

INTEGRATED REGIONAL TRANSPORTATION MASTER PLAN



Edmonton Metropolitan Region Board
Date: May 28, 2021



**Edmonton Metropolitan
Region Board**

Regional Action. Global Opportunity.





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01 Message from EMRB Board Chair and IRTMP Task Force Chair



MESSAGE FROM BOARD CHAIR: CHOY

Our Region has long been a transportation hub; from the early railways that cut across the prairies, to the post-war highways connecting our province, to the runways that have positioned our Region as a gateway to the north - and to the globe.

These same roads, rails and runways still form the critical backbones that move people and goods across our Region. But today, they are complimented

by a growing network that connects our entire Region, by new regional transportation opportunities, and growing interest in multi-modal choices including pathways for active transportation and public transit.

Our Region spans nearly 9,500 km² in the heart of Alberta. As growth brings our communities and economy closer together, planning and investment in regional transportation infrastructure represents one of the most significant opportunities for our Region to work together for a better future.

I am proud of this collaborative effort to build a Region by design. As a core policy area of *Re-imagine. Plan. Build.*, our 30-year vision for the growth of the Region, I am confident that this work will position our thirteen municipalities for a more connected and prosperous regional future.



MESSAGE FROM TASK FORCE CHAIR: KATCHUR

On behalf of the IRTMP Task Force, I am pleased to present the Final Report of the Integrated Regional Transportation Master Plan. Our work on the IRTMP began in 2019, building on the success of previous transportation planning in the Region. Over the last two years, our Region has come together to re-imagine a regional transportation network.

Through regional collaboration, we have harmonized transportation planning, data, and modeling, to create a regional vision that prioritizes planning and funding of transportation infrastructure where investment can create the highest impact for citizen mobility and goods movement in the Region.

Our Region is on the move. A future-focused regional transportation plan is necessary to ensure we can safely move citizens between our communities, and to guarantee our regional economy has access to markets in Canada and beyond.

I would like to thank members of the task force, working group, stakeholders, and EMRB Administration for their collaborative expertise, vision, and leadership in building a truly regional plan for the future of transportation.

02 Acknowledgements

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Special thank you to all the regional stakeholders who provided much needed input and guidance throughout the plan process.



03 Executive Summary

Executive Summary



Home to 1.3 million residents, the Edmonton Metropolitan Region represents over a third of Alberta's population and is one of the fastest growing regions in Canada. Today, 725,000 jobs contribute 30% of Alberta's Gross Domestic Product to create a dynamic and growing economy that is a magnet for people, businesses and investment.

At the heart of the Region is a vibrant economy that combines export led industries with tourism and cultural attractions. Growth has been driven by the energy, manufacturing and agricultural sectors, which continue to generate wealth, jobs and prosperity. As the Region has grown, prosperity has spread across a network of interconnected and diverse urban and rural communities.

As the third decade of the 21st century begins, new trends in industry, global trade and technology have the potential to reshape the economic and urban landscape. Success moving forward requires foresight, strategic investments, collaboration and new strategies to meet the challenges of tomorrow

- The emergence of the green energy economy as a major economic driver will impact the type and availability of jobs in the Region.
- Technology continues to evolve and disrupt legacy industries, creating new economic opportunities, and altering residents' way of life and travel patterns.
- Climate change is impacting our weather patterns and natural environment, and a growing awareness of the impacts of climate change demands ambitious and coordinated efforts to create more resilient and sustainable communities.
- The socio-economic and cultural composition of our communities continues to evolve with the influx of young adults and immigrants, an overall aging population and increasing income disparities.

This evolving context is having an impact on where and how people live and changing the way residents and visitors move through the Region. Keeping people and goods moving is vital to the health of the economy and quality of life. As the Region grows, it will require new transportation options and services, improved connectivity and new transportation infrastructure.

The Integrated Regional Transportation Master Plan (IRTMP) outlines a blueprint for creating an economically competitive Region while being sustainable, protecting the natural environment, providing well-connected multi-modal options, supporting compact and walkable neighborhoods, and ultimately serving to improve the quality of life for the growing number of residents, visitors and industries. It supports the Edmonton Metropolitan Region Growth Plan (*Re-imagine. Plan. Build.*), which sets a broad vision for where and how the Region will grow. The IRTMP is an implementing tool, guiding investments and policies that will shape the regional transportation system and help achieve the Region's vision.

Approved in 2017, the growth plan recognized some of these changes and their impact on the Region's future economic prosperity, global competitiveness, livability and vibrancy. In response, the growth plan established a clear vision for the Region's future:

"The Edmonton Metropolitan Region is the dominant hub for northern Alberta and is recognized globally for its economic diversity, entrepreneurialism, leadership in energy development, environmental stewardship and excellent quality of life.

The Region is anchored by a thriving core that is interconnected with diverse urban and rural communities.

The Region is committed to growing collaboratively through the efficient use of infrastructure, building compact communities, fostering economic opportunities and healthy lifestyles."

Building on this direction, the IRTMP provides additional context to address the diverse transportation needs of the Region and is organized around four outcomes:



Sustainable and Resilient Communities: The IRTMP supports *Transportation Choices* that reduce the Region's overall environmental impacts, both locally and globally, and fosters vibrant and better-connected local communities.



Healthy Human and Natural Systems: The IRTMP supports policies that lead to healthier, safer and more active communities that also reduce impacts on the local environment.



Economic Competitiveness and Prosperity: The IRTMP supports the economic development of the Edmonton Metropolitan Region into an internationally competitive Region.



Inclusive of the Region's Diverse Needs: The IRTMP supports policies and planning that are inclusive of the varied needs of the Region's residents and businesses of diverse cultural, racial and socioeconomic backgrounds.

To achieve these ends, the IRTMP outlines four strategies, that when combined, mutually support the growth plan. The strategies are the result of a data driven process examining possible future initiatives and investments to understand impacts to the Region's transportation system.

- 1 Connecting Goods to Market:** Focuses on promoting the Region's competitiveness, prosperity and economy through the efficient flow of goods and access to services.
- 2 Getting People to Jobs and Services:** Focuses on creating a *Modal Shift* to transit, walking, biking and *Shared Mobility Services* through an integrated land use and transportation planning approach to foster a more efficient and interconnected transportation network.
- 3 Optimizing the use of Existing Corridors and Infrastructure:** Focuses on attaining the most benefit from existing *Infrastructure* before investing in new capacity.
- 4 Connecting Modes and Supporting Modal Shift:** Focuses on creating a well-connected and diverse transportation network that fosters choice between integrated transportation modes to reduce environmental impacts.

The intention of the growth plan is clear: the future economic success, the long-term livability, and the health of both future residents and the natural environment demands a coordinated and collaborative approach. The outcomes from the IRTMP are a critical component in enabling the shared vision for our Region. To achieve this, land use and transportation investments decisions should be integrated and work together to support well-connected compact development that is well connected by a robust transit network. This coordinated response will work to deliver sustainability for all, without compromising the qualities and attributes that make the Region's rural, sub-regional and urban centres unique. Implementing the IRTMP strategies and policies will help our Region to achieve our vision for the future. And in working together to coordinate the implementation of our regional transportation priorities, we will position the Region for future growth and create the conditions to enable the prosperity of the Region for current and future generations.





04 What is the Integrated Regional Transportation Master Plan?

What is the Integrated Regional Transportation Master Plan?

In 2017, the Government of Alberta approved the Region's growth plan, *Re-imagine. Plan. Build.*, which charted a bold new strategic direction for planning and managing growth. The document identified needed updates to the 2011 IRTMP to align with the new direction set by the growth plan. Aligning land use and transportation planning is an important step in achieving the Region's goals. Transportation investments should support the Region's land use decisions and facilitate connecting people and goods within and outside of the Region. More fully integrating land use and transportation planning will result in a more sustainable transportation network that fosters global economic competitiveness and reduces the Region's environmental impact. This will lead to better connected, more livable, and thriving communities.

The IRTMP is an opportunity to build on the direction established in the growth plan and increase the focus on *Equity*, sustainability, climate resilience and livability which have increasingly become central conversations about the future of our communities. This document provides a vision for the future of the Region and acts as a guiding document with clear direction and policy guidance to improve regional mobility. At the regional level, the IRTMP coordinates, informs and justifies transportation investments in order to accommodate regional growth and support growth plan policies. As such, the IRTMP provides direction for future regional projects and programs and encourages coordination among EMRB partners.

With a focus on coordinating transportation investments, the IRTMP considers how the type, form and distribution of infrastructure investment benefits or impacts diverse communities, and outlines the need to understand and mitigate historic marginalization. This extends to issues of sustainability and resilience so that improved health and environmental outcomes are shared throughout the Region among the Region's diverse set of residents.

Building on the direction established by the growth plan and guiding future updates, the IRTMP has been organized by four desired outcomes:



Sustainable and Resilient Communities – The IRTMP supports *Transportation Choices* that reduce the Region's overall environmental impacts, both locally and globally, and fosters vibrant and better-connected local communities.



Healthy Human and Natural Systems – The IRTMP supports policies that lead to healthier, safer and more active communities that also reduce impacts on the local environment.



Economic Competitiveness and Prosperity – The IRTMP supports the economic development of the Edmonton Region into an internationally competitive Region.



Inclusive of the Region's Diverse Needs – The IRTMP supports policies and planning that are inclusive of the varied needs of the Region's residents and businesses of diverse cultural, racial and socioeconomic backgrounds.



Implementing the IRTMP will result in a more integrated, seamless, equitable, resilient and multi-modal regional transportation system. Those living or visiting the Region will experience an improved traveler experience whether traveling by active modes, transit, car, or truck. Goods will move through the Region with reduced costs and greater travel time reliability. The IRTMP will help the Region realize greater transportation options, resulting in less transportation-related greenhouse gas emissions and more opportunities to access the Region.

What has changed since the last IRTMP?

The Region has experienced change and significant growth since the first IRTMP was adopted in 2011. Investments have been made in expanding the rapid transit system, upgrading the existing road network, and building safer and more comfortable connections for bikes and pedestrians. The economy has experienced upswings and downturns. New and emerging transportation technologies, such as rideshare, micromobility and autonomous vehicles, are beginning to impact people's travel behaviour and have the potential to further change the transportation landscape. New business models, such as e-commerce and delivery services, are changing consumption patterns and bringing more activity to local streets. COVID-19 has accelerated disruptive emerging trends such as increased work from home and home delivery while revealing inequalities in people's access to transportation services and flexible work schedules.

When considered together, these changes mean that an integrated and coordinated approach to transportation planning is more important than ever. This IRTMP update addresses these emerging trends and challenges by using new planning techniques. The plan is data driven, using a regional travel model and scenario planning tools to test a series of investment and planning assumptions. The results provide a window into how the Region can best address emerging trends, regional growth and achieve a thriving economy and amenity rich communities.

How the IRTMP is Structured

The IRTMP outlines how the province, member municipalities and transit agencies can work together to continue building an integrated transportation system that supports a high quality of life, a thriving economy and protects the natural environment. The purpose is to create a framework for coordinating planning, policy action and investment strategies among regional partners that will support future growth and align transportation investments to serve the Region.

Municipalities periodically update local transportation plans. Local plans should seek to align with the objectives and policies set forth in the IRTMP. Municipalities should also include the EMRB as a stakeholder during these updates to encourage coordination across the Region.

The IRTMP outlines a coordinated, regional transportation strategy. To implement this vision the IRTMP presents several components that justify and construct a framework of strategies and policies. The document should be read in its entirety to allow for understanding of the scope, direction and outcomes envisioned for IRTMP implementation.



The IRTMP is organized into five primary sections:

- **Where Are We Now?** – Provides the foundation for understanding the Region's growth, travel trends and existing policy framework that guides the IRTMP goals and desired outcomes.
- **Key Inputs** – Includes policy direction, data modeling and analysis that informs the creation of IRTMP strategies and policies.
- **How Do We Get There?** – Provides four key strategies and associated policies for achieving the desired objectives and outcomes built out of the growth plan. This section also includes Schedule maps that outline investments in the transportation network associated with each of the four strategies.
- **How Do We Make It Happen?** – Provides a guide for delivering the strategies and policies within this plan including monitoring and measuring outcomes.
- **Glossary** – The IRTMP is a technical document, with references to many transportation, planning and emerging technology concepts. Efforts have been made to ensure the document is accessible, and a glossary of relevant terms has been provided to improve legibility. Italicized terms in the IRMTMP are defined in the Glossary.

WHERE ARE WE NOW?

This section outlines the current and historical context for developing the IRTMP including brief discussions on current demographic trends and available funding sources for regional transportation investments. Past planning efforts including the Metropolitan Region servicing plan and growth plan provide the planning context and policy direction under which the IRTMP will function.

KEY INPUTS

This section provides the planning context for how the IRTMP was developed and includes the key outcomes and land use framework from the growth plan that the IRTMP is designed to support. The growth plan's desired outcomes are used as a starting point and form the basis for the IRTMP. These goals include building a transportation system that delivers environmental resilience, and a competitive Region that supports economic development and fosters healthy, equitable and sustainable communities and local ecosystems. An explanation of scenario modelling is provided, which details how each of the scenarios were used to test the outcome of planning assumptions.

HOW DO WE GET THERE?

This section establishes the policy framework for the IRTMP. The policies are designed to further the guiding principles established in the growth plan and help the Region achieve an integrated land use and transportation framework. The section is organized into four key strategies, under which policies are outlined and meant to further each of the key strategies.

HOW DO WE MAKE IT HAPPEN?

This section outlines an implementation strategy for achieving the goals and policies established earlier in the IRTMP. The roles, responsibilities and authorities for partner municipalities and agencies involved in the Region are defined to establish a framework for cooperation and collaboration on the Region's transportation investments. The section also includes a series of next step actions and proposes a system for ongoing evaluation to measure outcomes and progress towards achieving the goals of the IRTMP.





05 Where are We Now?

Where are We Now?

Regional Context

The IRTMP reflects and supports the Region's unique character. The Edmonton Metropolitan Region is home to just over a third of Alberta's population and covers almost 9,500 square kilometres. The area has historically been one of the fastest growing regions in Canada. In 2016, the Region was home to 1.3 million residents, supported by 725,000 jobs, and produced 30% of Alberta's gross domestic product.

The Edmonton Metropolitan Region is anticipating one million new residents and almost half a million jobs in the next 25 years. In planning for this significant growth, the IRTMP process has considered the current context, but also future opportunities offered by innovation, new technologies and best practices in transportation systems that support the economy, *Complete Communities* and will lead to a sustainable and resilient Region. Critical to accommodating this regional growth is an effective *Multi-Modal Transportation* system that fosters economic development and finds opportunities to enhance connectivity within the Region and between the regional and provincial, national and international markets. This requires enhanced connectivity for both goods and people.

The Region is connected to local, provincial, national and international markets by road, rail, and air. The Edmonton International Airport provides numerous direct international and inter-provincial flights to other major cities while the Villeneuve Airport serves more intra-provincial destinations. Both airports are important for logistical links, connecting the Edmonton economy to the global market. Other airports in the Region serve to fill in a network delivering specialized services that help to meet the Region's growing needs. Several Class 1 railways operate in the Region, including Canadian National Railway and Canadian Pacific Railway. Several major highways intersect the Region, forming inter and intra provincial links. Highway 2, part of the CANAMEX corridor between Mexico and Alaska, connects the Region north-south. Highway 16 (Yellowhead Highway), part of the Trans-Canada Highway, connects the Region east-west to Saskatchewan and British Columbia.

Intra-regional connectivity is enhanced through the presence of *Active Transportation* networks and multiple transit providers. The current regional trail system is largely focused on the North Saskatchewan River Valley and the Great Trail (Trans Canada Trail), which connect to sub-regional and local systems.

Transit service is provided through conventional municipal transit agencies and specialized transit services. The Edmonton Metropolitan Transit Services Commission (EMTSC) was formed in January 2021 with a mandate to improve regional transit and mobility, with eight participating municipalities. Moving forward, the agency will act as a centralized coordinating body for conventional transit services in the Region, helping to plan and streamline transit improvements and expansions amongst local service providers. As the EMTSC begins operations, its role may shift and relationships with municipalities and the EMRB will evolve.

The Region features many significant advantages including a growing population and strong *Infrastructure* base that positions it to compete well in the 21st century. Emerging technologies, changes in travel and consumption patterns and shifts in international logistics present opportunities that can be seized upon to affect change through strategic decisions and investments. The IRTMP outlines a series of strategies and policy actions that leverage the Region's strengths and seize upon emerging opportunities to create a healthier, vibrant, more equitable, sustainable and competitive Region.

Existing Regional Transportation System

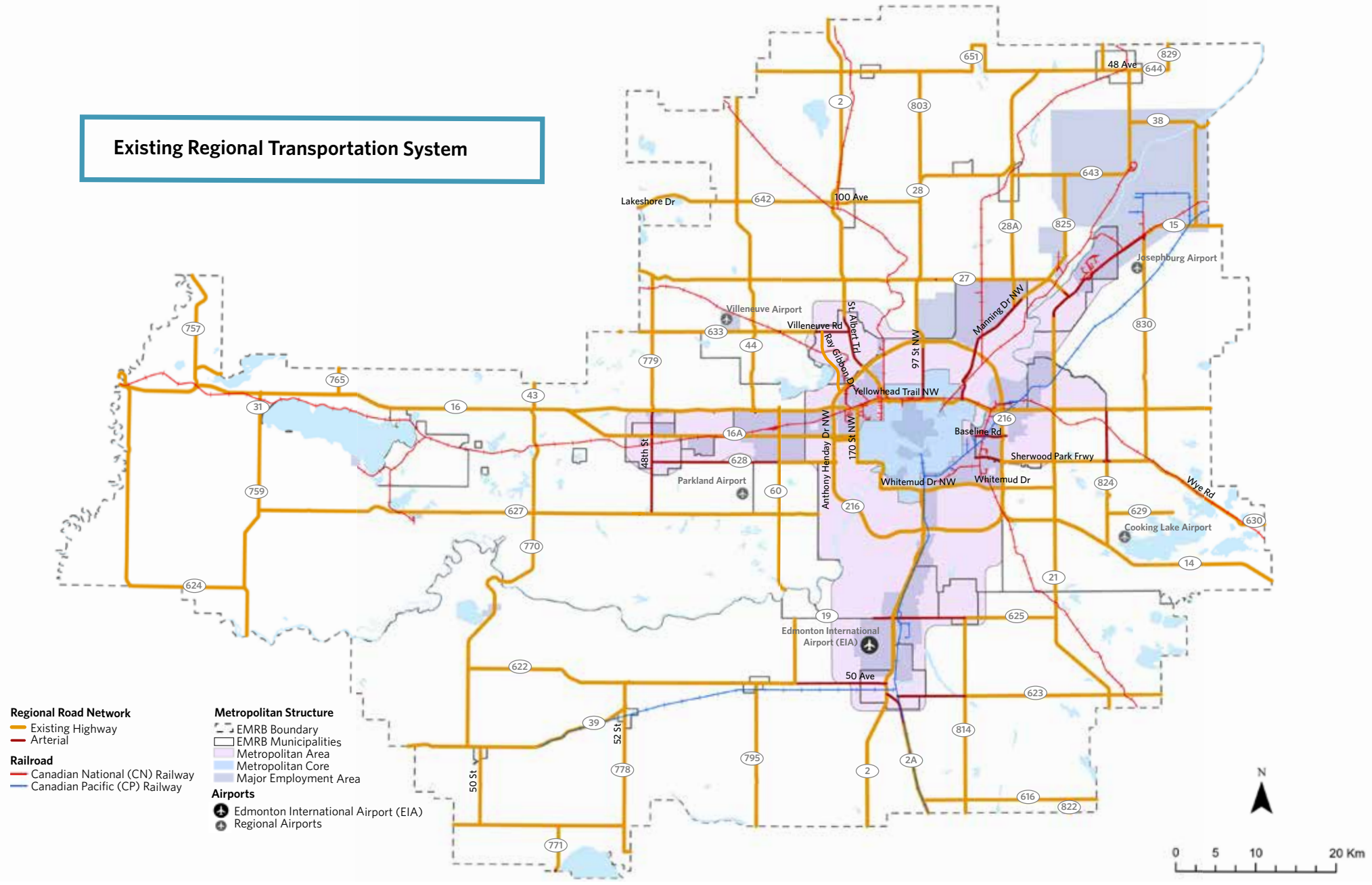
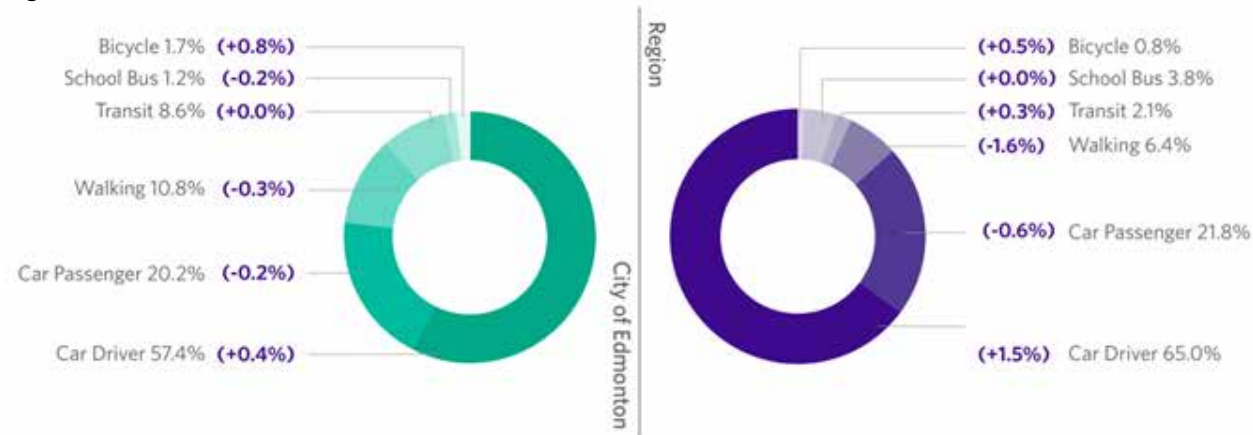


Figure 1. Existing Regional Transportation Network

Figure 2. 2015 Mode Share (with changes from 2005)



Travel Trends

The Edmonton Regional Household Travel Survey is conducted every 10 years with the most recent occurring in 2015. The survey found that while the population increased and the number of daily trips increased, the average number of trips per person and per household decreased between 1994 and 2015. Average trip lengths increased for virtually all trip purposes within the City of Edmonton, but decreased outside the City of Edmonton, reflecting the expansion and maturation of urban communities outside Edmonton into more *Complete Communities*.

