





Calgary Metropolitan Region Growth Plan

Draft for Council Presentations

28 April 2021

In 2015, the Truth and Reconciliation Commission of Canada released its 94 Calls to Action for Canadians to acknowledge the truth of Canada's past treatment of Indigenous Peoples and to advance reconciliation among Indigenous and all Canadians. Many of the Calls to Action are directed towards all levels of government across Canada, and over 40 of the Calls to Action are specifically relevant for municipalities to address. The CMRB recognizes that the Board and its member municipalities have a role to play in advancing the Calls to Action at a regional scale. The Board also recognizes that there is not a "one-size-fits-all" approach to reconciliation, and has started the work of relationship-building by having initial meetings with the Indigenous Nations and communities in and around the Region to understand the unique experiences and interests of each Nation and community. By understanding the unique interests of the diverse Indigenous Nations and communities in the region, the CMRB is better able to advance the Calls to Action by engaging with these Nations and communities in meaningful and mutually beneficial ways over the long term.



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LIST OF ACRONYMS

CMRB: Calgary Metropolitan Region Board

CMR: Calgary Metropolitan Region

TOD: Transit-Oriented Development

REF: Regional Evaluation Framework







A Plan for the Next Million People

We live here because we love this place. We are grounded in its history and cultures. Our strong local economy supports our families. We celebrate the beauty of our region, our connection to the land, and its agricultural and natural bounty. We have built great communities – large and small, urban and rural. We have a habit of working cooperatively for the common good. We govern ourselves effectively and use our resources efficiently.

These strengths have served us well and will continue to do so. And yet, it remains our ethical obligation to plan for sustainable growth, to ensure future generations receive a prosperous legacy.

As we look ahead into another era of growth and change in our region, we know we need to plan for a prosperous and sustainable future, not just hope that it works out favourably without planning. We have seen examples of other metropolitan regions that have planned and implemented a successful future, and others that have failed.

We share a commitment to make our region more competitive for the changing economy and more sustainable in the face of climate change. We have examined our history and learned from it. We have built our knowledge of best practices in planning for growth. We have realized benefits of cooperation between municipalities for planning an enviable future, our citizens demand and deserve.

What will we do together in agreeing upon this plan? We will make difficult, but important changes in how we grow, with benefits that could not be fully realized by working independently. We will decide **where there will be more growth**. We will determine the **type and character** of growth we want to encourage. This plan's policies and direction will equip us to make better decisions about servicing, mobility options, and stewardship of our water and other environmental resources. In short, it is a plan to maximize our growth potential, while minimizing our consumption of precious land and water resources.

This plan is a proactive road map to leave a positive legacy for our children and theirs.

01 Introduction

01

Introduction





Introduction

The Calgary Metropolitan Region Board's (CMRB) Growth Plan (Growth Plan) is a new strategy for sustainable growth for the Calgary region. The Growth Plan replaces the Interim Growth Plan for the Calgary Metropolitan Region's (the Region's) ten member municipalities.

The CMRB acknowledges that the Region is on the traditional territories of the people of the Treaty 7 region in Southern Alberta. This includes the **Blackfoot Confederacy** (comprising the Siksika, Piikani, and Kainai First Nations), the **Tsuut'ina First Nation**, and the **Stoney Nakoda** (including the Chiniki, Bearspaw, and Wesley First Nations). The Region is also home to **Métis Nation of Alberta, Region III**.

The Growth Plan provides a policy framework for managing growth and implementing long-term goals for the Calgary Metropolitan Region (CMR), reflecting the aspirations for the Region. The Growth Plan is a set of strategies for planning and managing future population and employment growth to help achieve the desired future.

The Growth Plan is guided and regulated by the Municipal Government Act and the Calgary Metropolitan Region Board Regulation (Alberta Regulation 190/2017 of the Municipal Government Act). The CMRB Regulation sets out the following objectives for the Growth Plan:

- a) to promote an integrated and strategic approach to planning for future growth in the CMR;
- b) to identify the overall development pattern and key future infrastructure investments that would:
 - i) best complement existing infrastructure, services and land uses in the CMR,
 - ii) best complement the desired scale of development and community visions across the CMR,
 - iii) best address efficient and cost-effective growth and development, and
 - iv) maximize benefits to the CMR,
- c) to coordinate decisions in the CMR to sustain economic growth and ensure strong communities and a healthy environment; and
- d) to promote the social, environmental and economic well-being and competitiveness of the CMR.

This document is the positive outcome of a collaboratively developed Plan that outlines land use patterns, policies to guide growth, development and servicing, and implementation actions to address current and long-term challenges.

1.1 Overview of the Calgary Metropolitan Region Board

The CMRB was officially established in January 2018 when the Calgary Metropolitan Region Board Regulation (“CMRB Regulation”, Alberta Regulation 190/2017) came into effect. The CMRB is the first provincially mandated growth management board in the Calgary region. The CMR consists of the ten member municipalities mandated to develop long-term growth and servicing plans for managed and sustainable growth.

1.1.1 Members

The CMR consists of the following members as shown in Figure 1:

- City of Airdrie;
- City of Calgary;
- City of Chestermere;
- Town of Cochrane;
- Foothills County;
- Town of High River;
- Town of Okotoks;
- Rocky View County;
- Town of Strathmore; and
- Wheatland County (a portion of the County as described in the CMRB Regulation).

1.1.2 CMRB Mandate

The Board’s mandate is to support the long-term sustainability of the Region by:

- Ensuring environmentally responsible land-use planning, growth management and efficient use of land;
- Developing policies regarding the coordination of regional infrastructure investment and service delivery;
- Promoting the economic wellbeing and competitiveness of the CMR; and
- Developing policies outlining how the Board shall engage the public in consultation.



1.1.3 CMRB Values

The values of the CMRB are:



Collaboration: We work together to identify opportunities and efficiencies that reduce the costs of growth and help achieve sustained prosperity for our region.



Respect: We respect each other, our neighbours, our environment, and the land on which our region is built.



Innovation: We embrace new ideas and the development, testing and iteration of bold solutions to complex regional challenges.



Diversity: We embrace our differences and celebrate the diverse people and places that make up our region.



Good Governance: We are purposeful and thoughtful in our actions, prioritizing the development of strategies and plans that guide and enhance the work we do.

1.2 Regulatory Framework

The CMRB Regulation came into effect on January 1, 2018, establishing the CMRB and mandating that the Calgary Metropolitan Region Growth Plan (Growth Plan) be prepared and submitted to the Minister of Municipal Affairs within three years of the CMRB Regulation coming into force. Due to delays caused by the COVID-19 pandemic, the Minister granted a five month extension to the original timeline.

Prior to the formal establishment of the CMRB, the member municipalities prepared an Interim Growth Plan, which was completed in October 2018. The Interim Growth Plan provides a foundation for this Growth Plan and identifies many of the regionally significant issues that are addressed within the Growth Plan. The principles identified in the Interim Growth Plan remain relevant and have been carried forward into the permanent Growth Plan. These principles include:

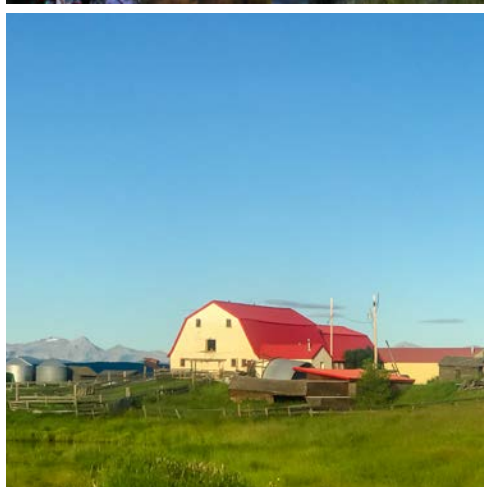
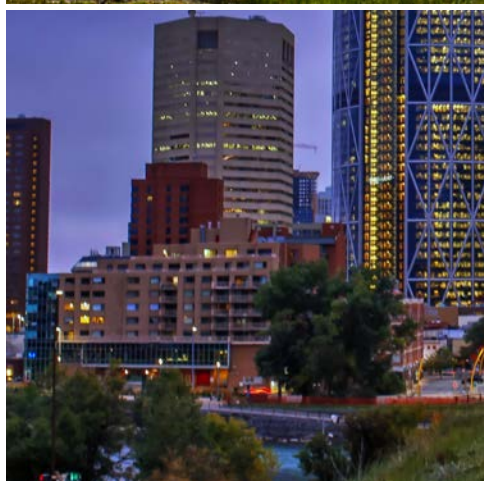
- Promote the integration and efficient use of Regional Infrastructure;
- Protect water quality and promote water conservation; and
- Encourage efficient growth and strong and sustainable communities.

The Regulation also requires the establishment of a Calgary Metropolitan Region Servicing Plan (Servicing Plan), with the same timelines as the Growth Plan. The Servicing Plan was created simultaneously with the Growth Plan and exists as a separate document. With the Provincial approval of this Growth Plan, the Interim Growth Plan will be rescinded and replaced by this Growth Plan.

1.2.1 Growth Plan Horizon

Under the CMRB Regulation, the Growth Plan must be reviewed within ten years, or earlier if directed by the Board. This review is to ensure the Growth Plan continues to address the needs of the Region and that the CMR is reaching goals to accommodate the next million regional population in approximately 25 to 30 years.

1.2.2 Growth Plan Requirements



The CMRB Regulation identifies the minimum contents of the Growth Plan. The requirements of the CMRB Regulation are as follows:

Except as otherwise specified by the Minister, a proposed Growth Plan must contain a comprehensive, integrated regional land-use plan for the CMR that includes the following:

- a) population and employment projections;
- b) the identification of
 - i) growth areas,
 - ii) land supply for residential, commercial and industrial purposes,
 - iii) agricultural lands,
 - iv) density of development,
 - v) the development and location of infrastructure, and
 - vi) corridors for recreation, transportation, energy transmission, utilities and intermunicipal transit;
- c) policies regarding the planning for corridors for recreation, transportation, energy transmission, utilities and intermunicipal transit;
- d) policies regarding environmentally sensitive areas;
- e) policies regarding the coordination of infrastructure planning and development among the participating municipalities;
- f) policies that address new settlement areas;
- g) policies that address the intensification of existing settlement areas;
- h) policies regarding the conservation of agricultural lands; and
- i) specific actions to be taken by the participating municipalities to implement the Growth Plan.

In addition to the content requirements as defined in the CMRB Regulation, the CMRB Board has also included policies related to flood prone areas in the Growth Plan.

1.2.3 Planning Framework and Hierarchy of Plans

The Growth Plan is one of the types of statutory plans identified in the Municipal Government Act. These plans must be consistent with one another, and with regional plans adopted under the Alberta Land Stewardship Act. Each of these plans is required to be consistent with a plan above it in the hierarchy of plans, and where inconsistencies exist, the higher plan in the hierarchy prevails. The hierarchy is illustrated in Figure 2.

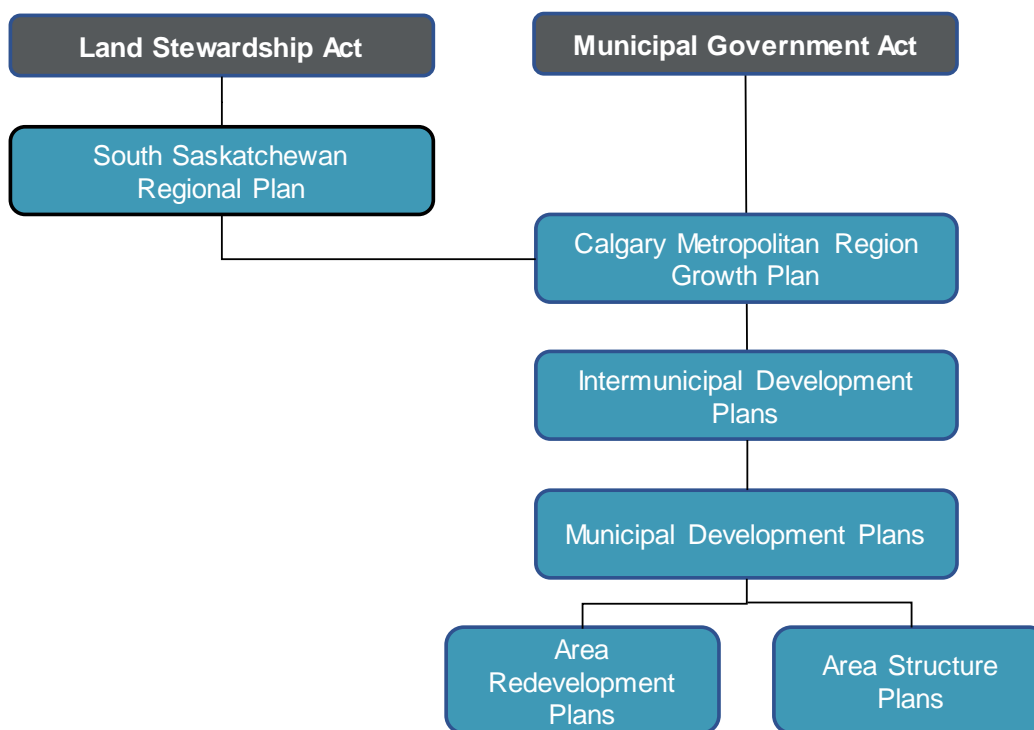


Figure 2: Hierarchy of Plans

1.2.4 South Saskatchewan Regional Plan

The Province of Alberta approved the South Saskatchewan Regional Plan in July 2014, and subsequently amended it in May 2018.

The South Saskatchewan Regional Plan:

- Establishes a long-term vision for the region;
- Aligns provincial policies at the regional level to balance Alberta's economic, environmental and social goals;
- Reflects ongoing commitment to engage Albertans, including aboriginal peoples, in land-use planning;
- Uses a cumulative effects management approach to balance economic development opportunities and social and environmental considerations;
- Sets desired economic, environmental and social outcomes and objectives for the region;
- Describes the strategies, actions, approaches and tools required to achieve the desired outcomes and objectives;
- Establishes monitoring, evaluation and reporting commitments to assess progress; and
- Provides guidance to provincial and local decision-makers regarding land-use management for the region.

The South Saskatchewan Region includes the South Saskatchewan River Basin, the Milk River Basin and the Alberta portion of the Cypress Hills, covering over 83,000 km² or about 12.6% percent of the total area of Alberta and includes the CMR.

02 Regional Context
& Plan Approach

02 Regional
Context
& Plan
Approach



Regional Context & Plan Approach

2.1 Historical Context

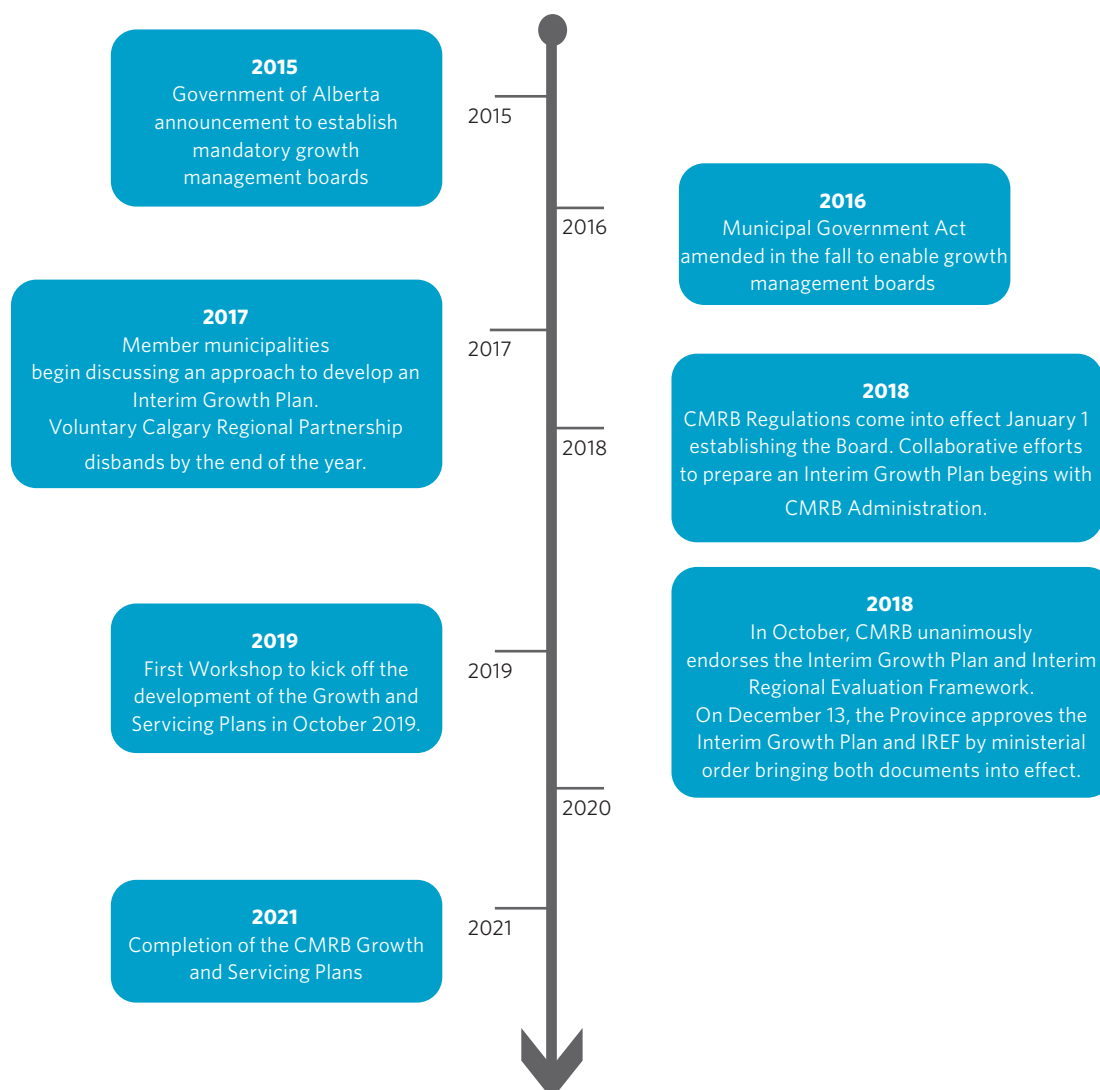
Historical growth has been shaped by the physical geography, economy, and as a result, a mosaic of diversity was created and is reflected in our communities, lifestyles and values. This history started with First Nations residing in the area for thousands of years and establishing the first settlement patterns. The next transformation began with the introduction of trading posts, followed by ranches and farms, railways, and the arrival of our modern economy, driven by the energy sector.

The Canadian Pacific Railway served as a catalyst for many of our communities throughout the region. There was relatively slow growth in many of the CMR communities for many decades, until the region's population rapidly increased once oil was discovered near Leduc in 1947.

Throughout the years, the energy industry has remained a dominant part of the regional economy, yet its cyclical nature has led to a recent downturn, including uncertainty about the industry's future.

2.2 Planning Process

Over the decades, various forms of regional planning have been undertaken. With the introduction of provincially mandated growth management boards in the Calgary and Edmonton regions, the current process leading this Growth Plan was started.



The Growth Plan was prepared through extensive collaboration among the member municipalities via the Board, Land Use and Servicing Committees and various Technical Advisory Groups comprised of subject matter experts from the member municipalities. An external Technical Advisory Group made up of technical experts from various stakeholder groups and the Province of Alberta was also directly involved in the preparation. CMRB administration met with Tsuut'ina Nation, Stoney Nakoda First Nations, and Siksika First Nation and discussed the potential for future collaborations. Residents from throughout the region were able to provide input through an extensive public engagement process, held in three phases during the development of the Growth Plan. The CMRB administration and Technical Advisory Groups authored and tendered over a dozen reports and studies, prior to development of the Growth Plan.

2.2.1 Member Municipality Overviews





2.2.1

City of Airdrie

2016 CENSUS OF CANADA POPULATION: 61,581

Airdrie is a city of neighbours, entrepreneurs and visionaries. As the second largest municipality in the Calgary region, Airdrie has experienced exponential growth over the past decade, bringing with it new residents, new businesses and new ideas. As of 2019, the City is home to over 70,000 residents and growing, our population growth has seen an average of 6 new residents a day choose to move to Airdrie. And we're a young city - the average age of our residents is 33 (provincial average is 38).

Located 15 minutes north of the Calgary International Airport and 30 minutes to downtown Calgary, Airdrie's ideal location on the Queen Elizabeth Highway has attracted more than 1,000 commercial and industrial businesses, ranging from retail services to major manufacturers, oil and gas service companies, and national logistics firms. These businesses employ more than 16,000 workers and are the back-bone of our economy. Airdrie has a strong entrepreneurial spirit, with over 1,500 home-based businesses in operation.

Airdrie has a strong sense of community and a welcoming nature. Our business and citizen surveys report some of the highest levels of satisfaction in Alberta, thanks to our safe streets, modern community amenities, and small-town feel.







2.2.1

City of Calgary

2016 CENSUS OF CANADA POPULATION: 1,392,609

The City of Calgary is home to the largest and most diverse population in the region. It is Canada's third largest city and has the highest gross domestic product per capita amongst large cities in the nation. Calgary's diverse employment is integrated with an efficient transportation network of roads, light rail transit, buses, and an international airport. Calgary is facilitating growth in the new economy in key sectors such as energy, technology, manufacturing, financial services, transportation, logistics, interactive digital media, creative industries, life sciences, and agribusiness. Advanced education includes five public post-secondary institutions including three major universities. Calgary's complete communities connect to an extensive cycling and pathway system (926 km), abundant green spaces and parks (3,000 sites) and many walkable shopping districts. The City hosts world-class attractions including the Calgary Stampede, and numerous arts, culture, entertainment, sports and leisure activities and venues. Quality of life is a key driver for Calgary, which was ranked as the most livable city in North America by the Economist Magazine in 2018 and 2019, and the fifth most livable city in the world, those same years.

Calgary is on a path to urban sustainability and resilience, with the vision of Calgary as a great place to make a living, and a great place to make a life.







2.2.1

City of Chestermere

2016 CENSUS OF CANADA POPULATION: 19,472

With a current population of over 20,000, Chestermere is one of the fastest growing municipalities in Alberta. Following a major annexation from Rocky View County in 2009, Chestermere and Calgary became the first urban to urban boundary in the region. In 2020, Calgary and Chestermere completed an Inter-Municipal Development Plan for the interface along RR 284, to create a common vision and great street to celebrate and collaboratively plan the interface. The Intermunicipal Development Plan recently won a Commendation award from the Commonwealth Association of Planners, as an example of collaboration between two municipalities.

Located just 18 km east of Calgary's city centre, the community's roots began when an irrigation reservoir called Chestermere Lake was created in the early 1900s. The lake offered an ideal place for recreation during the warm months, and many people began to build cabins along the shores. The area was formally established as a summer village in the 1970s and it grew into a town by 1993. On January 1, 2015, Chestermere officially became a city, having experienced community growth of over 150%, in the previous decade. Some industries in the area include construction, real estate, professional and administrative services, and transportation. Given that Chestermere is immediately adjacent to Calgary, 83% of the working age residents, commute to Calgary for work.







2.2.1

Town of Cochrane

2016 CENSUS OF CANADA POPULATION: **25,289**

Ideally located between Calgary and Banff National Park, Cochrane remains one of the fastest growing municipalities in Canada. The 2019 population of 29,277 reflects the 93% growth rate experienced by the community over the last decade. This rapid growth presents opportunities and reflects the desirability of the community. Preserving our western heritage, Cochrane's historic downtown features western heritage design, reflecting its past ranching economy. Primary contributors to the local economy have expanded to include construction, retail trade, agriculture and business services, with a focus on a growing technology and innovation.







2.2.1

Foothills County

2016 CENSUS OF CANADA POPULATION: **22,766**

Permanent settlement in Foothills County began in earnest about 135 years ago with the arrival of the big corporate ranches and the North West Mounted Police. Today, the County encompasses a diverse rural landscape in which leadership and planning support a strong agricultural heritage, vibrant communities, a balanced economy and the stewardship of natural capital for future generations. The County is approximately 3,600 square kilometres (or 909,000 acres) in area. Neighbours include: City of Calgary, Rocky View County, Okotoks, High River, Wheatland County, Black Diamond, Turner Valley, Longview, Vulcan County, MD of Willowcreek and MD of Ranchlands, Kananaskis Provincial Park, Stoney Nakoda First Nations, and Tsuut'ina Nation.







2.2.1

Town of High River

2016 CENSUS OF CANADA POPULATION: 13,420

The Town of High River prides itself on being a people first community with historic character, open spaces and a small-town feel. The Town promotes communities that are walkable, bikeable and drivable with facilities, services and events that enhance wellbeing. The Town is to be designed based on a scale that is comfortable to people, encourages walking, accommodates a variety of functions, can change, and adapt over time, and will foster an environment that supports and reinforces the social aspects of the Town.







