives. Approximately 40 stakeholders attended the workshop.

Participants were asked to discuss transportation and land use planning issues within the Capital Region. The workshop session was divided into three separate sessions which are as follows:

- Over-arching goals and principles that should guide the regional transportation system for the Capital Region.
- Transportation issues and opportunities within the Capital Region.
- Solutions, concepts and responsibilities to overcome issues and capitalize on transportation issues and opportunities.

Results of the Stakeholder Workshop #1

Common *goals and principles* from the workshop were as follows:

- Support environmental sustainability.
- Ensure financial viability.
- Promote a safe transportation network.
- Improve quality of life and promote healthy living.
- Integrate different modes of transportation.
- Promote active transportation.
- Promote alternatives to single occupancy automobiles.

- Cooperation and coordination between municipalities on transportation and land use issues.
- Manage truck routes strategically.
- Make better use of regional rail network.
- Maintain and enhance free flow of traffic on the Perimeter Highway.

Common *themes* from the workshop were as follows:

- Integrate the various modes of transportation seamlessly.
- Ensure the transportation network is safe.
- Consider regional active transportation and transit.
- Ensure transportation is accessible and inclusive for different demographics.
- Promote environmental sustainability.
- Develop complete communities to reduce the need to drive everywhere.
- Coordinate regional planning and transportation decisions across municipal boundaries.
- Promote a higher quality of life by adding transportation options and ensuring roads are safe for all users.
- Consideration of funding options and opportunities.

2.5 Partnership of Manitoba’s Capital Region All Council Meeting, April 2013

The CRTMP was presented to the Capital Region member elected officials during their AGM in April 2013. The presentation outlined the CRTMP process and project details, and the exhibition boards presented emerging themes and highlights generated during the consultation process.

Results of All-Council Presentation

The boards included a “Traffic Light” exercise where participants were encouraged to show their level of support for various concepts and suggestions by sticking green (support), yellow (neutral) or red (did not support) dots to the boards. This feedback indicated the plan’s policy framework was appropriate and well received.

2.6 Open Houses Round #2

The second round of open house events were held in the Capital Region communities of Oakbank and Stonewall. This round of open house events presented policy recommendations and results from the transportation planning model, both of which were used to develop the final CRTMP recommendations.

The same content was presented at both open houses, which were monitored by members of the project team and representatives from Manitoba Infrastructure and Transportation (MIT), Manitoba Local Government (MLG) and PMCR. These events were delivered with the aid of 25 storyboards to present the following Information:

- The goals and process for developing the TMP.
- Public consultation process and results.
- Key strategic goals.
- Key policy recommendations.
- Results of the transportation model.
- Recommendations, including potential highway bypasses and transportation demand management options.

Results of Second Open Houses

Feedback was collected at each open house and a summary of comments are as follows:

- Improve traffic flow on the Perimeter Highway by replacing traffic light controlled intersections with overpasses and interchanges.
- Ensure investment in AT infrastructure is at strategic locations.
- Multiple levels of government involved with the CRTMP implementation is key for success.
- Commuter park-and-ride lots are supported and easily implemented.
- Support the concept of “complete urban centres” to reduce the amount of travel needed by private vehicles.

2.7 PMCR Member Council and Staff Workshop #2

PMCR councilors, staff and other transportation related stakeholders were invited to a half day workshop session. The session was designed to obtain feedback regarding proposed policy recommendations and findings from the computer model.

The workshop was structured in three parts. First, participants were provided a spreadsheet outlining 21 policy recommendations and findings from the transportation planning model, which included bypasses and carpool/park-and-ride lots.

Results of Workshop #2

Participants prioritized the recommendations by filtering them into short, medium or long-term timeframes. Finally the groups chose five recommendations they felt were of most importance.

The policy recommendation discussion focused on various themes throughout the groups, the most common of which included:

- Ensuring safety and traffic flow along the Perimeter Highway.
- Benefits and implementation strategies for rural transit and active transportation were also popular discussion points, including educating the public on these benefits.
- Complete urban centres were seen as important for reducing the need to travel and for increasing quality of life.
- The need for more regional coordination for transportation and land use planning was also discussed.
- Carpool/park-and-ride lots were a good idea and easily achievable in the short-term time frame.
- New corridors and bypasses were recognized to be important but more likely a medium-term time frame.

2.8 Summary of Community and Stakeholder Engagement Process Events

Table 2.1 contains a summary of the community and stakeholder events and results.

Table 2.1: Summary of Community and Stakeholder Engagement Process Events

Event	Summary of Results
Round 1 Open Houses	<ul style="list-style-type: none"> ➤ Seasonal variations of traffic volumes fluctuate significantly in the Capital Region and have an impact on many communities. ➤ The plan should consider existing and future active transportation routes. ➤ Regional transit opportunities reduce the number of automobile commuters travelling daily and should be encouraged. ➤ Consider looking at what other similar sized cities are doing regionally to identify some best practices and generate more progressive approaches. ➤ Population growth and land uses differ across the Capital Region and this difference should be reflected within the plan. ➤ Cities, towns and urban centres in the Capital Region should become more complete communities and serve people’s daily needs.

Event	Summary of Results
PMCR Questionnaire	<ul style="list-style-type: none"> ➤ Results of this survey and the background review of Development Plans and Secondary Plans in the Capital Region provided important input information for the travel demand model, which was used in the development of future travel patterns.
Online Survey	<ul style="list-style-type: none"> ➤ There is a need for transportation infrastructure improvements throughout the region. ➤ Common routes travelled within the Capital Region were identified. ➤ The concept of “complete communities” and their applicability within the Capital Region. ➤ A need for alternative modes of transportation including active transportation and regional transit. ➤ General issues and concerns related to transportation in the Capital Region.
Key Stakeholder Workshop	<ul style="list-style-type: none"> ➤ Integrate the various modes of transportation seamlessly. ➤ Ensure the transportation network is safe. ➤ Consider regional active transportation and transit. ➤ Ensure transportation is accessible and inclusive for different demographics. ➤ Promote environmental sustainability. ➤ Develop complete communities to reduce the need to drive everywhere. ➤ Coordinate regional planning and transportation decisions across municipal boundaries. ➤ Promote a higher quality of life by adding transportation options and ensuring roads are safe for all users. ➤ Consideration of funding options and opportunities.
Round 2 Open Houses	<ul style="list-style-type: none"> ➤ Improve traffic flow on the Perimeter Highway by replacing traffic light controlled intersections with overpasses and interchanges. ➤ Ensure investment in AT infrastructure is at strategic locations. ➤ Multiple levels of government involved with the CRTMP implementation is key for success. ➤ Commuter park-and-ride lots are supported and easily implemented. ➤ Support the concept of “complete urban centres” to reduce the amount of travel needed by private vehicles.
Council and Staff Workshop	<ul style="list-style-type: none"> ➤ Ensuring safety and traffic flow along Perimeter Highway. ➤ Benefits and implementation strategies for rural transit and active transportation were also popular discussion points, including educating the public on these benefits. ➤ Complete urban centres were seen as important for reducing the need to travel and for increasing quality of life. ➤ The need for more regional coordination for transportation and land use planning was also discussed. ➤ Carpool/park-and-ride lots were a good idea and easily achievable in the short-term time frame. ➤ New corridors and bypasses were recognized to be important but more likely a medium-term time frame.

3.0 KEY STRATEGIC GOALS

In order to achieve a transportation system that reflects the future needs of the Capital Region, in terms of personal mobility and economic growth, it was necessary to develop a number of key strategic goals. These goals were based on the input received from round one of the open houses, the municipal questionnaire, and the stakeholder workshop and were used as a series of benchmarks in the development of the recommendations for the CRTMP. They include the following:

➤ **Integrate and coordinate transportation planning with land use planning**

Alignment and coordination of transportation and land use planning will maximize the effectiveness and efficiency of the transportation network.

➤ **Promote safety for all users of the transportation system**

Safety and security for all users of the transportation system, including pedestrians and cyclists is an essential component to maintain and improve the quality of life in the Capital Region.

➤ **Provide a transportation system that accommodates all users**

Mobility choices and accessibility, regardless of personal mobility challenges, are essential to ensure that all citizens of the Capital Region can utilize the system in an equitable manner.

➤ **Provide reasonable alternatives to cars for travelling, including walking, cycling and transit**

Allow for a reduction in auto dependence and a healthier region by providing a greater degree of travel option choices in the Capital Region.

➤ **Support economic development through the efficient movement of people and goods**

In order to achieve sustainable economic development in the Capital Region, and to ensure the safe and efficient movement of goods through the Capital Region, enhancing the economic viability of Manitoba, an effective and efficient transportation system is an essential component that can be enabled through strategic transportation improvements and management tools.

➤ **Support the principles of sustainability (environmental, social, and economic)**

The provision of mobility choices, land use and transportation integration and other methods (e.g., Transportation Demand Management, Mobility Management) that reduce or shorten travel by motor vehicle will help advance environmental sustainability in the Capital Region.

4.0 CAPITAL REGION GROWTH PROJECTIONS

The following section contains material on the current and projected population and land use growth as well as the transportation planning model (TransCAD) results related to future vehicular trip projections (which are based on the projected growth in population).

4.1 Capital Region Municipal Profiles

The following profiles were derived from a questionnaire that was circulated to municipal CAO's or other staff. It included questions about development trends, demographics, land use, and transportation issues. The results provided a Capital Region-wide perspective on population trends and development trends along with future visions and projections. Summaries of questionnaires returned are as follows:

RM of Ritchot

- Population growth in the RM has been steady and projected to continue.
- Development in the RM is generally clustered in urban centres except for rural residential and industrial development in the Grand Pointe area, which at the time of this report is undergoing a secondary planning process to organize future growth and development.
- Municipal roads are experiencing traffic pressure from people commuting to Winnipeg from various urban centres in the RM and south of the RM.

RM of Macdonald

- Similar to its Planning District Partner (RM of Ritchot), population growth in the RM is steady.
- Most residential development is directed to urban centres (La Salle and Oak Bluff), which encourage more complete communities. Industrial development is focused along McGillivray Boulevard near the City of Winnipeg Boundary.
- Traffic is intensifying along PR 330, PTH 3 and PTH 100 (Perimeter Highway).
- Demand for recreational cycling and walking opportunities is growing in La Salle and Oak Bluff.

RM of Headingley

- The RM has experienced steady population growth in recent years.
- Commercial development is generally of a linear nature, located along the TransCanada Highway (PTH 1).
- Residential development is mostly large lot single-family homes in low density neighbourhoods.
- Trucks and through traffic using Roblin Boulevard is increasing and conflicting with local traffic.
- Locally, there is a high level of interest in active transportation and multi-purpose trails.

- An at-grade rail crossing of PTH 1 at the west end of the RM frequently results in traffic delays.