A breakdown of mode share in 2015 in the City of Edmonton compared to the Region as a whole is shown in Figure 2. The urban core had generally higher rates of transit and *Active Transportation* use compared with more suburban municipalities. For example, transit mode share was four times higher in Edmonton at 8.6% compared to the rest of the Region at 2.1%. School bus travel was higher outside Edmonton at 3.8% compared to 1.2% in Edmonton. Walking was higher in Edmonton at 10.8% as compared to 6.4% in the rest of the Region. Bicycling was higher in Edmonton at 1.7% as compared to outside Edmonton at 0.8%. Car (either as a passenger or as the driver) is relatively consistent between the urban core and suburban fringe.

Transportation technologies and travel behaviours are in a period of evolution as emerging technologies enter the marketplace. *Shared Mobility Services* such as carshare, rideshare and bikeshare have expanded in the last decade to become major components of many people's daily travel patterns. These services increase mobility and *Transportation Choice* in areas and communities where transit often cannot reach, while at the same time increasing pressure on already congested roads. Autonomous and connected vehicles are also on the horizon while increasing numbers of electric vehicles enter the roadway. These technological trends will shape the next several decades of transportation trends, behaviour and investment needs.

Current Transportation Funding

Transportation funding sources are classified into three broad categories based on the level of government that collects the underlying revenues: municipal, provincial and federal. Funds are primarily derived from general tax revenues, gas taxes, property taxes, and to a smaller extent, user fees (i.e., transit fares and parking revenues). For more information on the funding environment for transportation, see Appendix B.



Our Departure Point: The 2017 Growth Plan

The growth plan *Re-imagine. Plan. Build.* provides a framework and land use vision for enabling *Responsible Growth* to 2044, including planning for employment and population growth in the Region. The IRTMP implements the Region's vision within the transportation realm. This is principally accomplished through policies that direct transportation planning and programs consistent with the guiding principles of the growth plan.

The Edmonton Metropolitan Region structure, included within the growth plan, identifies three *Policy Tiers*:

- rural area,
- metropolitan area, and
- metropolitan core.

These tiers reflect and respond to the diversity of communities within the Region and provide a mechanism for addressing the unique growth challenges in each segment of the Region through policies and the growth plan's Key Performance Indicators. Tiers allow overarching regional strategies and policies to be applied flexibly, in response to the local context.

Growth Plan's 50-Year Vision

The Edmonton Metropolitan Region is the dominant hub for northern Alberta and is recognized globally for its economic diversity, entrepreneurialism, leadership in energy development, environmental stewardship and excellent quality of life.

The Region is anchored by a thriving core that is interconnected with diverse urban and rural communities.

The Region is committed to growing collaboratively through the efficient use of infrastructure, building compact communities, and fostering economic opportunities and healthy lifestyles.

Guiding Principles from the Growth Plan

The growth plan identifies seven guiding principles that shape the policy framework and policy areas of focus. Transportation *Infrastructure* and services need to be consistent with and supportive of these guiding principles and related objectives and policies.



1. **Collaborate and coordinate as a Region to manage growth responsibly.** We will work together to create a Region that is well managed and financially sustainable with a shared commitment to growing responsibly and achieving long term prosperity.
2. **Promote global economic competitiveness and regional prosperity.** We will foster a diverse and innovative economy that builds upon our existing infrastructure and employment areas to achieve sustained economic growth and prosperity.
3. **Recognize and celebrate the diversity of communities and promote an excellent quality of life across the Region.** In planning for growth, we will recognize and respond to the different contexts and scales of communities and provide a variety of housing choices with easy access to transportation, employment, parks and open spaces, and community and cultural amenities.
4. **Achieve compact growth that optimizes infrastructure investment.** We will make the most efficient use of our infrastructure investments by prioritizing growth where infrastructure exists and optimizing use of new and planned infrastructure.
5. **Ensure effective regional mobility.** Recognizing the link between efficient movement of people and goods and regional prosperity, we will work towards a multi-modal and integrated regional transportation system.
6. **Ensure the wise management of prime agricultural resources.** In the context of metropolitan growth, we will ensure the wise management of prime agricultural resources to continue a thriving agricultural sector.
7. **Protect natural living systems and environmental assets.** We will practice wise environmental stewardship and promote the health of the regional ecosystem, watersheds, and environmentally sensitive areas.

Transportation Systems Objectives

Below are the transportation system objectives from the growth plan's regional mobility guiding principle. These principles helped inform the development of the IRTMP:

1. Develop a regional transportation system to support and enhance growth and regional and global connectivity.
2. Encourage a mode shift to transit, high occupancy vehicles, and *Active Transportation* modes as viable and attractive alternatives to private automobile travel, appropriate to the scale of the community.
3. Coordinate and integrate land use and transportation facilities and services to support the efficient and safe movement of people, goods, and services in both urban and rural areas.
4. Support the Edmonton International Airport as northern Alberta's primary air gateway to the world.
5. Ensure effective coordination of regional transportation policies and initiatives between all jurisdictions.



Growth Plan Direction for the IRTMP

Each guiding principle contains objectives that inform and direct policy actions in the Region. The IRTMP builds upon the transportation related guiding principle and transportation system objectives to set four policy areas that direct all IRTMP strategies and policies.

The IRTMP is the key mechanism to implement transportation policies and provide direction on transportation priorities for the Region. Coordinating population and employment growth with transportation *Infrastructure* will lead to increased economic competitiveness, more efficient land use that helps protect natural living systems and increased transportation options to access employment and other services.

The growth plan establishes six policy areas that are designed to implement the guiding principles to achieve the Region's vision. Each of the policy areas includes a further set of objectives, policies and subsequent actions. Most policy areas focus on desired outcomes and how transportation objectives can help to achieve those outcomes. The policies recognize that providing access to services, moving people, and moving goods via the transportation system are integral for a thriving Edmonton Metropolitan Region. Below are key directions from the growth plan that relate to the IRTMP.

1. **Economic competitiveness relies on an efficient regional transportation system.**
Robust, effective and resilient transportation systems are key contributors to a region's economic success and competitiveness. The growth plan policies enhance the movement of goods and access to services across the Region and improve access to national and international markets. Improved access to regional, national and international markets will contribute to improved global economic competitiveness and prosperity for the Edmonton Metropolitan Region.
2. **Growth of the Region will require a robust and coordinated transportation network.**
As the Region grows, it is essential that transportation planning and land use decisions are coordinated and aligned to optimize *Infrastructure* investments and achieve the desired policy outcomes.
3. **Integrating land use and transportation is key to managing growth and *Infrastructure*.**
There is a strong link between transportation, land use patterns, socio-economic factors and travel behaviour. Compact, higher-density development will support viable *Multi-Modal Transportation* options, facilitate a mode shift towards more sustainable transportation, and foster thriving and amenity-rich communities.
4. **Modal Shift away from private automobile use is a key outcome.** *Multi-Modal Transportation* will support *Responsible Growth* patterns and help to achieve a mode shift towards transit, cycling, walking and other alternatives, appropriate to the size and scale of the community. *Modal Shift* will be sensitive to the local community context and look different in the urban core versus suburban communities.





Metropolitan Region Servicing Plan

In October 2017 the EMRB's mandate expanded to include the development of a Metropolitan Region Servicing Plan (MRSP) to optimize services and ratepayer dollars while supporting implementation of the growth plan. Transportation, including regional transit, are two service areas within the MRSP.

The inaugural MRSP was adopted by the EMRB in December 2019, identifying the IRTMP as the continued mechanism to harmonize longer-term transportation servicing needs through regional transportation planning. The annual regional transportation prioritization process remains an important mechanism to establish agreement across the Region on transportation infrastructure funding priorities, supported by a new data-based approach that uses a purpose-made platform with the regional travel model.

Similarly, the MRSP identifies the EMTSC as the coordinating body that addresses the longer-term service needs for transit in the Region. As not all EMRB member municipalities are members of the EMTSC, the EMRB will continue transit-related funding prioritization through the regional transportation prioritization process. EMTSC's primary focus is on planning conventional transit and coordinating transit service delivery and operations amongst local service providers for the Region. EMRB, through the IRTMP, will still play a critical role in coordinating integrated regional planning of the transit system.



06 Key Inputs to the IRTMP



Key Inputs to the IRTMP

The IRTMP builds on direction provided by the growth plan, but also responds to more recent imperatives related to climate change, sustainability and resilience – from a social, economic and environmental perspective. Transportation planning at the municipal and provincial levels, including municipal transportation master plans and Alberta Transportation plans and strategies play a key role in shaping the IRTMP.

The planning process for the IRTMP involved several additional inputs before specific strategies and policies were crafted. These efforts are described briefly below and included stakeholder engagement to gather strategic input; case studies to better understand emerging technologies, trends and best practices; and scenario analysis to examine several “what-if” packages of policies and investments to better understand the impact of specific transportation strategies and investment decisions.

Stakeholder Engagement

The input from key stakeholders throughout the Region was gathered and informed IRTMP priorities. Internal stakeholders were engaged through three forums that met regularly throughout the development of the plan. These forums included a working group, made up of transportation and planning staff from member municipalities; a task force, made up of elected officials from member municipalities; and the EMRB Board. External technical stakeholders were also engaged mid-way through the IRTMP development. These technical stakeholders represented a range of modes - from railways to airports to motor vehicle associations - and interests, from industrial associations to health care and education.

All stakeholders expressed a vested interest in improving the quality of life for residents, growing the economy, and making financially sound decisions. There is a shared sentiment that regional collaboration and conversations are important in developing and realizing mutually beneficial *Multi-Modal Transportation* solutions.

Evolving Planning Context

New transportation technologies and services have the potential to reshape travel behaviour and *Infrastructure* needs. Emerging trends and technologies, including the effects of the COVID-19 pandemic, set new directions that were not envisioned when the growth plan was drafted. COVID-19 has accelerated existing trends and sped up the adoption of technologies that enable work-from-home to be more broadly accepted and more easily applied throughout the private and public sectors. COVID-19’s longer-term impacts are unknown at this time, but should be monitored and considered in transportation planning in the near future.

Best practices and experience elsewhere were also used to learn from other successful regions. The case studies involved examining peer metropolitan regions throughout North America, as well as London, UK. By examining these international precedents, a series of best practices were identified that inform the policies and implementation strategies outlined later in the IRTMP.

Several of the key findings include:

- Transportation investments should support sustainable communities that are not only resilient to climate change, but to fiscal constraints and the ever-changing technological landscape.
- Transportation investments should consider the impacts of investments on diverse communities and demographics, especially underrepresented or marginalized groups.
- The evaluation of transportation investments should consider multiple measures of success, including impact on roadway capacity and congestion, as well as supporting more sustainable travel behaviour by impacting mode share, increasing connectivity and increasing access to transit.
- The plan needs to be forward-looking and flexible to allow the Region to adapt to emerging technologies while still achieving the Region's transportation goals.

Analysis

A scenario analysis using the regional travel model allowed many “what-if?” questions to be contemplated. The regional travel model was updated to reflect the metropolitan regional structure and other assumptions from the growth plan. The working group vetted the land

use assumptions, using growth plan population and employment forecasts as a control factor, resulting in some assumptions differing from local forecasts. The scenarios are discussed in more in the next section and detailed findings are located in Appendix A.

Growth Plan

The metropolitan regional structure, shown in Figure 3, provides the land use base from which the IRTMP tests potential multi-modal improvements. Many of the policy inputs were discussed in the previous sections but are provided here for reference.

The IRTMP supports the key outcomes identified in the growth plan and shown in Figure 5:

- Compact development and efficient *Infrastructure*
- A multi-modal and integrated regional transportation system
- *Complete Communities* and housing diversity
- A diverse globally competitive economy and prosperous Region
- A thriving agricultural sector and an integrated regional food system
- Healthy natural living systems and climate change adaptability



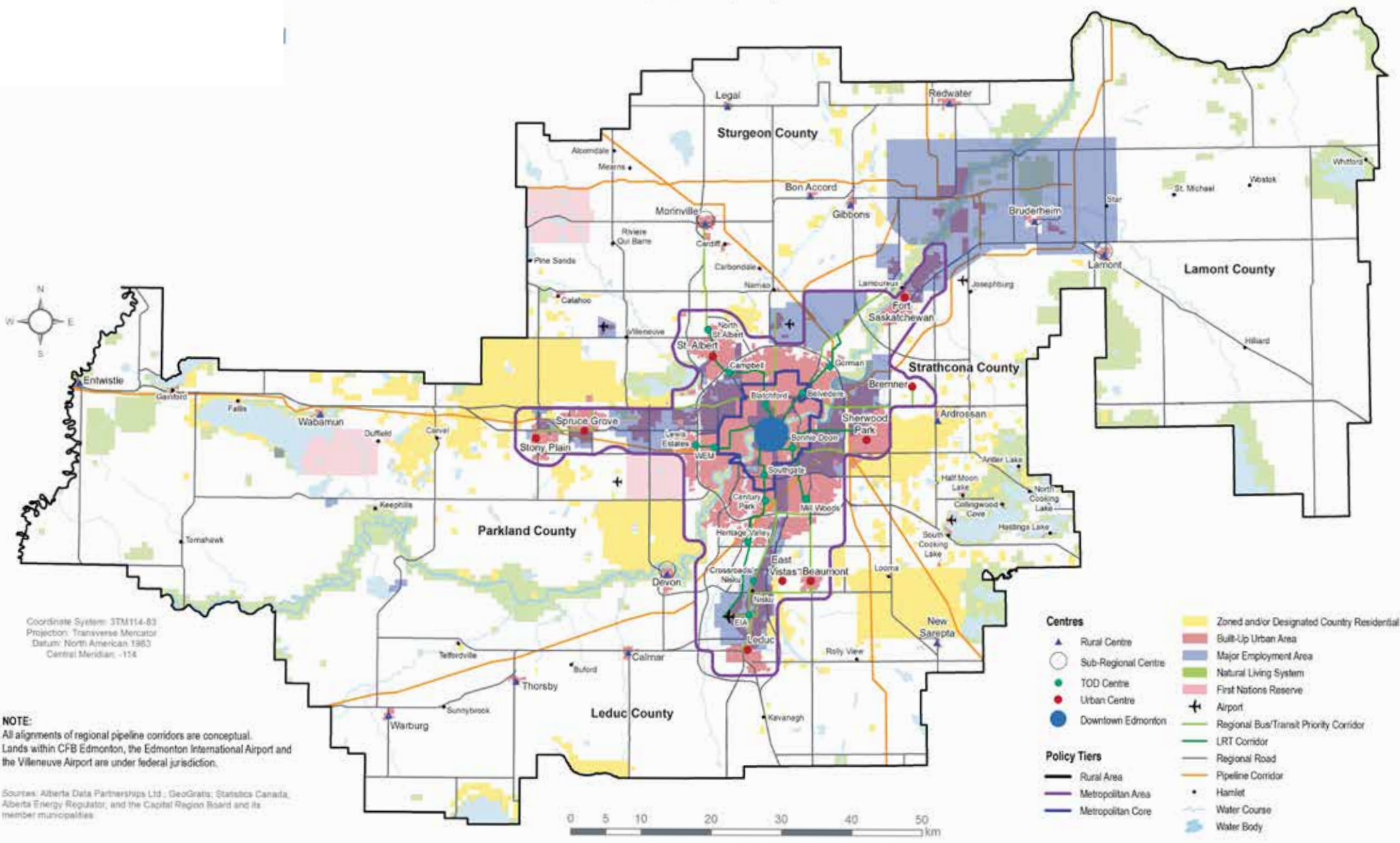


Figure 3. Metropolitan Regional Structure to 2044 from the Growth Plan (2017)



Taken together, the inputs from the growth plan, stakeholder engagement, case studies and scenario analysis informed the development of the IRTMP's desired outcomes and strategies. During the IRTMP planning process, inputs from the growth plan were filtered through feedback from local stakeholders with acknowledgement to the lessons learned from the best practices case studies to craft the desired outcomes.

EMRB heard from stakeholders of the desire to create a more sustainable transportation system that supports healthy, well-connected and resilient communities. The lessons learned in the case studies provided insights in how to deliver such a vision. Historically, development patterns and roadway expansions have driven higher rates of driving, vehicle kilometres travelled and congestion as people live further from their places of employment and daily shopping needs. The growth plan envisions a more compact and well-connected urban environment.

Locating our destinations closer to where individuals live, providing better transit service and more convenient transportation options will lead to more sustainable communities. There are other benefits: lowering our Region's vehicle kilometres travelled will reduce overall vehicle emissions leading to improved air quality and reduced greenhouse gas emissions; more walking, biking and transit trips promote daily physical activity that improve community health; reducing the need for roadway expansions will lead to less paved surfaces and thus less contaminated stormwater runoff; less congestion due to people taking alternative modes means more efficient movement of freight and delivery vehicles; and a *multi-modal Network* is more resilient and will perform better in the face of natural or man-made disasters.

IRTMP Policy Structure

The IRTMP outlines four desired outcomes that build upon direction from the growth plan while considering stakeholder input, emerging trends and the changing local context. These desired outcomes are shown in Figure 4 in relation to the growth plan's outcomes.

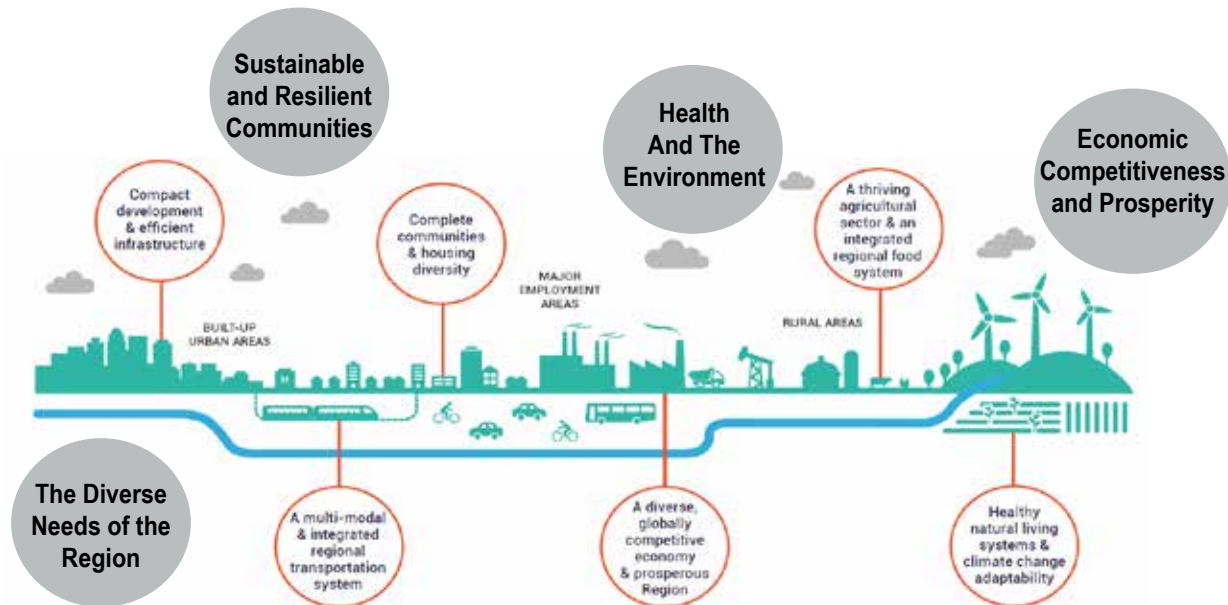


Figure 4. Key Outcomes of the Growth Plan (orange) and Desired Outcomes identified for the IRTMP (grey)

The strategies and corresponding policies form the heart of the IRTMP. These are derived from the desired outcomes and when put in place, will guide the Region in achieving a long-term vision for transportation. In order to effectively deliver on the IRTMP Outcomes, four strategies were developed, each with a set of policies that can be implemented throughout the Region. These strategies are described in detail in the IRTMP strategies section and include:

- **Connecting Goods to Market** – Focuses on promoting the Region's competitiveness, prosperity and economy through the efficient flow of goods.
- **Getting People to Jobs and Services** – Focuses on creating a *Modal Shift* to transit, walking, biking and *Shared Mobility Services* through an integrated land use and transportation planning approach to foster a more efficient transportation network.
- **Optimizing the Use of Existing Corridors and Infrastructure** – Focuses on attaining the most benefit from existing *Infrastructure* before investing in new capacity.
- **Connecting Modes and Supporting Modal Shift** – Focuses on creating a well-connected and diverse transportation network that fosters choice between integrated transportation modes to reduce environmental impacts.