2.2.1

Town of Okotoks

2016 CENSUS OF CANADA POPULATION: 28,833

Okotoks is one of the largest towns in Alberta with a population of nearly 30,000 and is located 20km south of Calgary. Known for the glacial erratic Big Rock that travelled during the ice age to just 7km west of Okotoks, the town was incorporated in 1904. The place was a stopping point for different forms of transportation through the years, including a wagon route between Fort Macleod and Calgary in the late 1800s and a resting point for the CPR. The discovery of the Turner Valley oil field in the west portion of the town in 1914 helped expand its economic growth that already included transportation infrastructure including roads, ranching, and sawmills. Today the economy also includes industrial uses such as food and beverage manufacturing and agricultural operations and services. Okotoks is home to the Drake Landing Solar Community, the first community of its kind in North America to be heated by solar energy, with over 90% of each homes' space heating needs provided by solar energy. Although the community includes a mix of residents who work in the Okotoks and Foothills region, a sizeable segment of the population commutes to Calgary. Impressively, the Town maintains a healthy civic society, well-attended community events and a strong sense of place and attachment for its residents.







2.2.1

Rocky View County

2016 CENSUS OF CANADA POPULATION: 39,407

Rocky View County contains a unique blend of rural and urban development, with the Rocky Mountains to the west visible from most areas of the County. It surrounds Calgary to the west, north and east. By population, the County is the 11th largest municipality in Alberta and third largest in the CMR. The County encompasses a wide variety of residential developments in 14 hamlets, and several country residential subdivisions. Created in 1955, the County has a history rooted in agriculture. Over time, its industrial base has expanded beyond agriculture and natural resources to include a thriving logistics and transportation hub in East Balzac, with the fifth largest assessment base in the province.







2.2.1

Town of Strathmore

2016 CENSUS OF CANADA POPULATION: 13,592

In 1883, Strathmore, like many Albertan communities, started as a hamlet along a CPR siding. In 1905, with the development of the irrigation system, Strathmore was moved 6.5km north in 1905 and centred around the CPR siding there. This move to its present location is what gave Strathmore the legacy of “the town that moved” when it was incorporated as a town in 1911.

Today, Strathmore sits 40km east of Calgary, along the Trans-Canada highway. It has a population of over 13,000, and it continues to grow. With direct access to the Trans-Canada Highway, Strathmore offers a wide variety of services to residents and travellers alike: restaurants, shopping centres, health care services, accommodations, parks and walking trails. With over 100km of interconnected pathways and trails and a state of the art Sports Centre and Field House, Strathmore is a healthy and active community. Strathmore hosts a number of community events throughout the year, most notably the Strathmore Stampede which is the third largest rodeo in Canada.

Strathmore’s recent achievements include a partnership with Solar Krafte Utilities and Capital Power to build a 320 acre solar farm which will provide green power to the grid; the construction of the joint-use headquarters for the Western Irrigation District and the Marigold Library System; and a new Municipal Town Hall in our community’s gem and regional park, Kinsmen Park.





2.2.1

Wheatland County

2016 CENSUS OF CANADA POPULATION: 8,788

(NOTE: THE 2016 CENSUS CANADA POPULATION IS FOR THE FULL COUNTY)

Wheatland County was created in 1954 when parts of two Improvement Districts, the M.D. of Bow Valley, Serviceberry and Kneehill, were incorporated. The communities within Wheatland County have a long and proud agricultural history and there are many century-old farms still in operation.

Only a portion of Wheatland County is located within the CMR. The area includes a portion of the TransCanada Highway, two industrial Area Structure Plan development areas, commercial developments, and a multitude of farm and acreage areas. In addition, Eagle Lake is a prominent and valued environmental feature, while Cheadle is a distinct and picturesque Hamlet.



2.3 Population & Employment Forecasts

The Growth Plan provides a roadmap for accommodating the next one million people, with an anticipated 600,000 additional jobs for the CMR. Based on the 2018 CMRB-approved population forecast, the regional population is expected to grow by one million people to approximately 2.5 million people between 2048 and 2053, with a longer-range forecast of three million by 2076. The average annual growth rate during this time is estimated to be 1.2%. Table 1 shows the population forecasts for each member municipality.

Table 1: Population Forecast for the Calgary Region

Forecast Population			
Municipality	2018**	2048	2053
Airdrie	66,889	130,612	140,725
Calgary	1,342,861	2,029,430	2,124,804
Chestermere	21,619	49,632	54,147
Cochrane	28,152	53,715	57,277
Foothills	24,683	39,082	41,103
High River	14,825	29,596	31,630
Okotoks	31,439	58,653	62,658
Rocky View	42,729	67,706	71,439
Strathmore	14,982	30,123	32,374
Wheatland*	973	1,590	1,671
TOTAL	1,589,152	2,490,139	2,617,828

*Wheatland County includes only the portion within the CMR

** Estimate as reported in the Population Projections, Rennie Intelligence (2018)



The City of Calgary will continue to attract the largest number of new residents. However, as the region grows, a greater percentage of population will be located outside of City of Calgary boundaries. At this time, Calgary comprises 85% of the region's population. By 2048, Calgary's population will comprise 81% of the total. Chestermere has the highest forecasted growth rate at 1.8%.

Alongside population growth is an increase in employment opportunities, with a projected increase from an estimate of approximately 842,000 in 2018, to about 1,340,000 total jobs by 2048. This increase translates to an average annual growth rate of 1.6%.

The population and employment growth forecasts by municipality are summarized in Table 2.



Table 2: Forecasted Share of Incremental Regional Growth

Municipality	Incremental Population Growth (2018-2048)	Incremental Employment Growth (2018-2048)	Share of Regional Population Growth	Share of Regional Employment Growth
Airdrie	63,420	23,500	7.0%	4.7%
Calgary	686,650	337,660	76.2%	67.9%
Chestermere	28,030	8,050	3.1%	1.6%
Cochrane	25,520	9,140	2.8%	1.8%
Foothills	14,400	22,230	1.6%	4.5%
High River	14,840	8,590	1.6%	1.7%
Okotoks	27,300	9,840	3.0%	2.0%
Rocky View	24,960	69,010	2.8%	13.9%
Strathmore	15,160	9,230	1.7%	1.9%
Wheatland*	630	330	0.1%	0.1%

*Wheatland County includes only the portion within the CMR

2.4 Regional Growth Patterns

2.4.1 Housing Trends and Future Housing Demands

The CMR includes a combination of housing types that vary between and within municipalities. The demand for housing types can change based on many factors, such as economic conditions, generational trends, and demographics, which affect overall growth patterns in the CMR.

As shown in Figure 3, single detached homes are the dominant housing type in the Calgary region. With the exception of Calgary and High River, CMR municipalities have a higher proportion of detached dwellings than the rest of Canada.

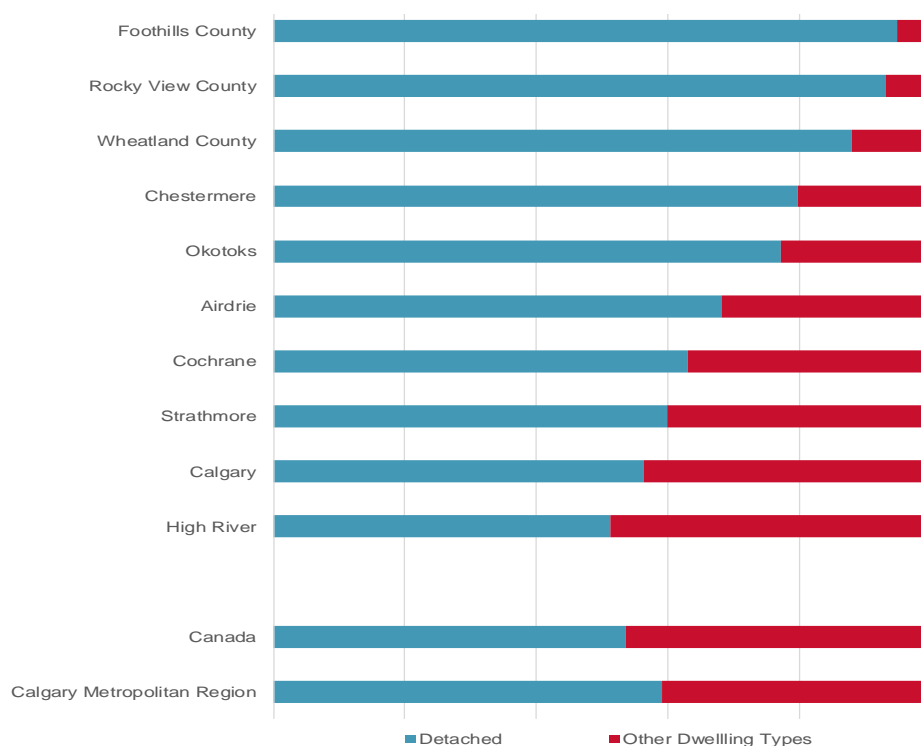


Figure 3: Occupied Dwelling Types by Municipality (2016 Census)

The population forecast showed that international migration and interprovincial migration are expected to be the two primary sources of population increase in the region over the next 40 years. Prior to the COVID -19 pandemic, the preference for apartments and condominiums appeared to be increasing compared to single detached homes, and suggests that housing needs may be changing.

2.4.2 Employment Trends

There are driver industries that are expected to lead employment growth through the years, detailed below with timelines of when their growth will play a key role in the region's economy

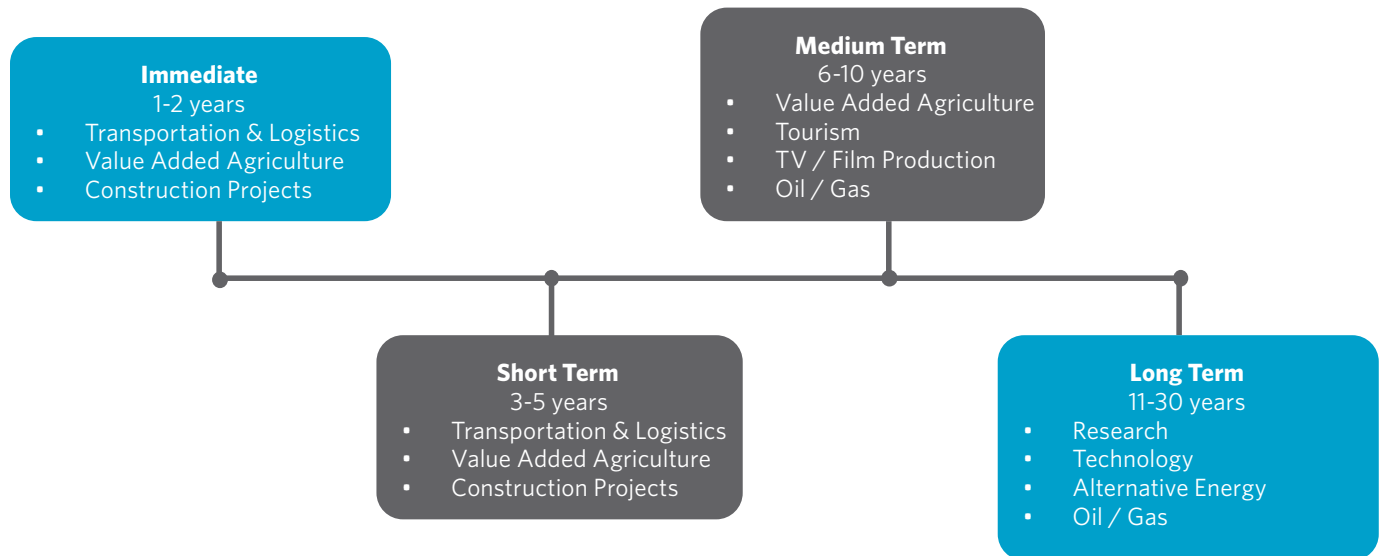
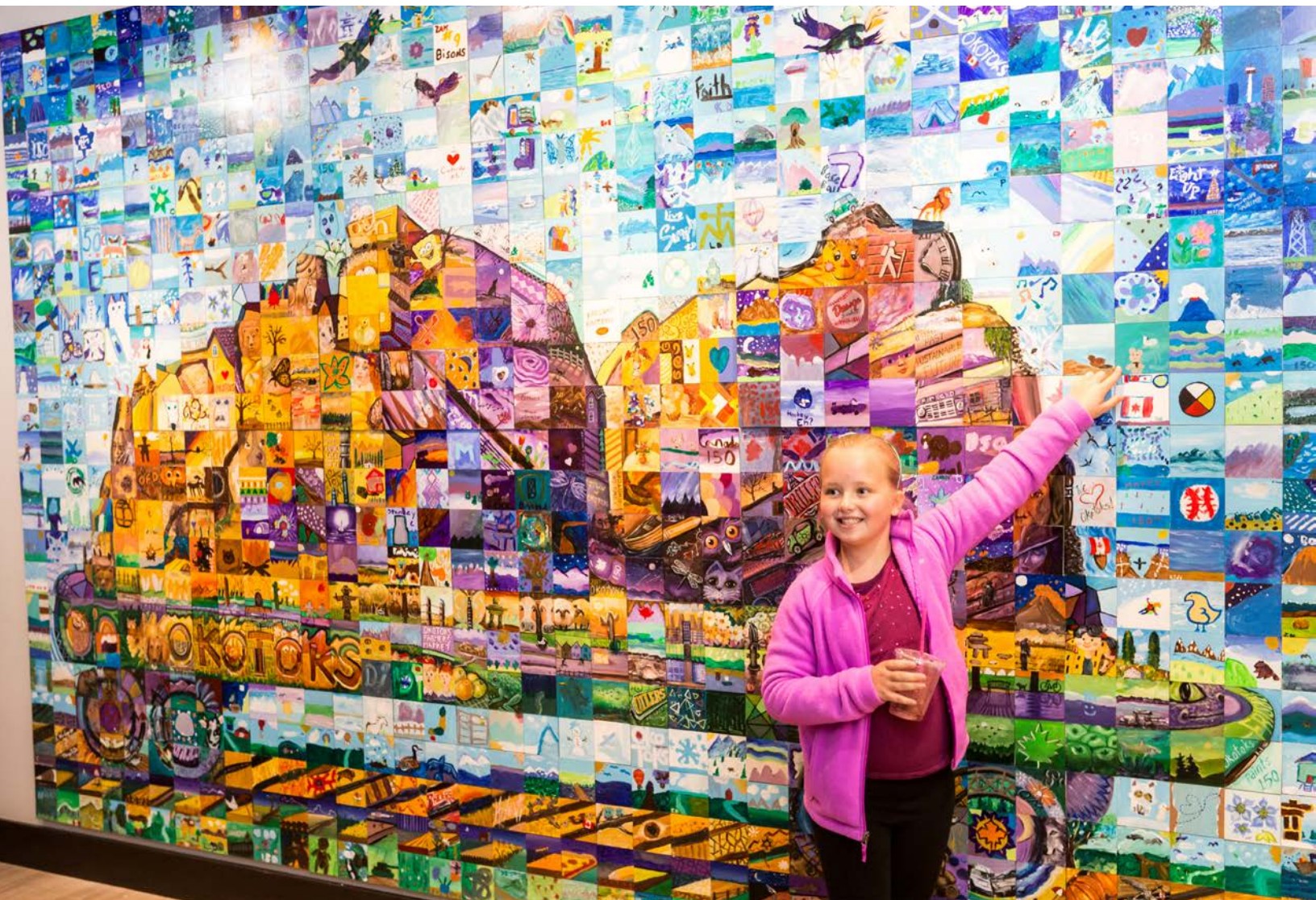


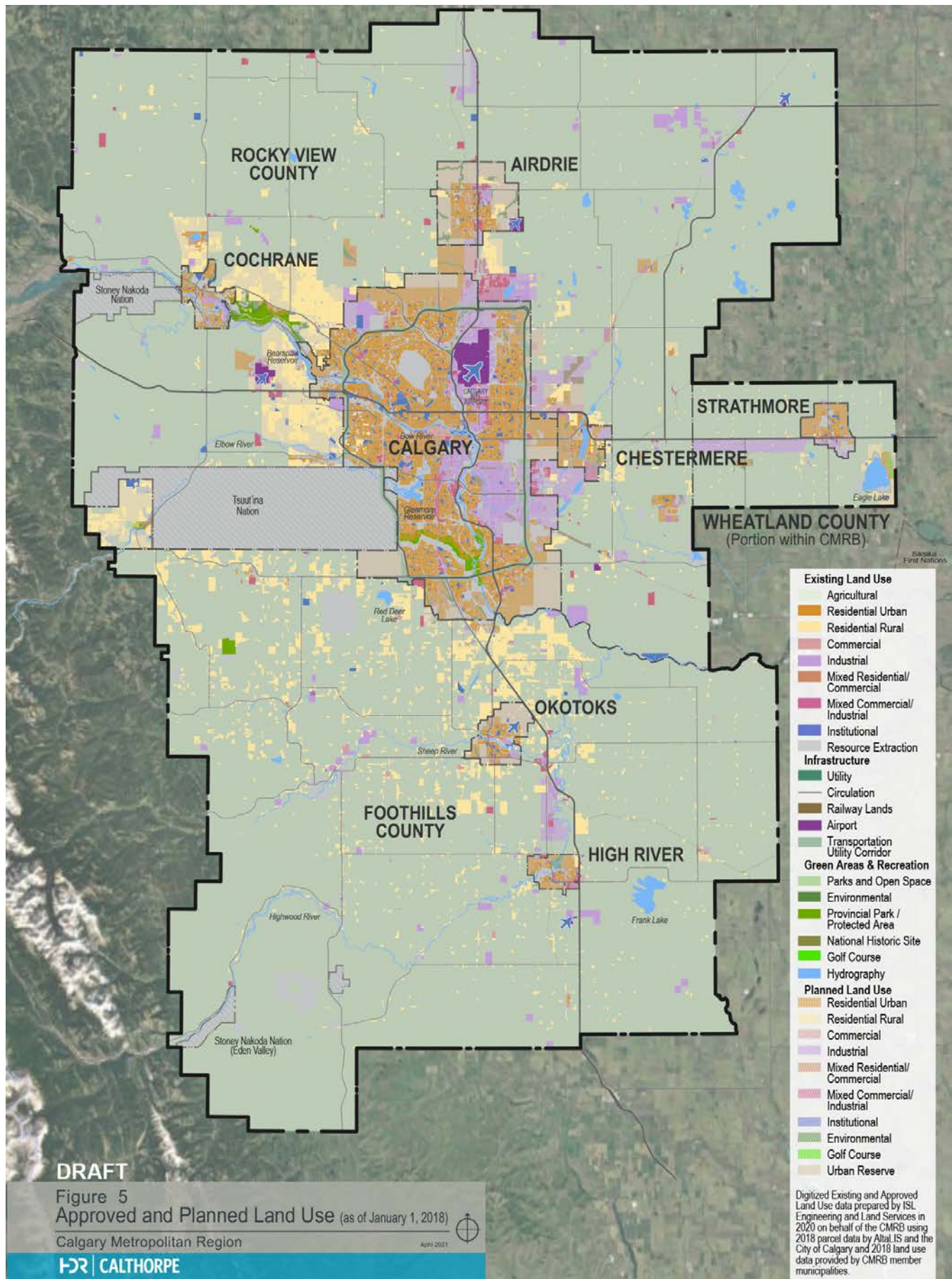
Figure 4: Driver Industries Timelines for the CMR. Source: Applications Management Consulting Ltd., 2020

As of 2020, the largest industry sector in the region is Professional, Scientific and Technical services, comprising 12% of the total employment at approximately 100,000 jobs. This sector and other existing industries are expected to grow steadily into the future. Healthcare and Social Assistance, Professional, Scientific and Technical Services, Construction, Retail Trade, and Transportation Warehousing are expected to comprise approximately 50% of this total job growth. Nearly 150,000 jobs will be allocated to "Other Industries," which will depend on economic circumstances, especially with regard to the changing prospects of the energy industry, as climate change continues to be a significant global challenge.

2.4.3 Existing and Planned Land

The CMRB created a consolidated database of existing and planned land in the CMR, known as Digitization of Existing and Approved Land use as of January 1, 2018. The region currently has more land approved through Area Structure Plans and Area Redevelopment Plans than is required to house the next million people. It is critical to recognize, these approved plans are not proportionally distributed throughout the Region, and many plans may not come to fruition based on consumer preferences including geographic locations for the approved growth areas. The existing and planned land use in the region is illustrated by Figure 5.



**Figure 5: Approved and Planned Land (as of January 1, 2018)**

Digitized Existing and Approved Land Use data prepared by ISL Engineering and Land Services in 2020 on behalf of the CMRB using 2018 parcel data provided by AltaLIS and the City of Calgary and 2018 land use data provided by CMRB member municipalities.

2.5 Scenarios for Growth

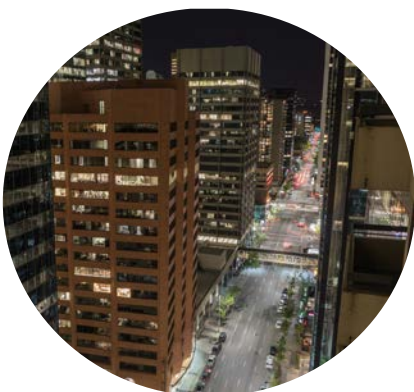


The scenario development approach used in the preparation of the Growth Plan is rooted in the information gathering and visioning tasks completed in the beginning stages of the process. Building on best practices, team discussions, and initial visioning and mapping exercises with CMRB member staff and elected officials, a baseline scenario and two alternative regional scenarios were developed.



The scenarios illustrate the effects of a range of land use patterns and infrastructure investments, as well the key consequences of trend-based growth. Scenario comparative analysis included land consumption, impacts on the transportation system and air quality, housing supply and diversity, major infrastructure costs, water consumption, and key ecological factors. The scenarios are shown in Figure 6.

A baseline or 'Business as Usual' scenario was developed as a projection of past development trends for the region. After confirming the Business as Usual assumption and inputs, two alternative scenarios were developed and tested.



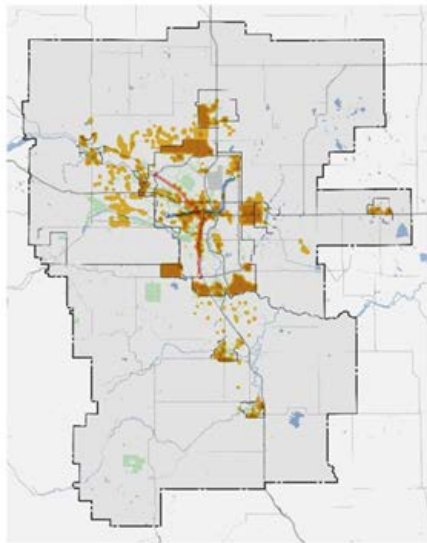
The first of these alternative scenarios was based on concentrating new development in existing centres. This is the "Compact" Scenario, an approach that prioritizes new development within (infill and redevelopment) or in close proximity to existing developed areas. The scenario represents a significant increase in residential and employment densities, particularly in the centres of towns and cities throughout the region.

The other alternative growth approach was based on focusing new development along transit corridors. This Transit Oriented Development (TOD) scenario locates a large share of new development along existing and possible future high-order transit (such as bus rapid transit and light rail) stations and corridors.

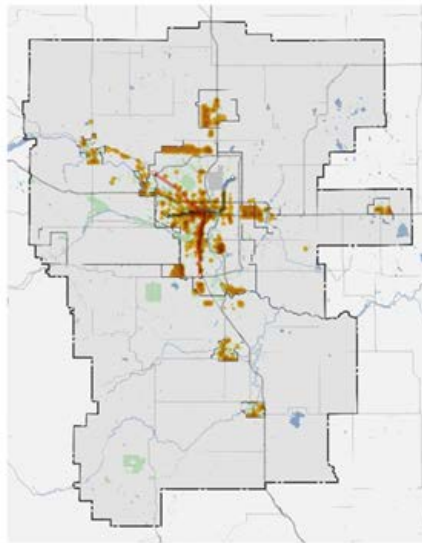
The scenario planning analysis compared various costs, savings, and impacts in land use, infrastructure, and environmental goals among the three scenarios. The scenarios vary in location of development, land use mix, average density, infill and redevelopment proportions, and higher order transit investment. The scenario results are provided in Appendix A.

The three regional scenarios accommodate the same increase in population and jobs. The scenarios vary in location of development, land use mix, average density, infill and redevelopment proportions, and higher order transit investment.