RM of St. Francois Xavier

- Population growth has recently been accelerating.
- Development is mostly residential with little commercial or industrial growth.
- Residential development is generally large lot single-family homes, mostly disbursed along the Assiniboine River and in the Urban Centre of St. Francois Xavier.
- The St. Francois Xavier Secondary Plan calls for a network of active transportation paths.
- Truck traffic sometimes uses the Rosser Road, which is not a truck route.

RM of Cartier

- The RM of Cartier is bisected by the TransCanada Highway, which acts as the primary connection to the City of Winnipeg.
- Development is generally clustered in urban centres; however rural residential areas exist, mostly along the Assiniboine River.
- The RM is projected to experience slow to moderate population growth over the next 20 years.
- There are concerns with agricultural vehicles crossing PTH 1.

RM of Rosser

- There has been minimal residential growth in the RM and this trend is projected to continue.
- Residential development is generally clustered into urban centres.
- Grosse Isle has created a trail along a former rail bed.
- The introduction of CentrePort is forecasted to add a significant amount of industrial-related traffic. Substantial industrial development is dependent on a wastewater service sharing agreement with the City of Winnipeg.
- A dedicated water line from the Assiniboine River to the CentrePort lands was recently announced and this is expected to assist with attracting additional development to the inland port.
- CentrePort Canada Way is anticipated to relieve traffic congestion on former PR 221 (Inkster Boulevard and Rosser Road) and to accommodate new traffic resulting from industrial development in CentrePort.
- Trucks are reported to be infiltrating municipal roads.

RM of Rockwood

- Population growth has been steady and development is generally concentrated in urban centres.
- PTH 7 is the main corridor through the RM, which accommodates a consistent volume of truck traffic from local quarry operations.
- In partnership with the Town of Stonewall and Town of Teulon, Rockwood has developed a park-and-ride lot at the intersection of PTH 6 and PTH 7.
- The RM is considering utilizing an abandoned rail line for active transportation.

RM of St. Andrews

- The southern portion of the RM, along the Red River, includes an abundance of rural residential development where many people commute to Winnipeg, while the northern portion of the RM is largely agricultural.
- The St. Andrews Airport industrial park is projected to attract significant industrial development.
- Parking related to local attractions is an issue in the summer months.
- Bus service to Winnipeg is provided by Beaver Bus Lines with a park-and-ride lot.

RM of St. Clements

- Development has generally been directed to urban centres.
- Rural residential development exists along the Red River and seasonal residential development is found along the eastern shore of Lake Winnipeg.
- Growth is projected to expand with the introduction of piped services to East Selkirk and the ongoing demand for cottage development.
- Traffic to Grand Beach and resort communities is heavy during the summer months.
- The approach to the bridge across the Red River at East Selkirk (PR 204) experiences seasonal flooding, restricting access.

RM of West St. Paul

- Development in the RM is predominately single-family subdivisions along the Red River, which are serviced by local wastewater treatment facilities.
- The extension of wastewater services from the City of Winnipeg, coupled with the Middlechurch Secondary Plan, promotes additional urban scale single-family lots along PTH 9 / Red River corridor.
- The RM is projecting significant population growth in the short and medium-term future.

- The active transportation route that runs parallel to PTH 9 could be expanded further north and south and incorporated into new subdivisions.
- There are numerous access points along PTH 9 which is resulting in delays to through traffic due to turning movements.

RM of East St. Paul

- In early 2013 the RM joined the Red River Planning Area.
- The RM has experienced a significant amount of serviced residential growth, which is the dominant form of development.
- Moderate population growth in the RM is projected to continue.
- The RM is encouraging an active transportation overpass of PTH 101 to connect the Gateway Road multi-purpose trail in the City of Winnipeg with the active transportation facilities along Raleigh Street and Rebeck Road.

RM of Taché

- The RM is projecting significant population growth to 2033.
- Development is widely scattered throughout the RM, including many rural residential subdivisions.
- However, clustered development exists as large lot single-family development in the urban centres of Lorette and Landmark.
- There are concerns with agricultural vehicles crossing PTH 1, peaking in the summer months.

RM of Springfield

- Springfield has the largest population base of all the RM's in the Capital Region.
- Development is dispersed throughout the northern half of the RM, generally along PTH 12 and PTH 15.
- The RM's largest urban centre is Oakbank which is projected to grow significantly.
- The RM of Springfield is undertaking a Municipal transportation master plan, which will address transportation issues, including informal park-and-ride opportunities currently taking place.

Town of Stonewall

- The Town is experiencing steady residential population growth, while industrial and commercial development is also expanding.
- The Town is an example of a complete community, where people can serve their daily needs.

- In partnership with the RM of Rockwood and Town of Teulon, Stonewall has developed a park-and-ride lot at the intersection of PTH 67 and PTH 7.
- The Town is expanding its active transportation network through the acquisition of a former rail line for a multi-purpose path and the expansion of its sidewalk network.

City of Selkirk

- The City has experienced minimal population growth and that level of growth is projected to continue into the future.
- Efforts to revitalize downtown Selkirk have been initiated through the creation of a secondary plan.
- There are significant traffic flows along Manitoba Avenue, with people accessing new commercial development near the corner of PTH 9 and Manitoba Avenue.
- The City has implemented a single loop route city bus transit system.
- A commuter bus service from Selkirk to Winnipeg (via PTH 9) is operated by Beaver Bus Lines.
- Access to the bridge across the Red River is frequently interrupted due to spring flooding.

4.2 Population Growth

As illustrated in Tables 4.1 and 4.2, future population growth has been projected for all PMCR member municipalities as well as selected adjacent non-PMCR communities. The 2011 Census of Population was used as the baseline for the future growth projections. Municipal development plans and associated background studies were consulted for projected growth rates and municipalities were consulted to ensure these projections were accurate. The most significant projected growth will be in the City of Winnipeg followed by the RM of Springfield, RM of Taché, Town of Niverville (outside of the Capital Region), and City of Steinbach (outside of the Capital Region).

Table 4.1: Manitoba Capital Region Population Projections

PMCR Municipalities	Existing Population 2011*	Total Population Short-Term (2018)	Total Population Medium-Term (2023)	Total Population Long-Term (2033)	Estimated Population Growth Between 2011 – 2033	Percent Population Growth 2011-2033
RM of Ritchot	5,478	6,700	7,040	7,780	2,300	42%
RM of Macdonald	6,280	6,960	7,490	8,680	2,400	38%
RM of Headingley	3,215	3,820	4,250	5,110	1,900	59%
RM of St. Francois Xavier	1,240	1,380	1,480	1,680	440	35%
RM of Cartier	3,153	3,450	3,660	4,080	930	29%
RM of Rosser	1,352	1,500	1,570	1,720	370	27%
RM of Rockwood	7,964	8,190	8,360	8,700	740	9%
RM of St. Andrews	11,875	12,720	13,370	14,770	2,900	24%
RM of St. Clements	10,505	11,260	11,840	13,070	2,570	24%
RM of West St. Paul	4,932	5,630**	7,030	7,730	2,450 +/-**	50% **
RM of East St. Paul	9,046	9,700	10,200	11,260	2,210	24%
RM of Taché	10,284	12,310	13,990	18,100	7,820	76%
RM of Springfield	14,069	16,720	18,920	24,220	10,150	72%
City of Selkirk	9,834	10,510	11,040	12,200	2,370	24%
City of Winnipeg	663,617	712,620	754,290	840,960	177,340	27%
Town of Stonewall	4,536	5,050	5,520	6,020	1,480	33%
Capital Region Total	767,380	828,520	880,050	986,080	218,370	28%

*Base Data Source: Statistics Canada 2011 Census

**The extension of wastewater services from Winnipeg to the RM of West St. Paul will accommodate significant population growth. Also, if piped water services are extended, the RM will likely experience additional population growth over the short and medium-term time frames. The RM projects another 250 single-family homes by 2017 and depending on the introduction of piped water, another 500-750 single-family homes by 2026. This would represent an additional 1,400 – 2,100 people or a total population of 7,032 – 7,732 by 2023.

Table 4.2: Selected Non-Capital Region Population Projections

Non-PMCR Municipalities	Existing Population 2011*	Total Population Short-Term (2018)	Total Population Medium-Term (2023)	Total Population Long-Term (2033)	Estimated Population Growth Between 2011 – 2033	Percent Population Growth 2011-2033
City of Steinbach	13,524	17,800	21,650	32,050	18,530	137%
Town of Niverville	3,540	4,980	6,360	10,360	6,820	193%
Town of Beausejour	3,126	3,720	4,200	5,380	2,250	72%
Town of Teulon	1,124	1,220	1,300	1,470	350	31%
Town of St. Anne	1,626	1,710	1,770	1,890	260	16%
Town of Dunnottar	696	750	790	880	180	26%

*Base Data Source: Statistics Canada 2011 Census

4.3 Capital Region Land Use Growth Areas

Figure 4.2 illustrates the land use designations throughout the Capital Region and depicts where development exists and future growth is expected to be generally directed over the next 20 years. The figure is a consolidation of land uses from the planning authorities that has been approved by the Province. Development is generally directed to existing Cities, Towns and urban centres, and disbursed development is discouraged in agricultural areas.