Figure 5 shows the relationship between the various outcomes, strategies and policies within the IRTMP. Additionally, each policy will be applied in a manner that is sensitive to the local context. In order to achieve this, three *Policy Tiers* were created - representing Rural Areas, the Metropolitan Area as a whole and the Metropolitan Core - with each referring to an urban context of the Region. The tiers provide flexibility when applying the IRTMP strategies and policies.

PLAN STRUCTURE

WHERE ARE WE NOW
(HOW THE SYSTEM PERFORMS AND THE TOOLS TO IMPROVE RESULTS)

OUTCOMES
(HOW THE TRANSPORTATION SYSTEM CAN CONTRIBUTE TO THE GROWTH PLAN)

SYSTEM STRATEGIES
(HOW WE GET THERE)

MOVING FORWARD
(WHAT ARE THE NEXT STEPS AND PROCESSES REQUIRED)

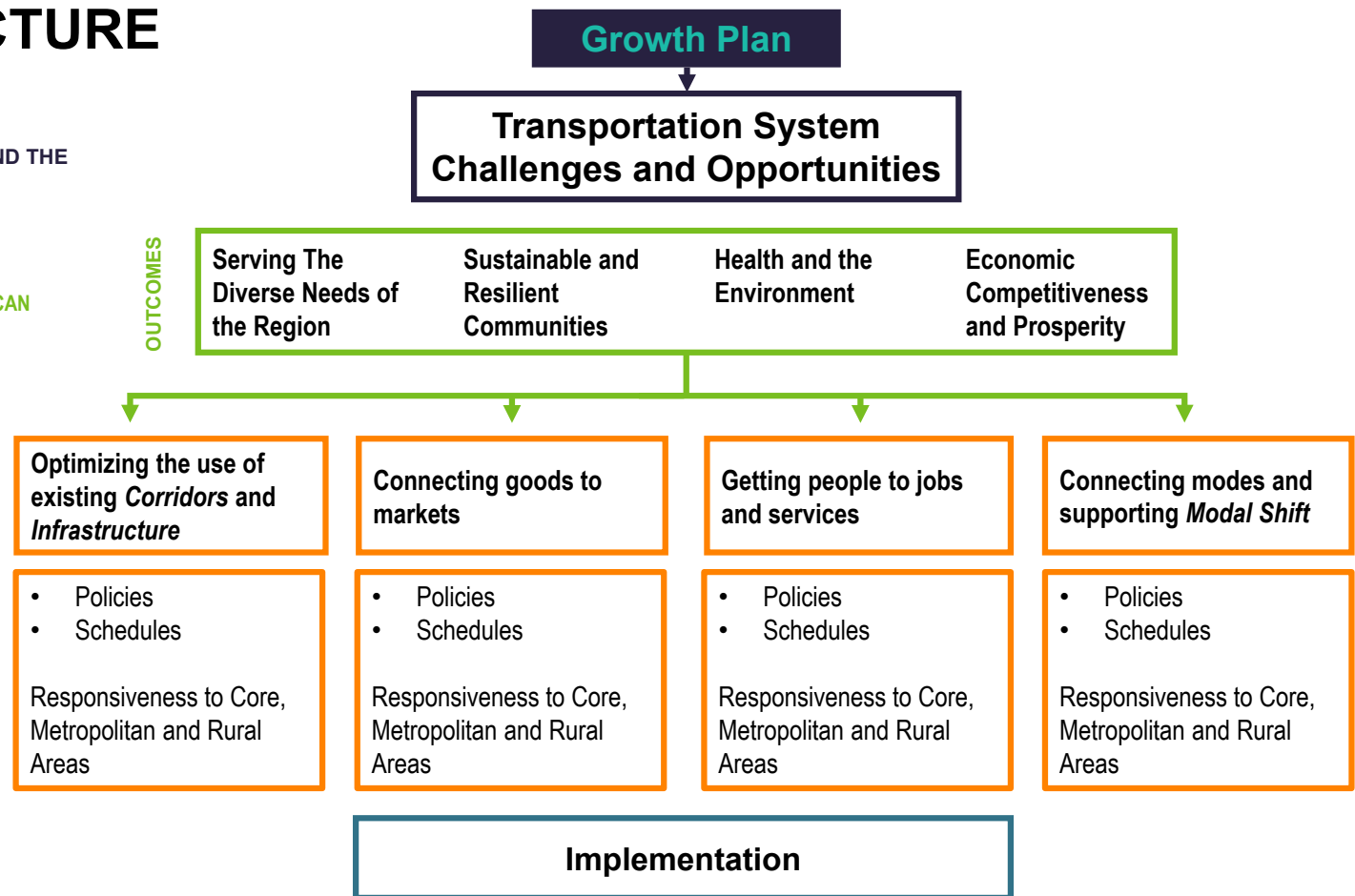


Figure 5. Key Outcomes of the Growth Plan (orange) and additional outcomes identified for the IRTMP (grey)



Scenario Analysis

The IRTMP planning process prepared and tested several scenarios to compare how different transportation investments would impact the Region's travel patterns and behaviours. The guiding principles and objectives from the growth plan, along with inputs from other established plans, inform each of the scenarios. The result is several scenarios that test different future transportation networks and policy actions. The regional travel model was the primary tool for running and analyzing the outcomes from each scenario.

The growth plan provides the framework for regional growth until 2044, while the scenario analysis uses 2045 as future horizon year. This minor difference in horizon years provides some consistency with other transportation and modelling efforts in the Region, without significantly diverting from the growth plan horizon.

What is a Scenario?

Scenarios are commonly used to investigate future outcomes stemming from a variety of planning approaches. In transportation planning, models like the regional travel model are powerful tools to assist in scenario analysis and understand the high-level implications of various investment choices or policy initiatives. The scenarios allow decision makers to compare different sets of investments and actions to decide upon the best course of action to achieve long-term, strategic goals.

Scenarios are valuable for forecasting the outcomes of a plan, or to test the effects of changing individual variables. However, a scenario is not a plan – it is a tool to assist in developing a plan.

IRTMP Scenarios

The scenarios developed for the IRTMP test different future network-wide approaches to transportation. Thematic scenarios isolate the effects of different broad strategies so that the best elements of each strategy can be combined to form a plan. The thematic scenarios combine multiple assumptions and transportation investments to simplify the number of scenarios analyzed.

The IRTMP considered five scenarios. Two were based on current plans but varied the level of investment within the IRTMP time horizon (business as usual and delayed investment). The other three considered the effects of placing a high level of emphasis on different strategies (travel demand management, transit-focused and goods movement). The latter three tested “goalposts”, i.e., how much change across the outcome metrics could occur within the IRTMP time horizon by focusing on individual strategies. For all scenarios, the transportation network associated with the delayed investment scenario was assumed to be in place by 2045. The other scenarios tested the effects of focusing on a single strategy beyond the delayed investment scenario.

Table 1 presents the five scenarios, with information on the key question asked, each scenario addressed and several notable observations and take ways from each scenario. A more detailed description of the scenarios and analysis of the outcomes is provided in Appendix A.

Table 1. IRTMP Scenarios and Key Findings.

Business as Usual (BAU)
Key Question:
What if we continue to invest in highways to seek free-flow or near free-flow conditions in much of the Region?
Key Findings:
<ul style="list-style-type: none"> ▪ Several links inside the Anthony Henday feature high congestion, particularly the river crossings. ▪ Little congestion outside the Anthony Henday; some localized congestion in the PM peak. ▪ Truck traffic is impacted by congestion on the Anthony Henday and the major crosstown routes inside the Anthony Henday (Whitemud and Yellowhead). ▪ Congestion on the river crossings inside the Anthony Henday results in the Anthony Henday being the preferred route for crossing Edmonton rather than the more direct routes (Whitemud and Yellowhead).
Delayed Investment (DI)
Key Question:
What happens if transportation funding is diminished, and it takes longer to realize planned projects?
Key Findings:
<ul style="list-style-type: none"> ▪ The network is notably more congested compared to the BAU scenario, with a 30% increase in hours lost due to congestion. ▪ Trip reliability (certainty of travel time and route) decrease due to congestion increased congestion. ▪ Traffic shifts from highways to arterial and collector streets. This results in more surface street congestion and generally shorter trip lengths that take longer to complete. ▪ Peak hour congestion outside the Anthony Henday affects several corridors. ▪ Despite increased congestion compared to the BAU scenario, there is minimal peak spreading (shifting of travel from peak hours to shoulders) and modal shift.

Travel Demand Management (TDM)

Key Question:

How might travel behaviour change with mobility incentives and disincentives?

Key Findings:

- TDM scenario has the largest system-wide effect of the scenarios. This is reflective of the focus on shifting modes in this scenario. This was achieved through a combination of transit investments and monetary disincentives for driving.
- Generates the largest gain in transit riders. Transit demand is well-beyond the capacity of the base 2045 transit network.
- Generates better network performance for most metrics than the BAU.
- Demonstrates that incentives/disincentives are required in addition to infrastructure to create a change in travel behaviour.
- While the scenario shows significant system level improvements, achieving this level of TDM will be politically challenging. However, it demonstrates the importance of TDM and shows that TDM should be an element of any infrastructure investment strategy focused on mode shift.

Transit-Focused (TF)

Key Question:

What is the effect of expanding higher order regional transit beyond current plans?

Key Findings:

- Modal shift is minimal (suggests that “if you build it, they will come” does not apply) without corresponding policy support or incentives for transit.
- Some corridors will attract significant riders.
- In spite of the relatively low modal shift compared to the BAU, the effect on network kilometres and hours (and thus speed) is more notable, indicating the sensitivity of small changes in traffic volumes on the overall network performance.
- Traffic volume decreased compared to the DI scenario and are evenly spread throughout the network; some routes experience an increase due to traffic redistributing through the network as congestion is relieved.

Goods Movement (GM)

Key Question:

What is the effect of dedicating lanes to heavy vehicles?

Key Findings:

- The removal of trucks from general purpose lanes has notable benefits for trucks and general traffic.
- The scenario moves most of the key performance metrics halfway between the BAU and DI scenarios.
- This scenario shows the high sensitivity to small changes in overall traffic volumes.
- While the scenario tested dedicating lanes to heavy vehicles only, it may be possible to dedicate these lanes to a range of special vehicles, including transit. It may also be possible to achieve similar results by placing the dedicated facilities on other corridors.

Scenario Result Discussion

Three of the primary metrics from the scenarios are:

- Vehicle Kilometres Travelled (VKMT);
- Vehicles Hours Travelled (VHT); and
- Average Network Speed.

Generally, higher levels of VKMT and VHT correspond to more people driving on the network and thus higher levels of congestion and slower average speeds across the transportation network. Higher average speeds generally correspond to a more free-flowing traffic environment in which roadways can accommodate additional vehicle capacity. More information on the metrics used in the scenarios is available in Appendix A.

Overall, the TDM scenario produced the greatest mode shift and the greatest reductions in AM and PM peak hour vehicle kilometres travelled and vehicle hours (approximately 25% reduction compared to the BAU scenario), representing reduced levels of congestion compared to the BAU scenario. Additionally, the TDM scenario was the only scenario that resulted in an increase in average network speeds. The delayed investment scenario resulted in the greatest increase in vehicle hours and the slowest network speeds, with average speeds falling by 13% in the AM Peak Hour and by 19% in the PM Peak Hour. A deeper discussion of the scenario results is available in Appendix A.

The network-wide mode shift results should be used with caution. For example, mode shifts with any transit scenario tend to be more pronounced at a local level. The TDM scenario has the greatest effect on mode shift, but it should be noted that the level of mode shift in the TDM scenario would not be achievable without significant policy change and additional investments in transit capacity. As such, the analysis results should be used to guide the IRTMP, highlighting the importance of TDM, but should not be interpreted as the expected outcome of the IRTMP.

Summary of Scenario Analysis Findings

The scenarios provide important findings that inform the policy actions and implementation strategies of the IRTMP. The BAU and delayed investment scenarios serve as the base scenarios for evaluating potential actions moving forward.

Process Findings

Process findings are related to how the travel model and scenarios can be used as a tool to assist policy makers in decision making and setting policies.

PROJECT EVALUATION AND PRIORITIZATION

The scenario models are a useful tool for making funding decisions. Scenario results provide information that can be used to evaluate individual projects to prioritize funding. During the project evaluation and prioritization process individual projects can be added or removed from the base scenarios. This allows the project's impact on the network to be assessed at the regional level.

POLICY INPUT

The scenario models offer insight that informed policy decisions. Analyzing the scenario results highlighted the importance of TDM on overall network performance and ability to achieve sustainable transportation and climate resilience related objectives. The analysis also showed that no single thematic approach to developing the Region's transportation network is effective across all the evaluation metrics. Although the TDM scenario generated the most notable benefits, the outcome of the TDM scenario cannot be achieved without elements of other scenarios. For example, additional *Active Transportation* and transit investments are necessary to support the TDM scenario's predicted mode shift. Other solutions, such as *Managed Lanes* that provide benefits to HOV and transit users or goods movement are needed to support TDM.





Outcome Findings

Outcome related findings take output from the travel model scenarios and demonstrates how the data analysis and findings can inform decision making and implementation for the IRTMP.

GOODS MOVEMENT LANES CAN BE AN EFFECTIVE APPROACH

Although the dedicated truck lanes were used to simulate prioritizing goods movement within the model, the positive results suggest that *Managed Lanes* on the freeway and expressway system should be considered as an approach to broad transportation related benefits. Further study of dedicated goods movement Lanes is needed to understand the implications to operations, maintenance, design and safety.

BEHAVIOURAL CHANGE WILL NOT BE DRIVEN SOLELY BY CONGESTION

Future congestion levels in the Region will not generate behavioural change. The delayed investment scenario showed that even with higher levels of congestion, there was little “peak-spreading” (travelers shifting to the shoulder or off-peak periods to avoid congestion) or *Modal Shift*. This means that the IRTMP cannot rely on congestion as a tool to change travel behaviour. In order to effectively reduce congestion, a broad set of policies must be applied. This could combine investments to make transit faster, more frequent

and easier to access; efforts to promote *Active Transportation* and build-out a complete, regional network; and monetary incentives to shift trips away from personal vehicles.

MODAL SHIFT REQUIRES A COMBINATION OF INCENTIVES AND DISINCENTIVES

The transit scenario showed that the construction of transit *Infrastructure* alone will not create a network-wide *Modal Shift*. When the full length of a trip is considered, transit is rarely competitive on travel time with a private automobile, and therefore cannot cause a significant *Modal Shift*. However, the TDM scenario showed that when combined with disincentives to driving, *Modal Shift* and trip reduction were much higher. Pricing mechanisms in the scenarios were used to simulate various travel demand management techniques. Pricing was used as proxy in the regional travel model for a range of TDM measures. The overall benefits of the TDM scenario will not be achievable with pricing mechanisms alone. Other incentives, such as easier intermodal trip making, more frequent and faster transit service and employer focused incentive programs, are needed to achieve the TDM scenario benefits.



07 How Do We Get There?

How Do We Get There?

This section establishes the policy framework for the IRTMP. The framework builds on and supports the Region's vision for complete and sustainable communities featuring a range of transportation options that supports a *Modal Shift* to walking, biking and transit. The policies are organized into four strategies that are designed to work together to deliver the desired outcomes.

IRTMP Concepts

The IRTMP introduces several new concepts that complement and help achieve growth plan objectives. The concepts are defined in this section to provide understanding as they may not have been previously incorporated into planning or policy objectives. Each of these concepts is integrated throughout many of the overarching IRTMP strategies and corresponding policies.

Transportation and Land Use Integration

Transportation Integration involves the coordinated planning of transportation alongside other planning activities such as land use. Transportation and land use should aim to support one another in order to create sustainable and *Complete Communities* that are amenity rich and offer a high quality of life. Transportation investments should support the development of compact, *Complete Communities* by integrating all modes into facility

design and ensuring that roadways are right sized and supportive of the vibrant adjacent land uses. Investments and services should provide efficient access to *Major Employment Areas* to encourage investment, support getting goods to markets, and help people get to jobs. Properly integrating land use and transportation planning has many benefits, including reduced vehicle kilometres travelled and greenhouse gas emissions, improved safety, improved access to amenities and services, and healthier communities.

Climate Resilience

Resilience is the ability to anticipate, prepare and respond to a hazardous event, trend or dislocation related to climate. Improving climate resilience involves assessing risks, how risks may change in the future and creating policy actions or investments intended to mitigate or cope with those risks. Integrating this concept into planning and transportation investments aims to reduce the damage from uncertainty and limit the harm that both acute and chronic events may have on a community and the broader regional economy.

Equity

Focusing on *Equity* means to deliberately address historic and on-going forms of marginalization and unequal access to opportunity within the Region. While equality is premised on treating everyone

the same way, *Equity* recognizes that marginalized populations may need additional supports to achieve equal and just outcomes. *Equity* is only achieved when one's racial or socio-economic standing is not a statistical predictor of a person's housing conditions, economic outcomes, access to services, health outcomes, and mobility. As an approach, achieving equitable outcomes involves understanding how unequal treatment, intentional or unintentional, of demographic groups has played a role in disparities between groups. It then involves implementing policies and prioritizing projects that mitigate and lessen disparities and to achieve just outcomes for all community members.

There are often fewer mobility options for marginalized communities, and yet access to reliable and affordable transportation options, integrated within the community fabric, is an indicator of socio-economic mobility and outcomes. It is therefore critical to improve mobility choice in these same communities.

Goods Movement

Goods movement is the process of moving key manufacturing inputs or retail products from their point of origin to a warehouse, manufacturing site, market, or retail point of sale. A finished manufactured good may have thousands of individual components originating from hundreds of different suppliers in dozens of countries. Moving

goods between locations efficiently is a key factor in economic competitiveness in today's globalized economy. Transportation *Infrastructure* such as railways, highways, airports and *Intermodal Hubs* are important components in making goods movement function smoothly.

Managed Lanes

Managed Lanes provide express access for certain vehicles and are meant to lower congestion, speed up traffic flows and reduce travel times. The lanes may be managed through several means to limit the transportation demand in the *Managed Lane(s)*, thus allowing for more free flowing speeds compared to unmanaged lanes. Common strategies include limiting the types of vehicles that may use the lane or pricing access to the lane. Within the IRTMP, *Managed Lanes* are primarily focused on delivering transportation benefits to goods movement, allowing for goods to travel across the Region more easily, or for transit to provide time advantages for transit vehicles.

Mobility Hubs

Mobility Hubs provide a focal point within the transportation network that integrates several transportation modes, multi-modal services and place-making tools into a centralized location. The *Mobility Hub* concept offers a way to maximize *First-Mile/Last-Mile* strategies and create greater connectivity to the communities where they are located. *Mobility Hubs* offer several amenities that provide advantages including charging facilities for electric vehicles and ebikes, public

gathering space, integration with transit service, and carshare designated parking. Centralized *Infrastructure* can reduce costs, increase visibility for alternative modes, increase travel options, provide neighborhood amenities and extend the service area of high-quality transit.