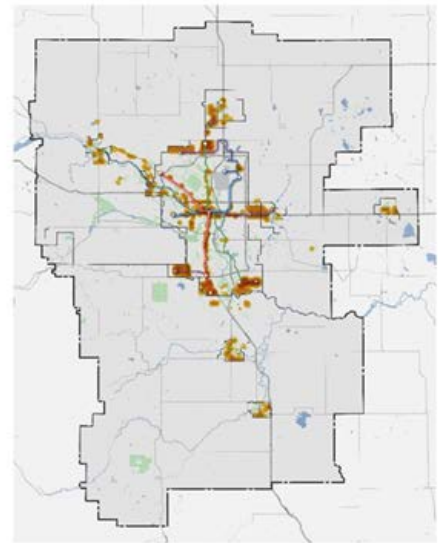
Regional Scenarios: Population



Scenario 1: Business as Usual

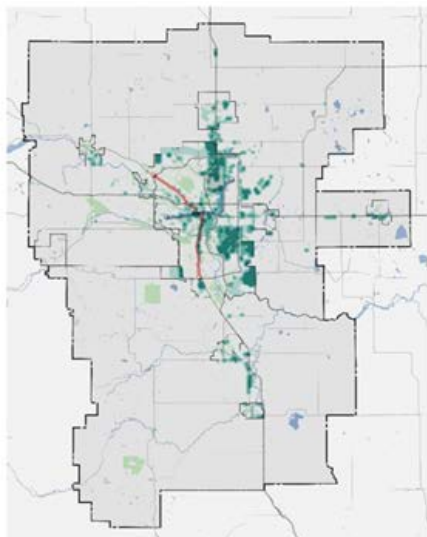


Scenario 2: Compact

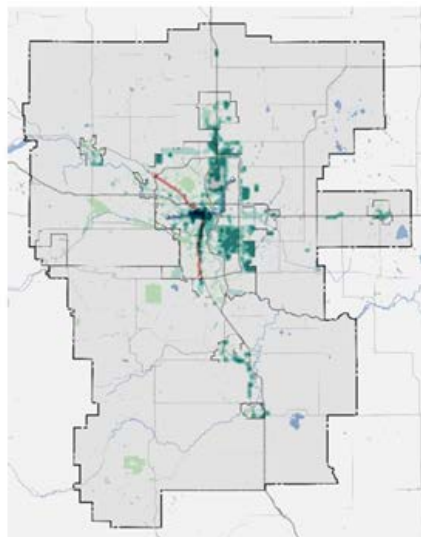


Scenario 3: TOD

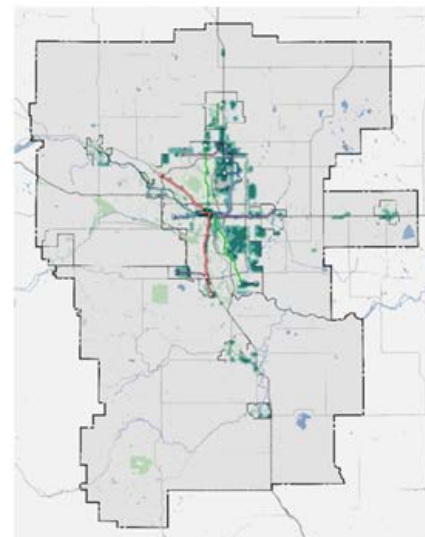
Regional Scenarios: Employment



Scenario 1: Business as Usual



Scenario 2: Compact



Scenario 3: TOD

Figure 6: Preliminary Scenario Alternatives (Business as Usual, Compact, TOD)

2.5.1 Regional Placetypes

“Placetypes” are a key element of this regional planning process. They represent development forms, generally described by densities, land use mix, and connectivity, and are used to aid in regional analysis and policy development. The Placetypes speak to a generalized land use approach at a regional level, and do not replace local land use planning or terminology. They reflect many of the typical existing development practices of the region. The following are the Placetypes used to develop the Growth Plan.



Infill and Redevelopment



Mixed Use Centre /
Transit Oriented Development



Masterplan Community



Employment Area



Residential Community



Rural and Country Cluster

2.5.2 Scenario Analysis and Comparison

Through public, stakeholder, and CMRB member municipality engagement activities, the three land-use and growth scenarios, based on the six Placetype patterns were analyzed and reviewed.

By changing the amount and location of different Placetypes within the scenarios, the impacts to the key environmental, economic and social factors (at the household level) could be examined. The three scenarios revealed considerably better outcomes for important environmental, economic, and social factors for the Compact and TOD scenarios versus Business as Usual.

Drawing on input from member municipalities, a fourth scenario, a Synthesis Scenario, was created as a final scenario that best reflects a balanced and sustainable approach to development in the CMR.. This scenario focuses development into Preferred Growth Areas and emphasizes the role of better-performing Placetypes, allocating these to varying levels among our diverse municipalities. The result is an approach to growth management which is uniquely tailored to our region and which will provide a range of diverse mobility and housing options for current and future residents.

Table 3 provides key metrics revealed by the scenario planning process.

Table 3: Benefits of Compact TOD, and Synthesis Scenarios Compared to Business as Usual Scenario

	Placetype		
	COMPACT	TOD	SYNTHESIS
	% Reduction Compared to the Business as Usual Scenario		
Land Consumption per household	31%	47%	41%
Vehicle km traveled per household	35%	32%	31%
Road and Infrastructure Cost per household	40%	38%	36%
Water Consumption per household	25%	24%	23%
Energy Cost per household	20%	19%	19%
Total Carbon per household	29%	28%	27%



2.6 Growth Plan Goals, Direction & Priorities

The CMRB has defined goals organized around six themes to provide vision and direction for the CMRB. These goals for the CMRB provide overall direction for the Growth Plan.

2.6.1 Growth Management and the Efficient Use of Land

- The CMR grows in a balanced way that reflects a variety of land uses and capitalizes on growth opportunities.
- The CMR grows in way that reduces the amount of land and resources consumed by development.
- The CMR grows in a fiscally sustainable way, including the integration of regional servicing to promote efficient land use.

2.6.2 Economic Wellbeing

- The CMR is a globally recognized economy, attracting the best and brightest in a variety of economic sectors to support regional prosperity and a high quality of life.
- The CMR has a strong and unified approach to regional economic growth, maximizing the return we will realize from investments in development.

2.6.3 Environmentally Responsible Land Use

- The CMR recognizes the important role of natural systems in the Region.
- The CMR is a leader in sustainable regional planning, which avoids and/or minimizes the impacts of development on our land, water and air.

2.6.4 Water Stewardship

- The CMR has a water strategy which promotes healthy people, healthy ecosystems and is resilient in times of drought and flood.
- The CMR has an evidence based and coordinated approach to water, wastewater, and stormwater management, which provides safe and healthy water for our growing region.



2.6.5 Shared Services Optimization

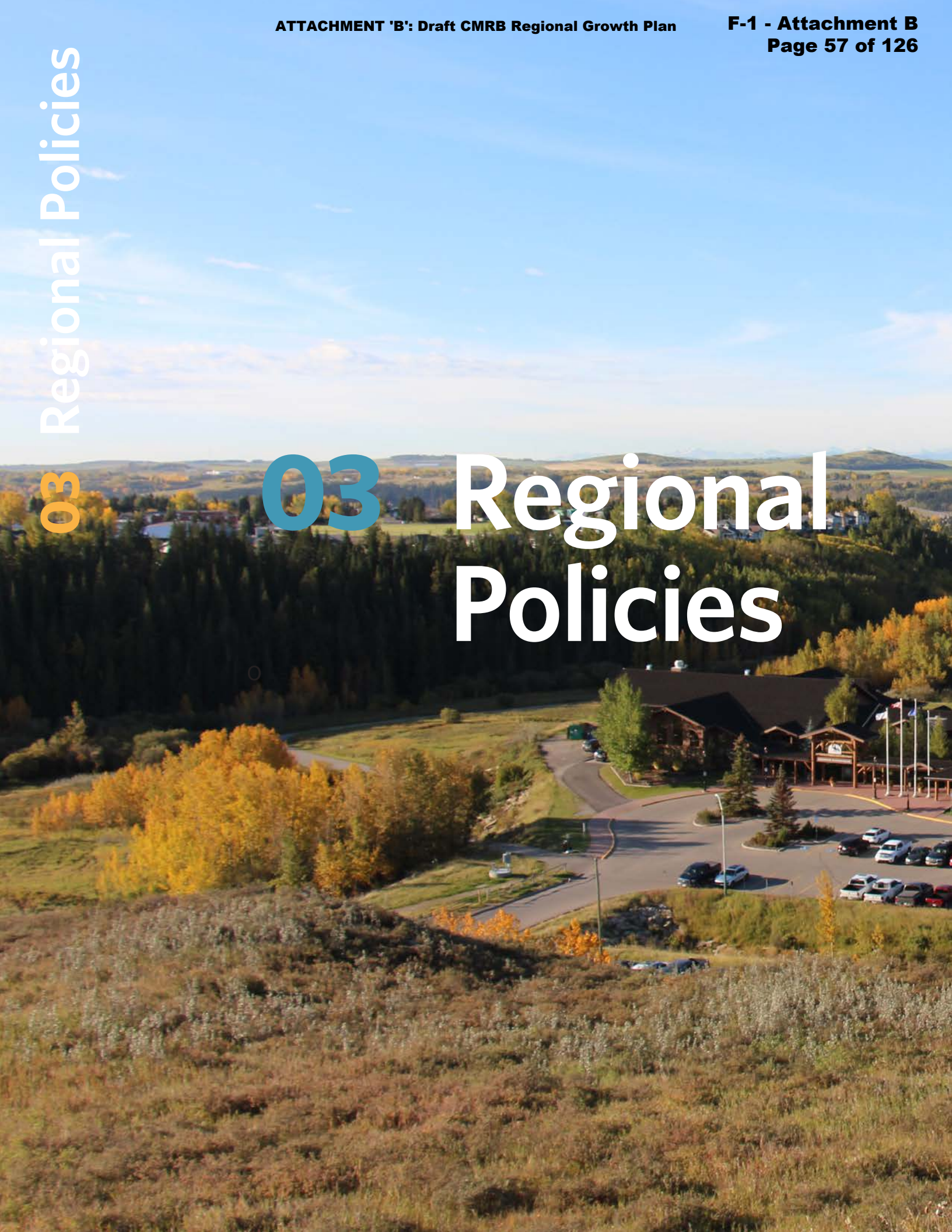
- Residents of the CMR experience borderless delivery of essential services based on a fair cost-benefit model.
- The CMR delivers services in a more efficient and sustainable way through shared services optimization.

2.6.6 Embracing Rural/Urban Differences

- The CMR has grown in a way that celebrates the individual character of our municipalities, while working together to build a stronger region.
- The CMR has worked together to make our developments perform better financially, environmentally and socially.

03 Regional Policies

03 Regional Policies





Regional Policies

3.1 Growth Management and Efficient Use of Land

Growth management strategies can promote the efficient use of land by increasing the mix and density of growth areas and by directing a significant portion of growth to areas where services can be provided efficiently. These strategies seek to promote the development of compact, walkable communities around existing city and town centres in urban areas, along transit corridors, in established rural Hamlets, and in well-planned and serviced Greenfield Development.

As municipalities continue to grow, urban and rural development areas are converging and boundaries between municipalities have become blurred. As the region adds another million people, greater cooperation amongst municipalities that make up the CMR will be needed to create a resilient and globally competitive region. If successful, a coordinated regional effort will minimize the impact of growth on social, economic, natural and fiscal components of the region. Each jurisdiction, either urban or rural will need to update their Municipal Development Plan to accommodate growth in more sustainable patterns and locations, deploying the Preferred Placetypes to create mixed-use environments in a range of contexts.

The CMR will, through these policies, enjoy mutual benefits and shared efficiencies that are beyond the reach of local planning. In the core areas of urban municipalities, infill and redevelopment should reinforce the role of core areas as economic, cultural, and social centres for their respective towns and cities. In the Preferred Growth Areas, which include Urban Municipalities, Joint Planning Areas, and Hamlet Growth Areas, future planning should strive for fully serviced urban neighborhoods and Employment Areas where people will be able to walk to everyday needs, or to transit for longer-distance trips. In rural areas, plans should seek to conserve agricultural land and resources by clustering growth around community infrastructure, facilities, and services, and in Hamlet Growth Areas. This approach will result in improved positive environmental, economic and social circumstances, reducing the impacts of Climate Change based on proven carbon reduction measures, associated with more compact communities with increased mobility choices. Appendix A outlined the multiple benefits such a direction can produce.

The following policies are built around three fundamental strategies that support the CMR goals and objectives listed above:

- Compact mixed-use Placetypes along with infill and redevelopment can improve environmental, social and economic outcomes. See policies 3.1.2.
- Directing urban development to Preferred Growth Areas of Urban Municipalities, Joint Planning Areas and Hamlet Growth Areas will improve multi-jurisdictional cooperation, efficient supply of services, and equitable distribution of shared obligations. See policies 3.1.3.
- Clustered development, agricultural preservation, appropriate commercial areas, and Hamlets provide development opportunities for rural areas. See policies 3.1.3 and 3.1.7.

CMR Goals	Growth Plan Objectives
The CMR grows in a balanced way that reflects a variety of land uses and capitalizes on growth opportunities.	(a) Create opportunities for each municipality to grow and develop in a way that contributes to balanced regional growth. (b) Promote a range of housing and neighbourhood types within each municipality. (c) Strengthen the importance and livability of existing urban and rural centres. (d) Provide adequate land area for a variety of employment opportunities in appropriate areas.
The CMR grows in way that reduces the amount of land and resources consumed from development.	(e) Focus future urban growth in suitable locations where land use, infrastructure and servicing are aligned. (f) Promote compact and walkable communities. (g) Reduce the amount of land consumed by achieving higher densities and more efficient and mixed-use development patterns. (h) Limit or discourage new auto-oriented residential communities that are dominated by single-detached housing with limited amenities. (i) Encourage country residential development in a clustered form of development which promotes land conservation for ecological and open space purposes.
The CMR grows in a fiscally sustainable way, including the integration of regional servicing, to enable a cost efficient land use pattern.	(j) Reduce the cost of infrastructure to support growth compared to past practices. (k) Focus regional service delivery in areas that take advantage of existing services, collaboration and plans.

3.1.1 Region-Wide Policies

Policies

3.1.1.1 Municipalities should collaborate to coordinate planning for land use, infrastructure, and service provision with other member municipalities, where appropriate.

3.1.1.2 Municipalities should collaborate with municipal neighbours, where appropriate, on the planning and development of statutory plans, including Municipal Development Plans, Area Structure Plans, and Area Redevelopment Plans.

3.1.1.3 All statutory plans shall contain policies that identify and address the following related to agricultural land:

- (a) impacts of future development on agricultural land, including fragmentation of agricultural land; and
- (b) strategies to mitigate the identified impacts of development on agricultural land, including any impacts to adjacent agricultural land.

3.1.1.4 Municipalities should collaborate and coordinate to provide access to local institutional and recreational services and/or enabling use of existing regional facilities in other municipalities where agreements are in place

3.1.2 Preferred Placetypes

The Preferred Placetypes are development forms that, when used as the dominant development forms, improve environmental and fiscal outcomes and create opportunities for efficient infrastructure and servicing. Their use is key to the Growth Plan and should be used in all Preferred Growth Areas.

Policies

3.1.2.1 The Preferred Placetypes shall consist of the following three Placetypes: Infill and Redevelopment, Masterplan Communities, and Mixed-use/TOD. The Preferred Placetypes shall be planned and developed

as complete communities that provide:

- (a) compact, contiguous development that makes efficient use of infrastructure and services;
- (b) a diverse mix of housing types;
- (c) Density in accordance with the associated placetype definitions;
- (d) interconnected street network and urban form to support active transportation and transit;
- (e) access to local services, neighbourhood amenities, and commercial uses;
- (f) access to local institutional and recreational services and/or enabling use of existing regional facilities in other municipalities where municipal agreements are in place; and
- (g) high quality parks, trails and open spaces that connect to regional trails where appropriate.

3.1.2.2 The minimum average residential Density for Masterplan Communities shall be as follows:

- (a) City of Calgary: 25 dwelling units/hectare (10 dwelling units/acre);
- (b) Other Urban Municipalities and Joint Planning Areas: 20 dwelling units/hectare (8 dwelling units/acre); and
- (c) Hamlet Growth Areas: 15 dwelling units/hectare (6 dwelling units/acre).

3.1.2.3 The minimum average residential Density for Mixed-use/TOD shall be as follows:

- (a) City of Calgary: 50 dwelling units/hectare (20 dwelling units/acre);
- (b) other Urban Municipalities and Joint Planning Areas: 37 dwelling units/hectare (15 dwelling units/acre); and
- (c) Hamlet Growth Areas: 30 dwelling units/hectare (12 dwelling units/acre).

3.1.3 Preferred Growth Areas

Directing development towards Preferred Growth Areas will enable the Region to invest more efficiently in transportation, transit, servicing, and infrastructure

Policies

3.1.3.1 New development in Preferred Growth Areas shall make efficient and cost-effective use of existing and planned infrastructure through agreements with service providers and connect to municipally owned services, or piped water and wastewater services provided by others.

3.1.3.2 New development in Preferred Growth Areas shall provide access to existing or planned community services and facilities; or make efficient and cost-effective use of existing and planned community services and facilities through applicable agreements and cost sharing with service providers.

3.1.3.3 Employment Areas should be directed to Preferred Growth Areas where infrastructure, servicing and transportation is available. In addition, they should be located in areas close to a population centre that can provide opportunities for short commutes and locations where transportation infrastructure can provide for efficient movement of goods.

3.1.3.4 Employment Areas may be considered outside of Preferred Growth Areas in circumstances where:

(a) the applicant municipality provides rationale as to why the Employment Area cannot be located within a Preferred Growth Area;

(b) the location can provide a transportation network suitable for the scale of the proposed development;

(c) the development is compact and makes efficient use of land, infrastructure and services;

(d) the applicant municipality has demonstrated collaboration with all municipalities within two kilometres, including consideration of cost



and benefit sharing between these adjacent municipalities.; and

(e) the development has existing or planned services of water, wastewater and/or stormwater servicing with a preference for the potential for full municipal servicing.

3.1.4 Placetype Targets for Population Growth

A key element of the Growth Plan is to guide the CMR towards the increased use of Preferred Placetypes and Employment Areas in Preferred Growth Areas to achieve better outcomes in infrastructure efficiency, service coordination, economic prosperity, and environmental stewardship. Each municipality has a responsibility to assist the Region in moving towards the many benefits of the Preferred Placetypes, including a reduction in land consumption across the Region, as well as more cost-effective, efficient infrastructure and servicing.

Policies

3.1.4.1 Municipalities should achieve the minimum proportions of dwelling units in Preferred Placetypes identified for new planned residential development as follows:

(a) City of Calgary: 90%;

(b) other Urban Municipalities and Joint Planning Areas outside the City of Calgary: 75%; and

- (c) Hamlet Growth Areas: 60%.

3.1.4.2 The proportions of Preferred Placetypes specified in 3.1.4.1:

(a) can be mixed and located as appropriate within each municipality in its Municipal Development Plan; and

(b) are intended to be calculated across the municipality as individual developments may vary significantly in their proportion of the Preferred Placetypes.

3.1.4.3 The proportion of dwelling units not allocated to Preferred Placetypes as required in Policy 3.1.4.1 may be either in Preferred Placetypes or in the Residential Community placetype.

3.1.4.4 The minimum average residential density for the Residential Community placetype shall be as follows:

(a) City of Calgary: 12 dwelling units/hectare (5 dwelling units/acre);

(b) other Urban Municipalities and Joint Planning Areas: 12 dwelling units/hectare (5 dwelling units/acre); and

(c) Hamlet Growth Areas: 8.5 dwelling units/hectare (3.5 dwelling units/acre)

3.1.5 Rural and Country Cluster Placetype

The Rural and Country Cluster Placetype provides opportunities for smaller, lower density residential development that are well-connected to the adjacent rural landscape.

Policies

3.1.5.1 The Rural and Country Cluster Placetype should be characterized by larger lot sizes, lower density, and single-detached housing. This Placetype may include country cluster patterns that configure housing development in a focused area and preserves remaining land for open space.

3.1.5.2 Rural and Country Cluster Placetype, when it is not clustered shall comply with the following:

(a) the development shall not be located within a Preferred Growth Area; and

(b) the maximum Density is 1.2 dwelling units / hectare (0.5 dwelling units/acre).

3.1.5.3 The Rural and Country Cluster Placetype is encouraged to be developed in a country cluster residential pattern, in locations where infrastructure and services can be provided.

(a) The Rural and Country Cluster Placetype when it is clustered shall comply with the following:

i) the development shall not be located within a Preferred Growth Area;

ii) The maximum Density is 1.2 dwelling units / hectare (0.5 dwelling units/acre) overall, which can be clustered onto areas with no more than 80 dwelling units, and a Density of 7.5 dwelling units/hectare (3 dwelling units/acre); and

iii) the remaining open space shall be preserved in accordance with the relevant municipal plans and/or bylaws.



3.1.6 Locational Criteria for Placetypes

Each placetype has appropriate and important locational criteria. The Preferred Placetypes and Employment Area locations, because of their densities and potential to support transit, are directed to Preferred Growth Areas with adequate infrastructure, circulation, and services. The Rural and County Cluster placetype is designed to preserve and enhance the rural character and economy of the rural areas.

Policies

3.1.6.1 Municipalities shall comply with the following locational criteria when designating areas for Placetypes:

(a) Preferred Placetypes shall only be located in Urban Municipalities, Hamlet Growth Areas, or Joint Planning Areas;

(b) The following types of Employment Areas have no locational criteria:

i) resource extraction and energy development;

ii) Agriculture-related business including Processors, Producers, and other Agri-business and related accessory uses;

iii) home-based business; and



iv) Small Employment Areas less than eight hectares (20 acres), and not within two kilometres of a neighbouring municipality are permitted, unless the location is within an area designated for employment area development within an adopted Intermunicipal Development Plan.

3.1.6.2 The Rural and Country Cluster Placetype shall not be located in Preferred Growth Areas.

3.1.6.3 The Residential Community Placetype shall only be permitted in Preferred Growth Areas. The minimum Preferred Placetype proportions, as specified in 3.1.4.1, and the minimum Density requirements, in accordance with 3.1.4.4 shall be adhered to.

3.1.7 Hamlet Growth Areas

Hamlet Growth Areas provide an important opportunity for settlements in rural areas with lower density mixed-use developments and Employment Areas. They play an essential role in providing services and amenities for residents of rural areas that cannot easily access urban municipalities. Hamlet Growth Areas are intended to accommodate growth opportunities in rural municipalities that are not contiguous to urban municipalities and serve a broad geographic area. They are meant to enhance the rural character of the Region by adding strategically located nodes.

Policies

3.1.7.1 Hamlet Growth Areas shall be identified as follows:

(a) within Rocky View County, three Hamlet Growth Areas shall be established and are listed as Harmony, Bragg Creek and Langdon with boundaries shown on Schedule 1 – Regional Growth Structure;

(b) within Foothills County, three Hamlet Growth Areas shall be established at a future time by Foothills County in accordance with the criteria for establishing new Hamlet Growth Areas; and

(c) within Wheatland County, one Hamlet Growth Area shall be established and is listed as Cheadle with boundaries as shown on Schedule 1 – Regional Growth Structure.

3.1.7.2 Foothills County does not require Board approval for the location of the three Hamlet Growth Areas provided the locations meet the criteria for new Hamlet Growth Areas established in the Growth Plan. Once the three Hamlet Growth Area locations are established by Foothills County they will be considered as Preferred Growth Areas in accordance with the Growth Plan.

3.1.7.3 Future growth in Hamlet Growth Areas shall:

(a) consist of the proportion of the Preferred Placetypes specified in 3.1.4.1, 3.1.4.2, and the Employment Area placetype; and

(b) identify a main street or mixed-use node where employment and mixed-use development will be focused.

3.1.7.4 Municipal Development Plan updates shall identify geographic boundaries for all Hamlet Growth Areas identified in the Growth Plan.

3.1.7.5 Rural Municipalities may propose new Hamlet Growth Areas. When evaluating the merits of creating a new Hamlet Growth Area the Board must consider how the proposed Hamlet Growth Area:

(a) is not contiguous to an Urban Municipality, with a recommended minimum distance from the existing boundary of an Urban Municipality of two kilometres;

(b) has potential for urban-style development of the Preferred Placetypes and Employment Areas;

(c) has existing or planned services of water, wastewater and/or stormwater servicing with a preference for the potential for full municipal servicing;

(d) has access to existing major transportation networks;

(e) has a land area of 260 hectares (640 acres) or less;

(f) has an existing main street or potential for a main street, or mixed-use node where employment and mixed-use developments can be focused;

(g) may have an existing urban or hamlet development pattern; and

(h) is necessary to meet established growth pressure and market demand.

3.1.7.6 Municipalities with existing Hamlet Growth Areas may propose expansions to Hamlet Growth Areas. When evaluating the merits of expanding a Hamlet Growth Area the Board must consider whether the proposed Hamlet Growth Area expansion aligns with:

(a) a demonstrated pattern of successfully completed development areas resulting in a limited land supply within the existing boundaries;

(b) continued market interest that requires expansion to serve;

(c) demonstrated developable land for the



requested expansion, including identification of any major environmental features and/or constraints;

(d) demonstrated collaboration with neighbouring municipalities having borders (at the time of the adoption of the Growth Plan by the Minister) within two kilometres of the proposed expansion;

(e) demonstrated consideration for a Joint Planning Area and a Context Study when proposed within two kilometres of any neighbouring municipality; and

(f) the ability to provide piped water and wastewater services to the expansion area.