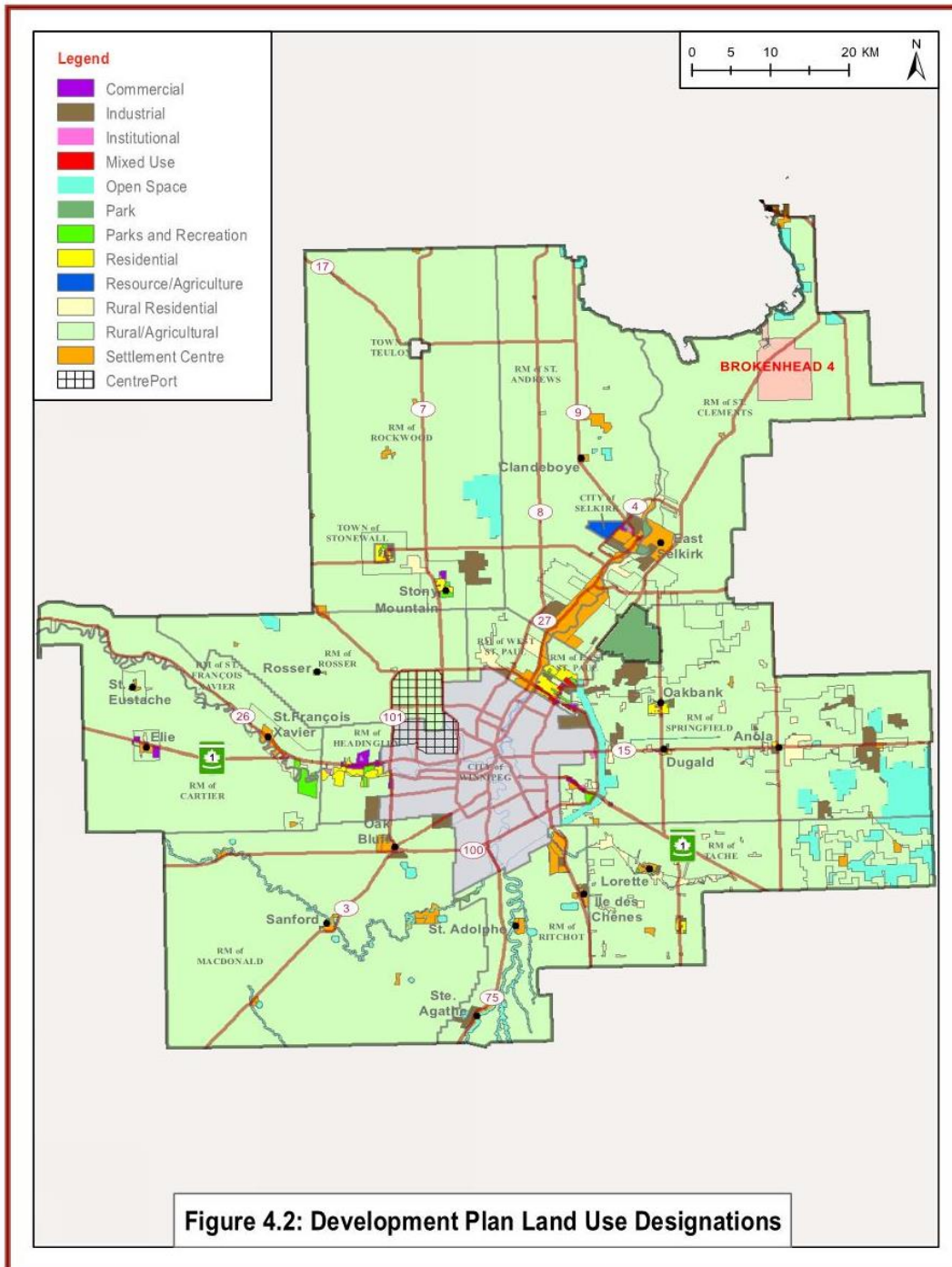


Figure 4.2: Development Plan Land Use Designations

4.4 Future Vehicle Trip Projections – Transportation Planning Model

The growth projections for population and land use in the Capital Region described in Sections 4.2 and 4.3 were utilized as input to the transportation planning model to develop projections of vehicle travel.

The following section discusses the modeling process and the application of the model results to an analysis of the need for highway network improvements.

4.4.1 Modelling Process

A transportation planning model (TransCAD), originally developed for the City of Winnipeg TMP, was used for an analysis to determine future trip making in the Capital Region. This model was expanded to include the area south of the TransCanada Highway (TCH) and east of PTH 75, which was not part of the original model. A more detailed description of the TransCAD modelling process is included in Appendix C, along with figures illustrating the model output.

4.4.2 Modeling Outcomes

The TransCAD model was used to project future traffic volumes on the highway network in the Region for 2018, 2023, and 2033, based on the population growth estimates described in Sections 4.2 and 4.3. The following section discusses how the model results were applied to an analysis of future highway improvements.

Some general findings from the model results are:

- Through traffic and local traffic volumes are projected to increase on the Perimeter Highway between now and 2033.
- Traffic on PTH 75 and PTH 12 is projected to double by 2033.
- A number of highways are projected to see limited traffic growth between now and 2033.

While many highways will have available capacity to handle the additional traffic projected to occur by 2033, capacity is only one consideration when setting priorities for upgrading highways. Other factors to consider when making decisions regarding upgrading or other changes to highway infrastructure include: safety, age of infrastructure, condition of pavement, etc.

Therefore, the results of the model are only one component of the decision-making process.







4.4.3 Level of Service / Volume-Capacity Ratio Analysis

The TransCad model has identified several sections of highway in the Capital Region that will experience an increase in traffic volumes over the time frame of the CRTMP. In order to determine if the current highway network has the ability to accommodate this projected traffic growth, an analysis was undertaken based on two commonly utilized measurement criteria:

Level of Service (LOS)

Level of service (LOS) is a measure used to determine the effectiveness of elements of transportation infrastructure; it is essentially a measure of traffic congestion on a roadway. LOS is most commonly used to analyze highways by categorizing traffic flow with corresponding safe driving conditions. This measure uses letters A through F, with A being the best and F being the worst, as illustrated below in Table 4.3

Table 4.3 – Levels of Service

<p>LOS A Free-flow operation.</p>		<p>LOS D Speeds decline slightly with increasing flows. Density increases more quickly. Freedom to maneuver is more noticeably limited. Minor incidents create queuing.</p>	
<p>LOS B Reasonably free flow. Ability to maneuver is only slightly restricted. Effects of minor incidents still easily absorbed.</p>		<p>LOS E Operation near or at capacity. No usable gaps in the traffic stream. Operations extremely volatile. Any disruption causes queuing.</p>	
<p>LOS C Freedom to maneuver is noticeably restricted. Queues may form behind any significant blockage.</p>		<p>LOS F Breakdown in flow. Queues form behind breakdown points. Demand Capacity.</p>	

Generally, MIT designs new roadways to provide LOS B on highway corridors: traffic on these highways can travel at desired speeds, but the presence of other vehicles is noticeable, albeit at a level that only slightly impacts maneuvering, such as lane changing. However, MIT does accept LOS C if LOS B cannot be achieved due to extenuating circumstances.

Volume/Capacity Ratio (V/C)

The 2033 PM peak volumes (normally representing the time period which experiences the highest traffic volume) obtained from the model were compared with the maximum capacity of the existing highway network to determine if it could accommodate the projected increased traffic. This is called the volume/capacity (V/C) ratio.

A V/C ratio of ≥ 0.70 is roughly equivalent to an LOS C or lower. As described above, LOS C is defined as stable flow, with ability to maneuver noticeably restricted, and lane changes requiring more driver awareness.

As illustrated on Figures 4.3, by 2033 the results of the comparison indicate that the majority of the network has acceptable V/C ratios, meaning a high level of service (LOS) is provided. The sections of highway with V/C ratios that **are above an equivalent to LOS C** include:

- Perimeter Highway from CentrePort Canada Way to Roblin Boulevard (PR 241)
- Perimeter Highway from PTH 15 (Dugald Road) to PTH 1E
- Perimeter Highway between St. Mary's Road (PR 200) and PR 330
- PTH 1E from City Boundary to PTH 12
- PTH 15 from the Perimeter to PR 206
- Winnipeg-Selkirk Corridor
- PTH 1W through Headingley
- PTH 75 through St. Norbert

Therefore, on the basis of the above capacity analysis, these sections of the highway network were identified as requiring improvements to meet future traffic demands. The recommended improvements proposed are described in section 5.3.

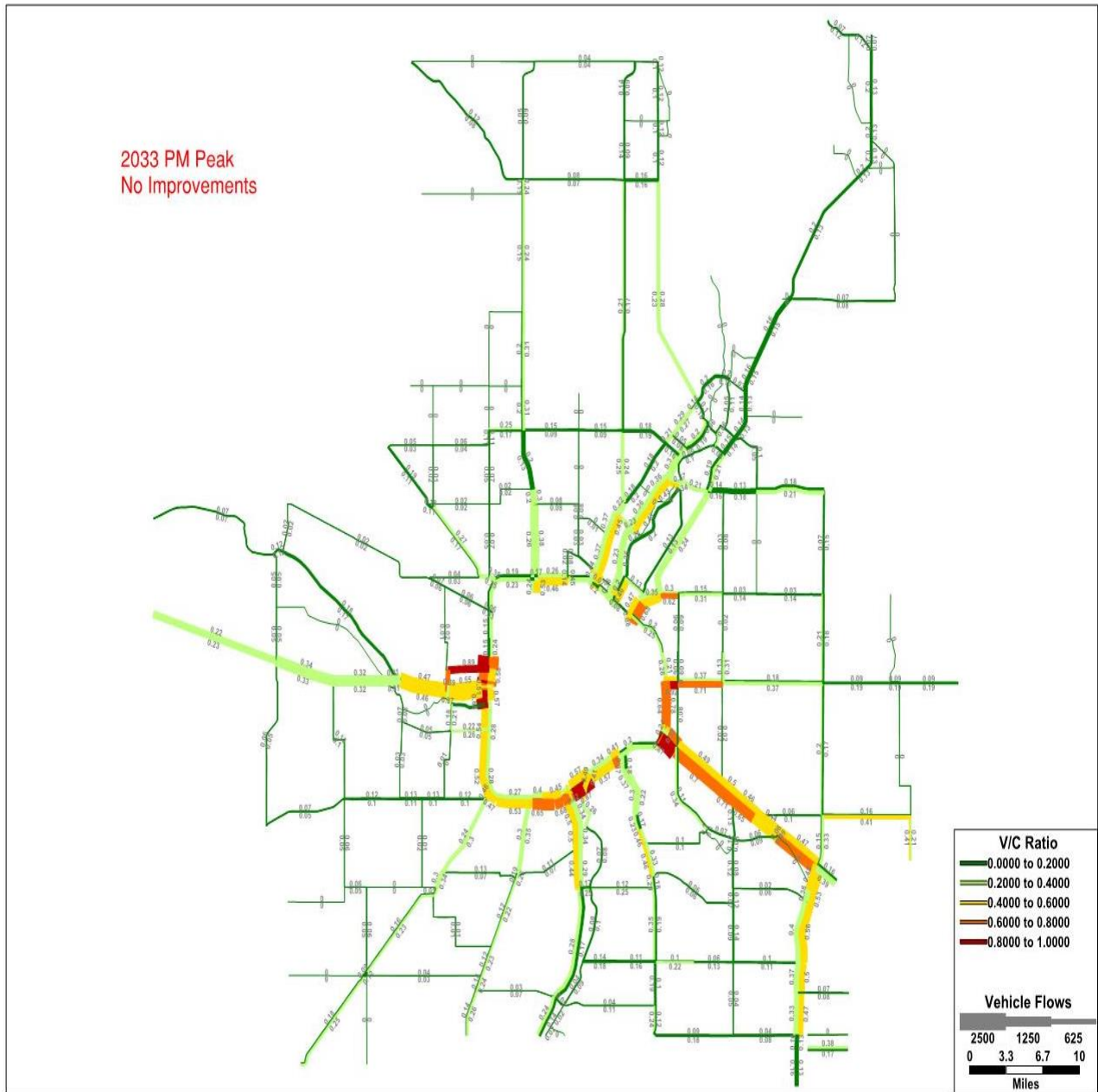


Figure 4.3: 2033 V/C Ratios with Existing Highway Network

As illustrated on Figure 4.3, the remaining sections of the highway system in the Capital Region are projected to operate with acceptable V/C ratios and should therefore accommodate future traffic growth without the need for significant improvements, unless other factors such as safety and/or pavement conditions become an issue.

4.4.4 Limitations of Modelling Process

Due to a limited availability of truck and traffic information within the Capital, the modelling process contained herein was unable to model certain aspects of traffic and travel demand within the Region. The three most notable limitations were: 1) Inability to model goods movement due to the lack of truck traffic information, 2) seasonal summer traffic, and 3) the inability to model traffic on municipal roads due to a lack of general traffic information.