Intermodal Hubs

Intermodal Hubs are points where transport modes come together and facilitate exchanges of goods. Such hubs can include rail terminals, airports

and warehouses. These hubs are important to the economic vitality of an area as they allow for the smooth transfer of goods from national or international markets to be collected and distributed to local markets. Hubs must intelligently and efficiently integrate multiple transportation modes to provide the most benefits. Congestion or inefficiencies around intermodal facilities can cause delays in freight deliveries, increased congestion and servicing times, and lost productivity for the local economy.



Transportation Demand Management

The use of specialized policies, targeted programs, mobility services, and products that influence travel behaviour and encourage people to make fewer trips by private automobile, instead using more sustainable modes of transportation. Sometimes, TDM is as simple as offering easy to access travel options and better-connected facilities including more comfortable bike lanes and more frequent transit service. By shaping the economic and social factors that influence travel demand, these policies and instruments motivate people to rethink their *Transportation Choices*. TDM policies can both incentivize or disincentivize certain travel behaviours through pricing measures and take the form of education or promotional activities. Any TDM strategies employed should be responsive to the local context with different tools applied within the *Policy Tiers* representing urban core versus suburban communities.

TDM Strategies or programs could include a wide range of initiatives, such as: electric vehicle charging stations, transit pass incentives or programs; ride matching services; rideshare promotions; provision of on-site *Active Transportation* facilities; flexible work hour or work from home programs; emergency ride home programs; provision of carshare facilities; real time trip planning services and/or educational programs.

TDM MEASURE EXAMPLES

MEASURE	WHAT IT LOOKS LIKE
Employer Incentives	Encourage major employers to provide transportation benefits to employees. These can include subsidized transit passes, incentives for biking to work, and organization of carpools among employees.
Reduced Parking Requirements	Reduce or eliminate the requirements for parking in new construction of office, retail and residential buildings. Lowering parking requirements will provide space for other uses and
Provide Amenities	Require new commercial buildings to include indoor bicycle parking, locker rooms and showers to encourage bicycle commuting
Parking Management	In high demand areas, paid parking can lower parking demand and free up parking spaces while providing revenue for other TDM measures.
Managed Lanes	On congested corridors, managed lanes for specific vehicles, such as transit, can reduce congestion in a single lane to allow the smooth flow of transit vehicles along a corridor. This will make transit service faster and more convenient when compared to personal vehicles.

Figure 6. Example TDM Measures.

Emerging Technologies

Transportation technologies and travel behaviours are in a period of evolution as innovative technologies enter the marketplace. *Shared Mobility Services* – primarily carshare, rideshare and micromobility services – have expanded in the last decade to become major components of people’s daily travel patterns. These services have increased mobility/*Transportation Choice* in areas and communities where transit often cannot reach, while at the same time increasing pressure on already congested roads and posing many challenges to regulators.

Ebikes are another technology trend that is making biking easier and more accessible for many people. The use of an ebike makes longer journeys possible with fewer drawbacks and could reduce bicycle commute times while extending the overall travel distance in many cases. If ebikes become widespread they could lead to more people biking than ever before and thus lead to increased demand for bicycle *Infrastructure* of all kinds.

Just over the horizon are a profusion of technologies still being tested or in the first phases of mass adoption. These include the shift to Electric Vehicles (EV) and the charging *Infrastructure* required to make them feasible, Autonomous and Connected Vehicles (AV/CV) that could reshape daily driving and goods movement, requiring a new deployment of information technology to support, and drones that could provide for new home delivery options and inexpensive real time monitoring and data collection of our transportation networks.



IRTMP Considerations

The regional transportation network will support the growth plan by contributing to *Complete Communities* and by planning for increased *Transportation Choice and Transportation Integration*. The objective is to make it easier for people to travel between communities, and access key services and destinations by (many of these concepts are defined in the glossary):

- Supporting *First-mile/Last-mile* Connectivity
- Enhancing connections to services and facilities critical to the function of or the community health and quality of life
- Encouraging a coordinated approach to delivering mobility solutions like *Lifeline Transportation Services* and *Shared Mobility Services*
- Facilitating *Modal Integration* to create *Mobility Hubs* that enable seamless transfer between modes

Table 2 summarizes how the regional transportation system will support the creation of *Complete Communities* in each of the growth plan *Policy Tiers*. The application of *Policy Tiers* provides flexibility to acknowledge the local context of a community when applying the strategies and policies

Table 2. IRTMP Relationship to Policy Tiers

Rural Area	Metropolitan Area	Metro Core
<p>Access to:</p> <ul style="list-style-type: none"> • Local employment • Convenience retail and entertainment uses • Primary education • Community gathering space and recreational opportunities • <i>Lifeline Transportation Services</i> • Limited government services • Small scale medical offices <p>Sub regional centres also contain:</p> <ul style="list-style-type: none"> • Secondary education • Emergency medical services and community health centres • Social and supportive services • Potential for local/commuter transit 	<p>Access to:</p> <ul style="list-style-type: none"> • A broad base of employment opportunities • Convenience and major retail • Primary/secondary education and potential for post-secondary • Major community centres and recreation facilities • Local and community transit • Some government services • Emergency medical services, hospital, and community health centres • Social and supportive services 	<p>Access to:</p> <ul style="list-style-type: none"> • A broad base of employment opportunities • Convenience and major retail • Primary, secondary and post-secondary education • Regional sports/entertainment/cultural facilities • Bus, rail, and commuter transit service • All levels of government services • Regional and specialized health care facilities • Concentration of social and supportive services



Figure 7. The Four Key Strategies for Organizing IRTMP Policies

IRTMP Strategies

The IRTMP identifies four key strategies (Figure 7), previously introduced as key inputs to the IRTMP, that will help the Edmonton Metropolitan Region achieve its vision of a thriving, well-connected, sustainable and economically competitive Region. The strategies are designed to work together as a whole, thus focusing on only one strategy will produce less benefits for the Region than approach that balances all four Strategies. Each of the strategies are designed to achieve one, or a combination, of the IRTMP desired outcomes:

- Sustainable and Resilient Communities
- Healthy Human and Natural Systems
- Economic Competitiveness and Prosperity
- Inclusive of the Region's Diverse Needs

The policies within each of the strategies are intended to function across the regional and local levels, relying on collaboration and a shared vision to put policies in place. Policies are designed to be flexible in order to acknowledge and address the different contexts present across the three tiers of the metropolitan regional structure.

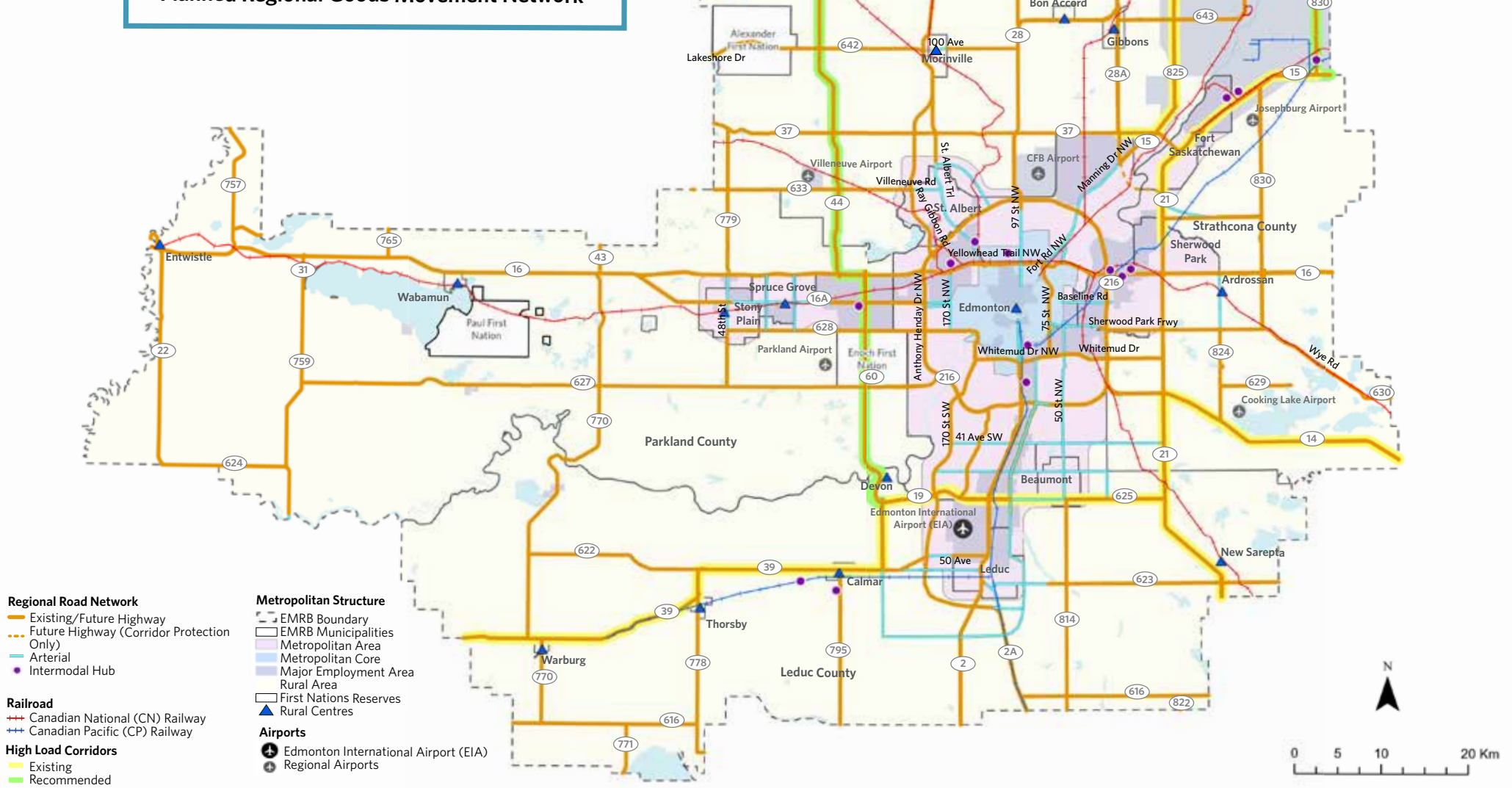
Strategy 1: Connecting Goods to Market

Connecting Goods to Market focuses on promoting the Region’s competitiveness, prosperity, and economic diversity by recognizing transportation *Infrastructure* as a regional asset and driver of economic activity. The transportation network is vital to the economic health of the Region. A well-functioning and diverse network will bring economic benefits to all the Region’s residents and improve the Region’s overall quality of life. Based on the lessons learned from the scenario models, making goods movement more efficient provides broader efficiencies, benefits all roadway users and helps to make the Region healthier and more sustainable.

This strategy supports the efficient flow of goods and connects goods to regional, national and international markets with the goal to bolster the competitiveness of the Region’s economy. To achieve this aim, trends in technology should be closely monitored to allow for flexible adaption to new market realities and foster competitiveness in an ever-changing technological landscape.

- **1.1. Implement the planned regional goods movement network, as identified in Schedule 1.**
 - 1.1.1. Identify and develop *Goods Movement Corridors* that improve access to *Major Employment Areas*
 - 1.1.2. Recognize the complementary nature of the rail and road network and the importance of rail as a means of goods movement (distribution, export) within the Region.
 - 1.1.2.1. Coordinate with rail companies to identify priorities for investment, reduce bottlenecks, and improve network function.
 - 1.1.3. Develop and implement strategies and projects that provide efficient intra-regional access to *Major Employment Areas*.
 - 1.1.4. Collaborate with Alberta Transportation and key stakeholders to identify and monitor the need for *High Load Corridors* connecting key markets.
 - 1.1.4.1. Consider signal requirements, weight considerations, dimension requirements and appropriate turning radii of *High Load Corridors*.
 - 1.1.4.2. Limit the construction of grade-separated structures along *High Load Corridors*. Where necessary, consider the type and design of proposed structures to minimize impacts on high and wide loads.
 - 1.1.5. Collaborate with Alberta Transportation and engage stakeholders affected by the construction of *Infrastructure* during the planning and design phases of a project to address access, operational and other concerns during construction.
 - 1.1.6. Advocate for funding from all levels of government and non-government agencies, as appropriate, to support improvements to *Goods Movement Corridors*.
 - 1.1.7. Target investments in *Corridors* or facilities (roads and highways, rail *Corridors*, airports) to support the movement of goods.
 - 1.1.7.1. Collaborate or consult with the federal government, regulators or private companies where jurisdictional constraints require coordination.

SCHEDULE 1: Planned Regional Goods Movement Network



Note:
Future network is aligned with the 2045 population and employment forecasts.
Alignments for new corridors are conceptual only and subject to further project development.

- **1.2. Reduce conflicts in *Goods Movement Corridors* to allow the flow of goods to market (consider road and rail; small and large trucks; agricultural goods).**
 - 1.2.1. Work with regional stakeholders, such as Alberta Transportation, to identify and respond to current and potential conflicts along *Goods Movement Corridors* to increase network safety.
 - 1.2.1.1. Develop and coordinate a common regional response to addressing conflicts along *Goods Movement Corridors*, including rural roadways that connect agricultural goods to market.
 - 1.2.1.2. Develop and coordinate a common approach to evaluating and prioritizing strategies for at-grade or grade-separated railway crossing improvements.
 - 1.2.2. Develop and coordinate a regional approach to addressing goods delivery within *Centres* that prioritizes the safety of road users.
 - 1.2.2.1. Develop and coordinate a regional approach to reducing conflicts between deliveries, pedestrians and cyclists including but not limited to *Curb Management Strategies*.
 - 1.2.2.2. Facilitate the consolidation of urban deliveries through the creation of neighborhood scale *Intermodal Hubs*, delivery consolidation centres, and other localized approaches.
- **1.3. Enable the efficient intermodal movement of goods across the network by planning *Intermodal Hubs* at key points of production, distribution, and transfer.**
 - 1.3.1. Work with freight companies and Alberta Transportation to plan and protect a network of *Intermodal Hubs*.
 - 1.3.1.1. Identify, plan, and protect key points of transfer/distribution between large trucks and smaller trucks and vehicles to support the rightsizing of goods delivery vehicles.
 - 1.3.2. Engage agricultural producers to locate *Intermodal Hubs* in rural areas that support the agriculture industry consistent with the *Regional Agriculture Master Plan*.
- **1.4. Support the evolution of and coordination between Edmonton Metropolitan Region airports, recognizing their role as important economic drivers and key components of the mobility network.**
 - 1.4.1. Recognize Edmonton International Airport (EIA) as the Region's international airport, primary international gateway, a centre for global connectivity and economic competitiveness and major hub for people and goods movement in the Region.
 - 1.4.2. Recognize the role of the EIA as an important *Intermodal Hub* and *Mobility Hub* and connect the EIA into the broader transportation network:
 - 1.4.2.1. Plan and support transit access improvements to EIA, from Edmonton and other *Sub-Regional Centres*, to enable global market competitiveness.
 - 1.4.2.2. Improve connectivity between EIA and *Goods Movement Corridors* and destinations such as *Major Employment Areas* and *Intermodal Hubs*.

- 1.4.2.3. Encourage a coordinated approach to wayfinding (common signage, route markers, multi-lingual messaging) between the EIA and other key destination, including other regional airports.
- o 1.4.3. Identify the potential of Villeneuve Airport and other regional airports as complementary air traffic facilities with the potential to serve regional markets.
 - 1.4.3.1. Support the development of right-sized and/or staged transportation solutions which improve access to regional airports.
 - 1.4.3.2. Encourage improved connectivity between the regional airports and *Goods Movement Corridors* and destinations.
- o 1.4.4. Plan for improved intermodal access and supportive land uses in the areas adjacent to and surrounding the airports.
- o 1.4.5. Support the work of air logistics stakeholders in planning for emerging aircraft technology and trends in aviation logistics.
 - 1.4.5.1. Assess and support planning for the impacts of new technologies on air corridors, such as drones and autonomous vehicles.
 - 1.4.5.2. Explore how new technologies may impact and provide opportunity on airspace capacity and planning.
 - 1.4.5.3. Plan for flexible transportation *Corridors* that support and grow emerging markets that accommodate warehouse to home delivery activity.
- **1.5. Support the goods movement sector by encouraging the development of facilities for drivers and their vehicles.**
 - o 1.5.1. Through land use planning, support provisions for the development of driver facilities - places for staying, refuelling (including alternative fuels), resting, eating and hygiene - along key *Goods Movement Corridors*.
- **1.6. Plan and design transportation *Corridors* that support agriculture and implement RAMP priorities. Design *Corridors* that accommodate agricultural vehicles while considering safety issues between agricultural equipment and other roadway users.**
 - o 1.6.1. Locate, plan for, and protect transportation *Corridors* and *Intermodal Hubs* in a manner that supports agricultural operations and minimizes adverse impacts on agricultural land.
 - 1.6.1.1. Consider the need for over-sized agriculture equipment and include context sensitive design features that accommodate movements within the rural area for the agricultural industry.
 - 1.6.1.2. Plan for or identify alternative routes to important destinations for the agricultural industry, where shared roads may not be appropriate.
 - o 1.6.2. Work with the agricultural industry to understand the needs of Value-Added Agricultural industries and support growth in the sector by prioritizing enabling *Infrastructure* investments.
 - o 1.6.3. Promote education about the importance of agricultural sectors and the movement of agricultural vehicles to the health of the Region and the economy.
 - o 1.6.4. Support ongoing engagement with stakeholders in the agricultural industry and the creation of a coordinated, regional response to conflicts.

- **1.7. Consider the impact of goods movement on the health of the natural environment and the quality of life of the Region's residents.**
 - 1.7.1. Plan for and prioritize investments along *Goods Movement Corridors* that support improved quality of life and positive health outcomes in adjacent neighbourhoods and ecosystems.
 - 1.7.2. Consider *Equity* issues to adjacent communities and neighborhoods when planning and designing improvements to *Goods Movement Corridors*.
 - 1.7.3. Consider and plan to minimize the impact of goods movement on local air quality.
 - 1.7.4. Locate and plan for *Corridors* and *Intermodal Hubs* in a manner that minimizes adverse impacts on the health of both the Region's residents and ecosystems.



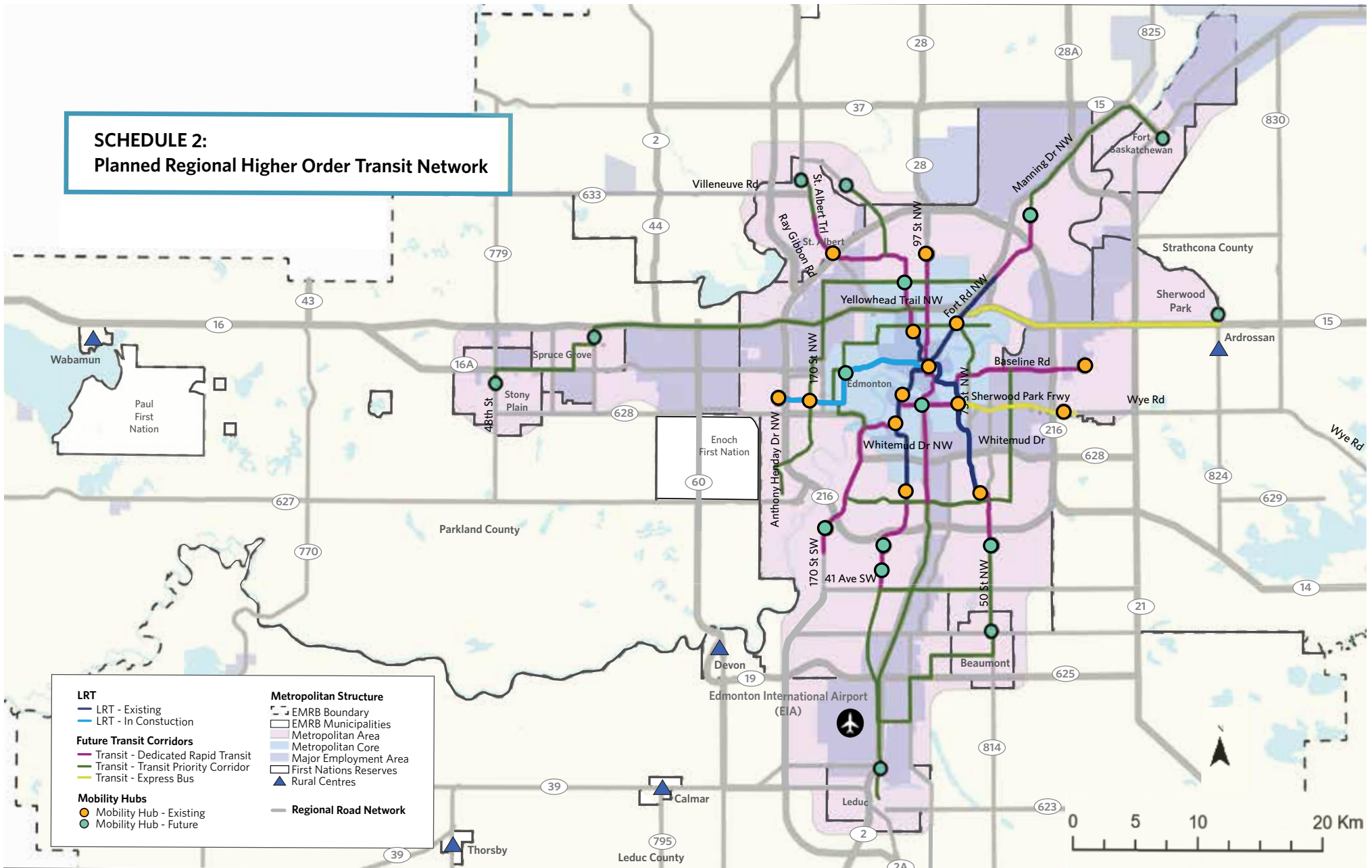
Strategy 2: Getting People to Jobs and Services

Getting People to Jobs and Services focuses on creating a *Modal Shift* to transit, walking, biking and *Shared Mobility Services* to foster more efficient use of existing transportation *Infrastructure*. Encouraging a *Modal Shift* towards more sustainable travel behaviour will lower greenhouse gas and particulate emissions and lead to improvements in health for the environment and the Region's residents. The tools employed to create a *Modal Shift* will be flexible across the *Policy Tiers* to be sensitive to the local context of both the Metro core and suburban communities. Encouraging *Active Transportation* will help the Region's residents practice a healthier lifestyle, resulting in further health improvements. Locating services and employment opportunities closer to residential neighborhoods will encourage more pedestrian and bicycling activity, creating more vibrant and livable communities by activating the public realm.

