



## MDP/CTP Update Draft Package | February 2020

Included in your information package are the following documents:

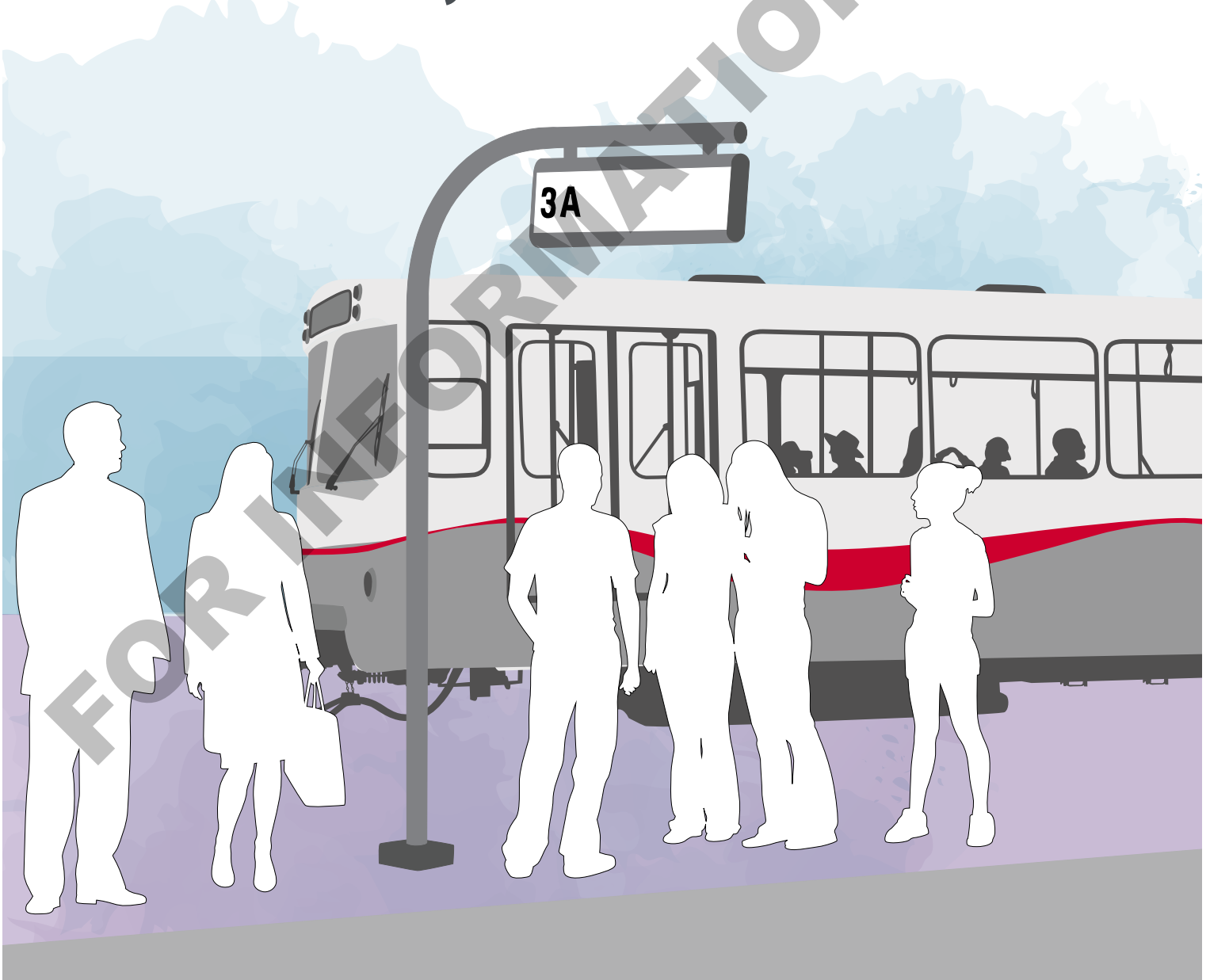
<b>Item</b>		<b>Purpose</b>
1	Next 20: Making Life Better for Calgarians – State of the City	Describe the findings from the review of both plans, including a forecast of the core indicators for the plan
2	Proposed Revisions to the MDP (Redline)	Show the amending language proposed for the MDP
3	Proposed Revisions to the CTP (Redline)	Show the amending language proposed for the CTP
4	Summary of Proposed revisions to the CTP and MDP	Provide high-level rationale and overview of amendments to both plans, organized by topic
5	Proposed Revisions to Maps contained in the CTP and MDP	Show the revised maps proposed for approval. Note, the maps reflect previously approved plans that have not yet been incorporated into the MDP and CTP.
6	A Rationale for making the CTP a Statutory Document	Provides Administration's rationale for making the CTP a statutory document to improve decision making outcomes
7	Initiatives supporting MDP and CTP	Provides information on current and planned work supporting implementation of both plans.





# Next 20: Making Life Better for Calgarians

## State of the City



**FOR INFORMATION ONLY**

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# Next 20 overview

The Municipal Development Plan (MDP) and the Calgary Transportation Plan (CTP) are Calgary's long-range land use and transportation plans that look 60 years in the future. The Plans help shape how the communities we live and work in grow, develop and evolve over time. The goal of the Next 20 project was to review the Plans to see what's working well and contributing to the quality of life Calgarians enjoy.



The first stages of the project set out to identify areas where the plans were working well, and how the plans might be improved going forward. This work included:

- Best practice reviews of land use and transportation plans from across the world.
- A multi-pronged engagement approach that included gaining feedback from subject matter experts, key stakeholders and the public.
- A forecast analysis of the 14 core indicators to evaluate their performance over the life of the plans.
- An update of the “Implications of Alternative Growth Patterns on Infrastructure Costs” study completed in 2009 by IBI Group, referred to as the “Cost of Growth” study.

This review was limited to considering critical amendments to deal with emerging or growing concerns and housekeeping items to align the Plans with policies approved in the past 10 years. Amendments were identified through a triage exercise based on the best practice review, stakeholder comments, and the results of analysis. This work highlighted the policy areas where changes were critically needed to ensure the continued progress of the plans.

The purpose of this report is to summarize the findings of the review process and the recommended changes to the plans.



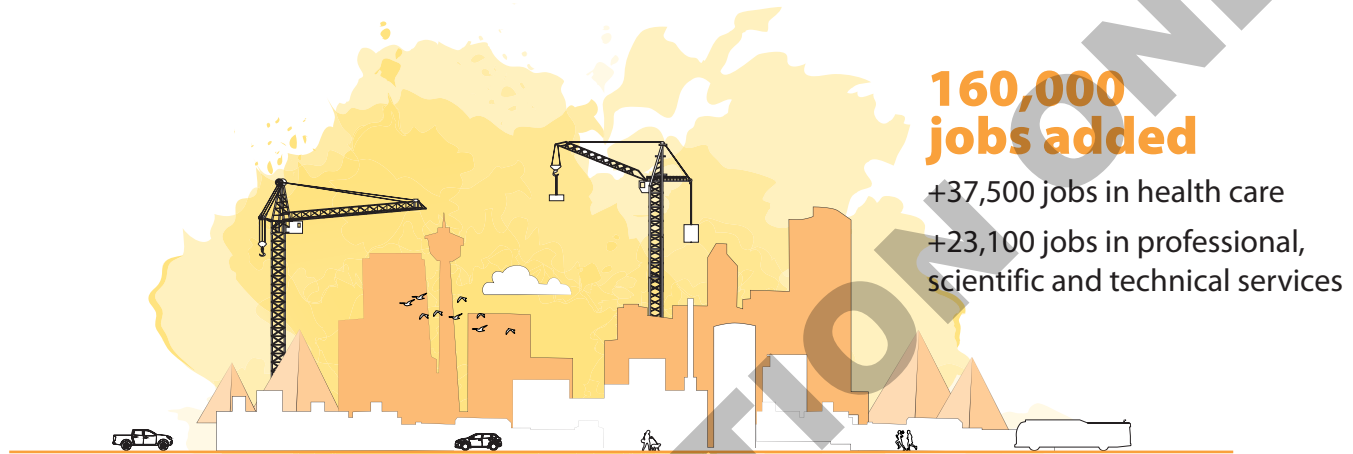
# Our changing city

Calgary has long been considered a great place to make a living, a great place to make a life. While we enjoy the reputation of being one of the most livable cities in the world, this does not mean our city has not, and will not, face challenges.





Figure 1: Our Changing City, 2009 to 2019



**+220,000 people**

**Age 65+**  
increased to **12%**  
of total population

**Age 20-24**  
decreased to **6%**  
of total population



**20%** increase  
in households

**85%** of single family houses  
are owner occupied in 2019

**2.63 people**  
is the average household  
size in 2019

**57%** of Calgary  
households lived in  
Single Family Housing  
in 2019

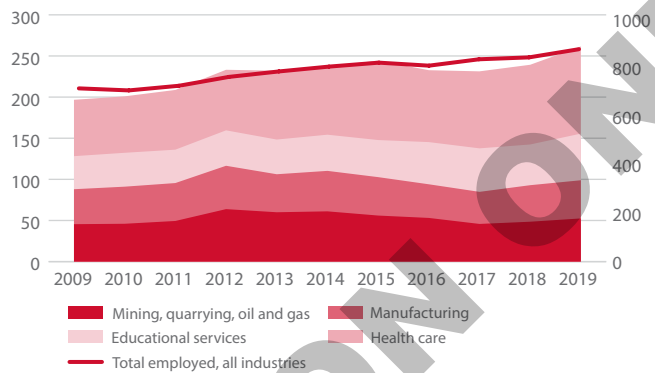


Homeownership rates  
are declining from  
**71%** in 2009,  
to **66%** in 2019.

## Over the past 10 years

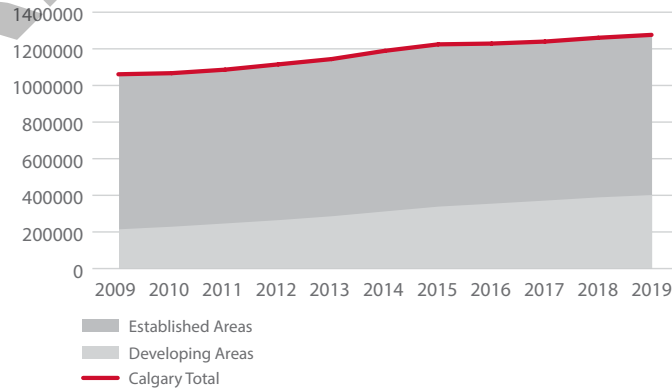
From 2009 to 2019, employment in the Calgary Metropolitan Area (which includes the city and Rocky View County) increased by over 160,000 jobs. However, the past decade was characterized by economic fluctuations. In 2009, Calgary was in a recovery period after the economy was impacted by the 2008 financial crisis. By 2012, our economy was booming with high growth in employment in the oil and gas, and manufacturing industry sectors. This period of high economic growth continued until 2015 when Calgary faced another recession and job losses. By 2019, total employment had recovered to pre-2015 levels. This recession led to a recalibration of Calgary’s economy. While significant job losses were experienced in Calgary’s traditional key industries, industries like health care and education experienced a period of growth. See Figure 2.

Figure 2: Employment in Key Industries, 2009 to 2019



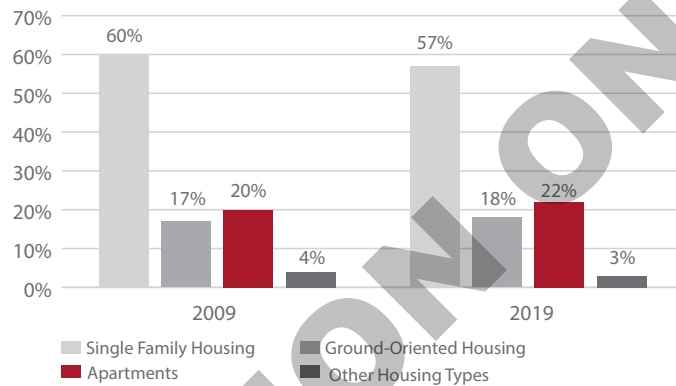
Even with economic uncertainty, Calgary’s population continued to grow, adding almost 220,000 new residents to our city. Most of the growth in population has been accommodated in the developing areas on the outer edges of the city, particularly in the southeast and north areas of the city. The established communities in the city did experience a net increase in population as about 10% of Calgary’s growth since 2006 was in these areas. Growth in established communities has fluctuated with the overall health of the economy. The population in established communities increased when the economy was growing and decreased when it declined. This suggests that redevelopment opportunities in Calgary are tied to the city’s economic growth. Growth in the outer edges of the city also fluctuated, but they never lost population, even during the economic decline. See Figure 3.

Figure 3: City of Calgary Population, 2009 to 2019



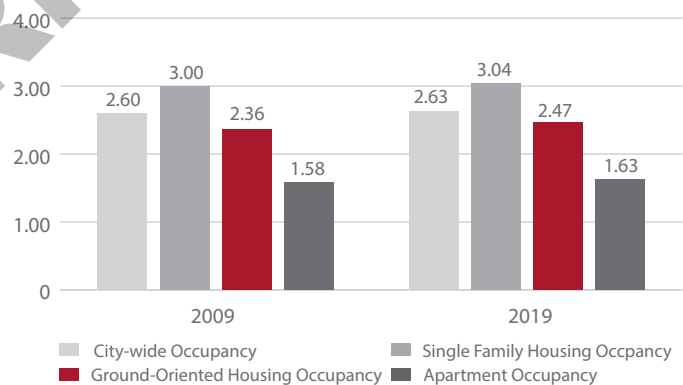
The number of dwellings where people live increased by almost 20 per cent over the past ten years. Single-family, detached housing continues to be the most common housing type across Calgary, but this has started to shift. In 2009, almost 60 per cent of Calgary households lived in single-family, detached housing. By 2019, this has declined slightly to 57 per cent of households. This shift is most noticeable in the developing areas of the city where new communities are building a wider variety of housing types. The mix of housing in the established communities has not significantly changed since 2009. See Figure 4.

Figure 4: City of Calgary dwellings by housing type, 2009 and 2019



Household sizes remain stable in Calgary, and average occupancy across the city has increased slightly from 2.60 people per dwelling in 2009 to 2.63 people per dwelling. This is due to a change in occupancy in ground-oriented housing such as duplexes and townhouses. The occupancy in these types of dwellings has increased by about 5 per cent from 2.36 in 2009 to 2.47 in 2019. This suggests that larger households are choosing to live in higher density ground-oriented housing. Occupancy in apartment dwellings also increased slightly during this time period. See Figure 5.

Figure 5: City of Calgary housing occupancy by dwelling type, 2009 and 2019

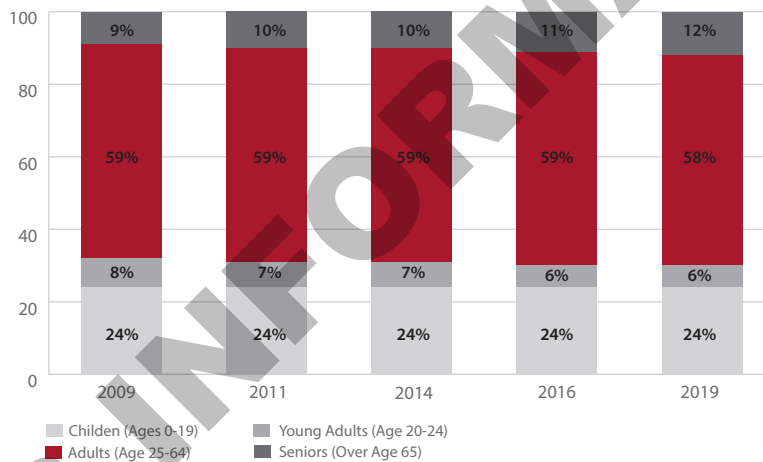


Homeownership rates are dependent on dwelling type as more people in Calgary own single-family homes than ground-oriented development and apartments. Around 85 per cent of single-family homes are owner occupied, compared with 60 per cent of ground-oriented housing and 30 per cent of apartments. Overall, homeownership has declined in Calgary since 2009 across all housing types, suggesting that fewer Calgarians are choosing to own their homes. The decline in homeownership rates has been steady over the past ten years, suggesting that is likely not related to short-term economic changes.

Vacancy rates in Calgary are low as only 4 per cent of dwellings are vacant, however this also varies with the dwelling type and economic conditions. Apartment dwellings have the highest vacancy rates and are the most sensitive to economic changes. The vacancy rate in apartments increased from just under 7 per cent in 2009 to almost 10 per cent in 2017 as a result of economic changes in the city. Ground-oriented housing experienced a similar shift in vacancy rates, although not as large. Single-family housing vacancy rates did not change significantly over the past 10 years. Currently, vacancy rates across Calgary have recovered to pre-recession conditions.

Like most cities across Canada, Calgary's population is aging. In 2009, almost 10 per cent of Calgary's population was over the age of 65. This increased to over 12 per cent in 2019 (Figure 6). Calgary is also experiencing a decline in the number of young adults in our city, as the number of people aged 20 to 24 declined by over five per cent from 2009 to 2019. This may be a sign that young adults are leaving Calgary, but it may also be related to natural demographic shifts.

Figure 6: Calgary population by age category, 2009 to 2019



New population creates additional demand on our transportation system. Since 2009, the amount of travel on Calgary's transportation system has increased by almost a million trips per day and about 80 per cent of those trips are made by people driving. To support this additional demand, Calgary has made a number of improvements to the transportation system which are shown in Figure 7.

Figure 7: Calgary Transportation System Improvements, 2009 to 2019



## Roads

- New diverging Diamond interchange at 162 AV and Macleod TR.
- New interchange at Bowfort RD / Trans Canada Highway.
- Construction of Stoney TR on the north and east sides of the city.
- Change the one above to:
- Added over 400 km of new roads including a significant portion of Stoney Trail.
- Built more than 15 new interchanges.
- Built dozens of projects to continuously improve the transportation system.

## Transit

- Light rail expansions to Calgary's Northeast and Northwest lines and new light rail line to the west side of the city.
- Built the 17 AV SE transitway completion and the start of the southwest transitway construction.
- Built the MAX bus rapid transit lines to provide high quality cross-town options to Calgarians.

## Walking & Wheeling

- Enhancements to the pedestrian experience under CP rail bridges.
- Several pedestrian bridges, including the Peace Bridge which sees an average of almost 4,000 users per day.
- George C King bridge connects the north and south banks of the Bow River.
- Investment in bike infrastructure including 6.5 kilometres of cycle tracks in the downtown core.

This investment in walking and wheeling infrastructure, particularly in the downtown core, has led to an increase in the active mode share in both the Downtown Core (Table 1) and overall daily travel across the city (Table 2).

The recession had a significant impact to Calgary Transit. Overall, transit ridership declined between 2012 and 2017 (Figure 8). This led to a reduction in people taking transit in and out of downtown. Economic recovery in the Downtown Core remains slow, but transit ridership has recovered to pre-2015 levels.

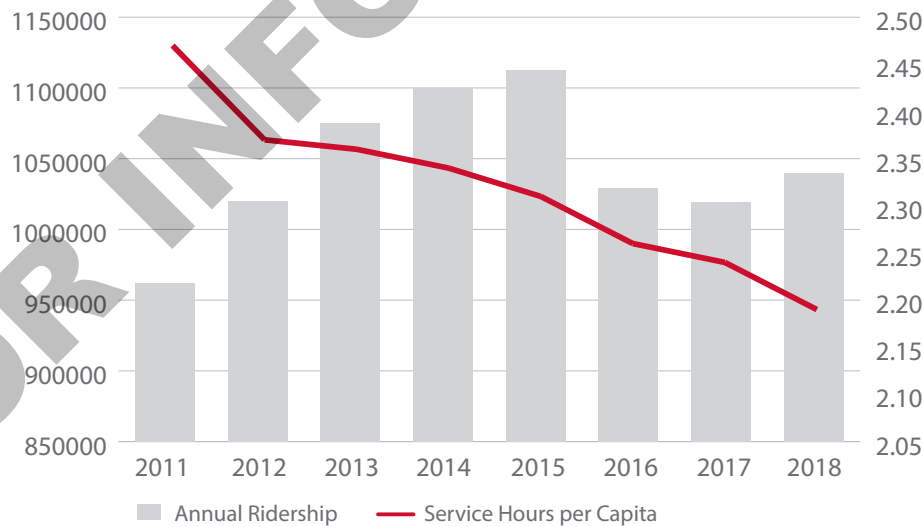
**Table 1: Central Business District Cordon Count (2012-2018)**

Mode	% Trips entering downtown (a.m. peak)	
	2012	2018
Walk	8%	8%
Bike	2%	4%
Transit	48%	45%
Auto	42%	43%

**Table 2: All day, all-purpose mode split (2012 - 2016)**

Mode	% All day, all-purpose trips	
	2012	2017
Active	14%	18%
Transit	9%	8%
Auto	77%	74%

**Figure 8: Annual transit ridership and annual services hours per capita, 2011 to 2018.**



## Looking ahead to the future

Over the next 20 years, Calgary's economy is expected to continue to grow. Employment is anticipated to increase by over 350,000 jobs over the next 20 years, and almost double to just over 1.7 million jobs over the next 60 years. Economic forecasts suggest that the industries with the largest growth over the next 20 years will be in the construction, transportation and warehousing, finance and business industries. Over the next 60 years, significant growth in health care industries is expected due to the aging population in the region. See Figure 9.

Over the next 60 years, Calgary will experience steady population growth. We anticipate that our population will grow by about 400,000 people over the next 20 years and almost one million people over the next 60 years. Our population is expected to continue to age, people over 65 years of age are expected to increase from 12 per cent to over 20 per cent during this time. This may pose challenges to Calgary's economy as the increase in jobs over the next 20 years exceeds the increase in working age population (age 25-64). This suggests that more seniors may continue to work after the age of 65. See Figure 10.

Calgary's population growth will also have an effect on our transportation system. It is estimated that in 20 years, almost 2.5 million more trips will be made every day. About 80 per cent of trips in Calgary today are made by people driving a personal vehicle. Additional vehicles trips will increase traffic congestion on our roads, travel times, noise and greenhouse gas emissions.

Technology will help address some of the impacts current vehicles have. Over time, the move to electric vehicles will reduce greenhouse gas emissions and vehicle noise. This will help maintain Calgary's air quality. Full electrification will take some time, however, partial adoption of electric vehicles will help reduce greenhouse gas emissions and vehicle noise. A fully electric fleet of City vehicles will be needed by 2050 to achieve current climate reduction targets.

New transportation options such as transportation network companies like Uber and self-driving cars will change how people travel. These services provide benefits to many people with limited mobility options. However, there are challenges with new technology. Some new transportation technologies will add emissions as these trips may replace short walking, wheeling or transit trips. It may also increase

congestion as these new transportation technologies increase access to single occupant vehicles.

Managing congestion is complex. The adoption of new transportation technologies is not expected to help reduce traffic congestion. Analysis suggests that on-demand services like Uber or self-driving cars will contribute to traffic issues as they make taking a motor vehicle a more convenient travel option for more people.

It is not possible to build our way out of congestion. Research shows that increasing in-road capacity encourages more people to drive and more suburban development. This limits the effectiveness of the improvements while reducing the quality of life for people in adjacent communities. Increasing road capacity requires significant infrastructure investment. Traditional sources of infrastructure funding are expected to decline, limiting the resources available to add capacity to the system.

Figure 9: Calgary Economic Region Population and Employment Forecasts, 2019 to 2076

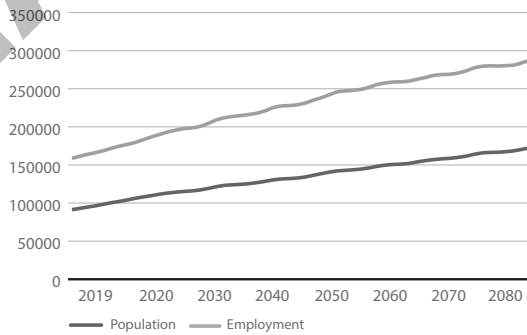
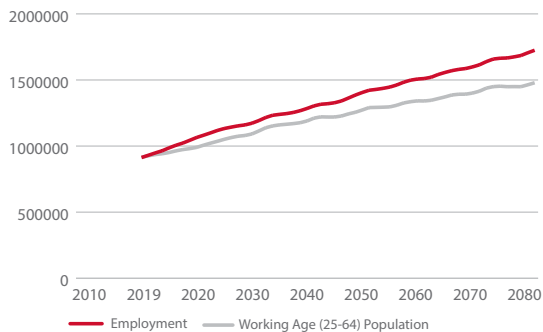


Figure 10: Calgary Economic Region employment and working age population (Ages 25-64), 2019 to 2076



# Summary of Next 20 Review

## Best practice review

The project team reviewed several national and international plans to identify how, and to what extent, emerging topics and trends have been addressed since the approval of Calgary's MDP and CTP. In general, the current MDP and CTP address most topics in recent plans. Some topics, such as climate change and future technologies, are not addressed currently and amendments are proposed relative to these items. Many cities have moved towards an overall City Plan that combines land use and transportation plans and other visionary elements. Also, new plans are more narrative-based and include considerations of equity, health, indigenous and social impacts. The anticipated full review of the plans will reposition the MDP and CTP in a similar fashion.





## Public engagement overview

Two stages of engagement took place between February and May of 2019. Stage 1 looked at what was working well, what could be improved and what key trends the plans should consider. During Stage 2 we asked what it would take to achieve more progress, and where should progress be emphasized.

Public feedback was sought through an online survey on The City's online engagement portal, an interactive exhibit at the Central Library location and visits to several Calgary high schools. These engagement opportunities were advertised through online ads, newsletter articles, a Report to Calgarians television segment and distribution of flyers at several city-wide events and locations.

Over 500 surveys were completed during Stage 1 and 2. The results from the survey confirmed that when thinking of their city, the most important qualities to consider were:

- Environmental protection.
- Vibrant and lively entertainment scenes with many choices of activities.
- People of all ages can travel about the city regardless of ability.
- People can walk to amenities like parks, schools and services within their communities.
- Everyday needs can be met within a neighbourhood.

A wide cross section of organizations participated in focus groups. They represented academic, industry, economic and community interest groups. The focus group sessions were framed around four Council priorities: a healthy and green city, inspiring neighbourhoods, a prosperous city, and a city that moves. Participants were asked to share what was working for each priority and any trends or challenges they are seeing in their respective industries. Generally, feedback centred on the following themes:

- Desire a city consistent with the existing vision and policies.
- Challenges with respect to how policies were implemented.
- Issues that are being addressed through existing and planned City initiatives.
- Funding levels were not sufficient in many regards to achieve plan outcomes.




While feedback was sought on how the plans might be improved, most feedback received was of a more general nature. Policy amendments have been crafted to address key issues that were within the project scope.

## Core indicator review

When the plans were approved in 2009, 14 core indicators were identified to measure progress toward the Plans' goals. A technical analysis was completed as part of the review to evaluate progress made since the plans were approved and to forecast future performance. The results of this analysis were used to inform potential plan amendments. This work augments the 2014 and 2018 MDP/CTP Monitoring Reports which discuss progress today. As with the monitoring reports, this analysis shows The City has made good progress on several core indicators and will need to continue to make diligent decisions in order to achieve others. Table 3 below summarizes the findings of the indicator analysis.

The results of the indicator analysis are found within the economy, environment, community and mobility sections of the report.

**Table 3: Indicator review results**

Stay the course 	Accelerate to achieve 	Review for effectiveness 
2 - Density	7 - Access to primary transit network	1 - Urban Expansion (50/50)
4 - Land use mix	8 - Transit service	3 - Population / Jobs Balance
5 - Residential Mix	10 - Transportation mode split	6 - Road and Street Infrastructure
11 - Accessibility to Daily Needs	13 - Urban Forest	9 - Goods Access
		12 - Watershed Health
		14 - District Energy

### Stay the course

The indicators in this category are generally performing well and support the Plans outcomes. Some revisions to the core indicators in this category may be needed as land-use designations change with future updates to the Land Use Bylaw. Core indicators that are in this category are related to density and land-use diversification.

### Accelerate to achieve

The core indicators in this category support the outcomes of the Plans and show where some progress has been made. However, improvement is needed to achieve the Plans' goals. This category includes some transportation and environmental core indicators.

### Review for effectiveness

Many core indicators were established to measure variables that The City can directly influence. These indicators were helpful in assessing the 2009 Plans in terms of whether a future city, if achieved, would realize a broad range of benefits. This approach is less effective at measuring the progress of the MDP and CTP over time. The indicators in this category show a range of results, however the actual indicator is not effectively measuring whether the outcome is being achieved. This category includes urban expansion, and some transportation, economic and environmental indicators.

## Savings arising from a more compact city

In 2009, IBI Group completed a study titled “Implications of Alternative Growth Patterns on Infrastructure Costs” for the Plan It Calgary process. It is more generally referred to as the “Cost of Growth” study.

The 2009 Cost of Growth study identified that the current MDP and CTP would result in societal savings of \$11 billion in capital costs over 60 years, and an annual operating cost savings of \$130 million at the final year of the plans. This is relative to the “dispersed” city scenario which reflected current policy and trends in 2009. These savings would be shared by multiple parties including The City, Province, School Boards and private developers. These savings were due to the reduced amount of linear and spatial infrastructure that would be required from a smaller city footprint.

Administration, using the methodology from the 2009 study, updated the analysis using current data and figures. Stormwater infrastructure was not included in the 2009 study, but was added to this analysis. The updated analysis finds that achieving the MDP and CTP goals would result in societal savings of \$16.8 billion in capital costs going forward over the next 60 years, and annual operating cost savings of \$260 million by 2070.

There are some important caveats that should be noted with respect to the updated analysis. Environmental and social benefits, beyond these cost savings, are not included in the calculation. The time period continues to look out over the next 60 years, so the updated calculations do not account for infrastructure costs and savings prior to 2019. The calculations look at how the city would grow spatially under different scenarios and use linear and area unit costs to determine overall savings. The work of the off-site levy review will identify city project-specific costs at a more detailed level, so some differences in overall costs are to be expected.

While the analysis continues to confirm that progress on a more compact urban form can have tangible savings, it is acknowledged that there are many costs to achieving a more compact city that are not reflected in the methodology. These include, but are not limited to, increased risk and timelines for project approval, increased land prices in central locations, and utility upgrade complications and risks. The work of the Established Areas Growth and Change Strategy, Main Streets, Downtown Strategy and related initiatives must continue to seek to address these factors if the full spectrum of savings is to be achieved.

# Key Findings

## Our economy

Following decades of dynamically shifting between boom and bust cycles, Calgary's economy is stabilizing with a growth rate similar to other major Canadian cities. In 2018, Calgary's GDP recovered to \$124 billion — the highest GDP per capita among Canadian cities. Calgary's energy sector is the largest in Canada with over \$110 billion in revenue in 2017. Calgary has strong agribusiness and logistics sectors and is the fourth largest financial centre in Canada.

Over the next 20 years, Calgary's economy expects to add about 350,000 more jobs. Technological advancements in automation and digitization, and a global emphasis on renewable energy and climate change are disrupting economies across the world. Calgary's economy is at a cross-roads. We can adapt to these changes by leveraging our young, educated workforce to advance established sectors and embrace new, emerging business sectors.



Five-year employment growth



Sustained job creation in the regional economy should occur with 87,200 new new jobs expected in five years from 2019 to 2024. It is an improvement over the last five years but behind the highs of 2009 to 2014.

**IMPACTS OF THE MDP AND CTP**

The MDP and CTP support economic growth in Calgary by creating a city that is attractive to both people and businesses. This is done through the development of safe, healthy, complete communities that are well connected to the activities that people do every day. Through the MDP and CTP, businesses are supported by providing a climate that supports economic activity, the retention and growth of existing businesses, locations for office growth outside the Downtown, and promoting Downtown Calgary as the location of choice for head offices.

As Calgary's economy changes, the focus will need to shift to support sustainable industries to preserve the economic and environmental integrity of the Calgary Region. Climate, land and energy issues linked to the economy cannot be addressed by one municipality alone.

The ability to meet citizen and business needs is dependent on a municipality's financial ability to provide and maintain infrastructure. The MDP supports sustainable municipal finances through the optimization of existing infrastructure, and accommodating growth while avoiding premature or unnecessary investment in new municipal infrastructure.

## WHAT ARE OTHER CITIES DOING?

Calgary's economy is changing. Economic fluctuations are not uncommon as economies change. Cities that have been successful at managing this change adopt economic strategies that focus on adaptation. These strategies create a competitive and innovation business climate while fostering an environment that promotes global trade, new investment and allows local businesses to thrive. They also promote access to education and training for a skilled workforce, support for increased job growth, affordable housing, and cultivate a strong arts and culture sector.

Some examples of actions other cities have taken are:

- Develop and implement housing opportunities, including affordable housing through masterplan processes and partnerships with development industry.
- Establish partnerships with economic development agencies to help attract new business.
- Establish partnerships with post-secondary institutions to create opportunities to develop and retain students.
- Work with partners to advance development of a technology incubator/accelerator centre to help grow technology companies, increasing jobs and driving wealth creation.
- Develop streetscape projects to support premium retail destinations.
- Invest in neighbourhood projects focused on supporting economic mobility (e.g. child care, small business hubs, etc.).

Calgary has made several key partnerships with organizations like Calgary Economic Development, the Urban Alliance with the University of Calgary and various affordable housing agencies. Calgary is in the process of developing technology hubs with the first project being the 9 Avenue Parkade and Innovation Centre. This development will provide parking for both automobiles and bicycles and will allow for full conversion of the building into commercial or residential as demand for transition parking structures declines. A multi-use space has been incorporated into the design of the building to serve as an innovation centre for local businesses. More work is needed to fully implement streetscape projects and neighbourhood projects supporting economic mobility. While some streetscape projects have been completed, they have not been connected to premium retail destinations.

## SUMMARY OF PROPOSED AMENDMENTS

While recognizing The City has limited ability to directly influence the economy, by planning for economic change we can harness opportunities to benefit Calgarians. We are proposing that the language within the MDP be strengthened to emphasize Calgary's economic resilience and support for a strong diversified economy. This change reinforces that Calgary is committed to facing economic challenges now, and in the future.

The desire to support Calgary's economic vitality and attract new businesses and residents is reflected in the proposed amendments. The updated policy language highlights the importance of shaping Calgary's economic calling card and fostering a diversified economy. A diversified economy provides improved overarching direction for attracting people and business that may assist with economic recovery after a downturn.

The proposed amendments will re-focus and re-prioritize investments by building on an evolving approach to managing growth. This emphasis reflects the key principle of building a compact city, with the goal of maximizing existing infrastructure and reducing long-term costs. The proposed amendments will outline the potential environmental and social costs of growth and financial investments that will support the quality of life needed to make our city attractive to new businesses and residents. Part 5 of the MDP will be strengthened to facilitate these outcomes.

To foster a next-generation economy, the proposed amendments will support economic mobility and improve access to opportunities for Calgarians. This will be done by focusing on greater equity for Calgarians and attracting and enabling small businesses and their growth. Finally, the proposed amendments will acknowledge Calgary's ever-growing and central role in supporting the region and enhanced protection of industrial areas because of the vital role they play in an evolving economy, with an emphasis on the logistics industry.

### CORE INDICATOR EVALUATION

The monitoring and reporting program tracks two core indicators connected to economic success. These two indicators are:

- Population/job balance
- Goods access

Table 4 shows the baseline values established when the plans were approved, the current values from the most recent monitoring report and a forecasted value to track how this indicator is performing over the life of the MDP and CTP. Over time, analysis of these indicators was intended to help us improve accessibility between housing and employment communities which would potentially reduce commute times and improve the ability of business to move goods around the city.

The population/job balance core indicator measures the ratio between population and jobs within each quadrant of the city. A higher ratio indicates that fewer

jobs are available relative to the population of the quadrant. Based on the data from the 2018 Monitoring Report, the population/job balance target has already been achieved and is only going to improve in the future. Going forward, this indicator should be reviewed for effectiveness to determine if the targets need to be adjusted or if there is a more appropriate indicator to measure economic outcomes.

The goods access core indicator measures the percentage of intermodal and warehousing facilities that are near the Primary Goods Movement network. This indicator has not shown significant change over the past 10 years and is not expected to improve significantly in the future. This measure has been difficult to evaluate and forecast as definitions were not clear and the locations of future facilities are difficult to forecast. It is recommended that this indicator be reviewed and potentially replaced with a more appropriate measure.

Table 4: Economic Core Indicators

#	Core Indicator	Metric	Baseline	2018 Monitoring Progress Report	60-year target	60-year forecast (trends)	Status
3	Population/job balance	Population/jobs NW ratio	3.0	3.0	3.0	3.1	
		Population/jobs NE ratio	1.7	1.7	1.4	1.6	
		Population/jobs SW ratio	1.3	1.4	1.5	1.7	
		Population/jobs SE ratio	1.2	1.5	1.5	1.7	
9	Goods access	Per cent of intermodal and warehousing facilities within 1600 m of the Primary Goods Movement network.	73%	73%	95%	77%	



## Our environment

Sustaining and supporting the environment will keep Calgary resilient when the impacts of climate change are uncertain. Calgarians' quality of life relies on the responsible management of our natural assets and environment. Protecting watersheds preserves reliable sources of clean drinking water for people living in Calgary and the surrounding areas. Growing and nurturing our urban tree canopy improves air quality, provides people with natural shade, and helps make public spaces comfortable for people to enjoy.

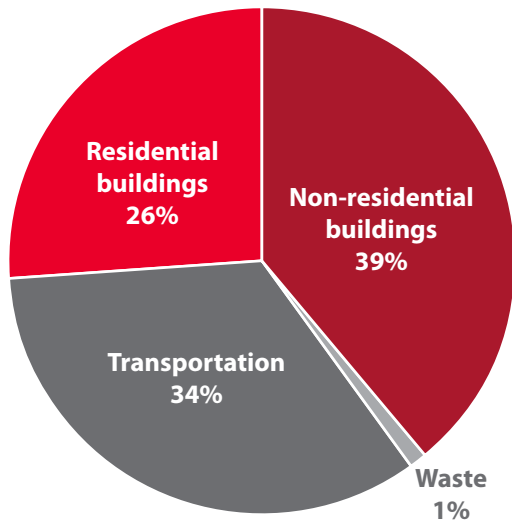
Natural areas, parks, open spaces and healthy river systems make Calgary a great place to live. Reducing our impact on the city's natural assets and environment will help preserve these systems for future generations.

This past decade Calgary has faced severe urban flooding, damaging hail storms, drought conditions and periods of extremely poor air quality due to forest fires. Urbanization has threatened our natural areas and biodiversity. Steady population growth and urban expansion continues to challenge the sustainability of our city's natural areas and resources. The way we use our land and water, design our communities, buildings and infrastructure, and travel around the city impacts the amount of greenhouse gas emissions produced and the quality of our natural ecosystems.

Over the next 20 years, the effects of climate change could impact Calgary's natural environment and quality of life. Climate change will shift the frequency, intensity and timing of severe storms, heat waves and wildfires. This could result in Calgary experiencing flood damage to homes, city infrastructure, and natural areas, drought conditions with constrained water supply, and lower air and water quality. These environmental threats not only impact Calgary's natural environments, but also pose financial and economic risks, and impacts the health of Calgarians.



### Calgary Community-wide Green House Gas Emissions by Sector (2018)



### IMPACTS OF THE MDP AND CTP

The City has made significant investment in parks, open space networks, transit, waste reduction and green infrastructure. The MDP objectives for Greening the City are:

- Create green infrastructure.
- Protect, conserve and enhance land, water and ecological networks.
- Reduce waste.
- Reduce demand for fossil fuel use and greenhouse gas emissions.

The following City actions have been taken to achieve the goal of a green city:

- Incorporating watershed planning into land-use planning and encouraging green development practices.
- Investing in stormwater treatment infrastructure.
- Implementing sediment-control practices and protecting riparian, wetland and streambank areas.
- Monitoring water quality and protecting watershed health at a regional level.
- Implementing the green cart program.
- Implementing the National Energy Code.

Progress towards achieving the goals in the MDP and CTP has been slow, which emphasizes the need to ensure up-to-date policy to guide effective implementation.

## WHAT ARE OTHER CITIES DOING?

Cities across the world are facing a growing range of adversities and challenges. Hundreds of cities are building urban resiliency by understanding their ecological systems holistically and adapting to help prepare for both the expected and unexpected. By understanding the underlying ecological systems of a city and the potential shocks and stresses it may face, a city can improve its development trajectory and the well-being of its citizens. Natural infrastructure and ecological systems provide critical services, connect urban assets and reduce physical vulnerability from climate change and extreme weather events.

Many cities have implemented bold climate action and investment in sustainable infrastructure and policies to bring down their greenhouse gas emissions while their populations increase and economies grow. The actions these cities took to reduce emissions include: de-carbonization of the electricity grid; optimizing energy use in buildings; providing cleaner, affordable alternatives to private vehicles; and reducing waste and increasing recycling rates. The analysis also demonstrated that the same steps they've taken to reduce their carbon footprints are also strengthening their local economies, creating jobs and improving public health.

Calgary is a world leader in energy production and is in a unique position to be at the forefront of climate change solutions.

## SUMMARY OF PROPOSED AMENDMENTS

Many of the proposed MDP amendments are needed to update and align with other Council approved policies and departmental initiatives. The MDP's Greening the City section needs to better reflect the great work achieved by The City and to reflect current environmental practices. Since the adoption of the MDP in 2009, our understanding of how we impact our environment and the tools/solutions available have greatly improved.

The MDP will continue to support the city-wide parks and open space network, watershed management, green infrastructure, and growth in compact urban centres supported by an accessible transportation network.

To help realize Calgary's desire to be a leader in environmental health and resiliency, the proposed amendments address the policies and actions needed to achieve the following outcomes:

- Ensure that environmental policies, actions and regulations reflect current natural areas data and the evaluation of cumulative environmental impacts.
- Improve the quality and access to natural areas and open space city-wide, continue to build connections to the river system and expand city-wide trail and park networks and natural infrastructure.
- Consider guidelines, programs, partnerships and investments to improve the ecological functions and avoid, minimize or mitigate the impact of development on the natural environment.
- Support urban biodiversity through ecological restoration and protection, and identify and protect areas that support native species of birds, pollinators and other wildlife.
- Recognize The City's role in achieving greenhouse gas reductions and adapting to the impacts of a changing climate.
- Expand and enhance Calgary's cycling, walking and transit network to reduce greenhouse gas emissions.

Continued and new action in these areas will help us meet our global and local commitments to reduce adverse environmental impacts. It will also help us plan and prepare for the most significant consequences of climate change and reduce vulnerabilities to Calgary's health, infrastructure and economy.

## CORE INDICATOR EVALUATION

Three indicators were selected to monitor progress on the MDP and CTP's goals related to the environment. They include:

- Watershed health
- Urban forest
- District energy




Table 5 contains the baseline values when the plans were approved, current estimates, targets and a forecast value showing the expected performance over the life of the Plans. These indicators help us understand how we are conserving and protecting Calgary's natural environment by maintaining or enhancing natural areas, tree coverage and reducing greenhouse gas emissions.

The watershed health indicator is the percentage of city area that is covered by impervious surfaces such as pavement or concrete. The measurement of impervious surfaces has a tangential impact on watershed health, but the indicator as stated in the MDP is likely not achievable. The city is expected to grow, and even with a balanced approach to growth, grassy lands on the outer edges of the city will be consumed by homes, roads, schools and retail centres. This will increase the percentage of land that is covered by impervious surfaces. The indicator methodology is not able to track positive improvements such as green roofs and infrastructure. This metric does not directly measure the health of the watershed or the quality of the water within the watershed. It is recommended that this indicator be reviewed for effectiveness.

The urban forest indicator is the one environment-related indicator that is measuring a direct outcome of the Plans. It measures the percentage of land covered by tree canopy. The increase in trees through City programs and private provision is not enough to meet the 14 to 20 per cent tree canopy goal. This also does not account for any potential tree losses anticipated from the effects of climate change. Achieving this goal will require investment and policy to support urban forestry and other environmental policies.

District energy systems produce energy, typically heat, at a central plant. The heat is then distributed to other buildings in the area through underground pipes. These systems are more efficient at heating and cooling buildings than if each building had its own boiler system. Currently, Calgary has one district energy system that provides heat to the City of Calgary Municipal Building, Bow Valley College, the Hillier Block Building, and the National Music Centre. The system produces enough heat to supply up to 10 million square feet of residential and commercial properties. The current indicator measures densities supportive of district energy, not the actual deployment of district energy systems. While the indicator targets have already been exceeded, no new district energy systems have been deployed over the past 10 years. It is recommended to review this indicator and determine if there is a better way to measure this outcome.

Table 5: Environmental core indicators

#	Core Indicator	Metric	Baseline	2018 Monitoring report	60-year target	60-year forecast (trends)	Status
12	Watershed health	The percentage of city area covered by impervious surfaces	33%	44%	10% - 20%	70%	
13	Urban forest	Percentage of city area covered by tree canopy	7%	8%	14% - 20%	10%	
14	District energy	Percentage of land area with densities supportive of district energy systems	1.8%	2.6%	1.7%	7.1%	



## Our communities

Communities are never static, they are constantly evolving and growing. As communities grow, change and adapt over time, the choices and opportunities for its existing and new residents should increase. By responding to the needs of Calgarians within their communities we can create high quality living and working environments, improve housing diversity and choice, enhance community character and distinctiveness, and provide vibrant public spaces.

Complete communities include a full range of housing, commercial, recreational, institutional and public spaces. They have more housing choices, offering people of all ages and diverse needs a place to live. This in turn encourages and supports local businesses, maintains student enrolment in neighbourhood schools and enhances overall community vibrancy. Complete communities ensure that future growth does not undermine what Calgarians value most in their neighbourhoods, communities and city.

This will be increasingly important as Calgary's demographics continue to change over the next 20 years. By 2040, the percentage of Calgarians age 65+ is expected to double to over 20 percent of our population. Housing surveys suggest that seniors are more likely to move to townhomes or condos. It is important that communities across Calgary have different types of housing, so people can find homes in their communities that meet their needs.

## GROWTH IN NEW COMMUNITIES

Since 1985, Calgary's population and land area has roughly doubled. Over the past 10 years, Calgary's population increased by nearly a quarter of a million people, and 90 per cent of that growth was accommodated in new communities on the outer edges of the city.

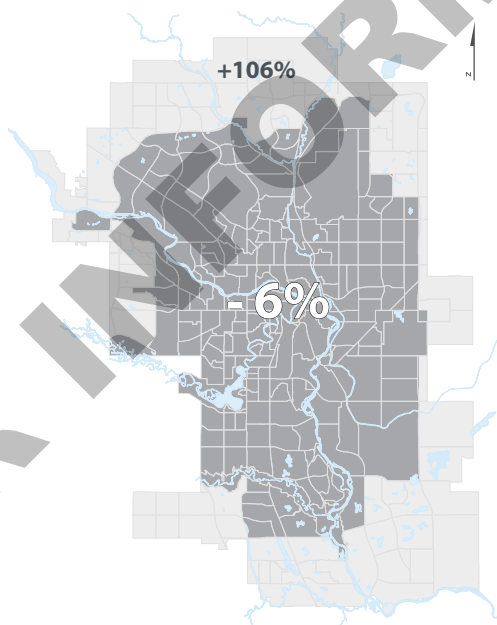
New communities often have families in similar stages of life, so they may have more family-friendly amenities, such as local parks and playgrounds. These communities are largely single-family homes that tend to occupy smaller parcels of land and are more energy efficient than those in older communities. New communities also have more multi-family homes, which are more likely to provide the population needed to support neighbourhood amenities like shops and services.

Additional new communities require more land, and this means more roads and street infrastructure, police and fire stations, utility lines and public green spaces to operate and maintain. It also means there may be delays in the construction of new amenities such as schools, libraries, recreation facilities until the community is fully developed.

Since new communities are on the city's edge it can be difficult to provide frequent, efficient transit service due to long travel distances to workplaces, retail centres and educational institutions. This means most people rely on driving to meet their daily needs. More people driving means increased traffic congestion on major corridors around the city as traffic from outlying suburbs funnels through constrained roadways to centralized employment areas. This can lead to costly infrastructure upgrades and undesirable impacts to people living in established communities.

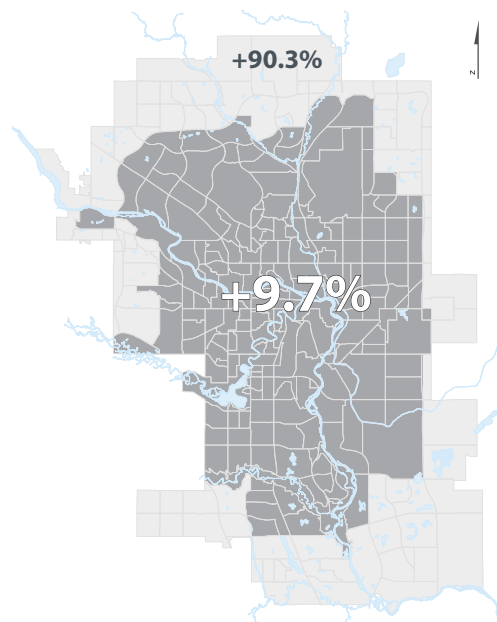
Strong growth within new communities continues to significantly outpace growth in existing areas. Building great communities is important in the suburban context to help offset some of these additional capital and operating costs. New communities should strive to provide a diverse mix of land uses and housing options, with a denser urban form and community population to support services and amenities.

Cumulative Population Growth Developed and Developing Areas



**Legend**  
 ■ Developed Area  
 ■ Developing Area

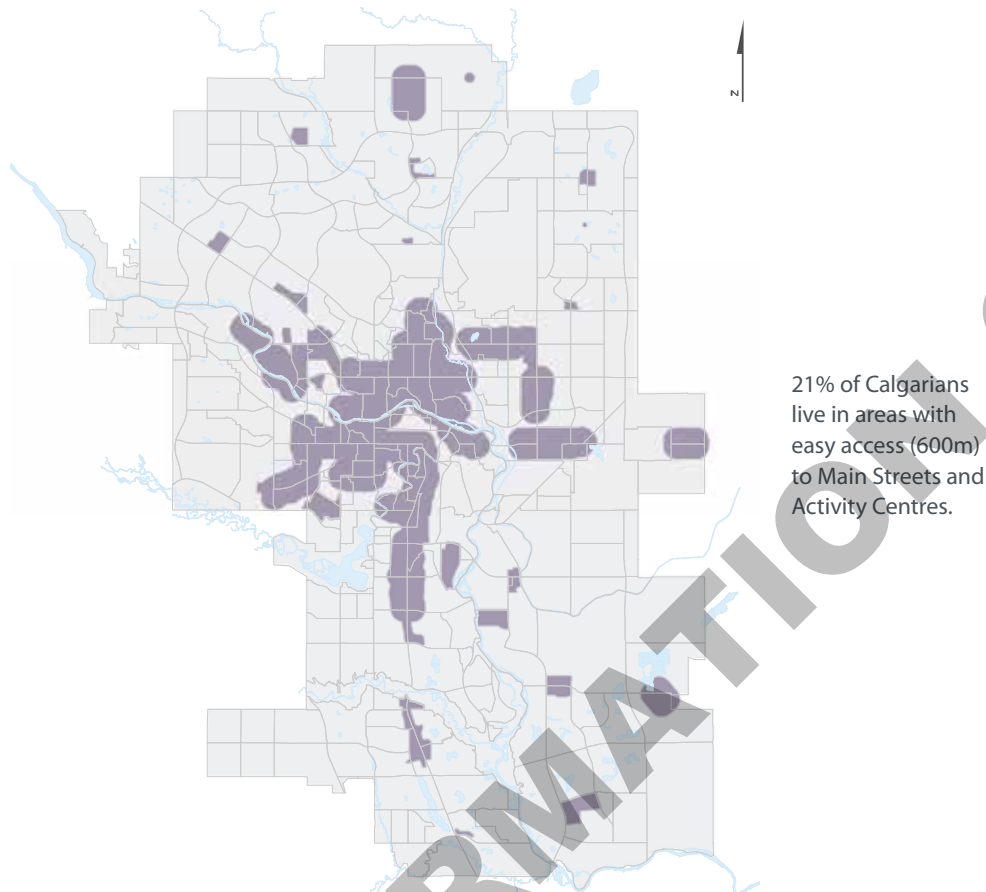
2006-2011



**Legend**  
 ■ Developed Area  
 ■ Developing Area

2006-2017

### Accessibility to daily needs



## REVITALIZING ESTABLISHED COMMUNITIES

As communities age, population tends to decline as children grow up and leave their family homes. This can lead to a decline in local businesses and closure of local schools. Redevelopment is therefore a natural part of a community's life cycle. It helps to revitalize neighbourhoods by making established communities more attractive for more people.

Accommodating some population growth through redevelopment of wide land parcels with single-family homes into multi-family homes like duplexes, townhomes and multistoried buildings can help make it more affordable for people to live in established communities. It also enables people to find different types of homes in the neighbourhoods they live in, as their needs change.

Shaping a more compact urban form is one of the primary goals of the MDP and is supported by encouraging density and growth in the Developed Areas, Activity Centres and Main Streets. Maintaining or increasing the number of people living in established communities across Calgary helps support and retain efficient transit services, existing schools, retail and services within short distances. This helps to maintain and renew the character and vibrancy of established communities. When coupled with investments that make walking, cycling and transit more convenient, redevelopment can help reduce local vehicular traffic and demand for on-street parking.

## IMPACTS OF THE MDP AND CTP

The MDP policies that direct and plan for balanced growth aim to sustain and promote a healthy environment and an urban economy where people, businesses and neighbourhoods thrive. Development in new communities, where a greater range of residential uses are now required, has helped to improve the residential land use mix. The urban fabric in the Developed Areas is more established and change is incremental. The Developed Areas will need to evolve at a faster pace as Main Streets and Activity Centres continue to redevelop. Market forces, affordability, lifestyle choices, demographics and policy have all contributed to this change.

The City fosters the growth of compact and complete communities by strategically organizing development around Activity Centres and Main Streets that are connected, serviced and sustainable. The advancement of compact urban growth policies produces communities with higher densities that offer more housing and mobility options and have a socio-economically and age-diverse population that is better able to support amenities and infrastructure. City-wide, a denser urban form reduces the cost of services and requires less revenue in the form of taxes to provide the quality of life that Calgarians enjoy.

## WHAT ARE OTHER CITIES DOING?

Cities across North America are focusing on building communities for people. People focused communities are walkable, designed for all ages and abilities, and have local amenities and services that meet every day needs. Streets are designed to prioritize people's health and safety, and are comfortable for seniors, adults and children to use.

Many cities are encouraging compact and mixed-use communities with multi-modal transportation to increase access to education, employment, services and amenities. There is a movement in many cities in the United States to densify existing neighbourhoods by ending exclusive, single-detached zoning. States such as Oregon, Washington State and Nebraska have all introduced or passed legislation eliminating single-family zoning to increase overall neighbourhood densities and allowing more medium density, multi-family developments.

Embracing diversity and providing for equity are key initiatives being practiced by other cities. Cities are addressing equitable access to services and infrastructure and reducing barriers for underrepresented segments of the population. In Los Angeles, tax credits and subsidies are offered to low income housing developments. The State of California has also introduced legislation to exempt environmental reviews for homeless shelters and affordable housing.

Safe, inclusive and inspiring neighbourhoods where residents enjoy a high quality of life are essential to a great city. Citizens, especially those who are vulnerable, need opportunities to participate in their neighbourhood, which in turn builds their capacity to contribute to civic life. When residents are actively involved they are likely to feel safer and more connected.

## SUMMARY OF PROPOSED AMENDMENTS

The existing MDP sets out a framework of policies that focuses on housing, the quality of the physical environment and the amenities and services required for day-to-day, neighbourhood-focused living. The proposed amendments will continue to direct and plan for balanced and fiscally responsible growth, to ensure that we sustain and promote a healthy environment and an economy where people, businesses and neighbourhoods thrive.

To further advance the MDP, amendments were developed to guide decision-making in a way that recognizes the inter-related challenges Calgary communities face. These include: a continued focus on redevelopment in key intentional areas, supporting communities undergoing significant change, clarifying the role of identity and character as communities change, and advancing social equity through increased opportunities and access for everyone.

### CORE INDICATOR EVALUATION

Five core indicators were selected to monitor progress on the MDP’s goals related to communities. They include:

- Urban expansion,
- Density,
- Mixed land use,
- Residential mix, and
- Accessibility to daily needs.

Table 6 contains the baseline values when the plans were approved, current estimates, targets and a forecast value showing the expected performance over the life of the plans. These indicators give us an understanding of how the balance growth scenario in the plans helps us improve housing choice, community vitality and makes efficient use of public infrastructure to manage the costs associated with growth.






The urban expansion indicator is directly tied to policy within the MDP (5.2.2c and 5.2.2d) where 33% of growth from 2006 to 2039 is to be accommodated within the balanced growth area and 50% of growth over the next 60 years. This indicator should be reviewed for effectiveness as it is not well understood,

is divisive in nature, and does not articulate the change in specific strategic locations. If the current trends are extended, it is unlikely that the 33% target will be met. Increased urbanization and changing societal preferences may further increase intensification, but it is not likely that the change will be rapid enough to achieve the 2039 target.

The density, land use and residential diversity indicators are generally performing well. They suggest that the new communities built over the past 10 years have higher densities and a greater mix of land use and housing types. The diversity indicators are calculated based on detailed land use zoning in the Land Use Bylaw, which is currently under review. It is possible that these indicators may need to be revisited once the new Land Use Bylaw is approved.

The accessibility to daily needs indicator measures the percentage of population that lives within Main Streets and Activity Centres. This indicator should be reviewed as it is only achievable if the MDP’s urban expansion targets are realized and it does not measure what services are provided within those areas.

Table 6: Community core indicators

#	Core Indicator	Metric	Baseline	2018 Monitoring Progress Report	60-year target	60-year forecast (trends)	Status
1	Urban expansion	Per cent of population growth from 2006 accommodated inside the balanced growth boundary	-6%	10%	50%	By 2039 18% By 2076 23%	
2	Density	People per hectare	20	25	27	30	
		Jobs per hectare	11	14	18	16	
4	Mix land use	Land-use diversity index	0.53	0.56	0.7	0.7	
5	Residential mix	Residential diversity index	0.19	0.22	0.4	0.4	
11	Accessibility to daily needs	Per cent of population within Activity Centres and Main Streets	18%	21%	30%	31%	





## Mobility

The vitality of any city is driven by the people who live, work and play there. The types of activities that make up their daily lives are diverse: scheduled or unscheduled, routine or special occasion, and local or cross-town. Deciding how to move between activities depends on the number and attractiveness of the mobility options that are available and changes based on location and time of day. The City's transportation system exists to serve citizens' needs and desires to connect with each other, enabling the personal and business interactions that underpin Calgary's society, culture and economy. Calgary has been consistently ranked as having low auto congestion, and our LRT ridership remains one of the highest in North America.

In 2020, Calgary faces the challenge of maintaining its status as one of the world's "most livable cities" while disruptive changes occur in several areas that influence the transportation system. Disruptive changes include:

- An extended downturn in Alberta's economy, reducing the amount of funding available from traditional sources to The City for the planning, design and implementation of transportation services and infrastructure.
- The arrival of new forms of travel (e.g. Uber, electric bicycles, scooters) requiring changes to regulations, operating space within rights-of-way and changes to operational practices.
- Climate change effects, including more severe weather events requiring more people and equipment for response, and more spending on infrastructure improvements.
- Advances in vehicle technology (e.g. self-driving and electric vehicles), the incorporation of new infrastructure (e.g. EV charging stations) and changes in assumptions around how Calgarians will travel in the future.
- Aging infrastructure, requiring increased spending on maintenance, renewal and (in some cases) total replacement.

## IMPACTS OF THE MDP AND CTP

Since being approved by Council in 2009, the MDP and CTP have resulted in:

- More transportation choices available for Calgarians, with more people walking and cycling.
- Increased residential density across Calgary, and growth in Main Streets and Activity Centres, improving the efficiency of transit service.

## WHAT ARE OTHER CITIES DOING?

Other cities have established the reduction or elimination of growth in the total distance travelled by vehicles (known as 'vehicle kilometres travelled' or VKT) within the municipality as an objective in their plans. This prioritizes vehicle travel demand management measures, such as high occupancy vehicle (HOV) or high occupancy toll (HOT) lanes and the elimination of minimum requirements for parking for new developments.

The creation of area-specific goals for travel mode split (i.e. the proportion of trips made by automobiles, transit, walking and cycling) have been implemented by other cities. This recognizes that localized areas within a municipality can have significantly different travel patterns and offers different transportation network investment opportunities.

Expanding the availability of more sustainable travel options is promoted by other cities. This is done by prioritizing investments in walking and wheeling networks and by facilitating shared and micro-mobility alternatives. These alternatives include things like dedicating street space to low speed ways of travelling, creating designated 'community mobility hubs' that bring together dock-less bikes, e-scooters and car-sharing fleet vehicles.

Other cities have adopted traffic management policies that limit road network expansions and prioritize the flow of high-occupancy vehicles (e.g. transit buses, taxis, ride-sharing vehicles). This recognizes the additional travel demand that results from capacity improvements and the negative impacts of roadway widenings on adjacent communities and business areas.

With the change in funding opportunities, other cities have established new funding models for transportation infrastructure and services. The new funding models include the adoption of more direct, user-pay systems (e.g. tolling and road-pricing) and

dedicated municipal taxes for specific transportation system improvements.

Calgary has been expanding the availability of more sustainable ways of travelling through the implementation of the Cycling Strategy, Calgary and Area Pathway and Bikeway Implementation Plan and Step Forward, Calgary's pedestrian strategy. To support shared micro transportation, such as e-scooters and dockless bikes, pilot projects are underway to see whether they are viable in Calgary.

## SUMMARY OF PROPOSED AMENDMENTS

Proposed amendments to the CTP improve the quality of the public realm through a review of existing City tools for acquiring land and interim use policies for City-owned rights-of-ways. The new policies cover setbacks and how to identify opportunities to better use City-owned rights-of-ways, this includes the review process, interim uses and when to dispose of surplus land. Expanded corridor descriptions to clarify intended function are also included.

Changes in technology have changed the ways in which people identify and select how they will travel. Applications that identify and recommend travel options amongst multiple modes and service providers (e.g. Google Maps) are very popular with users, and may become more important as new transportation modes and services become available. The City, as both a provider of public transit services and as the public transportation system provider, is in a position to facilitate the development of a seamless travel planning and payment application that could act as a universal fare and fee payment solution for users. Proposed amendments to the CTP include new policies on ensuring The City's data management and system capacity can support the acquisition, use and protection of transportation trip and transaction data for enabling mobility as a service (MaaS) digital applications, and support for the operation of shared-use mobility services within Calgary.

The City needs to keep at the forefront of new transportation technology while balancing the cost to the public with the benefits and risks. In some cases (e.g. electric vehicles, e-scooters) developing policy and conducting trials is already underway. The implications of other technologies are not as clear, and concerns exist that their ultimate effects could be negative without purposeful action on the part of municipalities. An important area of opportunity

exists with pooling, as the more seats that are filled in vehicles (cars, vans, buses and light rail) the lower the vehicle kilometres travelled. When fewer vehicles carry the same number of travelers, overall costs in terms of time, fuel, infrastructure and the environment are reduced.

Proposed amendments to the CTP include an entirely new Section 3.14 (New Transportation Technologies) with a formal objective to monitor the development and deployment of new transportation technology, and to plan for coordinated and timely responses that optimize the benefits of the technology at acceptable levels of cost and risk. New policies include the development of a comprehensive curb space management strategy and the investigation of the feasibility of road-pricing as a potential funding source replacement for fuel tax.

As part of the Climate Mitigation Plan, The City has identified that they will accelerate the shift to low emissions vehicles for City fleet vehicles. The proposed amendments to the CTP include new policies to support a 100 percent zero-emission community vehicle fleet by 2050 and expansion of publicly accessible electric vehicle charging stations.

A transportation system provides the most value to citizens when it offers choice. When people can choose the travel option that best meets their needs, user experiences improve while the costs of travel (time, land, infrastructure and emissions) are reduced. An effective and efficient transportation system should be planned, designed, delivered and operated in a manner reflective of the values of the community it serves: people. The proposed amendments to the CTP place a greater focus on the user experience rather than the type of vehicle or travel mode.

## CORE INDICATOR EVALUATION

Four indicators were selected to monitor progress on the MDP and CTP's goals related to mobility. They include:

- Road and street infrastructure,
- Accessibility to Primary Transit Network,
- Transit service, and
- Transportation mode split.

Table 7 contains the baseline values when the MDP and CTP were approved, current estimates, targets and a forecast value showing the expected performance over the life of the plans. These indicators

help us understand how The City is changing the transportation network through the provision of transit service and roadway improvements and the impact those changes have on the travel choices made by Calgarians.

The road and street infrastructure core indicator measures the ratio of high-speed skeletal roads to arterial streets. Skeletal roads are high-speed, major transportation connections that carry cars and trucks long distances at high speeds. Arterial streets provide reasonably direct connections between communities and major destinations. A balance of both is needed to efficiently move people and goods across the city. This indicator should be reviewed as it does not directly measure any of the Plans' outcomes and the results fluctuate enough that it is not useful. For example, the ratio was under target in 2012, but was over target in 2017 after the construction of the Stoney Trail Ring Road.

The accessibility to Primary Transit Network indicator measures the percentage of people and jobs that are within 400 metres of the Primary Transit Network. The Primary Transit Network is a series of corridors where transit runs every 10 minutes, 15 hours per day, 7 days per week. After the plans were initially improved in 2009, there was significant investment in transit service which enabled the Red Line, Blue Line and Route 3 to operate at Primary Transit Network levels of service. In 2019, service adjustments were made that reduced service along key corridors so they no longer meet the criteria for the Primary Transit Network. If this goal is to be achieved, consistent investment in both capital and operating funds are required.





The Transit Service indicator measures the number of annual transit service hours per capita. Like the Primary Transit Network indicator, this indicator performed well after the plans were approved and investment in transit services increased. In recent years, transit service hours have decreased due to reductions in operating funding. Currently, the indicator is performing close to 2009 levels after making significant progress between 2009 and 2012. If the target is to be achieved, consistent investment in transit services is required.

The transportation mode split indicator measures the percentage of daily trips made by active, automobile or transit modes. This indicator is showing increases in active modes and corresponding decreases in automobile modes. This is most likely related to the increased investment in active mode infrastructure through the Cycling Strategy and Step Forward.

The transit mode has remained stagnant, and even decreased slightly in 2017. The decrease is likely due to the 2015 economic decline where transit trips to the downtown decreased due to job losses. This ridership reduction also contributed to the reduction in transit

funding. This indicator is one that The City cannot directly influence, but through investment in balanced growth and multiple transportation modes, this indicator will change as people begin to make different travel mode choices.

Table 7: Mobility core indicators

#	Core indicator	Metric	Baseline	2018 Monitoring Progress Report	60-year target	60-year forecast (trends)	Status
6	Road and street infrastructure	Skeletal roads to arterial streets ratio	0.72	0.61	0.56	0.55	
7	Accessibility to Primary Transit Network	Per cent of population within 400 m of Primary Transit Network	0	14%	45%	30%	
		Per cent of jobs within 400 m of Primary Transit Network	0	37%	67%	51%	
8	Transit service	Annual transit service hours per capita	2.2	2.24	3.7	2.38	
10	Transportation mode split	Walking and cycling mode split (all-purpose trips, 24 hours, city-wide)	14%	18%	20 - 25%	19%	
		Transit mode split (all-purpose trips, 24 hours, city-wide)	9%	8%	15 - 20%	10%	
		Auto mode split (all-purpose trips, 24 hours, city-wide)	77%	74%	65 - 55%	71%	

# What's next for the MDP/CTP?

Calgary's Municipal Development Plan (MDP) and Calgary Transportation Plan (CTP) were developed in 2009. The Plans looked to change the direction of Calgary's growth by providing a balance between suburban expansion and redevelopment in established communities as more people live and work in the city. Together, the Plans focus on the gradual intensification of strategic corridors and centres to create residential, employment, and retail areas that make walking, cycling and transit more safe and convenient, while still supporting driving, over the next 60 years.

The MDP and CTP are long-range policies that should be reviewed on a regular basis to ensure they continue to work towards the vision we have of Calgary's future. This review was a minor review and a full review and integration of the two plans is recommended for future work.

Our world is changing, and with that, how people live and work in Calgary will also need to change. Together, the MDP and CTP envision a city that that will continue to be attractive for all people to live in by building great neighbourhoods, providing transportation choices and protecting our water and natural resources — a city that allows Calgarians to make the best




# Appendix A


# Core Indicators


FOR INFORMATION ONLY

## Core indicators for Land Use and Mobility (MDP)

#	Core indicators	Metric	Baseline	2018 Monitoring Progress Report	60-year target	Status
1	Urban Expansion	Per cent of population growth from 2006 accommodated within balanced growth boundary.	-5.9% (2005)	9.7%	50%	
2	Density	People per hectare	20 (2005)	24.7	27	
		Jobs per hectare	11 (2005)	13.5	18	
3	Population / Jobs Balance	Population/Jobs Northwest ratio	3.0	3.0	3.0	
		Population/Jobs Northeast ratio	1.7	1.7	1.4	
		Population/Jobs Southwest ratio	1.3	1.4	1.5	
		Population/Jobs Southeast ratio	1.2	1.5	1.5	
4	Mix Land use	Land Use Diversity Index	0.53 (2008)	0.56	0.7	
5	Residential Mix	Residential Diversity Index	0.19 (2008)	0.22	0.4	
6	Road and Street Infrastructure	Roads to streets ratio	0.72 (42% Roads and 58% Streets)	0.61	0.57 (36% Roads and 64% Streets)	
7	Accessibility to Primary Transit Network	Per cent of population within 400m of Primary Transit Network	0%	37%	45%	
		Per cent of jobs within 400m of Primary Transit Network	0%	14%	67%	
8	Transit Service	Annual transit service hours per capita	2.2	2.24	3.7	
9	Goods Access	Per cent of intermodal and warehousing facilities within 1600m (actual) of Primary Goods Movement Network	73% (2008)	73%	95%	
10	Transportation Mode Split	Walking and Cycling Mode split (all purpose trips, 24 hours, city-wide)	14% (2005)	18%	20% - 25%	
		Transit Mode split (all purpose trips, 24 hours, city-wide)	9% (2005)	8%	15% - 20%	
		Auto Mode split (all purpose trips, 24 hours, city-wide)	77% (2005)	74%	65% - 55%	
11	Accessibility to Daily Needs	Per cent of population within Major and Community Activity Centres, and 600m of Urban and Neighbourhood Corridors	18% (2006)	21%	30%	
12	Watershed Health	Per cent of impervious surface	33% (1998)	8.25%	14% - 20%	
13	Urban forest	Per cent of tree canopy	7% (1998)	8.25%	14% - 20%	
14	District Energy	Per cent of land area with densities supportive of district energy systems	1.8%	2.6%	1.7%	

 Accelerate to achieve

 Stay on the course

 Review for effectiveness

**FOR INFORMATION ONLY**



## PROPOSED REVISIONS TO BYLAW 24P2009 (AS AMENDED)

THE CITY OF CALGARY  
MUNICIPAL DEVELOPMENT PLAN

FEBRUARY 2020

Notes to Reader

This document identifies proposed changes to the Municipal Development Plan.

Changes have been colour-coded as follows:

Current version (black and blue): Existing text that will remain after amendment

Deletion (red): Text that will be removed after amendment

Addition (green): New text that will be adopted after amendment

Moved text (purple): Existing text that will remain after amendment, but will be located in a different part of the document. Strikethrough indicates the original location of the text.

Numbered figures and call-out boxes / sidebars:

Existing numbered figures and call-out boxes will remain after amendment unless otherwise indicated. These are not shown.

Proposed and revised figures and call-out boxes are shown in the document.

Figures and call-out boxes to be deleted after amendment are indicated in the document in their approximate location relative to policy text.

Policy and figure numbering may be subject to change.

Photos and graphical design that are not part of the formal content may be revised to improve readability and align with current City standards.

In some cases, the deleted version of sections may appear out of order from the original document. This is to provide clarity for comparison purposes.

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |**The Municipal Development Plan: Volume 1****Land acknowledgement**

The story of Calgary begins at the confluence of the Bow and Elbow Rivers and has been the site of natural abundance, ceremony, culture, travel, partnerships, and trading for Indigenous peoples over millennia.