Goods Movement

MIT has identified certain corridors that have a high level of goods movement activity and/or will require improvements to accommodate anticipated goods movement needs. Major trade routes passing through built up areas can be of particular concern as they accommodate high volumes of trucks; trucks that carry time-sensitive freight or perhaps hazardous goods. In addition, it is important that these routes have the structural capacity to withstand the additional surface distresses associated with heavy trucks.

Of particular note or concern in this regard are proposed bypasses of built up areas (e.g., Headingley, St. Norbert and the Winnipeg Selkirk Corridor) and major river crossings (e.g., New Red River Crossing in the Lockport/Selkirk area).

Municipal Roads

Limited available traffic information on municipal roads resulted in an inability to model travel demand on these routes. As a result, the CRTMP does not identify any improvements to municipal roads. Rural Municipalities are being encouraged to develop transportation plans for internal road networks via the new Provincial Land Use Policies. Improved traffic statistics on municipal roads throughout the capital region would significantly aid in the process.

Access Management

Access management is an important tool in many cases, to extend the life of existing highways. The life of arterials and expressways can be extended by reducing access points and ensuring that existing access is properly designed to accommodate turning movements. Furthermore, access management plans for new development must ensure that local traffic remains on internal road networks as this helps to extend the life of existing facilities.

5.0 RECOMMENDATIONS

The following section outlines the recommended transportation and land use directions for the Region as a result of the technical analysis, modelling, and the public engagement process.

5.1 Regional Coordination

A repeating message, received during the public engagement process, was that we should be learning from other jurisdictions which have implemented progressive solutions to various transportation problems. Coordination of transportation and land use planning, and service delivery within the Region was cited as one potential solution that should be explored.

As discussed in Section 4, it is anticipated that the population of the Capital Region outside of the City of Winnipeg will increase substantially in the future, resulting in a significant increase in travel demand. The coordination of transportation planning on a regional scale is therefore an important key to ensuring that the projected increase in travel demand is accommodated effectively and efficiently and will enable continued economic development throughout the Region.

The City of Winnipeg TMP contains several “Enabling Strategies” regarding this coordination that are also applicable to the CRTMP, including:

- Participate with surrounding Capital Region municipalities in the development of coordinated transportation objectives.
- Support a framework for regional multi-modal transportation service delivery.
- Explore the feasibility of developing a regional Transportation authority to plan, implement, and deliver transportation infrastructure and services.

Regional Coordination Issues

Governments at all levels in Canada have set up special purpose agencies (often in the form of crown corporations at the federal and provincial levels or special operation agencies at the municipal level) to meet a defined set of objectives in a manner somewhat removed from the day-to-day business of government, yet accountable for its performance and cost-efficiency. At the municipal level, a number of perceived issues related to planning and delivering transportation have led to the creation of special purpose agencies in cities across North America and elsewhere.

Five key issues specific to the Capital Region, that may lead to the need for alternatives to the existing delivery method for transportation and land use include:

- Coordination of Transportation Planning, Delivery and Operations
- Functional Coordination
- Planning/Delivery Mandate
- Cost-Efficient Governance
- Financing Capability

Each of these issues is explored separately in the following sections.

Coordination of Transportation Planning, Delivery and Operations

Coordination of transportation planning, delivery and operations can be problematic when there are multiple municipal departments, as is the case in Winnipeg (Public Works, Transit, Winnipeg Parking Authority), or when they are the responsibility of multiple municipal jurisdictions such as the case in the Capital Region communities surrounding Winnipeg.

The challenge in the Capital Region is to more effectively coordinate transportation planning, delivery and operations. This will require recognition of the need to have a single entity with a transportation mandate in order to accomplish this task. It will also require the Province of Manitoba to consider the benefits of extending the mandate of such an agency to include the surrounding cities, towns and municipalities that, along with the City of Winnipeg, constitute the Capital Region.

Functional Coordination

More coordinated planning and delivery of transportation services is required to achieve compatible transportation and land use and to achieve intermodal coordination. This coordination is necessary to enable the transit, road and active (pedestrian/cycling) components of the transportation system to work together in a seamless manner, providing an attractive range of transportation choices.

The departmental structure of municipal and other governments tends to create separate “silos”, each with specific responsibilities for land use, roads or transit, without fully effective coordination across departments at the administrative level, requiring municipal councils to be drawn into issues of detailed coordination, often a difficult and cumbersome process at the political level.

Planning/Delivery Mandate

Organizational fragmentation in some municipalities has often led to the division between planning for transportation and land use, and delivery of the infrastructure (e.g., construction, operations) providing land use/transportation services. Separation of the responsibilities for planning and delivery can lead to significant differences between the plans, the policies and infrastructure as ultimately delivered.

This tends to be a common issue when dealing with transportation and land use at the municipal level in medium-sized and larger cities

Cost-Efficient Governance

A special purpose agency with a unified governing structure can be an effective way to plan and deliver transportation more cost-efficiently than can be done by separate government departments as it would have a unified management structure, a clear mandate, and less distraction from the day-to-day issues that arise for municipal government.

The special purpose agency can be held accountable, with targets against which its performance can be measured if provided with the necessary authority to make coordinated planning and delivery decisions. The problems of slow delivery and cost overruns can also be an important motivating factor for the formation of a special purpose agency, particularly for medium-sized and larger cities.

Financing Capability

The need for an effective single organization responsible for transportation to deal directly with the federal and provincial government levels and negotiate and obtain reliable streams of funding is another important reason for the establishment of transportation special purpose agencies at the municipal level.

Also, there is a likelihood that transportation user fees (e.g., gas taxes, vehicle registration fees, parking fees, road pricing) with associated revenues dedicated for transportation capital and operating purposes, will become more pervasive in the future. As these fees tend to be unpopular, it is absolutely essential that they be administered in a transparent and accountable manner, with demonstrated results in applying the revenues to transportation improvements. A special purpose agency has similar advantages in dealing with the private sector organizations involved in Public Private Partnerships, delivering transportation infrastructure.

Each of the above issue areas can also be defined as a criterion against which the performance of a special purpose agency can be evaluated. It is also important to note that each of the five factors has a downside which, if not appropriately handled, could be a disadvantage to forming a special purpose agency for transportation. For example, if all relevant geographic jurisdictions

(now or in a future expanded metropolitan region) are not included in the agency's mandate, geographic fragmentation can reappear. Similar problems can occur if the agency's mandate for planning land use is not clearly defined. Also, it can be problematic if the agency's mandate does not include the financial capabilities of a special purpose agency which would provide it with the means to deliver necessary transportation improvements in a manner which is financially responsible, transparent and in line with government priorities and standards.

Recommendation 5.1 A

Establish an inter-municipal working group to address regional transportation planning and coordination. The mechanism for implementing the working group could be coordinated through Partnership of the Manitoba Capital Region.

Recommendation 5.1 B

As part of the task of the inter-municipal working group, examine other regional governance models to determine their applicability to the Manitoba Capital Region.

Recommendation 5.1 C

Ensure that the next review of the Winnipeg and Capital Region TMPs be coordinated to reinforce the need for regional transportation planning and coordination.

5.2 Land Use / Transportation Integration Recommendations

With the population in the Capital Region projected to grow by over 200,000 people by 2033, it is imperative that planning in the region results in more sustainable communities. The Capital Region is largely agricultural in nature with development in various rural residential areas, urban centres, towns and cities. Most of these communities are within the City of Winnipeg's commuter shed and are experiencing rapid growth compared to past decades.

Transportation facilities provide access to land, thereby affecting its desirability and value, while the mix and intensity of land uses results in activities that generate demands on the transportation system. The Provincial Planning Regulation (PPR) promotes an integrated transportation system through a goal outlined in a section of the same name, which states: "To increase connectivity between routes and linkages between land uses and developments." An integrated approach to land use planning and transportation planning maximizes the efficiency and effectiveness of the transportation infrastructure, creating an efficient and sustainable community. An important component of integrated transportation planning and land use planning is to minimize both the number and length of trips people need to make. Reducing travel needs is accomplished by creating complete urban centres where people can satisfy daily needs without having to leave their community. This is also a form of Transportation Demand

Management (TDM), a concept where transportation demand is managed not through infrastructure improvements but rather reducing the need for travel. Creating complete urban centres is based on an integrated approach to land use planning and transportation planning, as well as accommodating the three pillars of sustainability.

The following is a list of recommendations related to integrating transportation planning and land use planning:

Recommendation 5.2 A

Urban centres are encouraged to grow as complete urban centres where people can satisfy daily needs without having to travel long distances.

Complete urban centres are places where people can satisfy many of their daily needs (live, work and play) without having to leave their community. Complete urban centres incorporate a mix of land uses in close proximity to one another, they offer multiple transportation options, are walkable, and the housing needs of multiple demographic groups are met.

Meeting one's needs when many destinations are close together is more efficient from a transportation perspective. This is also a form of Travel Demand Management (TDM), a concept where transportation demand is managed, not through infrastructure improvements, but rather reducing the need for travel. If an urban centre lacks certain services or businesses, it requires people living in and around their communities to have to make long trips to other centres to fulfill their needs. Locating a mix of uses in close proximity to one another within a community makes it possible to only have to make short trips to access these services, and opens up the potential for more trips to be made on foot or bicycle.

As urban centres grow they are able to support an increasing level of commercial and institutional services. Once a community reaches a critical mass of people it can start to support various services required on a daily basis. Supporting this growth with good planning principles can direct these places to continue to grow as complete communities. The Provincial Planning Regulation (PPR) promotes creating strong, complete urban centres, which provide for the daily needs of residents by directing growth to existing urban centres through various policies, such as:

“The emphasis of future development and growth should be on existing urban areas where investments have already been made. As a priority, growth should be directed to urban centres that have appropriate public services to accommodate future development and growth” (Part 3 Section 2.1, Policy 2.1.1).

Strengthening existing urban centres contributes to an efficient regional transportation network as these places have already encouraged investment in transportation corridors to regional destinations, including the City of Winnipeg. Directing growth to urban centres, which have strong regional connections, allows transportation infrastructure investments to be focused along fewer corridors, maximizing the benefit of new investment for the highest amount of users. Creating complete urban centres is based on an integrated approach to land use planning and transportation planning, as well as accommodating the three pillars of sustainability.

Recommendation 5.2 B

Direct developments to existing built up areas and encourage infill development, as opposed to dispersed development.

Directing development to urban centres preserves valuable agricultural lands and natural areas and is more efficient to service. Dispersed development consumes large tracts of land, is inefficient to service, and requires people to travel long distances to service their daily needs. Often existing communities have areas of undeveloped or vacant land within the boundary of the built up area. Developing these areas should be the priority for municipalities ahead of expanding outward.