3.1.8 Joint Planning Areas

Focusing growth into areas adjoining urban municipalities and in the path of development pressures is key to growth management and efficient use of land and infrastructure. Joint Planning Areas as identified on Schedule 1 – Regional Growth Structure will accommodate growth in Preferred Placetypes that have been shown to result in lower environmental, economic, and social impacts. In addition, collaboration between jurisdictions is important throughout the CMR and a fundamental part of a successful region. Joint Planning Areas provide opportunities for neighbouring municipalities to collaborate in areas where growth impacts multiple municipalities and where a high level of municipally provided services will be necessary to support the full potential of the area. Existing Area Structure Plans and approved land uses introduce planning challenges, and they also highlight the need for collaboration around regionally significant considerations. Presently these areas have limited intermunicipal plans that align both servicing and land use. These areas will benefit from a coordinated servicing and land use approach for the entire area.

A single Context Study that addresses this coordination should inform Regional Evaluation Framework assessments, as neighbouring municipalities will have already agreed to the major issues affecting the Joint Planning Area. Areas within the Joint Planning Areas, beyond demonstrated growth needs, may be set aside from development.

Policies

3.1.8.1 Policies pertaining to Joint Planning Areas shall apply to the Joint Planning Areas shown in Appendix B and on Schedule 1 - Growth Structure.

3.1.8.2 The Board may adopt additional Joint Planning Areas, repeal them, or modify their boundaries. The area encompassed by any new Joint Planning Area shall be added to the Growth Structure Map. Municipal Development Plans must reflect such amendments upon their next Periodic Review.

3.1.8.3 When evaluating the merits of creating a new Joint Planning Area, the Board must consider how the proposed Joint Planning Areas meets the following locational and intermunicipal criteria. A Joint Planning Area should be an area that:

(a) is contiguous to existing urban areas;

(b) has an existing major transportation corridor(s);

(c) may have potential or includes an existing transit corridor;

(d) has potential for urban-style development of the Preferred Placetypes and Employment Areas at a scale that warrants designation as a Preferred Growth Area in the Region;

(e) is not primarily comprised of major environmental constraints (including Environmentally Sensitive Areas, flood prone areas, steep slopes);

(f) has existing or planned intermunicipal services of water, wastewater and/or stormwater servicing with a preference for the potential for full municipal servicing;



(g) requires shared amenities and services;

(h) involves other regionally significant land use and servicing matters that would benefit from inter-municipal coordination (For example, airports, recreational amenities, and environmental features); and

(i) will support growth pressure and market demand for the planned development in the area.

3.1.8.4 The municipalities which are party to the Joint Planning Area shall prepare a background report, called a Context Study which will inform new Area Structure Plans and development in the Joint Planning Area, the Growth and Servicing Plans, as well as Municipal Development Plans.

3.1.8.5 Within one year of the approval of the Growth Plan by the Board, the participating municipalities shall adopt a Terms of Reference to govern the development of the Context Study, including:

a) a process for dispute resolution;

(b) details pertaining to how new Area Structure Plans will be considered by the member municipalities prior to completion of the Context Study; and

(c) a project schedule for completion of the Context Study.

3.1.8.6 Within three years of the adoption of the Growth Plan by the Minister of Municipal Affairs, participating municipalities shall complete a Context Study for each Joint Planning Area.

3.1.8.7 A Context Study should include the following:

(a) a vision for the area;

(b) a servicing strategy for water, sewer, and stormwater;

(c) a transportation and mobility plan identifying the designation of key future transportation corridors, including major roads with regional connections, regional transit corridors and Transit-Ready Corridors for Transit Oriented Development, and pathways and active transportation networks;

(d) strategies to address intermunicipal environmental issues;

(e) strategies to equitably share costs and benefits associated with the development of the Joint Planning Area and its services such as fire, police, recreation, transportation and utilities;

(f) strategies to provide efficient and logical servicing, incorporating shared servicing to the greatest extent possible;

(g) a general land use plan that aligns the servicing strategy with future development areas. The general land use plan shall identify the location of Placetypes as defined and regulated in the Growth Plan and may identify non-development areas that are reserved for long-term growth, Agriculture, and/or environmental protection;

(h) a land use statistics table based on the land use plan identifying the amount of land, and required

densities allocated to various Placetypes as defined in the Growth Plan; and

(i) sequencing of developments, including strategies to ensure that development occurs in an orderly manner, maximizing the efficiency of servicing.

3.1.8.8 A Context Study may propose amendments to the boundaries of a Joint Planning Area to the Board, which would be updated in the next Periodic Review of the Growth Plan.

3.1.8.9 Joint Planning Areas are to be treated as study areas for planning purposes where appropriate locations for growth are to be determined.

3.1.8.10 Statutory plan amendments in Joint Planning Areas may continue to be adopted prior to completion of Context Studies, subject to the policies of the Growth Plan.

3.1.9 Existing Area Structure Plans and Area Redevelopment Plans

There are Existing Area Structure Plans and Area Redevelopment Plans throughout the region that predate the Growth Plan or were approved under the Interim Growth Plan. There are several undeveloped or partially developed Existing Area Structure Plans or Area Redevelopment Plans that may or may not be aligned with the Growth Plan but have entitlements to develop over time as approved.

Policies

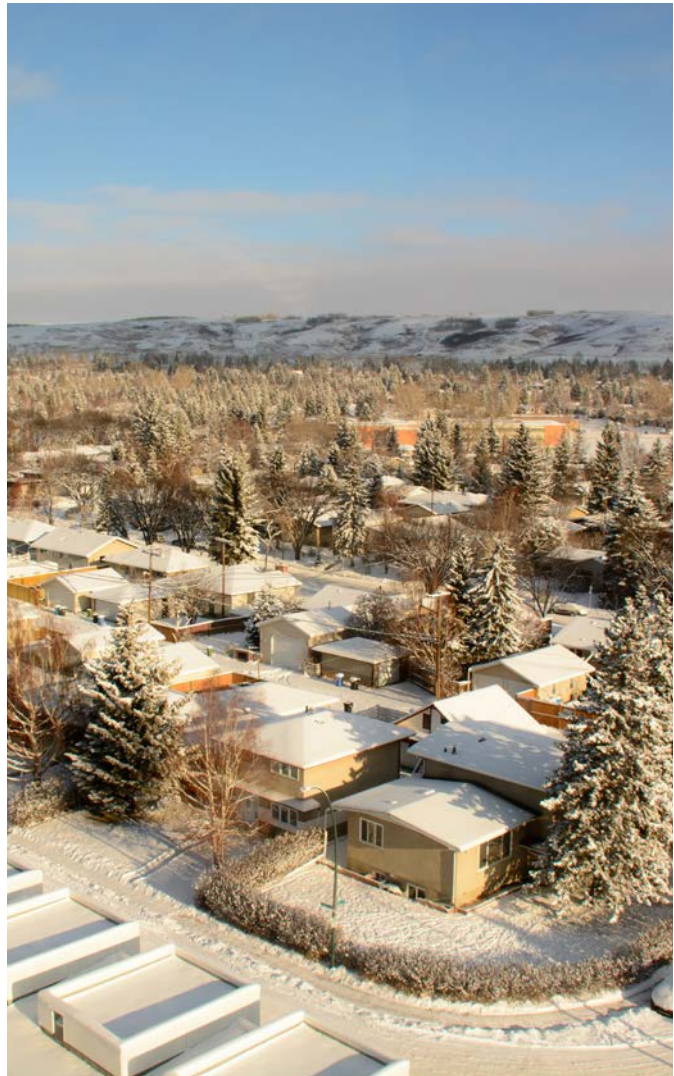
3.1.9.1 Existing Area Structure Plans and Area Redevelopment Plans that were adopted in accordance with the Municipal Government Act prior to the date this Growth Plan comes into force, will remain in effect.

3.1.9.2 Area Structure Plan or Area Redevelopment Plan amendments within a Preferred Growth Area shall not decrease the overall Density of residential development or reduce the ratio of Preferred Placetypes within the Area Structure Plan or Area Redevelopment Plan.

3.1.9.3 Area Structure Plan or Area Redevelopment Plan amendments outside of a Preferred Growth Area shall not increase the overall projected population within the plan area.

3.1.9.4 Areas outside of Preferred Growth Areas, whether an existing Area Structure Plan or Area Redevelopment Plan that has been adopted shall be entitled to develop the Rural and Country Cluster Placetype as specified in the Growth Plan.

3.1.9.5 New Area Structure Plans or new Area Redevelopment Plans may be approved prior to completion of a Context Study unless a Terms of Reference adopted by all municipalities within the Joint Planning Area does not allow for new Area Structure Plans to be approved prior to completion of the Context Study.



3.1.10 Municipal Development Plan Updates

Policies

3.1.10.1 Within three years of adoption of the Growth Plan by the Minister, all member municipalities shall update their Municipal Development Plan to:

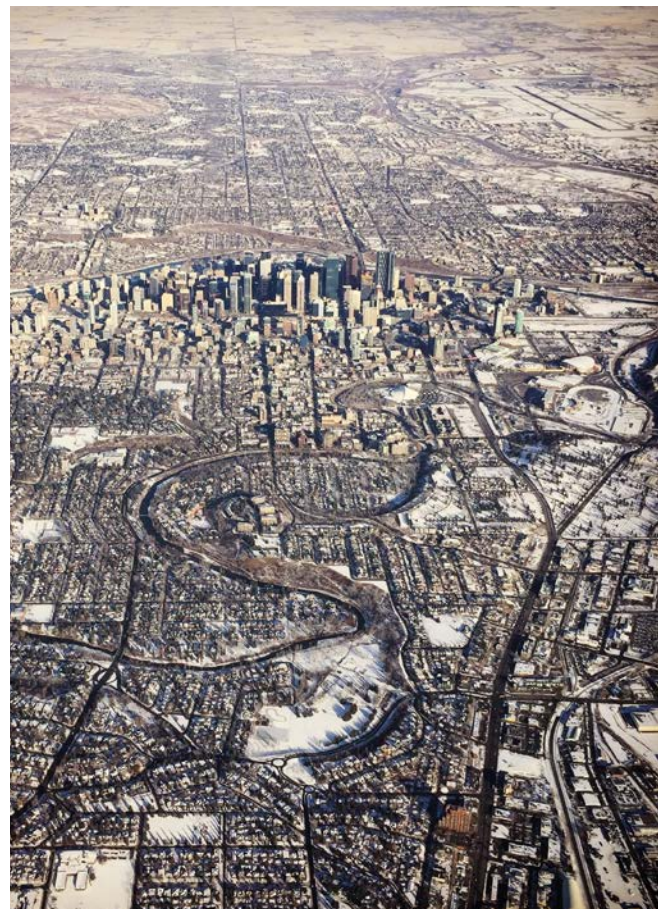
- (a) create an alignment table between the regional Placetypes defined in the Growth Plan and land uses or typologies in the Municipal Development Plan; or
- (b) develop an overlay map showing the locations of Preferred Placetypes and Employment Areas within the municipality; and, if relevant
- (c) undertake other revisions which incorporate the findings and agreements arrived at in the Context Study process.

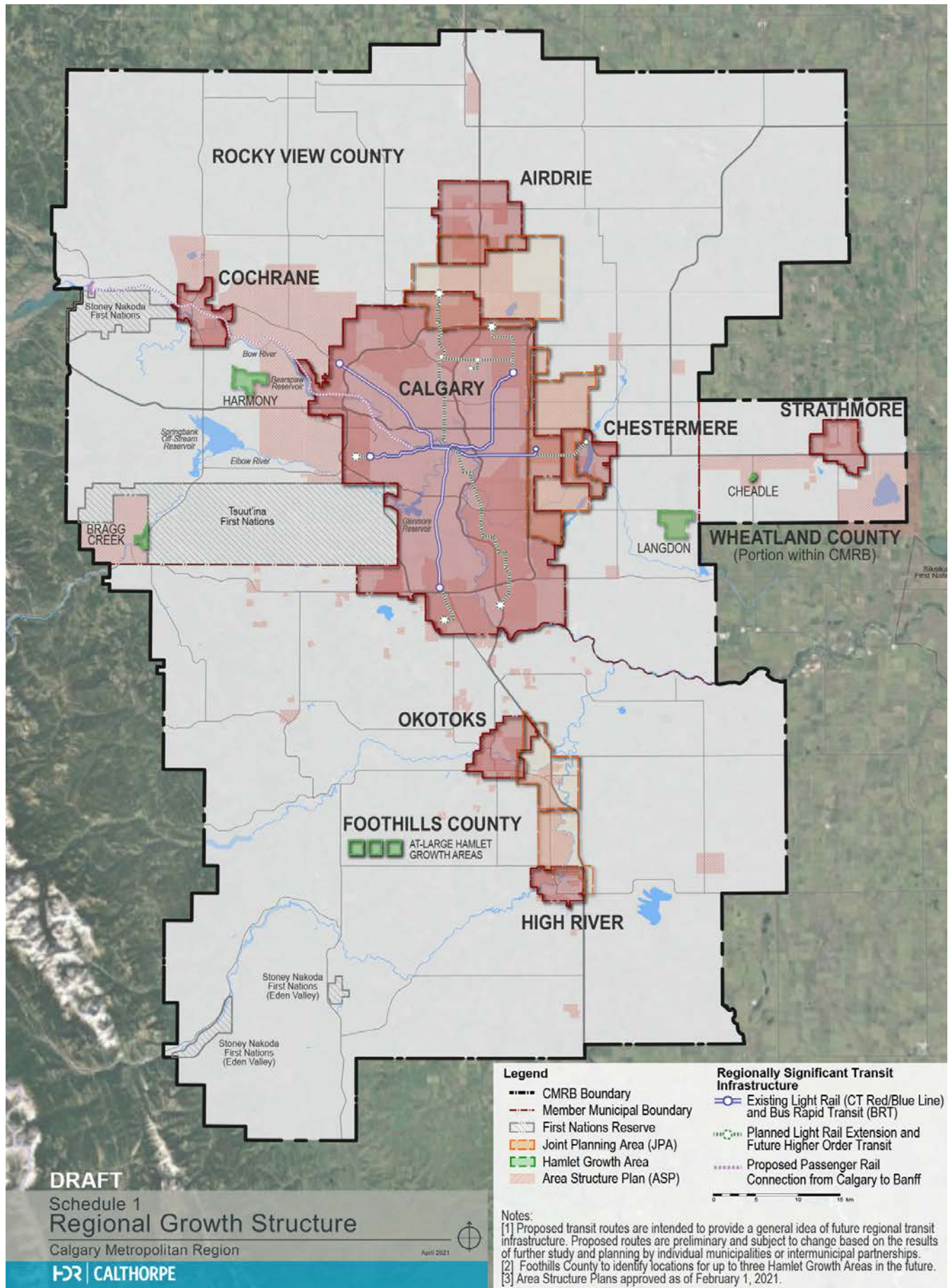
3.1.11 Exceptions to the Policy

Member municipalities will strive to comply with the goals, objectives, and policies of the Growth Plan. However, there are some special and unforeseen cases the Board may choose to review and approve that do not fit into the policies of the Growth Plan.

Policies

3.1.11.1 Notwithstanding the policies in the Growth Plan, the Board, at its discretion, may approve a statutory plan that does not comply with the policies of the Growth Plan if the goals, objectives and policies of this plan are not significantly compromised by approval of this exception to the Growth Plan.





Schedule 1: Regional Growth Structure

A vertical photograph on the left side of the page shows a nighttime view of the Calgary skyline. The Peace Bridge, with its distinctive red, ribbed structure, is in the foreground, spanning a body of water. In the background, several high-rise buildings are illuminated, their lights reflecting on the water. The sky is dark with some clouds.

3.2 Economic Wellbeing

Growth in the CMR economy in recent decades has been largely led by the energy sector. The City of Calgary is the Canadian headquarters of many oil and gas companies, with two-thirds of Calgary's head offices focused in the energy and oilfield services sector. The sector offers employment throughout the CMR, yet its dominance has caused instability with periods of high and low growth, often referred to as boom and bust periods. Despite stability from a strong agricultural sector and growing tech and logistics sectors, the region has struggled with downsizing and layoffs during the most recent downturn that began in 2013.

Despite past reliance on energy and the associated ups and downs of the market, Calgary's economy is diversifying. Over the next three years it is anticipated there will be an increase in employment across all sectors. According to the Regional Employment Forecast, it is expected there will be over 500,000 additional jobs under a status-quo scenario to support the next million people in the region. Further, it is estimated the largest jobs growth will be in healthcare and social assistance; professional, scientific and technical services; construction; retail trade; and transportation and warehousing. According to Calgary Economic Development, agri-business is also among the key sectors for growth in Calgary and the region. Together, these industries are expected to make up approximately 50% of total job growth.

The CMR can work together to form a clear vision of an equitable, diversified and resilient regional economy that enhances and integrates the economies of both urban and rural municipalities.

The Economic Wellbeing policies encourage regional collaboration that will promote economic resilience and risk management, cost effectiveness and improve quality of life. Key to achieving cost effectiveness is focusing development in compact forms that will increase regional transportation coordination, create servicing efficiencies and provide suitable land for emerging economic sectors.

The Region must work towards a more resilient and diverse regional economy that provides opportunities for both rural and urban development and related employment opportunities that develop, retain and attract talent from around the world.

A regional economic development plan can define a coordinated approach to economic development that aligns with the Growth Plan policies, and potentially informs future updates to the Growth Plan. Industry partners should be involved in developing the coordinated regional approach.

There is an important connection between economic wellbeing, land use and servicing that will influence the Region's economic competitiveness. The connections include:

- The ability to attract the talent necessary to serve the future economy will in part be dependent on quality of life in the Region.
- A sufficient supply of employment land with efficient access to markets will help support economic growth in the Region.

CMR Goals	Growth Plan Objectives
The CMR is a globally recognized economy, attracting the best and brightest in a variety of economic sectors to support regional prosperity and a high quality of life.	(a) Diversify the economy in the CMR, supported by creating more resilient, efficient, and livable communities. (b) Enable transit, walking and cycling to work, which will contribute to attracting and retaining workforce. (c) Provide an effective transportation network, assuring efficient transportation of goods to market. (d) Ensure adequate suitable land for emerging market demand, providing capacity for economic growth.
The CMR has a strong and unified approach to regional economic growth.	(e) Build on the strengths of all member municipalities to create a plan for economic growth in the region. (f) Collaborate among municipalities and with industry partners.



3.2.1 Municipal Development Plans

An adequate supply of land that is appropriately serviced and accessible for the type of employment being served is essential for attracting jobs to the region to support economic diversification and competitiveness. Municipal Development Plans can provide guidance on the availability and suitability of land to support future economic growth, reflecting job forecasts for the municipality.

Policies

3.2.1.1 Municipal Development Plans shall:

(a) identify the anticipated needs for employment lands in the municipality over the next 15 years; and

(b) identify how and where the municipality will accommodate future needs for employment lands over the next 15 years to protect for an adequate supply, while considering:

i. directing employment growth to existing Employment Areas through intensification, infilling and redevelopment (e.g. Infill / Redevelopment Placetype),

ii. focusing employment growth in greenfield areas within the Mixed Use Centre, TOD Masterplan and Employment Area Placetypes, and

iii. supporting agriculture-related, resource extraction and other employment that relies on proximity to the rural environment in rural areas.

3.2.1.2 Statutory Plans should promote walking, bicycling and transit access to jobs in urban municipalities and Joint Planning Areas by identifying how employment will be concentrated in areas that are close to where people live and/or can be serviced by transit immediately, or in the future.

3.2.1.3 Statutory Plans should promote the co-location of complementary land uses in industrial areas that support the function and efficiency of industry.

3.2.2 Regional Transportation Planning Support for Economic Wellbeing

Regional transportation planning initiatives can support the economic wellbeing of the Region. Access to an employment base and to markets are among the factors employers consider when choosing a location.

Policies

3.2.2.1 Future regional transportation planning undertaken by the CMRB should address the following:

(a) identify strategies to minimize the effects of commuter congestion on important goods movement and trade routes;

(b) identify a network of priority routes for regional goods movement, linking key hubs such as intermodal facilities and the Calgary International Airport with an emphasis on reliability; and



- (c) protect the integrity of major goods movement routes through coordination with land use planning.

3.2.3 Agricultural Economy

Agriculture is a complex system, including both rural and urban components, which operate at local, regional, provincial, national and international scales. Agriculture plays an important cultural and economic role in large and small communities across the CMR. Farming is a business, and producers will make decisions that allow them to compete in a globalized marketplace. It is important to achieve a balance between conserving agricultural land and promoting other forms of economic development in a manner that promotes new land uses which are compatible with existing ones. Supporting value-added Agriculture and related industries in proximity to producers is important for supporting the agricultural industry.

Policies

3.2.3.1 Municipal Development Plans shall:

- (a) identify the role that agriculture plays in the municipality and include policies to support a strong, resilient and diversified agricultural economy;
- (b) include policies to support growth of agri-business and value-added agriculture and related industries, especially when located in proximity to producers, as appropriate to the local scale and context;
- (c) identify more opportunities to buy, share and sell locally produced food; and



- (d) identify opportunities for Agri-tourism, as appropriate to the local scale and context.

3.2.3.2 As part of a broader approach to regional economic development, the CMRB shall work with regional economic development partners, learning institutions, and other agricultural specialists to:

- (a) establish areas of focus where the CMRB can use its mandate to support the growth and diversification of the Agriculture industry and local Agricultural Value Chains;
- (b) identify inventories, gaps and priorities for the improvement of infrastructure assets critical to the agricultural sector; and
- (c) identify areas where agricultural production and processing are important or dominant land uses and coordinate those areas with necessary infrastructure and services.



3.3 Environmentally Responsible Land Use

Natural systems play an important role in the region and the CMRB recognizes, in alignment with the South Saskatchewan Regional Plan, that it is important to plan growth in a manner that addresses cumulative effects and conserves and enhances the natural environment and ecosystems. Reducing the footprint of new development, as described through the approach to Growth Management and Efficient Use of Land, is an important component of maintaining the function of natural systems.

Additionally, the CMRB recognizes its responsibility to reduce its impact on the climate, while preparing for the impacts of Climate Change and other natural and man-made hazards. Steps to create a more sustainable and resilient region will help protect our communities and create a more stable foundation for the region to prosper now and into the future. The Growth Plan seeks to help reduce our impact on the environment; achieving reductions in emissions, land consumption, impervious cover, and water demand.

The CMRB values coordinating environmental actions and initiatives with all levels of government and First Nations and, where possible, will actively collaborate with all jurisdictions.



Polices associated with environmentally responsible land use are closely related to the Growth Plan and Servicing Plan policies for water stewardship, and should be considered together. The polices associated with Environmentally Responsible Land Use reflect the following key considerations:

- Flood policy is highly influenced by Provincial Flood Hazard mapping and the CMRB has a desire for application of a higher design standard.
- Assessment of environmentally sensitive areas is complex, and requires consideration at the watershed, regional, local and site level. The regional approach to Environmentally Sensitive Areas will need to be integrated with other scales of planning.

CMR Goals	Growth Plan Objectives
The CMR recognizes the important role of natural systems in the region.	(a) Increase awareness and understanding of natural and sensitive areas through Environmentally Sensitive Area mapping. (b) Preserve the function of regionally significant natural systems.
The CMR is a leader in sustainable regional planning, which minimizes the impacts of development on our land, water, and air.	(c) Plan responsibly in flood prone areas through sensitive development and flood mitigation. (d) Reduce the Region's impact on the environment and climate through proper and efficient land use planning, including the use of measurable targets to reduce impacts on land, water and air. (e) Increase the environmental, economic, and social resiliency of our region.



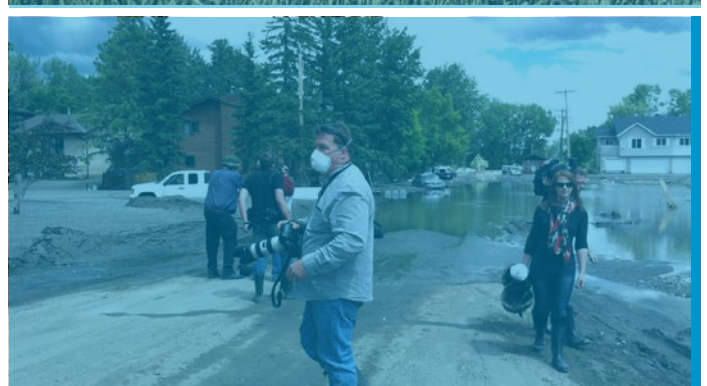
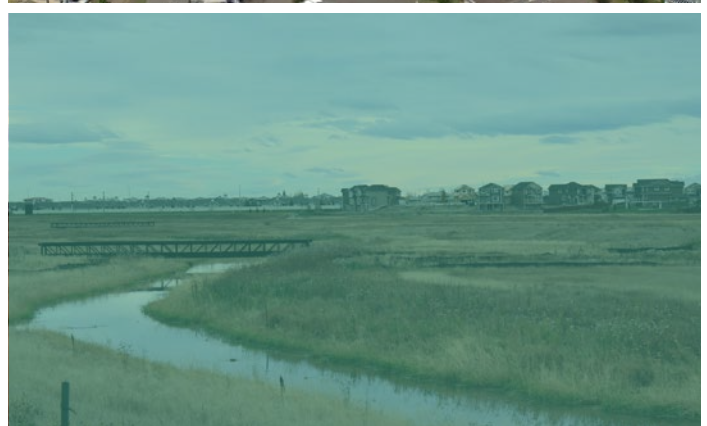
3.3.1 Flood Prone Areas

The CMR has flood prone areas and has historically experienced significant flood events. Many member municipalities have responded with policy and physical mitigation reflecting local context and hydrological conditions.