This plan acknowledges the traditional lands of the Treaty 7 people – the people of the Blackfoot confederacy, (Siksika, Kainai, Piikani), the Tsuut'ina, the Îyâxe Nakoda Nations, the Métis Nation (Region 3), and all people who make their homes here. We celebrate today their long history and deep connection to this land

The City of Calgary owes its strength and energy to these lands, and the diverse Indigenous peoples whose ancestors' footsteps have marked this territory as well as settlers from around the world who continue to be welcomed here and call Calgary home.

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## Part 1

# Role and scope of the Municipal Development Plan

The City of Calgary's Municipal Development Plan (MDP), is a strategic policy document that guides growth, and city building. Alberta's Municipal Government Act (MGA) requires that every council of a municipality must by bylaw adopt a municipal development plan.

Calgary's MDP is a legal document that establishes the orderly use of land and settlement to optimize the quality of the physical environment. The MDP fulfils the requirement of section 632 of the MGA as amended from time to time by addressing matters related to:

- Future land use, development, transportation system, municipal services and facilities within Calgary and with adjacent municipalities.
- Physical, social, environmental, economic development and financial resources of Calgary.
- City's development constraints.
- Subdivision and development regulations.
- Municipal, school, environmental and conservation reserve.
- Intermunicipal development plans.

### 1.1 Plan foundations – towards a sustainable city

#### ~~Introduction – building on the foundations of *Go Plan* and *The Calgary Plan*~~

~~In 2007, City Council approved Terms of Reference for an Integrated Land Use and Mobility Plan to review and update the Calgary Municipal Development Plan (MDP) and the Calgary Transportation Plan (CTP) with a mission to build a more sustainable city.~~

Sustainability is not new to The City's long-range planning. The MDP and **Calgary Transportation Plan (CTP)** build upon the work of Calgary's previous transportation plan (*The Go Plan* -1995), which recognized the need to better link transportation and land use planning issues into long range planning for Calgary. A major emphasis of the *Go Plan* was to optimize

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the use of existing road and transit infrastructure by incenting land use and travel behavioural changes.

The Calgary Plan (1998), was a compilation of existing City policies that incorporated relevant direction from the Go Plan into land use and growth management policies. However, The Calgary Plan did introduce the principles of sustainable development into the statutory planning framework and included policy direction to integrate social, environmental and economic objectives into a coordinated decision-making process.

These previous policy documents have been expanded upon in the MDP and CTP. They start by setting a long term 60-year strategy of a more sustainable city form for Calgary and the transportation networks needed to serve it. This is supported by a 30 year plan for managing growth and change, public investment and land use approval decisions. Finally, short-term, ten year, corporate decision-making, business planning, implementation and accountabilities are aligned to the strategies and plan to support Calgary's move to being a more sustainable city.

### 1.1.1 Sustainability principles and key directions [Note formerly under 1.3.3]

In January of 2007, City Council adopted the Sustainability Principles. The Principles were derived from City of Calgary policy direction, well recognized Smart Growth principles, and the direction of the Long Range Urban Sustainability Plan for Calgary (imagineCALGARY).

The Sustainability Principles for Land Use and Mobility are:

1. Create a range of housing opportunities and choices.
2. Create walkable environments.
3. Foster distinctive, attractive communities with a strong sense of place.
4. Provide a variety of transportation options.
5. Preserve open space, agricultural land, natural beauty and critical environmental areas.
6. Mix land uses.
7. Strategically direct and manage redevelopment opportunities within existing areas.
8. Support compact development.
9. Connect people, goods and services locally, regionally and globally.
10. Provide transportation services in a safe, effective, affordable and efficient manner that ensures reasonable accessibility to all areas of the city for all citizens.

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## 11. Utilize green infrastructure and buildings.

In November of 2008, City Council approved eight Key Directions which represented the strategic moves that needed to be accomplished in order to guide Calgary towards the imagineCALGARY vision and the Sustainability Principles. The following Key Directions guide the policies of the MDP and CTP.

The Key Directions are:

1. Achieve a balance of growth between established and greenfield communities.
2. Provide more choice within complete communities.
3. Direct land use change within a framework of nodes and corridors.
4. Link land use decisions to transit.
5. Increase mobility choices.
6. Develop a Primary Transit Network.
7. Create complete streets.
8. Optimize infrastructure.

Each goal of the MDP reference one or more of the relevant key directions that it supports.

~~The City has other Council policies that establish strategic direction in matters relating to social, environmental, economic and fiscal service delivery and management. These include Fair Calgary, the Environmental Policy, the Open Space Plan, Calgary Economic Development Strategy and the Long-Range Financial Plan. The MDP has been prepared in context with these policies to ensure that where environmental, social and economic policies impact, or are impacted by, land use and transportation decisions, relevant policies are included within the statutory framework of the MDP. In some cases reference is made to these other policies within the discussion portion of the MDP to provide a broader context for the policies and actions that follow, or to provide reference for implementers to seek information from more detailed policies. [Note: this content replaced by new content in section 1.3.5]~~

## 1.2 Organization of the MDP

### *Volume 1: The Municipal Development Plan*

The MDP is organized as follows:

#### **Part 1 – Role and scope of the MDP**

- Plan foundations, sustainability principles and key directions

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- Alignment of the MDP with provincial legislation, regional authorities and legislation ~~the Calgary Metropolitan Plan~~ and other City policies.
- Implementation of the MDP:
  - How the MDP is to be implemented through various planning processes.
- MDP review, updates and amendments.
- Interpreting the MDP
  - ~~-The City's duty to regularly review the MDP.~~
  - ~~-Amending the MDP.~~

**Part 2 – City-wide policies**

- Broad, city-wide land use and mobility goals and objectives and comprehensive policies addressing:
  - Creating a prosperous economy
  - Shaping a more compact urban form
  - Creating great communities
  - Urban design
  - Connecting the city
  - Greening the city

**Part 3 – Typologies for Calgary's future urban structure**

- Land use, mobility and design policies pertaining to specific geographic areas of the city.

**Part 4 – Specific-use policies**

- Policies relating to specific land use issues, or development processes.
- Other policy and content areas required by the Municipal Government Act (MGA).

**Part 5 – City Wide Growth Strategy ~~A strategic framework for growth and change~~**

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- Policies to manage growth and change and direct implementation and public investment decisions by The City.

**Appendices**

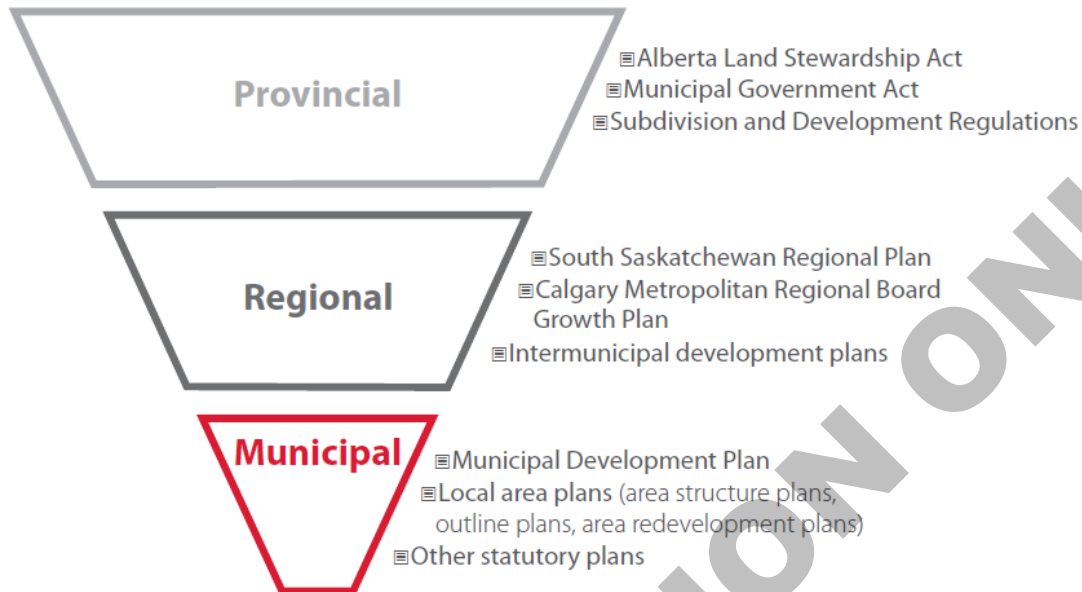
- Glossary - definition and interpretation of terms used in the MDP.
- Maps - supporting and aiding in the interpretation of the policies of the MDP.

***Volume 2: Implementation******Part 1 - New Community Guidebook******Part 2 - Centre City Guidebook******Part 3 - Developed Areas Guidebook*****1.3 Role of MDP in planning hierarchy ~~Alignment of the MDP~~**

Land use planning and decision-making in Alberta are carried out under various provincial legislation and policies and are implemented by a number of decision makers including provincial departments, boards and agencies and municipal governments.

Provincial land use planning in Alberta is centered on the Alberta Land Stewardship Act (ALSA), Land Use Framework (LUF) and the regional plans authorized under this Act. Municipal land use planning is primarily governed by the Municipal Government Act (MGA). Figure 1-1 below explains the hierarchy of land use planning in Alberta.

Figure 1-1: Land Use Planning Hierarchy in Alberta

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~~The MDP is a statutory plan, prepared and adopted by bylaw, in accordance with Section 632 of the MGA. As required by the MGA, the MDP must address:~~

- ~~• Future land use within the city.~~
- ~~• The manner of and the proposals for future development.~~
- ~~• The co-ordination of land use, future growth patterns and other infrastructure with adjacent communities.~~
- ~~• The provision of the required transportation system within the city and in relation to adjacent municipalities.~~
- ~~• The provision of municipal services and facilities.~~
- ~~• Policies compatible with the subdivision and development regulations to provide guidance on the type and location of land uses adjacent to sour gas facilities.~~
- ~~• Policies respecting the provision of municipal and school reserves.~~
- ~~• Policies respecting the protection of agricultural operations within the city.~~

~~The MGA allows a municipal development plan to address other matters relating to the physical, social, environmental and economic development of the city.~~



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~~The MDP addresses these matters as they relate to the integrated land use patterns and mobility networks of the city. Such areas include:~~

- ~~• Proposals for the financing and programming of municipal infrastructure.~~
- ~~• Co-ordination of municipal programs.~~
- ~~• Other environmental, social or economic matters that relate to the growth and development of the city.~~

### 1.3.1 Calgary as a regional partner

The Municipal Government Act and Provincial Land use Framework requires that local municipal development plans align with:

- Regional plans for their respective river basins.
- Provincially mandated growth management boards.
- Jointly approved intermunicipal development plans with neighbouring municipalities.

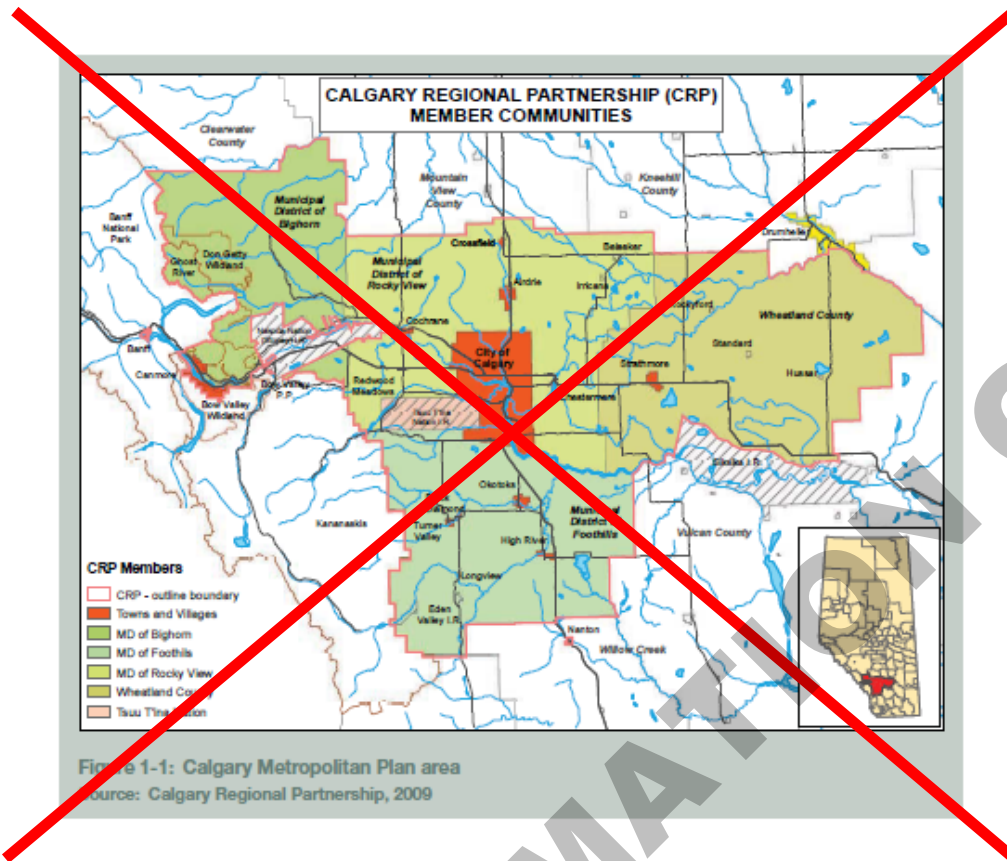
### 1.3.2 Alignment in the Calgary Region

~~The Provincial Land Use Framework requires that local municipal development plans align with regional plans for their respective river basins. The city lies within the area of the South Saskatchewan River Regional Plan (proposed for 2010), and more specifically the Calgary metropolitan area shown in Figure 1-1. The MDP aligns with the aspirations of the Calgary Regional Partnership and the policies provided in the draft Calgary Metropolitan Plan (CMP). Supporting the growth directions of the CMP is a key policy in the MDP. The City will ensure that the MDP is reviewed regularly and remains current with the CMP.~~

~~Further issues of regional alignment may be determined through the joint preparation of Intermunicipal Development Plans (IDPs) for common boundary areas with regional neighbours (Rocky View County, the M.D.~~

~~of Foothills and the Town of Chestermere). IDPs will be jointly defined and prepared in accordance with the MGA and include objectives specific to the needs of a defined IDP area, including administrative processes, infrastructure and transportation planning, land use interface issues, transition and interface of land uses between Calgary and developments in neighbouring municipalities, protection of growth areas and provisions for annexation.~~

~~Regional alignment with Rocky View County is administered through the Rocky View/Calgary Intermunicipal Development Plan (City of Calgary Bylaw 14P2011). This IDP was developed in accordance with the MGA and is designed to identify an area of mutual interest, to minimize land use conflicts across municipal borders, provide opportunities for collaboration and communication, and outline processes for the resolution of issues that may arise within the area identified in the IDP.~~

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*Deleted – replaced with new figure 1.1 below*

*Map 5, Jurisdictional Areas, identifies future growth areas for The City of Calgary. Identified future growth areas may be subject to change corresponding to the originating IDPs from which they are derived. These growth areas are intended to only signal the starting point for future annexation discussions with adjacent municipalities, which typically would occur to meet the requirements of MDP policy 5.2.2 (b).*

### 1.3.2 South Saskatchewan Regional Plan

Alberta Land Stewardship Act (ALSA) enables the provincial government to provide direction and leadership in identifying current land-use objectives of the province. In 2008, the provincial government adopted a policy statement titled the Land Use Framework. The purpose of this framework is to manage the provincial land and natural resources to achieve Alberta's long-term economic, environmental and social goals. ALSA enables the strategies identified in the framework including the creation of seven regional plans. The South Saskatchewan Regional Plan (SSRP) is the regional plan that applies to The City of Calgary. It establishes a long-term economic, environmental and social vision for the region. Policy plans approved by The City of Calgary, including the MDP, must be consistent with the SSRP.

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### 1.3.3 Calgary Metropolitan Region Board

~~**Alignment with other City policies and principles**~~

[Section heading deleted, text and policy moved to section 1.1.2]

The Government of Alberta established the Calgary Metropolitan Region Board (CMRB) to provide for integrated and strategic planning for future growth. The Board must establish a long-term growth and servicing plan for the Region by 2021; this growth and servicing plan must be consistent with the SSRP. Policy plans approved by The City of Calgary, including the MDP, must be consistent with the CMRB Growth Plan.

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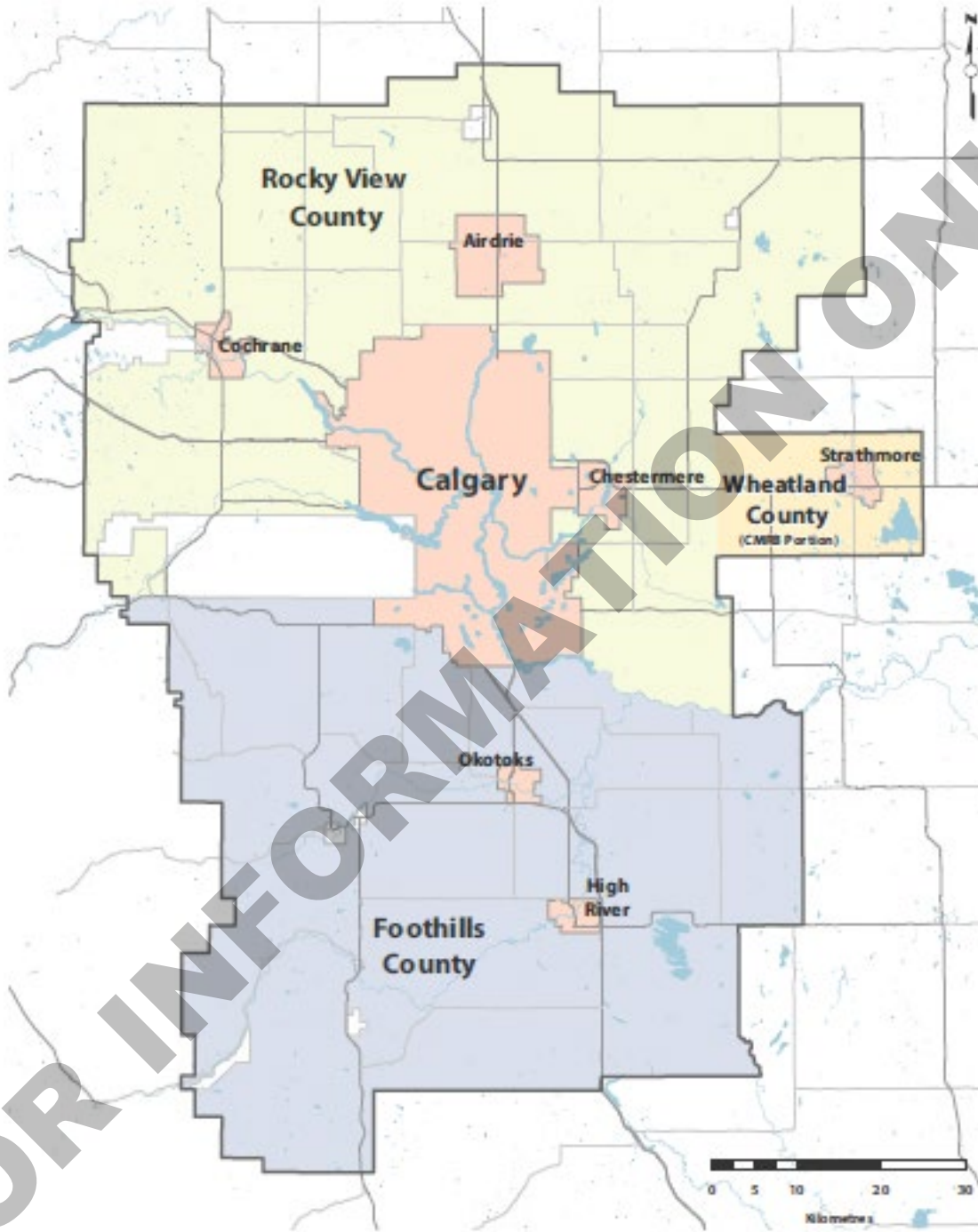


Figure 1-2 – Calgary Metropolitan Region Board (CMRB) Members

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### 1.3.4 Intermunicipal Development Plans

Issues of regional alignment may be determined through the joint preparation of Intermunicipal Development Plans (IDPs) for common boundary areas with intermunicipal neighbours (Rocky View County, Foothills County and the City of Chestermere). IDPs are jointly defined and prepared in accordance with the MGA and include objectives specific to the needs of a defined IDP area, including administrative processes, infrastructure and transportation planning, land use interface issues, transition and interface of land uses between Calgary and developments in neighbouring municipalities, protection of growth areas and provisions for annexation. Policy plans approved by The City of Calgary, including the MDP, must be consistent with any IDP covering the same land area; in the case of any inconsistency, the provisions of the IDP would prevail.

### 1.3.5 Alignment with Calgary's other strategic plans

The City has other Council policies that establish strategic direction in matters relating to social, environmental, economic and fiscal service delivery and management.

The MDP is in alignment with various Council policies adopted by City Council that establish strategic directions in matters related to:

- Transportation – transit, complete streets, transportation choice.
- Housing – forms, types and affordability.
- Economic development – investment and planning to support growth, an innovative and diverse economy, sustainable municipal finances.
- Culture – heritage, public art, design excellence.
- Social Issues – quality of life, safety, food.
- Environment – climate change, air and water quality, natural areas, and waste.

The MDP has been prepared in context with these policies to ensure that where environmental, social and economic policies impact, or are impacted by, land use and transportation decisions, relevant policies are included within the statutory framework of the MDP. In some cases, references are made to these other policies within the discussion portion of the MDP to provide a broader context for the policies and actions that follow, or to provide reference for implementers to seek information from more detailed policies.

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## 1.4 Implementing the MDP

The MDP becomes effective following Third Reading by Council on the date set by Council in the bylaw. The MDP will be implemented through a variety of means and processes, to achieve the plan objectives. These processes are described below.

~~In addition, an implementation plan will be prepared outlining actions required by The City to implement the MDP, including the timing and outlining resource requirements. The implementation plan will be updated with each three year business cycle to maintain alignment with the growth and timing objectives contained in the MDP.~~

### 1.4.1 Guiding strategic decisions of The City

The MDP provides strategic direction to support corporate decisions around managing growth and change, prioritizing corporate initiatives and public investment. **The MDP will be implemented in partnership with CTP as both plans were developed together and are highly linked.** The MDP also helps to direct co-ordination between departments and business units to align directions and work programs to achieve the objectives of the MDP.

### 1.4.2 Facilitating private sector investment

Buy-in and investment by the private sector market is critical to achieving the vision of the MDP. The MDP provides the vision for growth and change in the city and direction and certainty to both business and communities, to support private sector investment to build housing, commercial and industrial developments.

### 1.4.3 Supporting community-based initiatives

The MDP can help provide city-wide context to support community-based planning initiatives. It can also provide guidance on smaller more locally scaled initiatives that support neighbourhood and community development.

### 1.4.4 Implementing the MDP through planning policy

~~Local Area Plans~~ [Moved to section 1.4.6]

#### **Volume 2 of MDP - Implementation Guidebooks**

The implementation guidebooks apply to specific areas of the city and must be read in conjunction with the MDP and where applicable, a Local Area Plan. In the event of a conflict or inconsistency between the MDP Volume 1 and the Implementation Guidebooks Volume 2, content in MDP Volume 1 prevails. Volume 2 guidebooks only apply in areas where Area Structure Plans or Area Redevelopment Plans indicate that they apply.

Volume 2 of the MDP contains the following three Implementation Guidebooks:

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1. Volume 2, Part 1 – New Community Guidebook
2. Volume 2, Part 2 – Centre City Guidebook
3. Volume 2, Part 3 – Developed Areas Guidebook.

**Volume 2, Part 1 – New Community Planning Guidebook**

The purpose of the New Community Planning Guidebook is to translate the policies and objectives of the MDP Volume 1 into implementation policy at the community level, provide a new framework for new community design, and set common standards for new community development.

**Volume 2, Part 2 – Centre City Guidebook**

The purpose of the Centre City Guidebook is to translate the policies and objectives of the MDP Volume 1 into implementation policy at the community level, set out land use framework using building blocks and policies to guide growth and change in the Centre City.

**Volume 2, Part 3 – Developed Areas Guidebook**

The purpose of the Developed Areas Guidebook is to translate the policies and objectives of the MDP Volume 1 into implementation policy to facilitate and guide growth and change in the Developed Areas. Using building blocks as a land use framework and common policies to support development in the Developed Areas, it provides guidance on how to integrate new development into a community's existing urban fabric.

**1.4.5 The Guidebook for Great Communities**

~~Outline plan and subdivision processes~~ [Moved to section 1.4.7 and 1.4.8]

The Guidebook for Great Communities is identified as an 'other' statutory policy allowed for under the MGA. This policy document supports local area planning with a consistent framework for local area planning through the establishment of urban form categories and related policies. Guidance is provided to planning applications and development outcomes.

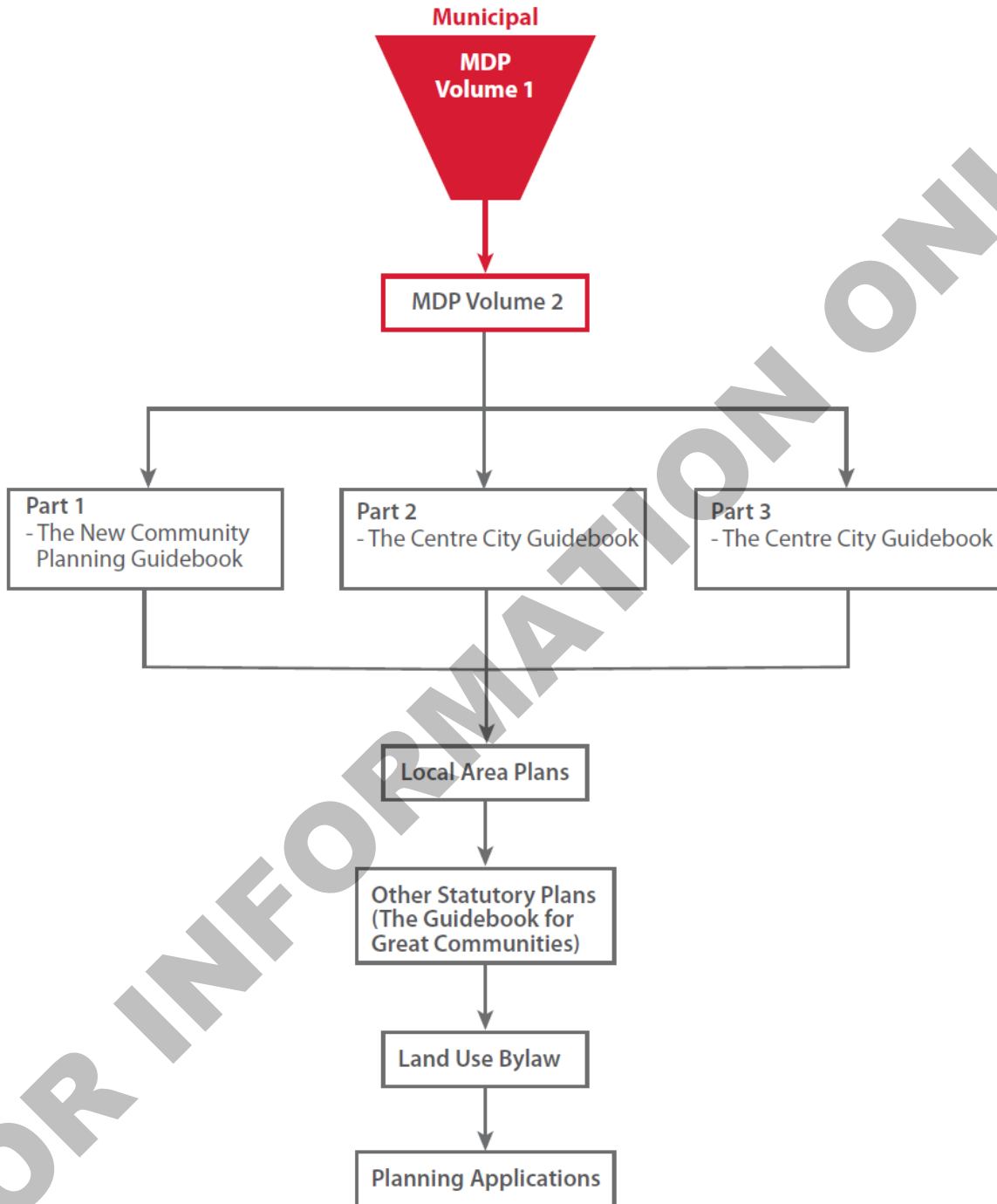
In the event of a conflict or inconsistency between the MDP Volume 1 and the Guidebook for Great Communities, the MDP prevails.

Figure 1-3 below illustrates the relationship of the MDP Volume 1 with the Implementation Guidebooks Volume 2 and the Guidebook for Great Communities.

Figure 1-3 – Planning Hierarchy

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## 1.4.6 Local Area Plans

~~Land use amendment applications~~ [Moved to section 1.4.7]

The City provides a range of policy plans for “local” geographic areas, communities and neighbourhoods. The policies in Volume 1 of the MDP inform these Local Area Plans by providing a city-wide level of direction on land use, urban form and transportation that is interpreted and applied within a local planning context. The policies in Volume 2 of the MDP and the Guidebook for Great Communities provides implementation-level guidance that is to be applied in conjunction with Local Area Plans. Local Area Plans include two categories: statutory and non-statutory. **All Local Area Plans must be consistent with the MDP. In the event of a conflict or inconsistency between the MDP and a Local Area Plan, the MDP prevails.**

Statutory plans are those prepared in alignment with the regulations of the MGA. They are usually prepared at a community scale and include Area Redevelopment Plans (ARP) and Area Structure Plans (ASP). ARPs direct the redevelopment, preservation or rehabilitation of existing lands and buildings, generally within developed communities. ASPs direct the future land use patterns, transportation and utility networks and sequence of development in new communities. The MGA requires that all ASPs and ARPs must be consistent with the MDP.

ARPs and ASPs in existence prior to approval of the MDP are recognized by the MDP as policies providing specific direction relative to the local context. Future reviews of, and amendments to, those ARPs and ASPs will be required to align with the policies of the MDP.

Non-statutory Local Area Plans are also prepared for specific areas of the city, and include plans that apply to future growth corridors, watershed basins, areas of interest across multiple-communities or small redevelopment sites within one community. Such plans may include but are not limited to:

- Regional Context Studies.
- Community studies or community design briefs.
- Station area plans – **detailed site design** for transit-oriented development.
- Corridor land use studies – Comprehensive redevelopment plans for major streets.
- Open space and park plans.

These non-statutory Local Area Plans form an important part of The City’s overall planning policy direction and will also be consistent with the MDP and with relevant ASPs and ARPs.

Where Local Area Plans do not exist for a community, or where the Local Area Plan does not provide significant policy direction to inform decision-makers, the MDP, as well as relevant transportation policies and guidelines of the CTP, should be considered to inform community planning solutions.

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All Local Area Plans must be consistent with the intermunicipal development plan in respect of land that is identified in both the area structure plan and the intermunicipal development plan. In the event of a conflict or inconsistency, the intermunicipal development plan prevails.

**1.4.7 Outline plan and Land Use Amendment applications****~~Development permit applications~~** [Moved to section 1.4.9]

The City undertakes detailed planning and design of new communities, or the redevelopment of large areas of existing communities, through the outline plan and subdivision process. This involves design details such as the preservation of environmental areas, open space locations and reserve dedications, development patterns, land use mixes and local street networks.

The Outline Plan is a non-statutory site plan, with associated conditions, that is usually processed together with Land Use Amendments, to ensure a workable distribution of land uses, open space and road network (i.e. land districts, the location and classification of streets, the distribution and size of the parks and school sites in the neighbourhood).

The outline plan must be consistent with the SSRP, CMRB Growth plans, and statutory plans. It should also be consistent with any Council approved policies.

A Land Use Amendment (or Land Use Redesignation) changes the land use district of a property. It may be processed concurrently with an outline plan or as a standalone application.

Not all areas experiencing development pressures have the benefit of a Local Area Plan to provide guidance to a local community or specific application. In such cases, the MDP should be used to provide guidance on the application of an appropriate Land Use District, or identify appropriate land uses.

In areas where an approved ASP or ARP is in effect when making land use decisions, the specific policies and design guidelines of that plan will continue to provide direction. In cases where the ASP or ARP is silent, or does not provide sufficient detail on land use, development or design issues, the MDP should be used to provide guidance on the appropriate land use districts, as deemed appropriate by the Approving Authority.

**1.4.8 Subdivision ~~Urban design~~** [Moved to section 1.4.10]

Subdivision is a legal process as mandated by the Municipal Government Act of dividing land into smaller parcels. This involves design details such as the preservation of environmental areas, open space locations and reserve dedications, lot patterns, development patterns, land use mixes and local street networks. Decisions made by the Subdivision Authorities must comply with the SSRP, CMRB Growth Plan, and statutory plans.

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A Development Permit is a document authorizing a development, issued by a (Development Authority) Approving Authority pursuant to the Land Use Bylaw and includes plans and conditions of approval.

The MDP can provide direction and context to support the Approving Authority when making decisions on development permit applications. The MDP policies may be used, as applicable, to guide the use of discretion on land use or design for development permit applications made after approval of the MDP. The MDP also provides guidance within areas identified for long term urban intensification and the appropriateness for “temporary uses.”

**1.4.10 Urban design**

Urban design policies in Part 2 set out the overall urban design vision for Calgary. The policies and guidelines are intended to inform a level of decision-making including Local Area Planning, outline plans, land use amendments and development permits. They are also relevant to city-initiated design projects for public realm improvements, street corridors, open space plans, and transit station area planning.

**1.5 MDP review, updates and amendments**~~Review of the MDP~~

~~Administration~~ The City is resourced to provide on-going support to internal and external implementers around interpretation and application of the policies, thresholds and targets of the MDP.

The MDP is a living document that The City will keep current by reviewing it regularly, updating and amending it. Administration will also monitor implementation of the MDP and bring forward amendments from time to time to clarify interpretation issues, policy gaps, implementation processes and corporate decisions. Parts 2, 3 and 4 of the MDP have been organized such that future policies can be incorporated into the MDP. The policies of Volume 2 Implementation Guidebooks, and Guidebook for Great Communities will be reviewed on an ongoing basis and amendments may be made as necessary for consistency with any policy changes made to Volume 1. Amendments to the MDP will be undertaken in accordance with ~~Section 4.6~~ the requirements of the MGA.

Any changes to the MDP will require a bylaw amendment and public hearing, as required by the MGA. Opportunities for broader public and stakeholder engagement may be desirable,

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depending upon the nature of the proposed MDP amendment, potential impacts or anticipated level of public interest generated by the change. Administration will assess and develop appropriate engagement processes for each future MDP amendment.

Since the Calgary Transportation Plan is significantly linked to the MDP, any amendments to the MDP should consider whether complementary amendments to the CTP are required. Amendments to both documents should be brought together when this is the case.

A major review of Volume 1 of the MDP should be undertaken every 10 years to ensure that the goals, policy directions, processes, actions, and Core Indicators for Land Use and Mobility consider such factors as current growth forecasts, market trends, overall city and community values and The City's financial capacity. The policies of volume 2 will be reviewed on an on-going basis and amendments may be made as necessary.

[Note: 1.6 Amending the MDP – Now part of new section 1.5]

## ~~4.7~~ 1.6 Using and Interpreting the MDP

The policies in Volume 1 of the MDP are written to provide direction to multiple aspects of Calgary's land use planning, development and growth management framework. The policies in Volume 2 of the MDP and the Guidebook for Great Communities are written to provide implementation-level guidance for specific areas within Calgary.

Within the MDP, "The City" is used to describe The City of Calgary as a municipal government, or corporation, whereas, "the city" and "Calgary" are used to describe the physical area of the municipality.

Most policies are written in the active tense, as deliberate statements or plans indicative of the direction that The City is proposing for future development or desired outcomes. In some of these policies, the word "should" is explicitly used to further clarify the directional nature of the statement (e.g., policies regarding threshold densities of people and/or jobs in Part 3 – Typologies). The use of the active tense or word "should" does not imply that the policy is optional to be followed. Rather, policies that use active tense or "should" are to be applied in all situations, unless it can be clearly demonstrated to the satisfaction of The City that the policy is not reasonable, practical or feasible in a given situation. Proposed alternatives must be to the satisfaction of The City with regards to design and performance standards.

In some cases, policies are written to apply to all situations, without exception, usually in relation to a statement of action, legislative direction or situations where a desired result is required. The words "require", "must", "will" or "shall" are used within these policy statements.

The MDP provides a long-term strategy for the future growth of the city. It puts into place a plan and policies that will work towards achieving that strategy over time. No representation is made herein that any particular site is suitable for a particular purpose as shown on maps or implied through policies of the MDP. Site conditions or constraints, including environmental

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contamination, must be assessed on a case by case basis as part of subsequent development stages.

Implementation, actions and programs identified within the MDP will need to be reviewed within the priorities and municipal financial capacities of current and future City Councils.

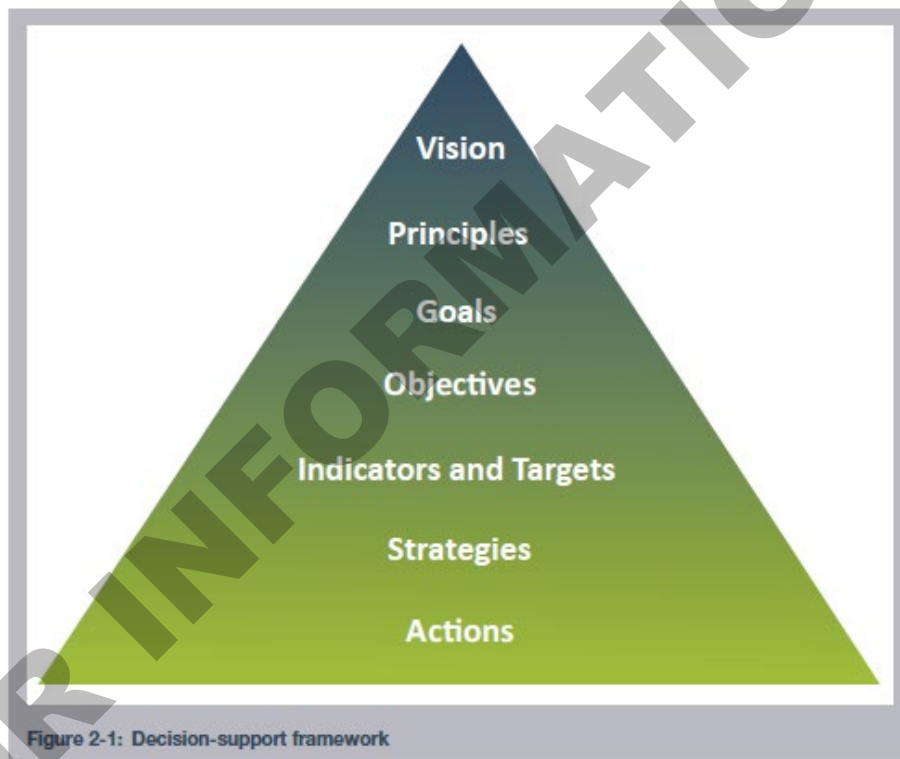
The MDP also contains several indicators and associated targets. These city-wide indicators and targets, as identified in Sections 5.2.2 and 5.3, are intended to track overall progress towards achieving the goals and objectives of the MDP and CTP. The targets are not intended to be applied to the performance of individual Local Area Plans and land use applications.

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**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |**Part 2 – City-wide policies**

The city-wide policies presented in this section are the integrated land use and mobility policies of the MDP. They are the policies that guide growth and change across the city as a whole and speak to the kind of city Calgarians want for the future. The policies also have relevance and provide direction across many specific scales of planning in the city, (e.g. Implementation Guidebooks, Local Area Plans, outline plans, land use amendments and development permits).

The section is organized to align the MDP goals, objectives and policies within the overall context of the decision-making framework (Figure 2-1) that links the vision of imagineCALGARY through to actions that will be required to implement the plan. This framework ensures that the MDP is aligned with the long-term community vision for the city, as well as the actions and indicators. Each serves a purpose within the MDP and provides different degrees of direction to implementers and decision makers.



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## 2.1 A prosperous and diverse economy

**Goal** Build a globally competitive city that supports a vibrant, diverse and adaptable local economy, maintains a sustainable municipal financial system and does not compromise the quality of life for current and future Calgarians.

### **Supports**

**Key Direction #1:** *Achieve a balance of growth between established and greenfield communities.*

**Key Direction #2:** *Provide more choice within complete communities.*

**Key Direction #4:** *Link land use decisions to transit.*

**Key Direction #5:** *Increase mobility choices.*

**Key Direction #8:** *Optimize infrastructure.*

Calgary is fortunate to be a player in the global marketplace. The City enjoys a robust economy with jobs across many industry sectors and plans to build upon the economic diversity already realized. As a city, Calgary is committed to creating an economy for the next-generations, maintaining financial success, and the benefits it brings—new businesses, job opportunities, global connections and a culture of innovation.

~~International trade flows and concentration of population and employment in urban centres have played pivotal roles in globalizing the world economy. Competition for investment, labour and resources extends beyond regional and national boundaries and occurs between world cities. The Calgary Economic Region (CER) is but one player in the global marketplace.~~

### **The New Economy**

The 2018 economic strategy for The City, “Calgary in the New Economy” focuses on four drivers of growth: talent, innovation, place and a business-friendly environment. Under the areas of focus, the strategy identifies 13 key initiatives to support growing the new economy.

- Talent
  1. Create Canada’s largest talent accelerator
  2. Emphasize creativity and innovation from Kindergarten to University (K-U)
  3. Establish Calgary as a magnet for students
  4. Address immediate needs through attraction efforts
- Innovation
  5. Create the Calgary Innovation Corridor

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- 6. Develop relationships within the innovation ecosystem
- 7. Build funding to support generational growth
- 8. Accelerate growth through attraction, advocacy and trade
- Place
  - 9. Accelerate urbanization and connectivity in the core
  - 10. Intentionally support diversity and inclusion
  - 11. Expand and enhance tourism, culture and recreation assets
- Business Environment
  - 12. Deploy initiatives to facilitate business development and growth
  - 13. Develop Calgary as a Living Lab

**Growth of Clusters**

To assist in realizing the strategy's goals growth in established and emerging clusters are strongly encouraged, these include:

- Energy
- Transportation & Logistics
- Agribusiness
- Tourism
- Creative Industries
- Life Sciences
- Financial Services

~~The driving force behind Calgary's economic growth over the past half century has been the energy industry and Calgary will continue to be Canada's "energy capital", focusing on both renewable and non-renewable energy resources.~~

~~Professional scientific and technical services~~

- ~~• Finance, insurance, real estate and leasing~~
- ~~• Business, building and other support services~~
- ~~• Health and wellness~~
- ~~• Research and learning~~
- ~~• Information and communication technologies~~
- ~~• Transportation and logistics~~
- ~~• Manufacturing (with value added)~~
- ~~• Environmental technologies~~
- ~~• Creative industries~~
- ~~• Tourism~~

~~The Calgary Economic Development Strategy, approved by City Council in 2008, identifies~~ These areas of focus, initiatives and clusters, ~~sectors~~ are the key elements ~~drivers~~ that will continue to support business investment and job creation in Calgary over the long term and



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attract international in-migration, population growth and demand for housing, services and mobility. In the shorter term, Calgary's population is expected to experience a significant demographic shift with the labour force comprising more elderly persons and relatively fewer young people. This will impact businesses' ability to attract and retain employees. It will also impact local housing needs, travel patterns and service delivery to the community, all of which may result in rising costs incurred by The City.

Note to reader: Quotation on Page 2-3 of the MDP will be deleted from revised version

**A prosperous city and sustainable urban growth**

Responsible governments plan for long-term sustainability of the local economy. They serve current and future generations within the constraints of limited resources. Creating a competitive and enduring city means ensuring that the urban economy and urban form:

- Are resilient and adaptable to future economic cycles and unanticipated shocks.
- Support the financial strengths of the municipality.
- Preserve a good quality of life for citizens.
- Respect the region's natural environment.

Planning for the future growth, maintenance and the type of built environment of the city have significant long term implications for public spending. Therefore, the urban form and how, and where, Calgary grows become significant components of The City's overall economic policy.

Key economic principles that will inform the future framework for growth and change in the city are:

1. People are the greatest asset of a city. Calgary needs to:

- Maintain an educated and diverse labour force.
- Keep the labour force healthy and safe.
- Provide a good quality of life for citizens.
- Attract newcomers (both people and business).

2. A vibrant economy attracts business investment. Calgary needs to create:

- An environment where the local economy can be reasonably resilient and adaptable to economic cycles and emerging global trends.
- An environment where the local economy's global competitiveness is enhanced.
- Efficient and cost-effective mobility linkages between business centres.
- High-quality business locations.

3. The inter-dynamics of the three orders of government (municipal, provincial and federal) impact The City, its cash flow and the quality of life of Calgarians. Calgary needs to:

- Influence regional, provincial and national economic policy decisions that impact cities.

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- Enhance and promote its competitive advantages in environmental protection and sustainability regionally, nationally and globally.
4. A municipal government provides services efficiently and equitably in a way that does not compromise the quality of life for future generations. The City needs to:
- Maintain sustainable finances and reduce timing between public infrastructure investment and resulting revenues.
  - Provide and maintain affordable, efficient and environmentally balanced infrastructure, services and facilities.

**2.1.1 Creating a city attractive to people**

**Objective** Create a city that provides a good quality of life for its citizens; attracts and retains an educated, creative, skilled and diversified workforce; and has the financial capacity to support existing and future generations.

Calgary is recognized and awarded as being one of the most livable cities in the world. The long-term economic health of the city is vital when creating communities where residents and newcomers want to live and work. Equally important is ensuring that existing and future citizens have a good quality of life and will want to remain in the city and that we are attracting new and innovative talent. Attractors of personal migration include career and job opportunities and housing affordability. Community form is also an essential to delivering secondary attractors including convenient transportation to jobs and location specific amenities. Chief among those amenities is proximity to schools, open spaces, and education facilities.

**Policies**

- a. Provide safe and healthy communities with a variety of housing choices, employment opportunities, local retail and services and mobility options.
- b. Ensure impacts on overall housing affordability are considered as part of planning decisions.
- c. Provide greater housing choices in locations close to job markets and in areas well served by the Primary Transit Network.
- d. Provide mobility networks to connect citizens with major employment areas, places of learning and cultural and recreational destinations.
- e. Ensure opportunities for life-long learning by supporting institutions offering post-secondary education, job training and skill development.
- f. Design community and urban infrastructure that incorporates new technologies to allow home and community-based learning.

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- g. Facilitate the availability of competitively priced, easily serviceable and developable land for residential purposes, including opportunities for brownfield development.

**2.1.2 Creating a city attractive to business**

**Objective** Create a globally competitive city that protects and enhances the key drivers of the local economy and supports on-going business investment and expansion while attracting a growing workforce.

It is beyond the ability of The City to mandate when and how businesses in the sectors outlined above locate or expand. However, The City can enact public policy to ensure that adequate locations for office, institutional, retail and industrial development are protected in strategic and accessible areas that will meet the future needs of these businesses.

**Policies****Supporting business and investment**

- a. Attract and retain suitable business and industry in Calgary by fostering economic diversification and providing a climate that supports and enhances economic activity.
- b. Protect the integrity of viable employment and retail areas by supporting the retention and growth of existing businesses.
- c. Promote the Downtown Core of Calgary as the primary location of choice for corporate head offices and supporting businesses.
- d. To support delivering complete communities throughout Calgary provide locations for office growth outside of the Downtown Core in areas well connected by public transit.
- e. Remain open to innovation and provide flexibility to accommodate the changing needs of business.
- f. Create and maintain clear policy direction, application procedures and development standards to reduce uncertainties and risks to the economy.

**Supporting healthcare and learning institutions**

- g. Incorporate the long-term growth needs of existing healthcare and learning institutions within the land use framework and transportation networks of the city.
- h. Provide a land use framework to help attract highly specialized businesses in the areas of healthcare, education and research and development.
- i. Link existing healthcare and learning institutions to the Primary Transit Network.
- j. Support and facilitate new healthcare and learning institutions to locate in areas served by the existing Primary Transit Network.

**Supporting the transportation and logistics industry**

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- k. Recognize the role of the Calgary International Airport as a global logistics centre while ensuring city-wide access is retained for public transit, passenger vehicles and goods movement.
- l. Identify railroad inter-modal sites as strategic destinations within the regional logistics network and plan for supporting land uses that benefit from proximity to these facilities.
- m. Recognize the access needs of the logistics industry by locating warehouses and local distribution centres in areas that provide direct roadway connections to the goods movement corridors.

**Supporting manufacturing and industrial businesses**

- n. Ensure the availability of competitively priced, easily serviceable and developable land for industrial purposes; including providing opportunities for brownfield redevelopment.
- o. Protect appropriately located industrial areas from undue encroachment by residential development in cases where the nature of that industrial activity requires separation from residential uses.

**2.1.3 Ensuring a sustainable economy**

**Objective** Support the sustainable growth and environmental integrity of Calgary and the Calgary Region.

Co-ordinating efforts between senior governments and municipalities is necessary to ensure efficient and aligned service delivery and to preserve the economic and environmental integrity of the Calgary Region.

As the environment and economy are inextricably linked, land use and mobility choices that affect the economy and growth of the city must take into account the impacts on the natural environment. Climate (green house gas, water, etc.), land (natural areas, biodiversity) and energy issues are linked to the economy and cannot be addressed by one municipality alone. In the case of Green House Gas (GHG) emission reductions, Calgary may need financial assistance to implement a full set of successful initiatives. Co-operation among all orders of government will be needed to protect the environment **and mitigate climate-induced impacts to our urban landscape**; thus the economic well-being of the Calgary Region.

**Policies**

- a. Work with **federal and provincial governments and** external partners, to ensure environmental and economic sustainability are considered in decisions affecting the region.

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## 2.1.4 Ensuring sustainable municipal finances – focus and prioritizing investments

**Objective** The City will ensure that it has the long-term financial capability to support the city being created.

Sustainable municipal finances depend upon the ability of the local economy to support a healthy population and the quality of life in the local area. The ability to continue to meet citizen and business demand for services is, in turn, dependent on a municipality's financial ability to provide and maintain that infrastructure. Prudent planning and use of municipal infrastructure can help the growth cycle continue while minimizing the financial costs. As the level of government that delivers day-to-day services to citizens and businesses, municipalities are strategically placed to provide the majority of public services in the most efficient manner possible. Alignment in service delivery is achieved through co-ordination with federal and provincial governments and neighbouring municipalities. Co-ordination with other organizations providing health, education and social services through their own infrastructure will also assist in maintaining the growth cycle at minimum costs.

### Policies

- a. Optimize the use of existing infrastructure and services.
- b. Manage assets wisely and provide infrastructure that is affordable and cost-effective over the long-term life cycle of the asset.
- c. Make planning and capital investment decisions **considering a triple bottom line** within a corporate strategic framework that **supports financial sustainability for The City** ~~identifies infrastructure requirements and financial consequences to The City~~ (see also Part 5).
- d. Accommodate growth while avoiding premature investment in municipal infrastructure.
- e. Work with other levels of government to secure sustainable sources of municipal funding for both the capital and operational needs of The City.

## 2.2 Shaping a more compact urban form

**Goal** Direct future growth of the city in a way that fosters a more compact efficient use of land, creates complete communities, allows for greater mobility choices and enhances vitality and character in local neighbourhoods.

### Supports

**Key Direction #1:** *Achieve a balance of growth between established and greenfield communities.*

**Key Direction #2:** *Provide more choice within complete communities.*

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |**Key Direction #3:** *Direct land use change within a framework of nodes and corridors.***Key Direction #4:** *Link land use decisions to transit.***Key Direction #5:** *Increase mobility choices.***Key Direction #7:** *Create complete streets.***Key Direction #8:** *Optimize infrastructure.*

This section describes the vision for a long-term pattern of growth and development in Calgary over the next 60 years (as shown on Map 1, Urban Structure), and provides policies that will start to create that form of city over the next 30 years. The critical issues of creating a more compact urban form and reducing the rate of outward growth are addressed in this section. These include:

- Developing a future land use framework that will support transit.
- Creating a vibrant Centre City.
- Providing “complete” communities.
- Directing growth to strategic areas that can support neighbourhood and economic vitality.
- Reinforcing the character, quality and stability of neighbourhoods.
- Balancing growth between Developed and Developing Areas of the city.

The objectives and policies below represent the citywide land use framework for creating an urban structure for the city that is livable, healthy and prosperous, and will remain so for future generations.

### **2.2.1 Vibrant, transit-supportive, mixed-use, Activity Centres and Main Streets**

**Objective** Build and diversify urban activities in Activity Centres and Main Streets.

The MDP proposes a more compact urban form for Calgary by locating a portion of new housing and jobs within higher intensity, mixed-use areas that are well connected to the Primary Transit Network. Such areas define the strategic locations where high-quality transit and a diversity of commercial, residential and service uses currently exist, or where they could be developed over the long term. These locations have the capacity to support future residential and employment intensification in concert with the provision of high-quality urban environments and cohesive community development. Focusing most intensification to defined areas provides more certainty to the development and building industries and makes redevelopment more predictable for existing communities. ~~by lessening the impact on stable, low density areas.~~

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Activity Centres and Main Streets will increasingly act as priority locations for:

- Accessible, safe and convenient public transit hubs along the Primary Transit Network.
- A greater variety of housing choices within or near existing residential communities.
- Higher density residential and employment concentrations. ~~outside of the Centre City.~~
- Local opportunities for employment and daily retail and service needs.
- Walkable destinations and local gathering places for adjacent communities.

Areas identified for future Activity Centres generally have a low-density built form today and an existing employment character to build upon. Their parcel size, location and built form provide the potential for comprehensive, higher-intensity development that can be integrated with the Primary Transit Network as well as with adjacent communities. Activity Centres are classified into three types:

**Centre City** – Centre City is Calgary's primary activity centre with the highest concentration of employment and population growth. It is the historic heart of Calgary and comprised of the Downtown Core and several higher-density neighbourhoods. It is where the highest levels of interconnectivity on the transportation system occurs.

**Major Activity Centres (MAC)** – Major Activity Centres are areas of high job and population growth located in strategic areas central to larger residential catchment areas and linked city-wide by the Primary Transit Network.

**Community Activity Centres (CAC)** – Community Activity Centres are areas of moderate job and population growth convenient to one or more communities and supported by the Primary Transit Network.

**Neighbourhood Activity Centres (NAC)** – Neighbourhood Activity Centres are smaller mixed-use areas within neighbourhood districts that are appropriate locations for local job and population intensification, in scale with neighbourhood context.

This hierarchy recognizes that all local contexts are not the same and that varying scales of development opportunity, mix of uses and levels of transit service will be needed to achieve city-wide objectives in a manner sensitive to local communities. Specific land use, transportation and urban design policies and implementation strategies for each Activity Centre are provided in Part 3 of the MDP.

### **Main Streets**

Development opportunities within Main Streets relate to their existing role as retail streets and their potential to become places for urban intensification along the Primary Transit Network. The existing block layouts, business types and varied ownership patterns means planning and development may transform incrementally. Main Streets are classified into two types:

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- Urban Main Street
- Neighbourhood Main Street

The Main Street hierarchy recognizes that all local contexts are not the same and that varying scales of development, the classification of road type, existing uses and levels of transit service will be needed to achieve city-wide objectives in a manner sensitive to local communities. Specific land use, transportation and urban design policies and implementation strategies for Main Streets are provided in Part 3 of the MDP.

## Policies

### Activity Centres and Main Streets

- a. Direct a greater share of new growth to the Activity Centres and Main Streets, identified on Map 1, in a manner that:
  - i. Provides compact, ~~mixed-use~~, and high-quality urban development **with a mix of uses across the area**.
  - ii. Concentrates jobs and people in areas well served by primary transit service, located close to transit stations and stops.
  - iii. Achieves the residential and employment intensity thresholds of the applicable Activity Centre and Main Street contained in Part 3 of the MDP.
  - iv. Concentrates urban development in a built form that helps to optimize existing public investment, municipal infrastructure and facilities.
  - v. Provides a mix of employment, residential, retail and service uses that support the needs of adjacent communities.
  - vi. Supports a range of housing opportunities in terms of type, tenure, unit size and affordability.
  - vii. Creates an urban environment and streets that **reinforce their role as vibrant centres of activity by** ~~promote~~ **promoting** walkability and local connectivity.
- b. Plan the development of Activity Centres and Main Streets appropriate to the local context by:
  - i. Maintaining compatibility, avoiding dramatic contrast in height and scale ~~with low density residential areas~~ through limits on allowable heights and bulk of new development.
  - ii. Creating transitions in development intensity between **lower and higher intensity areas** ~~density residential areas and more intensive multi-unit residential or commercial areas~~.
  - iii. Locating the tallest buildings and highest densities closest to transit stops and stations and in strategic sites, identified by a local area planning process, and **incremental transition of** ~~stepping down~~ heights and densities away from these sites.



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- iv. Massing new development to frame adjacent streets in a way that respects the existing scale of the street.
  - v. Limiting the impacts of shadowing on neighbouring streets, parks and properties.
  - vi. Providing public systems, including connecting pathways, that facilitate direct, convenient, comfortable and safe pedestrian movement to transit, recreational uses and other services.
- a. Co-ordinate planning and public investment decisions to support the development of a greater variety of medium and higher density housing forms in Activity Centres and Main Streets.
  - b. Support Activity Centres and Main Streets as locations for the growth and intensification of major employment uses (including post-secondary and medical institutions) by linking them to the Primary Transit Network.
  - c. Identify the appropriate jobs and population ratio and planning area boundaries Activity Centres and Main Streets in the Implementation Guidebooks and/ or the Local Area Planning process.
  - d. Identify appropriate locations and scales of Activity Centres and Main Streets required to support urbanization of the Future Greenfield areas through future Regional Context Study (RCS) processes or in absence of an RCS, the Area Structure Plan (ASP) process may be considered.

**2.2.2 A transit-supportive land use framework**

**Objective** Establish a land use framework that optimizes population and job growth within walking distance of transit.

Transit service is an integral component of the transportation network of the city and provides equitable mobility options for people of all ages. The type and quality of transit service that can be economically supported in a community is determined almost exclusively from the land use characteristics of the area. There are four key land use elements that are critical to supporting quality transit service. These elements are:

**Density** – The intensity of people living or working in the area

**Diversity** – Mixing land uses

**Design** – Creating a quality pedestrian environment (see also Section 2.4 Urban design)

**Distance** – Locating the right uses close to transit

The successful integration of these elements within a local planning context will determine the ultimate success of encouraging transit ridership.

**Density**

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To be cost-effective, transit must reach a sufficiently sized pool of potential riders. Development of population and jobs above minimum density levels is essential, as this affects the quality (frequency of service), range (service choices) and duration (hours of operation) of transit service that can be provided in an area. Minimum thresholds of 100 people or jobs per gross developable hectare are needed within walking distance of a transit network (approximately 400 metres) to support service levels of 10 minutes or less over extended periods of the day.

Where higher orders of employment or residential intensification are desired in MACs or Urban Main Streets to support numerous routes of the Primary Transit Network, minimum thresholds of 200 people or jobs per gross developable hectare should be achieved within walking distance of the transit stop or station. **These densities can be accommodated through a variety of different building scales as the station area develops over time.**

Bylaw 19P2017

**What does an intensity threshold look like?**

What might the minimum target of 200 jobs and population per hectare (pph), look like on the ground? To illustrate this, three different options are provided: one where there is a balance (50/50 split) between jobs and population; one where there are more jobs than population (75/25 split); and one where there are fewer jobs than population (25/75 split). The appropriate split for each Major Activity Centre (MAC) or Urban Main Street will be determined through a Local Area Plan. Assumptions have been made on residential occupancy rate (two people per unit) and floor space per employee (30 sq. m).

Bylaw 19P2017

	Jobs	Possible Job Form	Population	Possible Housing Form
Balanced	100 (3000 sq.m. of office)	Low and Mid-rise office	100 pph 50 uph	Townhouses, stacked townhouses
Job Focused	150 (4500 sq.m. of office)	Mid-rise office	50 pph 25 uph	Semi-detached Townhouse
Population Focused	50 (1500 sq.m. of office)	Low rise office, retail	150 pph 75 uph	Stacked townhouse, low-rise to high-rise apartments

**How do minimum intensity thresholds compare to density?**

Population Intensity (Population/Ha)	Dwellings per Ha		Dwellings per Ac	
	Assuming 2.5 persons per unit	Assuming 1.5 persons per unit	Assuming 2.5 persons per unit	Assuming 1.5 persons per unit
50	20	33	8	13
100	40	67	16	27
200	80	133	32	54

Table 2-1: Comparison of population intensity to housing density

**Diversity**

A diversity of land uses within transit areas is needed to create local destinations that attract transit riders as well as provide walkable destinations for residents and employees. Generally, a broad variety of residential and employment uses should be provided, supported by local retail, service, recreation and amenity uses. Diversity can also include a mix of uses and intensities between different transit areas, to promote counter-flow transit travel during peak commuter

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periods as well as support off-peak ridership. This also means providing more employment uses within Activity Centres outside of the Centre City and a broader mix of residential, cultural and entertainment uses in the Centre City, and at larger transit hubs within more established areas of the city.

**Design**

All transit trips begin and end with a pedestrian. Creating a strong pedestrian environment within transit areas is essential to promote walkability. Design should include features that create a direct, convenient and safe pedestrian system that is integrated with transit service. Design must also recognize local context and create urban environments that support and integrate new development with existing communities.

**Distance**

People are most likely to use public transit if it is accessible and convenient to their travel needs. Higher density development should be focused closest to transit, within a distance that a rider is most likely to walk. This is typically a five minute walk, ~~focussed~~ **focused** within a 400-metre distance. A compact urban form focused around transit will promote greater mobility choices. Local Area Plans will determine areas appropriate for intensification.

**Policies****Transit-supportive density and uses**

- a. Locate transit-supportive land uses, including higher density residential and employment developments, within Activity Centres and Main Streets supported by the Primary Transit Network.
- b. Increase development densities in proximity of the Primary Transit Network by targeting residential and employment intensities within 400 metres of transit stops, in areas deemed appropriate through the Local Area Planning process and in accordance with the Typology thresholds identified in Part 3.
- c. Locate land uses that will generate counter-flow transit ridership during peak-hour commuting times and support non-peak hour ridership.
- d. Underutilized commercial and brownfield sites accessible to the Primary Transit Network should be redeveloped over time, where feasible, as mixed-use and/or employment intensive sites.

**Design to encourage transit use**

- e. Ensure that the design and mix of land uses surrounding transit stops and stations support transit and emphasize a pedestrian oriented environment.
- f. Manage vehicle traffic within transit station areas and reduce conflicts between pedestrians and vehicles.

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- g. Develop new mobility management strategies that will reduce the demand for vehicle access and parking.

**2.2.3 A vibrant Centre City****Objective** Create a vibrant and resilient Centre City for everyone~~Create a liveable, vibrant and diverse Centre City.~~

As the City's central Activity Centre, the Centre City plays a central role in the overall urban structure of the city. The Centre City will continue to reflect Calgary as a centre for business and innovation, serving as a focal point for residents and visitors. This image will be reinforced through ongoing enhancement of the Centre City as a vibrant and resilient destination for everyone, with interactive neighbourhoods, riverfronts, streets and buildings. Centre City is expected to undergo significant residential and employment growth and will serve as a model of how to achieve high-density urban growth while ensuring an attractive environment and high quality of life. The Centre City is comprised of six distinct, mixed-use neighbourhoods, full of great places connected by great streets and transit. The vision for the Centre City includes meeting the needs of each unique neighbourhood while continuing to retain and enhance the vital role that the Centre City plays for the entire city.

~~The Centre City forms a prominent image of Calgary as an energy and business centre, serving as a focal point for office workers, residents and visitors. This image of the city will be reinforced through ongoing enhancement of the Centre City as a livable, thriving and caring place. The Centre City is expected to undergo significant growth in both residential and employment populations, and will serve as a model of how to achieve high-density residential and employment areas while ensuring an attractive environment and high quality of life. The Centre City Plan promotes the Downtown as the strong commercial core well served by transit, supported and connected by walkable, mixed-use neighbourhoods, and Stampede Park. This plan supports the vision of meeting the needs of a series of unique neighbourhoods while continuing to retain and enhance the vital role that the Downtown and its surrounding neighbourhoods play in the entire city.~~

The MDP provides high-level supporting policy to recognize the Centre City's role within the overall urban structure of the city.

**Policies****Centre City**

- a. Reinforce ~~the Downtown Core's~~ position as Calgary's principal **activity centre** business centre, premier urban living environment, and centre for the arts, culture, recreation, tourism and entertainment.

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- b. Support the development of distinct, vibrant, mixed-use neighbourhoods in Centre City that are well connected and easily accessible to the Downtown Core, to one another and their surroundings. ~~and easily accessible to the Downtown and to one another.~~

**2.2.4 Complete communities**

**Objective** Foster distinctive, complete communities with a strong sense of place.

The overarching concept of complete communities is interwoven through the goals and policies of the Municipal Development Plan, Calgary Transportation Plan, and city wide plans and strategies approved by City Council. ~~Calgary's strategy for creating a sustainable city builds on the foundation of accommodating future growth within mixed-use communities of varied intensities at appropriate locations throughout the city. These communities are supported by a well-designed and compact urban form that is respectful of adjacent communities and provides appropriate transition to adjacent development.~~

~~The MDP promotes a city where new growth is leveraged to build more complete communities. This means supporting "completeness" in planning for communities, as well as the timely "completion" or buildout of those communities.~~ Complete communities are vibrant, green and safe places, where people of **varying** all ages, incomes, interests and lifestyles feel comfortable and can choose between a variety of **building housing** types and locations in which to live. ~~and where daily needs can be met. This strategy supports diversity to ensure a range of community retail and services, elementary schools, recreation facilities and community associations are more viable and accessible. The diversity within complete communities generates more choice, so that residents have the opportunity to live and remain in their own neighbourhood as their housing needs change over their lifetime. There are choices for businesses to locate across the city in communities or in a variety of employment areas accessible to local residential concentrations and quality transit service.~~

The MDP promotes a city where change is leveraged to augment existing communities through the addition of housing types, services and amenities. New communities should be designed to be complete upon build-out. Complete communities are achieved over time by accommodating ~~future growth~~ existing and future residents and businesses within mixed-use communities of varied intensities at appropriate locations throughout the city.

Neighbourhoods are a key component of communities. Within neighbourhoods, daily needs can be met usually within walking distance. Communities are a collection of neighborhoods providing a fuller set of amenities for residents. At this scale, the diversity within complete communities generates more choice, so that residents have the opportunity to live and remain in their own community as their needs change over their lifetime. It provides viable choices and markets for businesses to locate across the city in communities or in a variety of employment areas accessible to local residential concentrations and quality transit service.

Directing future urban growth in a way that fosters more compact and complete communities has benefits for individual neighbourhoods and for Calgary as a whole. Complete communities

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are often less affected by community demographic lifecycles, and can better support business and a vibrant, safe public realm. A socio-economically and age-diverse population is better able to support local retail and commercial services, schools and community associations, and most-effectively use amenities like parks, recreation facilities and public transit. This leads to an ongoing resiliency for communities. At a city wide level, a more dense urban form reduces the cost of service provision and requires less revenue in the form of taxes to provide the quality of life that Calgarians enjoy.

**Policies****Complete communities**

- a. Support the development of complete communities to ensure a compact and well-designed urban form that efficiently utilizes land and infrastructure, provides housing choices at transit-supportive densities, local services and employment and promotes mobility options.
- b. Communities should be planned according to the following criteria for complete communities and provide:
  - i. A range of housing choices, **equitably** covering a mix of built forms and ownership tenures, at densities that support transit viability, local commercial and other services.
  - ii. Diversified employment opportunities that are integrated into the community or easily accessible by a number of modes of travel.
  - iii. Neighbourhood stores, services and public facilities that meet day-to-day needs by **providing access to healthy food, care and recreation**, within walking distance for most residents.
  - iv. **Equitable** ~~P~~ublic transit that is supported by good service and ease of access.
  - v. Distinctive, **resilient and** attractive neighbourhoods that feature architectural and natural elements that contribute to a **strong sense of place**, a local identity and ~~strong sense of place~~ **pride in the community**.
  - vi. Public spaces, parks and recreation facilities that provide **equitable** access to nature, cultural events and social gathering areas, and support sports, relaxation and outdoor activities.
  - vii. Spaces for community gardens and local food production, **processing, sales and programming**.
  - viii. Local schools, social infrastructure, places of ~~worship~~ **celebration** and community services.
  - ix. A connected street and mobility network that promotes comfortable, safe and universally accessible travel.
  - x. A healthy **and resilient** natural environment with street trees and greenery, connections to the city's open space system and an integration of local natural

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systems with an urban development pattern that respects the natural function of the landscape.

- xi. Equitable public infrastructure and services that are provided in a timely fashion and sustained over the long term by stable community populations.
- xii. **Natural and** green infrastructure and energy-efficient community design and site planning (see Section 2.6).

**Jobs/housing balance**

- c. Promote a greater balance of residential and employment within communities and across the city by:
  - i. Increasing residential housing opportunities in areas close to existing employment concentrations;
  - ii. Increasing employment opportunities in areas close to existing residential concentrations; and,
  - iii. Creating better and equitable mobility linkages between existing concentrations of residential and employment populations.
- d. Locate and plan new communities to ensure adequate access to employment opportunities within the hierarchy of Activity Centre and/or Main Street areas located to serve the new growth areas.

**2.2.5 Strong residential neighbourhoods**

**Objective** Reinforce the stability of Calgary’s neighbourhoods and ensure housing quality and vitality of its residential areas.

Residential communities are not static. They will evolve over time as demographics shift and buildings age, offering an opportunity to review and accommodate changing community needs. Understanding this community dynamic can help develop plans and strategies to stabilize local population fluctuations, support predictability for the market, guide **equitable** public reinvestment and ensure long-term viability of local services and facilities.

Outside of the major focus of the **Centre City**, Activity Centre and Main Street areas, low to moderate density infill development can be accommodated to support the efficient use of land, infrastructure and services as well as enhance housing choice and affordability. In many cases, public infrastructure and transit service are already in place to support redevelopment. Calgary’s older residential areas present some of the best opportunities to accommodate infill development, increasing the range of housing for families and individuals within areas that take

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advantage of existing infrastructure, transit and existing amenities such as local retail, schools, parks and community services.

Intensification should be accommodated within existing communities in a sensitive manner. In commercial areas, infill and redevelopment can create more cohesive and vibrant neighbourhoods. Integrating new development with existing buildings can enhance or fill in gaps in the street wall to improve the vitality, appearance and security of streets and public spaces.

The City promotes infilling that is sensitive, compatible and complementary to the existing physical patterns and character of neighbourhoods.

## Policies

### Neighbourhood infill and redevelopment

- a. Encourage growth and change in low-density neighbourhoods through development and redevelopment that is similar in scale and built form and increases the mix of housing types such as accessory suites, semi-detached, townhouses, cottage housing, row or other ground-oriented housing.
- b. Support development and redevelopment that provides a broader range of housing choice in local communities to help stabilize population declines and support the demographic needs of communities
- c. Encourage higher residential densities in areas of the community that are more extensively served by existing infrastructure, public facilities and transit, appropriate to the specific conditions and character of the neighbourhood **while aligning to the policies of 2.3.2 Respecting and enhancing neighbourhood character.**
- d. Encourage redevelopment that incorporates **green natural** infrastructure solutions and shared energy efficiencies (See Section 2.6).

#### ~~Large redevelopment sites~~

- ~~e. In Developed Areas, require comprehensive plans when large sites (greater than 1.0 hectare in size) become available for redevelopment. To the greatest extent possible, new development should be integrated into the fabric of the surrounding communities.~~

## 2.3 Creating great communities

**Goal** Create great communities by maintaining quality living and working environments, improving housing diversity and choice, enhancing community character and distinctiveness and providing vibrant public places.



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Key Direction #2: Provide more choice within complete communities.

Key Direction #3: Direct land use change within a framework of nodes and corridors.

Key Direction #4: Link land use decisions to transit.

Key Direction #5: Increase mobility choices.

Key Direction #7: Create complete streets.

Key Direction #8: Optimize infrastructure.

This section sets out a framework of policies that focuses on housing, the quality of the physical environment and the amenities and services required for day-to-day, neighbourhood-focused living.