Infill development increases density, makes efficient use of existing services, and allows people to live in close proximity to other uses in the urban centre. Directing development to existing built up areas promotes the goals of creating complete urban centres and reduces the amount and distance of trips required to service daily needs.

Recommendation 5.2 C

Undertake a regional land use strategy to guide future land use from a regional perspective and align with transportation priorities.

Regional land use planning is one of the four board priority areas identified by the PMCR's Regional Vision Framework. Guiding future development from a regional perspective will ensure the Capital Region's municipalities grow in a cooperative, efficient and sustainable manner.

Natural resources, soil types, ground cover, rivers, Provincial Highways, rail lines and other features of the natural and human made landscapes traverse municipal boundaries. Addressing regional issues at the municipal level rather than from a more macro, regional perspective, has the danger of failing to make the best decision. Also, working together as a region rather than as individual municipalities will strengthen a municipality's position when negotiating with large retailers and other corporations. A regional land use strategy would address these inter-municipal issues to ensure the efficient and orderly disposition of land and resources to ensure the best decisions are made for the Province as a whole.

Coordinating a strategy on land use with the Capital Region Transportation Master Plan will ensure the best use of existing and future transportation infrastructure.

Recommendation 5.2 D

Encourage land use patterns and development design that accommodate transit users, cyclists, pedestrians, and the mobility challenged.

Ensuring communities are designed to accommodate alternative modes of transportation and are accessible to all results in more sustainable communities. Designing development so that multiple transportation modes are considered from the start is easier and less costly than trying to retrofit such measures later on. Creating pedestrian-oriented, mixed use communities allows people to walk to their destinations and makes it easier to cycle or to make use of transit.

New development should be reviewed from a transportation perspective, not only for the impact on the transportation network outside of its boundaries, but internally as well, to ensure that it is meeting the aforementioned design practices. Other cities in Canada, like Calgary, already do this as part of their review of new development.

Some settlement areas within the Capital Region already have significant AT infrastructure in place, however many do not. Even in smaller urban centres, having sidewalks and bicycle racks in place will encourage the use of these modes.

Recommendation 5.2 E

Undertake a Land Use and Internal Road Network Plan for CentrePort Canada.

CentrePort Canada is a 20,000-acre inland port and Foreign Trade Zone (FTZ), offering access to tri-modal transportation (road, rail and air). It is located next to James Armstrong Richardson International Airport, one of Canada's top cargo airports.

CentrePort Canada has direct access to Manitoba's trucking industry, three class one railways (CN, CPR and BNSF) and international air cargo operations as well as the Port of Churchill, which provides international markets in Russia, Europe and Asia, with the closest sea connection to North America's Midwest. Figure 5.1 illustrates the location of CentrePort Canada and its multi-modal linkages throughout North America



Figure 5.1: Major North American Trade Corridors

A significant investment has been made by the Provincial and Federal governments in the construction of CentrePort Canada Way, a \$212.4 million, 10-kilometre divided expressway that will better connect businesses located at CentrePort Canada to the Perimeter Highway and into key trade corridors such as the Asia-Pacific Gateway and the Mid-Continent Trade and Transportation Corridor.

The next phase of the CentrePort Canada project will require a land use plan that will outline the internal road network as well as additional modifications required to the adjacent existing road network (Sturgeon Road and PR 221).

Development within CentrePort will accelerate when the provision of water and wastewater services are constructed. CentrePort will be served by CentrePort Canada Way, the future extension of Chief Peguis Trail, Inkster Boulevard, Route 90 and the Perimeter Highway. New development within CentrePort will generate a significant amount of pressure on the transportation system. All modes will experience an increase in frequency. Automobile traffic will increase with employees commuting to new jobs. Truck traffic, train and air traffic will increase as new industry is attracted to the area. The development of a transportation plan and land use plan for CentrePort would provide more detailed information related to impacts on the local transportation system. These plans should integrate with CRTMP recommendations outlined in Table 6.1: Summary of Recommendations.

5.3 Transportation Network Recommendations

5.3.1 Highway Infrastructure Improvements

The following recommendations are based on the results of the modelling of future travel requirements (Section 4.4) and the desire to provide choices for Capital Region residents when deciding on a mode of travel. Some improvements identified are in the interest of planning and protecting areas that have the potential to be affected by future improvements. Some of these improvements may be beyond the 2033 planning horizon of this study and are therefore not a result of the modelling undertaken in this study.

Figure 5.2 is a map showing the locations of recommended infrastructure improvements.

Recommendation 5.3.1 A

Undertake twinning or construction of additional lanes on several key routes to mitigate areas of existing and future congestion (note: timeframe for these projects will be subject to implementation of appropriate access management strategies).

As described in Section 4.4, a number of segments of the existing provincial highways will be operating at less than acceptable levels of service by the year 2033 and are recommended for twinning or for widening from four to six lanes:

- PTH 1 East Winnipeg city boundary to PTH 12
- PTH 3 from Winnipeg city boundary to PTH 100
- PTH 6 from PTH 101 to Warren
- PTH 15 from PTH 101 to PR 206
- PTH 59 South from Ile des Chenes to PTH 52
- PTH 59 North from PTH 101 to PR 213
- PTH 59 North from north of Libau to the north junction of PTH 12
- PTH 101 from PTH 1 East to PTH 15
- PTH 101 from PTH 59 west to PTH 8
- PTH 100 from PR 330 to St. Mary's Road (PR 200)
- PTH 101 from north of Roblin Blvd to CentrePort Canada Way
- PR 213 from PTH 59 to PR 207

Recommendation 5.3.1 B

Construction of new interchanges to alleviate congestion and improve safety.

Eliminating congestion points, such as traffic control signals and level crossings at key intersections on the primary highway network in the Region, would allow traffic to flow more safely and efficiently. MIT has identified a number of intersection locations where future interchanges or upgrades to existing interchanges are planned on the Perimeter Highway and at other major intersections within the Capital Region. These intersections should continue to be monitored on an ongoing basis and improvements implemented based on a more detailed assessment of the associated cost-benefit analyses. They include:

- PTH 1W/PR 248 (Elie)
- PTH 1E/PR 207
- PTH 59/PR 202
- PTH 59/PR 213
- PTH 59/PTH 4
- PTH 100/PTH 3
- PTH 100/PR330
- PTH 100/Kenaston/Waverley
- PTH 100/St. Mary's Road (PR 200)
- PTH 100/St. Anne's Road
- PTH 101/PTH 15
- PTH 101/Oakbank Corridor
- PTH 101/Pipeline Road
- PTH 101/PTH 6



Recommendation 5.3.1 C

Undertake Development of New Bypasses and New Routes

Headingley Bypass

Due to the future traffic growth associated with CentrePort and the delays experienced by traffic on PTH 1 West through Headingley, it is recommended that a new highway connection be implemented, which would provide an alternative to PTH 1 through the RM of Headingley and connect to CentrePort Canada Way (CCW) at its interchange with the Perimeter Highway (PTH 101). This Bypass would permit traffic to avoid the multiple traffic signals, lower speeds, and multiple intersections and driveways along the section of PTH 1 in Headingley. It would be particularly beneficial to goods movement traffic as it would provide a much more efficient connection to PTH 101 and CentrePort.

St. Norbert Bypass

Similar to PTH 1 in Headingley, traffic on Pembina Highway (PTH 75) experiences significant delay as it passes through the St. Norbert area of south Winnipeg. In addition, the Perimeter Highway between St. Mary's Road (PR 200) and PR 330A was identified in Section 4.4 as experiencing higher than acceptable traffic volumes by 2033. A new alternative route, which would connect PTH 75 south of St. Norbert to Kenaston Boulevard at PTH 100, would allow traffic to bypass the traffic signals and multiple driveways that exist on Pembina Highway as well as providing an option for traffic currently utilizing the Perimeter in this area.

This new bypass would also be particularly attractive to goods movement traffic which utilizes PTH 75 as the primary route to the United States and the mid-continent trade corridor.

Oakbank Corridor

Future population growth in Oakbank is forecast to require additional capacity to carry traffic between Winnipeg and Oakbank. PTH 15 from the Perimeter to PR 206 was identified in Section 4.4 as experiencing higher than acceptable traffic volumes by 2033. Rather than widening PTH 15, a new corridor is planned to carry this additional traffic and would connect into the proposed Chief Peguis Trail extension in the City of Winnipeg.

Winnipeg-Selkirk Corridor

Improvements to the Winnipeg-Selkirk corridor have also been identified by MIT. A new highway connecting PTH 8 to the City of Selkirk, known as the Winnipeg-Selkirk Corridor, is planned, which will reduce the conflicts between through traffic and traffic related to the significant adjacent commercial and residential development on PTH 9 from PTH 100 to the City of Selkirk.

5.3.2 Corridor Access Management

Recommendation 5.3.2 A

Ensure new developments have access management plans prepared indicating where future highway accesses are to be located. Review and analyze issues on corridors where traffic from local development conflicts with through traffic.

Limiting the number of access points onto highways through the use of service roads and other measures results in fewer conflict points and safer operation.

When there is little development in the area, separate driveways for each parcel may be the obvious way to develop since it may be more cost-effective in the short-term, but as development intensifies, many driveways on a corridor result in a reduction in road capacity, and increased potential for incidents.

However, it is difficult to make modifications to driveway accesses once development has occurred; it may be extremely disruptive to property owners to make modifications to their access (including creating operational issues for vehicle movements, concern that the change will make it more difficult for customers to access a site and therefore result in lost business, etc.) and it may not be possible without significant modifications to utilities, or removing existing buildings or parking. Laying out access more carefully, ahead of development taking place, avoids these transportation safety concerns in subsequent years. This can be effectively implemented through policies in secondary plans or development plans.

The highway links between Winnipeg and several other Capital Region communities (e.g., PTH 9 between Winnipeg and Selkirk, PTH 1 West through Headingley) act both as through routes and as access to the built up residential/commercial areas that have developed along these links. The significant number of driveways and intersections (signalized and un-signalized) along these corridors create a considerable number of conflict points and increased safety concerns. Although the transportation model shows that there is capacity on the links, there is a need to examine long-term options to separate the through traffic from local traffic. This could be accomplished through construction of frontage roads with a limited number of controlled access points or through construction of new routes which bypass the existing highway. The Winnipeg Selkirk Corridor, Headingley Bypass, and the St. Norbert Bypass (section 5.3.1) are examples of the latter facilities.

Recommendation 5.3.2 B

Develop a strategy to address needs of low speed highway users (e.g., agricultural equipment, oversized loads, etc.).

Large slow-moving equipment is generally banned from using high-speed highways in many parts of North America, but is common on rural highways in Manitoba. Ongoing efforts to reduce conflict points by closing low-volume accesses and crossings on PTHs cause operational issues for the operators of agricultural equipment who use highways to access farmland. Often there are no options other than to use highways to move between locations.

This is also an issue for oversized loads such as the movement of homes or large pieces of equipment (such as Manitoba Hydro equipment) on highways. There is a need for a review of these users' needs and to develop a policy that identifies the plan for these accesses in the future, so that the operators can plan accordingly.