Municipalities in the region have committed to building flood resilience to protect lives and property, and some have constructed or are planning construction of high water event mitigation measures. For example, CMRB members strongly suggest changing the design flood standard to 1:200 years, or a flood event that has a 0.5% probability of occurring in a given year. The region's watersheds are large, interconnected systems. Flood resilience is best approached at multiple scales (watershed, community, property) and from multiple perspectives (upstream/ downstream). Regional responses will require ongoing coordination with watershed-level planning (e.g. South Saskatchewan Regional Plan) and at the community and property-level with municipalities and developers.

The Province of Alberta recently released updated draft flood inundation mapping for some areas of the region for public consultation prior to release of the final mapping. As further mapping is released, actions approved by the Board to advance the development of flood prone policy beyond adoption of the Growth Plan includes:

- requesting the Government of Alberta take a stronger leadership role in standards and policy for flood prone areas;
- engaging with the Province and member municipalities to understand modifications to the Provincial Floodway Development Regulation; and



- updating the policies of the Growth Plan to reflect the Floodway Development Regulation (if required).

Key Issues and Influences:

- Major recent floods had significant impacts to many communities within the CMR.
- Riverine flooding is the topic of this policy area.
- This policy does not consider the effects of overland flooding and stormwater management.
- Developing regional flood policy for the entire area of the CMR is complex as the Province is currently updating their Flood Hazard Area and inundation mapping.
- The Board has indicated a desire to adopt a higher design standard than the current provincially defined standard.

The CMRB objectives, as approved by the Board, related to Flood Prone Areas are to:

- prioritize public safety;
- mitigate risk to the public, municipalities, businesses, park spaces, living assets and other property/lands;
- examine how flood resilience might be achieved among CMR municipalities over time and with appropriate inputs;
- educate the public and other development stakeholders on the risks of development in flood prone areas;
- maintain essential ecosystem functions of flood areas; and
- advocate for a minimum design standard of 1:200, or 0.5% annual probability flood.

Over time, through ongoing monitoring of regulatory changes, updates to flood hazard and inundation mapping, and statutory plan approvals under the Growth Plan, the CMRB may consider developing a more comprehensive approach to Flood Prone Area policy. Potential new policy measures could include, but are not limited to:

- flood fringe development controls;
- meander belt management; and
- Stepping Back From the Water / environmental reserve setbacks.

Policies

3.3.1.1 No new development shall be permitted within a provincially identified floodway, with the exception of uses with no permanent buildings, such as Agriculture, natural areas, outdoor recreation, parks, roads, bridges, utilities, aggregate extraction, and flood mitigation infrastructure.

3.3.1.2 Development in provincially identified flood fringe areas shall include flood protection measures to mitigate risk at the 1:100 year flood event level.

3.3.1.3 New Area Structure Plans for Greenfield Developments must include cumulative protection measures to mitigate flood damage risk in flood hazard areas at the 1:200 year food event level up to the limits of the Flood Fringe.

3.3.1.4 After updated provincial flood hazard mapping is finalized, the CMRB shall work with the Province of Alberta and member municipalities to investigate changing the provincial definition of the flood hazard area to the 1:200 year level, including an assessment of the impacts to Alberta's Disaster Relief Program and private insurance.

3.3.2 Environmentally Sensitive Areas

Environmentally Sensitive Areas are key landscape features, providing important ecosystem services to municipalities at regional and local scales. These cherished and often irreplaceable natural places are worthy of retention and special care to maintain water quality, provide flood mitigation, retain natural habitats and diverse landscapes, and preserve other valued ecosystem functions and services.

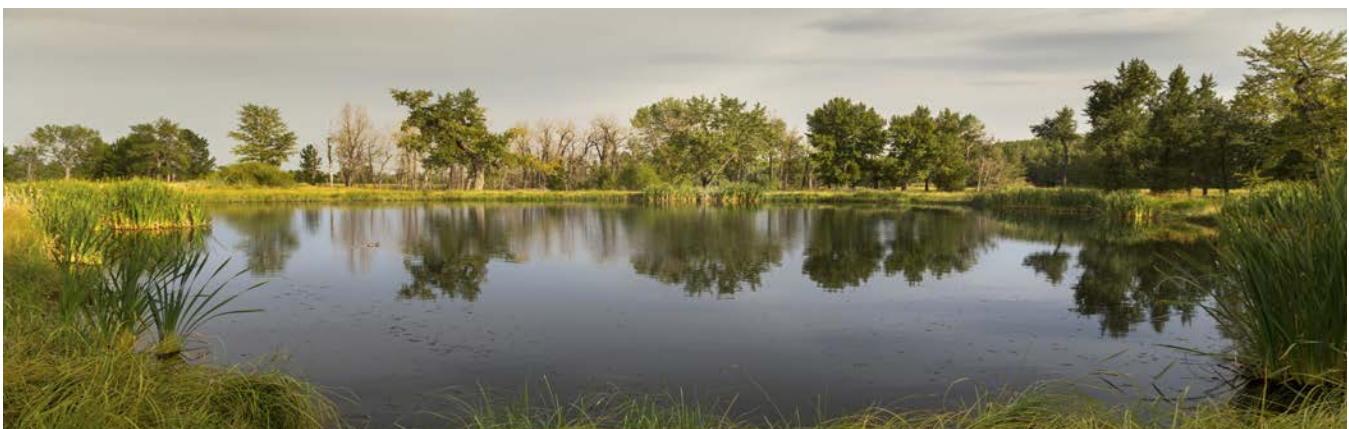
In addition to protecting Environmentally Sensitive Areas members should also adopt best practices for environmentally sensitive land development and planning, including the use of low impact development and efficient land use principles, the use of appropriate setbacks from water and natural areas, cumulative development effects management, and stormwater and watershed best management practices. For example, the South Saskatchewan Regional Plan uses a cumulative effects management approach and the CMRB should investigate following in step with this direction.



Key Issues and Influences:

- Natural areas, and in particular Environmentally Sensitive Areas provide important ecosystem services, and their health has been threatened by recent development trends and practices.
- Existing mapping data is quite varied across the CMR, and the existing location and extent of some Environmentally Sensitive Areas are unknown, limiting the ability to protect or conserve them.
- Protecting or conserving certain types of Environmentally Sensitive Areas will benefit other policy areas, including flooding and recreation.

The policies associated with Environmentally Sensitive Areas establish a consistent framework and approach for identifying, analyzing and planning near Environmentally Sensitive Areas.



Policies

3.3.2.1 Area Structure Plans and Area Redevelopment Plans shall address Environmentally Sensitive Areas by:

- (a) undertaking a desktop-based Environmental Screening to identify Environmentally Sensitive Areas on-site and within 100 metres of the plan boundary, which may include but not be limited to the areas shown on Schedule 2 – Natural Systems;
- (b) preparing an Environmental Screening report that includes a map of all identified Environmentally Sensitive Areas;
- (c) conducting an Environmental Study if an Environmentally Sensitive Area is located on or within 100 metres of the plan; and
- (d) identifying through an Environmental Study, the potential impacts of the proposed development on the identified Environmentally Sensitive Area(s) and recommending mitigation measures to protect it.

3.3.2.2 Municipal Development Plans and Intermunicipal Development Plans shall:

- (a) include map(s) of regional Environmentally Sensitive Areas that have existing documentation and mapping within areas designated for future growth; and
- (b) include a shared definition of Environmentally Sensitive Areas as defined in the Growth Plan.

3.3.2.3 Municipal Development Plans shall include policies that address Environmentally Sensitive Areas as appropriate for the scale and context of the municipality.

3.3.2.4 The CMRB shall compile the municipally identified Environmentally Sensitive Areas into a common database for the Region.

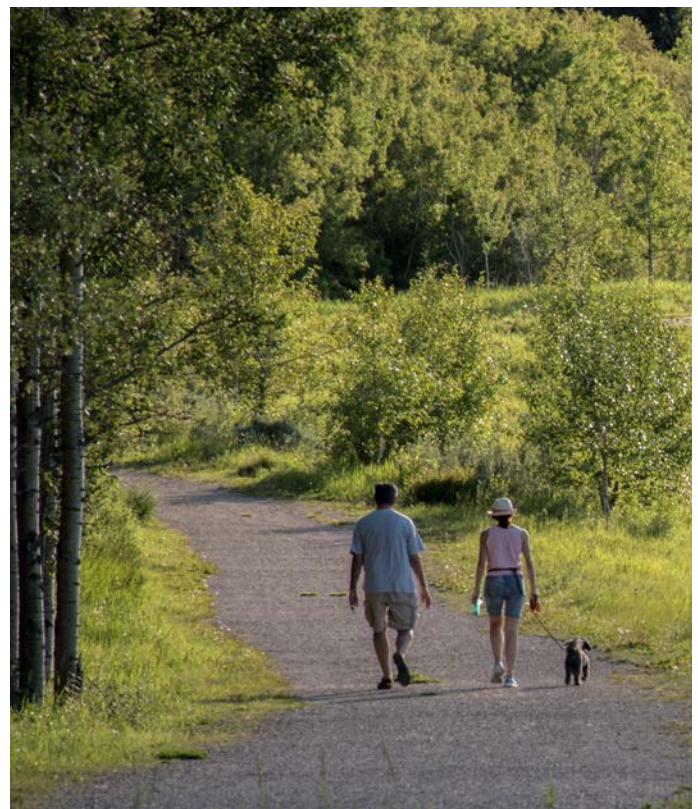
3.3.3 Climate Change

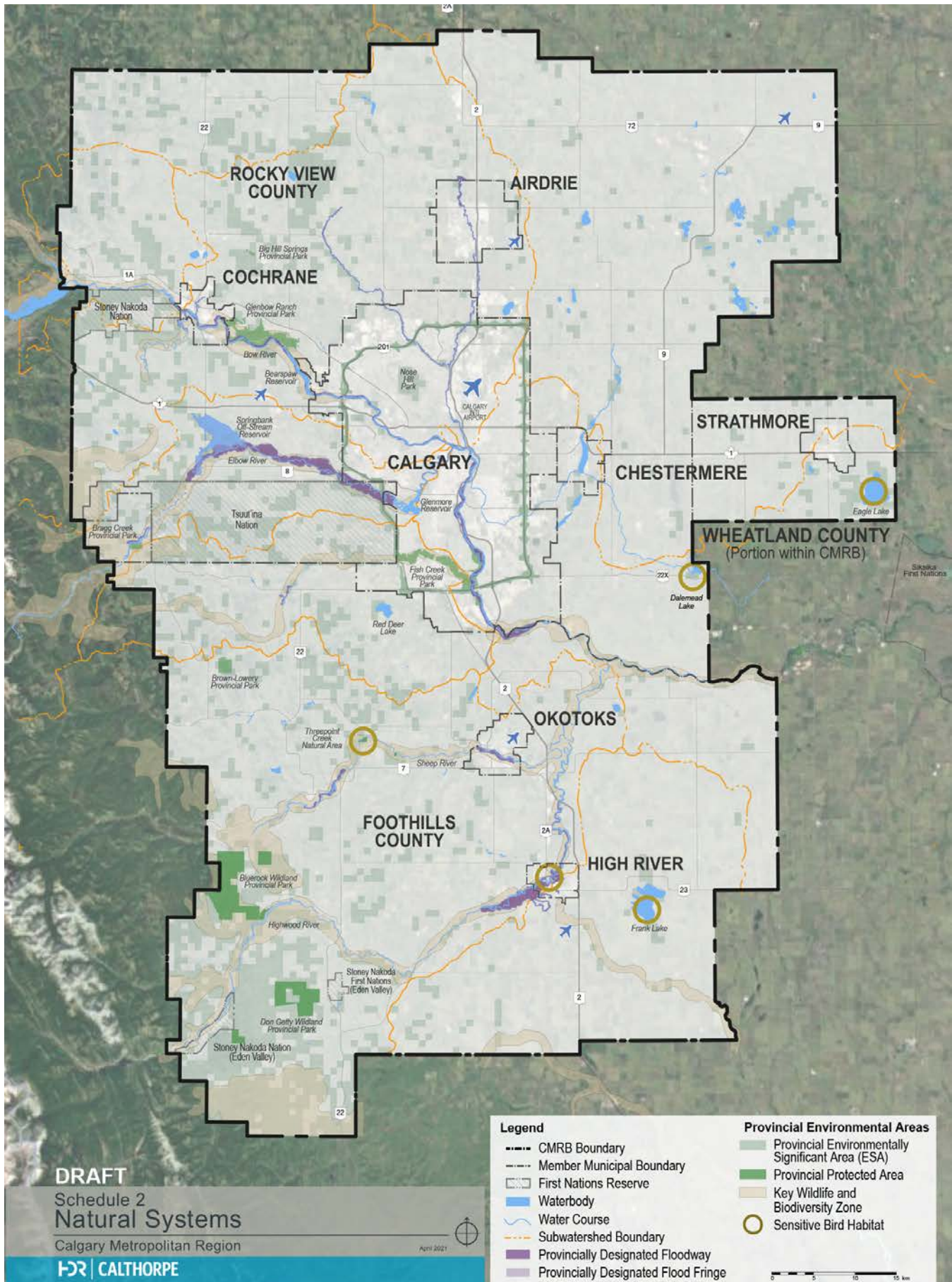
The CMR recognizes the need to work together to reduce greenhouse gas emissions and the risks due to Climate Change.

Policies

3.3.3.1 Municipal Development Plans shall address Climate Change resiliency, which will include:

- (a) a commitment to reduce municipal greenhouse gas emissions and water consumption; and
- (b) policies to identify and mitigate risks within the municipality due to Climate Change, including impacts to:
 - (i) built environments (including the local economy and infrastructure); and
 - (ii) natural systems.



**Schedule 2: Natural Systems**

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3.4 Water Stewardship

Water is essential to the success and quality of life in the region. CMR members have a duty to ensure adequate access to a healthy and efficient supply of water for their citizens and businesses now and into the future.

Development, population growth, and natural processes, including Climate Change threaten the quality and sustainability of our water supply. The CMR can play a role in advocating for the protection of regional watersheds. As our water supply is limited, it is also critical that we consciously manage and use water, for both our benefit, and the communities downstream.

Opportunities to share the costs and risks associated with supplying and managing water, and in exploring ways to cooperate through new structures, such as Joint Planning Areas are considered. The CMR Servicing Plan provides additional information on future actions associated with Water Stewardship.

CMR Goals	Growth Plan Objectives
The CMR has a water strategy that promotes healthy people, healthy ecosystems and is resilient in times of drought and flood.	(a) Enhance protection of our watersheds and natural water systems. (b) Provide a safe, affordable, and reliable supply of drinking water for residents and businesses. (c) Enhance regional collaboration of water stewardship. (d) Enhance the region's resilience to changes to natural water systems, due to Climate Change and human development.
The CMR has a coordinated approach to water, wastewater and stormwater that provides safe and healthy water for our growing region.	(e) Improve the efficiency with which we use our limited water supply. (f) Advance opportunities to better manage and share the risks and costs of water, wastewater and stormwater infrastructure and service delivery. (g) Enhance protection of regionally significant Source Waters.



3.4.1 Watershed Protection

The combination of variable precipitation and continued regional growth has the potential to cause water shortages in the future, if fundamental changes to water use and management are not made. Numerous locations within the region are also susceptible to flooding, demonstrated by significant recent events. Adding upstream water storage capacity has the potential to mitigate one or potentially both risks and would be a long-term investment in improving the region's resiliency.

Policies

3.4.1.1 The CMRB will continue to advocate for enhanced protection of the headwaters of rivers that the CMR relies on for drinking water and economic production that are located inside and outside the CMR.

3.4.1.2 The CMRB will support the continued assessment of upstream reservoirs on the region's

rivers to provide water storage capacity and flood mitigation, where applicable.

3.4.1.3 CMRB member municipalities shall coordinate to manage impacts to Source Water quality in regionally significant Source Watersheds.

3.4.2 Stormwater Management

Stormwater and watershed management are inherently regional, as many of the region's watersheds and water bodies extend through multiple municipalities, and one community's stormwater is another community's drinking water.

Policies

3.4.2.1 The CMRB will provide regional leadership for the management of stormwater for regionally significant stormwater issues.

3.4.2.2 The CMRB and member municipalities should identify locations where stormwater

management may impact Regional Infrastructure systems and develop appropriate policies to address areas of impact.

3.4.3 Water Efficiency

One of the simplest approaches to improving our water resiliency is to use less water. This includes the use of Preferred Placetypes located in Preferred Growth Areas as appropriate, while also encouraging water conservation, implementing new methods and technologies that use less water, and improving the overall system efficiency through methods such as replacing old, leaking infrastructure and Water Reuse.

Policies

3.4.3.1 The CMRB shall work with the Province to advance initiatives that improve the Region's ability to sustainably use and reuse water.

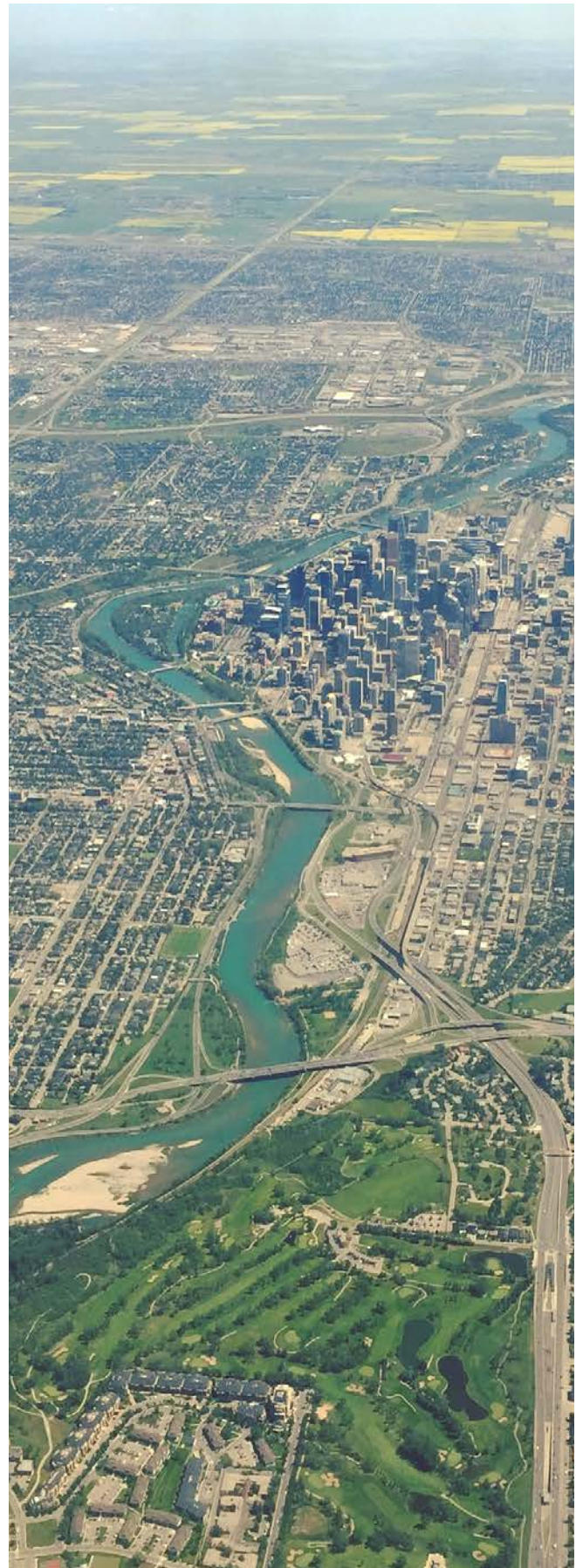
3.4.3.2 CMRB Members should collaborate to identify higher and consistent water efficiency standards across the Region.

3.4.4 Collaboration and Governance

The consideration of alternate or new water governance structures is a potential approach to sub-regional water management and conservation. Using a bottom-up approach to identify and develop such structures would enable members to create a model that works for them, and the proposed Joint Planning Areas provide a reasonable starting point with which to organize the new governance structures.

Policies

3.4.4.1 CMRB Members should investigate approaches to water collaboration within the CMR at the regional and sub regional scales, as appropriate.



3.5 Shared Services Optimization

In the face of global economic competition, the CMR must find ways to deliver services in an efficient and sustainable way, that maintains the region's high quality of life and low cost of doing business. Residents and businesses alike benefit when the region finds ways to deliver borderless shared services that reflect cost-effective and optimized service delivery.

The CMR Servicing Plan also addresses matters related to shared services optimization and should be read in tandem with this section of the Growth Plan.

CMR Goals	Growth Plan Objectives
Residents of the CMR experience borderless delivery of essential services based on a fair cost-benefit model.	(a) Promote future opportunities to share Regional Infrastructure and services. (b) Coordinate regional land use planning with service provision and planning.
The CMR delivers services in a more efficient and sustainable way through shared services optimization.	(c) Achieve servicing efficiencies through a conscious effort to share infrastructure and services.

3.5.1 Transportation & Transit Corridors

The efficient movement of people and goods supports the economy and quality of life in the CMR. Optimized transportation corridors are a key to maintaining a competitive region. The North and South/East Regional Transportation studies and Transit Background Report provide much of the context for transportation corridors in the CMR.

Planning for transit at the regional scale is an extremely effective way of creating an efficient, integrated and connected transit system. It supports a more cost-effective and better planned transit network over time. Transit is a fundamental part of

achieving many regional goals, such as improved economic growth, environmentalism, resilience and quality of life.

Policies

3.5.1.1 Statutory plans within 1.6 km of an identified Transportation and Transit Corridor as shown on Schedule 3 – Regional Transportation and Transit Corridors shall:

- (a) identify the corridor(s) on relevant maps within the plan;
- (b) demonstrate how the plan optimizes the proximity and adjacency to the corridor; and

(c) describe how the plan provides mitigation for any potential impacts to the corridor.

3.5.1.2 New Area Structure Plans and Area Redevelopment Plans shall provide direction on how plans could provide or improve transit service in the future, as appropriate to the scale and context.

3.5.1.3 Municipalities shall coordinate regional active transportation and recreation corridors with local transportation, mobility, transit, and recreation corridors to maximize their use.

3.5.2 Energy & Utility Corridors

Regional energy and utility corridors include those that accommodate the infrastructure that conveys water, wastewater, energy and other utilities. They are often found along or within regional mobility corridors but can also be located within minor public rights-of-way. Regional Energy Corridors are shown in Schedule 4. Regional Utility Corridors (Water and Wastewater) are shown in Schedule 5. These facilities enable the efficient transmission of utilities and services to the regional consumers and beyond, and correctly locating and protecting these facilities will ultimately lower costs and enable increased service provision for regional customers.

Policies

3.5.2.1 Statutory plans shall:

- (a) identify any regionally significant corridor(s) on relevant maps within the Statutory Plan as appropriate to the scale and context; and
- (b) describe how impacts on the corridor(s) will be mitigated.

3.5.3 Planning and Protection for Regional Corridors

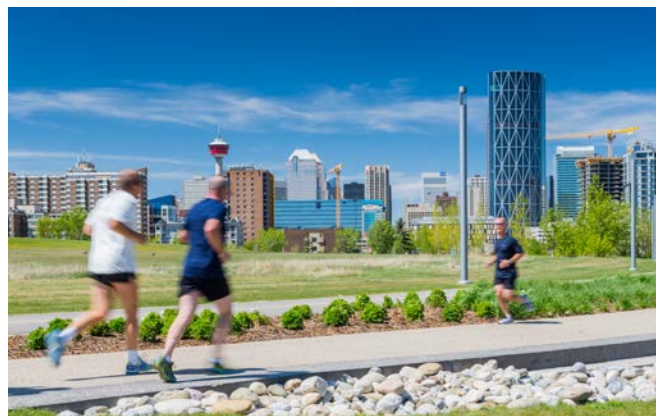
Coordination and planning among member municipalities for regional infrastructure corridors can reduce the costs of land acquisition and improve efficiency of regional service delivery. In addition, corridor planning can also facilitate multi-use corridors for purposes including but not limited to transit, transportation, utilities, communications, energy, active transportation, recreation and others.