Forecasts indicate that there will be large changes in the coming decades, not only in the total numbers but also in the make-up of Calgary's population profile. Older citizens will make up an increasingly larger proportion of the population and Calgary will become more ethnically diverse. Future citizens will need different housing types, in different locations and configurations. Future growth will also bring clear challenges to providing affordable and quality housing, community services and wider mobility choices for an increasingly diverse population.

~~In addition to meeting housing demands, The City will strive to maintain strong communities.~~ Strong communities evolve to support the lives of the people who live there today and welcome new residents as the city grows. This means that future growth is accommodated in a way that respects and enhances ~~does not undermine~~ what ~~Calgarians~~ people value ~~most~~ in their neighbourhoods, communities and city as a whole. This includes the built and natural heritage, access to safe and attractive parks and public spaces and overall liveability. ~~Preserving~~ Adding to the best qualities in Calgary's neighbourhoods and supplementing them with new, sustainable development that contributes new choices and opportunities is a key piece of Calgary's future growth strategy.

Local context, a diversity of land uses and variation in building densities and scales all have significant implications for neighbourhood liveability and investment in public infrastructure and programs. The concept of "great communities" emphasizes these elements and the bonds that link Calgarians to their communities.

Policies in this section are aimed at promoting individual and community health and promoting a good quality of life by:

- Nurturing vibrant, active, healthy, safe and caring communities.
- Pursuing economic and housing diversification in order to make Calgary a city of variety and choice.

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- Recognizing and building upon existing neighbourhood character, heritage and cultural identity.
- Providing quality public spaces, parks and other local amenities and leisure, cultural and recreation activities to all Calgarians.
- Designing communities that builds ~~for~~ social capital cohesion and health and wellness.
- Providing citizens with equitable opportunities to become involved in decision-making processes and effectively engaged in shaping their local communities.

Policies are also provided on a number of social issues that can have direct links to the built form of a city, including public safety, affordable housing ~~and~~, social inclusion and equity.

### 2.3.1 Housing

**Objective** Ensure a choice of housing forms, tenures and affordability to accommodate the needs of current and future Calgarians and create sustainable local communities.

Access to adequate and affordable housing is a fundamental component of the quality of life in a city. Factors influencing access include price, supply and the distribution of a variety of housing types. The housing market and different levels of government play vital roles in ensuring that housing choice exists for a range of needs and income levels. The City will ensure that the residential planning framework supports the delivery of housing supply in a range of types and tenures to meet current and future community needs, preferences and financial capabilities.

Through setting public land use and transportation policy, The City exercises significant influence over how and where future housing is provided. Housing policy is addressed on four levels:

- Increasing housing choice across the city.
- Accommodating a mix of dwelling types to meet a full range of housing needs in all communities.
- Facilitating conditions to enable citizens from a wide economic and demographic spectrum to live within a community.
- Minimizing the impact of public decisions on the cost of housing and household mobility.

Neighbourhoods that accommodate a broad range of housing types can be less vulnerable to the consequences of community life cycling (e.g., population gain, peaking, population decline, levelling off). A population base that is relatively stable over the long term helps to ensure that community facilities (e.g., schools, retail and recreational facilities, community associations) and public services and businesses (e.g., personal and community services, medical services) are

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maintained and fully utilized. A limited range of housing choices can result in some residents leaving their community if their housing needs can no longer be met. Given Calgary's projected demographic changes, this becomes increasingly likely as people age or household composition changes and residents are no longer able, or wish to maintain a single-detached home. Existing communities that have the capability to add new housing units and compensate for declining populations tend to retain or regain their vitality, as evidenced in Calgary's inner-city communities. As well, new communities that are planned and built from the outset to include a wider variety of housing choices may avoid future population swings and ensure long term stability.

**Policies****Housing diversity and choice**

- a. Provide for a wide range of housing types, tenures (rental and ownership) and densities to create diverse neighbourhoods that include:
  - i. A mix of housing types and tenures, including single detached, ground-oriented (e.g., duplexes, row houses, attached housing, accessory dwelling units and secondary suites), medium- and higher density and mixed-use residential developments.
  - ii. A range of housing choices **for all stages of life**, in terms of the mix of housing sizes and types to meet affordability, accessibility, ~~life-cycle~~ and lifestyle needs of different **people and family types**.
- b. Promote a broader range of housing choice for all ages, income groups, family types and lifestyles by:
  - i. Encouraging housing opportunities for low- and moderate-income households in all communities;
  - ii. Promoting innovative housing types, such as co-housing, live/work and cottage and carriage housing and accessory dwelling units, as alternative means of accommodating residential growth and providing affordable housing options. ~~and~~,
  - iii. **Encouraging adaption of existing housing and the development of new housing to create physically-accessible housing to meet the needs of seniors and people with disabilities, especially within walking distance to services or the Primary Transit Network. Consider how the principles of Universal Design extend from the individual unit to the community; and**
  - iv. Including supportive land use policies and development strategies in the Implementation Guidebooks and/or in Local Area Plans that encourage the provision of a broader range of housing affordable to all income levels.
- c. Ensure a sufficient land supply for residential development in Developed and Developing Areas to accommodate Calgary's share of regional household growth (see Part 5 of the MDP).

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- d. Promote methods to efficiently use or adapt the city's existing housing stock to enable changing households to remain in the same home or neighbourhood for many years. Strategies may include allowing accessory units in low-density areas and other methods determined through community planning processes.

**Increased opportunities for affordable housing**

- e. Recognize and encourage affordable housing as an integral part of “complete communities.”
- f. Create affordable housing by encouraging:
- i. A varied community composition by providing opportunities for ~~small-scale~~ contextually appropriate affordable housing to locate in all areas of the city.
  - ii. Affordable housing to locate in all areas of the city, with a focus on locations served by the Primary Transit Network and appropriate services, while avoiding an over-concentration of affordable housing in any one area.
  - iii. Affordable housing serving families to locate in areas close to parks, schools, recreation facilities and commercial nodes.
  - iv. New development and redevelopment to incorporate affordable housing that is visually indistinguishable from market housing.
  - v. Affordable housing units of different sizes and types within market residential developments.
  - vi. The provision of an adequate supply of rental accommodation across the city that is affordable to low-and moderate-income households.
  - vii. Partnerships with developers, other orders of government and non-governmental agencies to pursue measures to ensure construction of affordable housing in multi-unit development projects, in new communities and within redevelopment areas.

**Special care facilities**

- g. Accommodate special care facilities within residential and mixed-use communities to provide for a broad range of specialized accommodation and care in order to meet a diverse array of city-wide and community needs, including nursing homes, adult group homes, youth care facilities, rehabilitative homes and transitional facilities.
- h. Special care facilities should be small scale in nature and dispersed throughout the city, in a form that fits with local neighbourhood character.
- i. Discourage an over concentration of facilities serving one type of need in any community.

**Child care services**

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- j. Recognize child care services as an integral part of ‘complete communities’ and accommodate these services as appropriate within residential communities and workplace contexts.

**2.3.2 Respecting and enhancing neighbourhood character**

**Objective** Respect and enhance neighbourhood character and vitality.

The ~~“sense of place” inherent in Calgary’s neighbourhoods~~ identity and character of a neighbourhood is a function of ~~the~~ interaction of people with the history, built form, landscape, and visual qualities. ~~Together, the~~ This interaction of these factors defines ~~the distinctive identity and local character of~~ how people feel about a neighbourhood as a place. An area’s character may include, but does not specifically refer to Heritage Resources (2.3.3), which are separately recognized for particular values and qualities.

The prospect of a more significant portion of future growth being directed to the Developed Areas of the city requires a ~~heightened~~ focus on higher quality ~~standards of~~ urban design and construction that ~~ensures that development~~ builds upon and adds value to the existing character of communities.

Centre City, Activity Centres, ~~and~~ Main Streets and ~~other~~ comprehensive redevelopments provide some of the greatest opportunity for positive change. ~~However, significant change can impact adjacent low density residential neighbourhoods.~~ Attention must be paid to ensuring that appropriate local context is considered when planning for intensification and redevelopment.

The identity and character of a neighbourhood is not static, and will evolve overtime as the area ages and redevelops. Some neighbourhoods experience significant changes as a result of demographic and economic conditions, changing preferences in housing and architect styles and policy. Respecting neighbourhood character does not mean preventing change or limiting the scope of design interpretation and innovation.

**Policies**

- a. Respect the existing character of ~~low density residential~~ neighbourhood areas, while still allowing for innovative and creative designs that foster distinctiveness.
- b. ~~Ensure~~ Provide an appropriate transition of development intensity, uses and built form between areas of higher and lower intensity. ~~low density residential areas and more intensive multi residential or commercial areas.~~
- c. Ensure infill development complements the established character of the area and does not create dramatic contrasts in the physical development pattern.

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e. Ensure that the preparation of Local Area Plans includes community engagement early in the decision making process that identifies and addresses local character, community needs and appropriate development transitions with existing neighbourhoods.

### 2.3.3 Heritage and public art

**Objective** ~~Protect~~ Conserve Calgary's heritage ~~historic~~ resources and promote public art.

~~Historic~~ Heritage ~~preservation~~ conservation is part of good city building and community identity. Heritage resources ~~buildings and historic districts~~ serve to enhance ~~our~~ perspective, understanding and awareness of our past and help to build a sense of collective identity and pride in our local communities. Some heritage resources also provide an avenue for Truth and Reconciliation by increasing the visibility of Indigenous communities and heritage in Calgary. These heritage resources allow us to understand the pre-colonial history of Indigenous stewardship and collective responsibility to the land that Calgary sits upon.

~~Preserving heritage buildings maintains a human scale of structure and detail that isn't often achieved in new development. These buildings generally~~ Heritage sites provide a rich range of detail and texture and a diverse and attractive pedestrian environment. Heritage conservation ~~preservation~~ also provides ~~tremendous~~ demonstrated economic and environmental benefits. The reuse of existing structures has significant energy savings. Furthermore, historic structures and districts can stimulate commercial activity and increase tourism activity and spending.

~~The Calgary Heritage Strategy identifies the~~ The following key principles inform Calgary's overall heritage conservation approach:

**Values:** ~~Historic preservation is about values.~~ We ~~preserve~~ conserve heritage ~~historic~~ resources because they have value to our community – aesthetic, historic, scientific, economic, cultural, social, natural or spiritual qualities that make a place important or significant for past, present ~~and~~ ~~of~~ future generations.

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**Alignment:** To be most effective, ~~historic-heritage conservation preservation~~ efforts must be integrated and aligned with overall community and City goals, planning principles, practices and process across all stakeholder groups.

**SIDEBAR** [Note replaces current sidebar on Alberta Historical Resources Act]

**“Heritage Resource”**

Features including historic buildings, bridges, engineering works and other structures; cultural landscapes such as historic parks, gardens or streetscapes, culturally significant areas, indigenous traditional use areas, and sites with archaeological or palaeological resources. These can be managed by municipal, provincial or federal authorities.

## Policies

- a. The City will identify and help to protect and manage Calgary’s ~~historic~~ heritage resources.
- b. Ensure that ~~the protection and enhancement~~ conservation of ~~historic heritage assets resources~~ in Calgary is based on an understanding of their ~~special character value~~, and heritage conservation is integrated into the ~~form part of the~~ wider ~~design and urban development~~ approach to planning and city-shaping agenda.
- c. Identify ~~districts, public spaces and~~ individual sites, and concentrated areas of ~~buildings sites with of special historic~~ heritage quality and ~~character value~~, and adopt policies for their protection and enhancement.
- d. Encourage owners to conserve and/or enhance Calgary’s ~~historic heritage~~ resources, including historic structures, streetscapes, landmarks and viewpoints, parks and gardens, landscapes, topographical and natural features, archaeological sites and artifacts.
- e. The City will be a leader in ~~preserving conserving~~ and enlivening ~~historic-heritage~~ resources using all tools and mechanisms currently available to a municipality.

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- f. The City will be a role model for the creative use and adaptive reuse of City-owned heritage buildings, including excellence in maintenance and restoration.
- g. Incorporate relevant ~~local history~~ interpretive elements in public realm improvements ~~in communities and historic districts~~.to assist in the recognition and appreciation of Calgary's heritage resources.

**Public art**

- h. Integrate works of art within the public realm, particularly when designing new public buildings infrastructure and public spaces.
- i. Encourage private developments to incorporate public art.

**2.3.4 Parks, open spaces and outdoor recreation**

**Objective** Create quality public parks, open spaces and other community amenities, and make leisure and recreation activities available to all Calgarians.

Parks and open spaces are special places within the urban environment. These spaces enrich the fabric of our city and provide a unifying framework across neighbourhoods and communities, a means of orientation and special places for gathering, relaxing or active recreation.

**SIDEBAR**

“The Sport for Life Policy will make life better for Calgarians everyday by acknowledging sport as a fundamental human desire. It will create opportunities for all Calgarians to participate, experience, and enjoy sport to the fullest extent of their abilities and interest.” - Sport for Life Policy

Calgary is a city recognized for its vast network of open spaces, consisting of parks, natural corridors, pathways and trail systems that serve many functions. The City will strengthen the connection between its natural areas, public parks and communities to enhance opportunities for outdoor recreation, retain Calgary's natural and cultural heritage and conserve biodiversity and important environmental systems. Together, these promote overall community health and quality of life for all Calgarians.



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Parks and open spaces are an essential part of the complex interactions between growth, our day-to-day life and conserving nature. They are places recognized for supporting biodiversity and increasing our climate resiliency by reducing vulnerabilities and risk to severe weather events and long-term climate effects.

Calgary's most prominent natural open spaces occur on its ridges and hilltops and along its creeks and riverfronts within the river valley system. The City is committed to protecting the value and quality of these assets and will strive to sustain them while ensuring they remain accessible for the enjoyment and outdoor pursuits of all.

In addition to these natural areas, The City provides quality public parks, open spaces and other community amenities by:

- Protecting, conserving and restoring environmentally significant areas, and providing a sustainable, connected and diverse open space system that represents the natural ecosystem of Calgary the region.
- Protecting, conserving and enhancing urban parks and opens spaces.
- Providing a healthy, well-managed urban forest and natural environment areas.
- Maintaining and improving the quality and distribution of, and public access to, recreation and cultural facilities, open space, parks and natural areas.
- Providing a safe, attractive and comfortable environment through quality landscaping.
- Protecting and promoting an integrated, open space network to better connect communities. In the communities of Bowness and Montgomery, the multi-use pathway route is not to cross over privately owned land.
- Providing high-quality open space and neighbourhood, community, regional and city-wide recreation opportunities to service new development or redeveloped areas.
- Fully serving Calgarians with a comprehensive range of community services and programs.

Creating and sustaining healthy communities requires promoting active living through the provision of a wide range of ~~accessible~~ equitable recreational programs, services, facilities and amenities. Many types of recreation are provided to serve all age groups and interests. The need for new types of parks may be more critical in some areas of the city due to denser development patterns. The important role that community associations, social recreation groups and civic partners play in providing is also acknowledged.

## Policies

### A high-quality public park system

- a. Provide a high-quality park and open-space system to meet the varying needs of Calgarians.

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- b. Create a comprehensive, and connected park, pathway and open-space system that links neighbourhoods, public parks, **athletic parks**, plazas and squares and the river valleys.
- c. Maintain and enhance the riverfront as an active, liveable, pedestrian/bicycle-oriented amenity.
- d. Protect and improve scenic landscapes that enhance the amenity and character of Calgary's river valley park system, other waterways and wetlands, natural tree stands and prominent escarpments.
- e. Protect and promote large-scale landscaped and open-space areas that define neighbourhoods and local topography and enhance Calgary's river valley park system.
- f. Protect the basic social and environmental functions of City parks and public open spaces, and prevent parkland conversion to other uses.

**Land use, location and design**

- g. Provide neighbourhood parks within a five-minute walk of all residents.
- h. ~~Ensure sufficient~~ **Through local area planning, investigate opportunities for increased** community open space ~~provision~~ in Inner City and Established Areas **using a provision** of 2.0 hectares of open space per 1,000 residents. Calculations should be applied to logical community clusters where parks and recreation amenities are accessible and shared between communities. **A deficiency in open space should not imply that additional density is not warranted as the quality of existing space and proximity to alternatives are also considerations.** Community open space includes areas dedicated for schools; community centres; playfields; outdoor performance spaces; community gardens; and habitat areas that offer public amenity.
- i. Plans for new communities should include a hierarchy of parks and public spaces interconnected to adjacent neighbourhoods by pathways and complete streets.
- j. Plan land uses adjacent to public parks that are supportive and enhance the vitality of both existing and new open spaces.
- k. New development adjacent to the public pathway system should maintain existing connections to pathways or provide new linkages.
- l. Encourage higher quality parks near high-density residential buildings to act as a local amenity and places for community gathering, with greater focus on site design qualities than the quantity of park space.
- m. Design parks, facilities and recreational centres in a way that is compatible with nearby residential and commercial uses.
- n. Locate and design public gathering areas within parks and public open spaces to optimize sun exposure during midday hours

**Inclusive, accessible, safe parks**

- o. ~~Ensure that all public parks, open spaces and amenities are fully accessible and promote public safety.~~

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- p. Ensure public access is maintained or improved to major water bodies, including the Bow and Elbow Rivers and Nose Creek, where appropriate access can be acquired and maintained across public lands or from public roads and pathways.
- q. Ensure that all parks, open spaces and amenities are located and designed in accordance with principles of universal access, barrier-free design, **and promote public safely.**
- r. Support the design and redesign of parks, recreation and cultural facilities to reflect changing user needs and preferences.
- s. Design parks and open spaces to provide opportunities for cultural enjoyment and artistic pursuits.

**Outdoor recreation**

- t. Develop and maintain open spaces, parks, recreational, sport and cultural facilities to provide for active recreation and passive recreational needs that are appropriate for all age groups and abilities.
- u. Support linear parks and linkages, where appropriate, to promote connectivity and facilitate walking and cycling.
- v. Recognize the role of complete streets and the sidewalk system as another means to provide amenity and recreation opportunities, particularly in dense neighbourhoods such as Centre City, Activity Centres and Main Streets, where additional land for traditional park space is more difficult to assemble.
- w. Encourage the provision of outdoor recreational space in private developments, including private schools, institutions, campuses and business parks.

**2.3.5 Municipal, school ~~and~~, environmental **and conservation reserves****

The MGA requires a municipal development plan to include policies respecting the provision for reserve lands, including municipal reserves (MR), school reserves (SR) or municipal and school reserves (MSR).

These policies include, but are not limited to, the need for, amount of, and allocation of those reserves and the identification of school requirements in consultation with affected school authorities.

The subdivision authority may require certain lands, such as natural drainage courses; lands that are prone to flooding; unstable lands; and strips of land adjacent lakes, streams or other water bodies to be provided as environmental reserves (ER), subject to the provisions of the MGA.

**In order to protect environmentally significant features, the subdivision authority may require certain lands such as wildlife corridors, significant tree stands, or other environmentally**

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significant features, to be provided as conservation reserve (CR), subject to the provisions of the MGA.

**Policies****Municipal and school reserves**

- a. Require that 10 per cent of lands that are the subject of a proposed subdivision be dedicated for the purpose of providing municipal reserve (MR), school reserve (SR) and/or municipal and school reserve (MSR), in accordance with the provisions of the MGA.
- b. Notwithstanding Policy 2.3.5(a) above, in the case of a strata (volumetric) subdivision of a portion of a building, the Subdivision Authority may consider reducing or eliminating the dedication of reserves or reducing or eliminating the payment of reserve cash-in-lieu, where the following condition is met to the satisfaction of the Subdivision Authority: the redevelopment site consists of a number of small parcels created on a prior subdivision that are required to be consolidated into a single parcel to meet the Alberta Building Code requirements for the building which is to be subsequently subdivided into strata lots. Where the Subdivision Authority does not require reserve to be dedicated as land or provided as money-in place of land, a deferred caveat should be registered against the Certificate of Title of the parcel(s) to the satisfaction of the Subdivision Authority.
- c. Enable dedication of reserves to occur in the form of reserve land, money in lieu or, if warranted, filing a deferred reserve caveat against the title of the lands being subdivided. The means of reserve dedication will be determined by the Subdivision Authority upon the advice of the Joint Use Co-ordinating Committee.
- d. Prioritize the location and allocation of municipal reserve, school reserve, municipal/school reserve land as follows:
  - i. Neighbourhood needs – elementary schools, elementary/junior high schools and neighbourhood parks.
  - ii. Community needs – junior high schools, community associations, open space linkages and priority environmentally significant lands.
  - iii. Regional needs – high schools, pools, arenas, athletic parks and other recreational facilities.
- e. Support the dedication of additional municipal reserves where the density of land being subdivided is equal to or more than 30 units per hectare, subject to the limitations of the MGA and the discretion of the Approving Authority.
- f. Additional reserve land purchased by The City or the school authorities through the use of the Joint Use Reserve Fund should not be considered to comprise part of the landowner's dedication at the time of subdivision.

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- g. At the time of subdivision, Environmental Reserves (ER) should be provided in accordance with the MGA.
- h. **At the time of subdivision, Conservation Reserves (CR) may be provided when environmentally significant features are identified through the local area planning process and cannot be protected through alternative methods, in accordance with the MGA.**

**2.3.6 Community services and facilities**

**Objective** Provide for a full range of community services and facilities.

Community services and facilities include community and recreation centres, arenas, community health clinics, community gardens and publicly funded schools and libraries. They are located across the city within both communities and neighbourhoods (as defined in Section 2.2.5). Providing opportunities for a full range of community services and facilities is the shared responsibility of The City and public agencies, with the participation of the development industry.

The presence of local schools is a positive addition to neighbourhood life and an essential component of complete communities. Recreation, which includes sport, arts and culture, physical and leisure activities also plays a key role in fostering active and vibrant neighbourhoods. The principles below represent characteristics of recreation services and community facilities used by The City to achieve active and vibrant neighbourhoods:

**Integrated and proactive** – Plan for the integration of new facilities, and balance development with redevelopment while satisfying future recreation and facility trends.

**Multi-purpose** – New and redeveloped/re-purposed recreation facilities will be designed with components that respond to diverse needs, interests, levels of ability and skill level.

**Grouping** – Group recreation facilities with other community services as appropriate.

**Flexible** – Ensure, to the degree possible, that facilities are flexible in design, with opportunities to accommodate as wide a range of uses as possible, and to be able to convert them to other uses in the future.

**Adaptable** – Strive to build and re-purpose facilities that will accommodate a range of sporting activities and artistic skills.

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**Equitable** – Strive to provide services that all people have the opportunity to benefit equally from, and remove barriers to access and inclusion in the design, delivery and evaluation of these services.

**Policies****Community services and facilities**

- a. Maintain sites with existing public facilities and promote their reuse for new or expanded community services and recreational and educational facilities to meet changing community needs.
- b. Ensure that recreation services and facilities are located conveniently to catchment areas of the users, **connected to the primary transit network**, and are designed in accordance with the principles of universal design.
- c. Optimize the availability, **accessibility, and affordability** of community facilities, including areas for public engagement, personal growth, health and learning.
- d. Promote the optimum location of community services and facilities, including emergency services/protective services, recreational and educational facilities to meet community needs.
- e. Locate community services and facilities in a manner that integrates with the open space system.
- f. **Locate local food production, processing, sales, and programming on-site or within community facilities.**

**2.3.7 Foster community dialogue and participation in community planning**

**Objective** Promote community education and engagement.

All Calgarians should be provided with opportunities to participate in shaping the future of their community. This means encouraging on-going education, engagement strategies and collaborative neighbourhood planning processes that consider MDP strategies and local community-based aspirations. Community planning is a way to engage, in a meaningful way, local residents and businesses in the future of their community and to provide a local interpretation and implementation of the MDP policies. Community planning initiatives should ~~follow The City's engage! Policy~~ **be equitable and purposeful in dialogue between The City and stakeholders to gather information to inform decision-making, guided by Council approved public engagement policy.**

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## Policies

### Community participation

- a. Recognize that community planning processes are critical implementation tools for refining and realizing the vision of the MDP.
- b. Work with the broad public and local community groups in planning for the future of local neighbourhoods.
- c. Provide for **equitable and** effective community consultation and participation in projects of significance to The City and local communities.
- d. Local planning studies will ensure the necessary resources and timeframes to undertake community planning projects in a manner that is responsible, thorough, transparent and includes participatory community planning and consultation.

## 2.4 Urban design

**Goal** Make Calgary a livable, attractive, memorable and functional city by recognizing its unique setting and dynamic urban character and creating a legacy of quality public and private developments for future generations.

### Supports

**Key Direction #2:** Provide more choice within complete communities.

**Key Direction #3:** Direct land use change within a framework of nodes and corridors.

**Key Direction #5:** Increase mobility choices.

**Key Direction #7:** Create complete streets.

The City of Calgary recognizes that good urban design has a significant role to play in achieving economic vitality and a higher quality of life. As such, it is committed to fostering a culture of collaboration with citizens and the design and development industry to ensure that innovation is encouraged and that expectations are exceeded in creating great streets, quality buildings and memorable places for people.

~~Calgary is one of the most dynamic and fastest-growing urban centres in Canada providing the opportunity to compete for business and workforce population globally. To compete on an international level, cities everywhere are recognizing the importance of the combination of physical characteristics and public amenities, which contribute to their image as attractive urban places.~~

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Section 2.4 Urban Design serves as overarching guidance for statutory content in guidebooks, area structure plans and local area plans as well as non-statutory urban design guidelines. Its intent is to establish a robust framework that is responsive at all scales of planning and development while setting clear expectations around the creation of exceptional planning and design outcomes.

~~Urban design brings together the many elements and areas of expertise involved in great place-making, including land use planning, transportation planning, architecture, landscape design, engineering and development economics. The effective co-ordination of all of these city-making pursuits, through the instrument of urban design concepts and principles, will result in the creation of distinctive and cherished places.~~

**Urban design involves:**

- The art of making places that are attractive, memorable and functional for the people who use them.
- The arrangement, shaping, appearance and functionality of urban public space.
- The complete collaboration and co-ordination of all related disciplines, including land use planning, transportation planning, architecture, engineering and landscape design, to achieve striking and effective results.

The Urban Design Elements provide 13 areas of focus which can be applied to all aspects of building, site, public space, and community design. They serve to frame expectations around the achievement of quality design outcomes, and provide the criteria for evaluating all development applications, plans and designs.

**2.4.1 Creating a beautiful city**

**Objective** Make Calgary a more beautiful, memorable city with a commitment to excellence in urban design.

Cities are made up of collections of great buildings and memorable spaces within and/or between the buildings where people live, work, play and visit. It is this collection – the built environment and its architecture and public spaces – that influences each individual's image of the city. The city can be planned and designed in a way that promotes the creation of civic beauty through a potent combination of architectural interest, material and spatial richness and visual variety. It is the resulting beauty of this combination, together with the legibility and complexity of the pattern, arrangement and scale of the streets spaces and buildings, that has a direct and daily impact on the quality of people's lives.



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Memorable places are the special spaces that have a major role in defining and enhancing the image of the city, the legibility of the physical structure and the enjoyment of residents and visitors. Calgary has a unique natural setting. Its location, proximity to the Rockies, riverfronts, escarpments, ridgelines and other natural features are memorable, act as landmarks and are special for the value they add to the passive and recreational open space system. Calgary also has certain buildings, public places, artworks and structures such as bridges that act as landmarks. These natural and cultural landmarks provide city reference points that contribute to wayfinding, sense of place and city identity. Enhancing Calgary's unique natural and constructed assets through the appropriate design of our built form and mobility networks can strengthen the prominence of these resources and contribute to making Calgary a more beautiful city.

**Policies****Civic image**

- a. Locate and design significant sites and public buildings to promote their civic importance and, where appropriate, integrate open space that is designed to enhance the quality of the setting and support a variety of public functions.
- b. Preserve, enhance and feature important elements of significant architectural, topographical, landscape, scenic, ecological, recreational or cultural interest.

**Views and vistas**

- c. Identify, preserve and enhance scenic routes and principal views of important natural or constructed features.

**Gateways**

- d. Celebrate entranceways and gateways at major entry points to the city, Centre City and communities through the use of distinctive urban design features, lighting, enhanced vegetation and landscaping, and public art features.

**Urban design excellence**

- e. Promote excellence, creativity, ~~and~~ innovation and sustainability in architecture, landscape, site and overall community design. ~~and sustainability in design.~~

**Landscaping**

- f. Encourage the use of landscaping approaches and design techniques to define public spaces, screen parking areas and adjacent building forms and direct pedestrian movement.

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- g. g. Promote and protect trees in street corridors as a means to support pedestrian and amenity areas in commercial districts, soften industrial developments and enhance the attractiveness of residential communities.

**2.4.2 Built form**

**Objective** Promote site and building design that contributes to high quality living environments and attractive, walkable, diverse neighbourhoods and communities.

The City recognizes the importance of excellent urban design in the creation of great communities and neighbourhoods. The built form plays a critical role in defining the character and visual qualities of an area. To promote well-designed buildings, streetscape quality and attractive public spaces that reinforce or build unique neighbourhood character, community planning must include a consistent, design-led approach which:

- Creates a sense of place with unique neighbourhood character.
- Promotes design solutions that contribute to high quality living environments.
- Provides well-connected, pedestrian-friendly and transit-supportive networks.
- Conserves, protects and integrates existing natural, cultural and heritage resources.
- Promotes community safety.

Two issues of particular importance to community design are ~~tall~~ taller buildings and the redevelopment of large sites within existing communities. A ~~tall~~ taller building is generally defined as a building whose height is greater than the width of the right-of-way of the street that it fronts. Well designed ~~tall~~ taller buildings can make a positive contribution to the city and create an interesting skyline. ~~tall~~ taller buildings can also act as landmarks which, when appropriately located and designed, can contribute to orientation and way finding within urban areas. ~~tall~~ taller buildings, by their nature, can have greater impacts on a larger area than small buildings and, thus, they have a larger civic responsibility and require additional built form principles to be applied to their design.

**Policies****Site and building design**

- a. Promote high quality standards of urban design and construction that ensures that development builds upon and adds value to the existing character of communities.

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- b. The ground and lower levels of developments should demonstrate a strong relationship to the human scale and contribute positively to the public realm and street.
- c. Encourage the development of low and midrise buildings to achieve the desired intensity of development.
- d. ~~In Developed Areas, require~~ Require detailed site design ~~comprehensive plans~~ when large sites (greater than 1.0 hectare in size) become available for redevelopment. To the greatest extent possible, new development should be ~~street-oriented, provide common amenity space and be~~ integrated into the fabric of the surrounding communities.
- e. ~~tall~~Taller buildings are appropriate in Centre City, Major Activity Centres, or Community Activity Centres and Urban Main Streets where deemed appropriate through a Local Area Plan.
- f. Plans and designs for ~~tall~~taller buildings should ensure that they are:
  - i. Sited and architecturally designed to contribute positively to the skyline of the city;
  - ii. Designed with pedestrian scale at the base and a prominent roofline;
  - iii. Integrated with adjacent areas by stepping down to lower-scale buildings and neighbourhoods; and,
  - iv. ~~Considerate of~~ Minimizing the shadow ~~and~~ wind impacts on adjacent residential areas and parks and open spaces.

**2.4.3 Enhancing the public realm**

**Objective** Enhance the public realm and promote pedestrian use through the coherent and collaborative design of streets, building interfaces and public spaces.

The public realm is made up of publicly accessible space both between and within buildings. The public realm includes ~~public and private~~ streets and squares, special places, linkages, interfaces and pedestrian zones which are fundamental to the creation of a functional, visually attractive and safe environment for people.

Pedestrians, bicycles and cars all contribute to lively and interesting streets. Good urban design will encourage and facilitate their co-existence, with pedestrian use given strong emphasis and careful consideration.

**Policies**

- a. Design streets and sidewalks to encourage pedestrian comfort, safety and linkages between neighbourhoods, open spaces and adjacent land uses.

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- b. Safe pedestrian connections, transit shelters, bicycle parking, benches and clear wayfinding signage should be provided to facilitate all travel modes.
- c. Provide sufficient and uniform sidewalk width to allow for comfortable and safe pedestrian traffic, the planting of trees and additional landscaping and wayfinding elements. Sidewalks should enhance the visual character of streets, with landscaping and buffer planting used to reduce the impacts of vehicle traffic.
- d. Promote a higher degree of attention to the architectural design and detailing of building edges in areas of interface with heavy pedestrian traffic, notably commercial streets such as Urban and Neighbourhood Boulevards (see CTP Section 3.7 – Complete streets).
- e. Consider seasonal factors when designing the public realm.
- f. The design of buildings, open spaces, pathways and parking areas should adhere to the principles of Crime Prevention Through Environmental Design (CPTED) while ensuring light spill into adjacent property or the surrounding environment is minimized. A reduction in light spill should be achieved by minimizing the intensity of light sources and directing light only to where it is needed.
- g. Transit stations should be designed as vibrant, mixed-use areas incorporating public gathering areas and public art.

## 2.5 Connecting the city

**Goal** Develop an integrated, multi-modal transportation system that supports land use, provides increased mobility choices for citizens, promotes vibrant, connected communities, protects the natural environment and supports a prosperous, and competitive economy.

### Supports

**Key Direction #3:** Direct land use change within a framework of nodes and corridors.

**Key Direction #4:** Link land use decisions to transit.

**Key Direction #5:** Increase mobility choices.

**Key Direction #6:** Develop a Primary Transit Network.

**Key Direction #7:** Create complete streets.

The design of the transportation system has a significant impact on the urban form of the city. It contributes to the shape of our communities and employment centres and determines how we

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are able to move around these places. As a result, the transportation system must perform a wide variety of roles and consider the local context. It must provide more mobility choice for Calgarians through walking, cycling, transit, high occupancy vehicles, single-occupant vehicles, commercial vehicles and emergency services.

This section provides a brief overview of the strategic changes for transportation in Calgary that will support the development of more complete communities and a more compact city, including:

- Transportation choice
- Transit networks
- Complete streets
- Local transportation connectivity

Comprehensive transportation policies for Calgary are provided in the Calgary Transportation Plan (CTP). The CTP provides relevant transportation policies, design guidelines and operational procedures that are closely linked with the MDP policies. Specific mobility policies are included in Part 3 of the MDP and are linked to specific land use “Typologies”.

### 2.5.1 Transportation choice

**Objective** Maintain automobile, commercial goods and emergency vehicle mobility in Calgary while placing increased emphasis on sustainable modes of transportation (walking, cycling and transit).

A more sustainable city requires an integrated transportation system that supports a compact urban form. Bringing jobs, housing services and amenities closer together encourages non-automobile modes of travel, providing more choice to Calgarians. In most cases, it will not be practical to accommodate all modes of travel equally in every part of the Calgary. More sustainable modes of transportation should be emphasized where they can provide convenient and realistic travel choices. The Transportation Sustainability Triangle shows the relative sustainability of each transportation mode, with walking being the most sustainable.

Although walking, cycling, and transit are more sustainable modes of transportation, the majority of daily trips are expected to continue to be made by private vehicles. ~~Private vehicles will continue to be the most common travel choice, accounting for half to two-thirds of all trips in the future.~~ This will be particularly true in outlying areas of the city where most destinations are too far to reach by walking and cycling, and where transit service is not as frequent or efficient. Transportation networks will be designed to manage the demand for vehicle use, and will be optimized using a wide range of tools and new technologies.

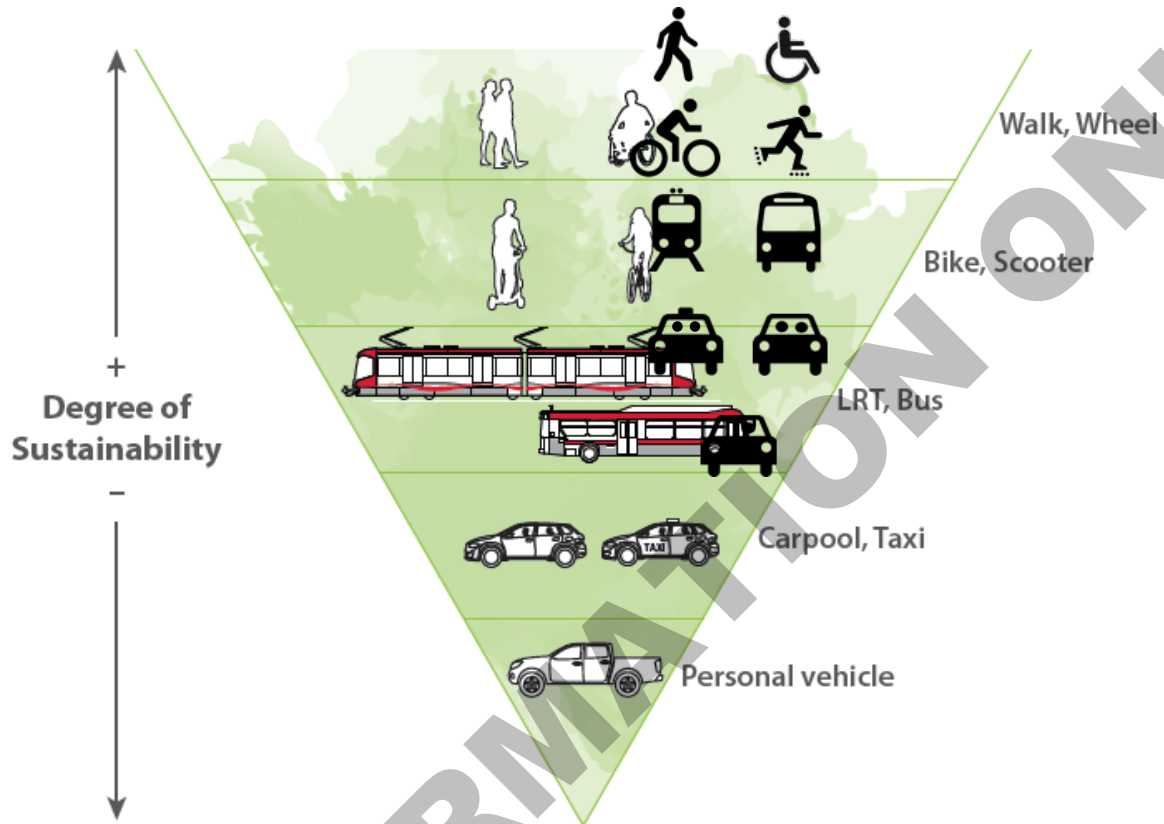
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Figure 2-2: The Transportation Sustainability Triangle

Increased walking and cycling activity will occur primarily in the **Centre City**, ~~various~~ Activity Centres and Main Streets located across the city. Homes, jobs, services and amenities will be located in close proximity to each other in these locations. Therefore, the needs of pedestrians and cyclists should be given the highest priority in **the Centre City**, Activity Centres and Main Streets.

Transit service will offer the most convenient choices to people travelling between **the Centre City**, Activity Centres, and along the Main Streets that connect them. Priority measures will enhance the reliability of transit services within and between these strategic locations, making transit competitive and an attractive option to private automobiles.

The city is a major hub for goods movement in western Canada and the movement of goods and services by air, rail and truck plays an important role in the Calgary economy. The City must

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consider the needs of goods and services movement with emphasis on access to industrial areas, the airport and intermodal rail facilities.

The needs of emergency services must also be considered carefully in all parts of the city.

## Policies

- a. Priorities for different transportation modes in each Typology must be assessed in accordance with Council approved policies and plans, including the CTP.
- b. Include more sustainable forms of transportation to support the needs of land use and development.
- c. Respect the needs of businesses and the impact on local communities in the planning, design and maintenance of goods and service movement in the city.

### 2.5.2 Transit

**Objective** Provide a safe, accessible, customer focused public transit service that is capable of becoming the preferred mobility choice of Calgarians.

Base Transit Service will continue to provide good coverage and a basic level of service to all areas of the city. In addition, a well connected Primary Transit Network will link major city-wide destinations and connect **the Centre City**, Activity Centres and Main Streets. Providing a Primary Transit Network, integrated with a high quality urban environment and multi-modal transportation corridors, will offer a high degree of mobility, with an attractive service offering reduced travel times, accessibility, comfort and safety.

The elements of Calgary's new transit system strategy can be summarized as follows:

#### **Base Transit Service**

The Base Transit Service focuses on community level service with strong connections and convenient transfers to the Primary Transit Network. Areas served by the Base Transit Service will have a sufficient intensity of population and employment to achieve Council approved minimum performance policies for transit service.

#### **Primary Transit Network**

The Primary Transit Network, illustrated in Map 2, comprises a permanent network of high-frequency transit services that will include LRT, Bus Rapid Transit (BRT), streetcars/trams and frequent bus service that will operate every ten minutes or less over an extended time period,

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seven days a week. Primary Transit will provide for direct travel and seamless connections between transit services and regional transit connections and incorporate the highest standards with regard to level of service, operating speed, connectivity and amenities.

**Regional transit**

The City ~~will~~ ~~should collaborate~~ ~~work~~ with the ~~Calgary Regional Partnership~~ ~~Calgary Metropolitan Region Board~~ to proactively plan regional transit services. ~~These transit services may include the short term services such as regional Bus Rapid Transit as well as longer term services such as Transit Mobility Hubs and commuter rail service.~~ ~~The short term regional transit goal is to implement an integrated, regional Bus Rapid Transit (BRT) service that would provide two-way service between key destinations within Calgary and adjacent communities.~~ ~~The long term goal is to provide regional commuter rail service in selected corridors to connect regional growth corridors and nodes.~~

**Linking transit and land use**

Providing transit-supportive land uses in close proximity to transit service is critical to attracting ridership and making it a viable and efficient travel choice. Mixing jobs and housing and incorporating appropriate intensities within these transit hubs will be essential in meeting the required population and job thresholds, supported by 10 minute transit service levels.

Additional information on transit can be found in the CTP and Part 3 Typologies of the MDP.

**Policies**

- a. Integrate land use planning with transit investments and service delivery to meet the objectives of both the CTP and MDP.



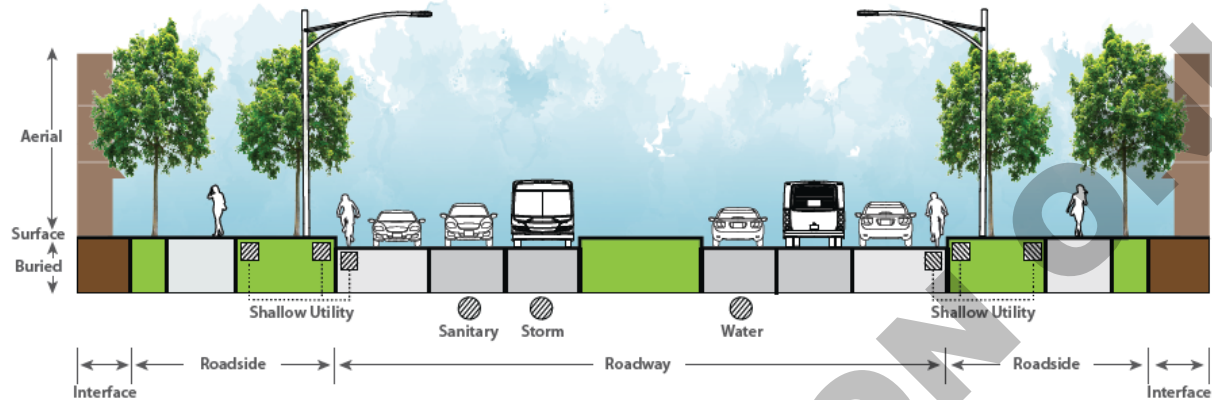
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Figure 2-3: Complete Street zones

## 2.5.3 Complete Streets

**Objective** Increase the attractiveness, convenience and safety of all modes of transportation by creating a **new** selection of multi-modal streets that emphasize different modes of transportation, incorporate elements of **green natural** infrastructure and function in the context of surrounding land uses.

Complete Streets allow people to move by foot, bike, bus or car; provide places to live, work, shop and play, and support the natural environment and the economy. The main function of roads and streets is to provide a connection between the origin (where we are) and destination (where we want to go). Applying the Transportation Sustainability Triangle means the development of multi-modal corridors that focus on all modes of transportation. Complete Streets also accommodate the movement of emergency services vehicles. Not every street in Calgary will be able to meet the needs of all users. Different types of streets have different functions that should fit into the community context.

### The Road and Street Palette

A **new** Road and Street Palette has been developed to differentiate between more traditional “roads,” which primarily serve long-distance vehicle trips and do not interact with adjacent land uses, and “streets,” which serve a broader range of transportation modes and do interact better with adjacent land uses.

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Both streets and roads should provide mobility for a wide range of users, facilitate the movement for goods and services to support the economy and incorporate the elements of ~~green~~ natural infrastructure to enhance the environment. However, unlike streets, roads do not contribute to place-making since their primary role is the movement of people and goods over long distances at higher speeds. The Complete Streets section of the CTP and Map 3 of the MDP provide more information on Complete Streets and their functions.

Traditionally, the elements within the right-of-way (e.g., travel lanes, medians, sidewalks, underground utilities, streetlights) have been the main focus of transportation planning and design. However, the right-of-way is only part of the overall Complete Street. Complete Streets include not only transportation and utility components but also ~~green~~ natural infrastructure and public realm elements. How each of these elements is combined depends on the surrounding land use context and the transportation mode priorities. Adjacent land uses might range from parks and green space to intense corridor development with a mix of commercial and residential buildings.

Complete Streets consist of horizontal and vertical zones, as shown in Figure 2-3.

The quality of the public realm in streets located in ~~the~~ Centre City, Urban and Neighbourhood Main Streets is a very important design consideration. The urban design and public realm policies contained in Section 2.4 should be followed when designing Complete Streets to function in the context of the surrounding environment. The CTP also specifies several special street types to support these land uses.

Additional information on Complete Streets, ~~along with policies and design guidelines~~, can be found in Part 3 of the CTP ~~and the Complete Streets Policy and Guide~~.

## Policies

- a. Ensure that land use strategies complement the Complete Street policies contained in Part 3 of the CTP.

### 2.5.4 Local transportation connectivity

**Objective** Create better connectivity in future communities, ~~the~~ Centre City, and Activity Centres for walking, cycling, and street networks, while also increasing access and reducing response times for emergency services.

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Connectivity describes the different route choices available to get from one place to another. In order for walking, cycling and transit to become viable alternatives to vehicle use, destinations must be located conveniently closer together and be more directly accessible to one another.

Research shows that increased connectivity has a number of benefits, including:

- Enhancing public safety by reducing response times for emergency services.
- Improving the health of Calgarians by making walking and cycling viable options for travelling to work or other daily needs.
- Improving accessibility to the regional street system and reducing delays for motorists entering or leaving developments.
- Reducing walking distances to transit stops and improving routing for City services such as Calgary Transit and Waste & Recycling Services.
- Building communities that have the ability to adapt over time.
- Increasing social interaction between residents.

Effective design of local transportation networks, in Calgary and other North American cities, has shown that the land requirements for transportation infrastructure can be minimized using a variety of different street networks, while enhancing connectivity relative to recent curvilinear designs. Within future residential communities, concerns about traffic on residential streets can also be mitigated through the proper design of streets to manage the flow of traffic and discourage undesirable driver behaviour.

Local transportation connectivity policies are included in Part 3 Typologies for Major Activity Centres, Community Activity Centres and Future Greenfields. Additional information on local transportation connectivity, along with policies and detailed guidelines to assess connectivity, can be found in Part 3 of the CTP.

## Policies

- a. Local transportation connectivity in **the Centre City**, Major Activity Centres, Community Activity Centres and Future Greenfield developments must be assessed according to the connectivity policies contained in the CTP.

## 2.6 Greening the city

**Goal** Conserve, protect and restore the natural environment.

### Supports

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**Key Direction #1:** Achieve a balance of growth between established and greenfield communities.

**Key Direction #2:** Provide more choice within complete communities.

**Key Direction #3:** Direct land use change within a framework of nodes and corridors.

**Key Direction #4:** Increase mobility choices.

**Key Direction #7:** Create complete streets.

**Key Direction #8:** Optimize infrastructure.

Over the last 100 years, Calgary has developed within a prairie landscape rich with ~~wildlife habitat and species, as well as natural vegetation, blue skies, warm Chinooks~~ natural habitats that support biodiverse vegetation, wildlife species, and beautiful river valleys. It is understood that conserving this natural environment results in personal, social, economic and environmental benefits. Connecting citizens to nature, through equitable access to open space and through fostering ecological literacy contributes to personal well-being. ~~Calgary has since evolved into an urban centre that has grown into and around these natural areas, but faces environmental challenges as a result of how it has grown and developed.~~

As Calgary has ~~since~~ evolved into an urban centre that has grown into and around these natural areas, ~~but faces~~ environmental challenges ~~as a~~ have resulted because of how the City has grown and developed. The effects of climate change has led to the occurrence of increasingly severe and more frequent extreme weather events and more are anticipated in the future. Calgary has learned from the 2013 flood event, that it is not immune from the forces of a changing environment. Because of this, the City will need to evolve to be a more sustainable and resilient city through a combination of mitigation and adaptation strategies.

~~It is clear that Calgarians want a healthy natural environment and aspire to a lifestyle that will reduce their ecological footprint. They want to manage and protect the air, water, land and biodiversity to benefit themselves and future generations. Environmental stewardship is a shared responsibility of government, business, communities and individual Calgarians. The City of Calgary is committed to leading and inspiring actions to reduce Calgary's ecological footprint and to conserve, protect and enhance the environment locally and regionally.~~

The City recognizes the need to partner with adjacent municipalities and its regional neighbours to develop strategies for protecting watersheds, habitats and biodiversity, and to establish ecological networks that benefit the region as a whole.

The MDP provides an opportunity to incorporate environmental objectives into land use, urban form and transportation planning to help to reduce impacts on the environment in areas such as:

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- Protecting environmentally-sensitive areas ~~that~~to conserve biodiversity and contribute to people's quality of life, the quality of communities and the quality of ecological systems.
- Creating a more compact urban form that uses less land and, therefore, reduces habitat loss and fragmentation and adverse impacts on wildlife, vegetation and water quality and quantity.
- Reducing the amount of ~~effective~~impervious ~~surfaces~~ by incorporating site level and neighbourhood level stormwater source control practices.
- ~~Supporting~~ ~~Creating~~ mixed-use developments that provide opportunities for more local travel choices by walking, cycling and transit.
- Facilitating energy-efficient buildings and creating opportunities for renewable energy generation that reduces dependence on fossil fuels.

**Policies**

- ~~a. All land use and transportation planning and development should seek to conserve and protect ecosystems by:~~
- ~~Recognizing the interconnectedness of air, land, water, climate, ecosystems habitat and people;~~
  - ~~Reducing Calgary's ecological footprint by using resources efficiently;~~
  - ~~Considering and managing the cumulative impacts of development;~~
  - ~~Protecting, conserving and enhancing water quality and quantity;~~
  - ~~Establishing, protecting and restoring native habitat and areas of biodiversity locally and regionally;~~
  - ~~Supporting air quality that is not harmful to human health and the environment;~~
  - ~~Reducing the demand for non-renewable resources;~~
  - ~~Minimizing waste; and,~~
  - ~~Promoting innovative technologies and processes to achieve environmental goals.~~

**2.6.1 ~~Green~~ ~~Natural~~ infrastructure**

**Objective** Connect ~~green~~ ~~natural~~ infrastructure throughout the urban fabric.

There is a need to establish an integrated approach to **natural asset management** and decision making as part of The City's ongoing planning, investment and asset management processes. A shared understanding of the relationship between the value of services and ~~other~~ **benefits** the benefits of natural assets will help to inform these processes.

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**Green Natural** infrastructure is an interconnected network of **natural green** and engineered **green** elements that provide ecological services (e.g., water filtration, air filtration and food production) in urban environments. **Natural green** elements include trees, wetlands and riparian areas and natural open spaces. Engineered **green** elements include **grey/ hard** infrastructure (such as green buildings and green roadways) and **green infrastructure** (such as bioswales and rain gardens.) **These are** designed to mimic ecological functions or to reduce impacts on ecological systems. Figure 2-4 below shows the range of **green natural** infrastructure **assets elements**.

**Natural Green** infrastructure requires a strategic approach to **ensure** conservation and **support** growth management. For **natural green** infrastructure to be fully integrated throughout the city, it must become part of the underlying framework that is used to guide future development patterns. The location and design of parks and open spaces are often considered secondary to traditional utility and road infrastructure, which is planned strategically well in advance of development. **Natural Green** infrastructure elevates the ecological services that these green spaces provide to the same level as traditional forms of **hard grey/hard** infrastructure.

**SIDEBAR*****How do we define Natural Infrastructure at The City of Calgary?***

***Natural Infrastructure** includes a range of assets from natural through engineered elements which rely on ecological and hydrological processes to provide municipal, ecosystem, and social services as well as resilience benefits.*

*Resilience of a city improves when integrated systems are in place to conserve, enhance and maintain our natural infrastructure as well as the social, economic and environmental benefits that they provide.*

*Natural Infrastructure is better able to self-adapt to the stresses and shocks associated with Calgary's changing climate than grey/hard infrastructure. Protecting and using natural infrastructure appropriately can offset costly investments in new grey/hard infrastructure, while providing additional social, economic and environmental co-benefits.*

**Policies****Natural Infrastructure**

- a. Land use planning and development, urban design and transportation planning processes should incorporate the principles of **green natural** infrastructure, which seek to:

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- i. Protect existing natural assets as the priority.  
~~Support the ecosystem first—conserving the natural green elements is the priority;~~
  - ii. Restore degraded natural areas to achieve greater ecosystem and municipal services.  
~~Use resources efficiently;~~
  - iii. Build engineered infrastructure that uses ecological and hydrological processes to reduce the impact of development on the natural environment.  
~~Mimic nature through engineered green systems to reduce the impact on the ecosystem; and,~~
  - iv. Improve the aesthetic (~~visual~~) quality and sense of place of all communities and landscapes.
- b. Identify and protect strategic parcels, blocks, and corridors that contribute to essential municipal ecosystem services. ~~increase ecosystem connectivity, provide opportunities for source control of stormwater infiltration, promote food production and composting, and encourage play and learning.~~
  - c. Facilitate the development of eco-industrial/business parks;
  - d. Ensure the ecological integrity of natural areas, open spaces and parks are recognized and protected as the most critical element of Calgary’s natural infrastructure. ~~Integrate green infrastructure horizontally (e.g., parks, roads) and vertically (e.g., buildings) to maximize the provision of ecological services.~~
  - e.. Support landscape designs and developments that enable food production.
  - f.. Establish an integrated approach to natural asset management and decision making as part of the City’s ongoing planning, investment and asset management processes.
  - g.. ~~Consider~~ing and managing the cumulative impacts of development on ecosystem services in decision making, including in the design and construction of new communities and buildings.

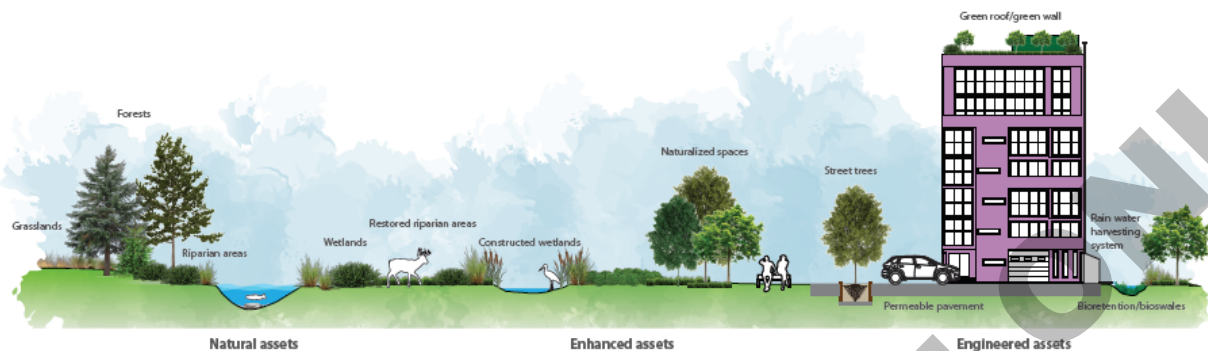
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Figure 2-4: Spectrum of Natural and Engineered Assets [Note replaces previous figure 2-4]

## 2.6.2 Land

**Objective** Minimize the amount of land that is taken up by the built environment and create opportunities to connect with nature. ~~from undeveloped areas and placed in permanent use for residential, commercial, industrial, transportation or utility corridors.~~

~~In order-~~ To minimize the land required for development, it is necessary to create a more compact urban form. In general, compact development minimizes the conversion of open land to urbanized uses and maximizes retained natural habitat. Creating a more compact urban form has some of the most direct benefits for ~~on~~ the natural environment, including:

- Reduced disruption and fragmentation of habitat.
- ~~Minimizing~~ ~~Reduced~~ impervious surfaces due to development that lead to improved to reduce stormwater runoff ~~water quality~~.
- ~~Remediation of~~ ~~Brownfield redevelopment, which can manage~~ contaminated sites and ~~reduce soil and water pollution and improve community health~~ soil and water through brownfield development.

~~In general, compact development minimizes the conversion of open land to urbanized uses and maximizes retained natural habitat. Compact development also has indirect benefits such as reduced trip lengths and increased choice of travel mode (see also Part 2 MDP).~~

Natural areas and spaces improve our mental and physical health and contribute to stronger communities as well as the aesthetic and economic value of our city. Education and advocacy initiatives and programs encourage people to celebrate and care for the urban forest and natural areas.



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The policies in this section support community environmental stewardship and education. These policies also recognize the need to ensure that culture and heritage of an increasingly diverse population are supported in the planning and management of natural and open space areas.

**Policies****Design with nature**

- a. ~~Reduce the disruption and fragmentation of~~ Protect natural habitats by reducing disturbance and fragmentation.
- b. Designs for new communities should seek to retain greater amounts of undisturbed land in order to promote biodiversity and improve water quality locally and regionally.
- c. Encourage the remediation and redevelopment of brownfield sites.
- d. Address critical ecological characteristics such as steep slopes and pervious soils as part of optimal site design.

**Connecting with nature***SIDEBAR*

*Calgary's park system covers over 8,400 hectares of green, natural and open spaces and 1,000 kilometres of pathways and trails. The overall provision of green space demonstrates that all residential areas are well serviced.*

- e. Enhance Calgary's livability by improving urban and natural ecosystems.
- f. Provide opportunities for people to interact with natural areas and ecosystems by providing access and amenities that have a low impact on ecological function.
- g. Foster appreciation and stewardship of our natural environment by enhancing ecological literacy of Calgarians.
- h. Protect and expand the integrated open space network understanding that it provides for community well-being and for ecological connectivity.
- i. Establish a level of service standards that address type, proximity, quality, and quantity of park space that is responsive to both citywide and neighborhood needs.

*SIDEBAR*

***Ecological literacy:** "The City of Calgary supports the conservation and appreciation of biodiversity cultivating knowledge and understanding about ecological processes, personal stewardship actions and Calgary's natural heritage" **Biodiversity Policy -Policy Number: CSPS037, 2015***

- j. Ensure parks and natural assets are valued pieces of Calgary's heritage, natural history and identity.

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- k. Provide educational and interpretive components in parks and open spaces to enhance user experience and knowledge with respect to natural conservation practices and landscapes of ecological, cultural and archeological significance.

**Soils**

- l. Conserve soil and reduce erosion:
  - i. Encourage the retention of natural vegetation and topography on development site.
  - ii. Address sedimentation of rivers and streams by implementing stormwater management measures.
  - iii. To preserve nutrients and protect soils, mulching on site should be incorporated where mature vegetation is cleared for development.

**Food assets**

- m. Support the implementation of a food action plan for the City of Calgary.

**2.6.3 Water**

**Objective** Integrate watershed management outcomes with land use planning. ~~Protect, conserve and enhance water quality and quantity by creating a land use and transportation framework that protects the watershed.~~

~~Water is a basic human need, critical for survival.~~ Our rivers and creeks are the most visible part of a complex hydrological system. However, rivers are far more than the waters within their banks - they are the hearts of freshwater systems called watersheds that include all lands that drain to the rivers, as well as groundwater, springs, wetlands, ponds, streams and lakes within those lands. Watersheds reflect both the natural characteristics of their geography and the impacts of human activities within them.

The City of Calgary works to ensure we have a healthy, resilient watershed capable of providing clean, reliable water for our current needs and future generations. Working with the Province and regional partners, The City aims to protect the water supply, promote sustainable water use, keep rivers healthy and build resiliency to flooding. The City delivers on these commitments through water treatment and supply, wastewater collection and treatment, and stormwater management. Stormwater is an essential resource that is vital to Calgary's environmental health and drought resilience.

Water availability is a limiting factor for growth. Population and economic growth put pressure on Calgary's water supply, even as The City continues to invest significantly in infrastructure

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upgrades and water conservation programming. Increase in water users and needs must be considered within the context of climate uncertainty, to ensure that future water demand does not exceed available water supply. A vibrant and diversified economy is dependent on the secure provision of water. A safe, affordable and reliable water supply is an advantage in attracting and retaining businesses, recreation, tourism and food production.

Water security and watershed health are interrelated with land development. Growing communities in Calgary will result in increased stormwater runoff which can lead to an increased risk of water pollution. In 2018, City Council recognized these risks and the important role of water for city-building and directed that watershed management must be integrated into our land use policies, plans and decisions.

To achieve Council's direction, we need to think about water from a multi-faceted perspective that not only considers the servicing of land but also what is critical to protect, how we can use water to shape urban form and how we can balance and mitigate the impacts of development on our watershed.

~~The City recognizes its location within the regional watersheds and the decisions made in Calgary may have impacts on regional water quality.~~

~~Watersheds in the Calgary Region are being rapidly developed for residential and industrial purposes. Development alters the balance and quality of water by:~~

- ~~• Change hydrology and flow patterns.~~
- ~~• Increase runoff from precipitation and reduce groundwater recharge.~~
- ~~• Increase water pollution (sediment, nutrients, bacteria, toxins, heavy metals, etc.).~~
- ~~• Increase water acidity.~~
- ~~• Raise water temperatures.~~

~~Calgary is situated within six watersheds, including the Bow River, the Elbow River, Nose Creek, Fish Creek, Pine Creek and the Shepard Wetland/Western Headworks Canal (see Figure 2-5). With an increase in severe weather patterns, including floods and droughts, decreasing freshwater resources and increasing land use changes, Calgary is becoming increasingly vulnerable to climatic changes.~~

**SIDEBAR**

*For thousands of years, people have met at the confluence of the Bow and Elbow rivers. These rivers are the lifblood of Calgary – they provide safe drinking water, clean water for the natural environment and a reliable water supply to support Calgary's economy. Calgary has grown to be a big city on a*

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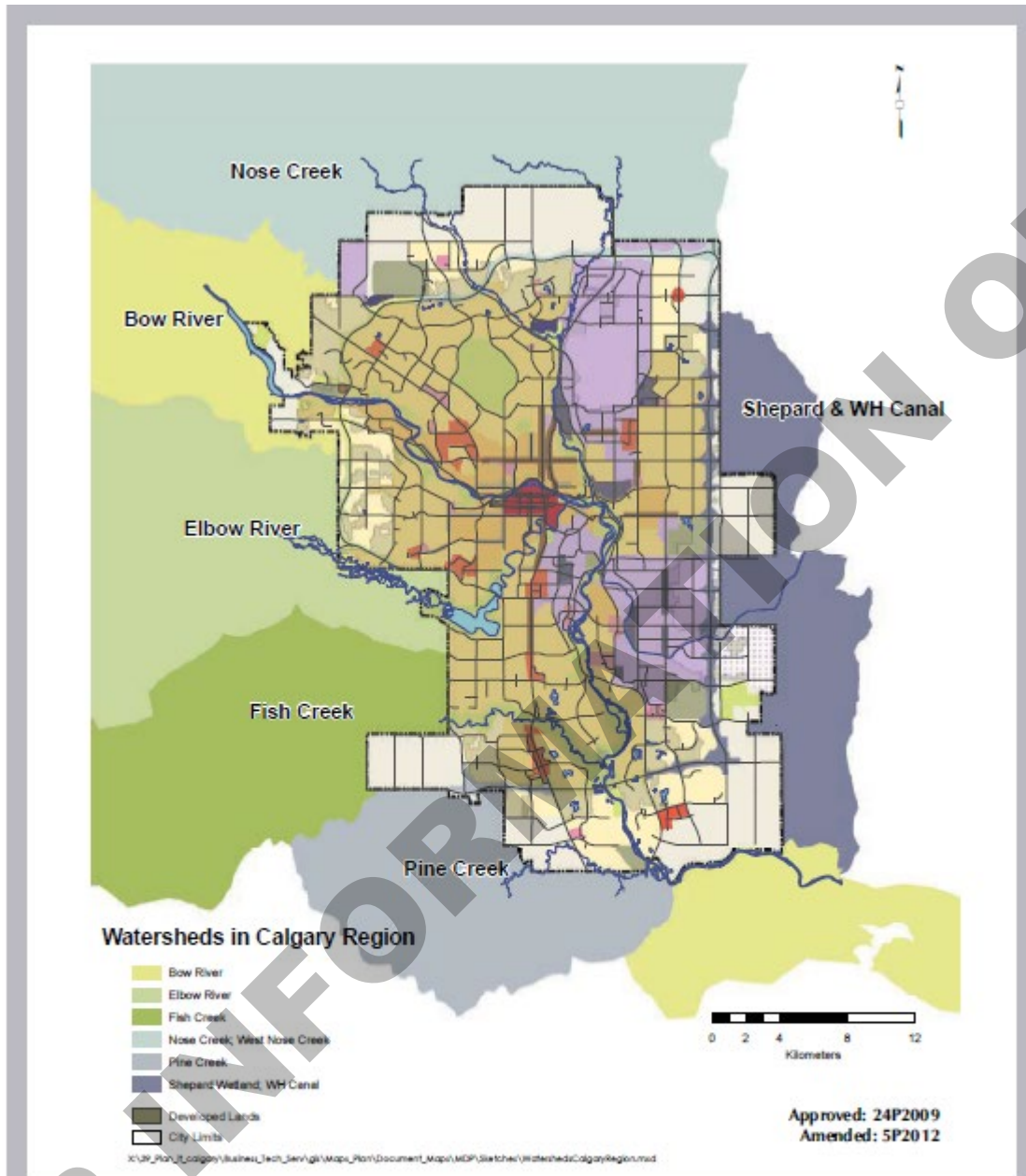
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*small river. Limited water availability, declining water quality and flood resiliency are important considerations in maintaining Calgary as a healthy and green city.*

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**Figure 2-5: Watershed Management**

**Watershed Management**

The Government of Alberta and other authorities have taken action to improve the quality and quantity of water in Alberta through the development of watershed management plans. The City of Calgary has been instrumental in working with its regional partners to create watershed management plans that will ensure the protection of our water resources. A watershed management plan considers water quantity, water quality, aquatic ecosystems and riparian areas, as well as a variety of land use issues that impact water. Watershed management plans require water and land use managers to work together to ensure healthy watersheds.

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## Policies

### Natural waterbodies

- a. Recognize the importance of ground and surface water in supporting life and the prosperity of Calgarians and downstream municipalities.
- b. Protect and integrate critical ecological areas such as wetlands, floodplains, riparian corridors, into development areas.

### Water conservation/efficiency

- c. Promote water conservation initiatives.
- d. Reduce pressure on water supply by supporting stormwater reuse, investing in water supply infrastructure and water demand management programs.
- e. Improve alignment between urban water management and planning by adopting an integrated water management approach.
- f. Encourage water conservation measures in site/building design and public and private landscaping.
- g. Promote water reuse where the water source is suitable for the intended purposes and meets provincial environment and public health legislation.

### Stormwater management

- h. Implement stormwater regulations and practices to capture stormwater on-site and reduce flooding damage.
- i. Promote the use of green stormwater infrastructure, pervious surfaces, vegetation, and infiltration to manage stormwater wherever possible.
- j. Support a citywide network of natural infrastructure, such as complete streets with trees and naturalized landscaping that can help manage stormwater.
- k. Support initiatives for green stormwater infrastructure on public and private lands.
- l. Encourage sustainable building practices for private and public buildings and sites relative to water management that promote recycling.
- m. Increase the amount of pervious surface by minimizing development on undisturbed open space and agricultural lands and by reducing hardscape surfaces and maximizing the use of pervious paving.
- n. Developing stormwater plans to include stormwater source control practices, low-impact development strategies and technologies and setbacks to allow for infiltration and appropriate runoff timing.
- o. Ensure approval standards are linked to water quality and quantity objectives of water management plans.

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- p. Design communities to manage stormwater at the pre-development state to ensure the continued health of nearby waterways, ravines, wetlands and other sensitive areas.

**Water security and quality**

- q. Protect and enhance waterway catchment boundaries to safeguard fresh water resources.
- r. Protect water quality and supply by:
- i. Increasing natural infrastructure.
  - ii. Reducing water consumption per capita.
  - iii. Preserving and expanding lands critical to watershed protection.
  - iv. Sustaining ground water sources.
  - v. Safeguarding source water catchments.
- s. Improve the quality of city and regional water supply through source water protection:
- i. Promote and foster continued inter-municipal partnerships for land-use regulations.
  - ii. Incorporate source watershed overlays in land use planning decisions.
  - iii. Support active and public transportation modes (walking, cycling, transit) to reduce polluted run-off from streets.

**Hydrology**

- t. Seek opportunities to preserve and/or improve natural watershed hydrology during planning and development processes.

**Sub-watershed planning**

- u. Integrate sub-watershed planning objectives within land use planning and development processes.
- v. Consider sub-watershed management objectives as a foundational tool for regional open space planning.

~~c. Create watershed overlay maps to achieve water quality and quantity objectives and integrate the principles and policies of relevant watershed management plans into Local Area Plans.~~

~~d. Incorporate the principles of green infrastructure into community, road and street design (see Part 3 CTP).~~

~~e. Decrease impervious surfaces by minimizing development on undisturbed and agricultural lands.~~

~~f. Encourage the reduction of overall land disturbance and impervious surfaces associated with development (including existing riparian areas and wetlands) by:~~

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- ~~i. Preserving large, contiguous areas of absorbent open space within the city to maintain water quality;~~
  - ~~ii. Promoting site-level techniques such as low impact development to prevent, treat and store runoff and associated pollutants;~~
  - ~~iii. Using natural features (drainage and vegetation patterns) to increase onsite infiltration and minimize runoff;~~
  - ~~iv. Reducing the mean impervious cover by reducing the land required for vehicles, including parking lots, driveways, streets and directing runoff from impervious areas using appropriate stormwater source control best management practices;~~
  - ~~v. Designing to include pervious surfaces that allow the hydrologic cycle to continue close to its pre-development state, so that resulting flow duration curves do not impact fluvial morphology of streams or water balance of wetlands, aquifers are recharged and runoff pollutant loadings are prevented;~~
  - ~~vi. Developing stormwater plans to include stormwater source control practices, low-impact development strategies and technologies, post-development maintenance plans and setbacks to allow for infiltration and appropriate runoff timing; and,~~
  - ~~vii. Ensuring that approval standards are linked to water quality and quantity objectives of water management plans.~~
- ~~g. Promote water conservation initiatives, including on-site stormwater and wastewater reuse and treatment.~~
- ~~h. Encourage the design of public and private landscaping to reduce the need for water, and promote practices and vegetation choices that promote water conservation.~~
- ~~i. Increase the tree canopy to achieve water quality benefits by reducing evaporation and promoting infiltration.~~

**2.6.4 Ecological networks**

**Objective** Maintain biodiversity and landscape diversity, integrating and connecting ecological networks throughout the city.

An ecological network is a network of natural areas and open space providing the conditions necessary for ecosystems and species populations to survive in a human-dominated landscape. This network is one of the defining features that establish Calgary's character, sense of place and quality of life. The components of the network include the river valley system, natural environment parks, regional and neighbourhood parks, pathways, linear parks, school sites, community gardens and urban plazas. These provide a haven for many plant and animal species.



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~~The real power of natural areas and open spaces—and their ability to significantly improve the quality of life in communities—lies in viewing and applying them as a system, rather than in individual components, that responds to the social needs (often recreational) of the city’s population. Open spaces can be viewed as a structural pattern of landscape elements. These elements, patches and corridors, join together to form a matrix. The overall pattern determines flows and movements of species in and through the landscape.~~

A functioning ecosystem conserves biodiversity and contributes to the cleaning of air, land and water. These benefits can be retained by systematically acquiring land for the primary purpose of protecting beneficial ecosystem functions. *Map 4* presents the Parks and Open Space System in Calgary. ~~This map is supported by a range of City policies, principles and strategies including the Wetlands Policy, Urban Parks Master Plan and Open Space Plan.~~ *Map 4* depicts Calgary’s ecological network, delineated through spatial network theory. The distribution and health of both habitats and corridors influence how well ecological networks function to support biodiversity and foster network resilience. This map is supported by a range of City policies, principles and strategies including the Wetlands Policy, Urban Parks Master Plan and Open Space Plan.