There may be a need to revise how these low-speed vehicles use the highway network, perhaps limiting their operation to certain times of day or certain highways only. There is a need to consult with these groups and develop a solution that addresses the needs of these users, while also considering the needs of the rest of the users of the highways.

5.3.3 Technology Improvements

Recommendation 5.3.3 A

Undertake a study to identify technology tools that could minimize delay and improve safety for highway users in the Capital Region that includes development of Intelligent Transportation Systems and Mobility Management Plans.

Intelligent Transportation Systems (ITS) use sensors (such as cameras, temperature sensors, etc.) and computer technology to provide information to motorists about road conditions. Sensors could monitor weather, road conditions such as icy pavement, flooding issues, visibility due to smoke, rail crossing activity, congestion (indicating the estimated time it will take to travel between set points), and provide this information to motorists via radio, Changeable Message Board signage, etc.

Video cameras monitoring highways are the most commonly thought-of element in such systems, but motorists, through the use of smartphones (both applications and the detection of the smartphones themselves), and even cars themselves can contribute to the data collection systems, acting as mobile sensors.

This information would also be integrated into MIT's existing 511 and online highway information system. This information would be useful to all road users including truckers and tourists, as well as emergency services, tow trucks, etc. Such systems are already in place in some cities in Canada, such as Toronto's COMPASS system, which went into operation in

1991. Such systems are proven and could be applied to benefit road users in the Capital Region and elsewhere in Manitoba.

Mobility Management is a relatively new term describing the use of technology (specifically smartphone apps, but other communication methods could also be used) to provide all users, and also targeted demographic groups such as the elderly, with detailed information on travel options that they may not be aware of, making it easy for people in these groups to become familiar with transportation choices that are available to them. The advantage of using smartphone applications or the internet is that the information would be very detailed, personalized, and current, indicating how a person would make a specific trip between an origin and a destination at that point in time. This would provide greater access to mobility and would provide them with information/knowledge necessary to be able to travel using modes other than a private vehicle.

5.3.4 Asset Management/Preservation Recommendations

It is important to recognize that the existing highway network in the Capital Region requires ongoing maintenance and preservation to provide the users of the network a safe operating environment in which to travel.

The challenge faced by many jurisdictions is to balance the need to improve and expand the highway network to accommodate growth, with the effective management of existing assets.

Recommendation 5.3.4 A

Undertake a study to identify the requirements for an asset management system for the highway network in the Capital Region.

A strategic management system would provide important information on highway network assets that can be utilized when making decisions on the allocation of resources. Such a system would enable the highway network to be maintained in a state of good repair and would not result in a reduction in safety or the service life of the assets.

Life-cycle and cost-benefit analyses should be part of any asset management system as well as best practices and financially sustainable methods.

Recommendation 5.3.4 B

Ensure that funding for highway system improvements does not impact the allocation of funding for maintenance and preservation of the existing highway network in the Capital Region.

It is critical to the economic and social well-being of the Capital Region, that funding for timely maintenance of the existing highway network not be reallocated to system improvements. This will ensure that maintenance of the highway network will be sustained and that it will not result in compromises to safety, level of service or life expectancy of the assets.

5.4 Active Transportation Recommendations

Although active modes are not being heavily used in the Capital Region at present, active modes such as walking and cycling can provide demonstrated health benefits and these modes can potentially reduce the number of single occupant auto trips and emissions.

Recommendation 5.4 A

Undertake an active transportation study for the Capital Region.

AT is any mode of self-propelled transportation that relies on the use of human-generated energy including walking, running, cycling, skating, skateboarding, snowshoeing, skiing, and using non-motorized wheel chairs. There are many ways to engage in AT, including commuting, workplace travel, destination-oriented trips and recreation. AT modes may make use of on-road or off-road infrastructure or a combination.

Active transportation (AT) policy is already taking shape in Manitoba with the development of a three-year, four-point action plan on active transportation (<http://www.gov.mb.ca/ia/at/>) which includes:

1. Single Window Coordinated Service
2. Strategic Investments in AT
3. Improved AT policy
4. Expanded Access to AT resources

This action plan discusses the need for AT investment to make it a more widely used travel mode, including the development of a province-wide AT policy, a set of design guidelines for AT routes, and promotion of existing AT infrastructure. However, it is also important to undertake an AT study that is specific to the Capital Region to ensure compatibility with the general goals of the broader action plan. As well, such a study could identify currently abandoned rail corridors across the Capital Region for their potential reuse as AT corridors and rail corridors that may be abandoned in the future, to determine which would be most valuable for reuse.

The three-year, four-point action plan on active transportation generally aligns with the feedback received throughout the community and stakeholder engagement process described in Section 2.0.

5.5 Transit and Ride-Sharing Recommendations

It is challenging to provide transit service in a predominantly low-density rural area like the Capital Region. However, as traffic within the Capital Region continues to grow, it will be important to promote a shift from single-occupant vehicles to multiple occupant (ride-sharing) and high occupancy vehicles (transit) in order to contain congestion and reduce GHG emissions.

In order to be cost effective, transit ideally serves large numbers of people along routes. These areas don't exist in many parts of the Capital Region which makes it difficult to provide transit service in a cost-effective manner. However, such a service would provide a travel alternative for those who cannot drive, or who find that driving is becoming too expensive, or who simply want an alternative to using a car.

Routes with high traffic volumes would be the best candidates for transit service. Such a service could make use of existing service providers (such as Beaver Bus Lines which already provides service on PTH 9 between Winnipeg and Selkirk), and/or a combination of the private service providers and new publicly-run services under one umbrella. The Saskatchewan Transportation Company could be a model for such service, it is a provincial crown corporation that links communities throughout Saskatchewan and provides an extensive service of bus and package delivery services.

Recommendation 5.5 A

Undertake a feasibility study to investigate the need for transit service in the Capital Region.

In order to determine the viability of transit service in the Region, it is recommended that a feasibility study be undertaken to review the matter. All communities supporting transit should be involved and any other communities that have a significant population or an interest in providing transit service.

Recommendation 5.5 B

Undertake a study to determine the feasibility of establishing park-and-ride lots along corridors within the Capital Region

Park-and-ride lots in the Region could serve as off-street lots for people to drive to, park their vehicles, and transfer to a different mode of transportation to a common destination.

Various forms of park-and-ride could be considered:

- People can transfer from individual cars to a single vehicle to form a carpool.
- People can transfer from individual cars to bicycles.
- People can transfer from driving to using transit.

In addition to serving commuter needs, which are the traditional park-and-ride audience, such lots could also be used for non-work trips, such as recreational purposes (biking) and for other trip purposes such as group shopping trips.

This would reduce the number of single occupant vehicles utilizing the highway network for a portion of each trip. There are informal park-and-ride lots already in place in the Capital Region, but they are on a somewhat ad hoc basis and vary from using existing parking lots to parking on the shoulder of the highway or along service roads.

It is recommended that a study of the feasibility of establishing park-and-ride lots along key commuter routes in the Region be undertaken. Examples of such routes could include:

- Along PTH 9
- Along PTH 7
- Along PTH 1 east of Winnipeg

This study could recommend where to best locate these lots for maximum effectiveness, how many would be required, how quickly they should be implemented, and how large such lots would need to be initially and in the future. Design standards could also be established.



Figure 5.3: Existing Ad Hoc Park-and-Ride Lot

Figure 5.3 illustrates a park-and-ride lot at the intersection of Highway 67 and 7 on the site of a former gas station. The Town of Stonewall, Town of Teulon and RM of Rockwood are partnering to lease the land and establish a park-and-ride lot (Google StreetView).

5.6 Air and Rail Recommendations

Air and rail services are and will continue to be important transportation components within the Capital Region, providing local and international links for moving people and goods. Figure 5.4 illustrates the current rail and airport facilities in the Capital Region.

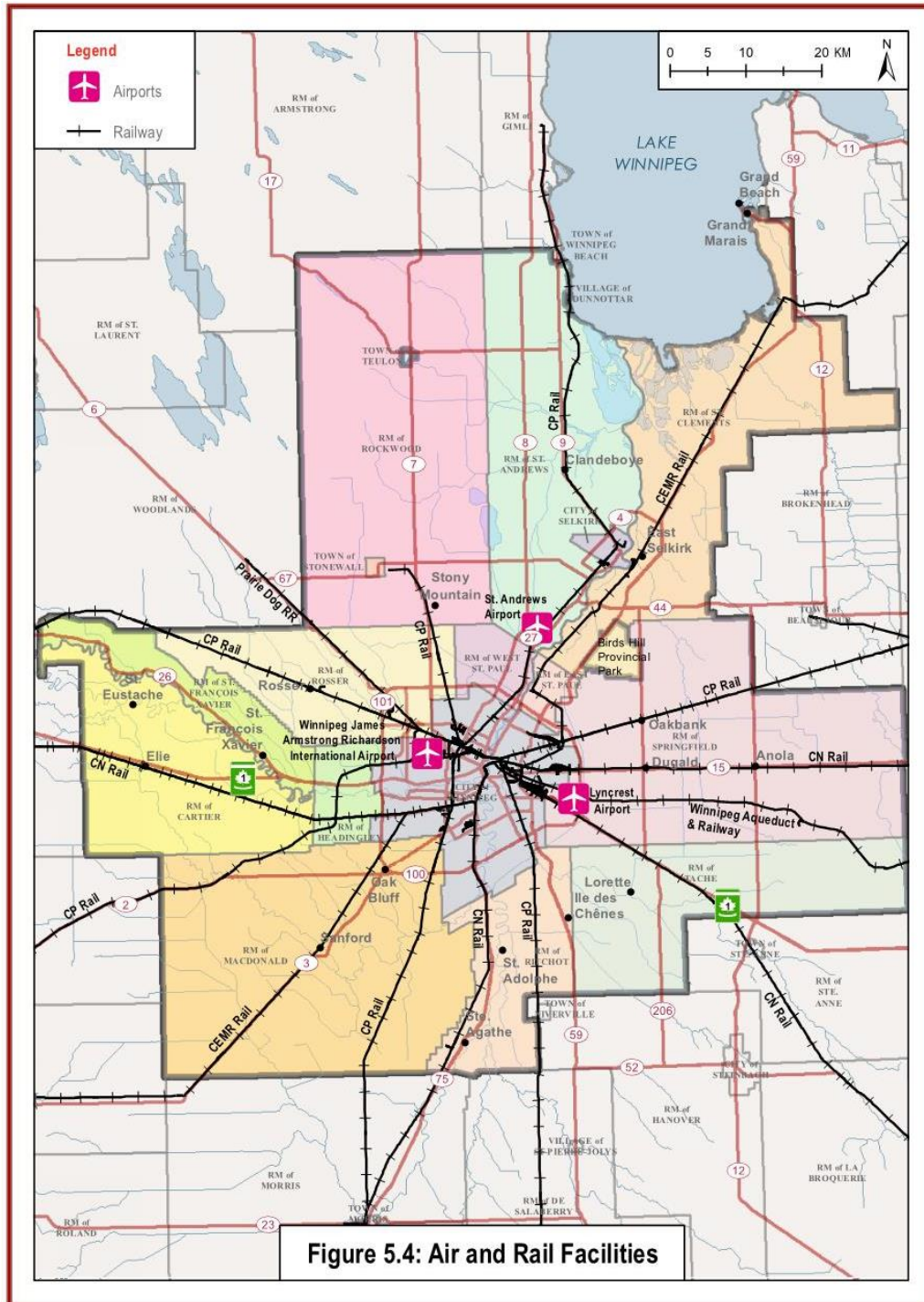


Figure 5.4: Air and Rail Facilities

5.6.1 Air Recommendations

The Winnipeg James Armstrong Richardson International Airport is Manitoba's international airport, serving the Capital Region and Manitoba. The airport recently opened a new terminal and it is not anticipated that major expansion to passenger services (including parking) will need to take place within the foreseeable future.