Part of achieving this *Modal Shift* is offering a comprehensive and easy to navigate the regional transit network that provides equitable access to economic opportunities and goods and services for the Region's residents. Also important is a complete and well-connected network of *Active Transportation* facilities, including sidewalks, bike lanes and trails, that allow people the option to walk and bike to their destinations. Providing more transportation options will also lead to less congestion and delays on the transportation network, similarly, fostering greater access to both jobs and services across the Region for people of all ages, abilities and socio-economic backgrounds. Where feasible, the clustering of employment, residential and retail services help to encourage a *Modal Shift* and create a welcome environment for active and transit transportation usage.

- **2.1. Plan for sustainable, shared, and Multi-Modal Transportation solutions that connect Major Employment Areas.**
 - 2.1.1 Support increased mobility choices for employees and employers accessing *Major Employment Areas*. Where feasible, extend the regional transit network (Schedule 2) to provide service to *Major Employment Areas*.
 - 2.1.2 Encourage municipalities to plan for *Multi-Modal Transportation* connections to *Major Employment Areas*.
 - 2.1.3. Support the development of an *On-Demand Transit* system for locations where traditional public transit may not be feasible.
 - 2.1.4. Encourage the work of partners, including major employers in the Region, who offer or incentivize shared transportation solutions (carpool, private bus services, etc.,) to *Major Employment Areas*.
 - 2.1.5. Support the work of major employers in the Region who implement strategies to encourage a *Modal Shift* towards public transit or *Shared Mobility Services*.
 - 2.1.6. Support the creation of *Transportation Management Associations* that enable employer trip reduction programs and can offer capacity and assistance for *Transportation Demand Management* programs.
 - 2.1.6.1. Consider and support *Shared Mobility Services* or transit investments that achieve equitable access to employment opportunities.
 - 2.1.6.2. Advocate for provincial and federal funding for investments that improve access to *Major Employment Areas*.

SCHEDULE 2: Planned Regional Higher Order Transit Network



LRT	Metropolitan Structure
— LRT - Existing	▭ EMRB Boundary
— LRT - In Construction	▭ EMRB Municipalities
Future Transit Corridors	▭ Metropolitan Area
— Transit - Dedicated Rapid Transit	▭ Metropolitan Core
— Transit - Transit Priority Corridor	▭ Major Employment Area
— Transit - Express Bus	▭ First Nations Reserves
Mobility Hubs	▴ Rural Centres
● Mobility Hub - Existing	— Regional Road Network
● Mobility Hub - Future	

Note:
Future network is aligned with the 2045 population and employment forecasts.
Alignments for new corridors are conceptual only and subject to further project development.



- **2.2. Support *Complete Communities* that reflect and respond to the diversity of places within the Region by Increasing *Transportation Choice* and enhancing connectivity between communities, services, and *Key Destinations***
 - 2.2.1. Monitor and encourage local transportation plans, policies, and initiatives to support the clustering of jobs, services and residential uses and facilitate the development of *Complete Communities*, providing residents across the Region with convenient access to essential goods and services.
 - 2.2.2. Plan and support improved access to the daily needs of residents of all ages, abilities, and socio-economic backgrounds across the Region – including goods, services, and employment opportunities – through road improvements, transit, *Active Transportation*, *Shared Mobility Services*, and *Lifeline Transportation Solutions*.
 - 2.2.2.1. Implement transportation projects – transit, *Shared Mobility Services*, or other improvements – that support equitable access and *Transportation Choice* for all residents and abilities.
 - 2.2.2.2. Implement transportation improvements that support connections for rural communities – connecting these communities to essential services, *Major Employment Areas* and *Key Destinations*.
 - 2.2.3. Develop a regional *Equity* and inclusion strategy for transportation that addresses the experiences of underserved groups, such as racialized groups, inclusive of age, gender, income and persons with disabilities.
 - 2.2.4. Plan for and support an *Active Transportation* and transit-first approach to the development of *Complete Communities* within *Centres*
 - 2.2.4.1. Support access to transit stations and *Mobility Hubs* by more active modes through the development of pedestrian connections within 800 metres, and cycling routes within 2.5 km, of such locations.
 - 2.2.4.2. Encourage the development of transportation *Infrastructure* projects that consider and accommodate all users and all modes into their design.

Strategy 3: Optimizing the use of Existing Corridors and Infrastructure

This strategy looks to optimize the use of existing transportation *Corridors* and *Infrastructure* by extracting the greatest benefit out of existing facilities, before investing in new or expanded capacity. The strategy aims to move more people and goods within the existing roadway space by: reducing trip demand; reallocating the existing roadway space to improve the public realm experience; and encouraging *Modal Shift* towards public transit and *Active Transportation*. Existing roadway space can be leveraged and reallocated to move people using transit, high occupancy vehicles and *Active Transportation* through *Complete Street* design principles. *Complete Streets* also encourage a more vibrant economy when applied to main street shopping districts by creating a pleasant and vibrant public realm that encourages social interaction and economic activity.

This strategy also leverages existing and emerging technologies which can improve the likelihood of success, including strategies like *Intelligent Transportation Systems* and *Shared Mobility Services*, and consider the role of the EMRB in advocating for funding and legislative changes where appropriate. This will result in a more resilient transportation network experiencing less overall congestion while reducing the environmental impact of the transportation network.

- **3.1. Plan for and optimize the movement of people, goods, and services within the network.**

- 3.1.1. Collaborate with Alberta Transportation and regional stakeholders to identify and address sources of congestion that affect the network.
 - 3.1.1.1. Accept varying levels of congestion dependent on context to encourage an efficient use of resources.
 - 3.1.1.2. Explore a range of strategies on regional *Corridors* to improve flow without roadway widening, such as intersection geometrics, *Intelligent Transportation Systems*, *Managed Lanes*, *Value Pricing*, access management or intersection improvements.
- 3.1.2. Explore a range of management strategies to optimize the movement of people, goods, and access to services.
- 3.1.3. Plan for the deployment of new technologies (e.g., drones, autonomous vehicles) so that they can be integrated within *Goods Movement Corridors* and managed appropriately.

- **3.2. Implement *Managed Lane Corridors* that improve the movement of people and goods.**

- 3.2.1. Investigate *Freight Managed Lanes* to support the movement of Large-Vehicles along key *Goods Movement Corridors*, including use by transit vehicles.
- 3.2.2. Use *Intelligent Transportation Systems*, such as *Traveler Information Systems* and *Variable Speed Limits*, to support the functioning of *Managed Lane Corridors*.
- 3.2.3. Support changes to legislation or other mechanisms to improve the success of *Managed Lane Corridors*.

- **3.3. Support broader transportation and growth plan objectives by applying a *Complete Streets* lens to transportation projects.**

- 3.3.1. Recognize and plan for streets as essential components of the public realm. Consider their ability to support a full range of users and their role in supporting more healthy, sustainable, and equitable communities.

- 3.3.1.1. Develop and coordinate an approach to Complete Streets planning that encourages investments in new or existing streets that accommodates the needs of all users and responds to the land use and transportation context.
- 3.3.1.2. Review existing street standards to assess their impacts on all users and adjust as appropriate to support a greater balance of users and modes.
- 3.3.1.3. Support coordination with land use planning to deliver increased density of services along *Corridors* that are well served by public transit and *Active Transportation* facilities.
- 3.3.1.4. Encourage an allocation or reallocation of road space that supports a *Modal Shift* and achieves sustainable development objectives.
- 3.3.1.5. Support implementation of projects that deliver key *Active Transportation* network connectivity or public realm, public safety, and public health improvements.
- o 3.3.2. Recognize the need to socialize *Complete Street* improvements and include funding for education campaigns and pilot projects to test ideas and communicate objectives or successful outcomes.
 - 3.3.2.1. Advocate for provincial and federal funding for education campaigns and pilot projects that encourage more sustainable, resilient, and healthy travel behaviour.
- **3.4. Support a reduction in travel demand including the need for trips to access goods and services, work-based travel, and peak travel period demand.**
 - o 3.4.1. Encourage municipalities to establish mode shift targets to help achieve desired reductions in roadway travel.
 - o 3.4.2. Encourage the use of *Transportation Demand Management* along key *Corridors*.
 - 3.4.2.1. Identify and mitigate the impact that *Transportation Demand Management* strategies may have on underserved communities. Include pilot programs meant to engage, support, and provide incentives for these communities.
 - 3.4.2.2. Include *Transportation Demand Management* in land use planning and integrated into residential and commercial development approvals.
 - o 3.4.3. Encourage investment in work-from-home enabling *Infrastructure* or services to reduce the overall demand for commuting.
 - 3.4.3.1. Support future work identified in the Broadband Situation Analysis (see Implementation section below) and municipal/community efforts to achieve regional broadband connectivity, improve service access, and increase ability to work from home.
 - 3.4.3.2. Recognize the ongoing importance and role of jobs without the ability to work-from-home and identify strategies to increase *Transportation Choice* for these employees.
 - 3.4.3.3. Identify strategies to support *Transportation Choices* for shift employees working irregular hours who may not have convenient access to transit and other transportation.

- 3.4.3.4. Recognize the importance of *Downtown Edmonton* as a vibrant work, play and live district that drives regional economic activity, employment and quality of life and implement strategies that reduces travel demand to the downtown core.
- o 3.4.4. Collaborate with major employers to help achieve the desired reduction in travel.
 - 3.4.4.1. Support ongoing engagement with regional stakeholders to support the implementation of flexible work hours among major employers to encourage off-peak travel behaviour.
 - 3.4.4.2. Support partnerships that provide incentives for employees in *Major Employment Areas* to take transit including subsidized transit passes.
 - 3.4.4.3. Explore the benefits of *Transportation Management Associations* in incentivizing and helping employers establish *Transportation Demand Management* policies and strategies for their employees.
- o 3.4.5. Explore how *Parking Management Strategies*, including paid parking, dynamic pricing, shared parking, and parking permits can reduce travel demand in *Major Employment Areas* and *Key Destinations*.
- **3.5. Support a “Dig Once” approach to transportation investments to reduce the conflicts associated with road construction.**
 - o 3.5.1. Coordinate investments in transportation *Infrastructure* with other forms of *Infrastructure*, including shallow (power, cable, fibre, gas) and deep (water, sewer, stormwater) utilities.
 - o 3.5.2. Consider phasing of *Infrastructure* investments and consider construction disruptions when evaluating transportation projects, to reduce impacts and delays.
- **3.6. Build a safe and resilient transportation network.**
 - o 3.6.1. Support *Transportation Choice* through improved network connectivity and *Modal Integration*.
 - o 3.6.2. Identify high crash areas, including *Corridors* or intersections, to help plan and prioritize safety related improvements.
 - 3.6.2.1. Consider *Equity* when planning safety improvements to understand how marginalized groups may be disproportionately affected by high crash rates or locations.
 - o 3.6.3. Plan alternative routes to improve network reliability by considering spatial distribution of *Corridors* and network coverage.
 - o 3.6.4. When additional capacity is required over and above what can be achieved through optimization, explore, and assess the potential for new *Corridors* that improve network connectivity prior to solutions that require expansion of existing *Corridors*.
 - o 3.6.5. Consider safety as a priority in the design of transportation *Corridors* throughout the network.

- 3.6.6. Consider the creation of a *Low-Stress Network* of roads giving priority to *Active Transportation* users, running adjacent to major *Corridors*, and connecting *Major Employment Areas*, *Key Destinations*, and recreational opportunities.
- 3.6.7. Recognize the relationship between health and the transportation network by encouraging active modes, walkable neighborhoods, and access to recreational.
- **3.7. Plan and leverage emerging technologies to improve regional network performance, optimize capacity, and ensure the network is responsive to technological change.**
 - 3.7.1. Coordinate a regional response to emerging technologies to ensure consistency among member municipalities, the Government of Alberta, stakeholders, and other partners.
 - 3.7.2. Encourage zero emission and carbon free transit vehicles.
 - 3.7.2.1. Advocate for provincial and federal funding in support of municipal and regional transit-fleet greening initiatives.
 - 3.7.2.2. Leverage bulk purchases to access discounts and coordinate adoption of new technologies.
 - 3.7.2.3. Plan for the required *Infrastructure* to support an electric fleet of transit vehicles.
 - 3.7.3. Leverage *Big Data* to improve the evaluation and the performance of the transportation system.
 - 3.7.3.1. Incorporate the development and integration of regionally coordinated *Intelligent Transportation Systems* into transportation planning to improve the safety, efficiency, and sustainability of the network, reduce traffic congestion and enhance user experiences.
 - 3.7.3.2. Support the use of real-time trip planning across the network to improve user experience and improve the flow of goods and people across the network.
 - 3.7.3.3. Support regional coordination of data sharing between municipalities, and the implementation of common data formatting and security standards to make collaboration more effortless.
 - 3.7.4. Support and plan for *Connected and Automated Vehicle Technology* and other emerging mobility technologies to ensure that they contribute to enhanced mobility, support greater use of more sustainable and *Shared Mobility Services*, and reduce regional congestion.
 - 3.7.4.1. Plan future forward *Corridors* that include right of way provisions for and consider the needs of Connected and Automated Vehicle Technologies.
 - 3.7.4.2. Plan and support the development of a regional network of electric charging or alternative refueling stations. Seek partnerships for delivery of electric charging and alternative fuel supply facilities.
 - 3.7.4.3. Plan for the continued growth in *Shared Mobility Services* including likely impacts to regional travel patterns and design tools to better accommodate services into street design.

Strategy 4: Connecting Modes and Supporting Modal Shift

Connecting Modes and Supporting *Modal Shift* focuses on creating a more sustainable transportation network through increased land use densities, compact urban form, investments in transit, biking, walking and travel demand reduction strategies. A transportation network that supports easy access to multiple, convenient transportation options will allow the Region's residents to choose more sustainable travel options. A diverse transportation network should be paired with denser, more compact and mixed use urban form that places destinations within easier biking and walking distances to produce the greatest benefits. Reducing the amount of travel in the Region that takes place in personal vehicles will reduce overall emissions of greenhouse gases and particulates, leading to improved air quality and healthier human and ecological communities.

This shift will be achieved by improving connections between all modes to create an integrated *Multi-Modal Network* that offers a seamless travel experience. The more integrated network will include a coordinated transit network with a single user-experience design, the build-out of a regional transit and trail network and the implementation of Travel Demand Management strategies that complement and enhance transit and active modes of transportation. Travel Demand Management measures should be applied flexibly across the *Policy Tiers*, with differing mixes of tools applied within the Metro core compared to suburban communities. Achieving *Modal Shift* will be more straightforward in already compact, walkable and transit rich areas. Concentrating on *Modal Shift* in the most appropriate areas will improve the overall travel experience for persons still needing to drive in more suburban settings.

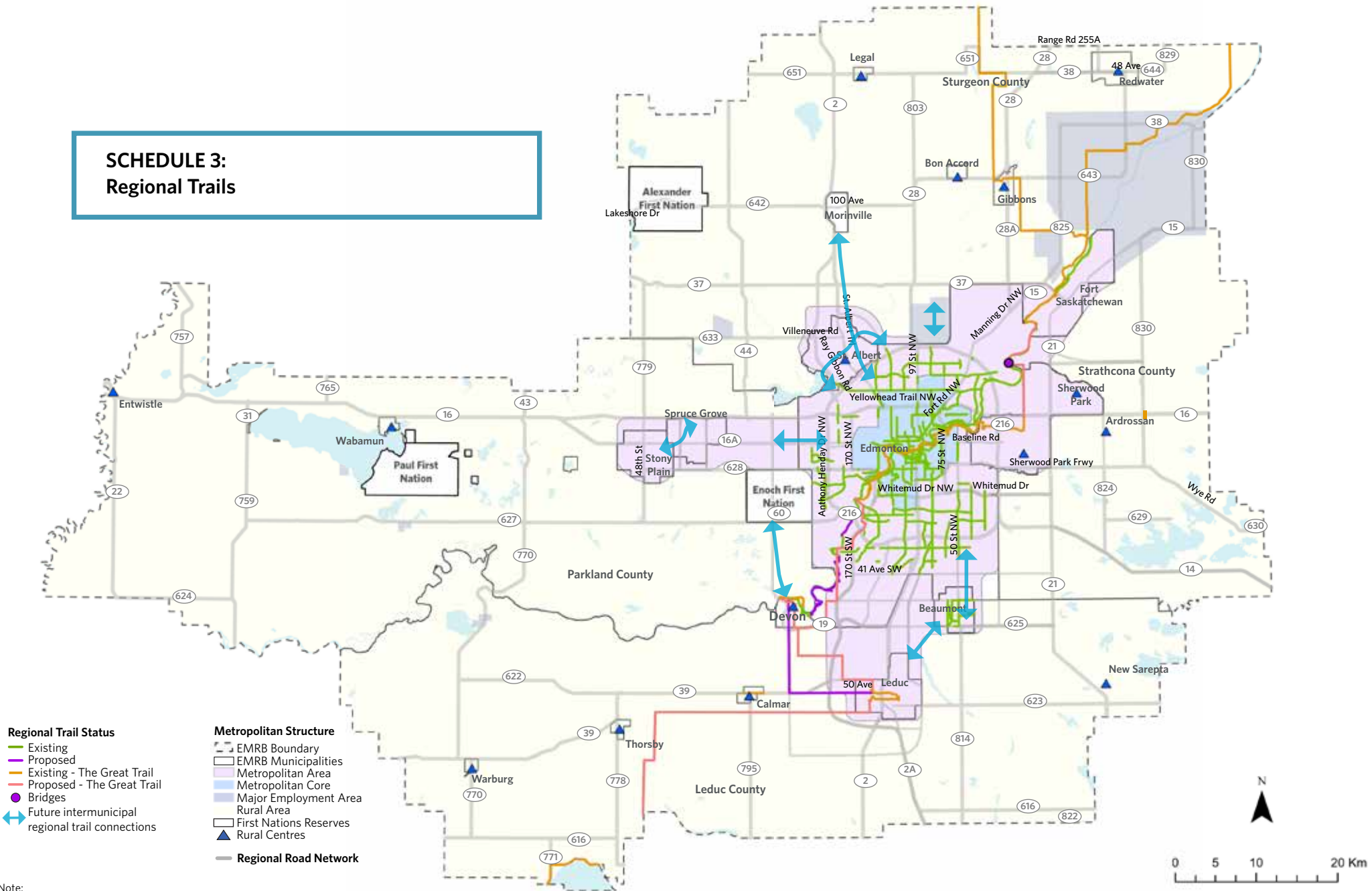
- **4.1. Support improved coordination between transit services throughout the Region and the creation of a *Seamless Regional Transit Network* (see Schedule 2).**
 - 4.1.1. Support the development of a connected and comprehensive regional transit network to deliver fast, frequent, and reliable service equitably across the Region.
 - 4.1.1.1. Encourage sustainable commuter behaviour by widening service areas, increasing in-service transit times, improving service reliability, improving network connectivity, and increasing frequency of service.
 - 4.1.1.2. Work with municipalities, transit agencies and *Shared Mobility Services* providers to plan for and deliver an integrated regional transit system, as identified in Schedule 2.
 - 4.1.1.3. Support the development of cost-effective *Micro-Transit*, *On-Demand Transit*, or other *Shared Mobility Services* in areas where traditional transit may not be feasible.
 - 4.1.1.4. Support *First-Mile/Last-Mile* solutions that provide greater connectivity between transit riders and their destinations.
 - 4.1.2. Support coordinated regional transit delivery including coordination of fixed-route, *First-Mile/Last-Mile* options and specialty transit services.
 - 4.1.2.1. Encourage the coordination of transit routes and schedules between Edmonton Metropolitan Transit Services Commission (EMTSC) members and other agencies/municipalities.
 - 4.1.2.2. Support efforts to identify and resolve inter-municipal limitations to network connectivity.