**SIDEBAR**

*“Ecosystems: the interaction between organisms, including humans and their environment. Ecosystem health/integrity refers to the adequate structure and functioning of an ecosystem, as described by scientific information and societal priorities.”*

The open space typology (~~table 2-2~~) categorizes open spaces based upon physical similarities. These categories ~~combined~~ serve as an evaluation framework to determine the value of the ecological network and the associated sensitivities that should be considered prior to any development/activities occurring.

**Open space typology definitions****Habitat**

Habitat cores and stepping stone habitats serve as the backbone for network connection through Calgary’s open space system. *Map 5* identifies these two habitat types as:

- Habitat cores have been classified as contiguous environmentally significant areas and/or established natural environment parks 30 hectares or greater in size.
- Stepping stone habitats are environmentally significant areas and/or natural environment parks of medium size (5-29 hectares).

**Corridor**

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Natural and semi-natural open spaces that link habitats to facilitate ecological function (such as species and genetic movement or flood management) and reduce habitat fragmentation. Map 4 identifies Calgary's corridors as:

- Primary corridors that connect Calgary to the region and consist of linear riparian zones along Calgary's major waterways including the Bow and Elbow Rivers, Fish Creek, Nose Creek and West Nose Creek.
- Secondary corridors that connect other ecological network elements such as habitat core to habitat core and habitat core to primary corridor through a configuration of stepping stone habitats.

**Patch**

~~A patch is a relatively homogeneous non-linear area that differs from its surroundings. Patches have several important functions, including settlement, resource, and habitat.~~

**Corridor**

~~A corridor is a strip of a particular type that differs from the adjacent land on both sides. Corridors have several important functions, including conduit, barrier and habitat.~~

**Matrix**

The matrix consists of a background ecological system, with a high degree of connectivity. For example, a forested landscape (matrix) with fewer gaps in forest cover (open patches) will have higher connectivity.

A primary function of Calgary's open space system is to protect ecosystems. In addition to the many social and environmental benefits of healthy ecosystems, the ecological services provided by the open space system should be viewed as an integral part of the city's services – contributing to the cleaning and production of air, land and water, and providing biodiversity.

The open space typology guides studies and analyses (e.g., biophysical analysis, wetland evaluation) which are used as input into Local Area Plans.

**Policies****Protection of natural ecosystems ~~ecological protection~~**

- Protect and enhance the quality and function of significant natural assets and features.

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- b. Land use, development and transportation planning should seek to conserve and protect natural features, parks and open spaces that serve as ecosystem service. Buffers and connections between watersheds, communities, or recreation opportunities should be provided:
- i. Highest priority shall be to protect environmentally-significant areas in the allocation of land use.
  - ii. Ensure the protection of sensitive ecological areas and unique environmental features within the city's parks and open space system takes precedence over other uses.
  - iii. Integrate trees, vegetation, and natural infrastructure to reduce the impacts of development.
  - iv. Integrate sensitive design, and construction management to optimize the protection of natural assets and the services they provide.
  - v. Maximize the incorporation of trails and pathways linking local and regional open space into the planning and review processes.
- c. Recognizing the interconnectedness of air, land, water, climate, ecosystems habitat and people;
- ~~a. Give the highest priority to the protection of environmentally significant areas in the allocation of land use.~~
- ~~b. Protect biodiversity within river valleys, ravines, coulees and wetlands.~~
- ~~c. Ensure that the protection of significant habitats (sensitive ecological areas/unique environmental features) within the city's parks and open space system takes precedence over other uses.~~
- ~~d. Protect unique environmental features such as mature streetscapes, rivers and escarpments.~~
- d. To maintain the prominence of an escarpment, setback zones of 18m (60 feet) should be established from the top of an escarpment in any development or redevelopment area

**~~Connecting nature~~ Establish and Maintain Ecological Networks**

- e. Ensure parks and natural assets are valued pieces of Calgary's heritage, natural history and identity.
- f. Create a network of land uses, landscape elements, natural areas and open spaces that support ecosystem connectivity, biodiversity, wildlife and habitat conservation.

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~~f. Create an interconnected open space system within and between watersheds to ensure that the ecological integrity of open spaces and parks are recognized and protected as the most critical element of Calgary's green infrastructure.~~

~~g. Align land uses and landscape elements to increase functional connectivity.~~

g. ~~Utilize the Open Space Typology (Table 2-2) to guide planning and design for Calgary's open spaces and Local Area Plans~~ Plan and support natural areas and parks to help shape the urban form and buffer incompatible uses by:

- i. Integrating natural features of the surrounding landscape into the design of urban development (including sites) to maintain a high degree of interconnectivity. ~~and permeability;~~
- ii. Strategically protecting areas adjacent to **waterways** ~~water bodies~~ to safeguard fresh water resources.
- iii. Allow**ing** for the modification of natural areas, **when required**, to increase their capacity to **incorporate** a buffer **for** more sensitive ecological areas such as **waterways** ~~water courses;~~
- iv. Locating and designing parks and open spaces to connect with green streets, green alleys and lane initiatives (see CTP for details regarding the inclusion of green **stormwater** infrastructure in complete streets); and
- v. Developing partnerships between The City and Calgary's school boards to facilitate the greening of school yards and the proper design and redevelopment of recreational and athletic fields for all levels of play.

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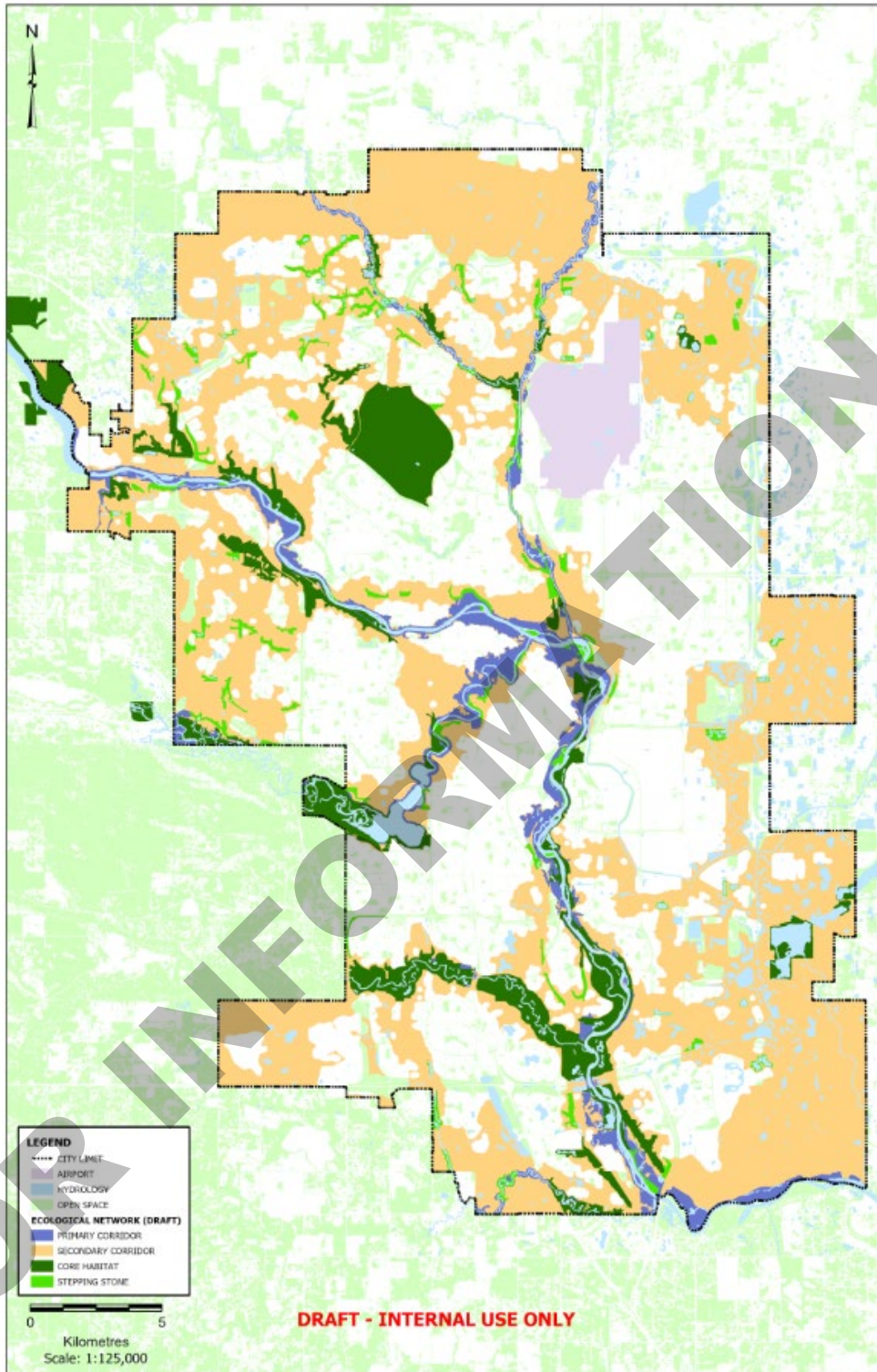
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Open Space Type	Type Classification	Type Expression	Type Amenity (Examples)	Function Value	Opportunity Scale	
Calgary's Open Space	Patch	Natural patch  Disturbed patch	Wetlands Remnant forests Remnant forests Natural slopes  Capped landfills  Brownfields  Storm ponds Modified slopes Graded fields	Priddis Wetland Griffith Woods Park Nose Hill Park Paskapoo Slopes  Playfields  Southland Off-leash Park Fort Calgary  Elliston Park  McHugh Bluff Natural  Playfields Queens Park Cemetery Fox Hollow Golf Course	Individual well-being Community well-being Biodiversity Storm-water management Air conditioning  Individual well-being Community well-being Storm-water management Air conditioning	City-wide/ Community
	Corridor	Natural corridor    Disturbed corridor	River Valleys   Creek Coulee  Creek  Linear Wetland Complexes	Prince's Island Park Shouldice Park McHugh Bluff Natural Park Edworthy Park Elbow Park Heritage Park Weaselhead Flats  Proposed Calgary Science Centre Confluence Park  Proposed Forest Lawn Creek Park  Sheppard Slough Education Centre  Regional pathway	Individual well-being Community well-being Biodiversity Storm-water management Air conditioning       Individual well-being Community well-being Storm-water management Air conditioning	City-wide/ Community
	Matrix	Topography    Eco region	Plain Undulating  Rolling Hummocks  Steep slope Terrace Watercourses  Grassland Natural Region – Foothills Fescue Parkland Natural Region – Foothills Parkland Parkland Natural Region – Central Parkland Utility access Public safety and access	Prairie and floodplains East/South Calgary topography  West Calgary topography  Northwest Calgary - hills and small lakes  Escarpments and slopes   Rivers and creeks River valleys, coulees and ravines  Distinct flora and associated fauna	Urban form Utility access Public safety and access       Urban form Utility access Public safety and access	City-wide/ Community

Table 2-2: Calgary's Open Space Typology

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**Figure - Ecological Network Map**

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~~h.~~ Foster partnerships with neighbouring municipalities to work towards an integrated regional open space ~~network system~~ and source watershed protection. Consider watershed management plans as a foundational tool for regional open space planning.

**Biodiversity****SIDEBAR**

*“Riparian areas are among the most biologically diverse and productive places in Alberta. Networks of riparian open spaces provide critical habitat and corridors for plant, animal and fish populations.” THE RIPARIAN ACTION PROGRAM: A Blueprint For Resilience.*

i. Preserve natural open space in environmentally significant areas for biodiversity and ecosystem functions, while supporting complete communities and naturalization of open space, through:

- i. Designs for new communities that retain greater amounts of undisturbed lands;
- ii. Management and restoration of natural lands and critical habitat;
- iii. Protection of aquatic and riparian corridors and habitats through preservation, restoration and creation of wetland bank sites, environmental reserve dedications and design alternatives;
- iv. Reduction in habitat fragmentation and increase connectivity, where feasible, within the city and region;
- v. Efforts to monitor and manage invasive species;
- vi. Support stewardship of City-owned natural open space;
- vii. Implementation and promotion of education and best practices in management and stewardship of natural lands;
- viii. Considering the needs of pollinator species in the design of new communities and developments.

~~l. Monitor and manage invasive species that pose a threat to biodiversity and undermine an area's ability to protect water resources.~~

~~m. Manage natural areas and open spaces primarily to conserve and promote native biodiversity.~~

~~n. Ensure the systematic conservation of land and water to reduce habitat fragmentation and ensure wildlife and fisheries connectivity.~~

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~~o. Re-establish open space connections, where feasible, to link important habitat areas within the city and region.~~

**Protecting aquatic and riparian habitats.** Ensure “no net loss” principles of significant wetland habitat and preserve existing wetlands as a priority over reconstruction.

- j. ~~Protect aquatic habitats through preservation~~ Preserve and restore ~~and creation of~~ wetland bank sites ~~to protect aquatic habitats.~~
- k. Protect riparian areas to meet habitat, water quality and public access through environmental reserve dedications and design alternatives
- l. Encourage and enable protection of source water and groundwater recharge areas.

**River valleys and crossings****SIDE BAR:**

*City’s riparian management categories: conservation, restoration, recreation, flood and erosion control, developed. Management categories should be used to guide The City’s land use decisions within and adjacent to riparian areas and inform restoration and bank stabilization efforts. Protect and enhance escarpments for open space, public views and setbacks for private property*

- m. Mitigate the impacts of urban development on the ~~environmental~~ ecological integrity (~~health and aesthetic value~~) of the river ~~and creek valleys should be mitigated~~ by applying The City’s riparian management categories:

~~Protecting and enhancing escarpments for open space, public views and setbacks for private property.~~ Preserving and restoring the riparian zones of our river systems and ensuring public access along significant escarpment and riparian areas;

ii. Preserving and restoring the riparian zones of our river systems;

iii. Ensuring public access along significant escarpment and riparian areas; and

div. Making environmental protection and passive recreational use the priority for river valley parks.

- n. Any consideration for river valley and watercourse crossings (for transportation and infrastructure purposes) should always be determined within the wider context of urban need and treated with the utmost environmental sensitivity. Factors to be considered when planning, designing and constructing these crossings include:

- i. City-wide street connectivity that integrates (as opposed to separating) stream corridors into the community;



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- ii. Waterway constraints (stream corridor considerations and riparian areas);
- iii. Location and design of stream channel crossings;
- iv. Minimizing impacts on adjacent communities and parks; and,
- v. Incorporating river crossing design principles (See CTP Appendix B).

**Urban ~~forestry~~ Tree Canopy****SIDEBAR**

*Trees provide many ecosystem services, including improving air quality, reducing erosion and creating wildlife habitats. Trees also contribute to the improved quality of life, health and community well-being. These policies support increasing Calgary's urban forest and vegetation. Trees and natural vegetation are an integral component of planning for landscape connectivity, climate resilience, and carbon sequestration.*

As a priority consideration during development design, it is important to pay attention to tree deficits and the preservation of trees in Calgary communities. These policies should influence local area plans to advocate for urban forestry and for preserving, protecting and providing optimal growing conditions for trees in Calgary.

- o. Protect, ~~and~~ improve, and expand ~~the~~ parks and green spaces, and the connections between these areas where possible, ~~within the city~~, as shown in **Map 4**.
- p. Protect, maintain, and expand ~~Promote the provision and maintenance of~~ a healthy, viable urban forest in all areas of Calgary, including the provision of adequate space and conditions (i.e. soil volume) for street trees to thrive ~~by protecting and increasing the existing urban forest~~.
- q. ~~The Implementation Guidebooks and/or Local Area Plans should outline the target T~~ tree canopy targets should be met in the development ~~study~~ area and should follow ~~the Parks Urban Forestry Strategic Plan~~ guidelines for tree planting..

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- i. Strategically plant deciduous shade trees, coniferous trees, and drought tolerant native and adapted vegetation, as appropriate. Selection of long-lived trees and other plantings should accommodate anticipated changes to the local climate.
  - ii. Sustain and increase the number of partnerships related to tree planting, stewardship and education programs.
  - iii. Support incentives that encourage street-tree planting and care by private property owners. Reduce the urban heat island effect through planting trees and other vegetation, to provide shade and cool air temperatures.
- r. Green roofs, bioretention, and resilient landscaping should be encouraged to increase the amount of vegetation found within the built environment.
- s. Ensure tree sustainability ~~through tree planting plans and development phasing~~ to create the greatest benefit for the site and the community.
- ~~t. Ensure the greening of the city as a system of linked green spaces through:~~
- ~~i. An increase in the retention and planting of trees, bushes and shrubs on public and private land, particularly in areas lacking in this regard and those that are paved; and,~~
  - ~~ii. Encouraging the planting of trees and green spaces as part of new developments, in front yards, backyards, rooftops, courtyards and plazas, etc.~~
- t. Further develop tree protection and planting measures to:
- i. Ensure maximum conservation of existing healthy, mature trees and incorporation of native and adapted vegetation in the site design and layout of new buildings; and,
  - ii. Protect trees and roots during street/boulevard ~~and building~~ work and during site development ~~and the long term viability of trees.~~

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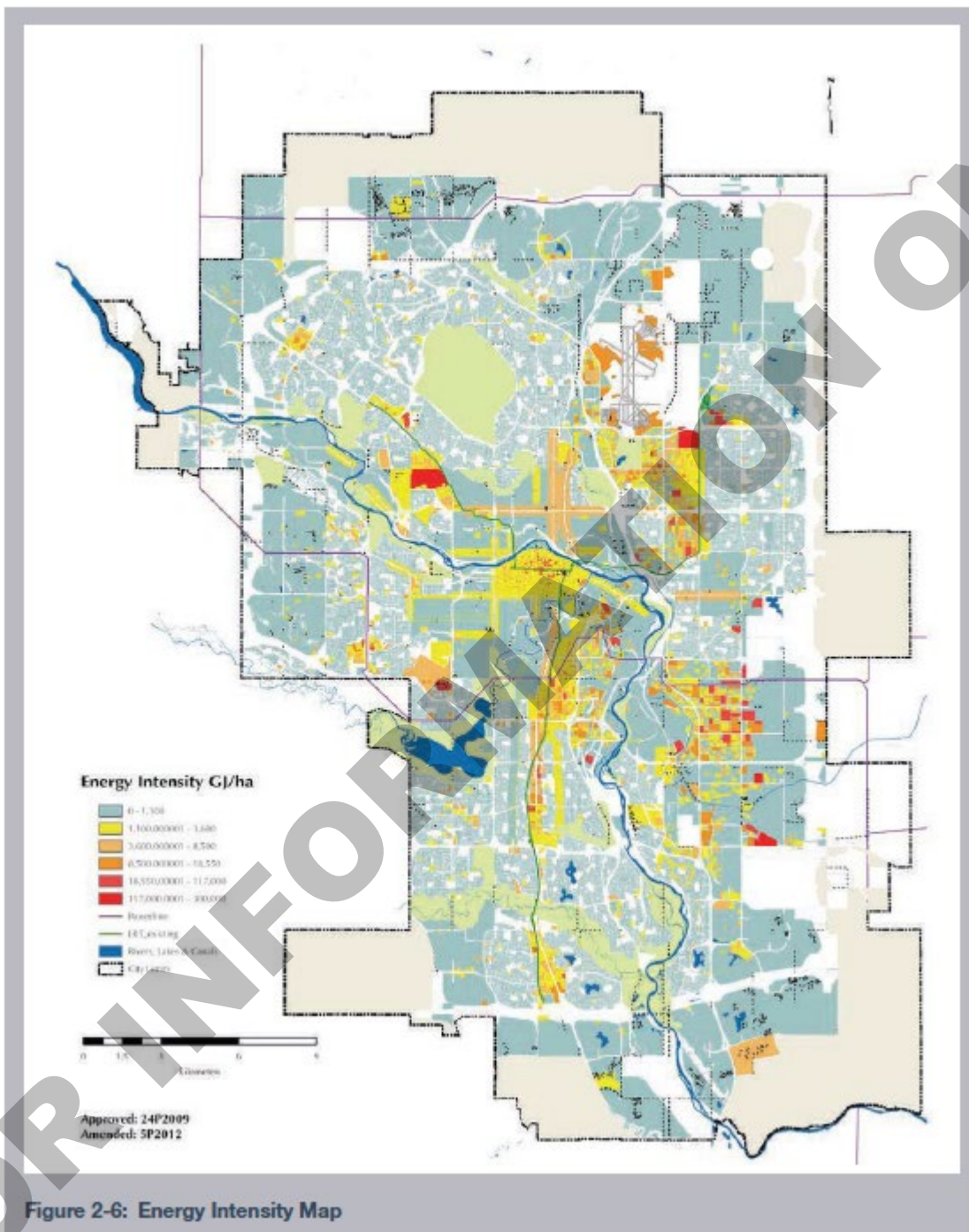


Figure 2-6: Energy Intensity Map

Sidebar: The Energy Intensity Map (Figure 2-6) demonstrates the projected citywide annual energy consumption if ultra high-efficiency improvements are

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adopted by 2036. Research and collaboration with key stakeholders is underway to update the Energy Intensity Map. The Energy Intensity Map will be used as a tool to visualize pathways to The City's 2050 emissions reduction goal and support the implementation of this Plan's energy efficiency policies and the 2018 Climate Resilience Strategy.

## 2.6.5 Climate change and energy

**Objective** Adapt to current and anticipated changes in climate and contribute to mitigation efforts for long-term resilience and **reduce the demand for non-renewable energy resources.**

Our changing climate poses evolving risks to the city and to Calgarians. The Calgary Climate Resilience Strategy aims to maximize the resilience of Calgary in the context of a changing climate, guided by local and global policy, and detail specific mitigation and adaptation actions to address climate change. As a City, we recognize our responsibility to adapt to the impacts of climate change on our community. Our City seeks to achieve emission reduction targets which align with federal climate change commitments to minimize the impacts of climate change.

In 2009, the Calgary Climate Change Accord established The City's commitment to pursue reductions in community GHG emissions of 20% below 2005 levels by 2020, and 80% below 2005 levels by 2050. Nonetheless, between 2005 and 2017 Calgary's overall GHG emissions increased.

Calgary's **Climate Resilience Strategy: Mitigation & Adaptation Action Plans**, approved in 2018, established three main goals:

- Reduce vulnerabilities and risks to severe weather and long-term climate effects.
- Improve energy efficiency and reduce GHG emissions.
- Support the low-carbon economy.

Reducing the use of fossil fuels and supporting energy efficiency will improve air quality and save residents and businesses money. Through these measures, we can reduce our contribution to climate change; however, we must also adapt to the impacts of climate change. Impacts include an increase in the frequency and severity of extreme weather events, higher temperatures, flooding, drought and a shift in seasonal patterns of heat and precipitation. Adapting to climate change allows us to target interventions and strategies to make our neighbourhoods, infrastructure, services and economy more resilient.

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The Climate Goals stipulates key actions to achieve over time to reach the **2050 Target of 80 per cent reduction in GHG emissions.**

Calgary community-wide  
GHG emissions by sector | 2017

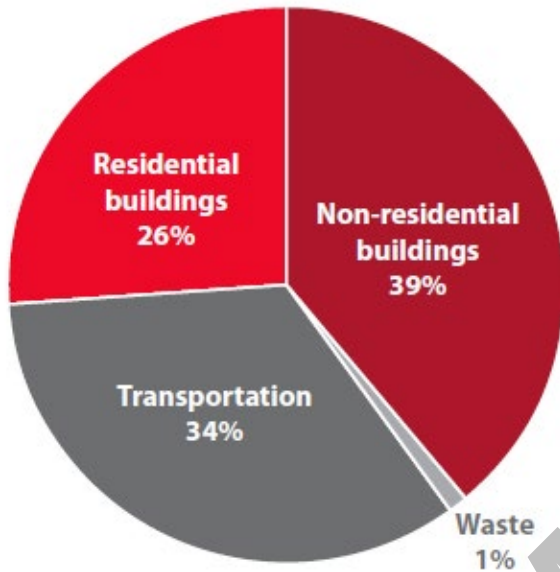


Figure – Components of GHG Emissions in Calgary

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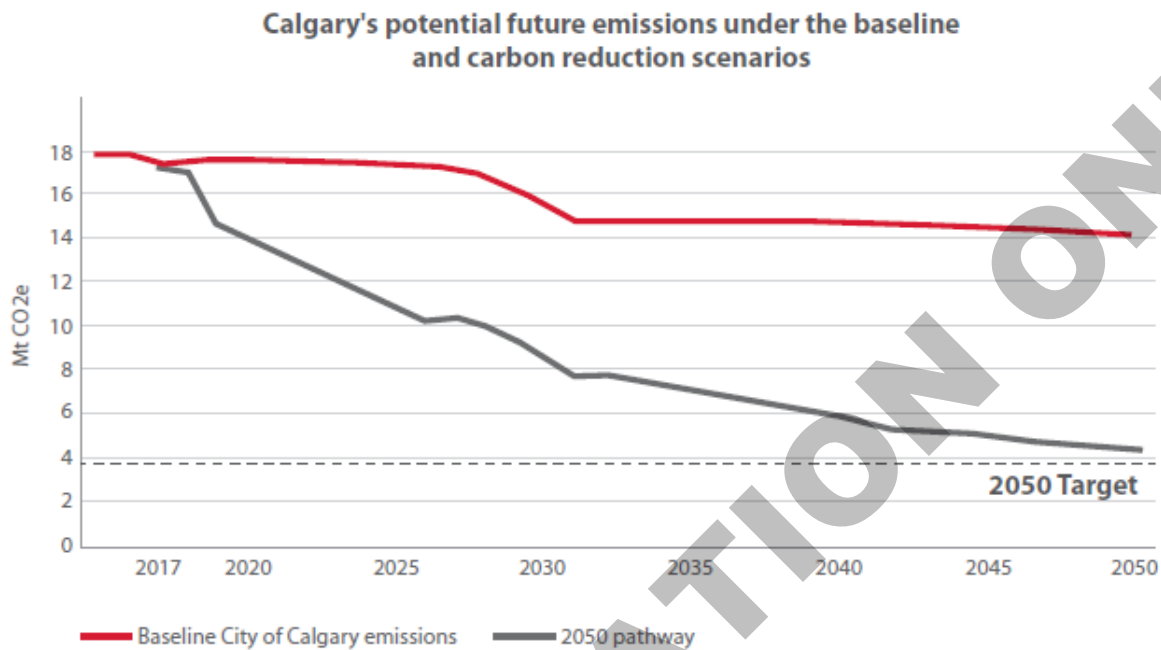
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Figure – Path to 2050 Emissions Target

**SIDEBAR***Adopted corporate energy principles:*

1. *Responsible Energy Management;*
2. *Collaboration;*
3. *Integration;*
4. *Relevance; and targets for GHG emissions reduction, energy consumption and renewable energy and multi-modal transportation.*

While climate change is a global problem, at the local level, it is possible to reduce green-house gas (GHG) emissions by improving energy-efficiency in buildings, increasing renewable energy generation, supporting electric vehicle adoption and alternative fuel use, and fostering compact development of complete communities.

Targeted actions can generate substantial impacts on future carbon emissions. The most carbon effective opportunities can be found in the buildings and the transportation sectors. Urban form plays a fundamental role in shaping urban processes and can affect emissions far into the future. How we design our neighbourhoods and city have a significant impact on the need for energy. Achieving the targets outlined in MDP is the most cost effective action that can be undertaken with respect to climate action. Urban forestry, improved energy performance in

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buildings and low-carbon energy will contribute to achieving Calgary's 2050 emission reduction targets for built form.

Where people live, work, and access amenities within Calgary impacts how they choose to get around the city. Currently, emissions associated with transporting people and goods account for one third of Calgary's emissions. Moving towards zero-emission vehicles as outlined in CTP section 3.12 supports additional cumulative GHG reductions. Failure to fully achieve the plans outcomes will diminish the ability to achieve the targets.

Action	Total potential GHG reductions to 2050 (Mt)
Implement existing MDP	12
Implement existing CTP	15
Improved energy performance in new and existing buildings	215
Neighbourhood renewable and low-carbon energy systems	17
Shift to low-emissions vehicles	60
Exceed core indicator targets in CTP	3
Exceed core indicator targets in MDP	7

Figure – Components of Climate Change Mitigation

These steps will make significant progress towards achieving the 2050 emission reduction targets. However, to fully achieve the reduction, it will be necessary to exceed the targets set out in the MDP and CTP. The current plans will need to be vigorously applied for this to occur.

### ~~2.6.5 Energy~~

~~**Objective** Reduce the demand for non-renewable energy resources.~~

~~The impact of fossil fuel use on the environment is well documented. Climate change, air and water pollution all result from our dependence on these non-renewable energy sources. As Calgary expands, so do its energy requirements. Tackling the energy challenge will be~~

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~~important to the city's future prosperity. Across Canada, an increasing number of municipalities are engaged in the process of sustainable energy planning. The approach taken by each community is varied, but what is becoming evident is the importance of inter-connecting urban form, land use and transportation, with an understanding of energy consumption and supply issues. Energy planning is therefore connected at the regional, community and building scales.~~

~~Energy use is the largest portion of Calgary's ecological footprint, accounting for 56 per cent of the calculation. Energy consumption in Calgary has increased for all energy types. These energy types include gasoline (transportation energy), electricity (for homes/buildings) and natural gas (for heating, manufacturing, cooking and recreation) to name a few. Changing our built form — homes, roads, offices structures, power plants, dams and transportation — will provide an opportunity to reduce our consumption of energy.~~

~~The following priorities should be considered in the integration of energy into land use and buildings:~~

- ~~• Efficient energy use.~~
- ~~• Reduce greenhouse gas emissions.~~
- ~~• Reduce fossil fuel use when possible.~~
- ~~• Allow successful solutions to emerge.~~
- ~~• Remove barriers and allow renewable energy sources and distributed generation to flourish.~~

~~Energy and land use influence each other directly and indirectly. The most common areas of impact focus on the following:~~

- ~~• Mixing residential, commercial, industrial and recreational uses of land, which decreases energy consumption by decreasing transportation demand and, in some instances, increases the feasibility of district heating.~~
- ~~• Higher densities supportive of higher energy intensities.~~
- ~~• Orientation and stacking of buildings.~~
- ~~• Minimizing penetration of solar radiation into structures during warm periods of the year and maximizing it during cold periods.~~
- ~~• Energy efficiency in all building types.~~

~~Creating more energy-efficient buildings and incorporating renewable energy sources both play a major role in determining the overall sustainability of the building. As with community design, greater energy efficiency of buildings can be influenced through land use and development processes.~~

**Policies**



**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |**Energy - efficient transportation and land use planning**

- a. Co-ordinate sustainable energy planning at all scales of development in the city by:
- i. Promoting urban forms and infrastructure that support alternative and renewable energy production and reduced energy consumption;
  - ii. Ensuring that energy efficiency is part of the design considerations for Local Area Plans and subdivisions;
  - ~~iii. Maximizing opportunities for renewable energy sources and systems;~~
  - iii. Minimizing the ~~physical separation~~ distance between building uses and encourage development densities that support alternative energy sources such as district energy systems; ~~and~~;
  - iv. Promoting residential building orientations and street design patterns that maximize passive solar gain;
  - v. Reducing the use of carbon-based fuels; and
  - vi. Minimize energy use through innovative site design and building orientation or stacking that addresses factors such as prevailing winds, landscape, sun-screens and sun-shade patterns.
- b. Encourage renewable energy use. Remove barriers restricting development and expansion of the use of district energy low-carbon heating and cooling systems, solar and other renewable sources that serve buildings or a broader district.
- c. Increase the uptake of local renewable energy production and technologies.
- d. Improve energy efficiency and reduce GHG emissions. Develop and adopt new and amended regulations, programs, and incentives as appropriate to implement the Municipal Development Plan and Calgary Transportation Plan goals and policies to:
- i. Create compact urban form and complete communities through sustainable design to encourage active transportation, reduce vehicular trips, and preserve open space;
  - ii. Plan for and support infill development;
  - iii. Reduce carbon emission levels by improving public transit, cycling infrastructure and encouraging active modes of transportation;
  - iv. Support the preservation, restoration, and utilization of natural infrastructure for its many benefits, including reducing the urban heat island effect, stormwater management, and carbon sequestration.

**Energy ~~and~~ efficient buildings**

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- e. ~~b.~~ Promote energy-efficient, “green” building design, techniques and practices for the construction and operation of all building types to reduce energy consumption and the use of non-renewable resources through sustainable site and building development.
- ~~e.~~ Strongly encourage the use of energy design and management systems such as LEED, Built Green, Go Green (or an equivalent rating system) to encourage energy efficiency in buildings.
- f. ~~d.~~ Eliminate barriers to energy efficient design practices.
- ~~e.~~ Encourage the design of buildings to be more adaptable over time for a variety of uses and to reduce energy costs related to demolition and waste disposal.
- ~~f.~~ Encourage the conversion and reuse of existing buildings.
- g. Promote mixed-use buildings to even out heat and power demand, increasing the viability for on-site energy supply.
- ~~h.~~ Support The City of Calgary’s Sustainable Building Policy to inform, support and promote sustainable building practices and benefits inside and outside the Corporation.
- h. ~~i.~~ Collaborate with partners and agencies in the transportation, energy industry and development and building fields to integrate energy efficiency into the planning, design and construction of buildings and neighbourhoods.
- ~~j.~~ Encourage the incorporation of micro energy systems, solar panels or similar on-site renewable energy production into new communities and developments, including solar panels and micro-wind.
- i. Encourage development that respects natural topography.
- j. Promote energy performance standards in new and existing buildings.

**Climate change risks and impacts**

- k. Reduce vulnerabilities and risks due to severe weather and long-term climate effects.

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- i. Encourage infrastructure design that can withstand climate change impacts;
- ii. Encourage development and land use patterns that reduce vulnerabilities to climate change impacts;
- iii. Discourage development in areas known to be vulnerable to the impacts of severe weather and natural hazards, such as steep slopes and floodplains, to minimize long-term risk to Calgarians and the community.
- l. Minimize disruption from extreme weather events by encouraging on-site backup power systems and emergency shelters within new buildings, and development of disaster management plans for buildings and communities.

**Climate resilient economy**

- m. Promote businesses that employ sustainable practices.
- n. Support a learning platform for sustainable production and consumption solutions to create green capital growth.

**Air quality**

- o. Integrate air quality considerations in planning and transportation decisions:
  - i. Employ strategies to improve air quality related to transportation, buildings, and industry including construction and waste management to reduce overall contributions to air pollution.
- p. Consider methodologies to integrate greenhouse gas (GHG) reduction potential into growth management decisions and transportation assessments.

**2.6.6 Waste****Objective** Reduce waste and improve waste management and resource recovery.~~Support The City's goals for waste reduction.~~

The City of Calgary aims to lead the community towards zero waste through a focus on reduction, reuse, and diversion (recycling and composting).

Waste generated by construction and demolition of buildings accounts for a significant portion of waste disposed in landfills. However, many of the materials in this waste can be recycled, including untreated wood, concrete, asphalt, drywall, metal, and cardboard. Diversion of construction and demolition waste is a collaborative effort between The City of Calgary and the

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private sector. In addition, sustainable design, building, and landscaping practices can help to reduce the waste generated in the first place and make use of reclaimed or reused materials.

Land use planning and development can support waste diversion by designing communities and buildings to incorporate sustainable building materials and facilitate waste collection services and community diversion programs.

~~The City's "80/20 by 2020 Waste Diversion Goal" states that by the year 2020 Calgary will be recycling 80 percent of its waste and the remaining 20 percent will be going to landfills. Today, the numbers are reversed, with 80 percent of waste going to landfills. The successful implementation of this Council goal will have a profound impact on the amount of waste going to The City's landfill sites.~~

**Policies**

- a. Encourage development that incorporates sustainable design, building, and landscaping practices to reduce waste and reuse materials, and lead the way with City buildings and facilities. This includes ~~planning and building practices by:~~
  - i. Deconstruction practices that emphasize reusing or recycling materials.
  - ii. Innovative approaches to reduce waste, such as adapting older buildings to avoid demolition waste.
  - iii. Designing new buildings for future repurposing.
    - ~~i. Encouraging the use of design practices that reduce construction waste in both Developing and Developed areas;~~
    - ~~ii. Utilizing best practices for building deconstruction with emphasis on recycling materials and material reuse; and,~~
    - ~~iii. Considering access points for the removal of waste and recycling friendly design elements in neighbourhoods, commercial and industrial areas.~~
- b. Protect the operational needs and manage the long-term liability associated with of landfills and recycling facilities by reducing conflicts with incompatible uses and managing residential/commercial/industrial interfaces. ~~by locating uses such as commercial, industrial and recreational between waste management facilities and incompatible uses (e.g., residential).~~
- c. ~~Encourage the use of landscaping practices that directly target the minimization of yard and garden waste.~~
- d. ~~Encourage the adaptation and reuse of older buildings for a variety of purposes, to reduce waste generated through building demolition.~~
- e. Require responsible diversion of recyclable waste from construction and demolition activities.

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- f. Provide safe and adequate space for waste collection and diversion bins, appropriate to the type of waste generated on site, at residences, businesses and organizations, and in public spaces.
- g. Provide safe and adequate access points and clearance for waste collection vehicles on City property and private parcels, including consideration for operational conditions (e.g., parked cars, snow), connectivity, and route design.

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## Part 3 – Typologies for Calgary’s future urban structure

### 3.1 Introduction

Calgary consists of distinct geographic and functional areas that share common attributes with other areas across the city. Similar land use patterns, road layout, age of the building and the stage within a community life cycle help to define an area in terms of its development form and how it functions. They also provide determinants of how the area might change and transform in the future. These broad geographic areas, defined as “Typologies” are shown on the Urban Structure Map (Map 1) and form the organization of this section. Typology-based policies supplement other policies contained elsewhere in the MDP by providing interpretation of broad, city-wide policies within the context of a specific area to help provide guidance to planning and development processes.

The Typologies are:

#### **Centre City**

#### **Activity Centres**

- Centre City
- Major Activity Centre
- Community Activity Centre
- Neighbourhood Activity Centre

#### **Main Streets**

- Urban Main Street
- Neighbourhood Main Street

#### **Developed Residential Areas**

- Inner City
- Established

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- Planned Greenfield
- Future Greenfield

**Industrial Areas**

- Standard Industrial
- Industrial–Employee Intensive
- Industrial Greenfield

**3.1.1 Implementation Guidebook and Local Area Plans**

Some Local Area Plans are intended to work in conjunction with ~~an~~ the Implementation Guidebooks. Some Typologies require a level of detailed investigation to clearly understand the local opportunities, constraints and impacts of the respective policies. In those cases, supplemental policies should be established within ~~an~~ the Implementation Guidebooks, or a Local Area Plan.

**Policies**

- a. An Implementation Guidebook and/or Local Area Plan should include, but not be limited to the following:
  - i. Definition of the study area.
  - ii. Public engagement to identify local character and community needs.
  - iii. Assessment of parks, **public spaces**, community facilities and service capacities.
  - iv. Assessment of infrastructure conditions and capacities.
  - v. Locations for intensification, transition and conservation.
  - vi. Land use diversity and development densities.
  - vii. Identification of the anticipated jobs and population for the total area and by Typology.

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- viii. Street types and locations, in accordance with the Complete Streets policies of the CTP.
- ix. Development phasing, staging and public investment.
- x. Other policies or context-specific guidelines as deemed appropriate.
- xi. Impacts of land uses and densities and the need for transition and interface with development in adjacent municipalities.

**3.2 Centre City**

Centre City is a vibrant and resilient destination for everyone. It is the business and cultural heart of the city and Calgary's pre-eminent mixed-use neighbourhoods and destinations. Centre City fulfills many functions. It should have: the city's highest concentration of jobs and office space; the broadest variety of cultural activities; and, high-density, mixed-use residential communities.

~~Centre City is the business and cultural heart of the city, the pre-eminent mixed-use area. The Centre City fulfills many functions. It has the largest employment concentration and is the location of highest density office developments; it offers the broadest variety of cultural activities and is an important high-density, mixed-use residential community. The Centre City is made up of diverse and unique "neighbourhoods" focused around the Downtown and includes Stampede Park. The Centre City is well-connected with the rest of the city by multiple routes of the Primary Transit Network and high-quality pedestrian connections within and beyond its boundaries.~~

**3.2.1 Centre City****Land use policies**

- a. Reinforce ~~the~~ Centre City as the ~~focus of~~ primary hub for business, employment, living, culture, recreation, ~~retail and entertainment and high density housing~~ within Calgary. This will be achieved by:
  - i. Supporting the Downtown ~~Core district~~ Core as the ~~location of choice for business and the largest~~ most concentrated employment centre in the city;
  - ii. Developing high-density residential and support services;



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- iii. ~~Encouraging a greater mix of cultural, recreation and leisure activities;~~  
Generating activity throughout the day and evening, 365 days a year;
  - iv. Investing in the development of the Primary Transit Network; ~~and,~~
  - v. Providing high-quality pedestrian and cycling connections within the Centre City and to communities, Activity Centres and Main Streets beyond its boundaries;
  - vi. Supporting economic vitality by embracing innovation and technology, and continuing to diversify into high-growth sectors;
  - vii. Putting pedestrians first and planning for the future of mobility;
  - viii. Connecting amenity-rich Centre City neighbourhoods with a vibrant public realm network;
  - ix. Supporting the vitality of the Rivers while protecting the built environment by adhering to a model of climate and infrastructure resilience which includes being future focused, innovative and prepared.
  - x. Supporting and enhancing its status as Calgary's destination for arts, culture, celebration and information exchange; and
  - xi. Creating and maintaining a caring, safe and inclusive environment for all.
- b. Plan to accommodate at least 232,000 jobs and 70,000 residents in ~~the~~ Centre City over the next 60 years. Local Area Plans in ~~the~~ Centre City should implement the framework as identified in ~~the Centre City appropriate~~ Guidebook(s) and establish individual densities and approximate job and population distributions.
  - c. Preserve existing public lands in ~~the~~ Centre City for civic and cultural facilities such as parks, museums, libraries and any other creative venues that will enliven it as a destination for residents, employees and visitors.
  - d. Support the location of major educational institutions and related uses in areas of ~~the~~ Centre City well served by the Primary Transit Network.
  - e. The land use policies of section 3.3.1, General Activity Centre shall apply to the Centre City

**Mobility policies**

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- f. Transportation planning and investment decisions in Centre City should align with the Centre City Mobility Plan.
- g. The mobility policies of section 3.3.1, General Activity Centre shall apply to the Centre City

**Public realm policies**

- h. The public realm policies of section 3.3.1, General Activity Centre shall apply to the Centre City
- i. ~~The Centre City Plan will guide public realm improvements in Centre City.~~

**3.3 Activity Centres**

Accommodating future urban growth within transit-supportive, mixed-use Activity Centres is a fundamental strategy for linking land use and transit. Currently, Calgary's primary Activity Centre is the Centre City, including Downtown. Recognizing that the Downtown and the even larger Centre City will reach their capacity over time, it is necessary to identify and plan for other strategic activity centres, including MACs, CACs and NAC's, areas that will support long-term employment and population growth in locations and at intensities that will support the Primary Transit Network.

Four ~~Three~~ scales of Activity Centres are identified based on the level and type of transit service, the expected level of intensity (density of jobs and population) and their citywide location and local context. The ~~four~~ ~~three~~ Activity Centre types identified from largest to smallest are:

**Centre City**

Centre City is a vibrant and resilient destination for everyone. It is the business and cultural heart of the city and Calgary's pre-eminent mixed-use neighbourhoods and destinations. Centre City fulfills many functions. It should have: the city's highest concentration of jobs and office space; the broadest variety of cultural activities; and, high-density, mixed-use residential communities.

**Major Activity Centres**

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Major Activity Centres (MAC) are located strategically across the city to provide a major mixed-use destination central to larger residential or business catchment areas. They are located along one or more of the proposed Primary Transit Network routes, and contain one or more transit stations or stops, **with a transit-oriented development pattern**. The MAC builds upon existing concentrations of jobs and/or population and has a sufficient land area to provide a high number of jobs and population to support the highest levels of transit service. MACs will have the highest density and building heights outside of Centre City, with the broadest range of land uses.

**Community Activity Centres**

Community Activity Centres (CAC) are located central to a number of residential communities or business areas, on a moderately sized land base, often on current shopping centre sites or around a specific employment area. CACs may be located at transit stations or stops on the Primary Transit Network. ~~The smaller land base, or location relative to communities and transportation networks, may limit intensification opportunities, although they could add sufficient residential and employment uses to support higher levels of transit service.~~ CACs will accommodate a broad mix of uses but, generally, at lower intensity levels than the MACs.

**Neighbourhood Activity Centres**

Neighbourhood Activity Centres (NAC) exist primarily within the developed areas of the city (1950s to 1990s communities) in the form of smaller commercial sites, strip malls or redeveloping public facilities. They are located central to a small residential catchment area and provide walkable destinations for local communities. NACs are typically served by a base level of transit service, though some may be located along the Primary Transit Network. NACs are appropriate sites to accommodate moderate intensification over time, with uses and development scales appropriate to the local context and community needs. NACs will also be an important part of new community designs. They will be locations for medium density housing (e.g., ground oriented to medium density apartments), local retail and services, community facilities and integrated transit stops.

**Centre City**, MACs and CACs are identified on Map 1. However, others, especially in the greenfield areas, could be located and defined as part of a Regional Context Study (RCS) process **or in absence of an RCS, the Area Structure Plan (ASP) process may be considered**. The intensity for each Activity Centre, level of transit service and typical land uses are shown in Table 3-1.

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The following policies apply to all scales of Activity Centres and are general in nature. Policies that are unique to specific activity centre types (**Centre City**, MAC, CAC and NAC) are included below in this Section.

Activity Centre	Intensity (jobs and population per gross developable hectare)*	Transit Service	Typical Key Uses
Major	200 (minimum)	One or more Primary Transit stations	One or more major institutional uses, business and employment, high and medium density residential, retail and supporting services
Community	150 (minimum)	Primary Transit station	Institutional use (opt), retail centre, medium and high density residential, business and employment
Neighbourhood	100 (minimum)	Primary Transit station or Transit stop	Local retail and local services, medium density residential

\* Intensities for each specific Activity Centre will be determined through Local Area Plans and/or Implementation Guidebooks in consideration of land available for development, community context, and the opportunities to optimize infrastructure and public investment. **Bylaw 46P2013**

**Table 3-1: Summary of Activity Centre Characteristics**

**Land use policies**

- a. Activity Centres should be locations for a mix of medium and higher density employment and residential uses.
- b. Uses such as retail, recreation facilities, sport, cultural facilities, open space and community and protective services that support concentrations of jobs and population are encouraged.
- c. The scale of retail appropriate to each Activity Centre should be determined in consideration of the retail policies in Part 4 of the MDP.
- d. Within mixed-use areas, encourage retail and service uses at grade, with residential and office uses on upper floors.
- e. Where a site fronts more than one street, public entrances should be located on the street with the greatest pedestrian activity, on both street fronts, or, in the case of a corner site, the entrance may be placed on the corner.
- f. Larger buildings should be designed to reduce their apparent size by the recession of upper floors to harmonize with the lower scale of the surrounding neighbourhood.

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- g. City-owned land within an Activity Centre should be developed to support the land use and development objectives of that Activity Centre.
- h. Appropriate transition of building scale between the Activity Centre and adjacent areas should be provided. These transitions should be sensitive to the scale, form and character of surrounding areas.

**Mobility policies**

- i. Pedestrian environments should be the priority design element, focusing on pedestrian convenience, safety, comfort and enjoyment.
- j. Create an internal street network that is interconnected, multi-modal and recognizes the needs of all users, in accordance with the Local Transportation Connectivity policies of the CTP.
- k. Facilitate movement, loading and unloading of delivery vehicles throughout the Activity Centre.
- l. Transit facility designs should accommodate efficient transit access, comfortable passenger waiting areas and safe, direct and unobstructed routes for pedestrians and cyclists.
- m. When designing new streets or retrofitting existing streets, use the Complete Streets policies and guidelines of the CTP.
- n. Establish connections between the Activity Centre and the surrounding communities to encourage pedestrian and cyclist movement.
- o. Parking impacts on surrounding residential areas should be limited by providing a mix of short-stay and longer-stay parking for different users, bicycle parking and on-street parking.
- p. Convenient and high quality parking locations should be provided for bicycles, carpool and car-sharing vehicles, and vehicles with environmental benefits.

**Public realm policies**

- q. Design transit facilities as public “places” that are a focal point within the Activity Centre.
- r. Urban design should be used to ensure that the intensification of land use occurs in a sensitive manner and that new buildings contribute to a pedestrian-friendly streetscape with the following characteristics:
  - i. Reduced building setbacks from public sidewalks.

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- ii. Where appropriate, existing setbacks should be used to enhance the pedestrian interface (e.g., street furniture, landscaping, street trees, pedestrian level street lighting, wide sidewalks, etc.).
- s. In addition to the Urban Design policies contained in Part 2.4 of the MDP, apply the following design policies to the Activity Centre:
  - i. Establish a local identity for each Activity Centre; and,
  - ii. Provide social spaces that provide for a comfortable and interesting public realm.

**3.3.2 Major Activity Centres**

Major Activity Centres (MACs) provide for the highest concentration of jobs and population outside of the Centre City area. In addition to achieving higher concentrations of jobs and population, the design and character of the MACs must also create a high-quality environment that features amenities for a comfortable street environment.

**Land use policies**

- a. The MACs are those shown on Map 1.
- b. Local Area Plans for a MAC should provide a land use framework to achieve a minimum intensity threshold of 200 jobs and population per gross developable hectare. Individual MAC densities and the approximate jobs and population distributions will be established through a Local Area Plan or within an Implementation Guidebook.
- c. Future MACs in Future Greenfield areas will be identified through the Regional Context Study (RCS) process **or in absence of an RCS, the Area Structure Plan (ASP) process may be considered.** Future MACs should be located to align with the Primary Transit Network and major road system. Specific land use and open space patterns, local mobility networks and urban design details should be developed through an ASP that includes the entire area of the future MAC.
- d. MACs should be developed to function as an “urban centre” for a sub-region of the city and provide opportunities for people to work, live, shop, recreate, be entertained and meet their daily needs.
- e. Each MAC should provide locations for high intensity jobs as part of institutional growth and/or mixed-use business centres.

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- f. Each MAC should contain a broad range of medium and high density housing opportunities and a mix of housing tenure and affordability levels to accommodate a diverse range and age of population.
- g. Large format retail that provides services to residents and employees within the MAC and surrounding communities, should be located at the edge of a MAC and designed ~~with an appropriate pedestrian friendly design~~ using Large Retail/Commercial Urban Design Guidelines.
- h. Open spaces that provide for a wide variety of activities within a medium to high density environment are encouraged. This will include the creation of public plazas and key gathering areas. Large sports fields may be appropriate, although they should be located at the edges of the MAC.

**Mobility policies**

- i. Vehicle parking should be located, accessed and designed so as to minimize impacts on transit and pedestrian areas within the MAC. Smaller surface parking lots may be accommodated at peripheral locations away from the transit facility and pedestrian precincts, or located at the rear of buildings. Vehicle parking should ultimately be contained within structured facilities or underground

**3.3.3 Community Activity Centres**

Community Activity Centres (CACs) provide for a concentration of jobs and population in strategic locations throughout the city, and represent a local destination for multiple communities. They provide an opportunity to accommodate significant numbers of workers and residents in centres that are well served by public transit. The design and character of each CAC must ensure a high-quality environment that features amenities to create a comfortable environment that accommodates pedestrians and cyclists and makes the CAC a desirable place for workers, residents and businesses to locate. Because CACs are often located at existing retail sites, retail is an important element to be retained. CACs are also appropriate within new greenfield areas to provide convenient locations for a range of higher density housing types, local employment and retail services to new communities, in an area well served by the Primary Transit Network.

**Land use policies**

- a. The CACs are those shown on Map 1.

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- b. Local Area Plans for a CAC should provide a land use framework to achieve a minimum intensity threshold of 150 jobs and population per gross developable hectare. Individual CAC densities and the appropriate job and population distributions will be established through a Local Area Plan or within an Implementation Guidebook.
- c. Future CACs in Future Greenfield areas will be identified through the **Area Structure Plan (ASP) process and/or** Regional Context Study process **if required** and located to align with the Primary Transit Network and major road system. Specific land use and open space patterns, local mobility networks and urban design details should be developed through an ASP that includes the entire area of the future CAC.
- d. Recognize that most CACs are existing commercial developments and should continue to provide a significant level of retail service.
- e. CACs should contain a broad range of ground oriented and medium to high density apartment housing and a mix of housing tenure and affordability levels to accommodate a diverse range of the population.

**Mobility policies**

- f. Support the development of CACs with timely investment in the Primary Transit Network.
- g. Facilitate the circulation of transit into the centre of each CAC, providing connections to the Primary Transit Network and surrounding communities.
- h. Vehicle parking should be located, accessed and designed so as to minimize impacts on transit and pedestrian areas within the CAC. Smaller surface parking lots may be accommodated at peripheral locations away from the transit facility and pedestrian precincts, or located at the rear of buildings. Vehicle parking should ultimately be contained within structured facilities or underground.

**3.3.4 Neighbourhood Activity Centres**

The Neighbourhood Activity Centre (NAC) is a neighbourhood-scale centre providing opportunities for residential intensification and local jobs, retail, services and civic activities. NACs exist either in older residential communities or within new communities. Within the Developed Areas, a NAC typically would develop on those smaller commercial sites that are not identified as either MACs or CACs on Map 1. Smaller commercial sites located throughout established areas have the potential to provide a diverse mix of uses that fit with the scale and character of the surrounding neighbourhood. Because many residential communities where



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NACs exist do not have potential for significant intensification, smaller commercial sites provide a good opportunity for moderate mixed-use intensification and new housing forms not available within the community. In new communities, there would be similar opportunities for NACs, which should be planned at the outset through the ASP process.

**Land use policies**

- a. Development of NACs should achieve a minimum intensity threshold of 100 jobs and population per gross developable hectare. Specific NAC intensities will be established based upon the local context, site size and available infrastructure, as determined through a Local Area Plan, an Implementation Guidebook, land use amendment or comprehensive development permit process.
- b. NACs should contain a broad range of ground oriented and low-density apartment housing and a mix of housing tenure and affordability to accommodate a diverse range of the population.
- c. NACs should include a mix of uses and retain retail services for the local community.
- d. Encourage the creation of a public gathering space within each NAC.
- e. Auto-oriented uses and designs that generate high volumes of traffic, consume large amounts of land in a low density form, require extensive surface parking, and create negative impacts for pedestrian travel and access should be discouraged.

**Mobility policies**

- f. Where a NAC is in close proximity to a MAC or CAC and a street connection exists between them, ensure there is good pedestrian and cyclist infrastructure within that street.
- g. To slow vehicular traffic and enhance the pedestrian environment, consider measures such as traffic calming and off-peak parking on the street.

**3.4 Main Streets**

Main Streets share many of the same attributes as Activity Centres, but are linear in nature, and oriented along a street served by the Primary Transit Network. Main Street development has historically formed along street car lines and then auto-oriented roadways.

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That same right-of-way now provides the opportunity to re-integrate adjacent land uses within a transit oriented street framework. Since Main Streets provide for the mobility needs of local and regional automobile commuters and border multiple residential communities, the land use and transportation system should be designed to include many different travel modes. Two scales of Main Streets are identified, with specific policies to each:

- Urban Main Street
- Neighbourhood Main Street

### 3.4.1 General Main Street policies

The following policies apply to all Main Streets and are general in nature. Policies that are unique to specific Main Street type (Urban or Neighbourhood Main Street) are provided below.

- a. Main Streets should provide for a broad mix of residential, employment and retail uses.
- b. The highest densities and tallest buildings on the Main Street should be concentrated into “nodes” that occur at the intersections of the Main Street with other major transit streets or any Future Comprehensive Plan Area identified through a local area planning process. Between the nodes and any Future Comprehensive Plan Area, lower scales of ~~commercial, residential and mixed-use~~ development are appropriate.
- c. Commercial development along the Main Street should be oriented to the transit street and public sidewalk.

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<i>Main Street</i>	<i>Intensity (jobs and population per hectare*)</i>	<i>Transit Service</i>	<i>Typical Key Uses</i>	<i>Street Type (See CTP)</i>
Urban	200 (minimum)	Located on Primary Transit Network	Retail, Office, Mixed-use buildings, medium and high density residential	Urban Boulevard, support for multiple modes
Neighbourhood	100 (minimum)	Located on Primary Transit Network	Low to medium density residential, retail, mixed-use buildings	Neighbourhood Boulevard, support for multiple modes

\* Intensities for each specific Main Streets will be determined through Local Area Plans and/or Implementation Guidebooks in consideration of land available for development, community context, and the opportunities to optimize infrastructure and public investment.

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Table 3-2: Summary of Main Street Characteristics

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- d. Develop an active street environment by encouraging retail and service uses at-grade with residential and office uses on upper floors along the Main Street core areas, with grade oriented residential uses in other areas.
- e. Recognizing that the Main Street is pedestrian and transit oriented, large format retail should support a good pedestrian frontage along the transit street and public sidewalk by:
  - i. Locating buildings close to the transit street and sidewalk.
  - ii. Creating active building frontages by incorporating smaller retail units, public accesses and display areas visible to the sidewalk.
- f. On corner sites, buildings should be placed adjacent to streets wherever possible to create defined street edges.
- g. Retail buildings should provide front-door openings facing the transit street and principal public areas.
- h. Appropriate transition of building scale between developments in the Main Street and adjacent areas should be provided. These transitions should be sensitive to the scale, form and character of the surrounding buildings and uses.

**Mobility policies**

- i. When designing new streets or retrofitting existing streets within the Main Street, use the Complete Streets policies and guidelines in the CTP.

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- j. Make pedestrian connections to the Main Street from adjacent communities. These connections should occur primarily within streets that will facilitate good pedestrian and cyclist movement.
- k. The impact on surrounding residential areas should be limited by providing a mix of short-stay and longer-stay parking for different users, bicycle parking and on-street parking.
- l. Pedestrians and cyclists should be given the highest priority in the planning, design, operation and maintenance of transportation infrastructure in Main Streets.
- m. A strong pedestrian environment should be created along the transit corridor by discouraging on-site parking in front of the building and providing parking alternatives on street, and to the side and rear of buildings.
- n. Priority and high-quality parking locations should be provided for bicycles, carpool and car-sharing vehicles, and vehicles with low environmental impacts.
- o. Driveway access to parcels fronting onto Main Streets should be consolidated and new accesses minimized to provide a continuous building façade and safer pedestrian zone.
- p. Site layout, vehicular circulation and loading zones should be planned to minimize the impact of vehicles on the pedestrian realm.

**Public realm policies**

- q. Create a human-scale environment along the Main Street by generally encouraging a maximum of a 1:1 **street wall height of the building height** to right-of-way width ratio. Additional height should be considered through a Local Area Plan.
- r. For Main Streets that run east-west, building heights should be designed to allow solar penetration through the block and reduce shadows cast onto public sidewalks on the north side of the street. Where practical, encourage taller buildings to locate on the north side of the Main Street.
- s. For Main Streets that run east-west, south facing public open spaces and plazas should be incorporated in the buildings fronting the north side of the Main Street.
- t. Public investment in key elements of the public realm should be provided to support intensification along Main Streets.
- u. Urban design should be used to ensure that the intensification of land use occurs in a sensitive manner and that new buildings contribute to a pedestrian-friendly streetscape with the following characteristics:
  - i. Reduced building setbacks from public sidewalks; and

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- ii. Where appropriate, existing setbacks should be used to enhance the pedestrian interface (e.g., street furniture, landscaping, street trees, pedestrian level street lighting, wider sidewalks, etc.).

**3.4.2 Urban Main Streets**

Urban Main Streets provide for a high level of residential and employment intensification along an Urban Boulevard street type, as defined in the CTP. The Urban Boulevard is a multi-modal street with a strong focus on walking, cycling and transit, though it continues to accommodate moderately high traffic volume. Urban Main Streets emphasize a walkable pedestrian environment fronted by a mix of higher intensity residential and business uses.

**Land use policies**

- a. The Urban Main Streets are those shown on Map 1.
- b. Additional Urban Main Streets may develop over time as the role and function of some streets change. New Urban Main Streets will be identified through an amendment to the MDP.
- c. Local Area Plans for an Urban Main Street should provide a land use framework to achieve a minimum intensity threshold of 200 jobs and population per gross developable hectare. Individual Urban Main Street densities and appropriate job and population distributions will be established through a Local Area Plan or within an Implementation Guidebook.
- d. The Local Area Plan study area for an Urban Main Street should include all land fronting directly onto the Urban Boulevard, and extend back at least one block on either side, potentially extending along intersecting streets. The highest development densities are to be located on lands directly fronting onto the Urban Boulevard and any Future Comprehensive Plan Area identified through a local area planning process, stepping down to provide transition with lower scale buildings, as defined in Part 3 - Typologies for Calgary's future urban structure.
- e. The Urban Main Street should contain a broad range of employment, commercial and retail uses as well as housing (form, tenure, and affordability) to accommodate a diverse range of the population. Apartments, mixed-use developments and ground oriented housing are encouraged.

**Mobility policies**

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- f. Provide transit service along the Urban Main Street via the Primary Transit Network. Development adjacent to transit stops should locate entrances and provide features that make it safe and convenient for transit users.
- g. The Urban Main Street should generally coincide with the Urban Boulevard street type as defined in the CTP.

### 3.4.3 Neighbourhood Main Streets

Neighbourhood Main Streets typically are located along Primary Transit Network within the Inner City and have a strong historical connection to the communities they abut. They are the “main streets” for one or more communities, providing a strong social function and typically support a mix of uses within a pedestrian-friendly environment. Some areas have a more **regional city-wide** draw because of the unique uses present or the quality of the environment, while others serve a more local population base. Neighbourhood Main Streets provide the opportunity for moderate levels of intensification of both jobs and population over time. To support this increased activity, the Neighbourhood Main Street should be served by the Primary Transit Network. Neighbourhood Main Streets are also appropriate in greenfield communities as places to focus different housing types and densities and create local destinations adjacent to transit streets.

#### Land use policies

- a. The Neighbourhood Main Streets are those shown on Map 1.
- b. Opportunities for additional Neighbourhood Main Streets will be identified through an amendment to Map 1.
- c. Local Area Plans for a Neighbourhood Main Street should provide a land use framework to achieve a minimum intensity threshold of 100 jobs and population per gross developable hectare. Individual Neighbourhood Main Street densities and the appropriate job and population distributions will be established through a Local Area Plan or within an Implementation Guidebook.
- d. For Neighbourhood Main Streets that have no Local Area Plans, areas for significant intensification should include those parcels that front directly onto the proposed Neighbourhood Boulevard (as defined in the CTP).
- e. Encourage ground-oriented housing, low-scale apartments and mixed-use retail buildings within the Neighbourhood Main Street, with the highest densities occurring in close proximity to transit stops and in locations where they merge with Activity

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- Centres, other Main Streets and any Future Comprehensive Plan Area identified through a local area planning process.
- f. An appropriate transition between the Neighbourhood Main Street and the adjacent residential areas is required. Transition should generally occur at a rear lane or public street. These transitions should be sensitive to the scale, form and character of surrounding areas, while still creating opportunities to enhance the connectivity with the community.
  - g. Auto-oriented uses and designs that generate high volumes of traffic, consume large amounts of land in a low density form, require extensive surface parking, drive-thrus or create negative impacts for pedestrian travel and access should be discouraged.

**Mobility policies**

- h. The Neighbourhood Main Street should generally coincide with a Neighbourhood Boulevard street type.

**3.5 Developed Residential Areas**

Developed Residential Areas defined on Map 1 include those communities that have been built out and are at various stages of their life cycle, either as stable residential communities or those experiencing moderate redevelopment activity. Two types of Developed Residential Areas are identified – Inner City Area and Established Areas.

**3.5.1 General – Developed Residential Area****Policies**

The following policies apply to all Developed Residential Areas and are general in nature. Policies that are unique to the Inner City Area and the Established Area follow after this section.

**Land use policies**

- a. Recognize the predominantly ~~low-density~~, residential nature of Developed Residential Areas and support retention of housing stock, or ~~moderate~~-intensification in a form and nature that respects the scale and character of the neighbourhood.

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- Local commercial development within residential areas, that is of a scale and intensity that supports residents' commercial needs is supported.**
- b. Redevelopment within predominantly multi-family areas should be compatible with the established pattern of development and will consider the following elements:
    - i. Appropriate transitions between adjacent areas.
    - ii. A variety of multi-family housing types to meet the diverse needs of present and future populations.
  - c. Redevelopment should support the revitalization of local communities by adding population and a mix of commercial and service uses.

**Mobility policies**

- d. For multi-family housing, encourage parking that is well integrated into the residential environment (e.g., consider landscape buffering, smaller lots).
- e. When designing new streets or retrofitting existing streets, use the Complete Streets policies in the CTP.
- f. Ensure that high-quality pedestrian and cyclist connections and facilities are provided from the Developed Residential Area and linked to adjacent areas of higher intensity development (i.e., Neighbourhood Main Streets and Neighbourhood Activity Centres).
- g. Areas beyond the Primary Transit Network will be served with Base Transit Service, with opportunities for enhancing frequency of service as required.

**3.5.2 Inner City Area**

The Inner City Area comprises residential communities that were primarily subdivided and developed prior to the 1950s. Key features of these areas are a grid road network, older housing stock in the form of low to moderate housing densities and a finer mix of land uses along many of the edge streets. The Inner City Area has undergone redevelopment in recent years. Much of this intensification has taken place along busier roads and as low density infilling within lower density areas. Intensification and change will continue to occur within the Inner City Area; however, it is important to maintain stable family neighbourhoods.

**Land use policies**



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- a. Sites within the Inner City Area may intensify, particularly in transition zones adjacent to areas designated for higher density (i.e., Neighbourhood Main Street), or if the intensification is consistent and compatible with the existing character of the neighbourhood. Transition zones should be identified through a subsequent planning study.
- b. A range of intensification strategies should be employed to modestly intensify the Inner City Area, from parcel-by-parcel intensification to larger more comprehensive approaches at the block level or larger area.
- c. Maintain and expand, where warranted by increased population, local commercial development that provides retail and service uses in close proximity to residents, especially in the highest density locations.
- d. Buildings should maximize front door access to the street and principal public areas to encourage pedestrian activity.
- e. Encourage at-grade retail to provide continuous, active, transparent edges to all streets and public spaces.

**Mobility policies**

- f. Transit stops should be easily accessible and, where possible, integrated with adjacent multi-family residential or retail buildings.

**3.5.3 Established Areas**

The Established Area comprises residential communities that were planned and developed between the 1950s and 1990s. They are primarily residential communities containing a mix of low- and medium-density housing with support retail in relatively close proximity. The road network is a blend of modified-grid and curvilinear. These are stable residential communities with limited redevelopment potential over the next 30 years. Populations have declined from their peak and housing stock is generally in good condition.

**Land use policies**

- a. Encourage modest redevelopment of Established Areas.
- b. Redevelopment opportunities should be focused on the Neighbourhood Activity Centres, though changes to other sites may provide opportunities for redevelopment over time.

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- c. New developments in Established Areas should incorporate appropriate densities, a mix of land uses and a pedestrian-friendly environment to support an enhanced Base or Primary Transit Network.

**Mobility policies**

- d. Provide opportunities to increase pedestrian, cycling and emergency services connectivity when redevelopment occurs where community support exists.
- e. Transit stops should be easily accessible and, where possible, integrated with adjacent multi-family residential or retail buildings.

**3.6 Developing Residential Communities**

Developing Residential Areas include those communities that have an ASP completed and are in the process of developing and future growth areas that have not had an ASP approved. Two types of Developing Residential Areas are identified – Planned Greenfield Communities and Future Greenfield Communities.

**3.6.1 Planned Greenfield Communities**

Planned Greenfield Areas comprise residential communities that have been planned since the 1990s and are still being developed. Many of these communities were subject to the Sustainable Suburbs Study that was created in the mid-1990s and proposed greater community densities and mix of residential and commercial uses than communities built in the 1970s and 1980s. Typically, they are characterized as relatively low-density residential neighbourhoods containing single-family housing, smaller pockets of multi-family and locally-oriented retail in the form of strip developments located at the edges of communities. The road network is curvilinear, with a hierarchical streets system, including major collectors that circulate through a community with local crescents, p-loops and cul-de-sac feeding off of it. Transit service to most areas is provided from the internal collector roadway.

**Land use policies**

- a. The ASPs for Planned Greenfield Areas, in existence prior to adoption of the MDP, are recognized as appropriate policies to provide specific direction for development

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of the local community. Future reviews of, and amendments to, ASPs will be required to align with the policies of the MDP.

### 3.6.2 Future Greenfield Area

Future Greenfield Areas are those large land areas in the city identified for future urban development that do not have an approved ASP in place. Planning for these areas should identify Activity Centres and Main Streets that provide for a variety of housing types, opportunities for daily needs within walking distance to residential communities, and centres for transit access. Supporting the land use pattern is a street network that connects residents, jobs and commercial services through direct automobile, transit, bicycle, and pedestrian routes. The overall community design should integrate natural area protection within the open space and ~~natural green~~ infrastructure systems.

#### Land use policies

- a. Future Greenfield Areas should:
  - i. Be protected for future urban development by restricting premature subdivision and development on parcels.
  - ii. Retain environmentally significant natural areas, water courses and tree stands.
  - iii. Allow for a limited range of uses that will not compromise the developability of the land for urban purposes.
  - iv. Allow for local food production.
- b. Plans for new communities in Future Greenfield Areas will be established through an Area Structure Plan (ASP), and may require completion of a Regional Context Study (RCS).
- c. ASPs for new communities in Future Greenfield Areas will achieve a minimum intensity threshold of 60 people and jobs per gross developable hectare. This community intensity level includes NACs, CACs, Urban Main Streets and Neighbourhood Main Streets, as identified in the ASP. ASPs must also demonstrate how a target density of 70 people and jobs per gross developable hectare can be achieved over the life of the plan.

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In addition to the intensity threshold, other factors should be considered in the development of an ASP. These include:

- i. minimum residential density in conformity with the Calgary Metropolitan Growth Board Plan.
  - ii. land use diversity.
  - iii. residential diversity.
  - iv. accessibility to the Primary Transit Network.
  - v. street and walk/cycle connectivity.
  - vi. ecological networks and ~~green~~ natural infrastructure.
  - vii. mix of local and regional retail.
- d. New communities should be organized to include the following:
- i. A number of distinct neighbourhoods that are defined by a 400-metre or five-minute walking distance from a NAC or Neighbourhood Main Street.
  - ii. A physical combination of public realm and related built form that establishes a “heart” or focus for the community.
  - iii. A NAC or Neighbourhood Main Street to serve each neighbourhood that contains multi-family housing and an enhanced transit stop, and may contain local employment, retail services or a school.
  - iv. A CAC may be provided to serve the needs of one or more communities. The location and scale of the CAC may be determined through the RCS and and/or ASP processes.
  - v. Retail developments should be planned in accordance with the retail policies contained within Part 4.
- e. NACs or Neighbourhood Main Streets should be identified through the ASP process and appropriately separated from higher order Activity Centres or Main Streets.
- f. Encourage the concentration of residential density in areas adjacent to open space, parks, wetlands and sports fields, especially where the area is served by transit, services and other community amenities. These locations should be identified through the ASP process.
- g. Create a hierarchy of recreation facilities and parks and open spaces that accommodate as many recreation functions as possible, appealing to a range of users, age groups and abilities (See Section 2.3).
- h. New communities and neighbourhoods should be designed and have a built form that allows for adaptation, which can evolve and be reused over time.

**Mobility policies**

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- i. Create a street network that is interconnected, multi-modal, and balances the needs of all users, in accordance with the Local Transportation Connectivity policies of the CTP.
- j. When designing new streets or retrofitting existing streets, use the Complete Streets policies in the CTP.
- k. Facilitate the movement of cyclists by providing direct connections to the Primary Cycling Network.
- l. Existing rural road rights-of-way in Future Greenfield Areas should be protected for potential incorporation into the future transportation network, as required.

**Public realm policies**

- m. Activity Centres should contain locally-focused open spaces, which can include community and city-wide services and amenities such as schools, community association facilities, civic buildings, transit and recreation facilities.
- n. Watercourses, significant wetlands and other key natural features should be prioritized for protection and integrated into the public open space and ~~natural~~ ~~green~~ infrastructure networks.
- o. Parks and recreation facilities, sport and cultural facilities should be located throughout the community in walkable proximity to all residences and designed to provide for flexibility of recreation uses over the lifecycle of the community.