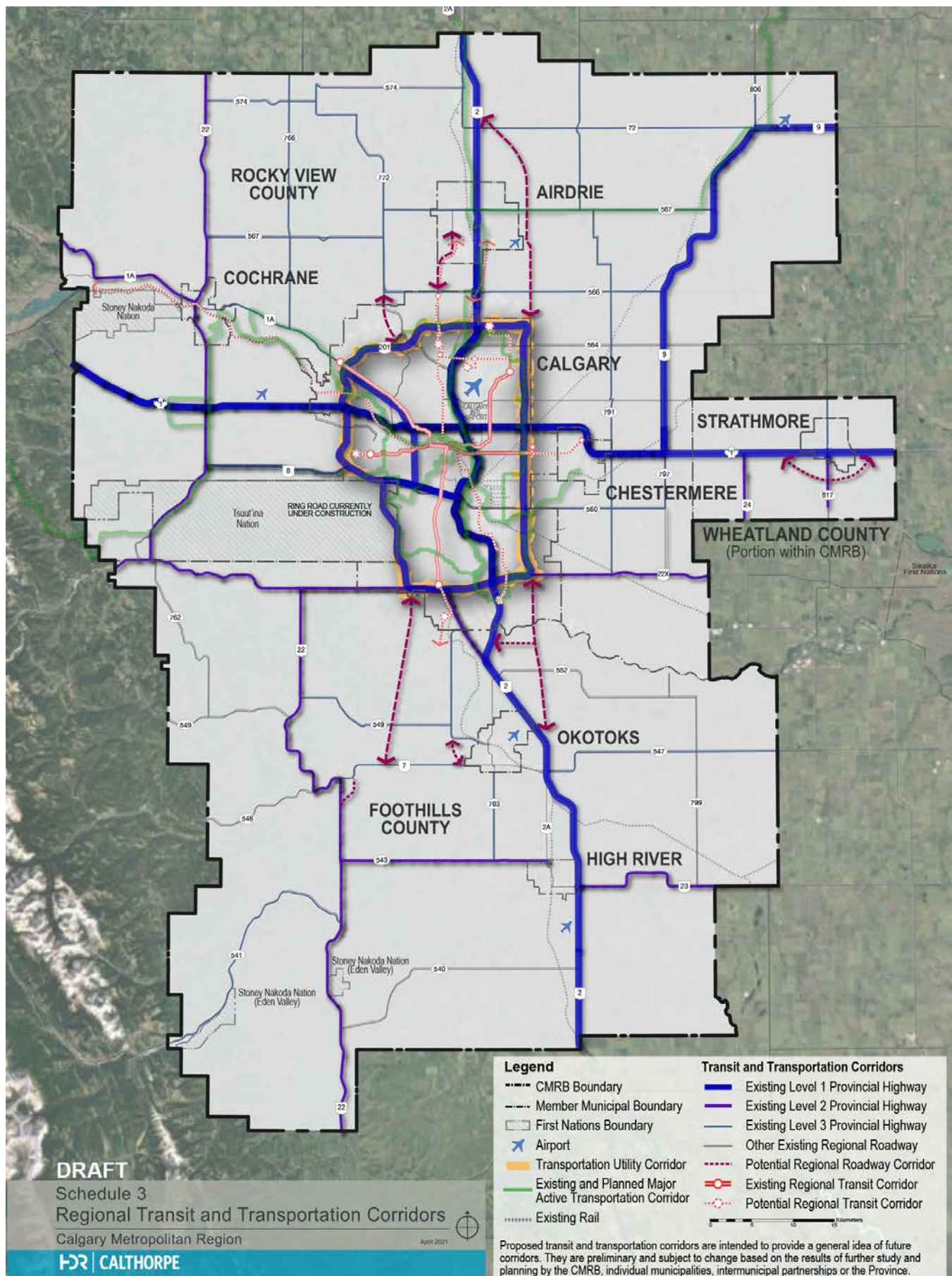
Policies

3.5.3.1 Municipalities shall collaborate on planning for regional infrastructure corridors through future studies and initiatives including, but not limited to, Context Studies for JPAs, transportation and transit studies or plans, Working Groups, as appropriate.

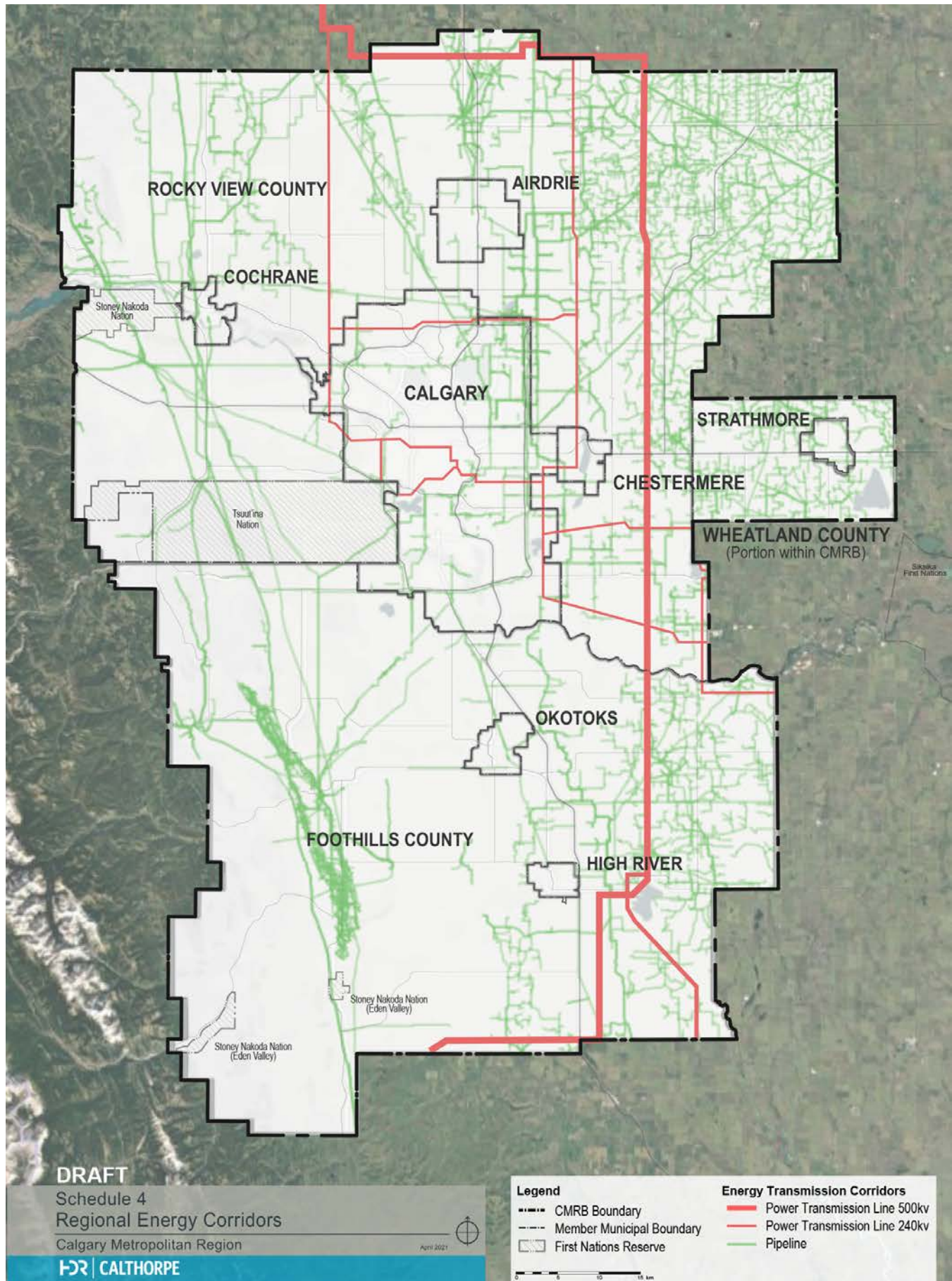
3.5.3.2 Municipalities should plan for multi-use corridors through future studies and initiatives including, but not limited to, Context Studies for JPAs, transportation and transit studies or plans, Working Groups, as appropriate.

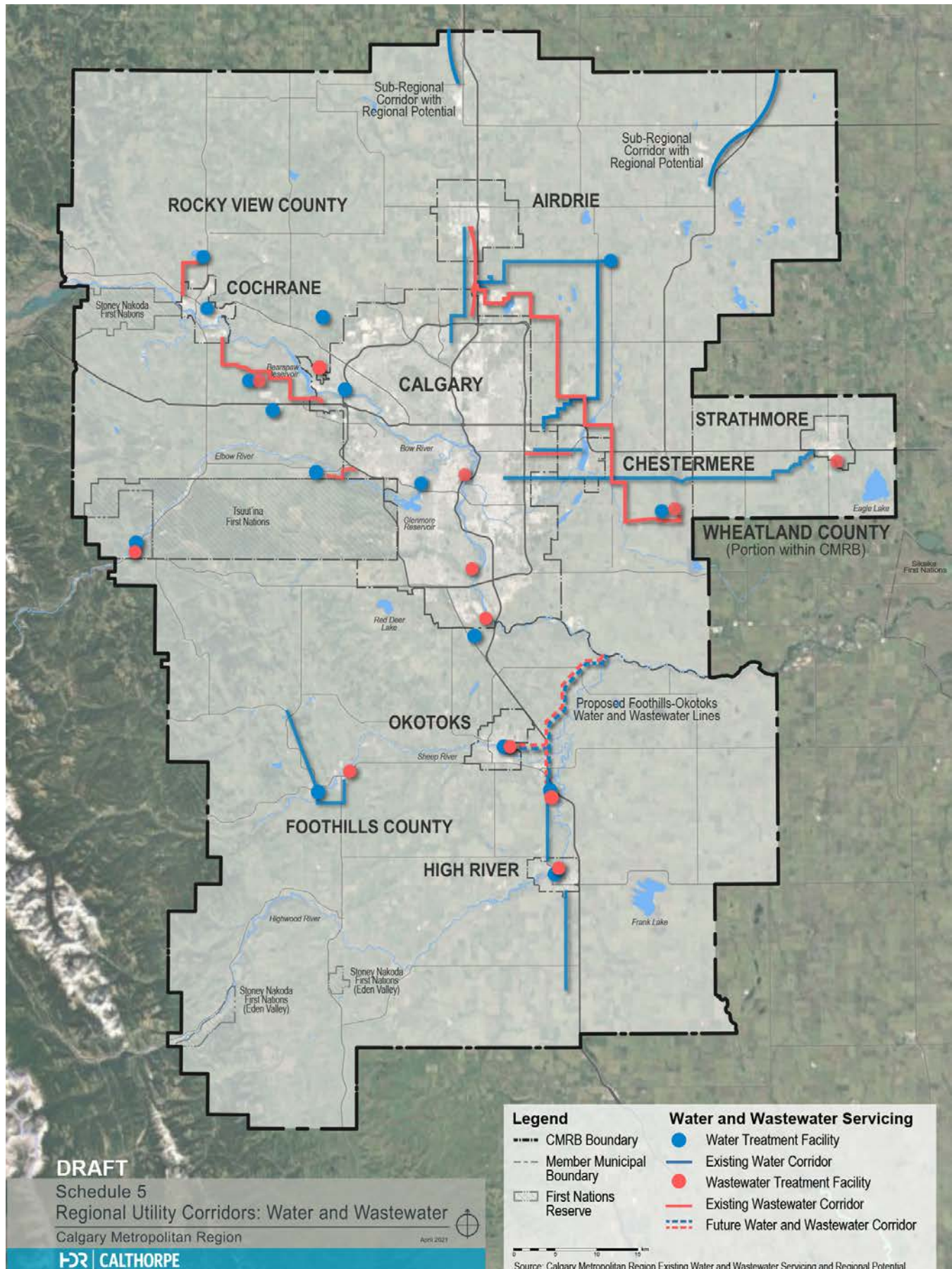
3.5.3.3 When regional infrastructure corridors have been identified, municipalities shall identify and protect regional infrastructure corridor alignments in municipal planning processes..





Schedule 3: Regional Transit and Transportation Corridors

**Schedule 4: Regional Energy and Utility Corridors**



Schedule 5: Regional Utility Corridors (Water and Wastewater)



3.6 Embracing Urban-Rural Differences

The CMR is a collection of ten distinct municipalities, each with its own character and each contributing to the strength and resilience of the region. Although residents live in different municipalities around the CMR, they are connected in many ways: open space systems, jobs and economic opportunities, natural environments, roadways and transit systems, recreation amenities, servicing systems, pathways, and other connections. They also experience the shared impacts of growth, such as water quality and quantity impacts, loss of environmental function, air quality impacts, and longer commute times. These many connections, when taken together, form a regional framework, a common ground at the regional scale.

Celebrating rural-urban differences is a foundational strategy of the Growth Plan. Public engagement on the Growth and Servicing Plans has reinforced the importance of supporting a wide range of distinct lifestyle choices, from living downtown to living in a rural Agricultural Area.

The Growth Plan focuses most urban growth to higher density and mixed use areas, including towns, city centres, Hamlet Growth Areas, and strategic Joint Planning Areas. The Plan also cultivates growth in ways that maintain the rural, agricultural, and environmental characteristics of the rural area. This approach benefits all member municipalities by promoting, enhancing, and supporting the common regional framework by:

- offering lifestyles in rural places where people can live in nature, hobby farm, keep horses for pleasure or sport, or explore opportunities to generate their own power, grow their own food, or operate a home-based business or a large agricultural operation; and
- in urban places a range of lifestyle choices and housing types, employment opportunities, and amenities in proximity to a wide range of services.

To minimize the negative impacts of growth on our shared regional systems, the Growth Plan limits development that is neither rural nor urban in character. The Growth Plan directs new growth to occur in the Preferred Placetypes that consume less land and resources and thereby benefit the entire region, while maintaining distinctive rural and urban lifestyles.

The Growth Plan does not include specific policies related to Celebrating Urban-Rural Differences. Taken together, the policies contained within the Growth Plan seek to allow urban and rural areas to remain distinct in character and diverse in land use, mutually supporting one another, and creating a broad range of lifestyles for residents of the CMR.

CMR Goals	Growth Plan Objectives
The CMR has grown in a way which embraces the individual character of our municipalities, while working together to build a stronger region.	<p>(a) Provide policy tools to create a diverse range of urban and rural places for people to live, work and play.</p> <p>(b) Establish agricultural, environmental, and open space areas as integral components of our regional system to be conserved.</p>
The CMR delivers services in a more efficient and sustainable way through shared services optimization.	<p>(c) Provide policy tools and opportunities for collaboration to enhance the regional benefits of our shared systems.</p> <p>(d) Provide policy tools to guide the location, scale, and type of development that minimize the impacts of growth on shared systems.</p>





04 Implementation



Chapter 4

Implementation

The Growth Plan is the roadmap for accommodating the next one million people. Continued collaboration between CMR municipalities will be essential as the Growth Plan is enacted in the region.

In accordance with the Municipal Government Act and its Regulation, the Plan comes into force when it is approved by the Government of Alberta and approved by the Minister of Municipal Affairs.

Implementation of the Growth Plan will be undertaken through four key mechanisms available to both the Board and its members. As shown by Figure 7 these include:

- Growth Plan amendments and updates;
- the Regional Evaluation Framework (REF) for Statutory Plans;
- Context Studies;
- other future studies, plans; and
- key performance indicators and reports.

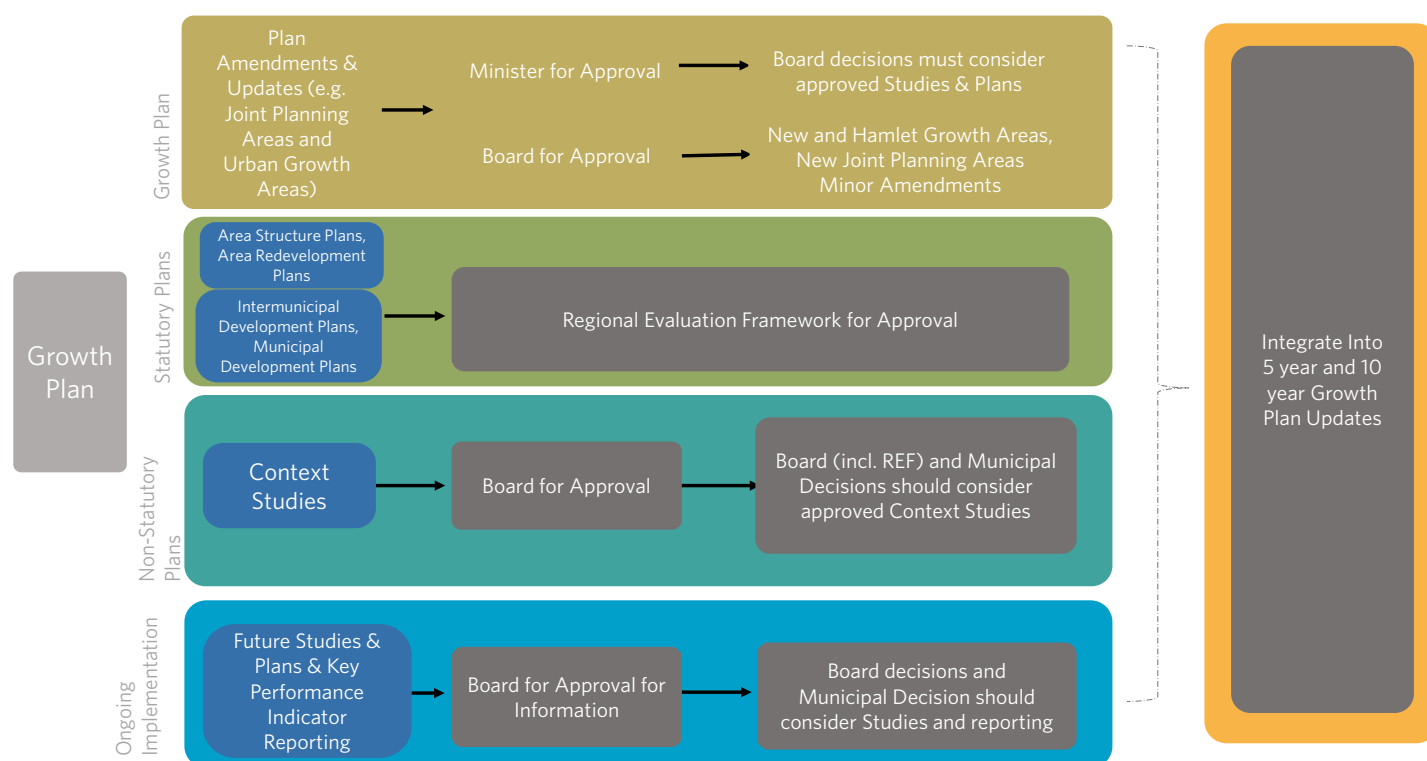


Figure 7: Implementation of the Growth Plan



4.1 Growth Plan Amendment and Updates

4.1.1 Amendments to the Growth Plan

Policies

4.1.1.1 The Board may consider amendments to the Growth Plan in accordance with the authority given to the Board.

4.1.1.2 The outcomes of Context Studies and other future studies and initiatives approved by the Board shall be incorporated through amendments to the Growth Plan.

4.1.1.3 Prior to the incorporation of the outcomes of Context Studies within amendments to the Growth Plan, the Board must consider approved Context Studies in its decision-making.

4.1.2 Periodic Reviews and Reporting

Policies

4.1.2.1 The CMRB shall undertake a ten year comprehensive review and update of the Growth Plan. The terms of reference for the Growth Plan update process and requirements shall be determined by the CMRB in consultation with the Government of Alberta.

4.1.2.2 An update of the Growth Plan shall be undertaken within five years of the adoption of the Growth Plan by the Minister and every five years thereafter to:

- (a) review and adjust the population and employment forecasts, and extend the forecasts by five years;
- (b) review the proportions of new residential population by Placetype approved since the last periodic review, by municipality and Placetype;

- (c) adjust the population and employment projections as needed to achieve the goals, objectives and policies of the Regional Growth Plan; and

- (d) incorporate the findings and direction of Joint Planning Area Context Studies, as appropriate.

4.1.2.3 The Regional Evaluation Framework shall be reviewed and updated simultaneously with the five year and ten year reviews of the Growth Plan, or at the request of the Board or the Minister.

4.1.3 Placetype Monitoring

Policies

4.1.3.1 Local municipal reporting and monitoring will be assisted by an implementation toolkit, that will be developed subsequent to the Growth Plan, within one year of approval of the Growth Plan.

4.1.3.2 The CMRB shall create a Geographic Information System (GIS) dataset that shows the changes over time of Placetypes in the Region.

The goals and objectives of the Growth Plan focus on moving the Region towards the Preferred Placetypes, while realizing the benefits of more efficient use of land and less consumption of vital resources. Details on how Placetypes will be monitored and tracked over time will show regional movement towards the Preferred Placetypes. Through this reporting and monitoring effort, the CMRB can respond appropriately with decisions and policy to ensure continued success toward the desired future for the Region.



05 Glossary

05 Glossary





Glossary of Terms

Agriculture: The growing, raising, managing, transporting and/or sale of livestock, crops, foods, horticulture.

Agricultural Areas: Areas identified by member municipalities that form significant parts of the Agricultural Value Chain, such as areas of production, processing, Agri-business or Agri-tourism.

Agricultural Value Chain: The people and activities that bring agricultural products to the consumer, through stages such as processing, packaging, and distribution; a partnership between Producers, Processors and marketers created to improve quality, increase efficiencies or develop and market differentiated agricultural products.

Agri-tourism: Tourism that supports commercial agricultural production at a working farm, ranch,

or processing facility; tourism that generates supplemental income for an agricultural producer; tourism related to activities that promote or market livestock and agricultural products such as fairs, market gardens and rodeos.

Agri-business: Suppliers/businesses who enable agricultural production by providing inputs, machinery, equipment or services; such as fertilizer, pesticides, seeds, machinery and equipment, services (i.e. machinery maintenance or veterinary services), financial services, data management, grain drying, agronomy advice, agricultural research, transportation services, marketing, traders etc.

Area Structure Plan: A statutory plan adopted by a municipality by bylaw in accordance with the Municipal Government Act to provide a framework

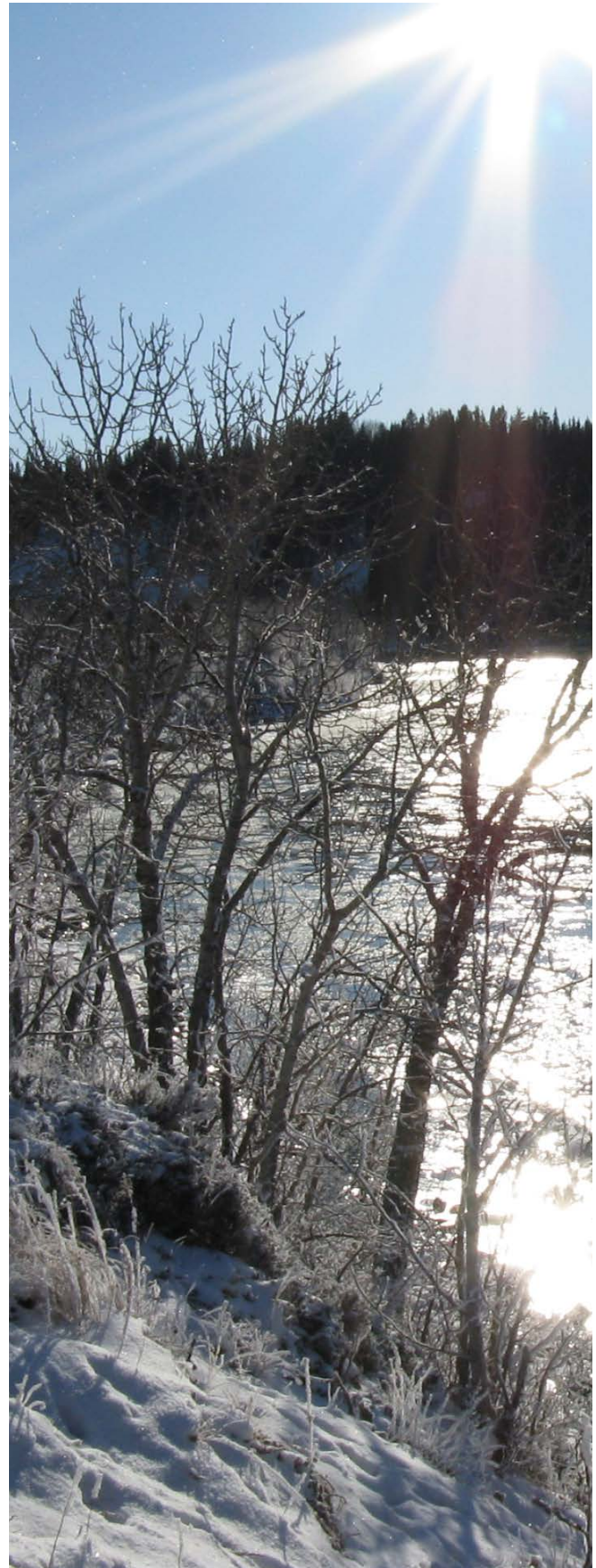


for the subsequent subdivision and development of a defined area of land.