- 4.1.2.3. Support the creation of a single-user experience through fare integration, transferability, and trip planning.
- 4.1.2.4. Support the implementation of common approaches to signage and wayfinding to improve the experience of transit users across the Region.
- 4.1.2.5. Encourage sharing of transit schedules and network data to enable development of trip planning tools.
- **4.2. Support the development of a regional *Active Transportation* network that is safe, accessible, and comfortable for all users.**
 - 4.2.1. Support the development of a comprehensive and connected *Active Transportation* network comprised of both on-street and off-street facilities.
 - 4.2.1.1. Work with municipalities to coordinate network development, identify gaps and complete missing links over time.
 - » 4.2.1.1.1. Encourage community planning (through development proposals and Area Structure Plans) to identify and deliver *Active Transportation* facilities appropriate for All Ages and Abilities (AAA) that enhance network connectivity.
 - 4.2.1.2. Advocate for provincial and federal funding for investments in *Active Transportation Infrastructure*.
 - 4.2.1.3. Encourage investments in new transportation *Infrastructure* that enhances safety and improves *Active Transportation* network connectivity.
 - 4.2.1.4. Identify *Corridors* with unmet demand for *Active Transportation* activity, based on common origin and destination points or predictable travel behaviour, as candidates for new or improved *Active Transportation* facilities.
 - » 4.2.1.4.1. Identify *Corridors* and areas with unsafe *Active Transportation Infrastructure* as candidates for improvements.
 - » 4.2.1.4.2. Identify *Corridors* that connect *Rural Centres* to the *Active Transportation* network as candidates for improvement.
 - » 4.2.1.4.3. Ensure *Infrastructure* investments accommodate and improve upon *Active Transportation* network connectivity.
 - 4.2.2. Support the planning and creation of a comprehensive regionally connected trail network (see Schedule 3)
 - 4.2.2.1. Complete the missing elements of the Great Trail (Trans Canada Trail) and connect it into the regional *Active Transportation* network.
 - 4.2.2.2. Support the ongoing development of the North Saskatchewan River Valley network and its coordination with the broader regional *Active Transportation* network.
 - 4.2.3. Encourage the provisions of amenities and services (lockers, showers, bike parking) that support *Active Transportation* at *Mobility Hubs*, *Key Destinations*, and major employers across the Region.
 - 4.2.3.1. Encourage updates to local land use bylaws that require amenities and services (lockers, showers, bike parking) in multi-use, commercial and multi-family residential buildings.

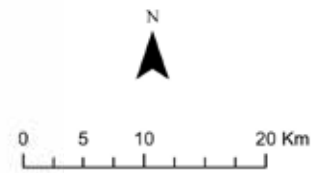
- 4.2.3.2. Encourage partners, including major employers in the Region, to provide facilities that support *Active Transportation*.
- o 4.2.4. Encourage implementation of common *Active Transportation* design standards among municipalities in the Region.
 - 4.2.4.1. Support common, standard regulations for the use of *Shared Mobility Services* (i.e., e-scooters, e-bikes, electric unicycle, Segway) within *Active Transportation* networks, including both on-street and off-street *Infrastructure*.
 - 4.2.4.2. Support the development of minimum maintenance standards for on-street and off-street *Active Transportation Infrastructure*.
 - » 4.2.4.2.1. Provide guidance for the maintenance of on-street and off-street *Active Transportation Infrastructure* to a sufficient and safe level of service, for all users, during winter months.
- o 4.2.5. Consider the needs, safety, and comfort of a full range of users and abilities when designing and implementing improvements to the *Active Transportation* network.
 - 4.2.5.1. Consider the needs of multiple user groups, including commuter and recreational users in the design of *Active Transportation* networks.



SCHEDULE 3: Regional Trails



Note:
Future network is aligned with the 2045 population and employment forecasts.
Alignments for new corridors are conceptual only a subject to further project development.



- **4.3. Identify and plan for a system of *Mobility Hubs* that connect different transportation modes and support the development of a regional *Multi-Modal Network*.**
 - 4.3.1. Support and plan for a system of *Mobility Hubs* across the Region that meet the needs of a range of modes by integrating transit facilities, parking facilities, vehicle charging, *Active Transportation*, *Shared Mobility Services*, and vehicles for hire.
 - 4.3.1.1. Consider opportunities for new technology and On-demand transportation solutions to augment the system (e.g., e-scooters, e-bikes, AVs) and incorporate these into the planning of *Mobility Hubs*.
 - 4.3.2. Plan a coordinated, regional approach to *Mobility Hub* siting and development that considers the needs of all users, the local context, and the role of *Mobility Hubs* within the regional transportation network.
 - 4.3.2.1. Coordinate the siting and development of *Mobility Hubs* within existing *Centres* and plan for opportunities to support new growth and development that integrates land use and transportation *Infrastructure*.
- **4.4. Incentivize *Active Transportation*, public transit, and other forms of Shared Transportation using *Transportation Demand Management* strategies.**
 - 4.4.1. Advocate for provincial regulatory changes required to implement a comprehensive system of *Transportation Demand Management* (TDM) strategies.
 - 4.4.2. Explore the potential of implementing a range of TDM strategies that encourage more sustainable transportation, including pilot programs to test implementation strategies.
 - 4.4.3. Monitor the evolution of trends related to *Mobility Pricing Strategies*, particularly as vehicle electrification evolves, as an alternative to fuel taxes.
 - 4.4.3.1. Identify and mitigate the inequitable impact that *Mobility Pricing Strategies* may have on communities and individuals in areas underserved by alternative modes.
 - 4.4.3.2. Explore the potential for *Mobility Pricing Strategies* to create a stable and reliable source of funding for public transit and *Active Transportation* projects or services.
 - 4.4.4. Support the implementation of *Parking Management Strategies* and parking regulations to encourage a *Modal Shift*.
 - 4.4.4.1. Identify and mitigate the inequitable impact that *Parking Management Strategies* and parking regulations may have on communities and individuals in areas underserved by alternative modes.
 - 4.4.5. Explore transit investments that will reduce delays, increase reliability, avoid congestion and speed up overall transit service to make transit more attractive for commuting and general-purpose trips.

A yellow tanker truck is driving away from the viewer on a paved road. To the right of the road, a tall, lattice-structured power line tower stands prominently. In the background, several other similar towers are visible, receding into the distance. The sky is a pale, hazy blue, suggesting a clear day. The foreground shows some dry, yellowish grass and a fence line. The overall scene is a rural or semi-rural landscape with infrastructure.

08 How do We Make it Happen? (Implementation)

How do We Make it Happen? (Implementation)



Intent of the IRTMP

The IRTMP is a guiding document that provides direction and policy guidance to improve regional mobility. At a regional level, the IRTMP coordinates, informs and justifies transportation investments in order to accommodate regional growth and support the policies outlined in the growth plan. As such, the IRTMP provides direction for future regional projects and programs and encourages coordination among EMRB municipal partners.

Priorities will change over time and trends in technology will contribute to evolving ways to move people and goods throughout the Region. However, the guiding principles and policies in this document will be applicable over the time horizon of the IRTMP.

Roles and Responsibilities

Member municipalities periodically update their local statutory and non-statutory plans, including transportation master plans. Local transportation master plans are critical to the success of the IRTMP. Member municipalities that undertake transportation master plans will include the EMRB as a regional stakeholder to encourage coordination across the Region and conformity with the IRTMP.

The IRTMP supports the implementation of the growth plan. In future years, amendments or updates to the growth plan should evaluate consistency between IRTMP and the growth plan. Any differences between the two should be addressed in the growth plan or IRTMP through amendments or updates as needed. Where discrepancies exist between the policies of plans, the growth plan shall generally prevail, however consideration may be given to more recent EMRB approved direction along with conformity with the intent of the growth plan.

Complementing Ongoing Initiatives

EMRB leads various initiatives that collectively move the Region forward. These initiatives, identified below, should align with policies and recommendations in the IRTMP and the growth plan. All future changes to these initiatives will be reviewed in conjunction to the IRTMP and the growth plan to provide alignment.

Metropolitan Region Servicing Plan (MRSP)

The MRSP supports regional cooperation in four priority service areas: Solid Waste, Fire/EMS, Stormwater Management and Emergency Management. These are linked with the transportation initiatives and the success of both are highly interconnected.

Shared Investment for Shared Benefit (SISB)

Shared Investment for Shared Benefit (SISB) model is a decision-making tool used to identify initiatives that require a shared approach among municipal partners, and help to quantify the required investment and benefits for those partners.

Regional Agriculture Master Plan (RAMP)

The RAMP supports and promotes the IRTMP and growth plan's agricultural policies by focusing its efforts on regional agricultural needs. Aligning

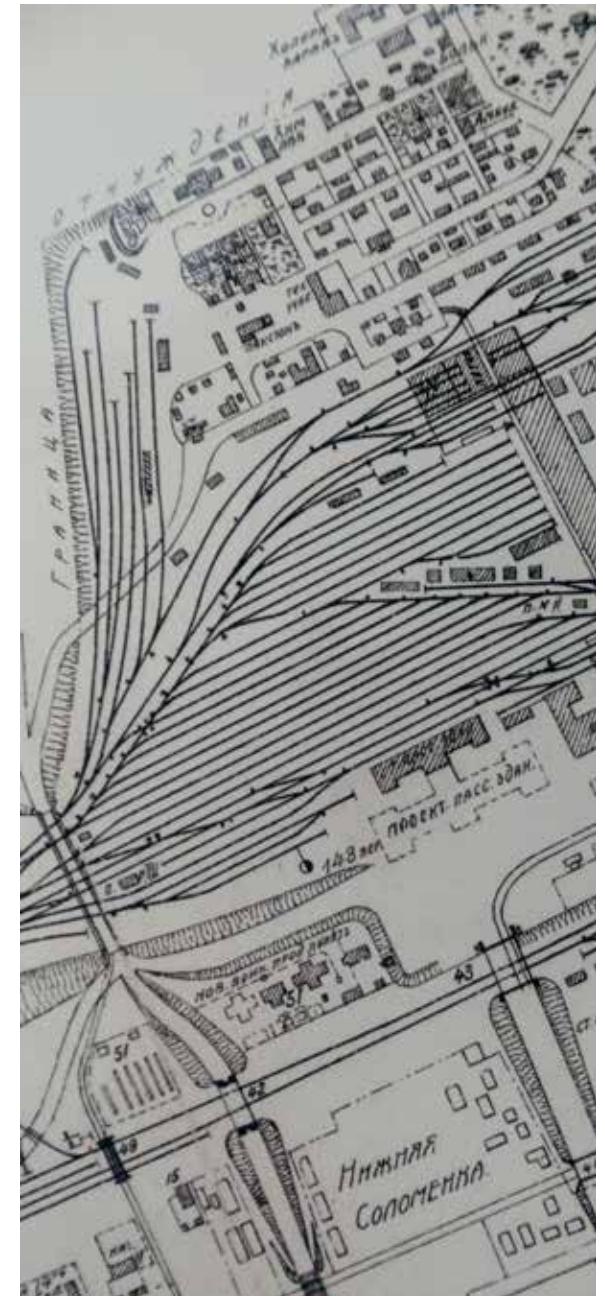
IRTMP and RAMP efforts will allow agricultural and transportation projects to better serve regional needs.

Broadband Situation Analysis

The study examined the state of broadband connectivity in the Region identifying service gaps and opportunities to improve connectivity. Any future work from this initiative should be closely aligned with IRTMP priorities. Implementing a broadband project alongside a transportation project supports the "Dig Once" policy and minimizes unnecessary impacts, as well as enabling *Intelligent Transportation Systems*.

Edmonton Metropolitan Transit Services Commission (EMTSC)

EMTSC is an independent regional initiative that coordinates regional transit services to improve and optimize regional connectivity. Moving forward, the agency will act as a centralized coordinating body for transit services in the Region, helping to plan and streamline transit improvements and expansions amongst service providers. As the EMTSC begins operations, its role may shift and relationships with municipalities and the EMRB will evolve. While EMTSC is an independent initiative, there will be a continued need to align the long-range transportation needs articulated in the IRTMP with the service delivery and operational initiatives of the EMTSC.



Leveraging Partnerships and Encouraging Collaboration

The long-term success of the IRTMP is contingent upon ongoing engagement and collaboration between the EMRB, its member municipalities, and key regional stakeholders. The EMRB will encourage collaboration and implementation at the local level through municipal actions and decisions, as well as provincial and federal levels by leveraging existing or developing new strategic relationships and corresponding actions. Collaboration with service partners and institutions, including but not limited to Edmonton International Airport, Alberta Industrial Heartland Association, Edmonton Global, major hospitals, rail industry, construction industry, high educational institutions and agriculture industry is an ongoing priority of the EMRB and member municipalities.



Transportation Prioritization Process and Annual Regional Transportation Reporting

The IRTMP establishes a policy framework and transportation priorities to help plan and seek funding as a unified Region over the next 25 years. Traditionally, a transportation master plan includes a set of projects to be implemented, often covering 20 years or more of anticipated funding and allocation of transportation dollars.

The IRTMP moves away from this static model of planning. The updated prioritization process for the IRTMP builds upon historic prioritization practices, and will be used annually to update the Regional Transportation Priorities report. The annual process allows the Region to be more flexible and dynamic in responding to changing funding and technologies. The prioritization process assesses individual project's ability to improve regional transportation mobility.

Annual Transportation Priorities Report

The Regional Transportation Priorities Report will be updated annually and will identify priorities at three levels of project development:

- Advance to Planning
- Ready for Design
- Ready for Construction

The annual update will refine priorities as projects move through the project development phases and as funding and technology changes. The annual prioritization process will occur subsequent to the adoption of the IRTMP.

Maintaining the Regional Travel Model

The regional travel model will be updated by EMRB a minimum of once per year to reflect all new infrastructure assumptions. Annual updates keep the model current, relevant and applicable to strategic decision making. It will be used during the prioritization process and for other project or program evaluation purposes. Land use updating will follow a five-year cycle to implement updates to demographics or land use assumption amendments adopted through growth plan updates.

Funding

With the economic downturn and reduced provincial spending on new transportation *Infrastructure*, the EMRB member municipalities will have to explore new funding programs to support and sponsor regional priorities. Funding programs will not be limited to municipal, provincial or federal grants and will also be extended to the private sectors and other non-profit agencies and partners. The Region should also explore and monitor advancements and trends in mobility pricing and consider its application as a sustainable source of funding that supports regional transportation priorities.

Measuring Progress

Data Collection and Evaluation

Measuring the success of the IRTMP will require the EMRB to evaluate progress by collecting and analyzing data. Analysis should be documented, used to report on progress, and support any future adjustments necessary for effective implementation of the growth plan and IRTMP. Data collection methods and the sources used should be responsive to changes in technology. *Big Data* and other technology trends are making data more easily accessible, cheaper and often more comprehensive. As data sources improve, data collection and other methodologies used in the evaluation process should adapt.

While EMRB will be responsible for monitoring implementation progress, Alberta Transportation and member municipalities will support monitoring through data collection and measurements of performance data, as appropriate. Where feasible, EMRB should create a centralized, regional database of standardized information needed for monitoring. This will require working with municipalities and Alberta Transportation to coordinate data collection and data standardization to ensure the quality of data, that efforts are not duplicated and that data from across the Region are easily comparable. This effort may involve updates to methodologies or collection efforts for traffic count data transit ridership and performance data and any other relevant data key to the monitoring task.



There are several sources of data that will need to be accessible, consolidated or developed, including:

- **Statistics Canada National Household Survey, Journey to Work Data** – collected and published every five years as part of the Census of Canada, providing key information commuting trends;
- **Regional Household Travel Survey** – conducted regionally every ten years providing a wide of trip-making and travel trends and scheduled for update in 2025;
- **Traffic Count Data** – counts on highways are maintained by Alberta Transportation and are generally sufficient to support regional-level needs when combined with the regional travel model;
- **Regional Goods / Commercial Vehicle Survey** – a recommended new survey to identify trends and travel patterns specifically focused on commercial vehicle movements, including the effect of intermodal facilities, locations and scale of major employment centres and other land use patterns on commercial vehicle movement;
- **Transit Station Area Planning** – investigation of integration land use and transportation metrics, such as intersection density, that could be applied to transit station areas and areas around *Mobility Hubs* (could be a component of the next update to the growth plan)
- **Active Transportation Network** – recommend standardizing the active transportation information that is mapped across municipalities in the Region. The ability to consistently map active transportation facilities, including bike lanes and trails, will assist in identifying gaps and prioritizing projects that help to complete a regional network.

Monitoring

Progress will be evaluated using the key performance indicators (KPI) identified below. The KPIs for IRTMP reflect the growth plan KPIs for the transportation system policy area.

Key Performance Indicator	Recommended Geographies	Potential Source(s)	Frequency
Investments in regional road infrastructure by level of government	Region and by planning tier	Federal, provincial and municipal budgets	Every 5 years
Investments in intermunicipal transit by level of government	Region and by planning tier	Federal, provincial and municipal budgets	Every 5 years
Median commuting duration	Region and by municipality	StatsCan's Census of Population and Regional Household Travel Survey (RHTS)	Every 5 years (10 years for RHTS)
Commuting mode share	Region and by municipality	StatsCan's Census of Population and Regional Household Travel Survey (RHTS)	Every 5 years (10 years for RHTS)
Transit ridership (transit trips per capita)	By municipality	Member municipalities	Annual
Intersection Density near TOD station areas	Region and by municipality	Member municipalities	Every 5 years
Traffic and congestion measures near <i>Mobility Hubs</i> and <i>Intermodal Hubs</i>	Region and by municipality	Member municipalities	Annual



09 Glossary

Bay/

Glossary

Active Transportation: Any self-propelled, human-powered mode of transportation such as walking, biking, or scooters.

Big Data: The collection of data that is large scale in volume to the point that traditional forms of data management for storage and processing is insufficient. Collection of large volumes of data allow for intricacies in human behaviour to be made apparent with sufficient analysis tools such as computer learning algorithms.

Centres: Areas that reflect differing roles, levels of services and ability to accommodate growth. *Centres* are indicated on Schedule 2 and include *Rural Centres*, *Sub-Regional Centres*, urban centres, Downtown Edmonton and transit-oriented development (TOD) centres.

Complete Community: The growth plan aims to create *Complete Communities* at a variety of scales and contexts across the Region. *Complete Communities* meet people's needs for daily living at all ages and provide convenient access to a mix of jobs, local services, a full range of housing, community infrastructure and *Multi-Modal Transportation* choices. For planning purposes, *Complete Communities* at the regional scale are focused on hard infrastructure, land use, transportation and development patterns. The growth plan acknowledges but does not address the soft infrastructure components.

Complete Streets: *Complete Street* design re-orientates the treatment of streets from transportation *Corridors* to vital portions of the public realm that can be used to accomplish a range of sustainability, and *Equity* priorities. *Complete Streets* are designed to provide space for and encourage the comfort of people of all ages and abilities, placemaking across cultures, improved resilience and sustainability, and prosperity – now, and in the future. Recognizing street as multi-functional, and able to deliver on a broader range of regional priorities, the design of streets communicates a Region's priorities.

Connected and Automated Vehicle Technology: Connected and autonomous vehicles use information technology to steer, accelerate, brake and generally navigate roadways with little to no input from a person. These vehicles require a data connection to communicate with data centres and transportation infrastructure that assists with navigating an urban environment.

Corridor: A designated right-of-way or route for moving people and goods as well as accommodating above and below ground linear service infrastructure piped services. This includes, but is not limited to major arterial roads, transit routes, product pipelines, utility lines, power transmission corridors, regional water and waste corridors and recreation corridors.

Curb Management Strategies: Are a set of policies and tools that seek to inventory, optimize, allocate and manage curb-side space to maximize mobility and access to businesses while reducing conflicts between modes trying to access the curb.

Downtown Edmonton: The regional-scale centre of the metropolitan core and central core of the City of Edmonton, with a concentration of regionally significant amenities and services, the highest levels of residential and employment density, mixed use development, *Higher Order Transit* services and *Active Transportation* options.