**3.7 Industrial Areas**

Industrial areas contribute to a strong and prosperous economy for Calgary, and should be maintained as a major economic driver for the City. Calgary is a transportation and logistics hub and is recognized as an inland port. Industrial development and land supply in proximity to regional, national and international transportation networks, such as the Calgary International Airport, intermodal freight yards, distribution centres and national and provincial highways connect Calgary with regional, national and international markets. These links must be maintained and protected. Industrial areas should ~~provide~~ allow for a diverse and balanced mix ~~for a broad variety~~ of industrial uses and intensities ~~that support business in Calgary. Industrial areas~~ and must offer flexibility to ~~respond to the changing nature of industrial activities.~~ ~~support this variety of uses—both those that currently exist as well as uses that may arrive in the future.~~

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At the same time, industrial areas should ~~must~~ remain predominantly industrial and resist the encroachment of non-industrial uses into them, including residential, office and retail. Three types of industrial typologies are identified – Standard Industrial, Industrial – Employee Intensive and Greenfield Industrial. The Standard Industrial Area policies provide a base layer of policy that will apply to all industrial areas throughout Calgary whereas the ~~Additional policy for industrial areas is contained within the~~ Industrial – Employee Intensive typology provides specific policy for Industrial areas designed to attract high labour concentrations. ~~and The Industrial Greenfield sections~~ outlines policies for future industrial areas.

**3.7.1 Standard Industrial Area**

The Standard Industrial Area consists of existing planned industrial areas that contain a mix of industrial uses at varying intensities. These areas ~~continue to offer~~ are intended to allow for a broad variety of industrial uses and as the area redevelops, the industrial character should be maintained.

**Land use policies**

- a. Industrial uses should be maintained as ~~continue to be~~ the primary use.
- b. Allow for the development and retention of a broad range of industrial uses and a variety of industrial parcel sizes.
- c. Only uses that support the industrial function of this area and cater to the day-to-day needs of area businesses and their employees may be supported.
- d. Discourage uses such as stand-alone office use, ~~s and~~ regional retail developments, places of worship and residential uses in industrial areas.
- e. Regional or city-wide recreation and sport facilities may be ~~provided~~ located in industrial areas to meet the extensive land needs of city-wide recreation and sport programs. Ensuring minimal conflict for goods movement, these facilities should be designed and located to be accessible to transit routes, cycling routes and pathways.
- f. Portions of the Standard Industrial Areas may be appropriate for redevelopment as non-industrial or mixed-residential business areas, ~~given their~~ if they are within close proximity to existing residential communities and the Primary Transit Network. Any proposal for such a change ~~will~~ requires an amendment to the relevant Local Area Plans or, if there is no Local Area Plan, an amendment to the MDP to indicate the area is no longer required for Standard Industrial Area purposes.
- g. Encourage the development of eco-industrial/ business parks, characterized by:

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- i. Water flows designed to conserve resources and on-site stormwater management that cascades water through uses at different quality levels;
- ii. Businesses that utilize clean production methods;
- iii. Businesses that have reduced energy needs and consumption;
- iv. Maximum energy efficiency through facility design or rehabilitation, co-generation, energy cascading and other means; and,
- v. **Encourage progressive environmental-best practices for sustainable development and -in** materials selection. ~~-and building technology-  
These include recycling or reuse of materials and consideration of life cycle environmental implications of materials and technologies.~~

**Mobility policies**

- g. The road network should support the efficient movement of trucks, goods and services throughout the Standard Industrial Area.
- h. Street networks should be designed to allow Base **or Primary** Transit Service and **that will** provide sufficient coverage to support the **transportation** access needs of area businesses and their employees.
- i. Convenient connections and accessibility should be achieved within industrial areas, as per the Local Transportation Connectivity policies in the CTP.
- j. Streets **and sidewalks** that provide **safe and** direct connections to transit services **and** should provide ~~facilities and~~ amenities for pedestrians, cyclists and transit.
- k. When designing new streets or retrofitting existing streets, use the Complete Streets policies in the CTP.
- l. New intermodal sites and warehousing facilities should develop within 1600 metres of the Strategic Goods Movement Network ~~(see the CTP).~~
- m. Protect the integrity of primary goods movement corridors by limiting direct access from truck routes to adjacent properties.
- n. Sidewalks should be provided to **ensure safe and friendly pedestrian** connections to ~~transit stops~~ major businesses **within the immediate industrial area and to -in-** the surrounding ~~industrial~~ areas.
- o. Transit waiting facilities should be provided in public rights-of-way or, where possible, integrated with adjacent industrial or commercial developments.

**Public realm policies**

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- p. In cases where the Standard Industrial Area interfaces with other types of land uses and public rights-of way, provide street trees, landscaping, fencing and architectural elements for sites that are highly visible to the public from skeletal roads, and along the city's major entranceways.
- q. Development or redevelopment of industrial sites should provide for ~~good~~-safe, attractive and connected walking environments within the site and to adjacent public sidewalks, open spaces and transit stops.
- r. Public open space should be provided where possible throughout the Standard Industrial Areas to provide outdoor recreational opportunities and spaces for area employees

**3.7.2 Industrial-Employee Intensive**

The Industrial-Employee Intensive Area is intended for manufacturing, warehousing and mixed industrial/office developments that have high labour concentrations and require access to the Primary Transit Network. They can be new business parks locating in newly planned areas (i.e., Greenfield Industrial typology), or they could also occur as part of redevelopment and intensification of the Standard Industrial Areas, at transit stops and along corridors served by the Primary Transit Network.

**Land use policies**

- a. Industrial-Employee Intensive Areas should achieve a minimum intensity threshold of 100 jobs per gross developable hectare.
- b. Industrial-Employee Intensive Area should contain predominantly industrial uses. ~~Other uses that support the industrial function may be allowed. Specific rules for the amount of support uses should be determined as part of the policy planning process and land use application process.~~
- c. Only uses that support the industrial function of this area and cater to the day-to-day needs of area businesses and their employees may be supported, such as standalone office or commercial uses, residential uses may be considered. Support uses should be evaluated based on locational criteria (to be determined).

**Mobility policies**



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- d. Ensure that the Industrial-Employee Intensive Area is served by the Primary Transit Network.
- e. Streets that provide direct connections to higher order transit services should provide amenities for pedestrians, cyclists and transit.
- f. Roads and streets within Industrial-Employee Intensive Areas should provide for the efficient movement of goods.
- g. When designing new streets or retrofitting existing streets, use the Complete Streets policies in the CTP.
- h. Sidewalks should be provided along all streets to connect businesses with the Primary Transit Network.

**Public realm policies**

- i. Encourage forms of accessible public or private open space to create amenities and local destinations in conjunction with transit stations, higher intensity uses and the local retail/service areas.

**3.7.3 Greenfield Industrial Area**

Greenfield Industrial Areas are future industrial areas located at the edge of the city. These areas provide land for future industrial growth.

**Land use policies**

- a. Plans for industrial development in Greenfield Industrial Areas will be established through an Area Structure Plan (ASP), ~~following completion of the RCS.~~
- b. Ensure that the primary function of Greenfield Industrial Areas is for a broad range of standard industrial activities and industry-related commercial functions including:
  - i. Value-added manufacturing, advanced technology industries, warehouse and distribution activities.
  - ii. Employee intensive industrial uses in locations where the Primary Transit Network is provided within or adjacent to new industrial areas.
- c. Greenfield Industrial Areas should be located to provide sufficient separation from adjacent non-industrial uses or include special conditions that reduce the potential for conflict

**Mobility policies**

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- d. The road network should support the efficient movement of trucks, goods and services throughout the Standard Industrial Area.
- e. Street networks should be designed to allow Base Transit Service and provide sufficient coverage to support the access needs of area businesses and their employees.
- f. Convenient connections and accessibility should be achieved within industrial areas, as per the Local Transportation Connectivity policies in the CTP.
- g. Streets that provide direct connections to transit services should provide facilities and amenities for pedestrians, cyclists and transit.
- h. When designing new streets or retrofitting existing streets, use the Complete Streets policies in the CTP.
- i. New intermodal sites and warehousing facilities should develop within 1600 metres of the Strategic Goods Movement Network (see the CTP).
- j. Protect the integrity of primary goods movement corridors by limiting direct access from truck routes to adjacent properties.
- k. Sidewalks should be provided to connect transit stops to major businesses in the surrounding industrial areas.
- l. Transit waiting facilities should be provided in public rights-of-way or, where possible, integrated with adjacent industrial or commercial developments.

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Retail development serves numerous purposes. It provides local and regional goods and services, supports employment areas, provides employment, contributes to the health and vitality of the local economy and provides opportunities to integrate transit into the design of concentrated centres of activity. Retail developments also play a special role in providing publicly accessible spaces and in shaping unique public gathering destinations across the city. These combined factors suggest there is a significant public interest in the location and urban design of retail development.

**4.1.1 Retail structure**

The retail landscape in Calgary has evolved over the years to include a wide variety of locations and scales. There are older patterns of development that have formed over many decades, and there are patterns and retail formats that have emerged more recently. Providing direction for this diversity of retail requires an approach that respects the current retail landscape as well as the desire to ensure that future retail developments are better aligned with the overall integrated land use and transportation strategies of the MDP.

The retail structure emphasizes the role and function of the various retail scales and their importance in providing retail service at the local and city-wide level. This categorization places less emphasis on the built form, which is often subject to shorter term, trend based designs. By utilizing this approach, it is simpler to categorize and monitor changes in retail over time. It also provides a framework for planning future retail developments in Calgary.

**Policies**

- a. Retail development is categorized into six groups that define its role and function within Calgary. The size of the retail centre should not be defined by an individual retail development, but rather by all retail developments within the immediate vicinity. The six retail categories are:
  - i. Regional
    - a. Super Regional Retail Centre

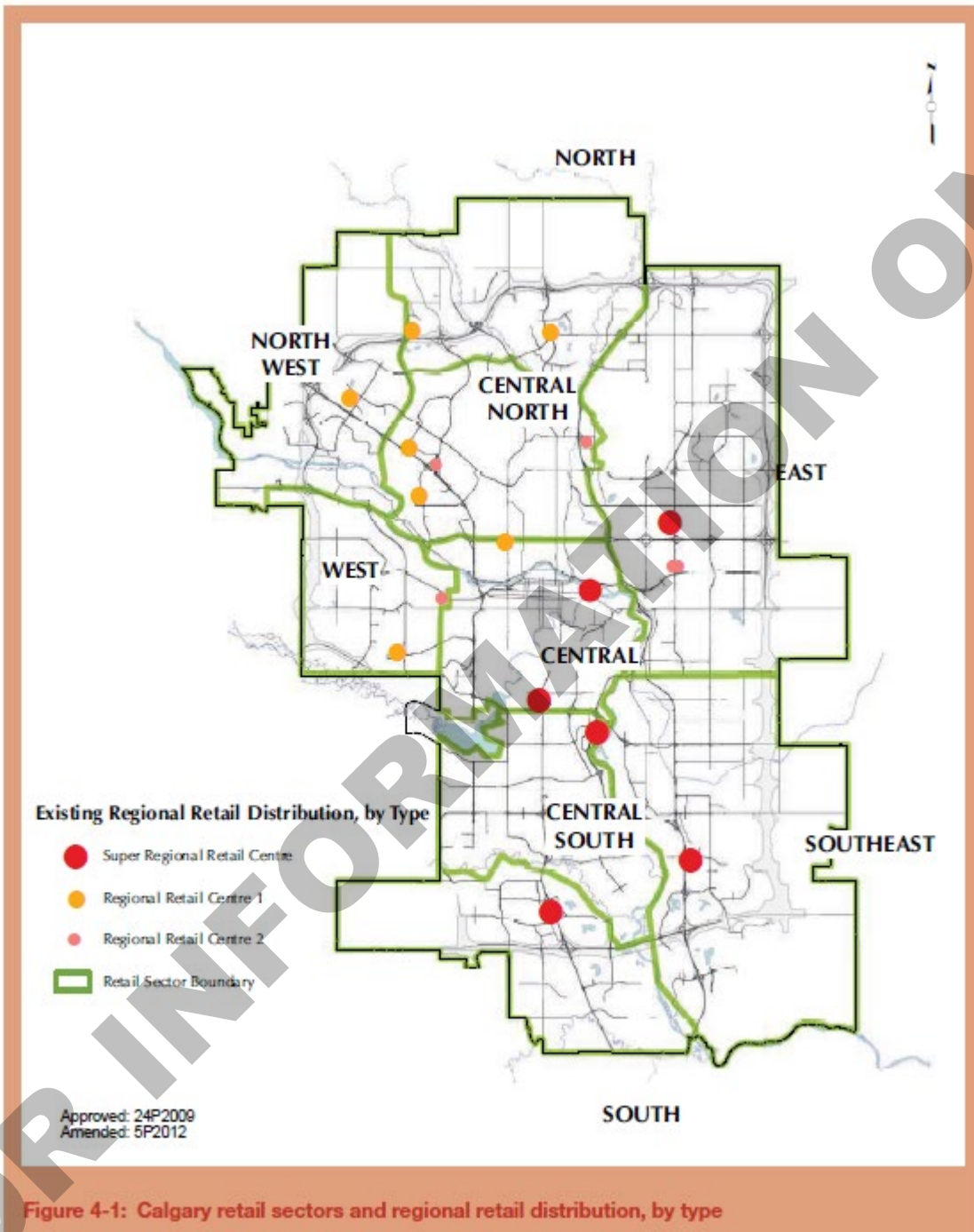
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- b. Regional Retail Centre 1
    - c. Regional Retail Centre 2
  - ii. Local
    - a. Community Retail Centre 1
    - b. Community Retail Centre 2
    - c. Neighbourhood Retail Centre
- b. The nine retail sectors (see Figure 4-1) should be used to monitor the distribution of retail throughout the city.
- c. Within each of the nine retail sectors, the distribution between Regional and Local retail should be approximately 45 per cent Regional and 55 per cent Local within each of the nine retail sectors (see Figure 4-1).

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**4.1.2 Retail categories**

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The following table provides the framework for retail categories to determine the appropriate type and distribution of retail:

Retail Centre Category	Approximate Size (sq. m.)	Location Criteria	Suggested Proportion of Retail in Sector (percent)
Super Regional Retail	Larger than 93,000	Key city gateway locations	20
Regional Retail 1	46,500 to 93,000	Serving a retail sector	20
Regional Retail 2	9,300 to 46,500	Serving a retail sector	5
Community Retail 1	Approx. 9,300	Serving multiple communities	20
Community Retail 2	Less than 9,300	Serving one or more communities	20
Neighbourhood Retail	Less than 1,900	Serving a sub-area of a community	15

**Table 4-1: Framework for retail categories**

## Policies

### City-wide retail

- Redevelopment, improvements and expansion of existing retail areas should be a priority.
- The creation of new or the redevelopment of existing community and neighbourhood retail centres to serve community needs should be a priority.
- The city should strive to achieve an appropriate mix of retail types within each of the nine retail sectors (see Table 4-1: Framework for retail categories).
- A retail area should conform to the policies of the relevant Typology area, as defined in Part 3-Typologies for Calgary's future urban structure.
- Create and retain viable local retail and mixed-use areas that encourage business creation, residential development and community services; while maintaining compatibility with the neighbourhood oriented character of the retail.
- Support the development and maintenance of areas with a wide range of character and function that provide for the employment, service, retail and housing needs of Calgary's existing and future population.

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- g. Support comprehensively planned retail developments at all scales to provide for high quality public systems (e.g., sidewalks, pathways, open spaces) and designed to allow for intensification to accommodate residential uses.
- h. Facilitate the development of retail areas within communities, by providing:
  - i. A full mix of uses to be developed over time.
  - ii. Active ground floor uses.
  - iii. Conveniently located, safe and accessible pedestrian linkages that connect retail entrances with internal and public pedestrian networks and transit stops.
  - iv. Enhanced public realm pedestrian linkages and gathering spaces on site.

**Established retail areas**

- i. Retail should be included as part of the mixed-use at Activity Centres and along Main Streets.
- j. Redevelopment of older shopping centres and commercial strips should include mixed use developments that create greater residential and employment variety while retaining a retail function.

**Greenfield retail areas**

- k. Regional retail centres should be identified through a Regional Context Study (RCS) process or in absence of an RCS, the Area Structure Plan (ASP) process may be considered. The location, scale and size of these sites will further be refined through a subsequent Area Structure Plan process.
- l. Regional Retail centres should provide for:
  - i. Direct on-site linkages and amenities for pedestrians.
  - ii. Reduced visual and environmental impact of large parking lots.
- m. New Regional Retail centres should be evaluated in terms of their impact on the city as a whole and their immediate surroundings, based on the following criteria:
  - i. Consistency with the growth strategy of the MDP.
  - ii. Compatibility with Local Area Plans and the location relative to Activity Centres and Main Streets.
  - iii. The physical impact of the centre with regard to:
    - a. Integration with transit networks to serve retail centres.
    - b. The ability of the street system to handle the associated traffic volumes.
    - c. The need for other possible public expenditures.

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- d. Integration with surrounding community development.
- e. The quality of the site development, including the landscaping, parking, access, pedestrian and vehicular circulation.
- n. The location of community and neighbourhood retail centres should be identified through the Area Structure Plan process, and located and appropriately separated from other larger retail centres to support viability of the local retail. As a general guide, local retail developments should be:
  - i. Located to support integrated residential development, or to serve adjacent higher density residential areas of the community.
  - ii. Supported by a convenient pedestrian network that provides direct access to the retail site.
- o. Retail sites should be planned around transit stops or stations and should provide good accessibility by a variety of modes to provide connections to surrounding neighbourhoods and developments.

**4.2 Protection of sand and gravel resources**

The City recognizes the strategic importance of retaining local sources of building materials within a sustainable city to minimize the need to import resources into the city. The MDP provides policies respecting the protection of sand and gravel sources from premature urban development, as well as direction for protecting existing sand and gravel extraction operations and mitigating conflicts with adjacent urban uses.

**Policies**

- a. Protect existing and future aggregate sources from premature use for urban development, and ensure appropriate mitigative measures to protect and facilitate aggregate extraction.
- b. Allow the continuation of existing sand and gravel extraction operations in accordance with the conditions of the necessary permits.
- c. Support the recycling of concrete, pavement and stone in locations that minimize nuisance impacts of dust, noise, odours and truck traffic on surrounding urban development.
- d. Routes for truck access and egress to the site should be ~~identified~~ identified and located to minimize nuisance impacts.



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### 4.3 MGA-mandated policies

This section provides policies for the land use and development adjacent to sour gas facilities, protection of agricultural operations, and development in the vicinity of the airport. Map **5 6** identifies areas of the city where some of these constraints apply.

#### 4.3.1 Sour gas policies

There are a number of issues pertaining to sour gas operations within Calgary's boundaries and adjacent municipalities that need to be considered within the MDP. One is ensuring that the minimum requirements of the MGA are included. Another is recognizing that parts of Calgary's long-term growth areas lie within, or adjacent to, active sour gas fields. These fields and the facilities may have decades of life left in them, and sour gas may not be extracted as quickly as desirable. Sour gas facilities could impact Calgary's future urban growth by leaving large areas of serviced land undevelopable, as well as the safety of the general public and emergency responders in the event of an accident.

The policies of the MDP provide municipal direction to guide the planning and development processes that deal with the locating of types of land uses in relation to sour gas facilities. The MDP also addresses compatibility issues between urban growth and sour gas facilities by minimizing nuisance impacts from dust, noise and truck traffic on residential communities. The MDP policies are intended to be applied in concert with other administrative policies and procedures for dealing with on-going issues around oil and gas activities and applications, including maintaining public safety and emergency response and working pro-actively with the industry to address public notification and information needs. Part 3 of the CTP also supports these policies and provides direction for emergency evacuation routes.

#### Policies

- a. Support in principle the accelerated resource extraction in areas with little or no existing urban development to allow for orderly and safe city development; however, each situation will be evaluated on its merits.
- b. The City will apply appropriate safety setbacks as determined by the Energy Resources and Conservation Board (ERCB).

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- c. Residential uses, permanent overnight accommodations and public facilities shall not be developed in the vicinity of sour gas operations, unless located outside setbacks established by the ERCB.
- d. Industrial, commercial or other non-residential uses may be developed adjacent to sour gas facilities, subject to any setbacks as determined by the ERCB.
- e. Reserve the right to apply The City's own setback regarding nuisance factors for sour gas facilities.
- f. In determining appropriate locations and timing of growth within Long-term Growth Areas, Regional Context Studies should identify the location of active and future sour gas operations and facilities, the projected life span of those operations and the impact of the facilities and safety setbacks on the cost effective design of future urban communities, as well as potential impacts on Emergency Planning Zones, evacuation route planning and Calgary's emergency responders.

### 4.3.2 Agricultural operations

The MGA directs that a municipal development plan must contain policies respecting the protection of agricultural operations within its boundaries. The City recognizes that agriculture is a viable use of land prior to urban development. It supports its continuation by allowing extensive agriculture as a Permitted Use in the Land Use Bylaw and restricts the fragmentation of agricultural land until needed for urban development. The City also supports the use of such lands for the long term food security of the city.

#### Policies

- a. Protect existing agricultural operations by maintaining appropriate definitions and land use designations in the Land Use Bylaw.
- b. Prevent the premature fragmentation of agricultural land.
- c. Review proposals for subdivision or land use changes within the context of The City's growth management activities, ASPs, Implementation Guidebooks and development permit application processes.

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### 4.3.3 Calgary International Airport Vicinity Protection Area (AVPA)

The Calgary International Airport Vicinity Protection Area (AVPA) Regulation defines lands within the city that are subject to the AVPA, as well as Noise Exposure Forecast (NEF) contour lines. These impose varying degrees of land use, development and building restrictions on affected parcels of land.

#### Policies

- a. Enforce land use, development and building regulations within municipal areas impacted by airport operations.
- b. Incorporate relevant land use, development and building regulations into Local Area Plans for areas impacted by the airport operations.
- c. Notify the Calgary International Airport at the outset of land use planning studies or development applications for lands within the AVPA.

### 4.4 Flood Hazard Areas

This section provides policies that give direction to guide the planning and regulations that govern the development within the Flood Hazard Area (FHA), in concert with other administrative policies and the Land Use Bylaw.

In Canada, floods are the natural disasters that cause the most damage and expense to communities. Climate change models indicate flood events will likely occur more frequently and severely than in the past. Therefore it is imperative The City be proactive in its approach to increasing resiliency and be forward thinking with regard to regulating land uses and development within Flood Hazard Areas.

Throughout its history, Calgary has experienced flooding of varying degrees with recent major events occurring in 2005 and 2013. Though these floods caused minimal loss of life, they significantly impacted the city in causing social, environmental and economic damages. All citizens of Calgary are stakeholders, either directly or indirectly, in being impacted by flooding and in how The City responds to flood events. Therefore, the approach to flood risk reduction

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will place a priority on the public good over private interests. The City's top priorities in the approach to reducing impacts from flood events are to:

- Increase public safety through appropriate land use and development regulations in the FHA;
- Minimize property damage by requiring all development and redevelopment in the FHA to be designed to mitigate the potential impact or obstruction of floodwaters;
- Enhance Calgary's flood resiliency by employing a comprehensive approach to flood risk reduction measures; and
- Align The City's policies and regulations to meet at least the minimum standards set by the Province.

Flood hazard mapping is developed by the Province and identifies the floodway, flood fringe and overland flow areas, each with varying levels of flood risk. These maps are based on the 100-year flood event and are a crucial part of informing policy direction regulating development. The 100-year flood event has a 1% likelihood of occurring in any given year, which is generally linked to a river water flow-rate. It does not mean that this size of flood event will only occur every 100 years.

The floodway is the area closest to rivers and has the highest risk for damage to buildings and development located there as the flood water is the deepest and fastest moving. Development in the floodway may potentially increase upstream water levels and therefore increase the risk of damage to those areas. Reducing the level of development within the floodway overtime will contribute to a reduction in risk exposure to people, property and the environment.

Flood fringe and overland flow areas have comparatively lower risk for flood damage, since flood water is shallower and slower moving than in the floodway. People can generally tolerate occasional flooding in these areas, and development does not cause higher upstream river water levels. Flood risk reduction measures can be incorporated into development to reduce the amount of damage that is likely to occur during a 100-year flood.

Due to this discrepancy in risk, a graduated approach to regulating land use and development in the FHA is appropriate, with the floodway having higher strictness than the flood fringe and overland flow areas.

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The City regulates land use and development; however, where development and redevelopment in the FHA is allowed to occur, it is undertaken by choice of the land owner, and involves their acceptance of risk of potential flood damage.

## Policies

- a. Increase public safety, reduce private and public property damage, **minimize municipal liability**, and enhance the city's flood resiliency, through the following:
  - i. Flood risk reduction work undertaken by, or on behalf, of The City of Calgary within the floodway, consisting of repairing river banks, erosion control, and land stability where the primary purpose is to enhance public safety, protect public infrastructure and ensure proper function of river morphology, be allowed without requiring a development permit.
  - ii. All new development in the floodway should be refused by the Development Authority, with the exception of the following.
    - Uses related to agriculture, open space, outdoor recreation, parks, transportation infrastructure and utilities.
    - the redevelopment of low density residential buildings on the existing building footprint where sufficient risk reduction measures have been taken to the satisfaction of the Development Authority.
  - iii. For redevelopment of existing buildings where the building footprint straddles both the floodway and flood fringe, the redeveloped building should be located exclusively in the flood fringe.
  - iv. All redevelopment of existing residential buildings in the floodway must be done through a discretionary permit process.
  - v. All buildings located in the floodway, flood fringe or overland flow area must be designed to prevent:
    - • Damage by floodwaters.
    - • Damage by elevated groundwater.
    - • Incremental increase of upstream river water levels.
  - vi. The Development Authority, when reviewing applications that propose flood risk reduction measures, ensure that public safety, ~~and~~ **minimizing property damage, and minimizing municipal liability** take precedence in considering development relaxations that may alter the existing built form context and development pattern in a neighbourhood. Approved relaxations should be commensurate with the degree of proposed flood risk reduction measures.
  - vii. Align The City's flood policy and development regulations to at least meet the minimum standards set by the Government of Alberta.

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- viii. Recognize the importance of using up to date flood modelling information as the basis for informing policy and development regulations.
- ix. In areas with Community Scale Flood mitigation measures in place, relaxation of redundant mitigation in individual buildings should be considered.
- x. **Include the impacts of climate change on river flood hazard maps and integrate into local policy and the Calgary Metropolitan Regional Growth Plan.**
- xi. **Promote long-term management of flood mitigation infrastructure and minimize the need for future flood mitigation infrastructure through land use planning.**
- xii. **Include flood protection measures for development in provincially identified flood fringe areas to mitigate risk at the 1:100 year flood event level.**

**4.5 Development Next to Freight Rail Corridors**

Calgary is a major transportation and logistics hub and is connected via six corridors to the national rail network through the Canadian Pacific Railway (CP) and Canadian National Railway (CN). CP and CN play a critical role in the economic development and prosperity of Calgary. With increasing volumes and types of goods being transported via freight railways there is an increased awareness across the country for the potential risks of accidents and the physical impacts of train derailments.

As development interest along the freight rail corridors increases, it is important for a municipality to employ a risk management approach when considering development proposals in proximity to freight railways. In order to facilitate desired development along the freight rail corridors, it is essential to recognize that the probability of a derailment event will determine the level of mitigation required. For sites with higher probability risks, the potential impact of a train derailment will need to be mitigated.

To achieve an appropriate level of livability, and to reduce the potential for complaints due to noise, buildings in proximity to railway operations will need to be designed and constructed to achieve defined interior sound level limits.

**Policies**

- a. All development next to freight rail corridors must comply with the requirements of

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the Development Next to Freight Rail Corridors Policy.

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## Part 5 – City Wide Growth Strategy ~~Framework for growth and change~~

**Goal** As stewards of the land within its jurisdiction, the City of Calgary will ~~guide~~ ~~provide leadership on~~ growth and change within a strategic framework that achieves the best possible social, environmental and economic outcomes while operating within The City's financial capacity. The City will work with key stakeholders to achieve this goal.

### 5.1 Introduction

The framework for growth and change outlines a strategic process for The City's major planning and transportation decisions to advance the objectives of the MDP's seven key directions, and in particular facilitating the balanced growth objectives of a more compact urban form.

The strategic framework for growth and change is intended to support where new jobs and homes should be located, improved integration of transportation systems, the evolution of complete communities and doing so in an economically sustainable manner. The City must also ensure that growth and change occur within its financial capacity as the cost of supplying and maintaining infrastructure and services is a considerable demand on the budget of the Corporation. Realizing a more compact city form will result in considerable cost savings, and therefore reducing the tax burden placed on Calgarians.

Section 5.2 presents a Strategic Framework for Growth and Change designed to facilitate Calgary's urban structure (map 1) and development in a way that meets these challenges. It guides where growth and change should occur to ensure the best possible social, environmental and economic outcomes for the citizens of the city both now and in the future.

~~The City of Calgary provides leadership on growth and change to ensure the best possible social, environmental and economic outcomes for the citizens of the city both now and in the future. The City must also ensure that growth and change occur within its financial capacity as the cost of supplying and maintaining infrastructure and services is a considerable demand on the budget of the Corporation. In addition, The City must ensure that growth occurs within the legislative and regulatory framework of other orders of government. In particular, the Alberta Land Use Framework and the Calgary Regional Metropolitan Plan will provide direction on how the city grows and interacts within a regional and provincial context. Section 5.2 presents a Strategic Framework for Growth and Change designed to facilitate Calgary's development patterns in a way that meets these challenges. The Framework is comprised of eight objectives, each with specific policies.~~



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In order to strengthen The City's approach to ~~managing growth, the~~ a Strategic Framework for Growth and Change ~~has been created-developed (Figure 5-1). In practice, the-~~ This framework will ensure ~~that~~ policy, strategy and resources for growth are better aligned to facilitate Calgary's supply of planned and serviced lands and achieve the objectives of ~~the Calgary Metropolitan Regional Board (CMRB) Growth Plan~~ ~~Calgary Metropolitan Plan (CMP)~~, the Municipal Development Plan (~~MDP~~) and the Calgary Transportation Plan (~~CTP~~). The objectives and alignment of the Strategic Framework for Growth and Change is illustrated in Figure 5.2a.

The Strategic Framework indicates the role of the

- Provincial Government which provides legislative direction for land use and transportation planning through the Municipal Government Act, City Charter, the City Transportation Act, the SSRP and the Alberta Land Use Framework.
- The City of Calgary provides policy direction through the MDP and CTP, for comprehensive city-wide growth strategies. Planning and Investment Priorities for growth will be decided through internal Committee processes.

~~The MDP and CTP, in turn, provide policy direction for an integrated growth and change strategic process for The City of Calgary. This ongoing process will be led by senior management through the General Managers Strategic Growth Committee (GMSGC) and Directors Sub-Committee. When setting planning and investment priorities the GMSGC will consider the following inputs; the policy direction of the MDP and CTP, the MDP and CTP performance monitoring, the Monitoring Growth and Change Series (land supply and demand information), Regional Context Studies and information on The City's infrastructure and fiscal capacity for growth.~~

**Policies**

- a. The City's strategies, related to growth, shall apply the policies of Strategic Framework for Growth and Change.

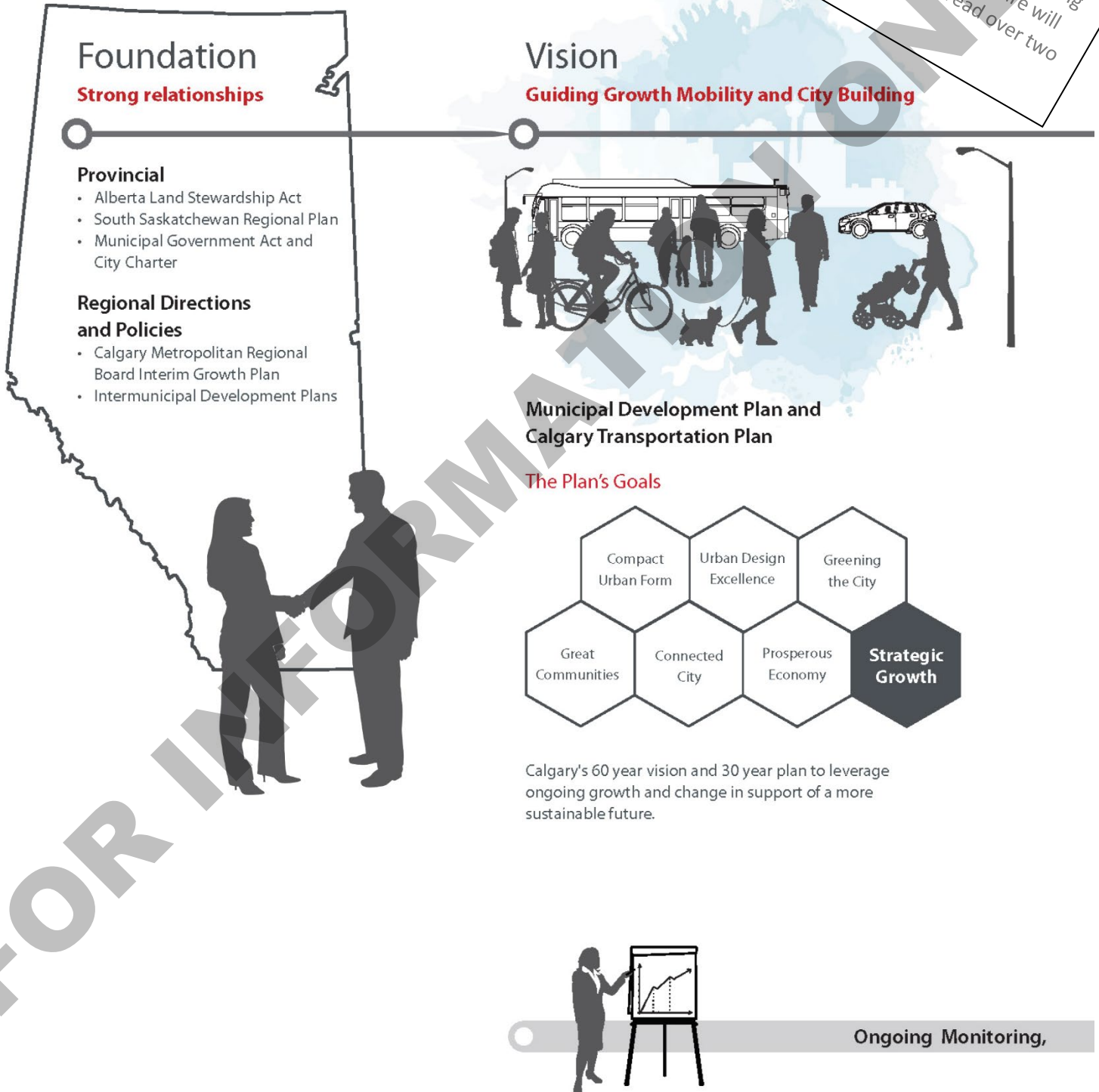
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**Figure 5.2a Strategic Framework for Growth and Change**

[\* Calgary Metropolitan Regional Board Growth Plan is in process]

New figure moved introducing Section 5.2 – NOTE figure will be shown as a spread over two pages



Calgary's 60 year vision and 30 year plan to leverage ongoing growth and change in support of a more sustainable future.

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## Implementation

### Strategic direction

#### Where we grow

Identify Opportunity Areas - ensuring growth and change decisions align with the goals, policies and key directions of the above plans, including Established Areas, Centre City, New Communities, and Industrial Areas.

#### Why we grow

To support of the goals of balanced growth, a more compact urban form and great communities.

#### How we grow

Growth decisions – the type of built environment and infrastructure maintenance have significant long-term implications for public spending. Recommendations and decisions on growth and change incorporates: The City's financial and infrastructure capacities; integrated decision making; and, a variety of tools, processes and investment strategies.

#### Examples

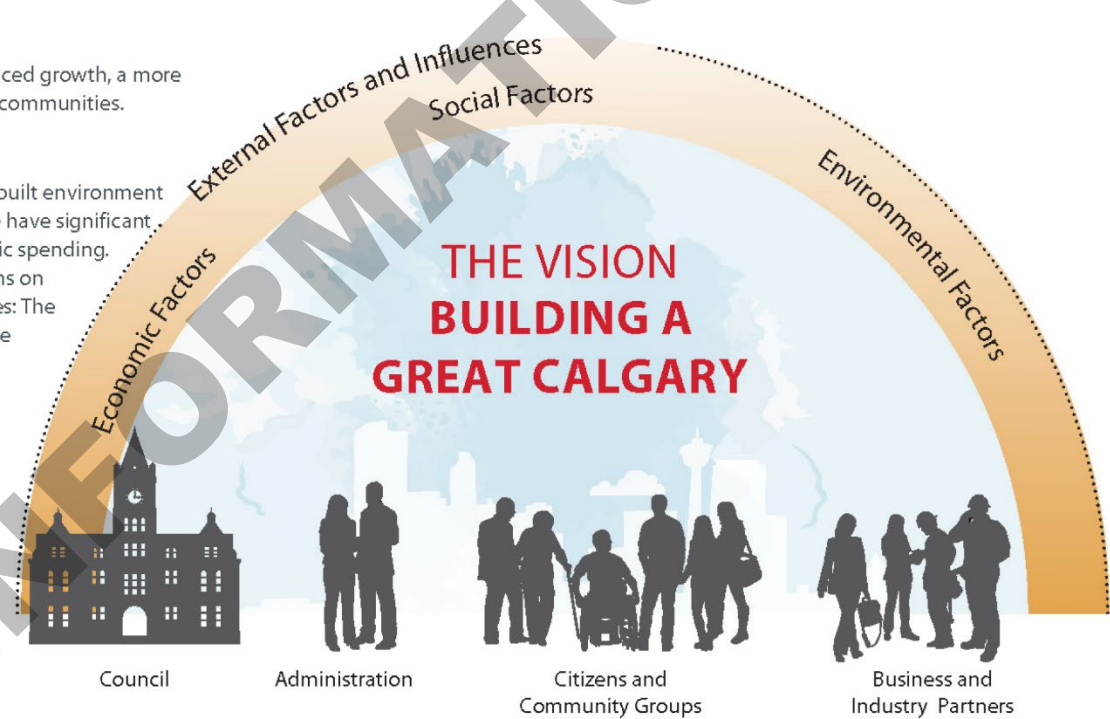
- Guidebooks
- Regional context studies
- Local Area Plans
- Service plans and budgets
- Asset management plans

## Execution

### Growth and change actions

#### Building a sustainable future

Leveraging decisions and investments on growth and change to benefit Calgarians by maintaining a high-quality life and realizing tangible outcomes.



Reporting, Core Indicators

Public Accountability

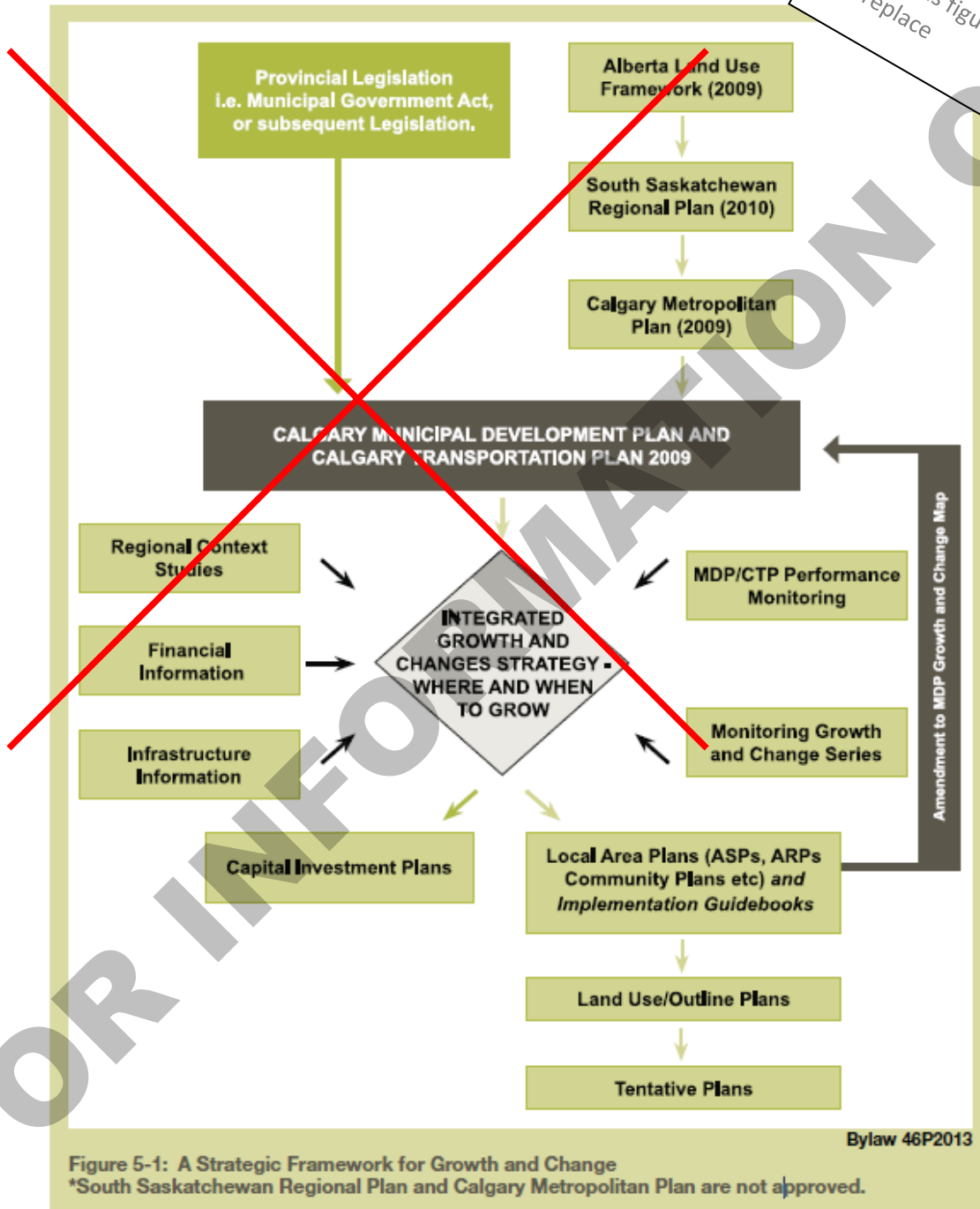
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**Figure 5.1 Strategic Framework for Growth and Change**

\* ~~Calgary Metropolitan Regional Board Growth Plan are in process~~

Delete this figure – new figure above



**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |**5.2.1 Alignment and strong relationships**

**Objective** Maintain strong relationships with municipal neighbours, regional partners and key stakeholders within Calgary, to ensure that growth and change decisions reflect provincial and regional policies and the direction of the MDP and CTP.

The City must ensure that growth is aligned with and occurs within the legislative and regulatory framework of other orders of government. In particular, the South Saskatchewan Regional Plan, Alberta Land Use Framework and the Calgary Metropolitan Regional Board Growth Plan will provide direction on how the city grows and interacts within a regional and provincial context.

In order to achieve a good quality of life of for all people in the Calgary region, and to support the long-term health of our regional communities, The City of Calgary is committed to maintaining strong relationships with our municipal neighbours and regional partners. The City also supports strong relationships with key stakeholders within Calgary to ensure that the growth and change of our city benefits all citizens, now and into the future.

**Policies**

- a. Continue to consult and work with inter-municipal and regional partners to ensure the best possible outcomes to issues of mutual interest within the framework of the ~~draft Calgary Metropolitan Plan~~ CMRB Growth Plan.
- b. Continue to consult and work with the development and building industries and other stakeholders (including citizens, organized business and community groups) regarding matters of municipal process and policy in order to ensure mutual understanding and to support shared goals and objectives.
- ~~c. Continue to consult and work with other stakeholders (including community associations and citizens' and industry business groups) regarding matters of municipal process and policy to ensure mutual understanding and to support shared goals and objectives.~~
- c. Acknowledge and enhance Calgary's role as the centre of regional growth and demonstrate the benefits of compact and connected development for the region and regional services.

**5.2.2 Strategic decisions on where we grow**

**Objective** Maintain Calgary's ability to grow over the long term by ensuring that growth and change decisions facilitate a land supply that aligns with the direction, goals, policies and key

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directions of the CMRB Growth Plan, South Saskatchewan Regional Plan ~~draft-CMP~~, MDP and CTP.

The MDP and CTP are aligned with the policy directions of the Alberta Land Use Framework and the CMRB Growth Plan ~~draft-CMP~~. The MDP and CTP contain a 60 year perspective that provides policies for Calgary to:

- Guide where growth occurs;
- Reflects the desired urban structure (Map 1); and,
- ~~define the patterns of growth; and,~~
- define the city's transportation networks.

The policies of the MDP provide the primary source of direction for strategic growth and change decisions and should remain the primary source. ~~until a formal review of MDP is complete. A 10-year review cycle will provide policy certainty for three complete City business and budget cycles, while providing a clear long term direction for development (as per Section 1.5).~~

## Policies

- a. Continue to protect and manage Calgary's long-term growth requirements through the policies of the CMRB Growth Plan ~~draft-CMP~~ and through Intermunicipal Development Plans with adjacent neighbours.
- b. Maintain within The City's jurisdiction by providing ~~at least~~ a 30-year supply of developable land for all uses.
- c. To realize the efficiencies and objectives of achieving a more compact city form, The City will balance future growth between Developing and Developed Areas and endeavor to:
  - I. accommodate 33 per cent of Calgary's future population growth within the Balanced Growth Boundary (map 1) Residential Areas of the city by 2039.
  - II. accommodate 50 per cent of Calgary's future population growth over the next 60 to 70 years within the Balanced Growth Boundary (map 1) Residential Areas of the city.

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- d. ~~Endeavour to accommodate 50 per cent of Calgary's future population growth over the next 60 to 70 years within Developed Areas of the city.~~
- e. ~~Endeavour to accommodate 33 per cent of Calgary's future population growth within Developed Residential Areas of the city by 2039.~~
- d. City planning and investment decisions must support the policy and growth directions of the **CMRB Growth Plan** ~~Calgary Metropolitan Plan~~, the Municipal Development Plan and the Calgary Transportation Plan.

[The following section merges Sections 5.2.3 and 5.2.4]

**5.2.3 Balanced compact growth and planned land supply**

**Objective** Support the strategic intensification with a variety of processes and investments and broaden The City's practice for determining planned land supply and maintain The City's practice for serviced land supply.

To attain the vision and considerable cost savings in realizing a more compact urban form, The City must take an active role in supporting strategic intensification. Intensification can be facilitated through The City's planning processes and investment decisions. This will require:

- Continued attention to process improvements for development applications.
- A pro-active approach to community outreach and engagement.
- The implementation of a wide array of planning and urban design initiatives in order to support intensification of residential and non-residential development.

The City will provide leadership by sequencing and coordinating its infrastructure investment priorities to support intensification. It will also provide leadership through demonstration projects that will serve as models for the changes in urban form required to achieve the goals of the MDP. The City will work with the development and building industries and **community groups** to facilitate intensification initiatives that support the direction of the MDP and CTP.

Achieving balanced future growth and offering a variety of housing choice in an economically sustainable manner requires comprehensive information regarding Calgary's planned land supply. To facilitate better decisions regarding city-wide growth and change The City will develop a methodology to inventory land supply and consideration of uses including, but not limited to residential, industrial, commercial, and retail.

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Future Greenfield designation in the Urban Structure Map (Map 1) identifies lands situated outside the planned Developing Area and are where future growth may be provided. The City's practice will be to undertake a Local Area Plan in a Future Greenfield area when required ~~is to~~ maintain up to a 15-year planned land supply. Further, in Developed Area(s) with approved policy plans in place The City should maintain five years of serviced land (i.e., land with infrastructure in place). Both of these practices will support an adequate supply of land is in place to provide for growth in Developing Areas over the MDP's long-term horizon.

~~The City's practice is to maintain up to a 15-year planned land supply (i.e., land with approved policy plans in place) and up to a five years of serviced suburban land (i.e., land with infrastructure in place). Both of these practices ensure that an adequate supply of land is in place to meet the growth needs of the city. Information on land supply and demand is produced regularly through The City's Monitoring Growth and Change Series~~

~~To ensure information regarding Calgary's planned land supply is comprehensive and includes land in both the Greenfield and Developed Areas, it is necessary to develop a methodology to inventory land supply within the Developed Areas. It is also necessary to enhance commercial, retail and office land supply information. Comprehensive information will facilitate better decisions regarding city-wide growth and change.~~

## Policies

- a. Prioritize and facilitate efficient growth and redevelopment in the Developed Areas, especially in Centre City, Activity Centres, Main Streets and residential areas connected by LRT service and the Primary Transit Network.
- b. The City will provide leadership on intensification through its investment in infrastructure and the public realm and through demonstration projects that model the changes required in housing and development forms.
- c. The City will consult with community groups and the development and building industry to facilitate intensification initiatives.
- d. Support achieving the population growth targets in policy 5.2.2 (c) and facilitate planned strategic growth by:
  - a. Updating local area plans periodically in Developed and Developing areas.
  - b. Initiating local area plans in Future Greenfield areas:



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- i. When monitoring of population and housing forecasts indicate undertaking the local area plan will facilitate the objective of maintaining up to a 15 year city-wide land supply within the Developing Area.
- ii. The planned area is adjacent to an approved Area Structure Plan.
- i. .
- a. ~~Endeavour to maintain up to a 15 year planned land supply to support a healthy, competitive land market throughout the city.~~ [Moved to section 5.5 (f)]
- b. ~~Endeavour to maintain 3–5 years of serviced suburban land.~~ [Moved to section 5.5 (f)]

**~~5.2.4 Support intensification of Developed Areas~~**

**~~Objective~~** ~~Support the strategic intensification of Developed Areas with a variety of processes and investments.~~

~~The City must take an active role in supporting the strategic intensification of Developed Areas. The City will undertake a review of how intensification of Developed Areas can be facilitated through The City's planning processes and investment decisions. This will require: continued attention to process improvements for development applications; a pro-active approach to community outreach and engagement; and the implementation of a wide array of planning and urban design initiatives in order to support intensification. The City will provide leadership by sequencing and coordinating its infrastructure investment priorities to support intensification. It will also provide leadership through demonstration projects that will serve as models for the changes in urban form required to achieve the goals of the MDP. The City will work with the development and building industries and communities to facilitate intensification initiatives that support the direction of the MDP and CTP.~~

**~~Policies~~**

- a. ~~Provide a wide choice of housing type and location, by prioritizing and facilitating growth and redevelopment in existing communities in a variety of locations throughout the city.~~
- b. ~~The City will provide leadership on intensification through its investment in infrastructure and the public realm and through demonstration projects that model the changes required in housing and development forms.~~

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~~c. The City will consult with communities and the development and building industry to facilitate intensification initiatives.~~

### 5.2.5 Linking land use to municipal financial and infrastructure capacity

**Objective** Ensure decision-making on growth and change incorporates The City's financial and infrastructure capacities, long-term fiscal sustainability and lifecycle costs.

The City will face significant capital and operating shortfalls ~~over the next 10-year period~~ if it continues to provide the same services, in the same way, with the same revenue. Much of this shortfall is driven by the choices ~~around~~ on when, where and how we grow. To achieve sustainable costs, it will be necessary to improve decision making by integrating evaluations of ~~incorporating the implications of~~ capital and operating expenditures into growth decisions, including Regional Context Studies and all Local Area Plans.

As the land use approving authority, The City has an obligation to provide essential infrastructure, including core services, such as water, wastewater, roads and fire and police services. The City is also responsible to its current and future citizens for ensuring the provision of complete community infrastructure including transit, libraries, parks and recreation facilities. Provision of infrastructure and the associated operating and maintenance costs require substantial ongoing investment.

In order to incorporate financial and infrastructure capacity into decision-making on growth and change, the information inputs will have to be enhanced.

#### Policies

- a. The City's fiscal sustainability ~~Municipal capacity to finance growth~~ shall be based on an understanding of the strategic priorities of The City and overall fiscal limitations requiring ~~a priority consideration in~~ growth and change decisions, be:
  - i. Aligned with MDP, CTP goals and implementation plans.
  - ii. Consider supporting plans and studies including Regional Context Studies, Local Area Plans, industrial area plans and major land use applications.
- b. Municipal capital investment in infrastructure (including new and maintenance/refurbished) should be prioritized in the following order manner:

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- I. Investments that support intensification of Developed Areas of the city.
  - II. Investments that expedite the completion of communities in planned Developing ~~Planned Greenfield~~ Areas of the city (as defined on the MDP Urban Structure Map).
  - III. Investments that support ~~supporting~~ the development of Future Greenfield areas.
- ~~b. Align capital planning programs, such as the Transportation Infrastructure Investment Program, the Emergency Response Infrastructure Investment Program, the Culture, Parks and Recreation Infrastructure Investment Program, etc., of the MDP, and CTP.~~  
[moved to section 5.2.6 a]
- c. Growth and change decisions shall demonstrate alignment with the long-term goals and objectives of the MDP and CTP.
  - d. Limits on the capital funding available to the City to support growth and change require that potential cost/benefit implications for The City are identified, including life cycle costs, and communicated comprehensively as part of budget deliberations by City Council.
  - e. In the Developing Area, The City should maintain up to a 15 year contiguous planned land supply and endeavor to maintain up to 3 - 5 years of serviced land when it:
    - I. Supports a healthy, competitive land market.
    - II. Considers fiscal sustainability and The City capacity to meet financial commitments both immediate and long-term.
    - III. Maximizes cost efficiencies, such as leveraging existing transportation and infrastructure networks.

**5.2.6 Integrated decision-making**

**Objective** Make decisions regarding growth and change in an interdepartmental and integrated manner.

Decisions on land supply must take into consideration the financial and infrastructure implications for The City. The MDP proposes a strategic decision-making process with a

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mandate to integrate corporate information and rely on an inter-departmental management structure.

**Policies**

- a. Make land use planning decisions and investment decisions within a strategic, inter-departmental process.
- b. **Align the priorities and resource allocations of City departments, portfolio management plans and capital planning programs to the MDP and CTP vision and goals.**
- c. **Collaborate between City departments to prioritize and combine projects that advance common goals.**
- d. **Improve the integration of regulations across multiple disciplines and departments.**
- e. **Analyze the cumulative impact of proposed funding or finance tools and identify opportunities to advance multiple goals through one tool or approach.**

**5.2.7 Public accountability – leveraging growth and change to benefit Calgarians**

**Objective** Provide a public accountability structure for making growth and change decisions and for communicating progress toward the direction of the MDP and CTP.

City Council is accountable for growth and change decision making. In order to enhance that accountability, the objective of section 5.2.7 is achieved through the implementation of a range of policies that ensure that growth decisions are based on thorough assessment of the environmental, economic and social factors of any proposal. The public are given opportunities to be involved in and shape the future growth of Calgary through engagement and public hearings of Council. Communication with the public regarding progress towards the direction of the MDP and CTP will also be achieved by monitoring the Core Indicators (Figure 5-2b) and reporting to **City Council and Calgarians**.

**Policies**

- a. Recommendations to proceed with the preparation of a Local Area Plan shall be based on but not limited to the following criteria:

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- i. The contribution of growth in the Local Area Plan towards advancing the overall objectives of the MDP and CTP;
- ~~i. Advancing the objectives of the MDP, CTP and should consider other corporate strategic initiatives.~~
- ii. An assessment of The City's financial capacity and tools to support growth.
- ~~iii. An assessment of the City's infrastructure;~~
- iii. For Developing and/or Future Greenfield areas, a demonstrated need for planned land ~~within the city~~.
- iv. For Developed Areas, to help articulate a vision and plan for areas that are experiencing growth and change pressures, or for areas that require a vision and plan to help realize growth potential;
- ~~v. Consideration of the operating and life-cycle costs to The City in supplying and maintaining infrastructure;~~
- ~~vi. The City's ability to provide efficient and cost-effective utility servicing;~~
- v. Opportunities for land use that supports Primary Transit Network;
- vi. Landowner interest; ~~and,~~
- vii. Community interest; ~~and,~~
- viii. The advancement of goals of the Social Wellbeing Policy, adopted by Calgary Council in 2019, as may be amended from time to time; and
- b. Upon adoption of a new Local Area Plan, all relevant maps in both the MDP and CTP must be updated.
- c. Recommendations to City Council to make growth investment decisions in strategic areas shall be based on, but not limited to, the following criteria:
  - i. The contribution of growth in the strategic area towards advancing the overall objectives of the MDP and CTP;

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- ii. The contribution of growth investments in the strategic area towards advancing other corporate strategic initiatives, including resilience and climate change;
- iii. As assessment of economic activity and contributions to City revenues brought about by growth in the strategic area, in the context of growth citywide;
- iv. A comprehensive accounting of City capital and operating costs in the strategic area, and an assessment of The City's financial capacity for funding capital and operating costs (including available tools);
- v. An assessment of The City's overall existing and planned capital infrastructure; in relation to the strategic area;
- vi. The contribution of the strategic area towards maximizing the efficient use of existing and approved City infrastructure and services lines, with the intent of reducing operating and life-cycle costs, thereby reducing future liabilities requiring tax support;
- vii. For strategic areas in Developing and/or Future Greenfield areas, demonstrated market demand for growth in the context of the existing serviced land supply;
- viii. Opportunities for development that supports the Primary Transit Network;
- ix. Landowner interest;
- x. Community interest; and
- xi. The advancement of goals of the Social Wellbeing Policy, adopted by Calgary Council in 2019, as may be amended from time to time.

### 5.3 Monitoring and reporting

**Objective** Provide a basis for effective strategic decision making by monitoring and reporting on the progress made towards achieving the goals and objectives of the MDP.

The MDP and CTP are dynamic documents. They establish strategic policy directions, and periodic progress checks must be undertaken to review to what extent progress is being made.

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To evaluate progress toward the policy direction of the MDP and CTP, a broad spectrum of indicators and targets has been developed. The Core Indicators for Land Use and Mobility can be found in Figure 5-2a. These indicators are proxy measures for the social, environmental and economic performance of the MDP and CTP. They are intended to track the overall progress towards achieving the goals and objectives of the MDP and CTP. However, these indicators and targets are not intended to be applied to individual Local Area Plans and land use applications. It is important to note that no one or two measures in isolation indicate progress. The full set of indicators should be measured and reported in order to provide a comprehensive picture.

Each of the indicators is accompanied by a target. The targets provide a desired performance outcome for an indicator over a specified period of time. The targets were based on benchmarking of other cities and through engagement with stakeholders. The targets represent a direction that The City wishes to achieve through its planning and investment processes and through collaborative work with other orders of government, the public and stakeholders.

A monitoring and reporting program is in place for the Core Indicators for Land Use and Mobility as part of the MDP/CTP implementation program. A regular cycle of reporting on the Core Indicators provides performance information to Council, Administration and the public.

Reporting is conducted in advance of each ~~3-year~~ City business planning cycle and will assist in developing investment strategies and strategic growth decisions. The reporting process will also help ensure that implementation strategies and corporate processes are aligned with the long term goals of the MDP and CTP. In addition to evaluating progress towards the targets contained in this section, additional reports will look at current growth forecasts, market trends and The City's financial capacity.

A major review of the Core Indicators for Land Use and Mobility should occur on a ten year basis as part of the MDP policy review process (which will assess whether the policy direction remains appropriate or requires adjusting). Each metric and target will be evaluated to ensure that they align with the updated vision and policies of the MDP and CTP.

## Policies

- a. The City will ~~monitor~~ ~~measure~~ the Core Indicators for Land Use and Mobility on a continuous basis and report to Council, Administration and the public on the progress towards the targets prior to each business planning cycle.
- b. Based on monitoring, The City may decide to update indicators or supporting strategies through plan amendments to keep the plan current and relevant.

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Figure 5.2b

Core indicators for Land Use and Mobility (MDP)					
#	Core indicators	Metric	Baseline	2018	60-year target
1	Urban Expansion	Per cent of population growth from 2006 accommodated within balanced growth boundary.	-5.9% (2005)	9.7%	50%
2	Density	People per hectare	20 (2005)	24.7	27
		Jobs per hectare	11 (2005)	13.5	18
3	Population / Jobs Balance	Population/Jobs Northwest ratio	3.0	3.0	3.0
		Population/Jobs Northeast ratio	1.7	1.7	1.4
		Population/Jobs Southwest ratio	1.3	1.4	1.5
		Population/Jobs Southeast ratio	1.2	1.5	1.5
4	Mix Land use	Land Use Diversity Index	0.53 (2008)	0.56	0.7
5	Residential Mix	Residential Diversity Index	0.19 (2008)	0.22	0.4
6	Road and Street Infrastructure	Roads to streets ratio	0.72 (42% Roads and 58% Streets)	0.61	0.57 (36% Roads and 64% Streets)
7	Accessibility to Primary Transit Network	Per cent of population within 400m of Primary Transit Network	0%	37%	45%
		Per cent of jobs within 400m of Primary Transit Network	0%	14%	67%
8	Transit Service	Annual transit service hours per capita	2.2	2.24	3.7
9	Goods Access	Per cent of intermodal and warehousing facilities within 1600m (actual) of Primary Goods Movement Network	73% (2008)	73%	95%
10	Transportation Mode Split	Walking and Cycling Mode split (all purpose trips, 24 hours, city-wide)	14% (2005)	18%	20% - 25%
		Transit Mode split (all purpose trips, 24 hours, city-wide)	9% (2005)	8%	15% - 20%
		Auto Mode split (all purpose trips, 24 hours, city-wide)	77% (2005)	74%	65% - 55%
11	Accessibility to Daily Needs	Per cent of population within Major and Community Activity Centres, and 600m of Urban and Neighbourhood Corridors	18% (2006)	21%	30%
12	Watershed Health	Per cent of impervious surface	33% (1998)	8.25%	14% - 20%
13	Urban forest	Per cent of tree canopy	7% (1998)	8.25%	14% - 20%
14	District Energy	Per cent of land area with densities supportive of district energy systems	1.8%	2.6%	1.7%

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**Part 6 – Glossary****accessibility**

*Ease of access and egress to any location by walking, cycling, transit and private vehicles for commercial vehicles (see universal design).*

**accessible housing**

*The construction or modification (such as through renovation or home modification) of housing to enable independent living for persons with disabilities.*

**action**

*A specific task to help achieve an objective or implement a policy.*

**active modes**

*Non-motorized travel, primarily walking and cycling, but which also includes rollerblading and movements with mobility devices.*

**active uses**

*Types of commercial uses on the main or ground floor of buildings adjacent to the sidewalk or street, which generate frequent activity in and out of a building or business entrance.*

**affordable housing**

*Housing that meets the needs of households earning 65 per cent or less of the median household income in Calgary that are spending 30 per cent or more of their gross annual household income on shelter.*

**Alternative Use Open Space**

*Part of the Open Space Network; lands that are acquired or dedicated for purposes other than those of Recreational or Environmental Open Space such as, but not limited to, plazas, utility corridors, stormwater management facilities (e.g. dry or wet ponds) and special event facilities.*

**amenity space**

*Common or private, indoor or outdoor space provided on-site and designed for active or passive recreational use.*

**application stage**

*The appropriate or applicable stage when applications for Building Permits, Development Permits, Land use or Subdivision are reviewed.*

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**Approving Authority**

*The Subdivision Authority, Development Authority or Subdivision and Development Appeal Board of The City of Calgary, as the context implies.*

**Area Redevelopment Plan (ARP)**

*A statutory plan as defined by the Municipal Government Act, that directs the redevelopment, preservations or rehabilitation of existing lands and buildings, generally within existing areas of the city.*

**Area Structure Plan (ASP)**

*A statutory plan as defined by the Municipal Government Act, that directs the future land use patterns, transportation and utility networks and sequence of development in new communities.*

**Arterial Street**

*Arterial Streets provide a high-quality environment for all modes of transportation. These streets are not destinations themselves, but provide reasonably direct connections between multiple communities and major destinations. They have varying degrees of interaction with adjacent land uses but, on average, allow for greater connectivity than through roads.*

**Balanced Growth Boundary**

*The boundary between Developed and Developing areas of the city in 2006, used to measure the balance of growth being achieved by way of the urban expansion core indicator.*

**Base Transit Service**

*A network of feeder, crosstown, circulator and shuttle services whose primary function is to provide comprehensive community coverage to complement and augment the Primary Transit Network. The minimum level of service for the Base Transit Network is every 30 minutes.*

**benchmarking**

*A standardized method for collecting and reporting critical operational data in a way that enables relevant comparisons among the performances of different organizations or programmes, usually with a view to establishing good practice, diagnosing problems in performance and identifying areas of strength. Benchmarking gives the organization (or the programme) the external references and best practices on which to base its evaluation and to design its working processes.*

**brownfield site**

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*A brownfield site is an abandoned, vacant, derelict or underutilized property where past actions have resulted in real or perceived contamination and where there is an active potential for redevelopment. Brownfield sites include parcels of all sizes from corner gas stations to large areas encompassing many properties.*

**~~Built environment, or~~ built form**

*The engineered surroundings that provide the setting for human activity and includes buildings, streets and structures (including infrastructure).*

**Bus Rapid Transit (BRT)**

*A type of limited stop bus service that relies on technology to speed up the service. It can operate on exclusive transit ways, high occupancy vehicle lanes and any type of road or street. A BRT line combines intelligent transportation systems technology, priority for transit, rapid and convenient fare collection and integration with land use policy, in order to upgrade bus system performance substantially.*

**Calgary Region**

*The geographic area encompassing Calgary and other municipal jurisdictions, all of which comprise the Calgary Regional Partnership.*

**Calgary Metropolitan Regional Board Partnership**

*The provincially mandated Growth Board for the Calgary Region, as described in section 1.3. ~~An association of municipalities in the Calgary Region—from Crossfield in the north to Nanton in the south, and from Banff in the west, to Wheatland County in the east, with Calgary at its Centre.~~*

**canopy cover**

*The area within the boundaries of Calgary covered by tree and forest foliage.*

**capacity**

*The volume of vehicles a roadway was designed to carry in a unit of time, such as an hour. Can also be applied to transit or bicycle/pedestrian pathways.*

**cascading energy**

*Energy cascading is using residual heat in liquids or steam from a primary process to provide heating or cooling to a later process. For example, excess steam from a power plant or refinery may be used in a food processing plant or greenhouse.*

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |**Centre City**

*Refers to an area comprised of the Eau Claire, Chinatown, Downtown West, East Village, Downtown Core, and Beltline communities. Centre City is located on the south bank of the Bow River and bounded to the east by the Elbow River, to the south by 17 Avenue S.W. and to the west by 14 Street S.W. The direction within this Plan will also apply to properties west of 14 Street SW and south of 17 Avenue S.*

**co-generation**

*The capturing and using of otherwise “wasted” heat from the electrical generating process.*

**compact urban form**

*A land-use pattern that encourages efficient use of land, walkable neighbourhoods, mixed land uses (residential, retail, workplace and institutional all within one neighbourhood), proximity to transit and reduced need for infrastructure.*

**complete community**

*A community that is fully developed and meets the needs of local residents through an entire lifetime. Complete communities include a full range of housing, commerce, recreational, institutional and public spaces. A complete community provides a physical and social environment where residents and visitors can live, learn, work and play.*

**complete street**

*A street designed and operated to enable safe, attractive and comfortable access and travel for all users, including pedestrians, cyclists and public transit and private vehicle users. A complete street incorporates green infrastructure and optimize public space and aesthetics wherever possible. The degree to which any one street supports different modes of transportation, green infrastructure or public space varies depending on surrounding context and role of the street.*

**Concept Plan**

*A plan that may be required, at the discretion of the Approving Authority, to be submitted at the time of Outline Plan / Land Use Amendment application, showing the relationship of the design of the subject site with adjoining parcels, the possible development of adjoining parcels, and/or the next phases of development.*

**congestion**

*A condition lasting 15 minutes or longer where travel demand exceeds the design capacity of a transportation facility.*

**connectivity**

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**

Key: | Current version | ~~Deletion~~ | Addition | Moved text |

*The directness of links and the density of connections in a path or road network. A connected transportation system allows for more direct travel between destinations, offers more route options and makes active transportation more feasible.*

**~~connectivity index~~**

~~A value calculated as the number of links divided by the number of nodes in a given area (such as a community or Activity Centre). The higher the value, the easier it is to travel directly from one place to another. Two different indices are specified in this plan—one for active modes and another for streets.~~

**core indicators**

*The most significant measures to provide an overall picture of our progress toward achievement of the key directions for land use and mobility.*

**Crime Prevention Through Environmental Design (CPTED)**

*The proper design and effective use of the built environment, which may lead to a reduction in the fear and incidence of crime and an improvement in quality of life.*

**cycle-track**

*Dedicated space for bicycles built into street right-of ways. They are separated physically from both vehicle travel lanes and sidewalks to improve safety and efficiency for all modes of transportation.*

**density**

*A measure of the number of dwelling units on a parcel of land, expressed in units per hectare or in units per parcel.*

**design indicators**

*Design indicators are criteria for measuring progress towards sustainability, with a focus on the issues relating to the interaction and design of land use and transportation systems (e.g., proximity of population and jobs to convenient transit). Effective design issues should be measured easily and reliably, be simple and easy to understand, and can be used to drive future decision-making processes related to land use and transportation.*

**Development Permit**

*A Development Permit indicates permission from the Approving Authority for construction or changes of use in accordance with The City of Calgary Land Use Bylaw.*

**diversity**

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |

*An environment that offers a variety of experiences to patrons. Mix of land uses, architecture, street design and landscaping can all contribute to providing variety.*

***Downtown Core***

*One of the mixed-use neighborhoods that make up the Centre City. This area is a prominent destination for business, entertainment, culture, and events in the city. It is an area of intensive high-rise, high-density developments with a high-quality public realm.*

***ecological integrity***

*A condition where the structure and function of an ecosystem are unimpaired by stresses induced by human activity and that condition is likely to persist.*

***ecological network***

*A network of ecological components (core areas, corridors and buffer zones) which provides the physical conditions necessary for ecosystems and species populations to survive in a human-dominated landscape.*

***ecosystem***

~~*A dynamic system of plants, animals and other organisms, together with the non-living components of the environment, that functions as an interdependent unit.*~~

*The interaction between organisms, including humans and their environment. Ecosystem health/integrity refers to the adequate structure and functioning of an ecosystem, as described by scientific information and societal priorities.*

***Engineered Assets (purpose built)***

*Are those assets that have been designed to function like natural assets but are new designs not found in nature. They are a subsection of Natural Infrastructure and include pervious pavement, green and brown roofs, rain barrels, green walls, and cisterns.*

***Ecosystem Services***

*Ecosystem services are the benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other nonmaterial benefits.*

***Engineered Stormwater Wetland***

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |

*A constructed and/or modified water body that fluctuates with water drainage peaks but holds water at all times. The wetland is used to improve stormwater runoff quality through nutrient and sediment removal using vegetation, detention, settlement and other best management practices. The wetland is also used to manage the volume of runoff through storage and restricted pipe outlets. Engineered Stormwater Wetlands have a habitat function with existing or constructed riparian and upland vegetation communities. The wetland boundary may be dedicated as Environmental Reserve in accordance with the Municipal Government Act, and the adjacent buffer or riparian and upland vegetation may be dedicated as MR, and all forebays should be dedicated as Public Utility Lots.*

**Enhanced Assets**

Are those assets that have been designed to function like natural assets. They are a subsection of Natural Infrastructure and include rain gardens, bioswales, urban forests, urban parks, biomimicry, stormwater ponds, and reed beds.