Winnipeg James Armstrong Richardson International Airport is also one of Canada's most important airports for air freight. Winnipeg has major sorting facilities for FedEx and Purolator, and receives daily trans-border service from UPS and FedEx.

The airport operates 24 hours a day and has actively sought to manage aircraft noise by exploring the feasibility of alternative aircraft operating procedures, working in conjunction with the airlines, Nav Canada, and Transport Canada. The airport is located immediately east of CentrePort and some types of freight movement will benefit from this proximity due to the nature of the cargo being shipped. The airport operates as a source and destination for truck traffic within the Capital Region and will continue to do so as CentrePort matures.

There are various classes of land around the airport that can be developed. Land in close proximity to the runways and airport services is more valuable and so would be used for higher-end, high-value types of business, whereas land further from the airport would be oriented towards freight movement that could still use air as a mode of transportation, but where expedited cargo movement might not be a necessity.

The airport has also worked with the City of Winnipeg and the RM of Rosser to incorporate appropriate land use planning in the vicinity of the airport, and along the flight paths. Considerations such as limits to the height of buildings along flight paths, restrictions where features such as lagoons can be located (as birds are attracted to such features and can cause bird strike problems for airplanes), and the noise contours around airports must all be taken into account when developing (particularly new or expanded residential areas) in proximity to airports.

Unlike the Winnipeg James Armstrong Richardson International Airport, the smaller airports in the area, such as the St. Andrews Airport or the Lyncrest Airport, are not in the business of heavy cargo movement or high passenger volumes. These airports serve small communities that require air access, charter operators, medical flights, hobby/recreational flight, agricultural flight, air mapping, and small cargo shipments.

It is common to find light industrial or business park development around airports, in particular those that have an air-related component. There is the potential at St. Andrews Airport for residential development oriented towards private aircraft owners, where hangars/facilities for small airplanes would be incorporated into the housing development.

All airports, whether large or small, must take the safe and efficient movement of airplanes into consideration when RMs or planning districts are considering new development, and should be at the table with other stakeholders. The following are recommendations related to key air-related issues in the Region.

Recommendation 5.6.1 A

Encourage Commercial and Industrial Development that Requires Air Service to Locate Adjacent to Airports.

Land in close proximity to airports can benefit significantly from their location by siting mutually beneficial land uses. The developers of such land should be encouraged to take advantage of their proximity to air service and focus development specifically to airport related commercial and industrial uses

Recommendation 5.6.1 B

Ensure that Residential Development is Restricted Adjacent to Airports.

Restricting residential development in areas in close proximity to airports is important to maintain the integrity of the airport. The PPR requires that both development and the transportation network are compatible, minimizing conflicts. Policy 7.1.3 calls for restricting development in areas “that are in the vicinity of airports and airfields, if development is incompatible with aircraft operations or the expansion of airport facilities.”

5.6.2 Rail Recommendations

As illustrated on Figure 5.4, there are a number of railways operating in the Capital Region. These include CN, CP Rail, Burlington Northern Santa Fe (BNSF), Central Manitoba Railway (CEMR), and the Prairie Dog Central Railway. The following provides recommendations related to some key railway-related issues in the Region.

Recommendation 5.6.2 A

Undertake an At-Grade Crossing Delay Study.

In the last few years, Canadian railways have been lengthening their sidings to 12,000 feet (over 2.25 miles or 3.65 km) to accommodate longer trains. CP Rail currently operates trains this long, representing an increase of 40 percent since 2008.

Increasing train lengths is intended to maximize productivity while reducing labour costs and increasing fuel efficiency. However, very long trains, when operating at slow speeds can create long delays at level crossings, which pose a concern to mobility and vehicular freight movement, and potentially create issues for emergency service response times. In some cases, on high traffic volume routes, the response to these level crossing delays is to construct grade

separations between the roads and the tracks, but this is not often an economically viable option on lower traffic volume routes.

In order to quantify the extent of such delay, it would be beneficial to identify all locations where delay resulting from rail crossings is an issue due to one or more of the following:

- Trains are frequent.
- The crossing occurs at a location where large numbers of vehicles may be delayed.
- Delay at the crossing significantly delays freight movement by other modes such as by truck.
- Delay poses a risk to rural residents in the event of an emergency (such as when a level crossing “cuts off” access to a number of homes).

Where one or more of these conditions exists, measures to grade-separate the track from the highway should be considered. Many such crossings have been eliminated around Winnipeg, but they may still be issues in other parts of the Capital Region.

Recommendation 5.6.2 B

Develop a Rail Crossing Protection Review Strategy.

Detailed assessment work is currently underway across Canada to review the nation's rail crossings to determine if the existing crossing protection is appropriate. This is particularly a concern in rural areas where the grade protection may be limited to a set of cross-bucks.

Pursuant to the Railway Safety Act, Transport Canada has developed a national document, Grade Crossing Regulations, which requires local road authorities and railway companies to conduct periodic detailed safety assessments at all unrestricted road/railway grade crossings. This will be an issue in rural areas where technical resources to perform such analyses are limited.

- The Capital Region should work with all railroads within the Capital Region to develop a strategy to ensure compliance with the requirement by Transport Canada to review all grade crossings in a timely manner.

5.7 Goods Movement Recommendations

While air and rail are carriers of goods to, from and within the Capital Region, the major method of goods movement is by truck.

The Perimeter Highway (PTH 100/101) is a major link in the goods movement system for the Capital Region. It acts as both a bypass of the City of Winnipeg for inter-city trucking and as an alternative intra-city route for urban goods movement. Other highways in the Capital region are

also important inter-city goods carriers, including PTH 1 West, PTH 1 East, PTH 75, and PTH 59.

Recommendation 5.7 A

Implement Highway Improvements that Facilitate Goods Movement.

To accommodate future goods movement truck trips through and within the Capital Region it is important that the improvements recommended to the highway system outlined in section 5.3.1 be implemented.

Recommendation 5.7 B

Undertake a Capital Region Goods Movement Study.

In order to more appropriately plan and prioritize improvements to the highway system that facilitate goods movement, it is important to understand how goods are transported around the region from a scheduling and logistics perspective. It is recommended that a Capital Region goods movement study be undertaken to allow for a better understanding of how goods are moved to, from, and within the Capital Region on the highway system. This study should also consider the impact of goods movement on Capital Region communities and include strategies to mitigate these impacts.

Recommendation 5.7 C

Undertake a Study to Review the Red River Crossing Requirements Between Lockport and Selkirk.

Currently, there are three crossings of the Red River between Lockport and Selkirk:

- PR 204 Bridge in Selkirk
- PTH 44 Bridge in Lockport
- PR 4 Bridge north of Selkirk

Two of these bridges are currently weight restricted:

- PR 204 Bridge has a weight restriction of 33 tonnes
- PTH 44 Bridge has a weight restriction of 36 tonnes

As a result of these weight restrictions, large trucks are limited to the PTH 4 Bridge, which can often mean greater travel distance for trucks with destinations to the south of this bridge crossing. It is recommended that a study be undertaken to review the crossing requirements between Lockport and Selkirk, to determine the most cost effective option(s) for accommodating goods movement.

6.0 IMPLEMENTATION AND MONITORING

6.1 Implementation

The following section outlines the strategy regarding the implementation of the recommendations outlined in Section 5.0. The implementation time frames are:

- Short-term (by 2018)
- Medium-term (by 2023)
- Long-term (by 2033 and beyond)
- On-going (throughout the 2013-2033 time frame)

Table 6.1 provides a summary of the recommendations, cost estimates, time frames and how each connects to the key strategic goals.

6.1.1 Development Plan Review

Recommendations from this report are designed to guide both Provincial and Municipal policy. It is incumbent upon both provincial and municipal governments to strategically plan and coordinate transportation infrastructure and services. The Province and municipalities must continue to work together to address common transportation-related concerns and issues that cross both jurisdictional levels and municipal boundaries. This document is intended as a guide for all levels of government.

Incorporating recommendations from the CRTMP into Municipal/Planning District Development Plan reviews and amendments is crucial for integrating transportation planning with land use planning. **Table 6.1: Summary of Recommendations** outlines recommendations that help integrate and coordinate transportation planning with land use planning. The Provincial review and comment of a Development Plan during the adoption process will ensure these recommendations have been addressed.

Table 6.1: Summary of Recommendations also outlines specific future highway improvements. If one of these improvements is located within a particular Municipality or Planning District, the Development Plan Review should consider these improvements. In addition, the table outlines a number of studies for the Provincial government's consideration. Municipalities or Planning Districts, which may have specific concerns related to these topic areas, should address them in their Development Plan review and amendment process.