Area Redevelopment Plan: A statutory plan adopted by a municipality in accordance with the Municipal Government Act, designating an area of land for the purpose of improving land or buildings, roads, public utilities or other services in the area.

Climate Change: The long-term shift in weather conditions measured by changes in temperature, precipitation, wind, snow cover, and other indicators.

Design Flood: The current design standard in Alberta is the 1% flood, defined as a flood whose magnitude has a 1% chance of being equaled or exceeded in any year.



Density: Gross Residential Density as defined in the figure below.

Regional Density Methodology

Calculating Density in the Calgary Region

Step 1: Calculate the gross developable area

$$1 \quad \text{Gross Total Area (all lands)} - \text{Non-Developable Areas (environmental reserves, expressways, railways, other non-developable lands)} = \text{GROSS DEVELOPABLE AREA}$$

Step 2: Calculate the gross residential area

$$2 \quad \text{GROSS DEVELOPABLE AREA} - \text{Regional Land Uses (regional open spaces, major commercial centres [>4ha/10ac], major institutional sites, senior high schools, industrial areas, public lakes and water bodies, other regional uses)} = \text{GROSS RESIDENTIAL AREA}$$

Step 3: Calculate the gross residential density

$$3 \quad \text{Total number of residential units} \div \text{GROSS RESIDENTIAL AREA} = \text{GROSS RESIDENTIAL DENSITY}$$

What do you 'keep'/what's included in the gross residential area?

- Single unit residential
- Multi unit residential
- Local commercial
- Local parks & open space (municipal reserve)
- Elementary & junior high schools
- Local roads including majors & lanes
- Church sites
- Daycare centres
- Community centres
- Small indoor recreation centres
- Small site fire and police stations
- Private lakes, wet/dry ponds
- Public utility lots (PULs)
- Other local uses

Ecosystem Services: The following are examples of ecosystem services, the benefits that come from healthy functioning ecosystems and the biodiversity found in the:

- food, fiber, fresh water (“provisioning” services);
- flood control, water and air purification (“regulating” services);
- spiritual, recreational, cultural benefits (“cultural” services); and
- nutrient cycling, soil formation (“supporting” services).

Environmental Screening: An Environmental Screening is a desktop study to identify the presence of Environmentally Sensitive Areas using the following criteria:

- (a) areas maintaining the provision of water quality and quantity and providing protection against drought and flooding events;
- (b) areas providing habitat for identified local species of interest, designated species of conservation concern (SCC), or identified focal species groups;

(c) areas providing rare, unique, or biologically diverse ecosystems or unique landforms; and

(d) areas contributing to other important ecosystem functions or services at regional or local scales.

Environmental Study: A detailed study and review of the effects of a proposed development on identified Environmentally Sensitive Areas, that anticipates, interprets and evaluates impacts and identifies mitigation measures to avoid, minimize or compensate for these impacts.

Environmentally Sensitive Areas: Environmentally Sensitive Areas are key natural components of the regional landscape, providing essential ecosystem functions and services. These functions and services include flood mitigation, drinking water supply, maintenance of regional biodiversity, preservation and connectivity of unique habitats and landscapes, and provision of culturally and economically valued resources and opportunities.



They include areas that:

- maintain the provision of water quality and quantity and provide protection against drought and flood events. Includes water courses, water bodies, and riparian areas;
- provide habitat for identified local species of interest, designated species of conservation concern (SCC), or identified focal species groups;
- provide rare, unique, or biologically diverse ecosystems or unique landforms;
- contribute to other important ecosystem functions or services at the local scale; and
- include Provincial Environmentally Significant Areas.

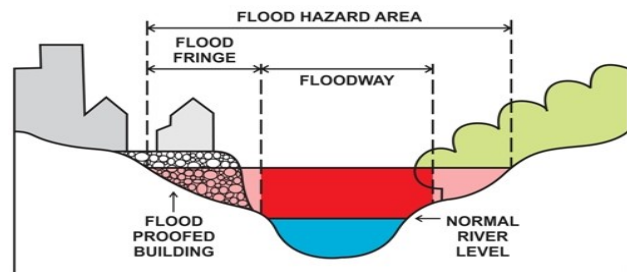
Existing Area Structure Plans and Area

Redevelopment Plans: Area Structure Plans and Area Redevelopment Plans that were approved prior to the establishment of the CMRB or that were approved through the Interim Regional Evaluation Framework.

Flood Fringe: The portion of the flood hazard area outside of the floodway. Water in the flood fringe is generally shallower and flows more slowly than in

the floodway. New development in the flood fringe may be permitted in some communities and should be flood-proofed.

Flood Hazard Area: The flood hazard area is the area of land that will be flooded during the design flood event under encroached conditions. Once this area is defined, the flood hazard area is typically divided into



Source: Government of Alberta, www.alberta.ca/flood-hazard-mapping.aspx

two zones, the floodway and the flood fringe.

Flood Inundation Maps: identify land areas on a map which would be inundated by water given a series of river flows, not just the 'design flood' flow. Flood inundation maps are created by hydraulic modelling using, among other data, historical precipitation information to simulate runoff and resulting river



flows showing those areas which are overwhelmed by water. They are used for emergency preparedness and emergency response planning. The flood inundation map for a design flood flow informs the development of a flood hazard area map.

Flood Hazard Area Maps: show where the floodway and flood fringe would be located, if flow in the river reached the design flood flow. Flood hazard area maps are used for long range planning and are used to make land use decisions, among other uses.

Floodway: The portion of the flood hazard area where flows are deepest, fastest and most destructive. The floodway typically includes the main channel of a stream and a portion of the adjacent overbank area.

Flood Prone Areas: Includes the flood hazard area as defined by the Government of Alberta's flood hazard maps and other areas affected by riverine flooding greater than the design flood as defined by member municipalities in respect of their local context.

Greenfield Development: An area for future growth

located outside of the built-up urban area or previously approved planned areas.

Hamlet: A designated unincorporated community that consists of 5 or more dwellings, has a generally accepted boundary and name, and contains land that is used for non-residential purposes.

Hamlet Growth Area: A new settlement area or an existing hamlet that is designated as a priority for growth, and includes residential and employment uses, and will include a main street or central commercial area.

Infill and Redevelopment Development: which takes place on parcels of land that are vacant and within existing built-up areas, or that are occupied by structures or uses that are planned for replacement by more intense development.

Intermunicipal Development Plan: A high-level policy plan created by neighbouring municipalities in accordance with the Municipal Government Act.



Joint Planning Area: Areas where significant intermunicipal servicing and related growth pressures either currently exist or are anticipated in the near future. To ensure efficient use of servicing and land a higher level of cooperation is required to guide future development in these Joint Planning Areas.

Municipal Development Plan: A statutory plan that establishes policies for land use for future growth in the entire municipality in accordance with the Municipal Government Act.

Placetypes: A Placetype is a generalized development typology that describes at a regional scale the land uses, development density, destinations and connectivity within an area. Placetypes are central to the policies as they define in a general way the six types of development typical in the region. Two Placetypes are mixed-use areas that combine housing with commercial and civic uses into a walkable and bikeable community. These two, along with Infill and redevelopment type, constitute 'Preferred Placetypes'. The three other Placetypes are the more

typical single-use development forms of Residential Community, Rural and Country Cluster Residential, and Employment Area. The following defines each placetype:

(a) Infill and Redevelopment: Development which takes place on parcels of land that are vacant and within existing built-up areas, or that are occupied by structures or uses that are planned for replacement by more intense development. Such development may vary in density and use according to the character of the surrounding community. They may be commercial, mixed, or primarily residential as the context requires.

(b) Mixed-Use Centre/TOD: A greenfield and infill development characterized by mixed use development with many day-to-day services within walking distance of residential. These areas have a variety of housing types, employment types, and commercial / retail land uses mixed within them. When supported by existing or planned transit, this placetype is called Transit Oriented Development. It will provide frequent safe and direct pedestrian



and bike access between uses. Higher density office development is encouraged along with regional, community or neighbourhood commercial centres in this pedestrian friendly area. This placetype may be located within an Infill and Redevelopment placetype.

(c) Masterplan Community: A Greenfield Development characterized by its comprehensive and integrated approach to land use. It will typically include a mix of housing types and land uses, including retail, commercial, civic, and recreational amenities located within walking distance of residences. This placetype includes community or neighbourhood commercial centres. It requires safe and direct pedestrian and bike access between uses. Medium density employment is encouraged along with community or neighbourhood commercial centres in this pedestrian friendly area. These communities should be designed to evolve over time to higher densities and a greater mixture of uses. They can be inclusive of Mixed-use TOD placetype.

(d) Employment Area: An Employment development is characterized by a variety of industrial

and commercial land uses that may include office complexes, research parks, warehousing, and manufacturing. The area may also include supporting uses for workers, such as food and business retail but does not include regional commercial centres. Where possible, they should be used as workplace destinations easily accessible by surrounding residential development and transit.

(e) Residential Community: A Greenfield Development that is predominantly residential. Single detached homes are the dominant housing type with other housing types possibly included. This placetype is generally auto oriented as the development pattern may have limited amenities and destinations that can be conveniently accessed via walking or biking.

(f) Rural and Country Cluster: A rural development characterized by larger lot sizes, lower density, and single-detached housing. This placetype can include Country Cluster patterns that configure housing development in a focused area and preserves remaining land for open space.



Preferred Growth Areas: Areas within the Growth Plan designated as Urban Municipality, Joint Planning Areas, or Hamlet Growth areas. These areas are appropriate for various levels of infill and new growth because of their location in the path of development, capacity for efficient infrastructure and services, and potential for mixed-use community development. These are the areas intended to meet growth demands with the minimum environmental, economic, and servicing costs while providing a range of lifestyles and community environments.

Preferred Placetypes: Three residential Placetypes are classified as Preferred Placetypes for the purpose of focusing new residential growth into development forms which will better support the CMR Goals and Growth Plan Objectives; these three include Infill and Redevelopment, Mixed Use Centre/TOD, and Masterplan Community.

Processor: Businesses that process (or transform) primary agricultural products into intermediary or final products for consumption (i.e. seed

processors/crushers, milling, slaughterhouses, wool/leather production, milk/cheese production, food manufacturing, fibre production, preservation, packaging, etc).

Producer: Primary producers are ranchers and farmers, greenhouse operators, aqua-culturalists beekeepers, and other individuals who create primary agricultural products via biological processes.

Regional Infrastructure: Infrastructure developed by one or more levels of government and/or municipalities to provide services that support the function of the regional economy.

Regionally Significant: Means:

(a) of a scale and significance such that it may benefit or impact two or more municipal members of the Region by virtue of: adjacency, land-use, impact on a wider regional membership, natural systems, infrastructure, and/or servicing requirements; and/or

(b) with proximity and impact to regionally significant



transit and transportation corridors, regional energy corridors and regional utility corridors, natural systems and/or reliance on regional infrastructure that it may affect the regional significance of a proposed development.

Rural Municipality: Member municipalities of the CMRB incorporated as a County, including Rocky View County, Foothills County and Wheatland County.

Small Employment Area: An area that provides services and jobs on less than eight hectares (20 acres), more or less, and not within two kilometres of a neighbouring municipality.

Source Water: Water in its natural or raw state, prior to withdrawal for treatment and distribution as a drinking water source.

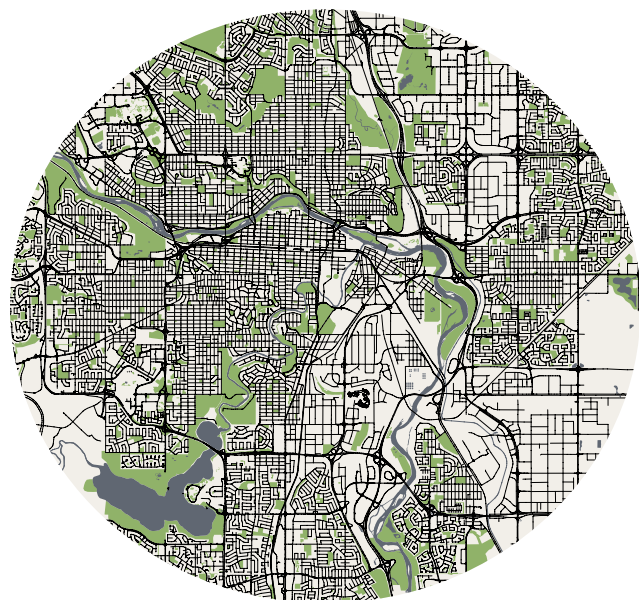
Source Watershed: The land areas from which water drains downstream and provides raw water supplies for a drinking water utility.

Transit Ready Corridor: An area within 800 metres of an existing or planned transit corridor that includes dedicated transit lanes or right-of-way, where the built environment is intended to be organized around transit and walking trips.

Transit Oriented Development: Development located within 400 metres of an existing or planned transit corridor that includes dedicated transit lanes or right-of-way, planned and developed as a mixed use, pedestrian-friendly community. Where possible, major employment and regional or district level retail can be integrated with housing.

Urban Municipality: Member municipalities of the CMRB incorporated as a Town or City.

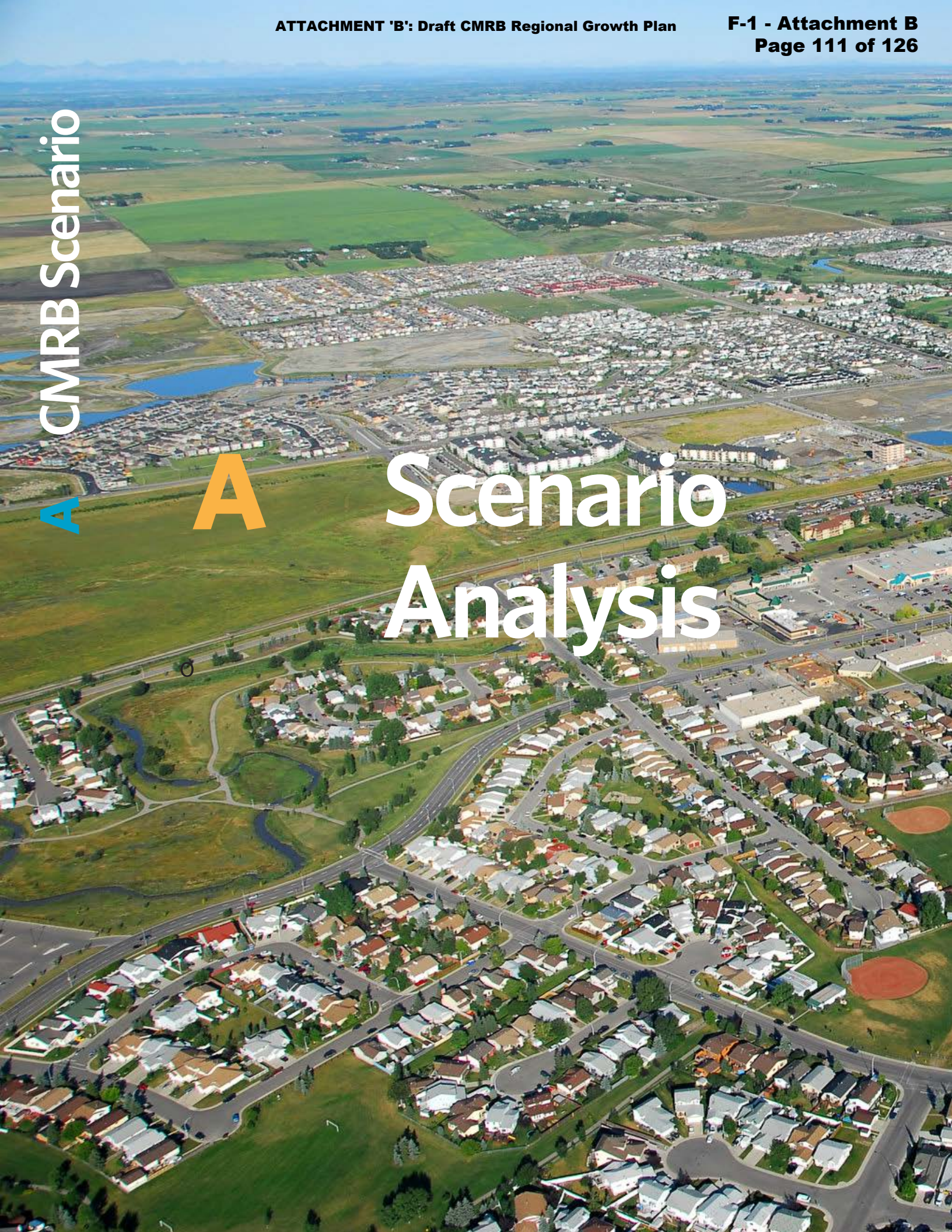
Water Reuse: Water that is used again after its original intended purpose. The reuse can be for the same or a new purpose, and includes alternative water sources such as wastewater, greywater, and rainwater.



A CMRB Scenario

A

Scenario Analysis





CMRB Scenario

Over the past several decades, Peter Calthorpe has created and refined regional planning models that quantifies the cost of growth and its impact on the environment. This plan is a proactive approach to guiding future decisions in the most environmentally sustainable manner possible. The status quo or business-as-usual approach, will result in the least favourable outcome based on environmental impacts and costs to residents. Although the Business as Usual scenario is identified, it is not recommended. The modelling done in support of this plan, clearly demonstrates that a new approach to planning is needed to reduce costs of development and lower environmental impact.

Exploring Scenarios for Growth

Over the next 30 years, the Calgary Metro Region is expected to grow by one million residents and add about half a million new jobs.¹

The majority of this growth is expected to occur within the City of Calgary. The Regional Growth Plan is based on these forecasts, which are based on validated research. The Plan addresses the regional needs to better identify opportunities and efficiencies to reduce the costs of growth, attract investment to the region, and realize sustained prosperity. Most importantly, it also provides an opportunity to counter carbon emissions through coordination of land use and services in a more efficient manner.

Scenarios are map-based illustrations that tell stories about potential futures. Scenarios were used in the planning process to identify different land use changes and transportation system improvements that will reduce the cost of growth if implemented appropriately. Land use

changes included accommodating expected growth in different parts of the planning area or in different types of development, such as the amount of mixed use or single-family development. Transportation options included varying assumptions about the level of transit service, roadway expansion, and incentives connected to alternative mode usage.

Envision Tomorrow, a scenario planning software, was used to illustrate four growth scenarios for the Calgary Metro Region that reflect employment and population numbers for expected growth in the region. The scenarios demonstrate a range of growth options for the coming decades. The information gathered from each scenario illustrates potential outcomes of choosing certain policies and strategies in comparison to other options. The scenario evaluation process provided the structure for this policy document, which will provide guidance for growth.

¹ Rennie population forecast and Applications Management employment forecast



Evaluating Scenarios

Envision Tomorrow

Envision Tomorrow (ET) is a suite of scenario planning and analysis tools used to analyze a region's growth patterns and decisions impacting future growth. ET measures various impacts, including public health, fiscal resiliency, and environmental sustainability. The analysis tools allow users to analyze aspects of their current community using accessible GIS data, including taxation and Census data. The scenario painting tool allows users to "paint" alternative future development scenarios on the landscape and compare scenario outcomes.

ET provides a sketch-level glimpse of the possible impacts of policies, development decisions and current growth trajectories, and is used by communities to develop a shared vision of a desirable and attainable future. The input information is enhanced with local information regarding development, utility usage, and costs.

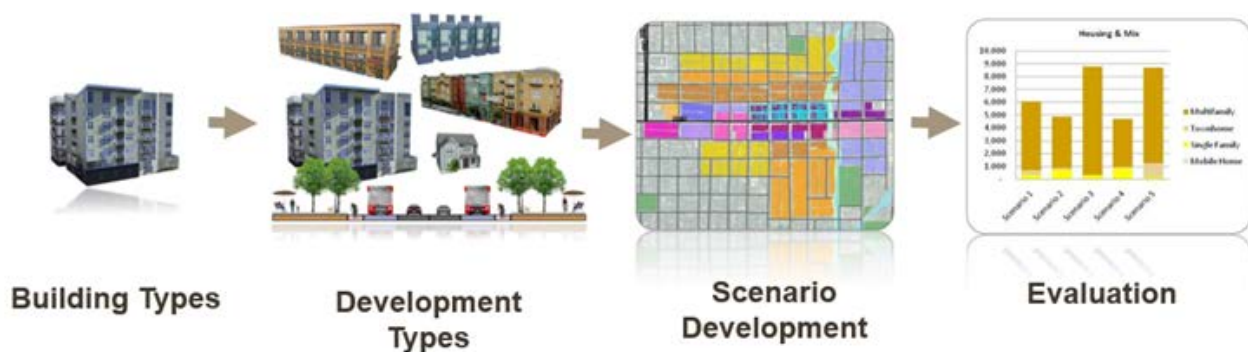


Figure 8: Envision Tomorrow Development Process Option 1

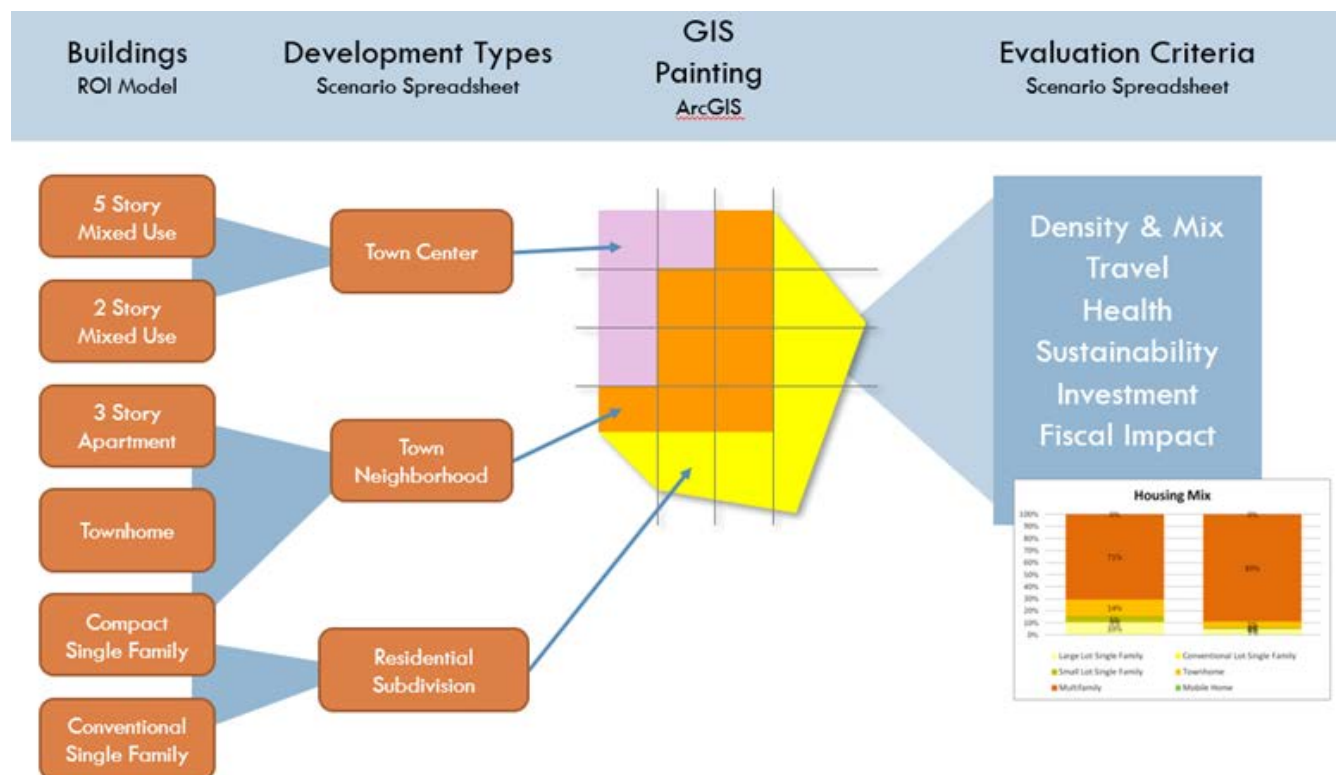
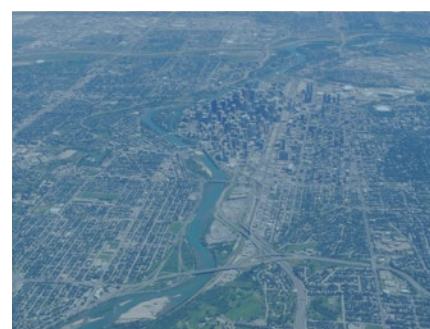


Figure 9: Envision Tomorrow Development Process Option 2

Buildings are the smallest unit of analysis in the scenario process. Individual buildings are modeled in a template spreadsheet called a Prototype Builder. This template spreadsheet is a simplified, planning-level pro forma. The Prototype Builder includes physical attributes of buildings, such as height, landscaping, travel behavior, as well as financial attributes such as construction costs, land costs, and rent.

The Prototype Builder serves as the template for creating a library of building types. CMRB's Prototype Library includes 32 general building types ranging from multiple types of single-family homes to industrial sites to mixed use buildings. The building library is loaded into the Scenario Spreadsheet.