**entranceways or gateways**

*Important transportation connections either to enter the city or to signify entrance into a specific part of the city. Well-designed entrances welcome people and provide a sense of arrival to an important place.*

**Environmental Open Space**

*Part of the Open Space Network; lands that are acquired or dedicated to preserve Environmentally Significant Areas such as, but not limited to, forests, shrublands, grasslands, streams and wetlands.***Environmentally Significant Area (ESA)**

*A natural area site that has been inventoried prior to potential development and which, because of its features or characteristics, is significant to Calgary from an environmental perspective and has the potential to remain viable in an urban environment. A site is listed as an Environmentally Significant Area on the basis of meeting one or all of the criteria listed in Appendix C of The City of Calgary Parks' Open Space Plan.*

**escarpment**

*A steep slope formed by the erosive action of water, and normally adjacent to a watercourse.*

**Floor Area Ratio (FAR)**



**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |

*The quotient of the total gross floor area of a building on a parcel divided by the gross site area of the parcel. FAR is one of the measures to direct the size and massing of a building in relation to the area of the parcel of land it occupies.*

**goal**

*A desirable condition to be achieved – a sought-after end state that is not quantifiable or time-dependent. Provides context for corresponding objectives and policies.*

**goods movement**

*The transportation of goods, usually freight, by road, rail and/or air. Lighter service vehicles may also be included.*

**Green Corridor**

*The recreational component of Environmental Open Space, providing pathways and linking ecological networks.*

**~~green infrastructure~~**

~~*An interconnected network of natural green and engineered green elements applicable at multiple scales in the land use and mobility framework. Natural green elements include the conservation and integration of traditional green elements such as trees, wetlands, riparian areas and parks. Engineered green elements include systems and technologies designed to mimic ecological functions or to reduce impacts on ecological systems. Examples include green alleys, green buildings and green roadways and bridges.*~~

**green infrastructure**

*Is the natural vegetative systems and green technologies that collectively provide society with a multitude of economic, environmental, and social benefits, and includes clean electricity infrastructure, energy efficient infrastructure, and natural infrastructure.*

**greyfield**

*An outdated, vacant or failing commercial or institutional site. The term “grey” refers to the large area of concrete and asphalt that typically accompanies retail sites.*

**Gross Developable Hectare / Acre**

*Gross developable acre/hectare is calculated by starting with the gross area of land and deducting nondevelopable lands.*

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**

Key: | Current version | ~~Deletion~~ | Addition | Moved text |

**Gross Developable Residential Area**

*Gross Developable Residential Area is the total developable area available for general residential development. It is also used as the base measurement for density. GDRA is calculated by starting with the gross area of land and deducting non-developable land and land required for regional uses.*

**habitat fragmentation**

*Fragmentation occurs when a large region of habitat has been broken down, or fragmented, into a collection of smaller patches of habitat. Fragmentation typically occurs when land is converted from one type of habitat to another.*

**High Occupancy Vehicle (HOV) lane**

*A roadway lane designated for use by transit vehicles and carpools with at least two to three people. The highest service HOV lane is a reserved transit lane.*

**hydrology**

*The study of the movement, distribution and quality of water throughout the Earth; hydrology thus addresses both the hydrologic cycle and water resources.*

**impervious surfaces**

*Mainly artificial structures, such as building roofs, road pavements, sidewalks and parking lots that cannot be easily penetrated by water, thereby resulting in runoff.*

**indicator**

*A variable that is representative of progress towards the achievement of an objective, policy or action.*

**Industrial Arterial**

*Streets located in industrial areas. Their first priority is the efficient movement of heavy trucks but, as streets, they still accommodate all modes of transportation.*

**infrastructure**

*The technical structures that support a society, including roads, transit, water supply, sewers, power grid, telecommunications, etc.*

**intensification**

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |

*The development of a property, site or area at a higher density than currently exists. Intensification can be achieved through redevelopment, development of vacant/underutilized lots, the conversion of existing buildings, or through infill development in previously developed areas.*

**intensity**

*A measure of the concentration of people and jobs within a given area calculated by totalling the number of people either living or working in a given area.*

**intermodal facilities**

*Places that accommodate connections between transportation modes. Typically refers to break of bulk locations between rail and air and truck*

**jobs/housing (population/jobs) balance**

*A measure of the relationship between the number of residents and the number of jobs in a specific area. The commonly used metric of this balance is simply the number of residents divided by the number of jobs in that community.*

**Joint Use Site**

*Lands set aside for or including a school building, a location for a school building or a school playing field and community playing fields with facilities and grounds which are accessible to both school and non-school users.*

**Land Use Bylaw**

*Legislative document that regulates development and land use in Calgary and informs decisions regarding planning applications*

**~~Land Use Bylaw (LUB)~~**

*~~The City of Calgary Land Use Bylaw 1P2007.~~*

**land use diversity**

*An indicator used to describe the mix of different land uses within a given community or planning area, expressed in terms of the mix of land use districts.*

**legibility**

*The degree to which users of a space are able to perceive and understand its layout and function readily.*

**life cycle cost**

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**

Key: | Current version | **Deletion** | **Addition** | **Moved text** |

*The sum of all recurring and one-time (non-recurring) costs over the full life span or a specified period of a good, service, structure or system. It includes purchase price, installation cost, operating costs, maintenance and upgrade costs and remaining (residual or salvage) value at the end of ownership or of its useful life.*

**Light Rail Transit (LRT)**

*Electrically-powered rail cars, operating in sets of three to five cars per train on protected rights-of-way, adjacent to or in the medians of roadways or rail rights-of-way. Generally at grade, with some sections operating in mixed traffic and/or tunnels or on elevated bridge structures.*

**linkages**

*Linear systems that connect places and built form. Linkages allow for the movement of people and goods within the urban fabric.*

**logistics**

*The management of the flow of goods, information and other resources, including energy and people, between the point of origin and the point of consumption in order to meet the requirements of consumers.*

**low impact development (LID)**

*An approach to land development that uses various land planning and design practices and technologies to simultaneously conserve and protect natural resource systems and reduce infrastructure costs.*

**Master Drainage Plan**

*A stormwater drainage plan prepared for a large drainage area, usually serviced by one or more outfalls.*

**metric**

*A standard measure to assess performance in a particular area.*

**mixed-use development**

*The development of land, a building or a structure with two or more different uses, such as residential, office and retail. Mixed-use can occur vertically within a building, or horizontally on a site.*

**Mobility Assessment Plan (MAP)**

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | ~~Deletion~~ | Addition | Moved text |

~~Framework for assessing the multi-modal transportation impacts of new developments.  
Replaces Transportation Impact Assessment (TIA).~~

**mode split or modal split**

The proportion of total person trips using each of the various modes of transportation. The proportion using any one mode is its modal share.

**native biodiversity**

Species of flora and fauna that are indigenous to a specific area.

**Natural Assets**

Are components of the environment that provide useful services, such as biological assets (produced or wild), and land and water areas and their ecosystems. They are a subsection of Natural Infrastructure and include wetlands, forests, parks, lakes, rivers, creeks, fields, soil, trees and river banks.

**Natural Environment Park**

A City-owned park where the primary role is the protection of an undisturbed or relatively undisturbed area of land or water, or both, and which has existing characteristics of a natural/native plant or animal community and/or portions of a natural ecological and geographic system. Examples include wetlands, escarpments, riparian corridors, natural grasslands and woodlots. A relatively undisturbed Natural Environment Park would either retain or have re-established a natural character, although it need not be completely undisturbed.

**Neighbourhood Boulevard**

These streets form the backbone of Neighbourhood Main Streets and Activity Centres. Pedestrians are given the highest priority on these streets, which are fully integrated with adjacent land uses and provide the highest level of connectivity of all street types. Similar to Urban Boulevards, high quality urban design and green infrastructure strategies are incorporated into Neighbourhood Boulevards.

**objective**

An expression of a desired outcome or more specific way to achieve a goal.

**Open space network**

Comprises current and future land and water areas offering public access. These areas may include features such as wetlands, sports fields, grasslands, plazas, cemeteries, neighbourhood

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | **Deletion** | **Addition** | **Moved text** |

*parks, utility corridors and stormwater management facilities. The network is composed of three open space categories: Recreational Open Space (ROS), Environmental Open Space (EOS) and Alternative Use Open Space (AUOS).*

**Outline Plan / Land Use Amendment Application**

*Detailed planning and design of new communities, or the redevelopment of large areas of existing communities, is done through the outline plan and subdivision process. This involves design details such as the preservation of environmental areas, open space locations and reserve dedications, development patterns, land use mixes and local street networks.*

**park and ride lots**

*Parking lots located at LRT stations or bus stops that allow automobile users to park their private vehicles, access and transfer to and from public transportation service in a convenient manner.*

**parkway**

*A street that focuses on integration with natural areas. Natural vegetation and new forms of stormwater management would be integrated with the street. Adjacent land uses would include large natural parks, waterways or special public institutions.*

**pedestrian-oriented or pedestrian-friendly**

*An environment designed to make travel on foot safe, convenient, attractive and comfortable for various ages and abilities. Considerations include directness of the route, interest along the route, safety, amount of street activity, separation of pedestrians and traffic, street furniture, surface material, sidewalk width, prevailing wind direction, intersection treatment, curb cuts, ramps and landscaping.*

**pedestrian-scale/human-scale**

*Refers to the scale (height/proportions) and comfort level that the street level and lower stories of a building provide for pedestrians as they walk alongside a building or buildings.*

**performance indicator**

*See “indicator”.*

**performance measurement**

*See “metric”.*

**policy**

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*A deliberate statement or plan to achieve an objective. Policies are instructive, directional and positive, but not limited to a single course of action when some other course could achieve the same result.*

**Primary Cycling Network**

*A network of on-street cycling facilities, pathways and cycle tracks that connects major destinations such as Activity Centres, mixed-use Main Streets and major institutions.*

**Primary Transit Network**

*A permanent network of high-frequency transit services, regardless of mode, that operates every 10 minutes or better, 15 hours a day, seven days a week.*

**primary transit threshold**

*A minimum intensity of people or jobs per gross developable hectare that is required within walking distance of a transit station or stop to support service levels of the Primary Transit Network.*

**prominent sites**

*Sites which by their location and relationship to the urban and geographical form have a strong visual impact. Prominent sites include those that terminate a street, are on a street corner, frame or adjoin a public park or open space or are located on a ridgeline or other highly visible location.*

**Public Plaza**

*A Community amenity that serves a variety of users, including building tenants and visitors and members of the public. This space type may function as a pedestrian site arrival point, home for public art, setting for recreation and relaxation and an inconspicuous security feature for high-profile buildings. Plazas are a beneficial feature of any lively streetscape.*

**public realm**

*The space between and within buildings that are publicly accessible, including streets, squares, parks and open spaces. These areas and settings support or facilitate public life and social interaction.*

**public utility**

*Areas that provide space for large scale public utilities such as landfills and water treatment facilities.*

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**Recreational Open Space**

*Part of the Open Space Network; lands that are acquired or dedicated to provide areas for public recreation, such as but not limited to, sports fields, neighbourhood parks and cemeteries.*

**Regional Pathway**

*A city-wide linear network that facilitates non-motorized movements for recreation and transportation purposes. The spine of the system parallels the major physical features of the river valleys park system, including waterways, escarpments and ravines. It connects communities by linking major parks, recreation facilities and natural features. The regional pathway system may also link other major community facilities such as schools, community centres and commercial areas. The regional pathway is hard-surfaced, typically asphalt and located off-street. It is a multi-use facility and no one user or type of user is to be given elevated status.*

**redevelopment**

*The creation of new units, uses or lots on previously developed land in existing communities.*

**residential diversity**

*An indicator used to describe the mix of residential types in an area, expressed in terms of the mix by residential land use district area, or by mix of housing unit types.*

**retail ready**

*Retail ready buildings have appropriate floor heights, mechanical systems and other needs to accommodate retail uses in the future, while still allowing for non-retail uses at the time of application.*

**right-of-way (ROW)**

*Publicly-owned land containing roads and streets and/ or utilities.*

**riparian areas**

*Riparian areas are those areas where the plants and soils are strongly influenced by the presence of water. They are transitional lands between aquatic ecosystems (wetlands, rivers, streams or lakes) and terrestrial ecosystems.*

**riparian corridor**

*A riparian corridor is the interface between land and a stream.*

**Road and Street Palette**



**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**

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*A functional classification system that differentiates between traditional Skeletal Roads, which primarily serve long-distance trips and do not interact with adjacent land uses, and Streets, which serve a broader range of transportation modes and do interact with adjacent land uses.*

**secondary indicator**

*A potentially more detailed or finely focused indicator, several of which, when combined, may support a core indicator.*

**sense of place**

*A strong identity and character that is felt by local inhabitants and visitors. Factors that help to create a “strong sense of place” include natural and cultural features, built form and architecture, mobility to and within the place and the people who frequent that place. Areas with a good sense of place often have elements that are appealing to the five senses (sight, smell, touch, taste, sound) and generally encourage people to linger longer and enjoy the atmosphere.*

**Skeletal Road**

*Skeletal Roads have an emphasis on moving vehicular traffic over long distances. They typically operate at high speeds and have little direct interaction with adjacent land uses. Ideally, they should form a skeletal grid across the city with approximately three to five kilometer spacing.*

**social inclusion**

*Actions to assist all individuals to participate in community and society and to encourage the contribution of all persons to social and cultural life.*

**stream corridor**

*Generally consists of the stream channel, floodplain, and transitional upland fringe*

**streetcars**

*Urban rail vehicles operating at low speeds (e.g., 10 to 25 kph) in mixed traffic, with closely spaced stops (e.g., every 200 metres).*

**Street-Oriented**

*Design that supports orienting building frontages and primary entranceways towards the street rather than internal to a site.*

**streetscape**

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | **Deletion** | **Addition** | **Moved text** |

*All the elements that make up the physical environment of a street and define its character. This includes paving, trees and vegetation, lighting, building type, style setback, pedestrian, cycle and transit amenities, street furniture, etc.*

**sustainability**

*Meeting the needs of the present without compromising the ability of future generations to meet their own needs. It includes environmental, economic and social sustainability. Sustainability is defined by the 11 Sustainability Principles for Land Use and Mobility, approved by Calgary City Council on Jan. 8, 2007.*

**target**

*A desired performance outcome for an indicator over a specified time period.*

**Transit Hub**

*A place of connectivity where different modes of transportation (walking, cycling, bus and rail transit) come together seamlessly and where there is an attractive, intense and diverse concentration of housing, employment, shopping and other amenities around a major transit station.*

**Transit-Oriented Development (TOD)**

*A compact, mixed-use community within walking distance of a transit stop, that mixes residential, retail, office, open space and public uses in a way that makes it convenient to travel on foot or by public transportation instead of by car.*

**transit-oriented, transit-friendly or transit-supportive**

*The elements of urban form and design that make transit more accessible and efficient. These range from land use elements, (e.g., locating higher intensity housing and commercial uses along transit routes) to design (e.g., street layout that allows efficient bus routing). It also encompasses pedestrian-friendly features, as most transit riders begin and end their rides as pedestrians.*

**transit priority measures**

*Strategies that improve transit operating speeds and transit travel time reliability in mixed traffic, such as traffic signal priority or queue jumps.*

**Transit Plaza**

*An area developed to serve as a public transportation centre, including onsite driveways, walkways, benches, bus shelters, and landscape areas.*

**DRAFT – PROPOSED AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN**Key: | Current version | **Deletion** | **Addition** | **Moved text** |**universal design**

*Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.*

**Urban Boulevard**

*A street type that forms the backbone of Urban Main Streets and Activity Centres. It gives the highest priority to walking, cycling and transit but accommodates reasonably high volumes of vehicular traffic. Urban Boulevards are fully integrated with adjacent land uses and provide high levels of connectivity to surrounding communities and destinations. High quality urban design and green infrastructure are also critical components of Urban Boulevards.*

**urban forest**

*All the trees and associated vegetative understory in the city, including trees and shrubs intentionally planted, naturally occurring or accidentally seeded within the city limits.*

**walkable**

*See “pedestrian-oriented.”*

**Water Body**

*Any location where water flows or is present, whether the flow or the presence of water is continuous, intermittent or occurs only during a flood, and includes but is not limited to wetlands and aquifers.*

**watershed**

*Watersheds include groundwater, springs, wetlands, ponds, streams and lakes as well as all land that drains into these linked aquatic systems. Watersheds reflect both the natural characteristics of their geography and the impacts of human activities within them.*

**wayfinding**

*A term used to describe how people respond to the built environment to orient themselves. Elements that contribute to wayfinding include reference points such as signage, natural areas or parks, landmark buildings, bridges, distinctive lighting, public art, etc.*

**wetlands**

*A (Calgary) wetland is a waterbody and its bed and shores, that is naturally occurring or disturbed and is located within the Foothills Fescue and Foothills Parkland Natural Regions within the city of Calgary (as per the Wetland Conservation Plan).*

**FOR INFORMATION ONLY**

PROPOSED REVISIONS TO COUNCIL POLICY TP012 (AS  
AMENDED)

THE CITY OF CALGARY  
CALGARY TRANSPORTATION PLAN

FEBRUARY 2020

Notes to Reader

This document identifies proposed changes to the Calgary Transportation Plan.

Changes have been colour-coded as follows:

Current version (black and blue): Existing text that will remain after amendment

**Deletion (red): Text that will be removed after amendment**

**Addition (green): New text that will be adopted after amendment**

**Moved text (purple): Existing text that will remain after amendment, but will be located in a different part of the document**

Numbered figures and call-out boxes / sidebars:

Existing numbered figures and call-out boxes will remain after amendment unless otherwise indicated. These are not shown.

Proposed and revised figures and call-out boxes are shown in the document

Figures and call-out boxes to be deleted after amendment are indicated in the document in their approximate location relative to policy text.

Policy and figure numbering may be subject to change.

Photos and graphical design that are not part of the formal content may be revised to improve readability and align with current City standards.

**PROPOSED AMENDMENTS TO THE CALGARY TRANSPORTATION PLAN**

Key: Current version (black) | Deletion (red) | Addition (green) | Moved text (purple)

## Part 1 – Contributing to the Plan It Calgary vision

### 1.1 Purpose of the Calgary Transportation Plan

The design of the transportation system has a significant impact on the urban form of the city. It contributes to the shape of our communities and employment centres, and it determines how we move within and among these places. It supports the economy by facilitating the timely movement of goods, services and people within the city and to regional or international destinations. It can either enhance or degrade the environment depending on how well it is integrated with its surroundings and the degree to which we depend on fossil fuels to reach our destinations. The decisions made today about where and what to build will affect Calgarians for 100 years or more – just as decisions made in the past affect us today.

Going forward, the transportation system must perform a wide variety of roles and consider the context of surrounding land uses, be they natural or manufactured. It must provide more choice for Calgarians – realistic choices that are convenient, affordable and attractive. These choices include walking, cycling, transit, high occupancy vehicles (HOV or carpooling) and single-occupant vehicles (SOV). The needs of commercial vehicles (goods and services) and emergency services (police, fire, EMS and emergency management) must be considered in context.

Successful application of the CTP policies will move Calgary towards a more sustainable future – for our economy, our environment and our citizens.

The Calgary Transportation Plan (CTP) provides policy direction on multiple aspects of the city's transportation system. To make the application of these policies as clear as possible, they are broken down into two categories:

#### Requirements

- contain the word “must”
- these policies apply in all situations, without exception

#### Recommendations

- contain the word “should”
- these policies are to be applied in all situations, unless it can be clearly demonstrated to the satisfaction of The City that the policy is not reasonable, practical or feasible in a given situation
- proposed alternatives must be to the satisfaction of The City with regards to design and performance standards
- “should” does not mean “optional”

In each section, words shown in *italics* (with the exception of sub-section titles) are defined in the glossary located in Appendix C.

**PROPOSED AMENDMENTS TO THE CALGARY TRANSPORTATION PLAN**

Key: Current version (black) | Deletion (red) | Addition (green) | Moved text (purple)

## 1.2 Linking to the Municipal Development Plan

The policies contained in the CTP are linked directly to the Municipal Development Plan (MDP). In order to meet the statutory requirements of the Municipal Government Act, and provide additional context for the land use policies, the MDP contains a summary of the transportation objectives from section 3 of the CTP. It also contains the Primary Transit Network and Road and Street Network maps. Some of the policy sections in the CTP also contain references to sections in the MDP that need to be considered when planning transportation infrastructure in Calgary.

The MDP provides detailed policies for multiple land use areas known as *typologies*. The *Typology* section of the MDP contains detailed descriptions of each *typology*, along with land use, urban design and mobility policies. While the CTP provides a comprehensive policy framework for transportation in Calgary, transportation professionals should also familiarize themselves with each of the *typology* areas in the MDP to understand fully the differences in transportation priorities. The maps contained in the CTP show the key *typologies*, such as Activity Centres, Corridors, Main Streets and industrial areas, related to each transportation network.

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### 1.3 Aligning with ~~the~~ Calgary Metropolitan Region growth and servicing plans

The policies contained in the CTP ~~should~~ align with the ~~general~~ goals and policy direction of the ~~Calgary Metropolitan Region Board (CMRB)~~. The transportation networks identified in the CTP accommodate connections for multiple modes of transportation to adjacent municipalities (Rocky View County, ~~MD of~~ Foothills County, ~~Town~~ City of Chestermere) and the ~~TsuuT'ina~~ Tsuut'ina Nation that will enhance the region's competitive advantage regionally, nationally and globally.

Investment decisions for Calgary's transportation infrastructure will consider the needs and impact on adjacent municipalities, and support long-range plans for regional transportation systems. Calgary will also participate in regional transit planning to provide effective transportation options that support long-range land use objectives in Calgary and the region.



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# 1.4 The Sustainability Principles and Key Directions for Land Use Mobility

In January of 2007, City Council adopted the *Sustainability* Principles for Land Use and Mobility. The Principles were derived from current City of Calgary policy direction, well recognized Smart Growth principles, and the direction of the Long Range Urban *Sustainability* Plan for Calgary (imagineCALGARY). The *Sustainability* Principles for Land Use and Mobility are:

1. Create a range of housing opportunities and choices.
2. Create *walkable* environments.
3. Foster distinctive, attractive communities with a strong *sense of place*.
4. Provide a variety of transportation options.
5. Preserve open space, agricultural land, natural beauty and critical environmental areas.
6. Mix land uses.
7. Strategically direct and manage *redevelopment* opportunities within existing areas.
8. Support compact development.
9. Connect people, goods and services locally, regionally and globally.
10. Provide transportation services in a safe, effective, affordable and efficient manner that ensures reasonable *accessibility* to all areas of the city for all citizens.
11. Utilize *green infrastructure* and buildings.

In November of 2008, City Council also approved the Key Directions for Land Use and Mobility for use in the development of the MDP and CTP. The Key Directions represent the strategic moves that need to be accomplished in order to guide Calgary towards the imagineCALGARY vision and the *Sustainability* Principles for Land Use and Mobility. The Key Directions for Land Use and Mobility are:

1. Achieve a balance of growth between established and greenfield communities
2. Provide more choice within *complete communities*
3. Direct land use change within a framework of nodes and *corridors*
4. Link land use decisions to transit
5. Increase mobility choices
6. Develop a Primary Transit Network
7. Create *Complete Streets*

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- 8. Optimize infrastructure

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## 1.5 Transportation goals

Each section in the CTP indicates support for a combination of Council-approved Key Directions for Land Use and Mobility and the following transportation goals. The seven transportation goals give additional direction to all aspects of transportation in Calgary and provide more detail to the overall transportation goal contained in the MDP, which is:

To develop an integrated, multi-modal transportation system that supports land use, provides increased mobility choices for citizens, promotes vibrant, connected communities, protects the natural environment, and supports a prosperous and competitive economy.

**Transportation Goal #1:** Align transportation planning and infrastructure investment with city and regional land use directions and implementation strategies.

City and regional land use directions are designed to reduce our ecological footprint and promote the conservation and responsible consumption of natural resources including land, energy and water. Commitment to these directions will achieve greater use of more sustainable travel modes such as walking, cycling and public transit, while also reducing the average distance travelled by automobiles.

**Transportation Goal #2:** Promote safety for all transportation system users.

The City should ensure that all aspects of the transportation system are safe and secure, and enable prompt and effective emergency response. These objectives will be achieved through ongoing operations, maintenance and public education programs, as well as mobility management and land use strategies that will reduce vehicular travel and improve public safety and health.

**Transportation Goal #3:** Provide affordable mobility and universal access for all.

Citizens must be provided with a range of affordable travel options regardless of income or ability, including walking, cycling, public transit, and taxis. The built environment and transportation infrastructure should incorporate principles of universal access.

**Transportation Goal #4:** Enable public transit, walking and cycling as the preferred mobility choices for more people.

An integrated strategy is required that includes substantial transit expansion, investment in new pedestrian and cycling infrastructure, *transit-oriented* land use and supportive *street* and parking policies. These strategies will reduce demands on the transportation system by reducing vehicle trip distances and making public transit, walking and cycling more appealing mobility choices for more people.

**Transportation Goal #5:** Promote economic development by ensuring the efficient movement of workers and goods.

The transportation system must foster economic development by facilitating the efficient movement of workers and goods by *roadway*, rail and air. Transportation facilities must provide access to major industrial and employment locations.

**Transportation Goal #6:** Advance environmental *sustainability*.

The transportation system should be planned, designed, operated and maintained to reduce the impact of travel on the environment by curbing land consumption, protecting air and water quality and reducing energy consumption and

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*greenhouse gas emissions.*

**Transportation Goal #7:** Ensure transportation infrastructure is well managed.

Sound management of all transportation infrastructure will promote efficiency, infrastructure preservation and value, safety and a healthy environment.

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## 1.6 Public and community engagement

The increasing complexity of issues faced by “city builders” requires that all disciplines work together to achieve outcomes that would not be possible for any one discipline acting alone. Involvement of broad stakeholder groups will also be important in the planning, design and operation of the transportation system.

Collaborative processes should be undertaken when planning new transportation infrastructure, upgrading existing infrastructure, or evaluating the impacts of new developments. Impacted stakeholder groups, including but not limited to community residents and associations, local businesses and the development industry should be engaged early in planning processes to build understanding of transportation issues, and ensure that infrastructure meets the needs of all users and adjacent properties.

Fully understanding the perspectives and expectations of users is fundamental to any efforts to improve and enhance Calgary’s transportation system. In order to better support The City’s service-based business-planning and budgeting model, Transportation should take steps to engage in an ongoing and meaningful way with the users of the services it provides. Through more meaningful engagement comes a better understanding of users’ needs and expectations, ensuring that their voices are part of every service planning and management decision.

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### 1.7 Amending the CTP

Like the MDP, the CTP is a living document and will be kept current by reviewing, updating and amending it as required. Any changes to policies, maps or appendices in the CTP as proposed by Administration will require approval by resolution of Council. Amendments to the CTP may also be triggered by amendments to the MDP.

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## 1.8 Implementation

All policies contained in the CTP are in effect immediately upon the date specified through approval by resolution of Council. Over time, updates to existing transportation plans and guidelines would align to the contents of the CTP (such as *Street* classifications and nomenclature).

Implementation of the plan is a continual process that does not live within one location or team. Success will be achieved through a number of paths, including:

- Development, maintenance and implementation of supportive strategic plans;
- Strategic infrastructure investment that complements MDP priorities and is developed collaboratively;
- Alignment of operational budgets to support plan outcomes;
- Principles for considering new opportunities for the transportation system; and
- Ongoing dialogue and discussion on how to best achieve the plan outcomes.

The content and policies of the CTP establish the high-level structure principles that enable more focused planning and service implementation. Since the approval of the CTP by City Council in 2009, a number of supporting strategic plans and guides have been developed; Figure 1 illustrates the Council-approved plans and guides in place as of December 2019. This collection of plans may change over time, depending on service implementation requirements.

NOTE: it is proposed that Figure 1 below be added to the CTP.

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Figure 1 – Council-approved Transportation Plans and Guides



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Aligned decision-making

The amount of resources to successfully implement the CTP will be constrained due to limited funding. In order to maximize the success of achieving the CTP outcomes, decisions must be thoughtfully considered as to how they meet the seven Transportation Goals, Triple Bottom Line outcomes, and how they support the goals of the MDP. Decisions that meet multiple goals should be favoured over decisions that only meet one or two goals. As part of business case development, projects should be presented in the context of which goals they are advancing, and which goals may be compromised by the decision.

~~A companion implementation plan developed collaboratively by Transportation, Infrastructure Calgary and Calgary Growth Strategies, will contain identify the 10-year actions necessary to achieve the policies contained in the CTP, and will indicate the anticipated phasing and resource requirements associated with the actions. The implementation plan should be updated with each three-year business cycle to maintain alignment with the growth, planning and investment objectives contained in the MDP and CTP.~~ Where and when investments are made in transportation infrastructure is a critical component of the overall CTP implementation strategy. Part 2 of the CTP contains implementation policies to align infrastructure investment with the goals and objectives of the CTP and MDP.

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## Part 2 – Implementation through strategic investment

**Objective** Align transportation planning and investment decisions with strategic corporate growth policies in order to increase municipal fiscal *sustainability*.

### Discussion

The MDP contains a process and policies to guide growth decisions in Calgary, called the Strategic Framework for Growth and Change (referred to as the MDP Framework for Growth and Change in this document). The MDP Framework for Growth and Change contains a variety of policies to address key growth challenges in Calgary, and ensures the best possible social, environmental and economic (a.k.a. “Triple Bottom Line”) outcomes for citizens both now and in the future.

The decision making process described in the MDP Framework for Growth and Change contains criteria for selecting growth areas in both developed and greenfield areas of the city. It also more clearly links land use planning and infrastructure investment decisions back to the long-range plan contained in the MDP, and consequently the CTP as well.

~~This new process~~ The MDP Framework for Growth and Change has several policy implications for the provision of ~~transportation~~ infrastructure in Calgary:

- Infrastructure Calgary (IC), established by The City in 2016, has a corporate mandate to coordinate city-wide infrastructure investment for the purpose of achieving the most value for citizens. Infrastructure Calgary is responsible for the stewardship of The City’s Capital Infrastructure Investment Principles and Capital Investment Plan (CIP). Accordingly, the Principles, CIP, and associated infrastructure decision and management ~~programs will~~ processes must be designed to support achievement of the long-term goals and objectives of the MDP and the CTP.
- The MDP Framework for Growth and Change must inform Infrastructure Calgary’s decisions regarding the capital budget timing of growth-related infrastructure investments; in providing strategic support to Infrastructure Calgary’s infrastructure prioritization and budgeting processes, Calgary Growth Strategies should apply the MDP Framework for Growth and Change policies.
- Limits on the capital funding available to The City for infrastructure investment should be addressed through Infrastructure Calgary’s city-wide infrastructure investment planning process, ensuring that the potential cost/benefit implications for The City of alternative infrastructure funding scenarios are identified and communicated comprehensively as part of budget deliberations by City Council.
- Municipal capital investment in infrastructure (including new and maintenance/refurbished) should be prioritized in the following ~~manner~~ order:
  - i. ~~Support~~ Investments that support intensification of Developed Areas of the city;
  - ii. ~~Expedite~~ Investments that expedite the completion of communities in Planned ~~Greenfield~~ Developing Areas of the city (as defined on the MDP Urban Structure Map).

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iii. ~~Supporting~~ Investments that support the development of Future Greenfield Areas.

- ~~Align The City's capital planning programs, such as the Transportation Infrastructure Investment Program, the Emergency Response Infrastructure Investment Program, the Culture, Parks and Recreation Infrastructure Investment Program, etc., to support the direction of the MDP and CTP.~~
- Upon adoption of a new Local Area Plan (as defined in the MDP), all relevant maps in the MDP and CTP must be updated.

~~Future~~ Transportation planning priorities and investment activities recommendations need to align with the MDP Framework for Growth and Change in order to achieve the goals of the MDP and CTP. However, ~~transportation investments~~ they must also take into account the ongoing infrastructure management needs of existing facilities and additional priorities in the CTP that are beyond the scope of the MDP Framework for Growth and Change (such as improvements to the Primary Goods Movement Network described in section 3.4). The following transportation policies address these issues.

### Policies

- a. Transportation planning priorities and investment decisions must be ~~aligned~~ based on an understanding of the strategic priorities of The City and overall fiscal limitations, requiring alignment and ~~coordinated~~ coordination with the MDP Framework for Growth and Change, and the CTP transportation goals.
- b. The highest priority for transportation capital and operating investment should be the Primary Transit Network and supporting infrastructure (including walking and cycling infrastructure and *Complete Streets*) in *Activity Centres* and ~~Corridors~~ *Main Streets*.
- c. Transportation capital and operating investments that will enhance the reliability and safety of goods movement should be given increasing priority.
- d. Ongoing operating and maintenance costs must be considered in the approval process for transportation infrastructure projects.
- e. New ~~sources of stable and predictable~~ funding ~~sources~~ should be identified and pursued to fund both transportation capital and operating costs.
- f. The capacity and life-cycle of existing transportation infrastructure should be optimized before investing in new infrastructure in existing areas.
- g. The infrastructure and implementation strategies identified in the CTP ~~and transportation strategic plans such as RouteAhead, Step Forward, Goods Movement Strategy, etc.~~ should be reviewed and prioritized within the context of The City's current and future financial capacities.
- h. ~~The City's capital management and investment planning processes must be designed to support achievement of the long-term goals and objectives of the MDP and the CTP.~~
- i. ~~Through its management of The City's capital portfolio, Infrastructure Calgary should ensure that the matching of available funds from external sources (e.g. other levels of government, industry) is optimized~~

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relative to the impacts or trade-offs resulting from non-investment in high priority projects/programs in other areas of the portfolio.

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## Part 3 – Transportation policies

The following sections outline the transportation policies that work in conjunction with the land use policies of the MDP. The CTP policy areas that contribute most to achieving the Key Directions for Land Use and Mobility and the transportation goals are:

- Transit
- *Complete Streets*

Given their importance, these two sections contain more extensive background information and policies to aid implementers in achieving the desired outcomes.

All maps referred to in the following sections are located in Appendix D.

### 3.1 Transportation choice

**Objective** Maintain automobile, commercial goods and emergency vehicle mobility in Calgary while placing increased emphasis on **more** sustainable modes of transportation (including but not limited to walking, cycling and transit).

#### Supports

Key Direction #5: Increase mobility choices.

Key Direction #7: Create *Complete Streets*.

Transportation Goal #3: Provide affordable mobility and universal access for all.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

Transportation Goal #5: Promote economic development by ensuring efficient goods movement and labour force mobility.

#### Discussion

Calgary's current transportation system is focused primarily on *roadways* and the efficient movement of motorized vehicles. With the exception of transit service to the downtown, other modes of transportation (such as walking and cycling) have been given less priority. This has happened largely out of necessity. Over the last 50 years, land uses have been increasingly segregated, with homes located further and further away from jobs and amenities. Population growth has gone almost entirely to the edges of the city, while employment continues to cluster in the downtown and east industrial areas. With trip distances increasing each year, the private automobile has naturally become the preferred travel choice.

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The CTP and MDP represent a new direction for transportation in Calgary. The more compact form of development envisioned in the MDP will bring homes, jobs, services and amenities closer together. This will make non-automobile modes of travel more convenient, and therefore give Calgarians choices when travelling around the city. More choice means that Calgary's transportation system will:

- improve overall mobility;
- better withstand rising energy costs or other economic shocks;
- reduce energy use and emissions;
- provide travel options for all Calgarians, regardless of age or income; and
- increase Calgary's competitive advantage in the global marketplace.

In most cases, it will not be practical to accommodate all modes of travel equally in every part of Calgary. Decisions will need to be made on which modes should be emphasized in each part of the city. Increasingly, travel will consist of using combinations of modes, making the integration of modes and user experience critical. Sustainable modes of transportation should be emphasized where they can provide convenient and realistic travel choices. The Transportation Sustainability Triangle in Figure 4.2 shows the relative sustainability of each transportation mode, with walking being the most sustainable.

Walking, cycling and transit, and other "active modes" (e.g. roller-blading, scooters) are all more sustainable modes because:

- they require less energy;
- need less infrastructure and typically cost less to build; and
- are available to almost all Calgarians.

Commercial vehicles are also a critical element of Calgary's economy, and must be accommodated in most parts of the city, with emphasis on several key areas (such as the airport, industrial areas, intermodal rail terminals, and on heavily used goods movement corridors such as Deerfoot Trail and the Ring Road).

Emergency services (police, fire, ambulances) are not explicitly shown in Figure 4.2 because they are unique users of the transportation system and operate in all parts of the city. Access to emergency services must be considered in the planning, design and operation of the transportation system.

NOTE: it is proposed that the figure located on page 3-3 of the 2009 version of the CTP be replaced with Figure 2 below.

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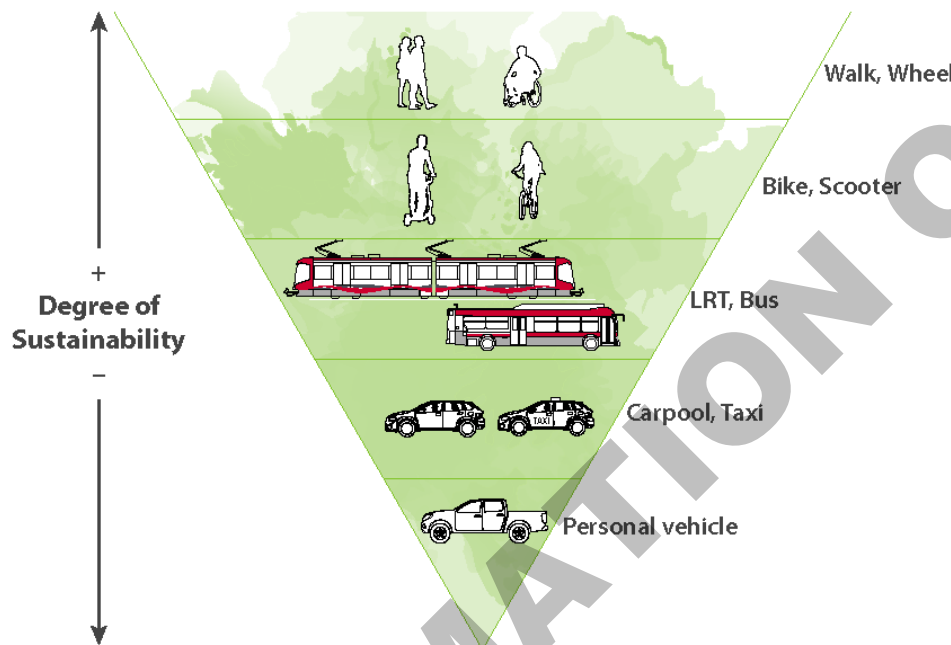


Figure 4.2 – The Transportation Sustainability Triangle

Although walking, cycling and transit are more sustainable modes of transportation, the majority of daily trips are expected to continue to be made by private vehicles. Figure 2.3 shows the travel choices for all trips today compared to projected travel choices 60 years in the future based on the recommended land use patterns and transportation systems contained in the MDP and CTP. The expected increase in trips will need to consist of a greater share of walking, cycling and transit trips for the transportation system to function adequately. The recommended direction will need to be reviewed should future technologies, such as self-driving cars, become prevalent once there is a fuller understanding of their role and use in travel.

It is clear that private vehicles will continue to be the most common travel choice, particularly in outlying areas of the city where most destinations are too far to reach by walking and cycling, and where transit service is not as frequent or efficient as a vehicle. Transportation networks will be designed to manage the demand for vehicle use, and will be optimized using a wide range of tools and technologies.

Increased walking and cycling activity will occur primarily in the Activity Centres and Corridors Main Streets located across the city. Homes, jobs, services and amenities will be located in close proximity to each other in these

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locations. The needs of pedestrians and cyclists should therefore be given the highest priority in *Activity Centres* and *Corridors Main Streets*. Well designed infrastructure and direct connections between destinations will allow walking and cycling to be the most convenient way to travel in these locations.

Transit service will offer the most convenient choices to people travelling between *Activity Centres* and along the *Corridors Main Streets* that connect them. Priority measures will enhance the reliability of transit services within and between these strategic locations, making transit competitive and an attractive option to private automobiles.

The increasing variety of transportation choices made by Calgarians in the future can be effectively accommodated by putting the right type of infrastructure in the right place. Figure 3 4 in section 3.7 of the CTP shows how the new *Road* and *Street Palette* provides a range of *road* and *street* types that emphasize different transportation modes. The CTP recommends that the majority of the *roads* and *streets* built in Calgary be types that emphasize private vehicles and goods movement. This reflects both the existing infrastructure that has been built in Calgary, and the transportation needs for much of the city in the future.

Specialty *streets* that emphasize walking, cycling and transit will comprise a lesser amount of the *Road* and *Street* Network. However, these *streets* will be strategically located in *Activity Centres* and *Corridors Main Streets* where the majority of walking, cycling and transit activity is expected to occur.

NOTE: it is proposed that the figure located on page 3-4 of the 2009 version of the CTP be replaced with Figure 3 below.

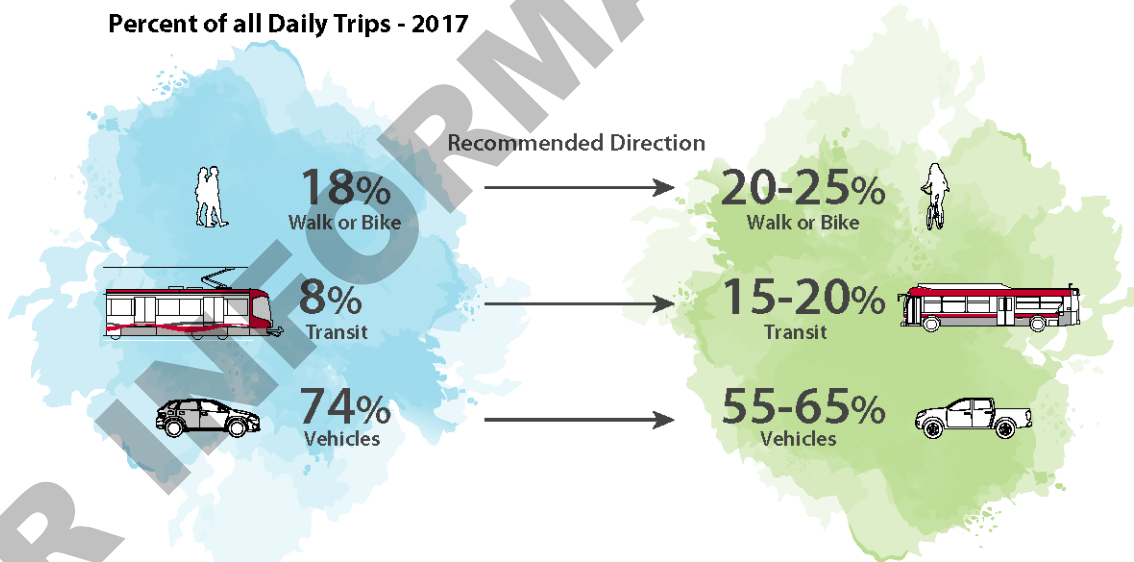


Figure 2 3 – Current and future travel choices

In conjunction with other transit and cycling infrastructure, this combination of road and street designs will make it possible to meet the increasingly diverse travel needs of Calgarians now and in the future.

**Policies**



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- a. The needs of sustainable modes of transportation (walking, cycling and transit) ~~should~~ **must** be considered in all transportation planning projects.
- b. Pedestrians and cyclists should be given the highest priority in the planning, design, operation and maintenance of transportation infrastructure in *Activity Centres* and ~~Corridors~~ **Main Streets**.
- c. Along the Primary Transit Network, priority should be given to transit in the planning, design, operation and maintenance of the transportation system, with the goal of minimizing person delay rather than vehicle delay.
- d. Emphasis should be placed on the efficient movement of commercial vehicles in industrial areas, along corridors defined as part of the Primary Goods Movement Network, and to access the airport or *intermodal* rail facilities.
- e. In areas where walking, cycling and transit cannot provide convenient and reliable travel choices, emphasis should be placed on mitigating **the negative effects** of congestion and ~~improving capacity for~~ **the efficient movement of private vehicles and goods**.
- f. The needs of emergency vehicles and large-scale evacuation equipment must be considered in the planning and design of all transportation infrastructure.
- g. The needs of emerging modes of transportation (e.g. **urban-mobility devices such as electric-powered scooters**) should continue to be monitored, ~~and~~ **planned for, and supported operationally** as necessary to **advance CTP goals and objectives**.
- h. On facilities where multiple users compete for priority, a balanced approach should be used to address the trade-offs and risks of various design decisions.

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## 3.2 Walking and cycling

**Objective** To make walking and cycling attractive and convenient through the provision of additional or enhanced infrastructure, and through land use planning that brings homes, jobs, services and amenities closer together.

### Supports

Key Directions #2: Provide more choice within *complete communities*.

Key Directions #5: Increase mobility choices.

Key Directions #7: Create *Complete Streets*.

Key Directions #8: Optimize infrastructure.

Transportation Goal #2: Promote safety for all transportation system users.

Transportation Goal #3: Provide affordable mobility and universal access for all.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

Transportation Goal #5: Promote economic development by ensuring efficient goods movement and labour force mobility.

Transportation Goal #7: Ensure transportation infrastructure is well managed.

### Discussion

#### Walking

Walking is the simplest type of transportation; it offers health and wellness benefits, costs very little and is available to almost everyone, regardless of age, gender, ability or income. It is quiet, doesn't pollute and fosters social interaction.

Pedestrians include all persons walking or jogging, using wheelchairs or mobility aids, walking their dogs, people with children's strollers or wheeled carts, in-line skaters and skateboarders.

Like any mode of transportation, people will choose to walk if it is a convenient way to travel. Making walking a convenient, year-round option for more Calgarians requires:

- direct and convenient connections to destinations;
- sufficient unobstructed space to walk comfortably;
- well-maintained routes with character that feel safe and secure;
- adequate separation from traffic; and
- 'around-the-clock' pedestrian activity.

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Public places such as streets and plazas should have high-quality urban design elements wherever possible. Pedestrians should be provided with different views, a positive ambiance, public art and spaces for rest and play. Section 3.7 on *Complete Streets* provides additional information regarding urban design and other pedestrian requirements in relation to surrounding land uses.

Since virtually all people walk for at least a short distance to take transit, there must also be continuous, consistently maintained pedestrian routes to transit stops. The design of transit stops and stations must place high priority on pedestrian movement, waiting and comfort, as well as convenient access for transit vehicles arriving at those stops.

The needs of pedestrians, including those who use mobility aids, are considered throughout the CTP. Access to transit, the design of pedestrian-friendly streets and providing more direct connections between destinations in new communities and *Activity Centres* are key *pedestrian-oriented* initiatives in the CTP.

### Cycling

Bicycles are more than recreational tools. They are efficient human-powered machines that improve health and enable travel five times faster than walking. Due to the relatively low cost, cycling is also available to almost everyone. Cyclists include persons riding any cycle, whether propelled by human effort or a power-assisted device.

While cyclists are allowed on almost all Calgary streets, additional guidance can be provided through signs or by designating extra space on streets to increase cyclist comfort and safety. Cycling can be accommodated on low-volume, low-speed *streets* or in wide curb lanes, bike lanes or separate on-*street* bicycle lanes. Off-*street* cyclists can also travel on walkways, pathways, trails and, ~~in the future~~, *cycle tracks* (~~an off-street~~ *dedicated, physically separated bicycle lane next to the vehicle lanes built into street right-of-way*).

Making cycling a convenient, year-round option for Calgarians requires:

- smooth travelling surfaces free of obstacles;
- well-maintained, clear routes;
- connected and continuous routes that give cyclists the ability to maintain speed;
- bicycle parking and amenities at destinations;
- routes with character that offer safety and a feeling of security; and
- education and enforcement for all transportation system users.

Connecting bicycle trips to transit service enables longer trips, enlarges transit catchment areas, enables cyclists to bypass topographical barriers and increases transit ridership. Examples of integration measures include safe and secure bicycle parking at transit stations, allowing bicycles on trains and buses and improvements to bicycle routes and transit station access.

NOTE: it is proposed that the sidebar located on page 3-7 of the 2009 version of the CTP be revised as follows.

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**Physical Activity, Urban Form and Obesity**

Between 2004 and 2015, the prevalence of obesity amongst Alberta's population aged two years and up increased by 24 per cent. Amongst adults 18+, the most extreme forms of obesity (where body mass index exceeds 40 or more) increased by 31 per cent.

- Statistics Canada: Canadian Community Health Survey – Nutrition (2004, 2015)

~~In Canada, the prevalence of obesity has more than doubled in the last 20 years. The most extreme forms of obesity, where body mass index (BMI) exceeds 40 or more, increased the most dramatically—225 per cent between 1990 and 2003. In Calgary, 32 per cent of adults were classified as overweight in 2003, and an estimated 14 per cent were obese. Although nearly 60 per cent of Calgarians indicated that they were “at least moderately active” in leisure activities in 2003, 45 per cent of the city’s population is not active enough to achieve health benefits.~~

In 2019, 68 per cent of Calgarians reported participating in enough physical activity to achieve health benefits.

- Centre for Active Living, 2019 Alberta Survey on Physical Activity

Walkable, transit-supportive built environment patterns have been associated with higher amounts of active transport and more physical activity overall. Less walkable, vehicle-dependent built environments have been correlated with higher body weights, obesity, and their associated chronic diseases.

- Dr. Larry Frank, *The Built Environment and Health: A Review*

Cycling is supported in the CTP through policies for the introduction of new types of cycling facilities, improved design of future and redeveloped *streets* and through the provision of better connections in new communities and *Activity Centres*. A **new** Primary Cycling Network has **also** been designated for Calgary. This network **will** connect major destinations such as *Activity Centres*, **Corridor Main Streets** and major institutions. Each segment of the network **will** include the best possible cycling infrastructure that can reasonably be accommodated. Connections **will be** as direct as possible, making cycling between these locations direct and expedient, while also safe and appealing. In order to make this a year-round alternative to travel in Calgary, the Primary Cycling Network must have high priority for maintenance and be kept clear of debris, snow and ice. Where the Primary Cycling Network incorporates pathways, the needs of both recreational users and commuters should be considered carefully in the design and operation of those facilities.

The Primary Cycling Network does not outline all future bicycle routes. Instead, it defines high-priority bicycle routes where the most concentrated activity will occur. All other existing and future bicycle routes will be identified through periodic updates of the Calgary bikeway and pathway maps.

The Primary Cycling Network is shown in Map 1 in Appendix D.

The following policies, and associated design considerations contained in Section 3.7, comply with existing legislation regarding the operation and control of bicycles on public *rights-of-way*. However, updates and improvements to existing legislation should be endorsed to further promote safe and convenient bicycle operation on city *streets*.

**Policies**

**PROPOSED AMENDMENTS TO THE CALGARY TRANSPORTATION PLAN**

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- a. Pedestrian and bicycle routes ~~should~~ **must** be provided throughout the city.
- b. The type of cycling facilities implemented on the Primary Cycling Network should be based on the surrounding land uses and *right-of-way* restrictions. Cycling facilities should also be enhanced as *redevelopment* of corridors along the Primary Cycling Network occurs.
- c. The amount, directness, connectivity, *accessibility*, comfort, character and safety of pedestrian and bicycle routes should be increased.
- d. The quality of pedestrian and bicycle environments should be emphasized in all transportation studies and **must be emphasized** in all future development or *redevelopment* plans for *Activity Centres*, ~~Corridors~~ **Main Streets**, TOD sites and residential communities.
- e. Walking and cycling must be integrated with transit services and improve *intermodal* opportunities at the community, city and regional scales.
- f. Design of facilities, public education and law enforcement should be used to increase acceptance, understanding and decrease conflicts among all users of the *roadway*, pedestrian and bicycle networks.
- g. Safe, barrier-free walkways and pathways should be provided in community designs to reduce pedestrian and bicycle distance to transit service and community amenities.
- h. Bicycle parking should be provided at destinations in *Activity Centres*, ~~Corridors~~ **Main Streets**, TOD sites, employment centres and parks and open spaces.
- i. A full range of strategies such as traffic signal optimization, pedestrian ~~scramble-crossings~~ **signal priority measures** and pedestrian countdown timers should be used to improve convenience for pedestrians and cyclists at locations where high volumes of pedestrians and cyclists already exist or are expected in the future.
- j. Disruptions to pedestrian and bicycle travel ~~should~~ **must** be minimized during construction.
- k. The Transportation Department and Parks Business Unit must co-ordinate the design, operation and maintenance of all pathways (including snow clearing) that form part of the Primary Cycling Network to accommodate the needs of both recreational users and commuters.

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### 3.3 Transit

**Objective** To provide a safe, accessible, customer focused public transit service that is capable of becoming the preferred mobility choice of Calgarians.

#### Supports

Key Direction #2: Provide more choice within *complete communities*.

Key Direction #3: Direct land use change within a framework of nodes and corridors.

Key Direction #4: Link land use decisions to transit.

Key Direction #5: Increase mobility choices.

Key Direction #6: Develop a Primary Transit Network.

Key Direction #8: Optimize infrastructure.

Transportation Goal #1: Align transportation planning and infrastructure investment with city and regional land use directions and implementation strategies.

Transportation Goal #2: Promote safety for all transportation system users.

Transportation Goal #3: Provide affordable mobility and universal access for all.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

Transportation Goal #5: Promote economic development by ensuring efficient goods movement and labour force mobility.

Transportation Goal #6: Advance environmental *sustainability*.

#### Discussion

High-quality public transit service is an essential requirement for the creation of attractive, vibrant and economically competitive cities. Investment in transit improvements can significantly improve the social, economic and environmental health of communities by:

- enabling citizens to participate in the social and economic life of the community;
- providing lower cost mobility options for transportation users and society by reducing the need for and expense of new *roadway* and parking infrastructure and operation of private vehicles;
- improving air quality and reducing energy demands and *greenhouse gas emissions* that are contributing to global climate change;
- helping to shape and create more intense, mixed-use development within walking distance of public transit stops and stations which, in turn, will generate increased transit use; and

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- ensuring labour force mobility to support economic development.

**Creating a new transit vision for Calgary and region**

People will choose to use transit if it satisfies their mobility needs. Substantial improvements in the frequency, speed, comfort, reliability, convenience and safety of transit service are necessary to make transit an appealing mobility option. These actions must be supported by complementary *Complete Street* and parking strategies. In order to substantially increase transit ridership and enable transit to shape land use changes, all of the following success factors for transit must be achieved:

Make transit a convenient and comfortable travel alternative through the development of a Primary Transit Network

**Continued** development of the Primary Transit Network ~~will~~ **make** transit appealing by connecting major travel destinations more directly, making these connections faster and more reliable by expanding the use of transit priority measures and increasing the frequency of service so that customers can “show up and go” without having to consult a transit schedule. The Primary Transit Network will also be integrated with other city, regional and inter-city transit services.

Link land use decisions to transit

Compact, mixed-use development and pedestrian-friendly designs are required along the existing and future Primary Transit Network. This will be supported by timely investment in new transit lines and improved transit service levels to support land use intensification.

Integrate transit with civic life

It is essential that transit service is centrally located and effectively integrated with surrounding land uses. Transit infrastructure must also be designed and maintained to a high standard to provide a safe, clean and comfortable environment where transit riders feel welcome and valued.

Incorporate new transit technologies and innovations

Opportunities exist to incorporate advancements in transit vehicle technology, traffic engineering and customer information systems (e.g., real-time schedule information) to improve customer experience and enhance transit efficiency.

Sustain fleet and infrastructure

**Supporting essential lifecycle maintenance activities preserves transit service levels by ensuring that vehicle, stations, tracks and other facilities remain in good repair. This ensures that transit services remain safe, reliable and comfortable.** Investment in new maintenance infrastructure to support transit system expansion ~~and undertake essential life-cycle maintenance to sustain existing operations~~ **remains essential.**

Expanding the Calgary Transit network

The CTP proposes the creation of an integrated family of transit services, including (1) a Base Transit Service, to provide good coverage and a basic level of service to all areas of the city, and (2) a Primary Transit Network, which will provide a well connected, high frequency route network to support the framework of *Activity Centres* and

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*Corridors Main Streets.*

The CTP transit strategy represents a transit service commitment to Calgarians that will guide the allocation of financial resources for service expansion in future years.

**Base Transit Service**

Base Transit Service includes a comprehensive range of transit services (e.g., feeder routes, mainline and cross-town transit services) that will support the Primary Transit Network by providing comprehensive community coverage. Base Transit Service may also augment the Primary Transit Network by meeting additional needs (e.g., cross-town travel, local circulator services within the Centre City and *Activity Centres*) that involve high ridership but not necessarily full Primary Transit levels of service.

Base Transit Service will provide a comfortable and safe environment and be integrated with the Primary Transit Network to enable convenient transfers. It will extend far enough to ensure that at least 95 per cent of development is within a five-minute walk from transit service (i.e., 400 metres). Development served by the Base Transit Service should also have a sufficient *intensity* of population and employment to achieve the ~~minimum Council-approved~~ performance policies for transit service.

**Primary Transit Network**

The Primary Transit Network is defined by level of service - not by mode. It comprises a permanent network of high-frequency transit services (i.e., LRT, *Bus Rapid Transit* (BRT), *streetcars*/trams and frequent bus service) that will operate every 10 minutes or less over an extended operating period, seven days a week. The Primary Transit Network will form the foundation of the transit system and incorporate the highest standards with regard to level of service, operating speed, connectivity and amenities to attract new customers.

The proposed Primary Transit Network concept plan is shown in Map 2 in Appendix D. Proposed transit service for Centre City is shown in Map 3. For ease of understanding, two types of Primary Transit service have been identified:

1. A skeletal network of existing and proposed LRT lines which form the backbone of the Primary Transit Network and which operate in dedicated or semi-exclusive *rights-of-way*, separate from auto traffic.
2. A network of other radial and cross-town transit services that will operate in dedicated *rights-of-way*, High Occupancy Vehicle (HOV) lanes and mixed traffic, with priority over automobiles at signalized intersections. Transit service in these corridors will begin with bus service and may eventually evolve into higher order rail service based on future corridor development and travel demand.

The Primary Transit Network will be developed in phases over the next 30 years and will be monitored closely based on five key measures of transit service quality. The measures are:

**Frequency**

During core operating periods, combined service frequency will be every 10 minutes or better for all modes of Primary Transit. This level of service will enable seamless connections between transit services and make it possible for people living near these services to make spontaneous trips along the transit corridors without consulting a transit schedule.



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**Span of service**

Core operating periods on the Primary Transit will be at least 15 hours a day, seven days a week. Less frequent service will continue to be provided outside the core operating period. This is important in ensuring that all types of trips can be accommodated on the Primary Transit Network – not just work and school commuting.

**Speed and directness**

Route directness and operating speed are critical to the success of the Primary Transit Network since most travellers will choose the fastest mode when planning their trips. A range of transit priority measures will be implemented, with a “transit first” philosophy along the Primary Transit Network.

**Service reliability**

Service reliability is one of the critical measures of transit service quality. Users can expect the Primary Transit Network to operate on a reliable schedule to minimize customer wait times. All Primary Transit services should operate within three minutes of scheduled arrival times.

**Increased transit capacity**

The Primary Transit Network will be closely monitored to ensure that sufficient capacity is available to accommodate ridership demand. Improved frequencies and selection of appropriate transit vehicles will be necessary to provide adequate capacity for a comfortable ride. Strategically located *Activity Centres* and *Corridors Main Streets* will also support more efficient use of transit by supporting more balanced, two-way passenger flows on the Primary Transit Network.

The development of the Primary Transit Network is key to the success of the MDP and the CTP, and the re-establishment and expansion of the Primary Transit Network should continue to be important.

**Regional transit**

~~The Calgary Regional Partnership (CRP) has identified enhanced regional transit services within and between its communities, integrated with growth corridors and nodes, as a cornerstone of the proposed Calgary Metropolitan Plan.~~

~~The short term regional transit goal is to implement an integrated, regional *Bus Rapid Transit* (BRT) service that would provide two-way service between key destinations within The City of Calgary and adjacent regional communities. These services would be connected through a network of Transit Mobility Hubs. Transit Mobility Hubs are a place of connectivity where different modes of transportation (i.e., walking, cycling, bus and rail transit) come together seamlessly, and where there is an attractive, intensive and diverse concentration of housing, employment, shopping and other amenities around a major transit station. Regional transit hubs will be located to support other medium- and longer-term transit investments such as inter-city commuter rail and LRT services.~~

The City of Calgary supports *collaborating with regional partners* on the development of an integrated, high *capacity* regional transit service ~~and will identify and acquire mobility corridors within Calgary for future regional and inter-city transit services. The City will also take a leadership role in the coordinated planning and development of regional~~

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~~transit services in collaboration with CRP communities.~~ This may include the development of a network of Transit Mobility Hubs. Transit Mobility Hubs are a place of connectivity where different modes of transportation (i.e., walking, cycling, bus and rail transit) come together seamlessly, and where there is an attractive, intensive and diverse concentration of housing, employment, shopping and other amenities around a major transit station. Regional transit hubs ~~will~~ should be located to support other medium- and longer-term transit investments such as inter-city commuter rail and LRT services

~~The conceptual vision for regional transit service is shown in Map 4 in Appendix D.~~

Effective regional collaboration has the potential to minimize costs and duplication among partners, with a goal of a seamless transit system where users are largely unaware of jurisdictional boundaries (enhancing the user experience).

### New transit river crossings

To improve transit connectivity, speed and service reliability, new river crossings of the Bow River and the Elbow River for Primary Transit Service may be required in the future, on the west side of the city, to respond to increased traffic volumes in major transportation corridors such as Glenmore Trail, Sarcee Trail, Crowchild Trail and Bow Trail. These connections would enable the creation of priority transit connections linking proposed *Activity Centres* at the University of Calgary, Mount Royal College, Chinook Centre and the southeast industrial area and prevent transit vehicles from getting 'stuck in traffic'. If feasible, the new transit river crossings could also incorporate provision for pedestrians, cyclists and emergency services to improve Police, Fire and EMS response times and provide new pedestrian and bicycle connections.

Before planning any new river crossings, other strategies should be implemented to optimize the operation of existing transportation corridors for Primary Transit and emergency services operation. See sections 3.5 and 3.6 for further information on tools and techniques that can be used to optimize existing transportation infrastructure.

Detailed technical analysis and community engagement will be required to establish the location, design and cost of any new river crossings. Some key stakeholders have indicated that new river crossings may be acceptable for transit, walking, cycling and emergency services if there is a persuasive and demonstrable need, and if they are located and designed to successfully mitigate environmental and community impacts. Principles and design considerations for ~~river~~ crossings of ~~watercourses~~ are outlined in Appendix B.

### Linking transit and land use

Today, ~~a small percentage of all~~ about 15 per cent of all population and ~~less than~~ about one-third of jobs are located within 400 metres walking distance of LRT service, which is the only transit mode that currently operates near Primary Transit service levels. The strategic location of *Activity Centres* and ~~Corridors Main Streets~~ along existing and future Primary Transit corridors will significantly increase the people and jobs within walking distance of the Primary Transit Network.

### Policies

#### Regional transit service

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- a. ~~In collaboration with the Calgary Regional Partnership Calgary Metropolitan Region Board (CMRB) and other stakeholders,~~ The City should take a leadership role in the planning and co-ordination of an integrated regional transit system that supports ~~the strategic directions of the Calgary Metropolitan Plan~~ and informs long-range plans for regional transportation networks.
- b. *Right-of-way* requirements for future regional and Primary Transit services must be identified and opportunities to acquire additional *right-of-way* should be investigated if necessary.
- c. In collaboration with the ~~Calgary Regional Partnership~~ *Calgary Metropolitan Region Board* and other stakeholders, The City should participate in the coordinated planning and development of a system of Transit Mobility Hubs for interconnection of Primary Transit services and regional and inter-city passenger transport modes.

**Expanding the Calgary Transit network**

- d. Base Transit Service should be provided to facilitate convenient access to developments that have a sufficient *intensity* of population and employment, in order to achieve minimum ~~Council-approved~~ performance standards for transit service.
- e. A Primary Transit Network of high-frequency transit routes should be developed to improve transit access to the Centre City and support *Activity Centres* and ~~Corridors~~ *Main Streets*.
- f. Urban design principles that respect existing communities and utilize environmental best practices should be used in the design and construction of the Primary Transit Network.
- g. Timely investment in new transit lines and improved transit service levels, focusing on the Primary Transit Network, should be provided to support existing higher *intensity* areas and encourage *intensification* of new, priority-growth areas.
- h. Community design should minimize pedestrian street walking distance to transit service (i.e., a bus zone or LRT station) to 400 metres or less in all areas of the city. In recognition of unusual circumstances, up to five per cent of the area population (i.e., dwelling units) may be located beyond 400 metres *street* walking distance from transit service.

**Improving transit speed and reliability**

- i. A full range of strategies such as transit signal priority, intelligent priority and information systems, High Occupancy Vehicle (HOV) lanes, queue-jump lanes and bus stop consolidation should be utilized to optimize transit travel times *particularly along transit corridors*.

**Passenger comfort and convenience**

- j. All transit infrastructure should be designed, operated and maintained to provide a safe, clean and comfortable environment and ensure ease of transfer between transit services and with other modes of transportation.
- k. Advancements in transit vehicle technology and Intelligent Transportation Systems (ITS) should be used where appropriate, along with best operating practices to improve passenger information, amenities, transit

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capacity and operating efficiency.

### Integration with other modes

- l. Other modes of transportation, specifically walking, cycling, private vehicles, rail and air, should be integrated with transit services.
- m. Transit Mobility Hubs should accommodate efficient transit access, comfortable passenger waiting areas and safe, direct, unobstructed routes for pedestrians and cyclists.

### Social considerations

- n. A range of affordable, accessible, fixed-route and specialized door-to-door transit services should be provided to address the mobility needs of persons with disabilities and low income Calgarians who depend on public transit for their mobility.

### River crossings

- o. Planning and design of any new river crossings must consider the principles and design considerations documented in Appendix B of the CTP.

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### 3.4 Goods movement

**Objective** To recognize the important economic role of goods movement by providing a safe, efficient and connective goods movement network that supports the Calgary International Airport, the Canadian National (CN) and Canadian Pacific (CP) *intermodal* facilities, transportation and distribution districts and goods movement routes, while also minimizing impacts on surrounding communities.

#### Supports

Key Direction #5: Increase mobility choices.

Key Direction #7: Create *Complete Streets*.

Key Direction #8: Optimize infrastructure.

Transportation Goal #1: Align transportation planning and infrastructure investment with city and regional land use directions and implementation strategies.

Transportation Goal #2: Promote safety for all transportation system users.

Transportation Goal #5: Promote economic development by ensuring efficient goods movement and labour force mobility.

Transportation Goal #7: Ensure transportation infrastructure is well managed.

#### Discussion

Calgary has proven itself to be a global economic leader by offering a full range of multi-modal services and solutions. The city is a major part of the east-west trade corridor in Western Canada and is a key distribution point for movement of Asia-Pacific-related imports and exports. ~~Calgary is currently home to 500,000 jobs in a variety of areas, including 50,000 jobs related to the transportation sector. Approximately two out of every five employees in Calgary work in wholesale, warehousing, distribution and storage.~~ The transportation, warehousing and wholesale trade sectors directly accounted for nearly eight per cent or \$9 billion of the Calgary region's gross domestic product (GDP) in 2015. These sectors in turn support other economic activity, yielding a combined GDP impact of more than \$14.5 billion in 2015. They also directly and indirectly supported up to 134,000 jobs in the Calgary region.

As import/export traffic grows, there will be direct benefits to Calgary in terms of employment and the local economy.

~~As~~ However, as urban goods movements ~~has~~ have grown, so has associated congestion, energy consumption and safety concerns. A proactive approach is required to develop strategies that will ensure the city remains competitive economically on the local, national and global stage. The City must also work in conjunction with the provincial and federal governments to create a sustainable goods transportation system that addresses local, regional, national and international needs.

An effective and reliable goods movement network will be required to support some of the key industrial areas and

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~~projects emerging from~~ commercial vehicle traffic generators in the Calgary area, including:

- the northeast and southeast industrial areas;
- the Shepard Industrial Area;
- the northwest aggregate resources;
- expansion plans for CN and CP *intermodal* facilities; and
- the Calgary International Airport ~~expansion~~ (“YYC”).

In order to sustain a vibrant economy in Calgary, it is important to consider all of the goods movement modes in any major planning process. The three primary modes responsible for goods movement in the Calgary region are air, rail and ~~truck~~ *roadway*. Each of these modes plays a distinct role in goods movement, and they must be capable of working together in order to drive the economy.

#### Air

Airports are a critical component of Calgary’s transportation infrastructure. Air cargo demand is increasing, along with continued growth of passenger air transportation. Air cargo is one of the fastest growing modes of transportation for high-priority, time-sensitive shipments. Aircraft maintenance and manufacturing is also an important part of the aviation industry in the Calgary region. In addition, logistics and aviation training is provided at several post-secondary institutions in Calgary.

The Calgary International Airport (“YYC”) ~~is one of only two Canadian airports with~~ has direct air cargo connections to Asia, the United Kingdom, Mexico and Europe, and cargo can be shipped from Calgary to anywhere else in the world within 48 hours. With no curfews or noise restrictions, the Calgary International Airport operates 24 hours a day, seven days a week. In addition, the Calgary International Airport has award-winning, first-class cargo facilities and services, a premier livestock handling facility, and on-site refrigeration facilities ~~and 17 acres of runway-side warehouse and logistics lands~~. The YYC Global Logistics Park occupies over 330 acres of land and connects commercial, airside and *logistic* businesses. Aviation *logistics* also provides support for energy management and banking industries in Calgary.

#### Rail

Rail transportation is a key component of the *logistics* and distribution sector in the Calgary Region, serving as a critical link in the supply chain for many businesses. CN and CP both have major rail *intermodal* facilities in ~~southeast Calgary~~ the Calgary region.

Calgary is a major redistribution point for goods destined to Western Canada and the United States (U.S.) arriving by rail via Vancouver’s seaports. In 2014, rail carried nearly 30 per cent of goods by weight into and out of the Calgary region. In 2016, 220,000 containers transporting 2.8 million tonnes of cargo were moved to Calgary by rail, and 140,000 containers transporting 1.7 million tonnes were moved from Calgary ~~with 40 percent of all inbound shipments from Vancouver redistributed through Calgary. Goods movement by rail accounts for 27 percent of imports to and 23 percent of exports from Calgary.~~

Trains operating in urban areas sometimes cross *roadways*, and the need for safer infrastructure arises from the

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interaction between railway and *roadway* users. There are numerous level rail crossings within Calgary city limits. In order to mitigate the risks and traffic delays associated with level rail crossings, The City will continue to review the need for grade separation of rail from *roadways* in key corridors.

NOTE: it is proposed that the sidebar located on page 3-17 of the 2009 version of the CTP be deleted after amendment

**Truck Road**

Within Alberta, trucking is the primary mode for the movement of goods. Calgary plays an important role as a trucking hub with major highway connections passing through the city. Highway 2 (Deerfoot Trail) and Highway 201 (Stoney Trail) are ~~is the~~ major north/south routes as part of the CANAMEX highway system; ~~it also provides helping move people and products across Alberta and enhancing access to markets in the United States and Mexico connectivity to the Alberta oilsands in the northeast part of the province.~~ The Trans-Canada Highway (16th Avenue North) is the major east/west route providing connectivity across Canada. ~~Once~~ ~~The~~ completed, portions of the Calgary Ring Road ~~will~~ also play an ~~central~~ important role in facilitating goods movement to every quadrant of the city.

~~Goods movement by truck accounts for 46 percent of imports to and 64 percent of exports from Calgary. There were over 265,000 commercial vehicle trips per day in 2006, accounting for 12 percent of vehicle kilometres travelled (VKT) in Calgary and the surrounding region. Of these commercial vehicle trips, nearly 80 percent had origins/destinations within the city limits, with the remaining 20 percent travelling to/from the surrounding Calgary area. Only three percent of commercial vehicle trips bypass Calgary.~~

In 2014, about 70 per cent of all goods by weight entered and exited Calgary by truck. In 2015, approximately 120,000 truck trips were made within Calgary on a daily basis, according to City estimates.

The City is responsible for the design and review of the truck route network within Calgary, including high load and dangerous goods routes. In determining appropriate network connections, The City must balance the needs of goods and services movement with the needs of residential communities impacted by truck routes. Impacts on adjacent municipalities should also be considered. Ultimately, the truck routes within Calgary are reviewed through Council-approved goods movement transportation policies, and designated routes are provided in goods movement bylaws. As per City bylaw, trucks over a certain weight must stay on designated routes while travelling within Calgary city limits. Trucks may only deviate from assigned routes to access their destinations using the shortest path to and from designated truck routes.

The CTP includes a ~~new~~ Primary Goods Movement Network that will facilitate the movement of goods and services in Calgary. The Primary Goods Movement Network does not outline all future truck routes, but defines high-priority goods movement routes where the most concentrated activity will occur ~~and therefore where improvements are anticipated to be warranted on the basis of safety and economic benefits.~~ The location of a candidate investment project on the Primary Goods Movement Network will be addressed during the evaluation and prioritization of transportation infrastructure investment projects. Significant investments in *roadway* capacity and access control improvements (e.g. grade separated interchanges) may be approved for locations on Main Goods Movement Corridors. On Supporting Goods Movement Corridors a greater emphasis will be placed on operational improvements (i.e. efficiency) and compatibility with adjacent land uses.

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All existing and future truck routes, including high load and dangerous goods corridors, will be identified on an ongoing basis through regularly issued bylaw updates.

The Primary Goods Movement Network is shown in Map 5 in Appendix D.