Equity: *Equity* is an approach that aims to address historic and on-going forms of marginalization and unequal access to opportunity within a community. As a process, the approach involves understanding how unequal treatment - intentional or unintentional - of demographic groups has played a role in outcomes and disparities between groups. It also involves searching for ways to mitigate and lesson disparities to achieve more fair outcomes for all community members.

First-mile/Last-mile: First and last-mile connections describe the beginning or end of an individual trip and can be applied to discussions of both freight and passengers. In regard to transit, the term refers to how passengers access transit at the beginning and end of their journeys. If access is difficult or because of barriers or distances, Shared Use Mobility service or micromobility can be key to making first and last-mile connections. Regarding freight, first and last-mile service often refers to warehouse or distribution points near the beginning or end of a product's trip. A container arriving to a city via rail mail be transferred to a local warehouse before it makes the final few miles to be delivered within a metropolitan region.

Freight Managed Lanes: *Managed Lanes* are lanes, usually within the context of a freeway, highway or expressway, where a lane is set aside for a specific type of vehicle. A *Freight Managed Lane* is usually separated from general purpose lanes and may be actively managed using a combination of tools in order to achieve optimal travel conditions and free-flow traffic within the lane.

Goods Movement Corridor: A transportation *Corridor* designated as a primary conduit for moving goods across the Region and for connecting key multi-modal hubs with *Major Employment Areas*.

High Load Corridors: A designated highway that have overhead utility lines and other possible obstructions moved to accommodate the movement of cargo loads up to nine metres high. These act as important routes for the movement of large industrial equipment and are key to development and economic competitiveness.

Higher Order Transit: Transit infrastructure and service that is high-speed, frequent, reliable and comfortable. It may include heavy rail, light rail, and commuter, express or limited bus service using dedicated *Corridors* or lanes and other transit-preferential features.

Infrastructure: Generally, any physical installation or system of public works, such as a roadway, waste management or fiber optics line, that supports the functioning of society.

Intelligent Transportation Systems (ITS): Involve the use of information and communications technology to support improved safety, efficiency, and sustainability of transportation networks and decision making. ITS is often used to reduce traffic congestion and to enhance drivers' experiences by providing real time information to users. ITS can be used to better understand the impact of technology in the future, as well as address immediate problems in the network.

Intermodal Hubs: Regionally significant points within the transportation network where goods can transfer from one mode to another efficiently and safely, with minimal disruptions to the broader network. These transfer points can be between rail and truck, large truck and smaller vehicle, or between air and rail/truck.

IRTMP Considerations: The regional transportation network will contribute to *Responsible Growth* by supporting the clustering of jobs and services and enhancing access to these areas through a range of modes. It will contribute to environmental sustainability by minimizing impact on environmentally sensitive lands, optimizing existing *Corridors* and *Infrastructure*, and supporting the integration of low carbon/emissions technology. Strategies and solutions will vary depending on policy area, *Policy Tier*, and community context (levels of service).

Key Destinations: Are destinations that attract high volumes of people on a regular basis and can include downtown, entertainment and shopping districts, higher educational institutions, sports facilities and regional parks that provide abundant recreational opportunities.

Lifeline Transportation Service: A transportation service that connects smaller communities to larger ones to satisfy irregular or occasional travel needs otherwise not available, for medical, shopping and recreational purposes. *Lifeline Transportation Services* may include various modes of public transportation, including community bus, large passenger van, contracted taxi services or a variety of privately provided services.

Low-Stress Network: Is a connected walking and biking priority network that provides a safe and comfortable transportation experience for active transportation users. The network should focus on enabling people of all ages and abilities to reach their destinations safely on a series of low speed and low traffic volumes streets.

Network: Is a system of integrated *Infrastructure*, such as a series of roadways, that form a system of interconnected *Infrastructure* that allows the movement of people and goods.

Major Employment Area: An area with a concentration of industrial, commercial and/or institutional land uses that have regionally significant business and economic activities and high levels of employment. This includes existing larger scale urban and rural industrial parks, Alberta’s Industrial Heartland, the lands around Edmonton International Airport and regional airports.

Managed Lanes: A lane that has been designated for a specific purpose that differs from the other general-purpose lanes within the overall roadway, where strategies are proactively implemented to optimize flow and achieve an improved operational condition, such as improved traffic speed or throughput, reduced car travel, or reduced air pollution. Candidates for *Managed Lane* solutions include Anthony Henday Drive, Highway 2, Whitemud Drive, Sherwood Park Freeway, Yellowhead Trail / Highway 16, and Baseline Road.

Managed Lane Corridor: A transportation *Corridor* where *Managed Lanes* are present in order to make travel along the *Corridor* more efficient.

Micro Transit: A flexible approach to transit provision which can be appropriate for more dispersed communities. *Micro Transit* services provide an On-demand option to users that is more flexible than a fixed route, but is combined with the efficiencies of sharing trips: This allows for service to respond for the demand, while reducing the level of congestion.

Mobility Hubs: Regionally significant points within the transportation network where mobility is enhanced through the integration of modes. *Mobility Hubs* are places where people can transfer from one mode to another safely and

conveniently. Typically, Mobility Hubs will support a transfer towards more sustainable modes. Frequently, Mobility Hubs involve the co-location of services, facilities and uses that minimize the need for additional trips. Example:

- TOD at a transit station with connecting bike and bus services
- Employment and service uses at a Park and Ride location

Rural Area	Metropolitan Area	Metro Core
Considerations:	Considerations:	Considerations:
Termini for lifeline transit services	Places of transfer between private vehicles and HOV or transit services	Important places of transfer between LRT and multiple bus services
Community service clusters served by limited/On-demand transportation services	Gateways to the regional trail network	Important places of transfer between transit and active mode (walking and cycling)

Mobility Pricing Strategy: A *Mobility Pricing Strategy* is an example of a form of *Transportation Demand Management* that involves charging road users for the use of public roads. By implementing a *Mobility Pricing Strategy*, it creates more space, and revenue to invest in transit, walking, and biking, will create a fairer mobility system. The specific design and exceptions made to the pricing strategy can support further sustainability or *Equity* objectives, for example: providing an exception for marginalized or racialized communities, or for electric vehicles.

Modal Integration: The assimilation of multiple transportation modes into a transportation network so that changing from one mode to another, for example from bike to transit, is easy, convenient and seamless.

Modal Shift: Encourage a mode shift to transit, high occupancy vehicles and active transportation modes by making these modes viable and attractive alternatives to private automobile travel, appropriate to the scale of the

community. Supporting a greater *Modal Shift* across the Region will contribute to a more sustainable transportation system and support a more equitable and livable Region – with improved access to safe, comfortable, and convenient public transit and active transportation options for all.

Multi-Modal Network: A network of interconnected transportation *Infrastructure*, modes and services that span across a large area.

Multi-modal transportation: The availability or use of more than one form of transportation, such as automobiles, walking, cycling, transit, rail (commuter/freight), trucks, air and water.

On-demand Transit: A flexible approach to transit provision which can be appropriate for more dispersed communities. *On-Demand Transit* provides users with a service that is more flexible than a fixed route, but is combined with the efficiencies of sharing trips: This allows for service to respond for the demand, while reducing the level of congestion.

Parking Management Strategies: Various policies and programs that result in more efficient use of parking resources and can lead to reduced travel demand. Strategies can include paid parking, parking permits, shared parking structures, and variable pricing.

Policy Tiers: A planning framework to reflect, respond and plan for the diversity and different contexts within the Edmonton Metropolitan Region. It is a mechanism to tailor growth policies to respond to size and scale of communities across the Region. The *Policy Tiers* reflect different levels of service in the Region and are informed by a regional land need analysis.

Regional Agriculture Master Plan (RAMP): A regional plan for the responsible and sustainable growth of the agricultural sector surrounding Edmonton.

Responsible Growth: The Region is committed to pursuing responsible growth – using land and resources efficiently for the benefit of current and future generations. Within this context, responsible growth includes: wisely managing the Region’s prime agricultural land base to ensure long term viability and food

security, maximizing the use of existing and planned *Infrastructure* and services, conserving the Region’s natural assets, and ensuring financially sustainable regional growth over the long term.

Rural Centre: Urban area in the rural area that provides a local level of service to serve their own community, with potential to accommodate higher density mixed use development, appropriate the size and scale of the community. *Rural Centres* include the central areas of towns, villages and some growth hamlets.

Sub-regional Centre: A centre in the rural area that provides a sub-regional level of service to meet the needs of their own community and those in the wider area. Subregional centres have potential to accommodate higher density mixed use development, appropriate to the scale of the community. This includes Morinville, Devon and the Town of Lamont.

Seamless Regional Transit Network: A *Seamless Regional Transportation Network* is a cohesive transit system covering a region where customer information, fares, marketing and timetables are coordinated and easy to understand to create an integrated transit network with a single customer experience. If multiple transit providers are present, efforts to coordinate and integrate the different services are in place to prioritize and enhance the customer experience and aim to make transfers between transit providers is smooth and frictionless as possible.

Shared Mobility Service: An umbrella term for a variety of transportation services including bikeshare, carshare, rideshare, carpools, *Micro Transit* and e-scooters. Each *Shared Mobility Service* has its own unique characteristics, but they share several in common including the sharing of vehicles between passengers, the sharing of costs across passengers and the hybrid model of private vehicles as public transportation.

Transportation Choice: Providing people with real opportunities to take a bus, catch a train, ride a bike, or walk to reach their destinations, and making these options realistic and practical alternatives to single-occupancy vehicle travel.

Transportation Demand Management (TDM): The use of specialized policies, targeted programs, innovative mobility services, and products that influence travel behaviour and encourage people to make fewer trips by private automobile and instead use sustainable modes of transportation. By shaping the economic and social factors that influence travel demand, these policies and instruments motivate people to rethink their *Transportation Choices*. TDM policies can both incentivize or disincentivize certain travel behaviours through pricing measures and can also take form for education or promotional activities.

TDM Strategies/programs could include a wide range of initiatives, such as: electric vehicle charging stations, transit pass incentives or programs; ride matching services; rideshare promotions; provision of on-site active transportation facilities; flexible work hour or work from home programs; emergency ride home programs; provision of carshare facilities; real time trip planning services and/or educational programs.

Transportation Integration: The growth plan speaks to the Integration of Land Use and *Infrastructure* planning, and to the need to coordinate and integrate land uses and transportation facilities. The IRTMP builds on this direction by:

- seeking opportunities to connect between modes (air to transit, rail to truck, car to bicycle - all ending in walking), and
- aligning transportation investments/strategies with supportive land uses to reflect the diversity of the Region and reduce the need for travel.

Transportation Management Associations: Non-profit organizations that provide transportation services in a particular area such as business district or business park. They are generally public-private partnership that provide an institutional framework to deliver *Transportation Demand Management* programs and services that aim to manage travel demand to a given area.

Traveler Information System: Any system that acquires, analyzes and presents transportation information to assist people in making more informed and better *Transportation Choices*.

Value Pricing: A strategy of setting prices based on the perceived value of a good. In relation to managing parking demand, *Value Pricing* dynamically responds to demand for parking in a given area by adjusting the price of a parking space. During peak demand, prices would go up to reflect the increased demand while prices would decrease during off-peak hours.

Variable Speed Limits: Are speed limits that change based on the road, traffic and weather conditions to improve road safety.





10 Appendix A:
Scenario Descriptions
and Analysis

APPENDIX A: Scenario Descriptions and Analysis

Below are descriptions of the travel model scenarios and the resulting model outputs and analysis. The scenarios do not represent competing plans or a set of projects with allocated funding in the horizon year. Rather, the scenarios were used to learn lessons on different packages of policy actions and future networks to help inform the development of the IRTMP plan.

BAU Scenario

Horizon Year – 2045

Road Network – Business-as-Usual base network for 2045

Transit Network – Business-as-Usual base network for 2045

Question Addressed: What if we seek free-flow (or near free-flow) conditions in the Region?

Description: The scenario includes highway, local road and transit expansion based on current plans. This includes capacity expansion of most of the major highways in the Region as well as new highways and arterial roads in several areas. Transit expansion includes LRT and transit priority extensions within Edmonton, and regional bus-based transit connections outside Edmonton. The scenario does not include extension of *Higher-Order Transit* outside the City of Edmonton.

This is one of the base scenarios used for comparison with the other scenarios.

DI Scenario

Horizon Year – 2045

Road Network – Highway network projects planned to the 2030 horizon year; all local network improvements related to growth

Transit Network – Same as Business-as-Usual base network for 2045

Question Addressed: What happens if transportation funding is diminished, and it takes longer to realize planned road projects?

Description: The scenario reduces the level of investment, primarily in the highway network. The assumed highway network includes projects planned up to the 2030 horizon year, and also assumed projects planned for between 2030 and 2045 will be delayed until after the 2045 plan horizon. Local network improvements to provide access to growth areas in municipalities are assumed to be implemented. The transit network is the same as the business-as-usual.

This is the other base scenario used for comparison with the other scenarios and to allow individual projects to be compared.

TDM Scenario

Horizon Year – 2045

Road Network – Same as Delayed Investment Scenario

Transit Network – Same as Delayed Investment Scenario

Question Addressed: The TDM scenario applies costing strategies within the regional travel model that can be used to simulate a range of TDM approaches.

Description: The strategies tested represent an aggressive approach, and include:

- Doubling of parking charges within the central core. Originally, this was to be applied to the entire Metropolitan Core, but found that it was more appropriately applied to downtown Edmonton (simulates increased parking charges, cordon pricing, or other methods that discourage vehicle travel to the downtown)
- Doubling of cost to single occupant vehicles (simulates high occupancy toll or forms of mobility pricing)
- Halving of transit fares (simulates reduction in user cost for transit, or other measures make transit more attractive)

Transit-Focused Scenario

Horizon Year – 2045

Road Network – Same as Delayed Investment Scenario

Transit Network – Business-as-Usual 2045 network, plus expansion of *Higher Order Transit* outside the City of Edmonton

Question Addressed: What is the effect of significant expansion in higher order regional transit?

Description: The transit-focused scenario tests a significant increase in *Higher Order Transit* throughout the Region, with several *Higher Order Transit* corridors, including:

- Spruce Grove to Edmonton
- Extension into St. Albert
- Extension to Fort Saskatchewan
- Extension to the Airport and Leduc
- Extension to Bethel Transit Terminal

In addition, all bus frequencies were increased to a minimum of 15 minutes to provide local connections to *Higher Order Transit* corridors.

This is a theoretical scenario in which transit constraints have been removed to help determine how much shift to transit can occur on key corridors.

Goods Movement Scenario

Horizon Year – 2045

Road Network – Same as Delayed Investment, plus heavy vehicle facilities

Transit Network – Same as Business-as-Usual base network for 2045

Question Addressed: What is the effect of dedicating lanes to heavy vehicles?

Description: The goods movement scenario simulates the effect of providing dedicated highway space to heavy vehicles to allow them to avoid the effects of congestion. In order to simulate the effects, a dedicated truck lane in each direction was added to the following routes:

- Anthony Henday Drive
- Highway 2, Leduc to Anthony Henday
- Highway 16, Spruce Grove to Sherwood Park (including Yellowhead Trail)
- Whitemud Drive

Like the TDM scenario, this is an aggressive approach to addressing heavy vehicles. However, it could be used to also identify other corridors where priority measures for trucks or other special vehicles could be introduced.



Scenario Results and Comparison

Scenario results provide insights into how much change can be created by modifying individual themes. The analysis is not used to select one scenario among the five tested; the results show the relative effectiveness of the thematic approach associated with each scenario and provide some guidance on how elements of each scenario can be balanced to create a regional network.

Network Metrics

The analysis metrics the relative effectiveness of each scenario against several metrics as summarized in Table 3. The regional travel model produces all of the metrics used to compare scenarios. These metrics are available for various time periods throughout the day. In most cases, the focus has been on the AM and PM peak hours (or crests as used in the model descriptions).

Table 3: Scenario Analysis Metrics

Metric	Description
Network Vehicle Kilometres (VKMT)	<ul style="list-style-type: none"> total of all travel by all vehicles in the network goal is to reduce VKMT relative to a base scenario has a strong relationship to greenhouse gas emissions, but also reflects network connectivity
Network Vehicle Hours Travelled (VHT)	<ul style="list-style-type: none"> sum of all time spent in vehicles in each time period (does not include transit) may suggest a reduction in congestion or shorter trips (if combined with a reduction in VKMT) reflects a lower amount of time spent in vehicles relative to a base case
Average Network Speed	<ul style="list-style-type: none"> derived from VKMT and VHT where there is an increase in average network speed, and a decrease in VKMT, it usually suggests an overall improvement in network efficiency
Percent VKMT on Congested Network	<ul style="list-style-type: none"> total VKMT on links that have a volume to capacity ratio of greater than 0.85 (i.e., those links that are nearing capacity and subject to delays due to congestion) provides an indication of the amount of travel occurring in congested conditions
Hours Lost Due to Congestion	<ul style="list-style-type: none"> total difference in VHT on links with volume to capacity ratio greater than 0.85, compared with non-congested VHT provides an indication of the impact of congestion on overall travel time
Average Trip Length	<ul style="list-style-type: none"> average length of vehicle trips in the time period reflects network connectivity and availability of faster but longer routes
Mode Split	<ul style="list-style-type: none"> the percentage of total trips taken by each mode at a network level, differences are often small with greater effects seen at a sub-regional or corridor level

The metrics are primarily focused on vehicle travel characteristics, however changes in vehicle travel reflects travel behaviour changes that involve other modes. These are only a small set of metrics available from the regional travel model but reflect the most commonly used metrics.

Network Analysis

Table 4 provides a summary of VKMT, VHT and average network speed for the AM and PM peak hours for each scenario.

Table 4. Summary of Network Metrics (2045 Horizon Year)

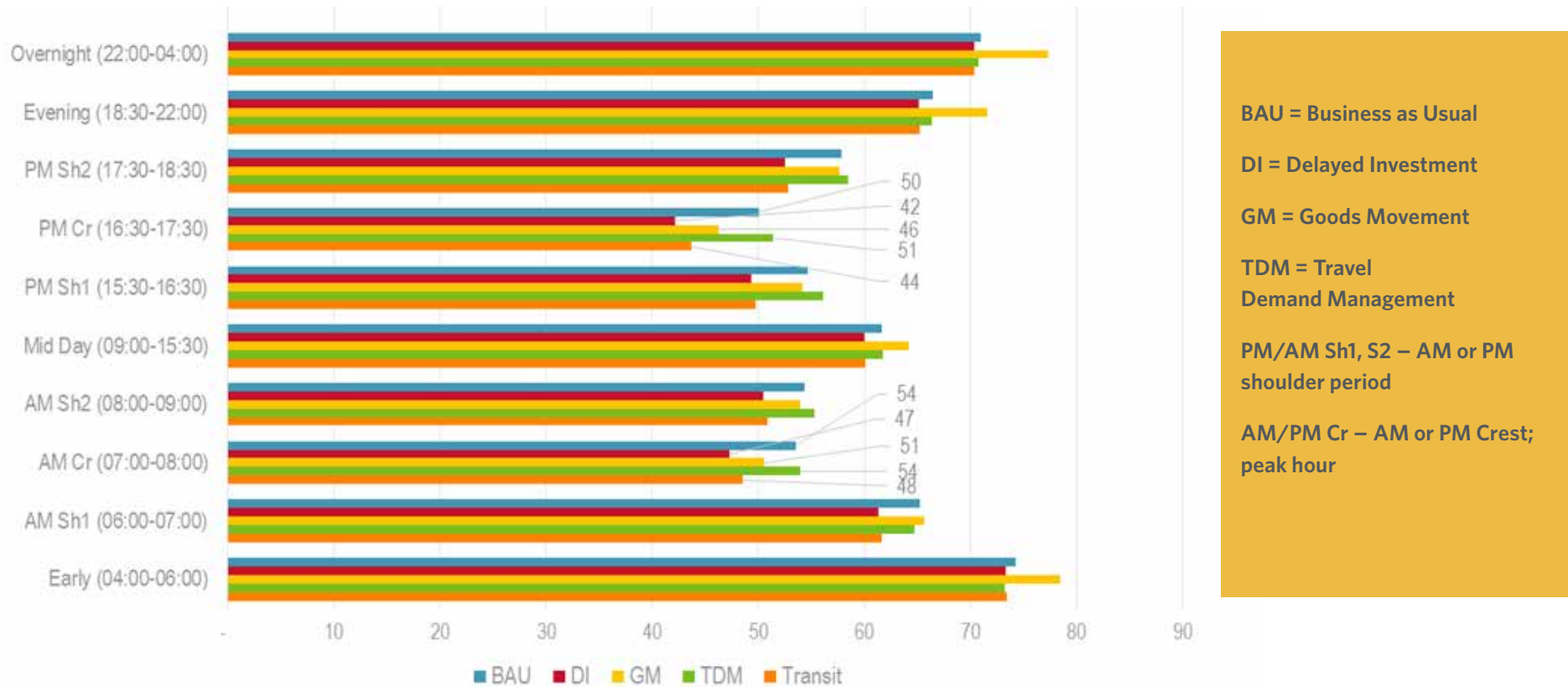
AM Peak Hour									
Scenario	BAU	Delayed Investment	Goods Movement	TDM	Transit (% Diff.)				
Vehicle km (VKMT) ('000s)	6,800	6,600	-3%	6,600	-3%	5,500	-24%	6,500	-5%
Vehicle hours (VHT)('000s)	128	139	8%	130	2%	103	-24%	134	4%
Average Network Speed (km/h)	53.6	47.3	-13%	50.6	-6%	54.0	1%	48.5	-11%
PM Peak Hour									
Vehicle km (VKT) ('000s)	8,400	8,100	-4%	8,130	-3%	6,800	-24%	8,000	-5%
Vehicle hours (VHT)('000s)	167	192	13%	176	5%	133	-26%	184	9%
Average Network Speed (km/h)	50.1	42.1	-19%	46.3	-8%	51.4	3%	43.7	-15%

All scenarios result in a reduction of VKMT. The TDM scenario shows the most dramatic reduction compared to the BAU, while also showing a slight increase in average network speed in the AM and PM peak hours. The percentage changes in these metrics compared to the BAU may appear modest, even small changes at the network-wide level can have a notable effect on travel behaviour and experience.