The Scenario Spreadsheet represents a dynamic link to the painted scenario within GIS. The spreadsheet takes local information and combines it with the scenario as designed in GIS to inform indicators. The information fed into the spreadsheet is based on information collected from the CMRB itself including regional water consumption, a blend of recent detailed design and construction projects in the Calgary area, and annual electricity use by household type via Energy Efficiency Alberta.



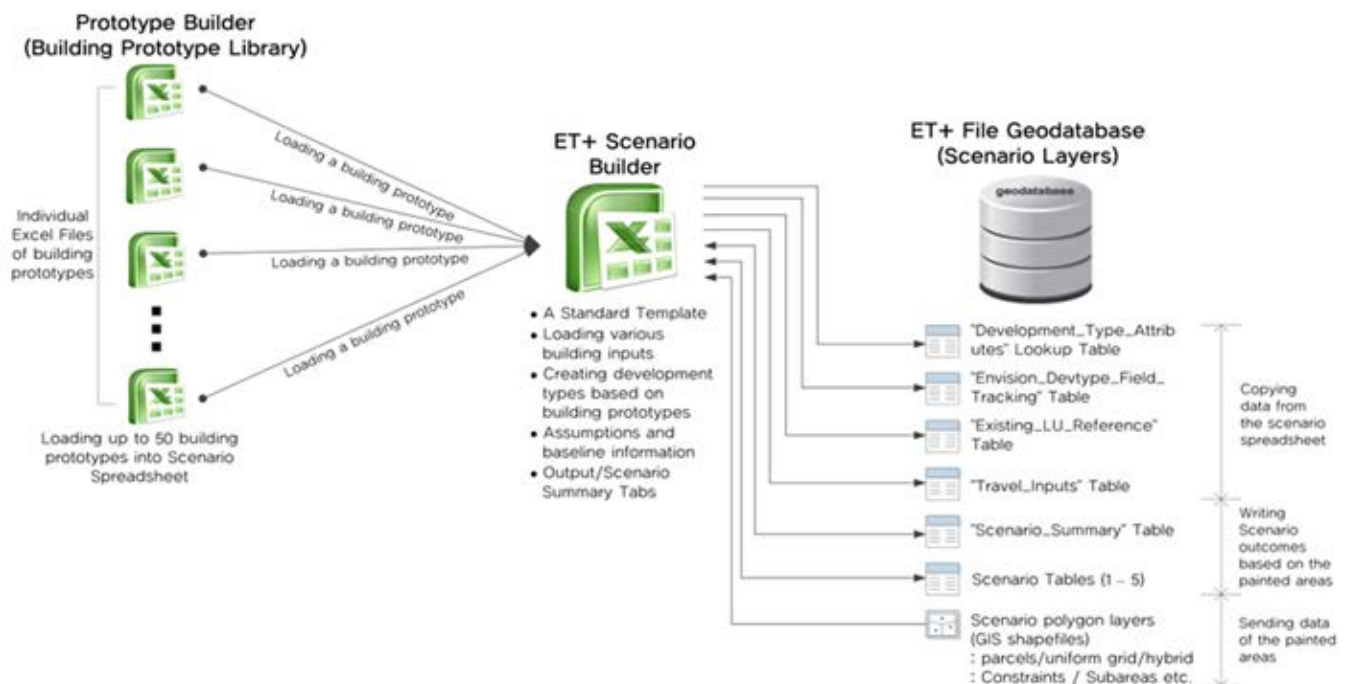


Figure 10: Envision Tomorrow Components

The scenarios themselves are painted within ArcGIS. The GIS layer holds information on existing conditions including existing land use, demographics on population and housing characteristics, and employment numbers. Envision Tomorrow includes specific land use categories. The land uses are listed in the table below.

Existing Land Use Classification	EX_LU GIS Name
Mixed-Use	MU
Multifamily	MF
Townhome	TH
Single Family Small Lot*	SF_SM
Single Family Conventional Lot	SF_MD
Single Family Large Lot	SF_LRG
Mobile Home	MH
Retail	RET
Office	OFF
Industrial	IND
Public / Civic	PUB
Educational	EDU
Hotel / Hospitality	HOTEL
Utilities / Infrastructure	UTIL
Commercial Parking	PKG
Agricultural	AG
Open Space	OS
Vacant	VAC
Unknown	NONE





CMRB's DEAL data set, Bing (Microsoft) building footprint as well as aerial imaging and Street View by Google Maps were used to determine land use for each parcel within the region.

The scenario layer handles demographic and employment data similar to existing land use. Housing units and employment numbers are added for each sub type by parcel. Housing and population information from the Census are equally assigned to the unique land uses by dissemination area. The same is done for the individual employment mixes by transportation area zone (TAZ).

Envision Tomorrow works off land acreage. It calculates the amount of land painted multiplied by the assigned density for the future land use. Envision Tomorrow does this by summarizing the amount of buildable vacant land and development land within the GIS Layer and pushing this information into the Scenario Spreadsheet. Envision Tomorrow relies on two primary GIS fields to quantify the amount of buildable land for each polygon. The VAC_ACRE field is a numeric acreage field where the amount of vacant, buildable (not constrained) land is quantified. The DEVD_ACRE field is a numeric field where the amount of currently developed, but redevelopable land is quantified. The constrained land for the region is kept very basic to water bodies, streams, parks, and floodways. The "hard" environmental constraints are removed from the developable lands within a scenario layer. "Soft" constraints, on the other hand, may not explicitly restrict growth but to test policy options in a scenario. Soft constraints are used as a guide and include natural lands made up by wetlands, floodplains, and wildlife habitat.

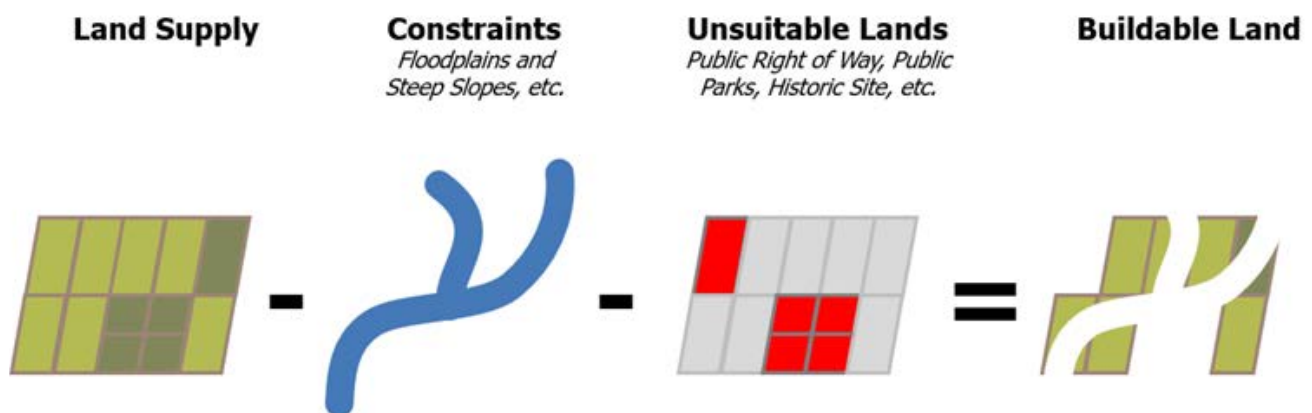
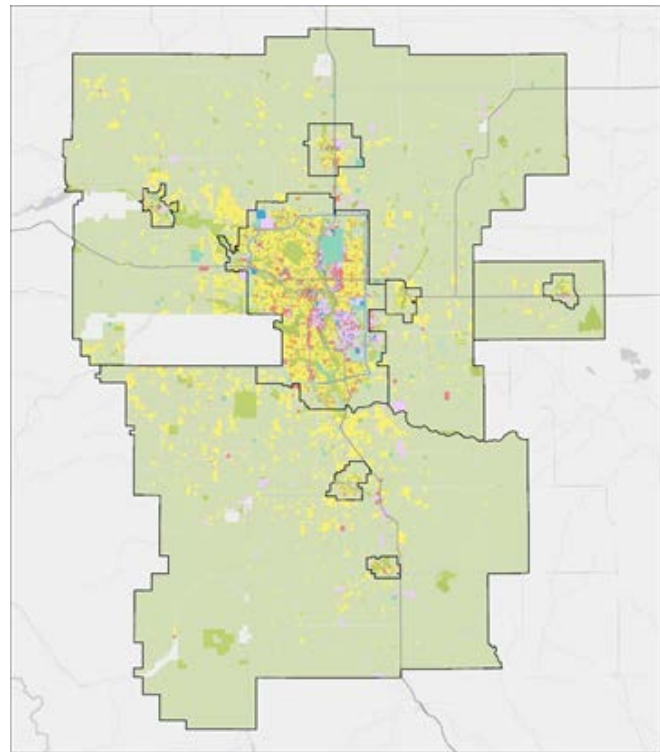
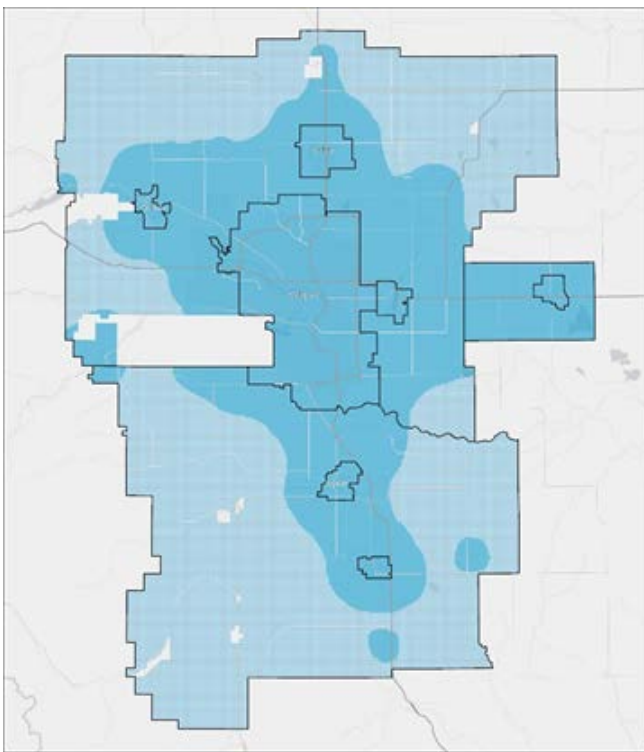


Figure 11: Schematic of Buildable Land Analysis



The last step in the scenario setup is the selection of the planning geography. The Calgary Metropolitan Region stretches over 5,000 km². For processing purposes, a larger scenario polygrid was selected. Parcel data was allocated to a 5 acre grid for populated more urban areas and 20 acre grid for further out areas.



Figures 12 & 13: Scenario Polygrid and Allocated Existing Land Use

The scenario painting itself happens in ArcGIS. Multiple aspects are used to guide this process. Besides workshop input by stake holders and public, environmental constraints as mentioned above, aerial imaging, Google Map's Street View, and existing conditions future planning layers were used for guiding the scenarios. This covers but is not limited to the DEAL coverage. Existing Area Structure Plans were studied. All scenarios take into account layouts and predicted housing units for the individual Area Structure Plans.

Scenarios

Two alternative growth scenarios were initially created as a result of a workshop with the project team and representatives from the ten member municipalities in October 2019. These results and ideas from the workshop were then used to create a business-as-usual and two alternative scenarios that illustrate a range of different futures for the region. A third alternative, the Synthesis scenario was later developed, building on the lessons learned from the business-as-usual and alternative growth scenarios.

Business-as-Usual (BAU)

The BAU scenario shows how growth would occur if today's planning direction based on the current mix of land uses and densities continue and there is no major expansion of transit in the region. Within the three counties, residential growth is more scattered, employment growth is concentrated to current employment areas, and towns and cities experience continuous growth. This scenario has the lowest redevelopment rates of all the scenarios and uses the most undeveloped land. It is the most inefficient scenario with the highest long-term costs to current and future generations.

Compact Growth

The Compact Growth scenario shows how growth would happen if much more of the future growth is infill development, creating higher density development, particularly in urban centres like Calgary. The choices reflected in this scenario are about aggressive higher density development in key urban areas, and minimal new development in areas of the region that are not currently developed. As with the other scenarios, this scenario

accounts for currently planned suburban developments, has the highest redevelopment rates of existing land, and is the most stringent on land consumption. The challenge with this scenario is that it focuses on intensification (growing up) and limits connectivity between the 10 municipalities as a result.

Transit Oriented Development (TOD)

The TOD scenario demonstrates how growth could happen in higher density clusters around future transit stations and city or town centres. This scenario requires major regional transit extensions (bus rapid transit or light rail transit) to Airdrie, Chestermere, Cochrane, and Rocky View County. The choices reflected in the TOD scenario are about spreading higher density development out across expanded transit networks in the region. This scenario uses a redevelopment rate that is higher than BAU, but lower than the Compact Growth scenario. New land is consumed at higher densities, especially for areas situated new transit stations.

Synthesis

The final scenario is based on evaluating other scenarios, individual meetings with the ten municipalities making up the Calgary metropolitan region, and public input collected through the public engagement process in Fall of 2020. It includes elements of all three scenarios. It blends the Compact Growth and TOD scenarios, and retains a focus on more compact development and more redevelopment of existing land than has been done in the past, but with a less aggressive approach than in the Compact Growth scenario and less reliance on transit expansion than the TOD scenario. The scenario assisted in creating the Regional Growth Structure map.

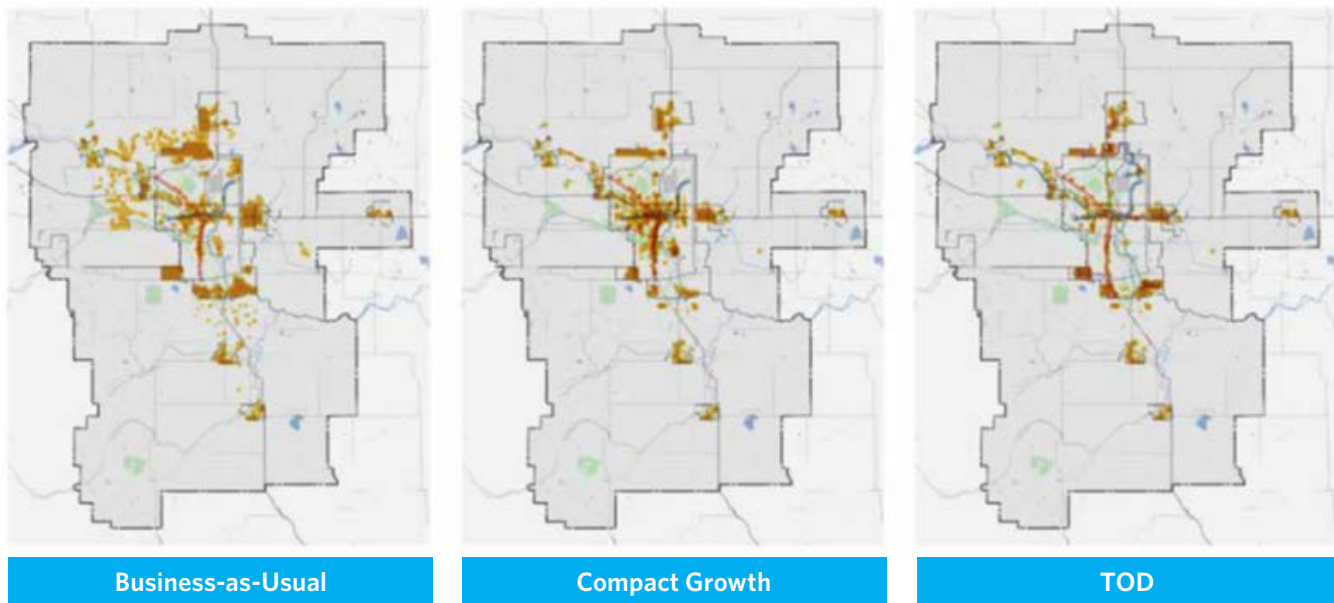


Figure 14: Preliminary Scenarios - Population

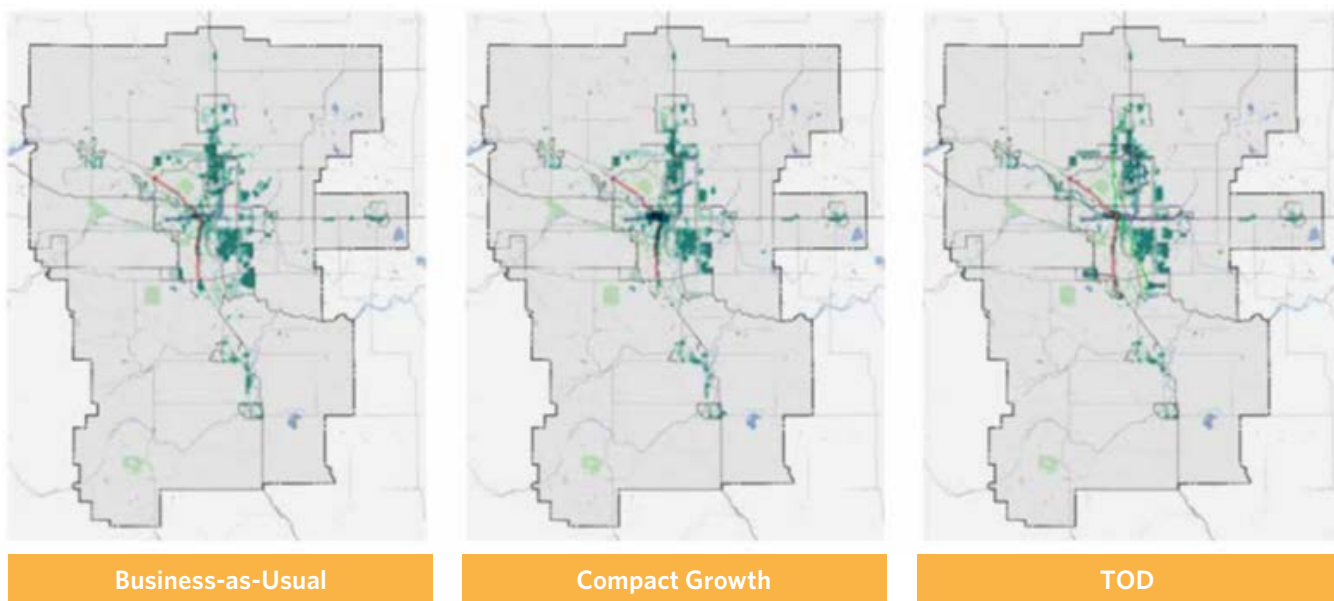


Figure 15: Preliminary Scenarios – Employment

Table 4: Scenario Indicators

Existing Land Use Classification	Business as Usual	Compact	TOD	Synthesis
Land Consumption per household (hectare)	0.14	0.09	0.07	0.08
Vehicle km traveled per household	47	31	32	33
Road and Infrastructure Cost per household*	\$119,000	\$71,000	\$74,000	\$76,000
Water Consumption per household (liters/day)*	661	499	505	507
Electricity Cost per household (annual)* **	\$534	\$427	\$431	\$432
Natural Gas Cost per household (annual)* **	\$301	\$252	\$254	\$254
Total Carbon per household (metric ton/year)*	9.91	7.00	7.18	7.19

* Numbers are based on local input (CMRB reports, regional transportation studies, local utility costs and consumption rates by household type);

**Excludes fees

Lessons from the Scenarios

Each of the scenarios demonstrates different ways to accommodate future growth. Each scenario's performance was calculated and compared, such as greenfield land consumption, road and infrastructure cost, water usage, energy costs, and carbon production for households.

1. High Calibre Development Matters. Scenarios showed a dramatic range of future implications, both positive and negative, directly influenced by choices of density, new local streets, housing type, open space preservation, and overall impervious surface added.
2. Location Matters. The cost to future homebuyers, renters, taxpayers, and utility rate payers will vary based on where new development occurs, with higher density, masterplan, and town-style growth being most cost-efficient.
3. Change Matters A constellation of province and local laws, policies, and practices need to limit unconstrained and costly lower density growth to achieve the Region's goal of prosperity.
4. Prosperity Requires Density. Business-as-Usual develops the most vacant land and uses precious natural resources that enhance the life of all residents within the region. The other three scenarios have a much lower rate of greenfield development. The TOD scenario shows the highest residential density on greenfield developments as it adds multiple high-density transit developments on currently undeveloped land. Building on greenfield can increase auto travel and the output of CO₂, in addition to adding cost for roads and infrastructure. Choosing to develop at higher densities reduces the impacts of these factors. Compact development shows the highest reduction by concentrating development within existing centres. Synthesis offers similar benefits as Compact and TOD while considering desired development practices by the public and the ten municipalities.

B Joint Planning Areas





Joint Planning Areas

While collaboration is important throughout the Region, four areas have been identified where a higher level of cooperation can capitalize on future opportunities. These Joint Planning Areas each have unique characteristics, opportunities and collaboration requirements. However, each of these Joint Planning Areas already have approved Area Structure Plans in place for portions of their land area.

While this reality introduces challenges, it also highlights the need for collaboration among the directly affected municipalities, and for sharing the benefits and costs of maximizing the regional value of these areas. Joint Planning Areas provide opportunities for neighbouring municipalities to initiate or continue collaboration in areas that impact multiple municipalities and can benefit from a coordinated plan for the entire area. A key goal for the Joint Planning Areas is to align servicing strategies with land use planning that will create opportunities for urban standard development.

Joint Planning Area 1 — Airdrie/Rocky View/Calgary

This Joint Planning Area connects the region's second largest city to Calgary. With only a few kilometres between the boundaries of the two cities, there has been pressure for suburban-style development in this subregion, in recent years. Airdrie's population is projected to double to over 130,000 within the horizon of this plan. The commuting demand between Airdrie and Calgary will likely strain highway and transit services. Some of this commuting demand can be moderated with employment in Airdrie, and possibly in adjacent parts of Rocky View County. A future high-capacity transit connection is envisioned between Airdrie and Calgary that also will serve the intermediate area in Rocky View County. A more detailed transit assessment will be required to determine the most appropriate transit mode, alignment and timing. Although high-capacity transit

may be many years away, planning today for land use that is supportive of transit will ultimately enhance its effectiveness, and reduce its operating costs.

Industrial and commercial development are major existing and proposed land uses in this planning area, with strong reliance on the provincial highway system. The focus of this Joint Planning Area is coordination of long-term transit and land use planning to maintain viability for future transit service by protecting one or more corridors and encouraging transit-supportive land use. In addition to transit corridor planning, coordinated land use, transportation, utility and servicing planning throughout the identified area has the potential to align and balance individual identity and development consistency requirements in this area, where future municipal boundaries are expected to be visible only on a map.

The three municipalities are continuing to discuss the western boundary of this Joint Planning Area.

Joint Planning Area 2 — **Chestermere/** **Rocky View/Calgary**

There are two primary issues requiring coordination in this Joint Planning Area. Like Joint Planning Area 1, there will be need to support increased commuting demand between Chestermere and Calgary as growth continues. Calgary and Chestermere have planned and aligned land use for future extension of the 17 Avenue SE bus rapid transit corridor eastward along 17 Avenue and Chestermere Boulevard. Chestermere and Calgary recently adopted an Intermunicipal Development Plan that addressed the interface between the two municipalities, including policy that identifies land use consistent with Transit Oriented Development in this corridor. The two municipalities are currently exploring the introduction of intermunicipal transit service.

A high-capacity transit corridor would have indirect benefits to Rocky View County, as connecting routes to Conrich and Janet could be the framework for a future transit network serving these important Employment Areas.

Industrial and commercial development can benefit from coordinated planning in this area. The majority of the area

has good access to the provincial highway system, and in some areas, the rail network, but the scale of currently planned employment growth in Janet, Conrich, Chestermere and Shepard has the potential to impact the road networks in all three municipalities. A coordinated approach is needed, one that includes a logical sequencing plan and a strategy to share costs and benefits. This approach can reduce or delay the need for significant highway, roadway and other servicing investments.

Planning in this Joint Planning Area should reinforce the 17 Avenue SE/Chestermere Boulevard transit corridor, including how this corridor can ultimately be the backbone for local service for the full Joint Planning Area, and support regional transit for Strathmore and Wheatland County. Joint Planning Area planning should identify an employment sequencing plan that focuses on timing major servicing investments to maximize employment opportunities and to also consider sharing revenues between municipalities, in a mutually agreed upon revenue sharing strategy. First-in developments, may need to be compensated by developments which follow in time.



Joint Planning Area 3 & 4 — **Foothills,** **High River, Okotoks**

Foothills County, High River and Okotoks are continuing to discuss the boundaries and parties for these two Joint Planning Areas located between High River and Okotoks and east of Okotoks. The southern Joint Planning Area will include much of the industrial corridor that is included in the Highway 2A Area Structure Plan, while the northern Joint Planning Area is expected to include some of Okotoks' urban reserve, the hamlet of Aldersyde and some additional areas that could benefit from the proposed water line to be jointly developed by Okotoks and Foothills.