Increasing transportation options, and therefore reducing automobile use, will mitigate the impact of *congestion* on commercial vehicle movements. Additional transportation tools and techniques outlined in Section 3.6 will optimize the flow of traffic in Calgary and further increase reliability and *capacity* for goods movement.

Developments in the e-commerce and transportation technology sectors (e.g. drone delivery service testing, automated commercial vehicles) have the potential to disrupt traditional patterns of goods movement in Calgary in the next twenty years. However, there is a great deal of uncertainty associated with transportation technology at the current time. Additional policies outlined in Section 3.14 will ensure that The City will be prepared to respond as the implications of new technologies become clearer.

## Policies

- a. The importance of *intermodal* facilities and a connected goods movement network should be recognized to ensure reliable goods movement and land *accessibility*.
- b. The City, regional partners and other stakeholders should co-ordinate the development of *roadway* connections in the city and region, with consideration for the location of industrial land uses.
- c. The integrity of major goods movement routes should be protected by ~~limiting direct driveway access to roadways that form part of the Primary Goods Movement Network, while encouraging~~ coordinating ~~appropriate~~ adjacent land use planning with ~~the provision of~~ adequate truck *accessibility*.
- d. Intelligent Transportation Systems (ITS) should be used to improve traffic flow and travel time reliability on the Primary Goods Movement Network.
- e. The retention and expansion of existing railway corridors within city limits should be supported.
- f. The City should consider the impact of goods movement routes on *roadways* in adjacent municipalities.
- g. The City should study ways to improve the operational efficiency of the existing Goods Movement Network for commercial vehicles, including the feasibility of implementing commercial vehicle priority measures along corridors (e.g. dedicated lanes) and at intersections (signal priority).



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### 3.5 High Occupancy Vehicles (HOV)

**Objective** Optimize the person-moving capacity of the transportation system by increasing average vehicle occupancy and reducing reliance on single-occupant vehicles for commuting in Calgary, and improve operating speeds and reliability of transit service by creating priority along Primary Transit corridors.

#### Supports

Key Direction # 4: Increase mobility choices.

Key Direction # 7: Create *Complete Streets*.

Key Direction # 8: Optimize infrastructure.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

Transportation Goal #6: Advance environmental *sustainability*.

#### Discussion

A High Occupancy Vehicle (HOV) is **currently** defined in Calgary as a bus, any motor vehicle with two or more occupants, including taxis, or a bicycle. HOV lanes can take many forms, including lanes restricted for use by carpoolers, transit-only lanes, bus-only shoulders, **zero-emission vehicles** and queue jumps. **HOV lanes exist in Calgary in several locations, including segments of Centre Street North, 9th Avenue S.E., 17th Avenue S.E. and 14 Street S.W.** HOV lanes are most successful when supported by complementary infrastructure, such as dedicated carpool parking stalls, as well as public awareness campaigns and regular enforcement.

Providing HOV lanes supports strategic goals to reduce reliance on single-occupant vehicles and helps make public transit more appealing by improving transit travel speeds and service reliability. HOV facilities can also help improve air quality, reduce energy demands and *greenhouse gas emissions* and support more land use *intensification* by linking *Activity Centres* and **Corridors Main Streets**. A comprehensive and interconnected HOV network will help to manage transportation demand efficiently by optimizing the use and people-moving *capacity* of existing *roadway* infrastructure.

The CTP defines a Primary HOV Network that effectively connects major destinations throughout the city. Further evaluation of some HOV facilities is required to determine their configuration (e.g., transit only, carpool only) and implementation opportunities (e.g., widening, lane reversal, lane conversion).

The Primary HOV Network is shown in Map 6 in Appendix D.

A variety of factors were considered to determine HOV corridors, including:

- alignment with the Primary Transit Network;

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- projected transit volumes and operations;
- projected carpool volumes;
- *congestion*;
- corridor characteristics;
- adjacent land uses; and
- strategic context.

The proposed HOV network totals approximately 220 kilometres (440 lane-km), excluding potential Provincial HOV corridors and will be implemented over the next ~~40 to 60~~ 50 years. Other corridors may be identified in the future for inclusion in the Primary HOV Network.

### Policies

- A ~~comprehensive~~ network of HOV lanes and supportive infrastructure should be ~~developed that are appropriate to the current and future needs of Calgarians~~ *implemented in order to support progress toward achievement of the goals and objectives of the MDP, CTP and (particularly) the Climate Resilience Strategy.*
- HOV priority measures should be implemented during new construction, improvement or widening projects on City-owned *roadways* shown on the Primary HOV Network, unless such measures are demonstrated to be inappropriate at that time or place.
- The provincial government, The City and other municipal governments should work collaboratively to develop an inter-municipal network of HOV lanes and supportive infrastructure to serve regional transportation goals.
- HOV lanes and supportive infrastructure such as designated carpool parking lots should be developed in tandem to move people more effectively.

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## 3.6 Quality of service and user experience

**Objective** To Provide a high-quality service for all modes of transportation using effective and cost-efficient transportation management tools and techniques while addressing the travel experience for all users.

### Supports

Key Direction #5: Increase mobility choices.

Key Direction #6: Develop a Primary Transit Network.

Key Direction #7: Create *Complete Streets*.

Key Direction #8: Optimize infrastructure.

Transportation Goal #1: Align transportation planning and infrastructure investment with city and regional land use directions and implementation strategies.

Transportation Goal #2: Promote safety for all transportation system users.

Transportation Goal #3: Provide affordable mobility and universal access for all.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

Transportation Goal #5: Promote economic development by ensuring efficient goods movement and labour force mobility.

Transportation Goal #7: Ensure transportation infrastructure is well managed.

### Discussion

Calgary, like most North American cities, has placed the highest priority on accommodating private vehicle use over the last 50 years. Significant investments have been made to develop a *Road* and *Street* Network capable of moving high volumes of vehicular traffic over long distances. However, despite these investments in vehicle-oriented infrastructure, *congestion* and delays have continued to increase in Calgary and every growing major city in North America. In large part, this is because of the separation between residential communities, employment centres and services. This separation has increased the distances people are required to travel, making private vehicles the most convenient option.

Evaluation of transportation networks has focused traditionally on peak morning or afternoon rush hour and the associated traffic *congestion*. The anticipated traffic volume relative to the *capacity* of a *roadway* or inter~~S~~section has, therefore, been the primary measure of service levels. The shift in emphasis to all modes of transportation requires us to broaden our definition of service to include walking, cycling, transit, goods movement and carpooling. When levels of human activity increase in a growing city, it also becomes important to consider the entire day rather than just peak travel times. This means evaluating the overall quality of service for all modes of transportation, rather than just peak-hour traffic *congestion*. As well, the expectations of citizens in a city of 2.3 million people can be very

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different from those in a city of one million people, just as the expectations of small town dwellers differ significantly from those living in mid-sized cities.

**Quality of service**

Evaluating quality of service also means that we must consider both quantitative and qualitative measures. Efficiency and reliability must be considered in conjunction with attractiveness and impacts on surrounding communities. For example, transit quality of service depends on reliability, frequency, speed, convenience, cleanliness and safety. The level of traffic *congestion* is only one of many factors influencing the quality of service perceived by transit customers.

Quality of service for pedestrians and cyclists can best be measured by evaluating how far people are willing to walk or cycle to reach different destinations. This means assessing how direct the connections are between homes, schools, community centres, leisure facilities, parks and jobs. Equally important, although difficult to measure, is the attractiveness and safety of the routes available for pedestrians and cyclists.

Vehicles will continue to be a popular mode of transportation in the future. Many businesses rely on light commercial vehicles to deliver goods and services throughout Calgary. However, by making other modes of transportation realistic choices for many of the trips in Calgary, automobile use per person will be reduced over time and mitigate the impact of *congestion* on those people or services that must drive.

There are a variety of tools and techniques that can be used to mitigate the effects of congestion for all modes of transportation and improve the flow of traffic. These include:

**Travel Demand Management (TDM)**

TDM uses policies, programs, services and products to encourage a shift in travel behaviour from single-occupant vehicles to more sustainable modes of travel, including walking, cycling, transit and carpooling. Examples include car sharing, universal transit pass programs for post-secondary educational institutions, promoting working from home and changing the time of day people travel. TDM saves people time by helping them travel more efficiently, and it improves health by promoting both physical activity and more environment-friendly travel that reduces greenhouse gas emissions and other air pollutants. It benefits employers by increasing productivity, reducing parking costs and helping to attract and retain workers. It promotes economic development by reducing congestion and enhancing worker mobility.

NOTE: it is proposed that the sidebar located on page 3-23 of the 2009 version of the CTP be revised as follows.

## PROPOSED AMENDMENTS TO THE CALGARY TRANSPORTATION PLAN

Key: Current version (black) | ~~Deletion (red)~~ | Addition (green) | Moved text (purple)**Assessing quality of service for proposed developments**

The ~~standard~~ Transportation Impact Assessment (TIA), which has been used to determine the impact of large developments on Calgary's transportation network, ~~needs to be updated since it has traditionally~~ ~~focuses~~ heavily on automobile use and mitigating additional traffic through *roadway* improvements. Assessment of mobility impacts in areas within walking distance of Primary Transit needs to focus on *transit-oriented* improvements, enhanced walking and cycling environments, the optimization of more sustainable transportation modes and vehicle trip reduction programs. ~~The new framework for assessing the transportation impacts of Transit-Oriented Developments is called a Mobility Assessment and Plan (MAP).~~

~~A MAP~~ An assessment of the transportation impacts of *Transit-Oriented Developments (TODs)* will generally include:

An assessment of the alignment of proposed development with the most important components of *Transit-Oriented Development*.

- Analysis of street infrastructure layout and design that supports efficient transit service.
- Alignment with City plans for adjacent Primary Transit corridors and Base Transit Services.
- Analysis and plan to improve pedestrian and bicycle routes.
- Analysis and plan for parking supply and demand, including park and ride facilities.
- Analysis and plan for vehicle and truck access and circulation.
- Community and stakeholder engagement, identification and assessment of mobility issues.
- Phasing of development for large projects.
- Identification of appropriate trip reduction programs.

## Transportation System Management (TSM)

TSM involves cost-efficient measures that focus on improving the operational efficiency and effectiveness of transportation infrastructure to reduce overall delay for all users. Many TSM measures involve traffic control changes and small-scale *roadway* improvements, and they provide benefits for multiple modes of transportation. Reversible lanes are one example of how TSM measures have been used in Calgary. TSM projects, which may cost from a few thousand to several hundred thousand dollars, may delay or even eliminate the need for multi-million dollar capital construction projects. And while major infrastructure projects can take years to plan and build, most TSM projects can be implemented much more quickly.

## Intelligent Transportation Systems (ITS)

ITS is the application of advanced technology to improve transportation operations, including the control and management of traffic flow and communication of relevant information to travellers and service providers so they can respond to changes in travel conditions or times as necessary. These technologies can enhance all forms of personal mobility, as well as goods movement, protective services and parking facilities.

## Incident management

Incident management involves a set of actions to manage traffic during unplanned incidents such as motor vehicle collisions or planned events such as construction detours. Effective management of incidents increases the reliability of the transportation network, which provides direct economic benefits with regard to goods movement and worker mobility, and helps to maintain transit schedules. Increased reliability of travel time has even been found to be more important than total travel time for commuters.

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## Transportation pricing

The use of pricing (i.e., charging a fee to use a transportation facility) as a transportation management tool can help optimize the use of the transportation system. This approach should be considered where new infrastructure construction is not possible or desirable. Revenues from pricing initiatives should be reinvested back into the transportation system.

Effectively combining these tools and techniques will have a variety of benefits for Calgarians, including:

- improving mobility options on existing infrastructure, reducing overall delay for all transportation modes;
- improving the speed and reliability on goods movement corridors;
- managing traffic more efficiently during planned events or unplanned incidents;
- reducing the need for costly infrastructure improvements; and
- providing motorists and transit users with better information that helps them to make effective travel choices.

NOTE: it is proposed that the sidebar located on page 3-23 of the 2009 version of the CTP be revised as follows.

**Responding to traffic congestion**

The CTP recognizes that actions which improve vehicle mobility will continue to be important to Calgarians. Land use changes that reduce our dependence on vehicles, thereby enabling more trips to be made by *active* modes or transit, will have the greatest impact on travel times in Calgary. Reduced vehicle use, over the long term, will minimize the impacts of *congestion* for those who choose to drive.

Every street in Calgary is designed to move vehicles. The ~~new~~ *Road and Street Palette* (described in section 3.7) provides a wider variety of street types; some put more emphasis on vehicles, while others place a high priority on other modes of transportation. Mobility for vehicles and all other modes of transportation will be facilitated by putting the right type of street in the right place.

Improving both traffic flow and the reliability of the transportation system, now and in the future, will provide direct benefits to motorists in Calgary. Some improvements will require the construction of new *infrastructure* such as *roadways* and interchanges. However, many traffic problems impacting cars can be mitigated through less costly and more efficient transportation management tools.

**User experience**

Providing a positive user experience is essential to achieving the vision outlined in the CTP and the MDP. A user's travel experience includes all phases of a trip, from pre-planning to the walk up to the door at a final destination.

Transportation is committed to addressing the travel experience for all of the users of Calgary's transportation system through actions to identify issues and opportunities related to safety, *accessibility*, information and reliability for all of the services it provides. This commitment has several policy implications:

- Transportation should develop and communicate a comprehensive vision and goals for the experience of users of Calgary's transportation system.

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- Service teams should ensure that a comprehensive and meaningful customer engagement process is established to ensure that the “voice of the user” informs service planning and operational decision-making.
- Informed by user feedback, Transportation should produce a “user-experience action plan” identifying existing and new/potential initiatives to be undertaken within the next four-year budget cycle.
- Evaluating the impact to user experience resulting from the projects and plans identified through a “user-experience action plan” requires systems and processes to measure progress relative to objectives – where any gaps exist, service teams should develop the Key Performance Indicators (KPIs) and metrics necessary to enable effective evaluation.

## Policies

- a. TDM strategies should be implemented first to reduce or eliminate the need for new links in the transportation system, and must be integrated into all municipal approval processes to promote more sustainable travel choices.
- b. Incentives should be provided to developers to make sustainable travel options such as walking, cycling, transit and carpooling integral to all TOD projects.
- c. Appropriate TSM, ITS and incident management strategies should be used to mitigate *congestion*, improve safety, increase travel time reliability for all modes of transportation and to better manage competing demands for *right-of-way* space between different transportation users.
- d. The reliability of the transportation system should be maintained by actively managing planned events or unplanned incidents.
- e. Ongoing educational opportunities should be provided to the public regarding their role in minor traffic collisions, and first responders should be trained to manage traffic effectively during incidents.
- f. Strategic improvements should be identified on the transportation network that would benefit response times for emergency services.
- g. Transportation system maintenance, construction- related lane closures and detours should be managed to reduce ~~vehicular~~ congestion (*all modes*) and minimize rerouting of traffic, and restrictions on HOV/transit lanes should be adhered to during incidents to ensure reliable service for those modes.
- h. Transportation pricing tools that take into account the economic, environmental and social costs of travel should be considered in order to achieve more efficient use of existing and future transportation infrastructure.
- i. The unique travel characteristics of higher density, mixed-use developments, such as *Activity Centres*, *Corridors Main Streets* and TODs, must be recognized by adjusting mobility requirements to support and promote all modes of transportation.

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### 3.7 Complete Streets

**Objective** Increase the attractiveness, convenience and safety of all modes of transportation by creating a ~~new~~ selection of multi-modal streets that emphasize different modes of transportation, incorporate elements of ~~green~~ *natural infrastructure* and function in the context of surrounding land uses.

#### Supports

Key Direction #2: Provide more choice within *complete communities*.

Key Direction #5: Increase mobility choices.

Key Direction #6: Develop a Primary Transit Network.

Key Direction #7: Create *Complete Streets*.

Key Direction #8: Optimize infrastructure.

Transportation Goal #2: Promote safety for all transportation system users.

Transportation Goal #3: Provide affordable mobility and universal access for all.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

Transportation Goal #5: Promote economic development by ensuring efficient goods movement and labour force mobility.

Transportation Goal #6: Advance environmental *sustainability*.

#### Discussion

What is a *Complete Street*? It is a street that:

- Moves people, by foot, bike, bus and car
- Is a place where people can live, work, shop and play
- Supports the natural environment
- Facilitates movement of trucks and service vehicles, and supports our economy

The main function of a street is to provide a connection between origins (i.e., where we are) and destinations (i.e., where we want to go). Building multi-modal *streets* that do not focus exclusively on vehicles creates options for people who want to walk, cycle or take transit. This, in turn, increases the *capacity* of the overall transportation system and mitigates traffic *congestion* by reducing the number of unnecessary automobile trips on the transportation system. Creating more mobility choices also maximizes *accessibility* and the ability to travel for all Calgarians.



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Roads and streets also provide space for all of the various utilities that are necessary to support adjacent land uses. These include *shallow utilities* like gas and phone lines, and deeper utilities like water pipes and sewers.

Streets, along with the vehicles and people that use them, have a direct impact on the environment. They contribute to traffic noise, degradation of air and water quality and *greenhouse gas (GHG) emissions*. In 2005, 30 per cent of GHG emissions in Calgary came from transportation sources; *in 2018, 34 per cent of GHG emissions were from transportation sources*. These sources also impact water quality through the deposition of air pollutants, oil spills and roadway de-icing. Many of these impacts can be mitigated and/or eliminated through sustainable design, particularly by implementing *green natural infrastructure* design approaches.

Streets also have a major role in placemaking – creating places where people can meet, live, shop, work and play. Traditionally, streets were the centre of civic life, creating focal points for communities and businesses. In the past 50 years, more emphasis has been put on moving large numbers of vehicles at high speed over long distances. Greater emphasis on the *public realm* can create economic and social benefits for communities, business owners and the city as a whole.

NOTE: it is proposed that the sidebar located on page 3-26 of the 2009 version of the CTP be revised as follows.

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### Creating a complete street

The ~~17th Avenue SE~~ **Road and Street Network** shown in Map 7 in Appendix D identifies a number of corridors ~~is that are~~ envisioned to become ~~an~~ Urban Boulevards. Mixed land use development with a pedestrian-friendly *streetscape* will support Primary Transit, and strong urban design elements will enhance the *public realm* to create a safe, vibrant, and attractive *street*. Wide sidewalks allow for comfortable and unobstructed movement of pedestrians. Adjacent land use development will be integrated with the *street*, providing continuous building façades and windows onto the *street* that will improve pedestrian comfort. Inclusion of ~~green~~ **natural infrastructure** (such as trees and additional buffer planting) will reduce the impacts of vehicle traffic on pedestrians.

~~17th Avenue S.E.~~ **Example corridor** (before)



~~17th Avenue S.E.~~ **Example corridor** (after, concept only)



Credit: Design Centre for Sustainability, SALA, UBC

Not every *street* in Calgary will be able to meet the needs of all users. Different types of *streets* have different functions, so their design should fit with the community context. By building a fully integrated, balanced, connected transportation network that minimizes conflict between different functions of the *street* (mobility, the environment and placemaking) we can meet the needs of Calgarians now and in the future. **The CTP has established a road and street typology addressing context and the provision of mobility for a range of users. The role of the Complete Streets Guide, in conjunction with the Design Guidelines for Subdivision Servicing, is to provide comprehensive guidelines for**

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the incorporation of *Complete Streets* concepts into the planning, design and construction of new *streets*, and the reconstruction of existing *streets*.

In the future, new river or creek crossings will be required to increase *roadway* capacity as strategies to optimize operation of the existing infrastructure are exhausted. Also, new river or creek crossings may be necessary to provide *roadway* connectivity either city-wide as part of the *road* and *street* network, or to connect locally by *Residential Streets* in the community. In those cases, the principles outlined in Appendix B, must be applied during the planning and designing process of any *road*, *street* and *Residential Street*, respecting natural *ecosystems* and adjacent communities.

#### The *Road* and *Street* Palette

The ~~new~~ *Road* and *Street Palette* has been developed to differentiate between more traditional “*roads*,” which primarily serve long-distance vehicle trips and provide limited access to adjacent land uses, and “*streets*,” which serve a broader range of transportation modes and interact directly with adjacent land uses.

*Streets* and *roads* should provide mobility for a wide range of users, facilitate the movement of goods and services to support the economy and incorporate elements of ~~green~~ *natural infrastructure* to enhance the environment. However, *streets* also contribute to placemaking, while the primary role of *roads* is the movement of people and goods over long distances at higher speeds.

The priority level for each transportation mode (walking, cycling, transit, goods movement and vehicles) is clearly defined for each type of *road* and *street* in Figure 3 4.

Each is strongly linked to the adjacent land use context within the applicable *typologies*, as described in the MDP. The examples provided in Figure 3 4 represent transportation facilities where land uses are expected to evolve over time to support the proposed *street* type (e.g., ~~MacLeod Trail~~ *49th Street N.W.* as an Urban Boulevard). Actual design parameters and operational processes for each facility reflect the priorities assigned to each mode of transportation in Figure 3 4 (appropriate *Complete Streets* handbooks and guidelines will provide design information in detail).

Every *street* should create an environment that is comfortable for all transportation modes, but *streets* in Figure 3 4 that prioritize walking and cycling require careful attention to design elements that support placemaking and the *public realm*. These *streets* are locations where large numbers of people will spend time walking, cycling, shopping, and socializing. *Public realm* policies are contained in the MDP, and highlight important design considerations for these *streets*.

*Roads* and *streets* that focus on the movement of private vehicles and commercial vehicles will make up ~~88~~ 78 per cent of the future network, while the remaining ~~12~~ 22 per cent will be composed of *streets* that emphasize pedestrians, cyclists and transit. ~~The purpose of all six road and street types can be summarized as follows:~~

NOTE: it is proposed that the figure located on page 3-30 of the 2009 version of the CTP be replaced with Figure 4 below.

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TRANSPORTATION MODES							
CTP CLASSIFICATION		Walking	Cycling	Transit	Goods	Autos*	EXAMPLES
Road	Skeletal Road						Glenmore Tr. S.W.
Arterial	Arterial Street						Northland Dr. N.W.
	Industrial Arterial						114th Ave. S.E.
	Local Arterial						85th St. S.W.
Liveable	Urban Boulevard						49th St. N.W.
	Parkway						University Dr. N.W.
	Neighborhood Boulevard						Garrison Gt. S.W.
Local	Primary Collector						Fifth Ave. N.W.
	Collector						24th Ave. N.W.
	Activity Center Street						33rd Ave. S.W.
	Industrial Street						53rd Ave. S.E.
	Residential Street						Kensington Cl. N.W.
	Lanes (Alleys)						

\* Includes light commercial vehicles, waste and recycling vehicles, etc.  
\* Emergency services, fire trucks to be accommodated on all street classifications.

- Accommodated with high standards
- Accommodated with variable standards
- Not required, or poor performance is acceptable

Figure 3.4 – The Road and Street Palette

**Roads**

**Skeletal Roads** promote the movement of vehicular traffic over longer distances. They typically operate at high speeds and have little direct access and interaction with adjacent land uses. Ideally, they should be spaced approximately three to five kilometres apart to form a grid across the city. Skeletal

Roads may present opportunities to implement green infrastructure in order to maximize water infiltration, slow, detain and filter roadway runoff, and preserve and enhance biodiversity.

Note: Roads equate to “expressways” and “freeways” from previous classifications.

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**Streets**

~~**Arterial Streets** provide a high quality environment for all modes of transportation, and are the most common type of street in the transportation system. They have varying degrees of interaction with adjacent land uses, but on average allow for greater connectivity than Skeletal Roads. Arterial Streets are not destinations themselves but provide a reasonably direct connection between multiple communities and major destinations. Ideally, they should be spaced approximately 800 metres to 1600 metres apart. Green infrastructure strategies might include, among others, vegetated swales, rain gardens, filter strips, and native vegetation.~~

~~**Industrial Arterials** are located in industrial areas throughout Calgary. Their first priority is the efficient movement of heavy trucks, but, as streets, they still accommodate all modes of transportation. They tend to be lower speed streets with a high percentage of truck volume, which often represents up to 30 percent of all traffic. The level of connectivity provided is dependent on a number of factors, including the size of adjacent industrial lots.~~

~~**Urban Boulevards** form the backbone of higher density Corridors and Activity Centres. They give the highest priority to walking, cycling and transit, but accommodate reasonably high volumes of vehicular traffic. These streets are destinations, both locally and regionally. They are fully integrated with adjacent land uses (see the Urban Corridor typology in the MDP) and provide high levels of connectivity to surrounding communities or destinations. High quality urban design and green infrastructure are critical components of Urban Boulevards. Snow clearing should be handled in such a way that it does not interfere with pedestrian and bicycle movement.~~

~~**Neighbourhood Boulevards** are similar to Urban Boulevards, but on a smaller scale. These streets support retail and medium density residential Corridors. Pedestrians and cyclists have the highest priority on Neighbourhood Boulevards. These streets are destinations, but primarily for the local communities surrounding them. They are fully integrated with adjacent land uses (see the Neighbourhood Corridor typology in the MDP) and provide the highest level of connectivity of all street types. High quality urban design and green infrastructure strategies are incorporated into Neighbourhood Boulevards. Snow clearing should be handled in such a way that it does not interfere with pedestrian and bicycle movement.~~

~~**Parkways** focus on integration with natural areas. Natural vegetation and new forms of stormwater management are integrated with the street. Adjacent land uses would include large natural parks, waterways or special public institutions. Parkways present many opportunities to maximize water infiltration, slow and detain rainfall, filter roadway runoff, enhance the urban forest, preserve and enhance biodiversity and increase habitat connectivity between adjacent land uses. Parkways focus on pedestrian and cyclist movements (both recreational and commuting) but accommodate all modes of transportation.~~

~~Note: All of the above street types equate to “Major Streets” from previous classifications.~~

~~**Residential Streets** are a seventh classification that is not shown in Figure 3 since they are smaller scale streets that do not serve a city wide role. They are streets that serve primarily residential areas, although they can also be found in Activity Centres. Residential Streets include several sub categories, including Collector Streets, Local Streets and alleys.~~

~~—These streets generally have narrower rights of way than the streets identified in the Road and Street Palette (Figure 3). They are designed to maximize access to homes and local amenities, and focus on the~~

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~~needs of pedestrians, cyclists, private automobiles and on-street parking. Given the relatively low traffic volumes they are intended to accommodate, Residential Streets may offer significant opportunities to implement green infrastructure strategies, such as reducing effective impervious surfaces, maximizing infiltration, slow and detain runoff and enhancing the urban forest. Equivalent street types can be found throughout industrial areas, but are designed primarily to accommodate the needs of commercial goods movement and access to industrial buildings.~~

~~Additional cross-sections will need to be developed for Residential Streets in order to further clarify transportation mode priorities, align with the Complete Street policies, and to take full advantage of green infrastructure design elements.~~

The *Road and Street Network*, ~~composed of these seven facility types~~, is shown in Map 7 in Appendix D.

The *Road and Street Palette* applies to all parts of the city, with the exception of Centre City (the downtown and Beltline), where a unique set of *street* classifications were developed through the Centre City Mobility Plan. The *streets* that connect into Centre City on the city-wide *Road and Street Network* map have been classified to align closely with the design and function of the *streets* within Centre City.

### Green Natural infrastructure

*Green Natural infrastructure* refers to an interconnected network of green spaces and natural corridors that perform numerous environmental services in urban environments. For *green natural infrastructure* to be fully integrated throughout parks, open spaces, *streets* and other natural corridors, it must become part of the underlying framework that is used to guide future development patterns. A proactive approach enables *green natural infrastructure* to be considered in advance of development and in conjunction with growth and development planning.

Providing opportunities for more sustainable modes of transportation, and the associated infrastructure, is one way of protecting the environment. Another way is to apply *green natural infrastructure*, which is targeted primarily toward reducing negative impacts on air, water and habitat, and also contributes to the aesthetic value of the *road* or *street*.

Additional ~~background~~ information on *green natural infrastructure* and environmental policies can be found in *MDP The City's Stormwater Management Strategy*. More detailed information of the *green natural infrastructure* application to *roads* and *streets* design ~~will be incorporated~~ can be found in *appropriate the Complete Streets handbooks Guide* and *the Design Guidelines for Subdivision Servicing (DGSS)*.

### Public realm

*Public realm* in *streets* is generally focused on the area between travel lanes and adjacent land uses. This space can contain a combination of privately-owned land and public domain. Improving the *public realm* design of *streets* improves compatibility with adjacent land uses, creates attractive pedestrian environments, provides public space for activities and art, ~~and~~ provides space for business activities (such as shop kiosks or patios), ~~and street furniture (benches, garbage receptacles, bike racks, etc.),~~ all of which enhance Calgarians' quality of life.

The MDP contains a set of urban design and *public realm* policies that should be followed when designing *streets* to function in the context of the surrounding environment. *Maintenance and lifecycle considerations should also be addressed.*

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### Complete Streets zones

Complete Streets consist of horizontal and vertical zones, as shown in Figure 5.

Traditionally, the elements within the right of way (e.g., travel lanes, medians, sidewalks, underground utilities, streetlights) have been the main focus of transportation planning and design. However, the right of way is only part of the overall Complete Street. Complete Streets include not only transportation and utility components but also green infrastructure and public realm elements. How each of these elements is combined depends on the surrounding land use context and on the expectations for how people will use the street. Adjacent land uses might range from parks and green space to intense corridor development with a mix of commercial and residential buildings.

Complete Streets consist of horizontal and vertical environments, as shown in Figure 4.

The horizontal environment of a Complete Street consists of a right-of-way (roadway and roadside zones) and the interface zone with adjacent buildings and uses within them. The roadway zone provides travel and parking lanes for motorized vehicles and bicycles in a mixed traffic environment. The roadside zone includes the green infrastructure, street furnishings, and travel lanes for pedestrians and cyclists. The interface zone includes pedestrian-oriented land use and design. The vertical environment consists of aerial, surface and buried zones.

The green infrastructure and public realm elements are present in both horizontal and vertical zones. Tree plantings, one of the green infrastructure strategies, may be a component of all zones, but it also contributes to the public realm. Tree canopy, (which may be part of all three horizontal zones) reduces the urban heat island effect and improve air quality. Shallow utilities and tree roots may share space in a buried, interface zone. Tree planting strips provide an additional buffer between the pedestrians and vehicles, enhance the aesthetics of the streetscape and encourage walking and public transit use.

NOTE: it is proposed that the figure located on page 3-34 of the 2009 version of the CTP be replaced with Figure 5 below.

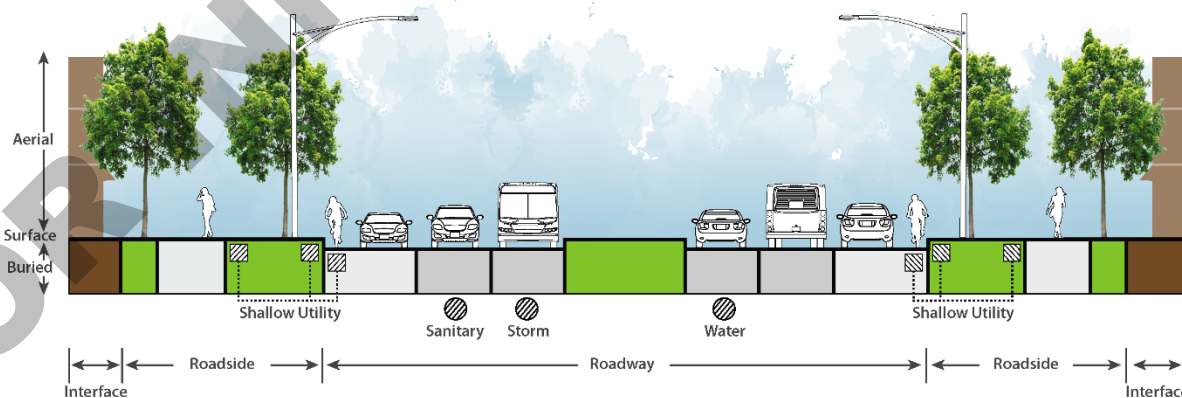


Figure 4.5 – Complete Street zones

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NOTE: the figure located on page 3-35 of the 2009 version of the CTP is proposed for deletion after amendment.

~~The Complete Street design elements for each zone should be selected based on the transportation facility function, adjacent land use context and the priorities set out in the Road and Street Palette. Elements of each horizontal and vertical zone are shown in Figure 4 5.~~

~~It is important to understand that the zone elements in a Complete Street are related. Some elements will need exclusive use of space (such as travel lanes on the surface in the roadway zone), while others could potentially share space in designated zones (e.g., shallow utilities and vegetation). The interface zone between Complete Streets and adjacent land uses is crucial in order to maximize accessibility between the two.~~

Not all elements of the mobility corridor, *green natural infrastructure* or *public realm* will be used in a design of a *Complete Street*, especially in a retrofit situation (i.e., available right-of-way could be a limiting factor). ~~Mobility and accessibility for goods and services is an essential function of Skeletal Roads, which means they have little need for pedestrian-oriented public realm improvements. However, they may have elements of green infrastructure. Conversely, on Neighbourhood Boulevards, wide sidewalks and high-quality aesthetic elements are crucial for supporting adjacent shops and public spaces.~~ Ensuring the right balance between mobility, *green natural infrastructure* and *public realm* will result in *roads* and *streets* that effectively meet the goals of CTP.

### *Street or road classification review*

*Street* and *road* classifications are formally established through Local Area Plans, and are informed by transportation network studies typically conducted in support of area planning initiatives (e.g. Area Structure Plans, Regional Context Studies). As the classification of an existing *street* or *road* is tied to the functionality and design elements required to achieve the objectives of a Local Area Plan, any *street* or *road* classification review must be conducted as part of a transportation network study.

## Policies

### Planning, design and maintenance of *Complete Streets*

- a. The *road* and *street* design parameters and operational processes must adhere to the priorities set out in the *Road* and *Street* Palette for each mode of transportation, as shown in Figure 3 4 of the CTP.
- b. *Roads* and *streets* must be designed with consideration for the context of surrounding land uses, and should incorporate universal access principles.
- c. The *road* and *street* design must consider which elements are appropriate in each *Complete Street* zone based on the function of the transportation facility and adjacent land use context.
- d. Design speed (and resulting operating speed) should be selected based on the function of the transportation facility and adjacent land use context. All other *road* and *street* design elements must be set to complement intended operating speed.
- e. ~~Intersection spacing should be determined to optimize mobility and connectivity of all transportation modes based on the priority set out in Figure 3 of the CTP.~~



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- f. Intersections should be designed to accommodate the needs of all users safely.
- g. All new and retrofit bridges and interchanges on facilities Arterial Streets and lower ~~should~~ **must** be designed and built to accommodate pedestrian and bicycle use.
- h. Planning studies for Urban Boulevards and Neighbourhood Boulevards should seek to mitigate operational impacts on adjacent communities by including *streets* and connections at least one-and-a-half blocks to either side of the Boulevard.
- i. Snow clearing should be ~~handled~~ **designed and implemented** in such a way that it does not interfere with pedestrian and bicycle movement on Urban Boulevards, Neighbourhood Boulevards and Parkways, once these *streets* have been upgraded to meet the design guidelines for their classification. **Clarification of, or adjustments to, maintenance responsibilities among City business units should be undertaken as warranted to optimize quality of service and user experience.**
- j. Appropriate transitions for road and street cross-sections should be developed where City infrastructure connects to infrastructure in surrounding municipalities.

### Adaptability

- k. Existing *rights-of-way* **within Activity Centres, along Main Streets and for Parkways** should be protected to allow for future upgrading of existing *streets* defined as Urban Boulevards, Neighbourhood Boulevards and Parkways, and opportunities to acquire **any additional right-of-way required to achieve the requirements** should be investigated where necessary.
- l. ~~Future right-of-way width should complement the priorities set out in Figure 3 of the CTP for each mode of transportation and allow for flexibility and adaptability to accommodate travel changes over time.~~ Care should be taken to ensure lands set aside for future *right-of-way* are not sterilized in the interim, particularly on *Main Streets*, where *public realm* integration is critical. Interim improvements should be considered but also recognized as subject to potential removal when the *right-of-way* becomes required for transportation purposes.

### Access

- m. Driveway accesses on existing *streets* designated as Urban Boulevards, Neighbourhood Boulevards and Parkways should be consolidated as redevelopment occurs over time, in order to minimize impacts on pedestrian and cycling facilities, while respecting access needs.
- n. All new and retrofit *roads* and *streets* should provide adequate access for emergency vehicles, waste and recycling, *street* maintenance and other city services to meet their legislative policy requirements.

### ~~Green~~ **Natural infrastructure**

- o. All new and retrofit *road* and *street* designs should incorporate ~~green~~ **natural** infrastructure strategies to contribute to the environmental health and visual aesthetics of the urban fabric.
- p. In all designs, natural processes should be maintained and re-established by conserving, protecting and restoring habitat quantity and quality. *Watersheds* should be protected by filtering *roadway* run-off.

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- q. Native vegetation and a layered tree *canopy* should be incorporated within corridors to reduce the urban heat island effect and improve air quality.

**Public realm**

- r. The *public realm* design for *streets* should adhere to the *public realm* policies set in ~~Parts 2 and 3~~ Volume 1 of the MDP.

**Utilities and line assignments**

- s. The priority alignment and placement for *shallow utilities* infrastructure (trenches and above-ground equipment) should be as follows:
- i. in back alleys and lanes;
  - ii. in *shallow utility* easements on private property;
  - iii. within *right-of-way*, placed in the roadside zone; and
  - iv. within *right-of-way* under the *roadway* (i.e., parking, shared or bike lanes or paved shoulders).
- t. Deep *utilities* should be located so that manholes and appurtenances do not interfere with the movement of pedestrians, cyclists and vehicles.

**River and creek crossings**

- u. Planning and design of any new river or creek crossings must consider the principles and design consideration documented in Appendix B of the CTP.

**Collaboration and public engagement**

- v. Residents, businesses and other stakeholders should be engaged and encouraged to actively participate in the development of street design and landscaping standards in order to foster a community's *sense of place* and the ownership of *Complete Streets* over time.

**Residual right-of-way**

- w. Upon completion of the scope of a comprehensive improvement project in a *Main Streets* area, City land holdings in the project area that were previously acquired or identified as part of a required setback for the purpose of transportation *right-of-way* that have not been incorporated into the project should be relinquished/released.
- x. A comprehensive review of land previously acquired, reserved or identified as required by The City for future *right-of-way* should be undertaken by Transportation, in accordance with the Corporate Land Management Framework.

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### 3.8 Local transportation connectivity

**Objective** Create better connectivity in future communities and *Activity Centres* for walking, cycling and *street* networks, while also increasing access and reducing response times for emergency services.

#### Supports

Key Direction #2: Provide more choice within *complete communities*.

Key Direction #5: Increase mobility choices.

Transportation Goal #3: Provide affordable mobility and universal access for all.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

#### Discussion

Connectivity describes all the different ways we can get from one place to another, by foot, bicycle, transit or car. Within residential communities or *Activity Centres*, all of this movement happens on the local transportation network. The elements of the network can be combined in a wide variety of patterns and have a significant impact on how people choose to travel.

Research completed by Plan It Calgary and many other cities shows that increased connectivity has a number of benefits, including:

- enhancing public safety by reducing response times for emergency services;
- improving the health of citizens by making walking and cycling viable options for travelling to work or other daily needs;
- improving *accessibility* to the regional street system and reducing delays for motorists entering or leaving developments;
- reducing walking distances to transit stops and improving routing for City services such as Calgary Transit and Waste & Recycling Services;
- building communities that have the ability to adapt over time; and
- increasing social interaction between residents.

Most Calgary communities built prior to the 1970s (such as Brentwood and Glamorgan) use 'modified grid' networks that allow people to move easily within their communities, and many provide the benefits listed above. Several more recent communities provide similar levels of connectivity. However, most communities built in the last 30 years (such as Chaparral and Hawkwood) use 'curvilinear' networks which are more convoluted and therefore provide limited connectivity. This has resulted in increased emergency response times, reduced walking and cycling opportunities,

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and increased *congestion* for residents entering or leaving their communities. **More recent communities have been making improvements in connectivity.** Future Greenfield communities should ~~therefore~~ **continue to** be designed in ways that achieve the higher levels of connectivity, and associated benefits, already present in many Calgary communities today.

Increasing opportunities for walking and cycling, as well as improved transit circulation, is even more important in higher density, mixed-use *Activity Centres*. The close proximity of homes, jobs, services and amenities will make walking and cycling very convenient, as long as high levels of *street* and walkway connectivity are provided.

Effective design of local transportation networks, in Calgary and other North American cities, has shown that the land requirements for transportation infrastructure can be minimized using a variety of different street networks, while enhancing connectivity relative to recent curvilinear designs. Typical modified grid networks in Calgary use an average of 26% of the total land area for streets, and plans for proposed modified grid communities in Calgary require as little as 22%. Typical curvilinear communities require a similar amount of land at 23% to 25%. This clearly demonstrates that well connected communities can be built without an excessive increase in land required for transportation infrastructure.

Within Future Greenfield communities, concerns about traffic on residential *streets* can also be mitigated through the proper design of *streets* to manage the flow of traffic and discourage undesirable driver behaviour.

~~A separate "Connectivity Handbook" will outline the methodology and associated design targets that can be used to improve connectivity in Future Greenfield communities and Activity Centres. Such measures would not apply to existing communities, although opportunities to enhance connectivity (particularly for walking and cycling) may be explored if community support exists.~~

## Policies

- a. Connectivity should be maximized for pedestrians, cyclists, emergency vehicles and private vehicles in all Future Greenfield communities and *Activity Centres*. Limitations caused by natural topographic features, waterways and other obstructions (such as adjacent Skeletal Roads) must be taken into account when planning connected street and walkway networks.
- ~~b. All Outline or Subdivision Plans for Future Greenfield communities and Activity Centres must provide quantitative measures, such as a connectivity index, that demonstrate the degree of connectivity that is achieved for pedestrians, cyclists, emergency vehicles and private vehicles.~~
- c. *Street* and walkway configurations should be designed to maximize *accessibility* to major destinations and transit facilities within Future Greenfield communities and *Activity Centres*, while also minimizing the impact of traffic on other users, adjacent businesses and residents.
- d. Residential *street* block lengths should be minimized in order to facilitate the movement of pedestrians, cyclists and transit within Future Greenfield Communities and *Activity Centres*.
- e. Access into and out of Future Greenfield communities, new major commercial developments and industrial developments should be maximized to improve emergency response times and reduce congestion.
- f. Evacuation route plans should be established for all future developments and identify at least two evacuation

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routes connecting to at least two different *streets* that lead away from those developments.

- g. A minimum of two access points (defined as intersections or roundabouts that provide direct access into or out of an area for vehicular traffic) must be provided to any new residential, commercial or industrial area once homes or businesses begin to be occupied. The second access point could be at a temporary ~~access~~ location accessible to the public. It may be permitted for this second access point to be exclusive to emergency vehicles provided that access is maintained year round by the developer until permanent public access is provided. ~~if two full access points are not practical.~~ The minimum number of access points for an area may increase based upon the proposed land uses and anticipated build out. All temporary and permanent access points should also be designed to serve as emergency evacuation routes.

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### 3.9 Parking

**Objective** Manage parking in Centre City, Activity Centres, ~~Corridors~~ *Main Streets* and TODs to support an affordable and diverse housing mix, promote development, consider business vitality, increase densities, encourage using all modes of transportation, improve air quality and reduce the environmental footprint of the city.

#### Supports

Key Direction #3: Direct land use change within a framework of nodes and corridors.

Key Direction #4: Link land use decisions to transit.

Key Direction #5: Increase mobility choices.

Key Direction #7: Create *Complete Streets*.

Key Direction #8: Optimize infrastructure.

Transportation Goal #1: Align transportation planning and infrastructure investment with city and regional land use directions and growth management strategies.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

Transportation Goal #6: Advance environmental *sustainability*.

#### Discussion

The availability of parking is an important factor in what modes of transportation people choose to use. Traditionally, cities have required ample amounts of parking to alleviate parking *congestion*. However, an abundance of free parking encourages vehicle use, consumes useful land and is expensive to construct and maintain. Solving this problem by providing additional parking further increases parking demand, perpetuating the cycle.

The move towards more *Complete Streets* that support walking, cycling and transit requires complementary parking management strategies. The Downtown Parking Strategies ~~has~~ *have* been highly successful at managing traffic flow into the core, increasing transit use, managing the total number of long-stay stalls and creating a dynamic downtown. Continuing these strategies and expanding them to other key locations served by the Primary Transit Network throughout Calgary over time will continue to shift the focus from providing an abundance of free parking to a more managed approach to parking.

#### Park and ride

Historically, park and ride facilities have been developed in strategic locations, generally beyond a five kilometre distance from the Centre City. These facilities intercept vehicles at the earliest opportunity and help to reduce *congestion* closer to Centre City. This also helps to protect established inner city communities from undesirable traffic problems.

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However park and ride facilities must be planned in concert with other transit access modes (e.g., feeder buses, walking, cycling and passenger drop-off). Excessive parking detracts from the goal of maintaining an effective feeder bus service and may limit opportunities for TOD. For these reasons, the determination of park and ride requirements has been based on consistent application of Council-approved guidelines.

The ~~current~~ park and ride strategy should ~~be reviewed to~~ consider current and future needs for park and ride, as well as the overall parking strategy for TOD nodes. Alternatives such as sharing parking with complementary developments (e.g., shopping centres, movie theatres, churches), structured parking and flexible guidelines for park and ride for *Activity Centres* and ~~Corridors~~ *Main Streets* should be considered in order to reduce the footprint of park and ride development in strategic locations.

**Parking and ~~green~~ *natural infrastructure***

Parking lots and urban water run-off are closely linked. Streets and parking areas represent over 24 per cent of the impervious land area in Calgary, contributing higher storm flow volumes and pollutant loads to urban stormwater than any other source area in urban development. Parking design can have a powerful impact on stormwater quality, both by generating large areas of impervious land coverage and by collecting non-point source pollutants from vehicles and *roadway* surfaces.

Three key methods to reduce impervious surfaces are:

- retaining natural landscape;
- minimizing pavement;
- promoting natural infiltration to the soil; and
- pervious pavement.

Once these are accomplished, appropriate design solutions should be applied. Section 3.7 provides guidance to planners, engineers and other specialists to include *green natural infrastructure* into the planning and design of *roads* and *streets*. The same strategies should be applied to parking lots.

**Policies**

- a. The Downtown Parking Strategy ~~ies contained in *Calgary Parking Policies* are~~ *is a* key elements of The City's approach to management of ~~downtown~~ traffic congestion, and they should continue to be ~~aligned with long-term~~ *used to encourage* transit, walking and cycling as other desirable travel options to the downtown ~~mode split targets for Centre City.~~
- b. Funds collected from parking fees and levies should be ~~used for funding~~ *reinvested to support community improvements, as well as transit, walking, and cycling amenities, where possible.* ~~related transportation improvements.~~
- c. Long-stay parking in *Activity Centres* and ~~Corridors~~ *Main Streets* should be limited where high-quality alternative modes of travel are in place (such as LRT or BRT).
- d. Technology, time restrictions and pricing should be used for addressing parking demand issues instead of

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- increasing supply in existing areas of the city.
- e. *Parking facilities* should be encouraged to provide priority, high quality parking locations and/or rates for “preferred parkers” (carpool parkers, car-sharing vehicles, cyclists, teleworkers, motorcycles, *electric vehicles* and scooters).
  - f. The design of *Parking facilities* should consider adaptability for future uses that may or may not be related to parking.
  - g. Shared parking should be used to optimize existing facilities and *park and ride lots*.
  - h. Park and ride development must be managed strategically to optimize the development of the transit market, ~~and~~ to minimize the land area used, *and to facilitate the transition of station-area lands to desired development*.
  - i. ~~Green~~ *Natural infrastructure* principles should be integrated into the design of *parking facilities*.



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## 3.10 Transportation safety

**Objective** Continue to enhance safety for all users of the transportation system, accommodate increased walking, cycling and transit use by addressing the safety concerns of network users, and support emergency management processes.

### Supports

Key Direction #5: Increase mobility choices.

Key Direction #7: Create *Complete Streets*.

Transportation Goal #2: Promote safety for all transportation system users.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

### Discussion

#### Transportation system safety

The transportation system in Calgary supports community safety, security and vitality. By providing connections between communities, safe routes to schools, accessible rapid transit and more, the transportation system is a catalyst for community health, safety and security. Safety in the system is critical, and safety is one of the overarching transportation goals in the CTP.

A user's perceived safety is important. People may spend a lot of time on the transportation network during the course of a day, so they need to feel comfortable when they use it. If users feel unsafe, they may not use elements of the transportation network even if they are physically able to. Calgary's transportation network must be safe and feel safe for all users, whether they are walking, cycling, riding transit or driving.

A city's approach to safety is framed in terms of risk. Risk depends on the likelihood of something occurring and the impact or consequences if it occurs. Whether as individuals or as a group, when we make decisions, we decide risks are:

- acceptable;
- acceptable, but with effective monitoring;
- acceptable, but only with risk management to minimize exposure to the risk (to keep the likelihood of occurrence low) and/or to minimize the impact; or
- unacceptable.

Risk management is a critical consideration in all transportation planning, design and operational decisions. A significant improvement in transportation safety comes from changing travel behaviour to minimize exposure to traffic collisions. Shifts from private vehicle use to public transportation have been shown to reduce injuries and fatalities. To

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encourage this shift, the real and perceived safety of users of the public transportation system must be addressed.

As more people are encouraged through supportive land use to walk, bike and use public transportation, a proactive approach to safety on *roadways*, pathways and sidewalks is needed. Changes to the way *roads* and *streets* are used by drivers, pedestrians and cyclists involve risk. Individuals and communities often react by citing the risks as obstacles (e.g., increased pedestrian/ vehicle conflicts). The CTP includes policies that address these risks.

**Engagement**, engineering, education, enforcement, ~~enhancement and encouragement~~ and evaluation all play a role in developing an integrated approach to safety for all users.

**Engagement** Interacting with stakeholders and the public to build trust and achieve effective dialogue

**Engineering** Using elements of design to influence travellers' behaviour.

**Education** ~~Reaching out~~ Providing information to the public through a variety of media.

**Enforcement** Ensuring adherence to laws, bylaws and regulations.

**Evaluation** Undertaking evidence-based assessments of improvements and strategies.

~~**Enhancement** Addressing safety issues through physical improvements.~~

~~**Encouragement** Addressing users' perceived level of safety by encouraging use of new public facilities.~~

**Emergency management**

In addition to promoting and enhancing safety on the transportation system during normal operating conditions, The City must be prepared for unforeseen emergencies that require swift and coordinated responses. The Emergency Management Agency has responsibility for pre-planning and organizing City responses to emergency situations that require evacuation of large urban sectors in Calgary. They are supported by the Calgary Fire Department, Calgary Police Service, the Transportation Department, Disaster Social Services and many other support services. Transportation plays an important role in developing operational procedures that facilitate the efficient and orderly movement of people away from disaster locations (including traffic signal coordination and provision of transit services). Continued involvement by Transportation is crucial in the successful development of emergency response plans.

**Dangerous goods movement**

The movement of dangerous goods (materials that pose a risk to public health, property or the environment when transported in quantity) is necessary for some business functions in Calgary. The risk posed by the movement of these goods must therefore be mitigated, or prevented if possible. Through regular bylaw updates, the Transportation Department must evaluate and identify specific *roadways* that can be used to move dangerous goods while minimizing these risks.

**Policies**

- a. Transportation safety issues should be identified and resolved on a priority basis through **engagement**, engineering, education, enforcement, ~~enhancement~~ and ~~encouragement~~ evaluation.

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- b. The transportation system should be planned and operated in a manner that promotes safety for all users and ensures the City is able to sustain that safety during unforeseen emergencies that require swift and coordinated responses.
- c. CPTED design guidelines, and emergency management considerations, should be incorporated into the planning and design of all transportation infrastructure.
- d. Statistics on community transportation safety must be kept and recorded to identify progress in reducing injuries and fatalities.
- e. The Transportation Department should work with the Emergency Management Agency and its members to prepare emergency evacuation plans for individual sectors of the city (e.g. square-mile residential grids, the downtown).
- f. Residential *Streets* must be designed to achieve reductions in operating speeds for the purpose of preventing collisions and improving the safety of all users, without a reliance on speed enforcement.

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### 3.11 Universal access

**Objective** Ensure access and freedom of mobility for all Calgarians, providing all citizens with the opportunity to travel and participate in public life.

#### Supports

Key Direction #5: Increase mobility choices.

Key Direction #6: Develop a Primary Transit Network.

Key Direction #7: Create *Complete Streets*.

Transportation Goal #3: Provide affordable mobility and universal access for all.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

#### Discussion

The transportation system should offer choices for all people, regardless of their income, age, literacy, mental and physical ability or cultural background. An accessible transportation system that incorporates walking, cycling, transit, carpooling, private vehicle use and other options offers all citizens the opportunity to participate in the economic and social activities of the city.

*Universal design* makes the transportation system, and the places it connects, accessible to everyone. *Universal design* also benefits people without disabilities, such as older adults, people with temporary injuries, parents with strollers, individuals with wheeled grocery or luggage carts and delivery people with numerous boxes in hand.

Transportation infrastructure and services can be designed and operated in a way that meets the needs of all citizens. By reducing barriers that exclude individuals from participating in the community, all Calgarians will be able to move freely and engage in economic, social and cultural life.

#### Policies

- a. Affordable mobility choices should be provided to Calgarians.
- b. *Universal design* principles and *The City's Access Design Standards* should be applied in the planning, design, operation and maintenance of all transportation infrastructure and services.
- c. The Primary Transit Network, including all vehicles and supporting infrastructure (such as sidewalks and buildings), should be designed and built to accommodate the needs of all citizens.

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### 3.12 Environment and Transportation

**Objective** Protect air, land, water and biodiversity in the planning, design, operation and maintenance of all transportation infrastructure.

#### Supports

Key Direction #7: Create *Complete Streets*.

Key Direction #8: Optimize infrastructure.

Transportation Goal #6: Advance environmental *sustainability*.

#### Discussion

~~The Calgary Ecological Footprint for 2008 stood at 9.4 global hectares (gha) per capita, which is above the national average of 7.1 gha per capita.~~ In 2017, Calgary's Ecological Footprint (a measure of resource consumption) was reported to be 7.5 gha per capita, well above a national average of 3.6 gha per capita. ~~The~~ Transportation contributes ~~11 percent~~ to the city's Ecological Footprint through vehicle fuel consumption, land utilization and energy consumed during construction and maintenance activities; in 2008 this represented 11 per cent of the total overall.

The transportation system interacts with the environment in multiple areas, including pollution control, invasive weed control, waste material diversion, and biodiversity preservation and enhancement (see Figure 6).

NOTE: it is proposed that Figure 6 below be added to the CTP.

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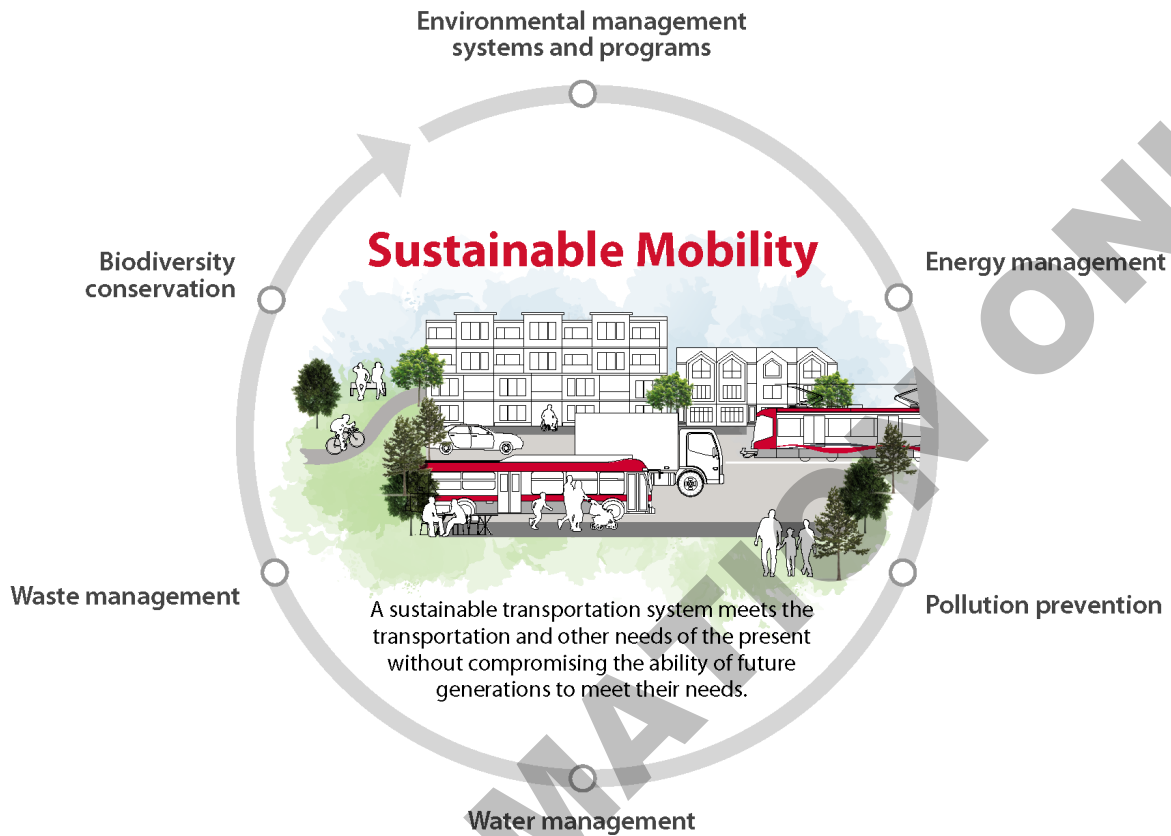


Figure 6 – Environmental Policy Implementation

Increasing emphasis on more sustainable modes of transportation can help reduce Calgary’s impact on the environment, and mitigate consequences such as:

- degradation of air quality and increasing *greenhouse gas emissions*;
- impairment of water quality associated with deposition of air pollutants;
- increased traffic noise; and
- impacts from oil spills, de-icing and other transportation activities.

Many of these impacts can be mitigated and/or eliminated through sustainable design and the application of best practices. Examples are Ride the Wind (public transit based on 100 per cent wind energy) and *green natural infrastructure* (protecting water quality by greening streetscapes and reducing *impervious surfaces*).

The application of an environmental *sustainability lens* to the design, development, operation and maintenance of the

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transportation system is key to minimizing adverse effects and identifying opportunities for resource conservation and enhancement. The appropriate application of environmental management systems, technologies and practices is instrumental to the protection of air, land, water and biodiversity.

**Greenhouse gas (GHG) emissions**

In 2009, the Calgary Climate Change Accord established The City’s commitment to pursue reductions in community GHG emissions of 20 per cent below 2005 levels by 2020, and 80 per cent below 2005 levels by 2050. Nonetheless, between 2005 and 2017 Calgary’s overall GHG emissions increased.

Calgary’s Climate Resilience Strategy: Mitigation & Adaptation Action Plans, approved in 2018, established three main goals:

- Reduce vulnerabilities and risks to severe weather and long-term climate effects.
- Improve energy use and reduce GHG emissions.
- Support the low-carbon economy.

NOTE: it is proposed that Figure 7 below be added to the CTP.

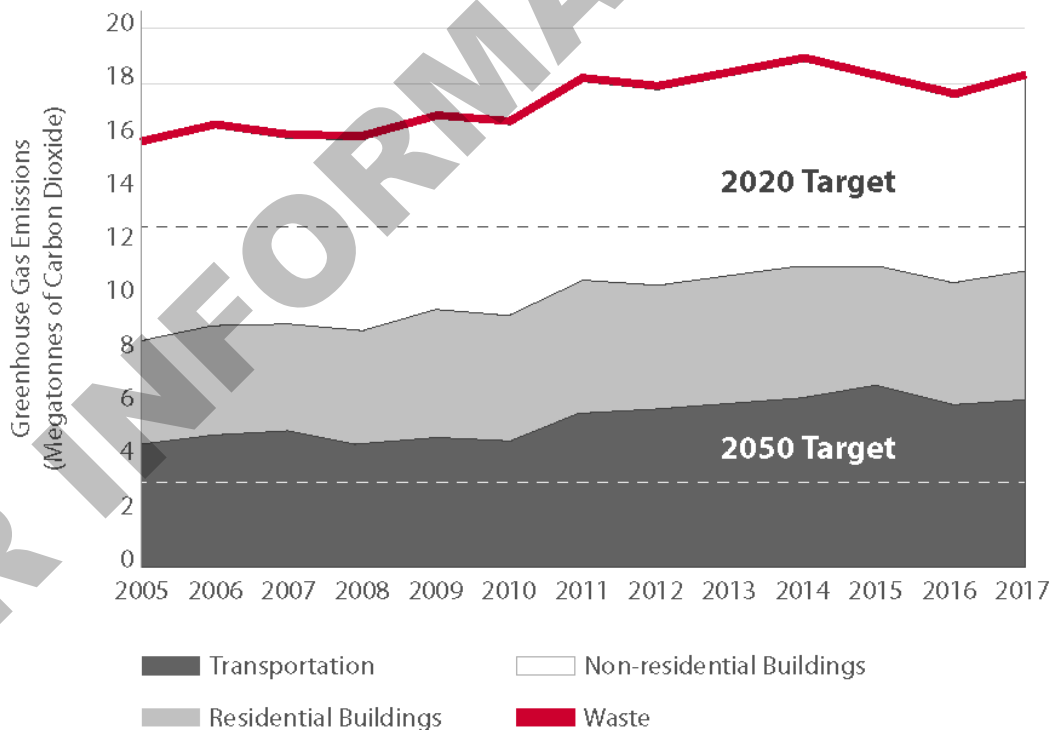


Figure 7 – Historical Calgary Community-wide GHG Emissions (2005-2017)

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Greenhouse gas emissions from transportation sources currently account for one-third of the city-wide total, primarily through the use of diesel and gasoline by motor vehicles.

NOTE: it is proposed that Figure 8 below be added to the CTP.

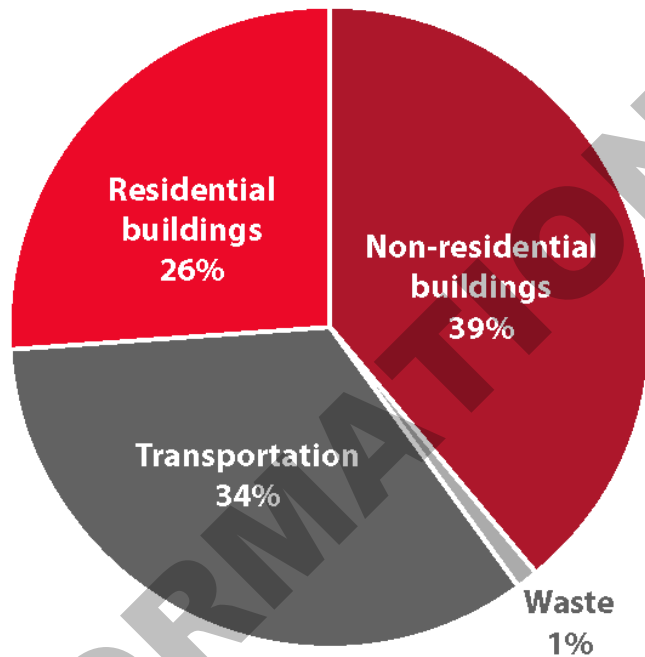


Figure 8 – 2018 City-wide Greenhouse Gas Emissions by Sector

Economics- and emissions-modelling work completed by the University of Leeds, the University of Calgary, and The City has shown that an economically and technologically-feasible transition path to the 2050 GHG emissions reduction target exists.

NOTE: it is proposed that Figure 9 below be added to the CTP.



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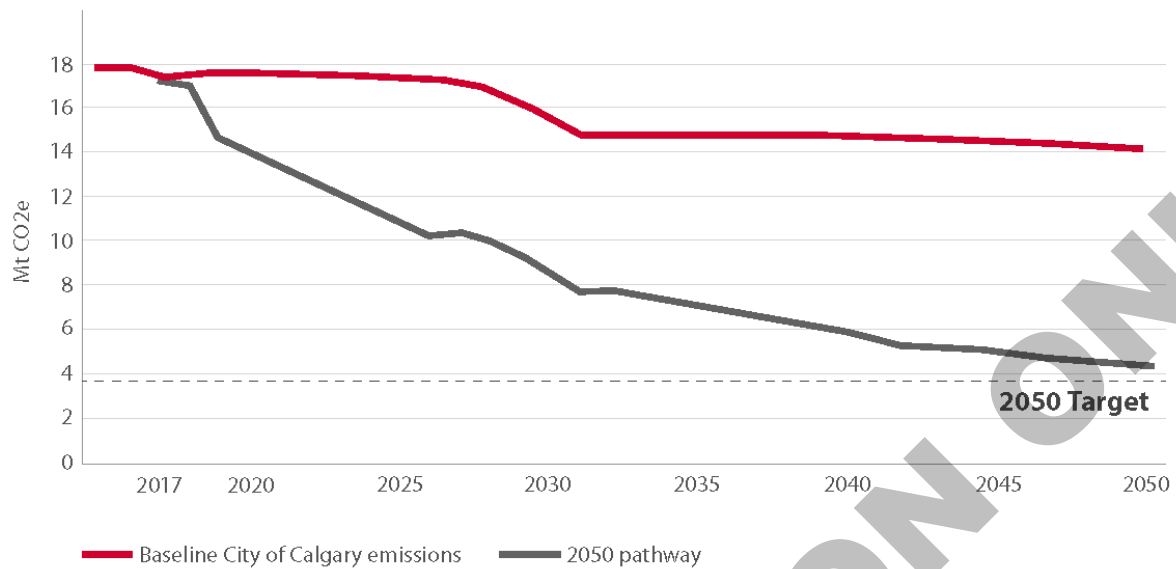


Figure 9 – Calgary’s Potential Future Emissions under the Baseline and Carbon Reduction Scenarios

Achievement of the goals and objectives established by the Calgary Transportation Plan in 2009 is estimated to represent 15 megatonnes of reduction in carbon dioxide equivalent emissions (CO<sub>2</sub>e) by 2050. In addition to the CTP reduction (accounted for in the Baseline scenario above), The City’s Climate Mitigation Action Plan identifies further transportation-sector reductions required to meet The City’s 2050 target, estimated at between 63 and 70 megatonnes of CO<sub>2</sub>e (cumulative total) and to be achieved through the following actions.

- A reduction of 60 megatonnes CO<sub>2</sub>e resulting from the transition to zero or low-emission vehicles by private owners and commercial fleets (see section 3.14 for further information on vehicle electrification), incorporating an anticipated reduction in the GHG intensity of Alberta’s electrical grid corresponding to the phase out of coal generation by 2030.
- A reduction of three megatonnes CO<sub>2</sub>e resulting from a shift in travel behaviour to low or zero-emissions modes (i.e. a 25 per cent increase in transit service coverage), increased rates of cycling, walking and car-pooling beyond Council approved actions in the CTP, RouteAhead and the strategic plans for active modes.
- A reduction of seven megatonnes CO<sub>2</sub>e resulting from the integration of climate change considerations into land-use and transportation planning decisions, strategies, plans and processes (with a corresponding \$9 Billion net savings in infrastructure) beyond Council approved targets in the MDP.

**Vehicle Electrification**

Electric vehicles reduce local air pollution, noise and *greenhouse gas emissions* from transportation activities, making contributions today towards GHG reductions that will increase as Alberta’s electric grid transitions away from coal-fueled generating facilities. Electric vehicles are already less expensive to operate and maintain today than a

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comparable gasoline-powered car, with a driving range of approximately 400 to 500 kilometres on a single charge. Average electric vehicle range is expected to increase significantly as new models become available in the early 2020s, and the initial purchase pricing for small- to mid-size electric passenger vehicles are expected to be directly competitive with gasoline-powered cars by the mid-2020s. In response, the adoption of electric vehicles is projected to increase exponentially.

One of the current barriers to electric vehicle adoption is “range anxiety”, a fear of running low or out of power prior to reaching an intended destination. Many studies have shown that the strategic placement of public charging stations can reduce the range anxiety of electric vehicle drivers. Helping to provide citizens with an effective public EV charging network is a key role cities can play to support EV adoption. Municipal governments can link potential charging-station sponsors with organizations and venues that want to install charging infrastructure.

NOTE: it is proposed that Figure 10 below be added to the CTP.

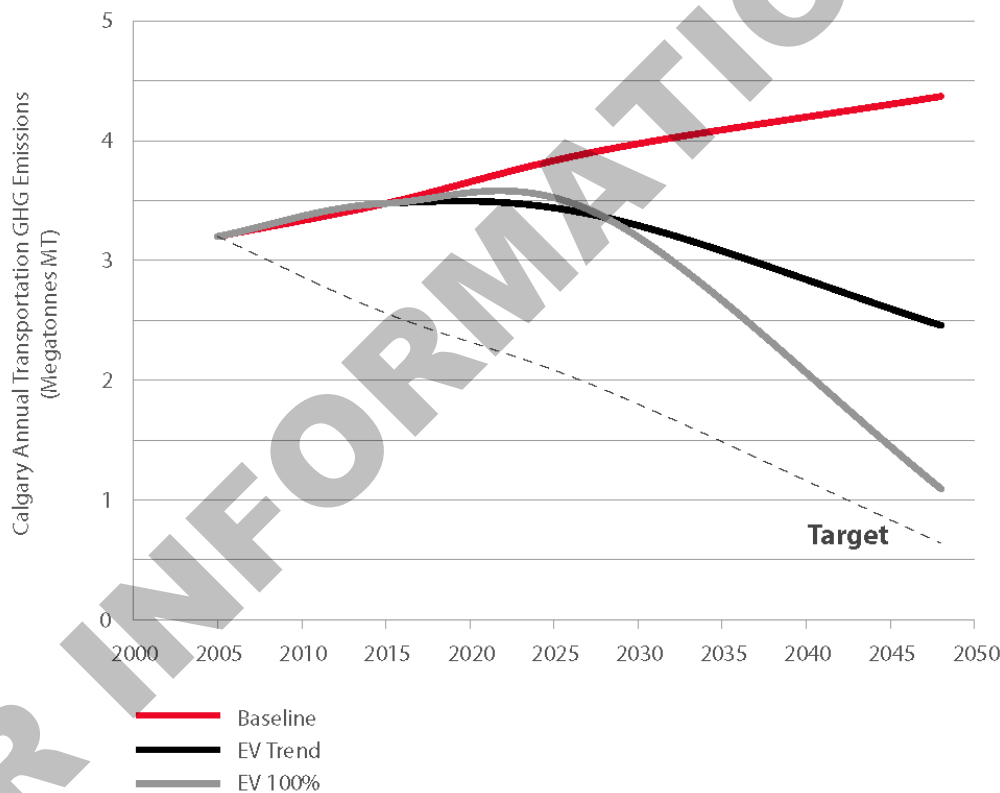


Figure 10 – Change in Calgary Annual Transportation GHG Emissions (Megatonnes MT)

The following policies support integrated design strategies contained in the CTP that are aimed at eliminating, reducing or mitigating the environmental impact of the transportation system.

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**Policies:**

- a. Protect the quality and quantity of water in urban environments by mimicking natural *hydrology* in the design and operation of transportation infrastructure.
- b. Improve the air quality on and around mobility corridors by increasing vegetation, decreasing *impervious surfaces*, supporting the shift to zero-emission vehicles, and supporting the use of renewable energy and other techniques to mitigate climate change.
- c. Preserve and enhance *biodiversity* to support the natural environment in and around mobility corridors.
- d. The City should participate in and promote initiatives aimed at expanding the availability of publicly accessible electric vehicle charging stations.
- e. The City should take steps to achieve a 100 per cent zero-emission community vehicle fleet by 2050.
- f. The City should develop methodologies to integrate GHG reduction potential into growth management decisions and transportation assessments.

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## 3.13 Infrastructure management

**Objective** Use best infrastructure management practices to keep Calgary's transportation infrastructure safe and reliable, and minimize future expenditures by optimizing the life-cycle of existing and future facilities.

### Supports

Key Direction #8: Optimize infrastructure.

Transportation Goal #7: Ensure transportation infrastructure is well managed.

### Discussion

Like other cities in North America, Calgary's transportation infrastructure is reaching a point where much of it will start to require additional maintenance, refurbishment or replacement as a result of its age. However, sufficient funding is unavailable to support all of the new infrastructure requirements of Calgary's current pattern of growth in addition to the increasing costs associated with managing Calgary's existing infrastructure. As a result, many transportation projects remain unfunded, resulting in an infrastructure gap. Additional priority will now also need to be given to the management of walking, cycling and transit infrastructure.