AVERAGE NETWORK SPEED

Figure 8 shows the average network speed at various time periods throughout the day. The average speed drops off in the AM and PM peak hours for all scenarios as roadways become more congested during commute hours. The GM scenario has the highest network speed in many of the off-peak periods, with the speeds in the other scenarios being similar in the off-peak periods. During the peak and shoulder hours (the hours on either side of the peak hour), the BAU, TDM and GM network speeds are similar and higher than the DI and TF scenarios.

Figure 8. Average Network Speed (km/h) (2045 Horizon Year)

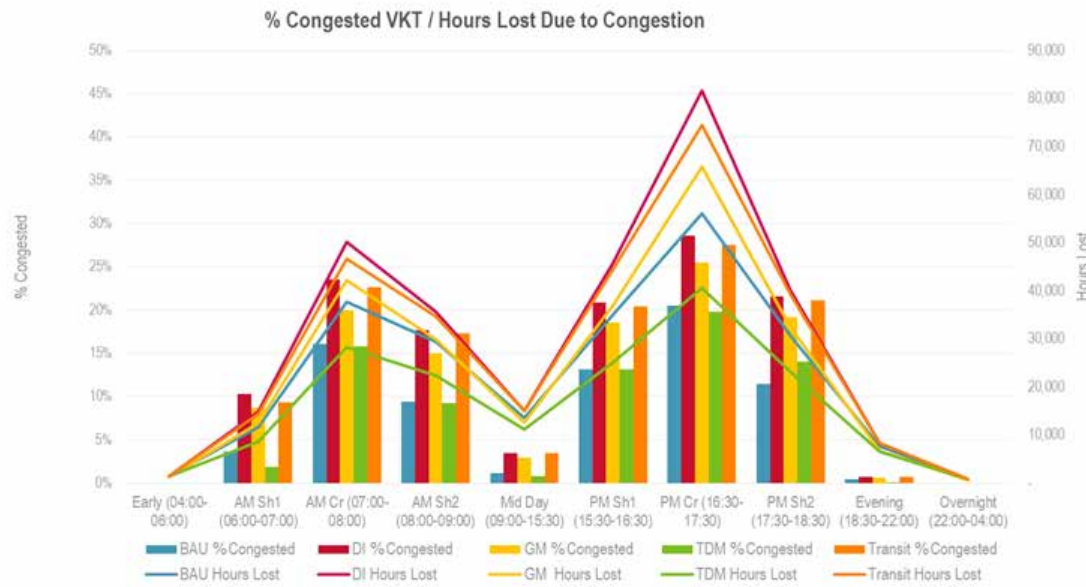
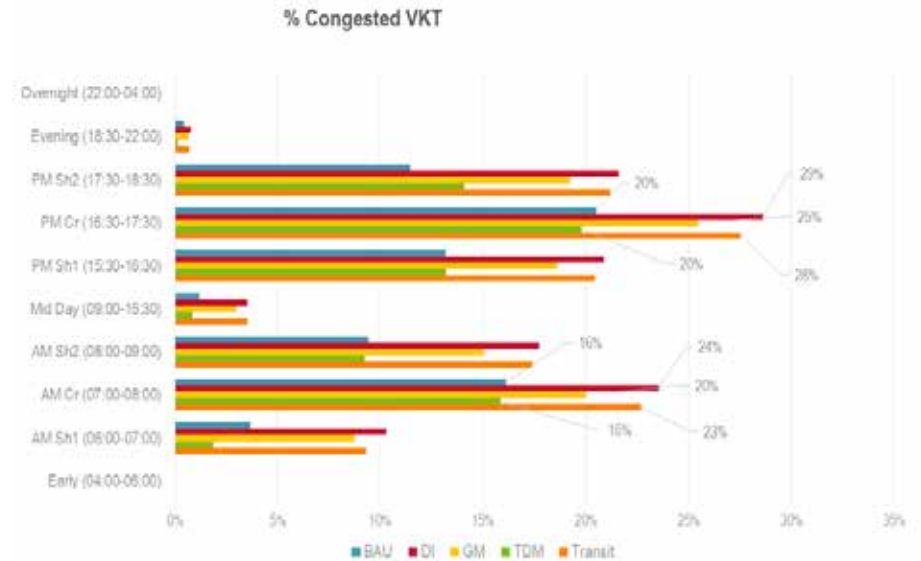


CONGESTED NETWORK

Volume to capacity (v/c) ratio is the primary metric for measuring congestion on a network link or roadway segment. As roadways become more congested the v/c ratio approaches 1.00. A v/c ratio above .85 is generally considered congested. Figure 9 summarizes the VKMT in congested conditions and the hours lost due to congestion for each scenario throughout the day.

Figure 9. Travel in Congested Conditions (2045 Horizon Year)

The DI scenario is worst performing scenario based on congested conditions, with the TF scenario showing similar results. The TDM and BAU scenarios have similar characteristics.



BAU = Business as Usual
 DI = Delayed Investment
 GM = Goods Movement
 TDM = Travel Demand Management
 PM/AM Sh1, S2 – AM or PM shoulder period
 AM/PM Cr – AM or PM Crest; peak hour

AVERAGE TRIP LENGTH

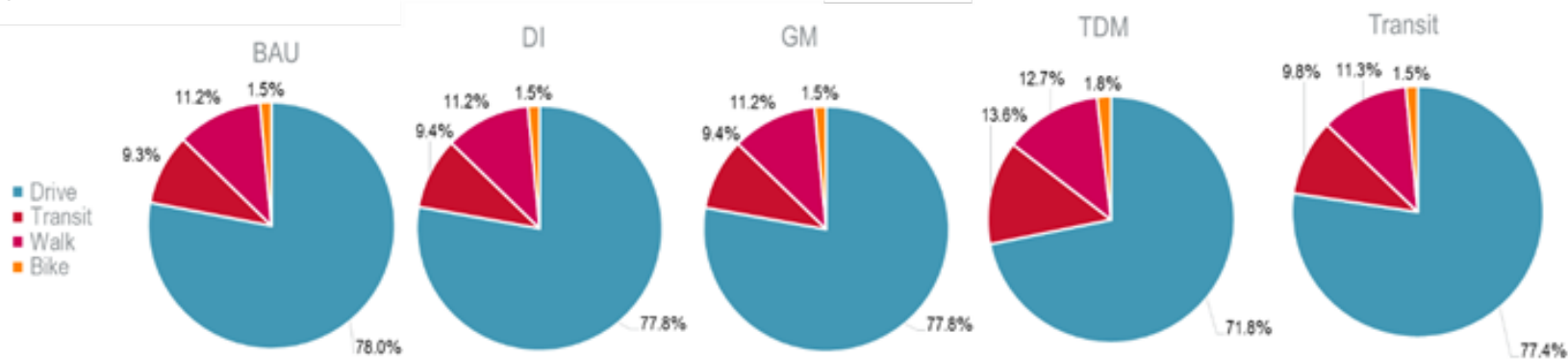
Table 5 and Figure 10 display the overall mode shifts. Mode shifts for each of the scenarios are relatively modest. The TDM scenario performs the best in achieving a mode shift with transit use increasing by almost 50 percent.

Table 5. Mode Shift (2045 Horizon Year)

Mode	BAU	DI	GM	TDM	TF
Drive	78.0%	77.8%	-0.2%	77.8%	-0.2%
Transit	9.3%	9.4%	0.1%	13.6%	4.3%
Walk	11.2%	11.2%	0.1%	12.7%	1.6%
Bike	1.5%	1.5%	0.0%	1.8%	0.3%

BAU = Business as Usual
DI = Delayed Investment
GM = Goods Movement
TDM = Travel Demand Management
TF = Transit Focus

Figure 10. Mode Shift (2045 Horizon Year)



The network-wide mode shifts should be used with caution. The mode shifts tend to be more pronounced at a more local level. The TDM scenario has the greatest effect on mode shift, but it should be noted that the level of mode in the TDM scenario would require additional transit capacity.

KEY FINDINGS:

- The removal of trucks from general purpose lanes has notable benefits for trucks and general traffic,
- The scenario moves most of the key performance metrics to about mid-way between the BAU and Delayed Investment scenarios
- This scenario shows the high sensitivity of the Delayed Investment performance to small changes in overall traffic volumes
- While the scenario tested dedicating lanes to heavy vehicles only, it may be possible to dedicate these lanes to a range of special vehicles, including transit. It may also be possible to achieve similar results by placing the dedicated facilities on other corridors.



11 Appendix B: Existing Funding Sources

APPENDIX B: Existing Funding Sources

Municipal Funding

Municipal funding for transportation generally comes from property taxes, developer capital contributions, and user fees (i.e. transit fares and parking revenues).

Property Taxes

Property taxes are the main source of revenues in many municipalities. Property taxes are typically intended for funding operating expenditures.

Local Improvement Levies

These charges are used to fund local neighborhood projects considered more beneficial to local property owners or local area. Transportation-related examples include alley reconstruction, installation of alley lighting, sidewalk reconstruction, decorative street lighting upgrades, and curb crossing installation. Projects may be initiated by property owners or by the municipality. These charges are collected by the municipality with the regular property taxes on top of municipal and education taxes, and appear as a separate line item on the tax bill.

The City of Edmonton is also using an infrastructure financing instrument called the Community Revitalization Levy (CRL), similar to the concept of “tax increment” financing. Part of tax revenues

from a CRL-designated area are allocated to fund the area’s municipal development projects and infrastructure improvements. When tax revenues within a CRL increase as a result of new economic growth and development in the area, the taxes arising from these increased values are allocated to paying the costs of improvements.

Developer Capital Contributions

These contributions are funds contributed by developers or partners to specific infrastructure projects which may include roads. Developer contributions represent a rather small amount in the total capital revenues.

User Fees / Transit Fares, Parking Revenues

User fees and sales of goods and services is a significant component of the overall revenue in many municipalities. Transit fares and parking are examples of a transportation-related user fees. User fees and their impact vary dramatically between member municipalities.

Off-Site Levies / Development Charges

Under authority of Alberta’s Municipal Government Act (and City of Edmonton Charter in case of the City of Edmonton), a municipality is permitted to

impose charges called “offsite levies” against new developments proposed by private developers to cover the incremental capital costs of new or expanded municipal infrastructure including roads and highway interchanges.

This revenue mechanism reflects a view that growth should pay for costs related to its own growth, including required municipal infrastructure and facilities that benefit it in some way. The levies are imposed at the time of subdivision or development permit and approved by the council through the adoption of a bylaw which specifies the details of the calculation methodology and the amount of the levy.

This method is used by number of municipalities in Alberta, including the City of Edmonton (called the Arterial Road Assessment). It appears that this source of funds is not widely used in all EMRB municipalities.

The MGA also enables neighbouring municipalities to collaborate with one another to impose intermunicipal off-site levies.

Provincial Funding Sources

Provincial funding for transportation projects is available in the form of grant funds allocations to municipalities that can be used for a wide range of projects and funding needs; one-time provincial grant programs for specific categories of projects; and contributions to federal grant programs that require cost-sharing. Sources of provincial transportation infrastructure funding have historically included:

- Municipal Sustainability Initiative (MSI)
- Green Transit Incentive Program (GreenTRIP)
- Strategic Transportation Infrastructure Program (STIP)
- Cost-sharing with Federal Funding Programs

Municipal Sustainability Initiative (MSI)

The Municipal Sustainability Initiative (MSI) is the provincial grant program to support municipalities for their infrastructure needs. Municipalities determine projects and activities to be funded by MSI based on local priorities within the general criteria set out in the program guidelines. Eligible projects include roads, bridges, public transit facilities, water and wastewater systems, recreation and sport facilities, and other local priorities. Funding can be used for new capital projects, capital renewal projects, as well as operations.

Municipalities have been allocated \$9.8 billion since the MSI program launched in 2007, and for 2019, MSI is estimated to provide \$671 million in funding. Part of this funding includes the former Basic Municipal Transportation Grant (BMTG) program.

MSI funding is distributed to municipalities after legislative approval of the program budget, submission of sufficient project applications, and submission and/or certification of Statement of Funding and Expenditures. Partly, the allocations are determined based on the municipal status (road length and population), and for Edmonton and Calgary based on litres of taxable road-use gasoline and diesel fuel sold in the province.

Table 6. MSI Funding Allocation to Current Edmonton Metropolitan Region Municipalities, Millions of Dollars

	2015	2016	2017	2018	2019	2020	2021
Total MSF Funding	\$263.8	\$357.8	\$590.1	\$184.9	\$188.4	\$283.9	\$264.5

Government, <https://open.alberta.ca/publications/municipal-sustainability-initiative-allocations>

The MSI funding in the Edmonton Metropolitan Region has been used for a wide range of infrastructure projects; both transportation and non-transportation infrastructure.

The MSI funding is set to expire in 2021. In November 2018, the province introduced a bill and a new fiscal framework for Calgary and Edmonton as a replacement of the MSI funding. The new fiscal framework for the two cities assumed a funding of \$500 million for 2022 to be split between them. In future years, this amount would increase based on provincial revenues and fuel sales. Starting in 2027, a further \$400 million would be provided annually for long-term transit projects through the carbon tax (and through the Alberta Community Transit Fund).

However, the provincial government recently reduced the MSI replacement funding for Calgary and Edmonton to \$455 million. The cutting of the carbon tax also effectively cancelled the second funding element that was based on that tax.

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However, the provincial government recently reduced the MSI replacement funding for Calgary and Edmonton to \$455 million. The cutting of the carbon tax also effectively cancelled the second funding element that was based on that tax.

Green Transit Incentive Program (GreenTRIP)

GreenTRIP was officially launched in 2008 as a one-time capital funding for new and expanded public transit throughout Alberta. In 2016, the GreenTRIP criteria were expanded and aligned with the newly announced federal Public Transit Infrastructure Fund (PTIF). The expanded criteria also allowed municipalities to apply for funding for a broader range of transit projects. As of March 2018, the \$2 billion in funding for GreenTRIP has been allocated.

GreenTRIP was “project-specific” funding requiring submission of an application for a proposed project with a prescribed set of project documentation and a separate project funding agreement for approved projects. Among required criteria, there was a local municipality cost-sharing requirement in the amount of at least 33.5%. The final-call approved projects were announced in December 2016.

Alberta Community Transit Fund (ACTF)

The Alberta Community Transit Fund (ACTF) was established by the province in August 2018 as a replacement of the GreenTRIP program. Through a grant system, it was going to provide Alberta municipalities with \$215 million in transit funding over five years. In the first three years, \$115 million of that funding was to come from Alberta’s Climate Leadership Plan (the former carbon tax.) The ACTF was cancelled by the provincial government in October 2019.

Strategic Transportation Infrastructure Program (STIP)

The Strategic Transportation Infrastructure Program (STIP) provides financial assistance to rural and smaller urban municipalities for developing and maintaining key transportation infrastructure. under four funding streams:

- Community Airport Program,
- Local Road Bridge Program,
- Resource Road Program, and
- Local Municipal Initiatives Program (for other transportation infrastructure projects).

The program goals are to:

- improve accessibility and the movement of goods and people,
- increase the capacity of municipal transportation infrastructure to support economic growth,
- enhance safety and efficiency, and
- extend the service life of key transportation infrastructure.

Program funding is determined each budget cycle. Typically, co-funding from local municipalities or private sector stakeholders is also required. In 2019, program awards amounted to \$1.7 million under the Community Airports Program, \$18.4 million under the Local Road Bridge Program, \$5.6 million under the Resource Road Program, and \$3.9 million under the Local Municipal Initiatives Program.

Federal Funding Sources

Transportation funding from federal sources is primarily from moneys redistributed to provinces and municipalities from gas taxes collected by the federal government, and grant investment programs for specific categories of projects. Funding streams have historically included:

- Federal Gas Tax Fund,
- Investing in Canada Infrastructure Program, and
- New Building Canada Fund.

Together, these form the main funding sources for transportation projects in the Region.

Federal Gas Tax Fund (GTF)

GTF funding is provided to provinces and territories from the federal government, which in turn flow this funding to municipalities.

The funding is intended to cover capital costs only and may not be used for maintenance costs, operating costs, debt reduction, or replacement of existing municipal infrastructure expenditures. Municipalities determine projects and activities to be funded by the GTF based on local priorities, within the general qualification criteria set out in the program guidelines. GTF funding can be pooled and banked.

The annual program budget for the GTF is subject to Canada advising Alberta of the yearly provincial funding. GTF funding allocations for municipalities are calculated on a per capita basis, according to the prior year's Municipal Affairs Population List.

The GTF funding for EMRB municipalities for 2020 is shown in the table below.

Table 7. 2020 Federal Gas Tax Fund Allocation to Current Edmonton Metropolitan Region Municipalities, Millions of Dollars

Municipality	2019
Beaumont	\$1.1
Edmonton	\$55.6
Fort Saskatchewan	\$1.5
Leduc	\$1.9
Spruce Grove	\$2.0
St. Albert	\$3.8
Devon	\$0.4
Morinville	\$0.6
Stony Plain	\$1.0
Leduc County	\$0.8
Parkland County	\$1.8
Sturgeon County	\$1.2
Strathcona County	\$5.6
TOTAL	\$77.3

Source: Alberta Open Government; <https://open.alberta.ca/publications/gas-tax-fund-allocations>

Investing in Canada Infrastructure Program

Through the federal government's Investing in Canada Infrastructure Program (ICIP), Alberta is receiving \$3.65 billion over 10 years (2018-28). Funding is available for projects under four streams:

- public transit infrastructure,
- green infrastructure,
- rural and northern communities' infrastructure, and
- community, culture, and recreation infrastructure.

The projects funded under the program will be cost-shared with the Alberta government, municipalities, and other partners.

The first funding stream is entirely dedicated to transportation with the primary objective to support new construction of local public transit. However, other programs also envision funding for roads and transportation-related projects.

Under the public transit infrastructure component, Alberta is receiving \$2.1 billion for public transit over 10 years (2018-28). As mentioned above, the primary objective of this program is to support new construction of local public transit with restrictions to rehabilitation projects (a cap of 15% of total funding at the national level). Alberta Transportation will administer transit funding as part of this agreement with the federal government.

Communities that have an existing transit authority are eligible and can apply for funding to improve or expand public transportation. The federal government will cost share up to 50% of eligible costs depending on project category.

Through the Investing in Canada Infrastructure Plan, the Government of Canada is providing approximately \$948 million for the Valley Line West LRT, adding to the approximately \$1.04 billion funding commitment from the Government of Alberta in November 2018.

New Building Canada Fund (NBCF)

NBCF is a federal program of investing in infrastructure projects that support economic growth job creation and productivity. The federal government works with provinces, territories, municipalities and the private sector to provide funds to economically-focused projects. The latest release of funds was announced in 2014 and it has now been fully allocated. It had three components:

- National Infrastructure Components,
- Provincial-Territorial Infrastructure Component, and
- Small Communities Fund.

The City of Edmonton received from NBCF \$150 million for the LRT Valley Line as well as funding for rehabilitation of the Yellowhead Trail.





Edmonton Metropolitan Region Board

Regional Action. Global Opportunity.

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This plan applies to:

City of Beaumont	Town of Morinville
Town of Devon	Parkland County
City of Edmonton	City of St. Albert
City of Fort Saskatchewan	City of Spruce Grove
City of Leduc	Town of Stony Plain
Leduc County	Strathcona County
	Sturgeon County