Table 6.1: Summary of Recommendations

	<i>Timeframe</i> S - Short term M - Medium term L - Long term	<i>Estimated Cost</i>	<i>Integrate and coordinate transportation planning with land use planning</i>	<i>Promote safety for all users of the transportation system</i>	<i>Provide a transportation system that accommodates all users</i>	<i>Provide reasonable alternatives to cars for personal travel</i>	<i>Support economic development through the efficient movement of people and goods</i>	<i>Support the principles of sustainability (environmental, social, and economic)</i>
5.1 - Regional Coordination								
A - Establish Inter-Municipal Transportation Planning Working Group	S	n/a	✓	✓	✓	✓	✓	✓
B - Examine other regional governance models	S	n/a	✓	✓	✓	✓	✓	✓
C - Ensure that the next review of the Winnipeg and Capital Region TMPs be coordinated	M	n/a	✓	✓	✓	✓	✓	✓
5.2 - Land Use/Transportation Integration								
A - Encourage Establishment of Complete Urban Centres	ongoing	n/a	✓			✓		✓
B - Encourage Infill Development	ongoing	n/a	✓					✓
C - Undertake Regional Land Use Strategy	S	\$25-\$50k	✓					✓
D - Encourage Land Uses and Development that Accommodate Multi-Modal Transportation	ongoing	n/a	✓	✓	✓	✓		✓
E - Undertake Land Use Planning for CentrePort Canada	S	\$100-\$150k	✓	✓	✓	✓		✓

	<i>Timeframe</i> S- 0 to 5 years M- 5 to 10 years L - 10 to 20 years	<i>Estimated Cost</i>	<i>Integrate and coordinate transportation planning with land use planning</i>	<i>Promote safety for all users of the transportation system</i>	<i>Provide a transportation system that accommodates all users</i>	<i>Provide reasonable alternatives to cars for personal travel</i>	<i>Support economic development through the efficient movement of people and goods</i>	<i>Support the principles of sustainability (environmental, social, and economic)</i>
5.3 - Transportation Network								
5.3.1 – Provincial Highway Network Improvements (see Figure 5.2 – Future Highway Improvements) (note: All cost estimates are very preliminary in nature and may be subject to change pending preliminary planning and engineering)								
A - Additional Lanes/Twinning (timeframe for these projects will be subject to implementation of appropriate access management strategies)								
• PTH 59 North – City of Winnipeg Limit to PR 213	L	to be determined		✓			✓	✓
• PTH 59 North – North of Libau to the North Junction PTH 12	L	to be determined		✓			✓	✓
• PTH 100 – PR 330 to St. Mary's Road	L	to be determined		✓			✓	✓
• PTH 100/101 – CentrePort Canada Way to Roblin Boulevard	L	to be determined		✓			✓	✓
• PTH 101 – PTH 8 to PTH 59	L	to be determined		✓			✓	✓
B - New Grade Separated Facilities								
• Various (see Figure 5.2 – Future Highway Improvements)	M - L	\$50-\$150M each		✓			✓	✓

	<i>Timeframe</i> S- 0 to 5 years M- 5 to 10 years L - 10 to 20 years	<i>Estimated Cost</i>	<i>Integrate and coordinate transportation planning with land use planning</i>	<i>Promote safety for all users of the transportation system</i>	<i>Provide a transportation system that accommodates all users</i>	<i>Provide reasonable alternatives to cars for personal travel</i>	<i>Support economic development through the efficient movement of people and goods</i>	<i>Support the principles of sustainability (environmental, social, and economic)</i>
C - Bypasses and New Routes								
• Headingley Bypass	M	\$230M		✓			✓	✓
• Oakbank Corridor	L	\$200M		✓			✓	✓
• St. Norbert Bypass	M	\$300-\$340M		✓			✓	✓
• Winnipeg Selkirk Corridor and Lockport Crossing	L	\$215-\$260M		✓			✓	✓
5.3.2 - Corridor Access Management								
A - Access Management Plans to Maximize Life of Existing Highways	ongoing	n/a	✓	✓			✓	✓
B - Develop Low-Speed Highway Users Strategy	S	\$10-\$20k		✓	✓			
5.3.3 - Technological Improvements								
A - Develop Intelligent Transportation and Mobility Management Plans	S	\$25-\$50k		✓	✓	✓	✓	✓

	<i>Timeframe</i> S- 0 to 5 years M- 5 to 10 years L - 10 to 20 years	<i>Estimated Cost</i>	<i>Integrate and coordinate transportation planning with land use planning</i>	<i>Promote safety for all users of the transportation system</i>	<i>Provide a transportation system that accommodates all users</i>	<i>Provide reasonable alternatives to cars for personal travel</i>	<i>Support economic development through the efficient movement of people and goods</i>	<i>Support the principles of sustainability (environmental, social, and economic)</i>
5.3.4 - Asset Management and Preservation								
A - Identify the requirements for an asset management system for the highway network	M	\$50-\$100k		✓			✓	✓
B - Ensure funding for highway maintenance and preservation of the existing highway network	ongoing	n/a		✓			✓	✓
5.4 - Active Transportation								
A - Undertake an Active Transportation Study in Capital Region	S	\$25-\$50k		✓	✓	✓		✓
5.5 - Transit, Ride-Sharing								
A - Investigate Transit Needs Within the Capital Region	S	\$25-\$50k			✓	✓	✓	✓
B – Investigate Feasibility of Park-and-Ride Lots in Capital Region	S	\$25k			✓	✓	✓	✓
5.6 - Air and Rail Modes								
5.6.1 - Airports								
A - Encourage Development that Requires Air Service to Locate near Airports	ongoing	n/a	✓	✓			✓	
B – Restrict Residential Development in Vicinity of Airports	ongoing	n/a	✓	✓			✓	

	<i>Timeframe</i> S- 0 to 5 years M- 5 to 10 years L - 10 to 20 years	<i>Estimated Cost</i>	<i>Integrate and coordinate transportation planning with land use planning</i>	<i>Promote safety for all users of the transportation system</i>	<i>Provide a transportation system that accommodates all users</i>	<i>Provide reasonable alternatives to cars for personal travel</i>	<i>Support economic development through the efficient movement of people and goods</i>	<i>Support the principles of sustainability (environmental, social, and economic)</i>
5.6.2 - Rail								
A - Undertake an At-Grade Rail Crossing Study	ongoing	n/a		✓			✓	
B – Develop a Rail-Crossing Protection Strategy	M	\$25-50k		✓			✓	
5.7 - Goods Movement								
A - Implement Aforementioned Highway Improvements	see above (5.3.1 – Provincial Highway Network Improvements)							
B - Undertake a Capital Region Goods Movement Study	S	\$25-50k		✓			✓	✓
C - Review Red River Crossings North of Winnipeg	S	\$25-50k		✓			✓	✓

6.2 Updates and Monitoring

6.2.1 Updates

As it should not be viewed as a static document, it is important to review the CRTMP on a regular basis. This is necessary due to changes that could occur in development patterns and/or other issues that may result in potential adjustments to the timing of the recommended transportation improvements. While similar transportation plans in urban jurisdictions typically are updated every five years, due to the primarily rural nature of the Capital Region, a complete update every 10 years would be sufficient for the CRTMP to remain relevant and effective.

6.2.2 Monitoring

In order to determine the impact of the recommended improvements to the transportation system, it is important to track the performance of each item and develop measurement matrices to measure their effectiveness in accomplishing the key strategic goals.

A performance measurement framework containing a list of indicators and how each relates to the key strategic goals is illustrated in Table 6.2. While it is recommended that monitoring of these indicators take place at regular intervals during the time frame of the CRTMP, it is also recognized that a number of these indicators would require increases in data collection efforts. This may not be completely achievable due to the level of additional resources that would be required.

Table 6.2: Performance Measurement Framework

Strategic Goal	Performance Indicator	Data Source
Integrate and coordinate transportation planning with land use planning	Population density (gross) – Indicates the concentration of people in a given area of land (i.e. town, neighbourhood, etc.). Stats Canada provides population density as population per square kilometre. Density can also be calculated by dividing the land area of a given boundary by the total population within the same boundary.	Statistics Canada and/or Calculation
	Employment density – Indicates the concentration of jobs in a given area. This is measured by dividing the land area within a given boundary by the number of jobs within the same boundary, often cited as jobs per hectare.	Calculation
	Percent of employed working in Capital Region – Indicates if people living in the Capital Region also work there. This will also indicate how many people commute in and out of the Capital Region on a daily basis.	Statistics Canada
	Automobiles per capita – The number of cars per person within the Capital Region. This provides an indication of automobile dependency and transportation mode split.	Manitoba Public Insurance

Strategic Goal	Performance Indicator	Data Source
Integrate and coordinate transportation planning with land use planning	Transit mode share – Indicates a ratio of how many people ride transit versus other modes of transportation.	Obtained through a Origin-Destination Travel Survey
	AT mode share – Indicates a ratio of how many people use active transportation versus other modes of transportation.	Obtained through a Origin-Destination Travel Survey
Promote safety for all users of the transportation system	Reported highway collisions, injuries and fatalities – Indicates the amount of incidents related to vehicles on a given road.	Manitoba Public Insurance
	Reported pedestrian collisions – Indicates the amount of incidents related to pedestrians on a given road.	Manitoba Public Insurance
	Reported cyclist collisions – Indicates the amount of incidents related to cyclists on a given road.	Manitoba Public Insurance
	Community traffic complaints received.	Municipality
Provide a transportation system that accommodates all users	Average auto commute time – Indicates the time it takes auto commuters to get to their workplace. Shorter average commutes could be an indicator of the development of more complete communities, distance traveled and/or traffic congestion.	Obtained through a Origin-Destination Travel Survey
	Average transit commute time – Indicates the time transit commuters spend traveling. This can be an indicator of the development of more complete communities, distance traveled, traffic congestion (assuming mixed traffic transit) and/or overall quality of the transit system.	Obtained through a Origin-Destination Travel Survey
Provide reasonable alternatives to cars for travelling, including walking, cycling and transit	Bicycle facilities available (km) – Indicates the total amount of cycling infrastructure in the Province. This will provide a baseline and a format for measuring success and highlight where improvements should be directed.	Manitoba's 3 year, four point action plan to support active transportation calls for the creation of an inventory of existing infrastructure.
	Pedestrian facilities available (km) – Indicates the total amount of pedestrian infrastructure in the Province. This will provide a baseline and a format for measuring success and highlight where improvements should be directed.	Manitoba's 3 year, four point action plan to support active transportation calls for the creation of an inventory of existing infrastructure.
	Transit accessibility (percent of households within 400 m of transit stop) – Living within a five-minute walk of a transit stop promotes the use of transit. This will provide insight into how well existing development is served by transit.	Transit route maps / Geographic Information System
	Park-and-ride site usage (percent full in AM peak) – Park-and-ride's provide the opportunity for people to carpool for a portion of their shared commutes. These facilities could be adapted for transit service in the future. This will provide a baseline to track ongoing usage of park-and-rides.	Usage study
	Transit supply (seats per capita) – Indicates the ratio of transit capacity related to a given population. This will highlight the potential need to expand transit capacity.	Transit Agency

Strategic Goal	Performance Indicator	Data Source
Support economic development through the efficient movement of people and goods	Number of signalized intersections operating at level of service (LOS) C or better (see section 4.4.2). This will highlight intersections which may require attention.	Obtained using intersection traffic count data
	Average peak period auto travel time (AM and PM) – Indicates the amount of time auto commuters are traveling per day on various routes and is an indication of potential capacity problems.	Obtained utilizing speed and delay studies
	Average truck travel times – A measure of truck travel delay through a given area which provides an indication of transportation system effectiveness.	Manitoba Trucking Association
Support the principles of sustainability (environmental, social, and economic)	Total vehicle-kilometres travelled – This is a standard measure of the amount of travel by private vehicle and is an indicator of modal split.	Obtained through a Origin-Destination Travel Survey
	Total highway vehicle sector emissions – A measure of vehicle emissions (NOx, GHGs, etc.) and is an indicator of the impact of vehicle travel on air quality	Obtained utilizing traffic classification counts (i.e., cars, light trucks, large trucks) and standard formulae for calculating emissions from each vehicle type

APPENDICES ARE UNDER SEPARATE COVER