In general, infrastructure management includes all work that preserves the integrity and value of transportation infrastructure. This includes all work associated with operating and maintaining the infrastructure in a reasonable condition so that it is able to deliver its intended duration and level of service to The City and to Calgarians. Along with operations and maintenance, timely rehabilitation and refurbishment of infrastructure has been shown to delay the need for more costly replacements of existing infrastructure, thus optimizing the use of limited available resources. In addition, proper infrastructure management can help to improve *capacity* and quality of service for all modes of transportation and enhance the *streetscapes* that beautify our city by keeping The City's transportation infrastructure in safe and reliable condition.

It has become increasingly evident that The City cannot afford to continue expanding outwards and increasing linear infrastructure while supporting built infrastructure. The problems of rapid growth are compounded by the desire for increased service levels in the maintenance and replacement of existing infrastructure. The combination of these two issues results in considerable strain on available funding for infrastructure management.

The City and the Transportation Department have already initiated *asset management* programs aimed at addressing these issues.

### Policies

- a. Existing and future transportation infrastructure should be managed (through operations, maintenance, refurbishment and replacement) in a manner that ensures that infrastructure is safe, reliable and achieves its optimum life-cycle.

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- b. A *life-cycle* costing and management program should be used to optimize the recommendations for infrastructure investment, which should be aimed at improving the overall condition of the transportation infrastructure and minimizing the overall *life-cycle* cost.
- c. New construction or *redevelopment* projects within transportation *rights-of-way* should be coordinated with planned maintenance projects to minimize the impact on the transportation infrastructure, the duplication of repair efforts, the premature shortening of infrastructure life and the impact on the natural environment.
- d. Primary networks for the movement of cyclists, transit, and goods (as depicted in CTP maps 1, 2 and 5) should be given high priority for clearing of snow, ice or gravel and debris.
- e. Environmental best practices must be incorporated into all infrastructure management activities to minimize impact on the environment and integrated ~~green~~ *natural infrastructure*.
- f. *Transportation infrastructure should be designed to ensure that assets can be operated and maintained as efficiently as possible, contributing in a positive manner to meeting quality of service and user-experience expectations.*

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## 3.14 New transportation technologies

**Objective** To monitor the development and deployment of new transportation technology, and to plan for coordinated and timely responses that optimize the benefits of the technology at acceptable levels of cost and risk.

### Supports

Key Direction #5: Increase mobility choices.

Key Direction#7: Create *Complete Streets*

Key Direction #8: Optimize infrastructure.

Transportation Goal #3: Provide affordable mobility and universal access for all.

Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.

Transportation Goal #6: Advance environmental *sustainability*.

Transportation Goal #7: Ensure transportation infrastructure is well managed.

### Discussion

Rapid advances in transportation technology have demonstrated the potential to change the way that transportation and logistics services are provided to, and utilized by, the general public. The widespread adoption of internet-enabled smartphones and in-vehicle navigation systems, the mass-production of electric vehicles, and the rise of electronic commerce are just three examples of technological developments that are already impacting travel user behaviour and market demand for mobility options. Self-driving vehicles, drone-based delivery networks, and new forms of shared-use mobility are additional examples, each with the potential to influence future travel patterns and the long-term vision for Calgary.

The City of Calgary has been pro-active in its efforts to identify and prepare for the impacts of new technology through strategic planning and active participation in the field of Intelligent Transportation Systems (ITS). The City benefits from being prepared to respond to public adoption of new technology with an understanding of how/if it should be regulated, and how it fits into the long-term vision for Calgary as a sustainable city that is articulated in the MDP, CTP and other City policy documents (e.g. provision of more mobility choices, optimizing infrastructure).

Many of the transportation technologies currently under development may take years before becoming broadly available to the public. As a result, their implications to society and to Calgary's development may be uncertain for an extended period of time. For each technology, The City will have to assess the potential benefits resulting from early action (e.g. service innovation, a positive public perception, job creation) against the potential risks (e.g. ill-timed regulation, opportunity costs associated with premature investments in enabling infrastructure), as a result, ongoing monitoring will be necessary.

However, the direction and availability of a number of technological developments are sufficiently clear to inform a

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number of actions on the part of The City today:

- Increasing levels of automation and electrification in the vehicles available to the general public.
- The arrival and operation in Calgary of shared mobility services (e.g. dockless bikes/scooters, ride-sharing services).
- The continued spread of digitally-interconnected consumer items (i.e. the “Internet of Things”) including smart phones, “wearables”, and vehicles, with connectivity essentially enabling or supporting the other transportation technology developments.

**Curb space management**

Demand is increasing for the utilization of curb space by multiple modes and activities. Dedicated on-street facilities for active modes, street cafes, parking spaces for shared mobility services, and electric-vehicle charging stations are existing examples; the development of automated vehicles is expected to result in a significant future demand for curbside drop-off and pick-up locations. All of the activities have associated costs and benefits that should be evaluated alongside those associated with traditional uses: vehicular travel lanes, on-street parking, taxi stands, etc.

**Road pricing**

The existing sources of funding available to The City of Calgary to support the capital costs of constructing, operating and maintaining Calgary’s transportation system are very limited in number; of these, only fuel-tax revenue and property taxes have been relatively predictable. However, fuel tax is anticipated to decline over time as a result of improvement in vehicle fleet fuel-consumption performance and a new vehicle market shifts towards hybrid and electric drivetrains.

The rise of digital connectivity in vehicles has enabled the introduction of road pricing (i.e. vehicle kilometres travelled pricing) as a potential alternative source of funding for high-priority transportation network investments in the future. Road pricing would establish the “direct user pay” costs of travel, responding to time, location, type of vehicle and even the level of congestion present along the route. In addition to providing stability and reliability as a funding source, road pricing can improve safety, traffic *congestion* and environmental performance outcomes.

**Data management**

The future of transportation will rely heavily on the use of information and technology, with data-driven networks becoming as important to the operation of the transportation system as the sidewalks, pathways, *streets* and light rail lines. The City should prepare for this development by ensuring that the specifications/guidelines and capacity for comprehensive transportation data management and sharing with public and private entities will be in place to meet public demand.

A data-sharing and system-integration model would realize the potential for mobility payment, pricing and trip planning to be integrated and centralized in various ways. Potential applications include:

- Improved management of infrastructure through the leverage of data.
- Support for integrated mobility solutions (i.e. “Mobility as a Service” or “MaaS”);

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- Implementation and licensing of new mobility methods.
- Improved planning and expansion of access.

**Vehicle electrification**

See section 3.12 for more information on vehicle electrification

**Shared-use mobility services**

Shared-use mobility is the trend of people using services to travel on an “as-needed” basis instead of owning a personal vehicle. Shared mobility is enabled through digital connectivity, allowing for the sharing of transportation resources such as automobiles, “dockless” bicycles, electric scooters and ride-sharing capacity (e.g. Uber). Shared mobility services offer multiple benefits in the form of reduced user travel costs, fewer vehicle kilometres travelled (and therefore generally fewer emissions) and “first kilometre/last kilometre” service beyond the extent of public transit system operation.

A number of shared-mobility services currently operate in Calgary, with customers able to search their geographic area for a shared resource (i.e. bicycle, scooter, or vehicle) or to book a ride-sharing service on their smart-phone (tracking their ride in real time).

**Policies**

- a. The City should continue to monitor developments in technologies that are expected to significantly change travel and land use patterns in the future.
- b. A comprehensive curb-space management strategy should be developed to address current and future demands for shared use of the asset by different modes and activities.
- c. In consultation with the Province of Alberta, The City should investigate the feasibility of road-pricing as a potential replacement for fuel tax with specific consideration given to conducting a trial.
- d. Ensure that City of Calgary data management specifications and system capacity are sufficient to support the acquisition, use and protection of transportation trip and transaction data, including the protocols/controls necessary to safely enable “Mobility as a Service” applications.
- e. The City should support the operation within Calgary of shared-use mobility services, including involvement in pilot partnerships and parking incentive programs.



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## Part 4 – Monitoring and reporting

**Objective** Provide a basis for effective strategic decision making by monitoring and reporting on the progress made towards achieving the goals and objectives of the MDP and CTP.

### Discussion

The MDP and CTP are not static documents. They establish strategic policy directions, but periodic progress checks must be undertaken to review whether progress is being made.

To evaluate progress toward the policy direction of the MDP and CTP, a broad spectrum of indicators and targets has been developed. The Core Indicators for Land Use and Mobility can be found in Figure 6.11. These indicators are proxy measures for the social, environmental and economic performance of the MDP and CTP. They are intended to track the overall progress towards achieving the goals and objectives of the MDP and CTP. However, these indicators are not intended to be applied to individual Local Area Plans and land use applications. It is important to note that no one or two measures in isolation can indicate progress. The full set of indicators should be measured and reported in order to provide a comprehensive picture.

Each of the indicators is accompanied by a target. The targets provide a desired performance outcome for an indicator over a specified period of time. The targets were based on benchmarking of other cities and engagement with stakeholders. The targets represent a direction that The City wishes to achieve through its planning and investment processes and through collaborative working with other orders of government, the public and stakeholders.

A monitoring and reporting program will be developed for the Core Indicators for Land Use and Mobility as part of the MDP/CTP implementation program. A regular cycle of reporting on the Core Indicators will provide performance information to Council, Administration and the public. Reporting will be conducted in advance of each 3-year City business planning cycle and will assist in developing investment strategies and strategic growth decisions. The reporting process will also help ensure that implementation strategies and corporate processes are aligned with the long term goals of the MDP and CTP. In addition to evaluating progress towards the targets contained in this section, additional reports will look at current growth forecasts, market trends and The City's financial capacity.

A major review of the Core Indicators for Land Use and Mobility should occur on a ten year basis as part of the CTP policy review process (which will assess whether the policy direction remains appropriate or requires adjusting). Each metric and target will be evaluated to ensure that they align with the updated vision and policies of the MDP and CTP.

A regular cycle of reporting on the indicators will provide information for Council, administration and the public. This is supported by policy direction in the MDP, which states that:

- The City will monitor measure the Core Indicators for Land Use and Mobility on a continuous basis and report to Council, Administration and the public regarding the progress towards the targets prior to each business planning cycle.

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NOTE: it is proposed that the figure located on page 4-3 of the 2009 version of the CTP be replaced with Figure 11 below.

Core indicators for Land Use and Mobility (MDP)					
#	Core indicators	Metric	Baseline	2018	60-year target
1	Urban Expansion	Per cent of population growth from 2006 accommodated within balanced growth boundary.	-5.9% (2005)	9.7%	50%
2	Density	People per hectare	20 (2005)	24.7	27
		Jobs per hectare	11 (2005)	13.5	18
3	Population / Jobs Balance	Population/Jobs Northwest ratio	3.0	3.0	3.0
		Population/Jobs Northeast ratio	1.7	1.7	1.4
		Population/Jobs Southwest ratio	1.3	1.4	1.5
		Population/Jobs Southeast ratio	1.2	1.5	1.5
4	Mix Land use	Land Use Diversity Index	0.53 (2008)	0.56	0.7
5	Residential Mix	Residential Diversity Index	0.19 (2008)	0.22	0.4
6	Road and Street Infrastructure	Roads to streets ratio	0.72 (42% Roads and 58% Streets)	0.61	0.57 (36% Roads and 64% Streets)
7	Accessibility to Primary Transit Network	Per cent of population within 400m of Primary Transit Network	0%	37%	45%
		Per cent of jobs within 400m of Primary Transit Network	0%	14%	67%
8	Transit Service	Annual transit service hours per capita	2.2	2.24	3.7
9	Goods Access	Per cent of intermodal and warehousing facilities within 1600m (actual) of Primary Goods Movement Network	73% (2008)	73%	95%
10	Transportation Mode Split	Walking and Cycling Mode split (all purpose trips, 24 hours, city-wide)	14% (2005)	18%	20% - 25%
		Transit Mode split (all purpose trips, 24 hours, city-wide)	9% (2005)	8%	15% - 20%
		Auto Mode split (all purpose trips, 24 hours, city-wide)	77% (2005)	74%	65% - 55%
11	Accessibility to Daily Needs	Per cent of population within Major and Community Activity Centres, and 600m of Urban and Neighbourhood Corridors	18% (2006)	21%	30%
12	Watershed Health	Per cent of impervious surface	33% (1998)	8.25%	14% - 20%
13	Urban forest	Per cent of tree canopy	7% (1998)	8.25%	14% - 20%
14	District Energy	Per cent of land area with densities supportive of district energy systems	1.8%	2.6%	1.7%

Figure 6.11 – Core Indicators for Land Use and Mobility

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## Appendices

### APPENDIX A – Transit system phasing and design

The development and *redevelopment* of cities is an uncertain process. However, significant benefit can be achieved when a degree of certainty is provided to major stakeholders (e.g., developers, communities, infrastructure and service providers) with regard to where, when and how cities will grow. Decisions affecting the expansion of major municipal infrastructure and services such as water, waste water, transit and *roadways* help to shape the direction for growth within the Calgary Region and affect the social, environmental and economic health of our communities.

#### Primary Transit service

~~The Key Directions for Land Use and Mobility recognize that, in order to move towards a sustainable city, land use and transit decisions need to be linked to ensure that the urban form supports quality transit service and that quality transit service is provided in a timely manner to support land use intensification. In this regard, the Primary Transit Network will be an organizing tool for transit planning and land use to ensure that each element supports the other.~~

~~The Primary Transit Network consists of an amalgamation of individual transit routes that operate in a specific corridor. One of the core elements of the CTP transit strategy is to commence upgrading major transit corridors (e.g., LRT and mainline bus service) to Primary Transit service levels within the next five years to 'lead development' and stimulate land use intensification of Activity Centres and Corridors.~~

The following criteria will be used to guide decisions about the phasing of transit investments in Primary Transit corridors to support strategic land use directions.

#### Ridership demand

Many proposed Primary Transit corridors (e.g., LRT corridors, Centre Street) carry heavy volumes of passengers and operate at frequencies of 10 minutes or less for extended time periods. These corridors are capable of being upgraded to Primary Transit service levels with a modest level of investment. Focusing investment in existing high-demand transit corridors will achieve the dual benefit of increasing transit capacity to attract new transit riders and providing incentives for more intensive, mixed use development.

#### Support growth in strategically located Activity Centres and ~~Corridors~~ Main Streets

The Primary Transit Network serves as an organizing tool for both Transit and Land Use Planning to ensure that both elements support one another. It is a commitment that quality transit service will be available if land use and street designs achieve good *transit-oriented* forms. Timely investment in improved transit service will help motivate market responses, focusing infill and greenfield *intensification* within walking distance of the Primary Transit Network.

#### Corridor completion

Ideally, specific route investments should align with Primary Transit corridors as much as possible to achieve the desired 10-minute service levels. These criteria may also result in rationalization of transit routes to align with proposed Primary Transit corridors.

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**Improve cross-town transit services**

More emphasis and resources must be directed toward the upgrading of existing cross-town transit services to Primary Transit service levels and the creation of new cross-town transit connections. These investments will enable Transit to attract a greater share of the substantial volume of cross-town work, school, shopping trips that are occurring between residential and employment areas in suburban areas, and it will support the development of new transit connections between proposed compact, mixed-use *Activity Centres* and *Corridors Main Streets*.

**New corridor development**

It is anticipated that several major mainline and cross-town transit corridors will be upgraded to Primary Transit service levels within the next five to 10 years. However, some components of the Primary Transit Network involve the creation of new transit corridors (e.g., new river crossings for transit, walking, cycling and EMS) and may require an extended time period to develop to Primary Transit service levels, as they are not currently anchored or supported by *Transit-oriented Developments*.

Using the priorities and criteria described above will make frequent, direct, reliable transit service available to the greatest number of people and achieve a *built form* that will foster integration between land use/community design and transit service.

**Transit implementation policies**

Calgary City Council has approved macro level policies that provide a framework for the planning and implementation of transit service in Calgary. These policies encompass decisions relating to maximum walking distance for access to transit service and fare policy, as well as system and route level performance standards. Taken together, these policies drive decisions regarding route structure, level of service, phasing of service and cost of delivering transit service to the community.

The following guidelines should be used to guide the planning and implementation of transit services.

- Community design will minimize pedestrian *street* walking distance to transit service (i.e., a bus zone or LRT station) to 400 metres or less.
- In recognition of unusual circumstances, up to five per cent of the area population (dwelling units) may be located beyond 400 metres *street* walking distance from transit service (i.e., a bus zone or rail station). In site specific conditions, this guideline may be exceeded and compromises will be necessary.
- Council-approved route performance measures are used to ensure bus routes are operating efficiently:
  - Regular bus – minimum of 20 to 25 boarding passengers per operating hour;
  - Community Shuttle – minimum of 12 to 15 boarding passengers per operating hour; and
  - Current policy requirements that Calgary Transit recover **between 50 to 55** per cent of its operating costs (revenue-cost ratio) through transit fares and other sources of **system-derived** revenue.
- In accordance with the above policies, transit service will be extended to developing areas as soon as possible

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subject to:

- The provision of streets adequately located and constructed for transit use.
- The location of the developing service area contiguous to existing service areas, so that service is provided in accordance with approved minimum ridership policies.
- Subject to the above policies and the individual characteristics of the service area, in response to customer demand, transit service within a service area will generally be staged as follows:
  - Weekday a.m. and p.m. peak-period service.
  - Weekday service between the a.m. and p.m. peak periods.
  - Saturday service.
  - Evening service on all weekdays and Saturdays.
  - Sunday service.
- The normal service delivery sequence may be altered in communities that have unusual service requirements.
- Bus and LRT service will operate within a schedule adherence range of zero to less than three minutes of the design schedule. Buses or LRT will not depart a scheduled time-point early.

### **Regional transit phasing plan**

~~The short-term regional transit goal is to implement an integrated, regional Bus Rapid Transit (BRT) service that would provide two-way service between key destinations within Calgary and adjacent regional communities. These services would be connected through the proposed network of Transit Mobility Hubs. Regional Transit Hubs will be located to support other medium and longer-term transit investments such as inter-city commuter rail and LRT services.~~

~~The future vision for regional transit service is illustrated in Map 4, in Appendix D, and includes:~~

- ~~• Commuter rail service to Cochrane, Canmore and Banff (projected 60-year corridor population growth of 116,000).~~
- ~~• Commuter rail service to Okotoks, High River and Nanton (projected 60-year corridor population growth to 121,000).~~
- ~~• Commuter rail service to Airdrie (projected 60-year corridor population growth to 130,000).~~
- ~~• New regional transit routes between communities outside of Calgary (e.g., Cochrane to Airdrie).~~

### **Transit Mobility Hubs**

A Transit Mobility Hub is a place of connectivity where different modes of transportation (i.e., walking, cycling, and bus and rail transit) come together seamlessly and where there is an attractive, intensive and diverse concentration of housing, employment, shopping and other amenities around a major transit station.

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Transit stations are the key point of contact between the traveller and the transit system; therefore, these facilities should be designed to enable efficient movement and stopping of transit vehicles, provide a safe, clean and comfortable environment for transit customers and contribute to the creation of attractive *Transit-oriented Developments*.

Some transit stations are particularly important because they are focal points for terminating transit lines or provide important connections between intersecting inter-city, regional and city transit routes. These stations will service the highest proportion of transit network trips and should be designed to provide comfortable, seamless connections for transit riders.

As a general principle, the first priority in the design of Transit Mobility Hubs should be to accommodate the requirements for efficient transit access, comfortable passenger waiting areas and safe, direct, unobstructed routes for pedestrians and cyclists. As discussed in section 3.1, transit, walking and cycling are more sustainable modes of transportation in that they require less energy, need less infrastructure and are available to almost all Calgarians. Giving priority to these access modes will foster greater mobility choices and support the creation of attractive *Transit-oriented Developments*.

It is essential that Transit Mobility Hubs are designed and maintained to a high standard to provide a safe, clean and comfortable environment where transit riders feel welcome and valued. The following types of facilities should be incorporated:

- Bus layover spaces;
- *Transit priority roadways*;
- Taxi stands;
- Stations that are comfortable, clean, attractive, safe and accessible and provide good interaction with adjacent land uses;
- Shaded areas to mitigate hot weather conditions and heated areas to provide a comfortable environment during cold weather conditions;
- Well-designed, amply-sized pedestrian walkways and customer waiting areas;
- Commercial/retail space, public washrooms and telephones;
- Secure storage facilities for bicycles;
- *Pedestrian-oriented* lighting;
- Attractive public art;
- Way finding signage to direct people to their destinations;
- Real time schedule information;
- Fare purchase equipment;

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- ~~Green~~ *Natural infrastructure* to increase infiltration and perviousness and manage stormwater run-off; and
- Park and ride, if provided, sized appropriately to the required access.

Three categories of Transit Mobility Hubs have been identified:

-Regional/inter-city gateway hubs

Regional/inter-city gateway hubs are located at major regional and inter-city interchange points between the Primary Transit Network and other modes of public transportation. Regional/inter-city gateway hubs would be located at the following locations:

- Calgary International Airport;
- At connection points between the Primary Transit Network and future inter-city high-speed rail service (CP Railway corridor and 96 Avenue N. and the "Rail-town" development at 9 Avenue and 8 Street S.E.);
- At connection points between the Primary Transit Network and future regional commuter rail and Bus Rapid Transit corridors; and
- At connection points between the Primary Transit Network and inter-city bus services (e.g., Greyhound and Red Arrow Express).

-Primary Transit hubs

Primary Transit hubs are focal points for terminating primary transit lines or major transfer centres between intersecting Primary Transit lines. These stations will accommodate higher passenger volumes than other transit stations and, therefore, should include enhanced amenities to provide a pleasant customer experience and to accommodate expected ridership levels. Primary Transit hubs generally coincide with Major *Activity Centres* and Community *Activity Centres* (see the Urban Structure Map in the MDP), which will further increase transit demand and reduce single occupant vehicle use.

-Transit centres

Transit centres are points between intersecting transit lines where there is significant passenger activity but not at the scale of a Primary Transit Hub. Transit centres are located at the intersection between Primary and Base Transit services (e.g., Sunnyside, Fish Creek Lacombe Station and Rundle Station).

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## APPENDIX B – Principles and design considerations for **river** crossings **of watercourses**

Within the Calgary Region, there are many crossings of **watercourses** (e.g. river, creek and ravine systems) by transportation infrastructure, including freight railways, major *roadway* corridors, *Light Rail Transit* lines and pedestrian bridges. This infrastructure provides essential mobility and connectivity between communities and external destinations, and it supports economic development by ensuring the efficient movement of people and goods at a city-wide and regional level.

Transportation crossings of rivers and creeks require the construction of culverts, piers and bridges, *etc.* and have the potential to affect riparian areas and river and creek habitats. For these reasons, the need for river and creek crossings must be balanced with impacts to the environment and be treated with the utmost environmental sensitivity.

During the next 30 years, components of Calgary's *roadway*, transit and pathway systems will require new crossings of river or creek systems, or widening or modification of existing bridge structures. *Watercourse* crossings may also be needed for electrical transmission, telecommunications, water or wastewater lines. In such projects, it is essential to balance the need for expanded infrastructure with the significance of the environmental areas and communities that may have to be crossed. When a crossing is deemed necessary, these facilities should be designed and constructed to protect the rivers, creeks and other natural *ecosystems* that will be affected.

The following discussion describes seven key principles that should be considered whenever a new or expanded river or stream crossing is contemplated.

### **Principle 1: Demonstrated need for the crossing.**

A balanced triple bottom line framework should be used to assess the social, economic and environmental implications of the crossing and the corridor it serves and all alternatives, including the option of doing nothing.

### **Principle 2: Advanced planning for appropriate siting based on all relevant factors.**

Several factors play a role when considering, planning, designing and constructing these crossings. These factors include:

- City-wide *street*, transit and utility connectivity to promote compact growth and public transit while reducing vehicle dependence;
- Use of river and stream corridors by people, fish, migratory birds and other wildlife and the sensitive integration of human development within *watercourse ecosystems*;
- Waterway constraints, such as *hydrology* (e.g., volume of water from droughts to floods), hydraulics (e.g., erosion power of moving water and ice) and channel morphology (e.g., meandering, braiding, entrenchment, etc.);
- Location and design of stream channel crossings; and
- Bridge design principles (e.g., structural, aesthetic).



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River crossing sites should only be chosen after careful determination of the least damaging crossing location – before the crossing and the associated infrastructure leading to it are designed.

**Principle 3: Adherence to the recommendations of a comprehensive biophysical and social impact assessment.**

The biophysical impact assessment should consider:

- plants and animals;
- seasonal and climate-related hydrological changes (droughts, floods, ice conditions etc);
- conditions and functionalities before and after construction;
- hydraulic conditions and functions (e.g., erosion, scouring and deposition);
- connectivity of viable wildlife habitats;
- fish passage; and
- long term impacts from operations.

The social impact assessment should build on the needs assessment (see Principle 1) and cover all relevant issues related to how the crossing, corridor or related infrastructure will affect people, their quality of life, their behaviour and the communities in which they live.

**Principle 4: Successful minimization of impacts from construction, rehabilitation and ongoing operation and maintenance through engineering design and rehabilitation requirements.**

Every effort should be made to avoid potential adverse impacts, and such efforts should be demonstrated prior to accepting mitigation as an option. To minimize the impacts of river crossings, the following standards should be implemented:

- Engineering design should follow best management practices, including the following:
  - Provide the minimum *roadway* width necessary to service intended needs and adjacent land uses. An effect of a highly connected *street* system is an increase in *impervious surfaces*. Therefore, it is beneficial to narrow *streets*, which can decrease the amount of impervious paving.
  - Wide *streets* and slope embankments can result in the need to disturb a significant length of the *watercourse*. By narrowing *street* and shoulder widths at *watercourse* crossings and by considering steeper embankments or clear span bridges, the total length of disturbed channel may be reduced.
  - Use more habitat-friendly forms of river training such as bio-engineering to mimic natural armouring, instead of riprap and concrete. Replicate historical natural bank stabilization, rather than hard surfaces.
  - A clear span bridge is usually the preferred type of crossing because it typically causes less impact to *watercourse* and flood plain functions.
  - When combining utility crossings with bridges, any corrosion problems due to leaks or electric currents should be anticipated and prevented.

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- Bridge spans that either eliminate or minimize the disturbance of the *watercourse* bed and shore are preferable.
- Recreation access to the *watercourse* and approach ramps should be included, as appropriate.
- Where significant conflicts are expected, priority should be given to the protection of wildlife habitat and corridors (ecologically sensitive areas) over all other uses.
- Adverse biophysical impacts should be avoided if possible, or minimized if unavoidable.
  - Vegetation impacts should be minimized by crossing the stream corridor at a right angle and keeping the *right-of-way* as narrow as possible.
  - Designing for acoustic, visual and safety factors is important.
    - Sound barriers block the view and turn crossings into visual canyons; however, they may be needed to reduce salt spray and/or disruptions to wildlife habitat and corridors.
    - Concrete is very noisy but physical buffers and rubberized surfaces help.
    - Wet surfaces increase traffic noise, especially with low clouds that reflect sound back to the ground.
- Water from bridge and approach runoff needs primary and secondary treatment. Best management practices such as stormwater ponds, storm receptors, and constructed *wetlands* should be used in the vicinity of the crossing to treat *street* drainage and runoff from bridge decks to meet federal, provincial and municipal requirements as well as the objectives and criteria in water and *watershed* management plans.
- Shadowing from crossings can alter the seasonal and daily sunlight patterns on water and land and change biological functions, structure and viability. These impacts may be addressed by narrowing the *right-of-way*, using grated bridge decking where appropriate, or dividing the *roadway* into two with an open segment in between.
- The natural hydraulics of the *watercourse* must be respected and accommodated.
  - Bridge crossings should be sized to accommodate the maximum flood flow.
  - Adequate clearance must be provided between the high-water flood level and the lowest part of the bridge structure, to allow unobstructed passage of debris.
  - The placement of and hydraulic impacts due to bridge abutments should consider existing impediments and recreation river traffic because of the dangers to boaters during different water levels.
  - Bridge abutments, piers and footings should be located outside the bank-full channel. An arched construction that spans the channel may be preferable. For bridge elements located in the flood plain, the orientation and surfaces of the structures should be hydraulically smooth and designed in a manner to allow a gradual contraction of flow from the natural channel and flood plain through the crossing, and expansion of the flow downstream of the crossing.
  - Bridge length should be established to allow proper conveyance of the probable maximum flood flow. The length of the bridge should be increased to eliminate the potential for scour of the abutments and piers, to provide access under the crossing for pedestrian paths, and to preserve wildlife migration corridors and riparian vegetation.
  - The footprint of crossings and their associated facilities should be minimized to reduce impacts or interruptions to natural groundwater flows within the alluvial aquifer.

**Principle 5: Co-operation between multiple jurisdictions based on long term planning and mutual agreement on objectives and uses.**

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- Integrate proposed *watercourse* crossings with relevant plans and policies such as local *watershed* management plans (e.g., Bow River, Elbow River, Nose Creek), the Provincial Water for Life Strategy and Land Use Framework, the *Calgary Metropolitan Region Board Plans*, and the City's *Wetland Conservation Plan*.
- Aim to exceed the current minimum requirements established by regulatory agencies, in anticipation of more stringent regulations as our increasing population puts more pressure on shared resources and natural capital.
- Contact agencies responsible for fisheries, terrestrial species, hydraulics, alluvial aquifers, flood plain management, *wetlands* etc. to ensure that all requirements and initiatives will be co-ordinated.
- Pre-screening of locations should include long term goals of multiple jurisdictions (municipal, regional, provincial, federal) to optimize each individual crossing and minimize the number of crossings.

**Principle 6: Effective policies, regulations, guidelines and enforcement.**

Proper planning and design of *watercourse* crossings must be governed and supported by environmentally responsible legislation. Some relevant examples of local regulations, guidelines, policies etc. are listed below:

- The Department of Fisheries and Oceans Canada (DFO) typically requires a site-specific analysis for major *watercourse* crossings, which would, at a minimum, include the following details: fish habitat, hydraulics, timing of the project (for spawning and mitigation), construction activities and sequencing.
- The City of Calgary biophysical components include flora, fauna, terrestrial, avian, amphibians, insects and *hydrology*.
- Alberta's *Wetland Policy* and Calgary's *Wetland Conservation Plan* include a 'no net loss' principle, with a prioritized approach: avoid, mitigate, compensate.
- The City of Calgary's *Wetland Conservation Plan* includes a minimum 3:1 replacement ratio on the basis of affected wildlife habitat and other functionalities.

**Principle 7: Public consultation.**

The City should consult the public, impacted communities and businesses on the planning, design and construction of any new river crossings. The consultation process should address the environmental, social, fiscal, safety and mobility impacts of the proposed crossing

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# APPENDIX C – Glossary of terms

### ***accessibility***

Ease of access/egress to any location by walking, cycling, transit, and private vehicles, or for commercial vehicles.

### ***active modes***

Non motorized travel, primarily walking and cycling but also includes roller-blading and movements with mobility devices.

### ***Activity Centre***

All areas defined as Major *Activity Centres*, Community *Activity Centres* or Neighbourhood *Activity Centres* in the MDP, and as shown on the MDP Urban Structure Map.

### ***asset management program***

A process that guides the gaining of assets, along with their use and disposal in order to make the most of the assets and their potential throughout the life of the assets. While doing this, it also manages and maintains any costs and risks associated with the assets.

### ***Balanced Growth Boundary***

The boundary between Developed and Developing areas of the city in 2006, used to measure the balance of growth being achieved by way of the urban expansion core indicator.

### ***built form***

The engineered surroundings that provide the setting for human activity and includes buildings, streets and structures (including infrastructure).

### ***Bus Rapid Transit (BRT)***

A type of limited stop bus service that relies on technology to speed up the service. It can operate on exclusive transit ways, high occupancy vehicle lanes and any type of road or street. A BRT line combines intelligent transportation systems technology, priority for transit, rapid and convenient fare collection and integration with land use policy, in order to upgrade bus system performance substantially.

### **~~*Calgary Metropolitan Plan*~~**

~~A regional plan to guide long-term growth and development for members of the Calgary Regional Partnership.~~

### **~~*Calgary Regional Partnership (CRP) Metropolitan Region Board (CMRB)*~~**

~~An association of municipalities in the Calgary Region — from Crossfield in the north to Nanton in the south, and from Banff in the west, to Wheatland County in the east, with Calgary at its Centre — that are working together to develop an integrated regional land use and transportation plan.~~

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An association of 10 municipalities mandated to promote the long-term *sustainability* of the Calgary Metropolitan Region, ensure environmentally-responsible land-use planning and growth management, coordinate regional infrastructure investment and service delivery, and promote the economic well-being and competitiveness of the Region.

**canopy cover**

The area covered by tree and forest foliage

**capacity**

The volume of vehicles the *roadway* was designed to carry in a unit of time, such as an hour. Can also be applied to transit or bicycle/pedestrian pathways.

**complete community**

A community that is fully developed and meets the needs of local residents through an entire lifetime. *Complete communities* include a full range of housing, commerce, recreational, institutional and public spaces. A complete community provides a physical and social environment where residents and visitors can live, learn, work and play.

**Complete Street**

A street that moves people, by foot, bike, bus and car; provides places where people can live, work, shop and play; supports the natural environment; facilitates movement of trucks and service vehicles, and supports our economy.

**congestion**

A condition lasting 15 minutes or longer where travel demand exceeds the design capacity of a transportation facility.

**Crime Prevention Through Environmental Design (CPTED)**

The proper design and effective use of the built environment, which may lead to a reduction in the fear and incidence of crime and an improvement in quality of life.

**cycle track**

Dedicated space for bicycles built into street right-of-way. They are physically separated from both vehicle travel lanes and sidewalks to improve safety and efficiency for all modes of transportation.

**deep utility**

Stormwater, sanitary and water pipes.

**ecosystem**

A dynamic system of plants, animals and other organisms, together with the non-living components of the environment, that functions as an interdependent unit.

**greenhouse gas emissions**

Gases in the atmosphere that absorb and emit radiation within the thermal infrared range.

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**hydrology**

The study of the movement, distribution and quality of water throughout the Earth; hydrology thus addresses both the hydrologic cycle and water resources.

**impervious surfaces**

Mainly artificial structures, such as building roofs, *roadway* pavements, sidewalks and parking lots, that cannot be easily penetrated by water, thereby resulting in runoff.

**intensification**

The development of a property, site or area at a higher density than currently exists. *Instensification* can be achieved through *redevelopment*, development of vacant/ underutilized lots, the conversion of existing buildings, or through infill development in previously developed areas.

**intensity**

A measure of the concentration of people and jobs within a given area calculated by totalling the number of people either living or working in a given area.

**intermodal facilities**

Places that accommodate connections between transportation modes. Typically refers to break of bulk locations between rail and air and truck.

**life-cycle cost**

The sum of all recurring and one-time (non-recurring) costs over the full life span or a specified period of a good, service, structure or system. It includes purchase price, installation cost, operating costs, maintenance and upgrade costs and remaining (residual or salvage) value at the end of ownership or of its useful life.

**Light Rail Transit (LRT)**

Electrically powered rail cars, operating in sets of three to five cars per train, operating on protected *rights-of-way*, adjacent to or in the medians of *roadways* or rail *rights-of-way*. Generally at grade, with some sections operating in mixed traffic and/or tunnels or on elevated bridge structures.

**logistics**

The management of the flow of goods, information and other resources, including energy and people, between the point of origin and the point of consumption in order to meet the requirements of consumers.

**Low Impact Development (LID)**

An approach to land development that uses various land planning and design practices and technologies to simultaneously conserve and protect natural resource systems and reduce infrastructure costs.

**Corridor-Main Street**

All areas defined as *Urban Corridors* or *Neighbourhood Corridors* in the MDP, and as shown on the MDP Urban

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Structure Map.

***mixed use development***

The development of land, a building or a structure with two or more different uses, such as residential, office and retail. Mixed-use can occur vertically within a building, or horizontally on a site.

**~~Mobility Assessment Plan (MAP)~~**

~~Framework for assessing the multi-modal transportation impacts of new developments. Replaces Transportation Impact Assessment (TIA).~~

***mode split or modal split***

The proportion of total person trips using each of the various modes of transportation. The proportion using any one mode is its modal share.

***native biodiversity***

Species of flora and fauna that are indigenous to a specific area.

**~~green~~ *natural infrastructure***

An interconnected network of natural green and engineered green elements applicable at multiple scales in the land use and mobility framework. Natural green elements include the conservation and integration of traditional green elements such as trees, *wetlands*, riparian areas and parks. Engineered green elements include systems and technologies designed to mimic ecological functions or to reduce impacts on ecological systems. Examples include green alleys, green buildings and green *roadways* and bridges.

***park and ride lots***

Parking lots located at LRT stations or bus stops that allow automobile users to park their private vehicles, access and transfer to and from public transportation service in a convenient manner.

***parking facilities***

Any surface used to provide parking for vehicles, whether inside part of or all of a building, or outside either *off-street* or within the *roadway right-of-way*.

***pedestrian-oriented***

An environment designed to make travel on foot convenient, attractive and comfortable for various ages and abilities. Considerations include directness of the route, interest along the route, safety, amount of *street* activity, separation of pedestrians and traffic, *street* furniture, surface material, sidewalk width, prevailing wind direction, intersection treatment, curb cuts, ramps and landscaping.

***Primary Transit threshold***

A minimum *intensity* of people or jobs per gross developable hectare that is required within walking distance of a transit station or stop to support service levels of the Primary Transit Network.

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**public realm**

The space between and within buildings that are publicly accessible, including *streets*, squares, parks and open spaces. These areas and settings support or facilitate public life and social interaction.

**redevelopment**

The creation of new units, uses or lots on previously developed land in existing communities.

**right-of-way (ROW)**

Publicly owned land containing *roads* and *streets* and/or utilities.

**road**

*Roadways* that are designed to move large volumes of vehicular traffic (private vehicles, commercial vehicles and occasionally transit) at higher speeds over long distances.

**roadway**

A generic term that encompasses all types of roads and streets.

**sense of place**

A strong identity and character that is felt by local inhabitants and visitors. Factors that help to create a “strong *sense of place*” include natural and cultural features, *built form* and architecture, mobility to and within the place and the people who frequent that place. Areas with a good *sense of place* often have elements that are appealing to the five senses (sight, smell, touch, taste, sound) and generally encourage people to linger longer and enjoy the atmosphere.

**shallow utility**

Gas, electrical, telephone and television cable services.

**street**

*Roadways* that are designed to accommodate all modes of transportation (to varying degrees depending on the specific type of *street*). They also contribute to *sense of place*, and typically provide more *streetscape* elements than *roads*.

**streetcars**

Urban rail vehicles operating at low speeds (e.g. 10 to 25 km/h) in mixed traffic, with closely spaced stops (e.g., every 200 metres).

**streetscape**

All the elements that make up the physical environment of a *street* and define its character. This includes paving, trees, lighting, building type, style setback, pedestrian, cycle and transit amenities, street furniture, etc.

**sustainability**

Meeting the needs of the present without compromising the ability of future generations to meet their own needs. It



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includes environmental, economic and social *sustainability*. *Sustainability* is defined by the 11 *Sustainability Principles for Land Use and Mobility*, approved by Calgary City Council on Jan. 8, 2007.

***Transit-oriented Development (TOD)***

A compact, mixed-use community within walking distance of a transit stop, that mixes residential, retail, office, open space and public uses in a way that makes it convenient to travel on foot or by public transportation instead of by car.

***transit-oriented, transit-friendly or transit-supportive***

The elements of urban form and design that make transit more accessible and efficient. These range from land use elements, (e.g., locating higher *intensity* housing and commercial uses along transit routes) to design (e.g., street layout that allows efficient bus routing). It also encompasses pedestrian-friendly features, as most transit riders begin and end their rides as pedestrians.

***transit priority measures***

Strategies that improve transit operating speeds and transit travel time reliability in mixed traffic, such as traffic signal priority or queue jumps.

***typology***

*Typology* defines the key geographic areas within the urban boundary that share common characteristics. *Typologies* establish the strategic framework within which more detailed land use designations and policies can be established. Integral to each *typology* and the city as a whole are the “Road and Street Palette” and transit services which are integrated with the land use pattern or *typologies*.

***universal design***

*Universal design* is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

***urban forest***

All the trees and associated vegetative understory in the city, including trees and shrubs intentionally planted, naturally occurring or accidentally seeded within the city limits.

***walkable***

See “*pedestrian-oriented*.”

***watercourse***

A natural or artificial channel through which water flows.

***watershed***

Include groundwater, springs, *wetlands*, ponds, streams and lakes as well as all land that drains into these linked aquatic systems. *Watersheds* reflect both the natural characteristics of their geography and the impacts of human activities within them.

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### **wayfinding**

A term used to describe how people respond to the built environment to orient themselves. Elements that contribute to *wayfinding* include reference points such as signage, natural areas or parks, landmark buildings, bridges, distinctive lighting, public art, etc.

### **wetlands**

A (Calgary) *wetland* is a waterbody and its bed and shores, that is naturally occurring or disturbed and is located within the Foothills Fescue and Foothills Parkland Natural Regions within the city of Calgary – see *wetland* conservation plan (as per the *Wetland* Conservation Plan).

FOR INFORMATION ONLY

SUMMARY OF PROPOSED REVISIONS TO

THE CITY OF CALGARY

CALGARY TRANSPORTATION PLAN and

MUNICIPAL DEVELOPMENT PLAN

FEBRUARY 2020

Notes to Reader

This document summarized proposed revisions to both the Calgary Transportation Plan and Municipal Development Plan. It is organized by topic and covers revisions to both plans. The intent is to provide the reader with background rationale on the proposed revisions, as well as a summary of the amending language.

The document is provided as an aide only, and is not an exhaustive list of proposed changes. Readers should refer to the proposed revision documents for both the Calgary Transportation Plan and Municipal Development Plan for the complete set of proposed amendments.

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Climate and Environment**

Calgary's growth and identity has been shaped by its natural landscape and resources. The natural environment is integral to the character of the city and the wellbeing of its people. Calgary's natural areas, parks and open spaces, and healthy functioning river systems are critical components that give Calgarians nature in our city with safe, inclusive, social and active opportunities. For Calgary to continue to be successful in the future, it will need to continue to evolve to be a more sustainable and resilient city.

Taking steps to transform Calgary into a more resilient and sustainable city requires a set of policies to direct current and future decision making in a manner that recognizes the inter-related challenges Calgary communities face. Calgary's land, water, ecological networks, energy and waste will need to be managed in a more integrated way – with a continued commitment to working together, including the integration of policies and programs across multiple City departments, and vital community partnerships and stewardship.

Addressing Climate Change is a key change to the documents. The City's *Climate Resilience Strategy* outlines key actions that must be taken to support achieving the greenhouse gas (GHG) emission target of 80 per cent reduction in city-wide emissions below 2005 levels by 2050.

Transportation and buildings collectively make up 99% of community-wide GHG emissions in Calgary. The pathway to achieving our GHG targets consists of the following:

Action	Total potential GHG reductions to 2050 (Mt)
Implement existing MDP	12
Implement existing CTP	15
Improved energy performance in new and existing buildings	215
Neighbourhood renewable and low-carbon energy systems	17
Shift to low-emissions vehicles	60
Exceed core indicator targets in CTP	3
Exceed core indicator targets in MDP	7

Additional policy is proposed for the CTP to emphasize the need to switch the entire vehicle fleet over to 100% zero-emission vehicles by 2050 if the 60 Mt savings is to be achieved. This is consistent with the goals of the *Climate Resilience Strategy*. Energy performance of buildings will be largely addressed through application of improved building codes and expanding the use of low-carbon energy systems.

Analysis of the core indicators suggests much more work is to be done to realize the GHG savings from implementing the existing plans. From a GHG perspective, simply achieving the plans is not sufficient to fully achieve the GHG target; the targets must be exceeded to close the

## MDP/CTP Summary of Proposed Revisions – 2020 February

gap. While the policies in both plans facilitate this (i.e. additional policies are not proposed), thoughtful decision making will be needed to reach this goal.

Additional updates have been developed to reflect the following plans which have been approved by Council since approval of the MDP and CTP in 2009. These include:

- Source Water Protection Plan
- Riparian Strategy
- Water Efficiency Plan
- ourBiodiverCity Plan and Biodiversity Policy
- imagineParks
- Urban Forestry Plan
- Resiliency Strategy
- Waste Diversion Strategy

The updates will continue to support the provision of the citywide parks and open space network, a well-connected active transportation systems, growth in compact urban centers, Main Streets and complete communities, and improved watershed management.

To help us make meaningful progress related to environmental health, natural areas protection, restoration, the enhancement of healthier communities and climate change policies will be advanced and aligned in a more integrated way. The key action areas describe how to enhance and protect our natural resources and improve Calgary's position as an environmental leader. The proposed changes provide a coordinated framework, implementation measures and actions to support this progress.

### Proposed changes to the Municipal Development Plan (Volume 1):

Policy section	Proposed changes
2.6 (preamble)	<ul style="list-style-type: none"> <li>• Tells the story of Calgary's relationship to our local and global environment, the benefits of connecting to nature, sustainability and climate resiliency, and how our quality of life relies on the responsible management of our natural assets and environment.</li> <li>• The Policies in this section have been removed and content integrated directly into relevant sub-sections as appropriate.</li> </ul>
2.6.1	<ul style="list-style-type: none"> <li>• Reframe the section around 'Natural Infrastructure' rather than 'Green Infrastructure' to recognize the difference between natural and man-made assets</li> <li>• Establish an integrated approach to natural asset management and decision making as part of The City's ongoing planning, investment and asset management processes.</li> <li>• Ensure land use planning, development, urban design, and transportation planning processes incorporate the principles of natural infrastructure and consider ecosystem services in decision making.</li> </ul>
2.6.2	<ul style="list-style-type: none"> <li>• Add connections supporting the connection and integration with natural areas and spaces by designing and connecting with nature</li> <li>• Emphasize access to nature as part of planning</li> <li>• Link natural spaces to heritage and culture</li> <li>• Add policies to conserve soil and reduce erosion through retention of natural vegetation</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

	<ul style="list-style-type: none"> <li>Support the implementation of the <i>Calgary Eats! A Food System Assessment and Action Plan</i></li> </ul>
2.6.3	<ul style="list-style-type: none"> <li>Strengthen the language regarding our relationship with water and the importance of water. Safe drinking water, clean water for the natural environment and a reliable water supply all support the continued success of Calgary.</li> <li>Introduce policies supporting water conservation, efficiency and reuse</li> <li>Add new policy direction to better integrate watershed management outcomes with land use planning and maintain natural hydrology.</li> <li>Update sustainable water management policies and practices to reduce the stress on the stormwater management system, provide guidance to manage and protect our distinct watersheds and improve reporting on watershed health.</li> </ul>
2.6.4	<ul style="list-style-type: none"> <li>Update to ensure that environmental policies, actions and regulations reflect current natural areas data and the evaluation of cumulative environmental impacts.</li> <li>Update the open space typologies to reflect current terminology.</li> <li>Revise language to support urban biodiversity through stronger policies on ecological restoration and protection, and identify and protect areas that support native species of birds, pollinators and other wildlife.</li> <li>Revise to support improved efforts to improve the quantity, quality and equitable distribution of Calgary's urban forest through plans and investments.</li> <li>Improves direction for coordination with regional partners on integrated strategies for water resources and source water protection.</li> <li>Provides policy direction to support guidelines, programs, partnerships and investments to improve the ecological functions, and avoid, minimize or mitigate the impact of development on the natural environment.</li> </ul>
2.6.5	<ul style="list-style-type: none"> <li>Section name has been changed from Energy to Climate Change</li> <li>Refine language to recognize The City's role in achieving the greenhouse gas reductions and adapting to the impacts of a changing climate.</li> <li>Incorporated the recommendations of the <i>Climate Resilience Strategy: Mitigation &amp; Adaptation Action Plans</i>, to provide guidance for corporate priority actions to reduce Calgary's overall greenhouse gas (GHG) emissions.</li> <li>Refine language and policy direction regarding the importance of healthy natural systems in increasing resiliency to climate related hazards such as flooding, heat waves, high winds and landslides.</li> <li>New policy direction to expand and enhance Calgary's active low carbon transportation systems (walking and cycling infrastructure) and transit network to reduce GHG emissions.</li> <li>Direction provided to support energy transitions, such as zero-emission vehicles and other green mobility technologies, and lead change.</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

	<ul style="list-style-type: none"> <li>• Increase consideration of air quality and GHG into decision making processes.</li> <li>• Clarification of expectations around promotion for on-site energy generation opportunities (e.g., solar power).</li> </ul>
2.6.6	<ul style="list-style-type: none"> <li>• Revise section to support waste reduction and improve waste management and resource recovery in line with the <i>2015 Waste Diversion Strategy</i> and updated waste diversion goals.</li> <li>• Emphasize development that incorporates sustainable design, building and landscaping practices to reduce waste and reuse materials, and lead the way with City buildings and facilities.</li> <li>• Continue to protect the operational needs and manage the long-term liability associated with landfills and recycling facilities.</li> </ul>
4.4	<ul style="list-style-type: none"> <li>• Added additional policies around flood hazard areas relating to climate change, including integrating climate impacts into local policy, minimize the need for flood mitigation infrastructure through land use planning, and requiring flood protection measures for development in provincially identified flood fringe areas.</li> <li>• Clarified that municipal liability should be part of the consideration</li> </ul>
Glossary	<ul style="list-style-type: none"> <li>• Add a definition for 'ecosystem services'.</li> </ul>

### Proposed changes to the Calgary Transportation Plan

Policy section	Proposed changes
3.9 e	<ul style="list-style-type: none"> <li>• Expanded the concept of “preferred parkers” to include electric vehicles.</li> </ul>
3.12 b.	<ul style="list-style-type: none"> <li>• Revise to include recognition of the contribution provided by “supporting the shift to zero-emission vehicles”.</li> </ul>
3.12 d.	<ul style="list-style-type: none"> <li>• Add to reflect the action identified in <i>Calgary’s Electric and Low-Emissions Vehicles Strategy</i>.</li> </ul>
3.12 e.	<ul style="list-style-type: none"> <li>• Add to address the action identified in Program 4 of the <i>Climate Resilience Strategy 2018</i> as necessary to achieve The City’s 2050 GHG target.</li> </ul>
3.12 f.	<ul style="list-style-type: none"> <li>• Add to address the action identified in Program 6 of the <i>Climate Resilience Strategy 2018</i> as necessary to achieve The City’s 2050 GHG target.</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Complete Streets and Setbacks**

Street provision and setbacks are generally addressed in the Calgary Transportation Plan (CTP) under 'Complete Streets', Section 3.7. Stakeholder engagement and policy review identified several housekeeping items, redundancies between the CTP and the Complete Streets Guide, and several issues that warranted discussion or policy changes or additions.

New policies are proposed regarding the consideration of bylaw setbacks that are primarily established in the land use bylaw. Focusing primarily on Main Streets, the objectives of the policies are to improve public realm integration on lands allocated for setbacks, release previously acquired lands that are unlikely to be used for right-of-way (particularly when corridor revitalization has already occurred) and evolve the intention of setback spaces to serve transportation corridors that serve multiple modes of travel.

### Proposed changes to the Calgary Transportation Plan

Policy section	Proposed changes
3.7 preamble	<ul style="list-style-type: none"> <li>Removed details on the road and street types, as well as the discussion of the complete street zones, as it is redundant with the <i>Complete Streets Guide</i>.</li> <li>Added guidance as to what should be considered as part of a street or road classification review.</li> </ul>
3.7 e.	<ul style="list-style-type: none"> <li>Remove due to redundancy with the <i>Complete Streets Guide</i> and the <i>Design Guidelines for Subdivision Servicing</i>.</li> </ul>
3.7 i.	<ul style="list-style-type: none"> <li>Revise for clarity and to reflect feedback from internal stakeholders.</li> </ul>
3.7 k.	<ul style="list-style-type: none"> <li>Revise to apply to more facilities and for clarity.</li> </ul>
3.7 l.	<ul style="list-style-type: none"> <li>Due to redundancy with the <i>Complete Streets Guide</i>, replace with a new policy intended to ensure that interim uses for right-of-way will be available when required for transportation purposes, including public realm integration.</li> </ul>
3.7 r.	<ul style="list-style-type: none"> <li>Revise to reflect a change to the organization of the MDP affecting the old reference.</li> </ul>
3.7 w.	<ul style="list-style-type: none"> <li>Add to ensure that leftover land remnants are not held for transportation purposes after Main Street project improvements are completed.</li> </ul>
3.7 x.	<ul style="list-style-type: none"> <li>Add to address the risk that land being held for future transportation purposes in various locations city-wide may no longer be warranted, and therefore could be relinquished.</li> </ul>



## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Creating great communities**

Creating great communities requires thoughtful provision of housing, the surrounding physical environment (such as streets and parks), and the amenities and services required for day-to-day, neighbourhood-focused living.

Forecasts indicate that there will be large changes in Calgary's population and its profile in the coming decades. Future growth will increase demand for providing affordable and quality housing, community services and wider mobility choices for an increasingly diverse population. In addition to meeting these demands, The City will strive to foster an urban environment that reinforces a community's distinctive place in the city and strengthens its physical fabric and character. The objectives of guiding future growth are to enable positive changes that enhance communities and do not undermine what Calgarians value most in their neighbourhoods, communities and city as a whole. The City's continued work to direct and plan for balanced growth ensures that we sustain and promote a healthy environment and an urban economy where people, businesses and neighbourhoods thrive.

Through our engagement process, it was recognized that we are moving towards the outcomes of our plans in several ways. To further advance the vision, fill in policy gaps and address current challenges, a series of amendments was developed to guide decision-making in a manner that recognizes the inter-related challenges Calgary communities face. At a high level these include: a continued focus on redevelopment in key intentional areas; supporting Centre City's role as Calgary's primary activity centre; supporting communities undergoing significant change; clarifying the role of identity and character as community's change, and advance social equity through increased opportunities and access for everyone.

There are no proposed changes to the CTP under this topic area.

### Proposed changes to the Municipal Development Plan (Volume 1):

Policy section	Proposed changes
2.2.1, 2.2.3 & 3.1	<ul style="list-style-type: none"> <li>Clarifies that Centre City is Calgary's primary activity centre to support its continued growth and revitalization.</li> </ul>
2.3 Preamble	<ul style="list-style-type: none"> <li>Language amended to more accurately describe desired outcomes.</li> </ul>
2.3.1 a. ii.	<ul style="list-style-type: none"> <li>Clarify policy's 'people' focus. The term 'life cycle' is unclear in its reference to people, 'lifecycle' can be misinterpreted to mean the lifecycle of a structure.</li> </ul>
2.3.1 b. iii. (new policy) – note previous iii now iv.	<ul style="list-style-type: none"> <li>Policy b. promotes a broader range of housing choice for all ages, income groups, family types and lifestyles. The three existing sub policies relate largely to income groups, family types and lifestyles with no policy direction specific to all ages, i.e. seniors and people with disabilities. New policy provides direction aligning to the <i>Seniors Age-Friendly Strategy</i> by encouraging a range of housing options and supportive environments to enable older adults or people with disabilities to remain in their communities as their needs and abilities change.</li> </ul>

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2.3.1 f. i.	<ul style="list-style-type: none"> <li>Replace 'small-scale' with 'contextually appropriate' to be more accurate with desired outcome and align to Calgary's <i>Corporate Affordable Housing Strategy</i>.</li> </ul>
2.3.2 Preamble	<ul style="list-style-type: none"> <li>Add clarifying language, as the identity and character of a neighbourhood is not static. Strong communities evolve to support the lives of the people who live there today and welcome new residents as the city grows.</li> </ul>
2.3.2 a.	<ul style="list-style-type: none"> <li>Remove wording specifically referring to 'low density' neighbourhoods as this policy should apply to all neighbourhoods, no matter their form and density.</li> </ul>
2.3.2 b.	<ul style="list-style-type: none"> <li>Remove wording referring to specific density types, this transition policy should apply to all areas no matter their form and density.</li> </ul>
2.3.3 Preamble, Policies a – g.	<ul style="list-style-type: none"> <li>Section language updated to reflect current terminology and city definitions.</li> <li>Overall heritage approach and policy intent remains unaffected.</li> </ul>
2.3.4 Preamble	<ul style="list-style-type: none"> <li>Add reference to <i>The Sport for Life Policy</i> and the role it plays in our parks and open spaces. Language added to recognize the contribution parks make to climate change, resiliency and biodiversity.</li> </ul>
2.3.4 b.	<ul style="list-style-type: none"> <li>Expanded terminology that reflects related policy documents.</li> </ul>
2.3.4 h.	<ul style="list-style-type: none"> <li>This policy is effective however the language has been revised to clarify the policy's role in local area planning and that it should not be used to determine the acceptability of density in a community.</li> </ul>
2.3.4 o.	<ul style="list-style-type: none"> <li>Delete due to redundancy.</li> </ul>
2.3.4 q.	<ul style="list-style-type: none"> <li>Amend with 'promote public safety'. Policy 'o.' is combined with Policy 'q.' to deliver a more efficient policy message while removing their overlapping policy language.</li> </ul>
2.3.5 section heading	<ul style="list-style-type: none"> <li>Add 'conservation' reserve to 2.3.5 section heading (details below).</li> </ul>
2.3.5 preamble	<ul style="list-style-type: none"> <li>Add paragraph to introduce the concept of conservation reserve (CR). The amended Municipal Government Act (MGA) now enables municipalities to designate land for a new type of reserve, called Conservation Reserve (CR), to protect environmentally significant features such as wildlife corridors, significant tree stands or other environmentally significant features a municipality chooses to conserve.</li> </ul>
2.3.5 h.	<ul style="list-style-type: none"> <li>Add policy providing direction for the consideration of CR as per the MGA.</li> </ul>
2.3.6 Preamble, Policies b., c.	<ul style="list-style-type: none"> <li>Add 'equitable' to definitions as per the <i>Social Wellbeing Policy</i>. The desired outcome is for all people to have the opportunity to benefit equally from city services and infrastructure.</li> </ul>
2.3.6 f. (new policy)	<ul style="list-style-type: none"> <li>Revise to align with <i>Calgary Eats! A Food System Assessment and Action Plan</i>. A framework was developed that identifies the intervention points that connect through each element of the food system for actions to take place.</li> </ul>
2.3.7 preamble	<ul style="list-style-type: none"> <li>Language was added to be more general and keep the overall intention of good public engagement principles.</li> </ul>

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2.4 Preamble	<ul style="list-style-type: none"> <li>Preamble updated to reflect the current urban design story and improve the link to the 13 urban design elements.</li> </ul>
2.4.2 d. f.iv.	<ul style="list-style-type: none"> <li>Remove 'In Developed Areas' as this policy is applicable citywide. Minor amendments to provide more accurate policy direction.</li> </ul>
3.2 & 3.2.1	<ul style="list-style-type: none"> <li>Updated the description and policy of Centre City to reinforce its function as a collection of higher-density neighbourhoods and its role as Calgary's primary location for business, entertainment and cultural activities.</li> <li>Proposes applying the policies of section 3.3.1, General Activity Centre to the Centre City.</li> </ul>
3.5.1 a	<ul style="list-style-type: none"> <li>Include local commercial development as a supported use in the developed residential area</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Future Transportation Technology**

Future transportation technology is rarely directly addressed in the Calgary Transportation Plan. Section 3.1 'Transportation Choice', policy 'g' refers to emerging modes of transportation and the need for monitoring/planning "as necessary".

As outlined in the *Future of Transportation in Calgary* report (2017), The City should be ready to keep Calgary at the forefront of new transportation technology while balancing the cost to the public with the benefits and risks. In some cases (e.g. electric vehicles and e-scooters), developing policy and conducting trials is already underway. The implications of other technologies are not as clear, and concerns exist that their ultimate effects could be negative without purposeful action on the part of municipalities.

### Proposed changes to the Calgary Transportation Plan

Policy section	Proposed changes
3.1	<ul style="list-style-type: none"> <li>Additional references to integration of modes, consideration of new modes (e.g. scooters), and impacts on mode split have been added as appropriate.</li> </ul>
3.4 (preamble)	<ul style="list-style-type: none"> <li>Content around the potential for technology to change goods movement is identified, with links to section 3.14</li> </ul>
3.14	<ul style="list-style-type: none"> <li>New section titled "New transportation technologies."</li> <li>Provides an overview based on the <i>Future of Transportation in Calgary</i> report.</li> <li>Incorporates discussion including an introduction and the following topics: curb space management, road pricing, data management, vehicle electrification (with a reference to section 3.12) and shared-use mobility services.</li> </ul>
3.14 a.	<ul style="list-style-type: none"> <li>Add to reflect a "Next Step" identified in the <i>Future of Transportation in Calgary</i> report: "The City should continue to monitor developments in technologies that are expected to significantly change travel and land use patterns in the future."</li> </ul>
3.14 b.	<ul style="list-style-type: none"> <li>Add to ensure that the existing and future value of the curb space asset to The City is recognized and managed effectively in the future.</li> </ul>
3.14 c.	<ul style="list-style-type: none"> <li>Add to ensure discussion and feasibility testing of road-pricing as a stable and predictable future funding source.</li> </ul>
3.14 d.	<ul style="list-style-type: none"> <li>Add to ensure that The City is prepared to manage and generate value from the data generated by, and required to support, the operation and regulation of new transportation technologies.</li> </ul>
3.14 e.	<ul style="list-style-type: none"> <li>Add to address the opportunity associated with shared-use mobility services to advance progress toward MDP and CTP goals and objectives.</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Growth and Change**

The goal of Part 5 – Framework for growth and change is to guide growth and change within a strategic framework that achieves the best possible social, environmental and economic outcomes while operating within The City's financial capacity. Decisions on growth and services are key if Calgary is to realize the full spectrum of value from building a more compact city.

During workshops in the spring of 2019, key stakeholders noted that the MDP generally presents a solid vision for Calgary, but its objectives are, at times, compromised by implementation decisions. The objectives associated with the efficient use of existing infrastructure and compact urban form was an issue. This is further reflected in the finding of the 2018 Monitoring Progress Report, which indicated core indicators related to urban expansion and access to primary transit are behind the trend to meet the MDP and CTP targets.

Beyond the MDP and CTP update, proposed amendment supports the Next Generation Planning initiative which will address gaps in existing policies and support the implementation of the MDP and CTP. The amendments below will continue to guide the outcomes and underscore the intentions of the MDP and CTP.

### Proposed changes to the Municipal Development Plan (Volume 1):

Policy section	Proposed changes
5.1	<ul style="list-style-type: none"> <li>Emphasizes the focus of Part 5 is supporting growth and change to realize the MDP's vision and key directions.</li> <li>The introduction highlights the city-wide goals and policies:               <ul style="list-style-type: none"> <li>related to land use;</li> <li>transportation; and,</li> </ul> </li> <li>where and how Calgary grows.</li> </ul>
5.2 and Figure 5.2 a	<ul style="list-style-type: none"> <li>Clarifies the strategic framework for growth and change is outlined in Section 5.2.</li> <li>Increases emphasis on strategic growth and achieving the plan's goals,</li> <li>Updates Figure 5.1 and replace with new Figure 5.2 a to better reflect the policy of the strategic framework (section 5.2) and alignment with the Next Generation Planning initiative which will address gaps in existing policies and support the implementation of the MDP and CTP.</li> <li>Policy is introduced guiding The City to apply the policies of Strategic Framework for Growth and Change (section 5.2) to its strategies for growth.</li> </ul>
5.2.1	<ul style="list-style-type: none"> <li>Adds greater emphasis of the significant role Calgary plays in the region.</li> </ul>
5.2.2	<ul style="list-style-type: none"> <li>Expands section title to "Strategic decisions on where we grow" to place emphasis on the role this section plays in The City achieving a more sustainable development pattern</li> <li>Introduces a "balanced growth boundary" to increase the clarity where growth should be encouraged to achieve balanced growth and a more compact urban form.</li> </ul>
5.2.3	<ul style="list-style-type: none"> <li>Expanded section title to "Balanced, compact growth and planned land supply."</li> <li>Sections 5.2.3 and 5.2.4 have been merged</li> </ul>

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	<ul style="list-style-type: none"> <li>Emphasizes the importance of maintaining a 15-year land supply and 5-year services lands</li> <li>Added criteria around initiation of local area plans in support of compact city goals and land supply targets.</li> </ul>
5.2.4	<ul style="list-style-type: none"> <li>Merged with 5.2.3 to support balanced growth and to remove perceptions of developed and developing areas being in competition.</li> </ul>
5.2.5	<ul style="list-style-type: none"> <li>Places emphasis on prioritizing growth and investment, particularly when funds are constrained.</li> <li>Places emphasis on The City supporting growth and change decisions, which will support fiscal sustainability over the long-term.</li> <li>Expands section on land supply policy previously located in section 5.2.3.</li> </ul>
5.2.6	<ul style="list-style-type: none"> <li>Update reflects current infrastructure and planning decision processes.</li> <li>Revised to increase emphasis on integration of service and department being focused on delivering tangible results with efficiency.</li> </ul>
5.2.7	<ul style="list-style-type: none"> <li>Expanded section title to "Public accountability – leveraging growth and change to benefit Calgarians."</li> <li>It is proposed that separate criteria for preparing Local Area Plans and making growth decisions be adopted to support growth is aligned to the plan's goals and to achieve multiple benefits, and should: <ul style="list-style-type: none"> <li>advance the overall objectives of the MDP and CTP</li> <li>a demonstrated need for planned land for developing, or future greenfield areas</li> <li>maximizing the cost/benefit of using existing infrastructure.</li> <li>Support communities facing redevelopment pressure related to market demand</li> <li>Advance the goals of the Social Wellbeing Policy.</li> <li>For new development a comprehensive accounting of City capital and operating costs</li> </ul> </li> </ul>
5.3	<ul style="list-style-type: none"> <li>Additional policy supporting updating strategies and goals based on monitoring findings.</li> </ul>
Map 1	<ul style="list-style-type: none"> <li>The map has been amended to include the Balanced Growth Boundary concept proposed for section 5.2.2</li> </ul>
Glossary	<ul style="list-style-type: none"> <li>A definition for the Balanced Growth Boundary has been added</li> </ul>

### Proposed changes to the Calgary Transportation Plan:

Policy section	Proposed changes
Glossary	<ul style="list-style-type: none"> <li>A definition for the Balanced Growth Boundary has been added</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Housekeeping Amendments**

To keep the MDP and CTP relevant and current, several housekeeping changes are proposed. The intention with these changes is to update outdated information, use current definitions and add clarity where possible. The proposed changes should not result in any change to the application of policies.

In some parts of both plans, data was used to help articulate an issue. Where possible, this data has been updated with the most recent information. Where found, small grammatical and spelling mistakes have been addressed. Updating the names of City plans and strategies has been done where needed. These changes are visible in the red-line version but not listed here.

Map updates have been undertaken and a list of map revisions is available separately.

### **Proposed Changes common to both the Municipal Development Plan (Volume 1) and the Calgary Transportation Plan**

Policy section	Proposed changes
Throughout	<ul style="list-style-type: none"> <li>Change to reflect the use of the term “natural infrastructure” in place of “green infrastructure” where appropriate.</li> </ul>
Throughout	<ul style="list-style-type: none"> <li>References to the Calgary Regional Partnership have been revised to reflect the current Calgary Metropolitan Growth Board. The corresponding glossary definitions have also been updated.</li> </ul>
Throughout	<ul style="list-style-type: none"> <li>Remove the term ‘3-year’ from references to the City of Calgary business planning cycle.</li> </ul>
Throughout	<ul style="list-style-type: none"> <li>Added clarity that an Area Structure Plan may provide guidance on topics when there is an absence of a Regional Context Study.</li> </ul>
Glossary	<ul style="list-style-type: none"> <li>Remove Mobility Assessment Plan Definition (term is no longer used).</li> </ul>

### **Proposed changes specific to the Municipal Development Plan (Volume 1):**

Policy section	Proposed changes
Front of document	<ul style="list-style-type: none"> <li>Added a land acknowledgement to recognize the legacy and history of the indigenous community on the lands that make up modern-day Calgary. Note, a separate project, looking at more fully integrating indigenous perspectives is planned as an implementation item.</li> </ul>
1	<ul style="list-style-type: none"> <li>Added introduction language explain the general purpose of the MDP with respect to the Municipal Government Act (MGA)</li> </ul>
1.1	<ul style="list-style-type: none"> <li>Removed dated language and updated the name of the section</li> <li>Moved the sustainability principles and key directions formerly under section 1.3.3 to this section.</li> </ul>
1.2	<ul style="list-style-type: none"> <li>Minor changes to update the organization of the MDP</li> </ul>
1.3	<ul style="list-style-type: none"> <li>Section now provides an updated planning hierarchy.</li> <li>1.3.1 is new content explaining Calgary’s role as a regional partner</li> <li>1.3.2 has been added to describe the South Saskatchewan Regional Plan</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

	<ul style="list-style-type: none"> <li>Content about the Calgary Regional Partnership has been replaced with content on the Calgary Metropolitan Region Board (CMRB).</li> <li>Content has been added about the role of Intermunicipal Development Plans</li> <li>Content has been updated about the role of other strategic plans</li> </ul>
1.4	<ul style="list-style-type: none"> <li>Section has been reworked to better reflect planning processes</li> <li>Content around Volume 2 guidebooks has been added to a new section (1.4.4)</li> <li>Content describing the role of the forthcoming <i>Guidebook for Great Communities</i> has been included</li> <li>Content on the ongoing sustainment of the MDP (former 1.4.9) has been moved to a new section 1.5</li> </ul>
1.5	<ul style="list-style-type: none"> <li>Content from former sections 1.4.9, 1.5 and 1.6 have been combined into a new section on review and amendments.</li> </ul>
1.6	<ul style="list-style-type: none"> <li>Clarification around the use of the term “should” was added.</li> </ul>
2.2.5 a.	<ul style="list-style-type: none"> <li>Replace ‘ground oriented’ with ‘limited scale or low scale’ to be consistent with the built form categories in the <i>Guidebook for Great Communities</i></li> </ul>
2.2.5	<ul style="list-style-type: none"> <li>Change “require comprehensive plans” to “detailed site design”</li> <li>Change “Large redevelopment sites” to “Comprehensive Large Site”. These changes align with language in the <i>Guidebook for Great Communities</i></li> </ul>
2.3	<ul style="list-style-type: none"> <li>Incorporate “local food production, processing, sales, and programming on-site or within community facilities” into policy as new policy f. This change aligns with language in the <i>Guidebook for Great Communities</i></li> </ul>
2.3.3 Objective	<ul style="list-style-type: none"> <li>Update to reflect current language, without changing the overall objective.</li> </ul>
2.3.3 Preamble, Policies a.- g.	<ul style="list-style-type: none"> <li>Replace outdated terminology with current language while keeping the overall message and policy direction consistent. (i.e. ‘historic’ to ‘heritage’, ‘preservation’ to ‘conservation’, ‘buildings/districts’ to ‘resources/sites’).</li> <li>Replace the existing callout box with the <i>Historical Resources Act</i> definition of ‘historic resource’ with the new City definition.</li> </ul>
2.3.4 preamble, Policies a. & f.	<ul style="list-style-type: none"> <li>Incorporate language consistent from the <i>Our BiodiverCity</i> plan that aims to provide a framework to foster more ecological resilient, biologically diverse open space and neighbourhoods that support positive outcomes for Calgarians, visitors, wildlife and plant communities.</li> </ul>
2.3.6 preamble	<ul style="list-style-type: none"> <li>Add ‘equitable’ to list of principles to represent characteristics of recreation services and community facilities to achieve active and vibrant neighbourhoods. This aligns with The City’s <i>Social Wellbeing Policy</i>.</li> </ul>
2.3.7 c.	<ul style="list-style-type: none"> <li>‘Equitable’ was added to ‘effective community consultation and participation’ to reflect the principles of the Social Wellbeing Policy. The City can reduce barriers regarding dialogue and/or actions to address important public issues to all Calgarians.</li> </ul>
2.4.1 e.	<ul style="list-style-type: none"> <li>Revised wording to provide clarity. Policy direction remains the same.</li> </ul>



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2.4.2	<ul style="list-style-type: none"> <li>Replaced the term 'tall building' with 'taller building' to reflect that the height of the building is related to the width of the road right-of-way, so in some cases, buildings that might not be considered tall in isolation may be taller buildings in the context of a street.</li> <li>Policy d has been revised to focus on site design rather than require a comprehensive plan.</li> </ul>
2.2.4 b. vi.	<ul style="list-style-type: none"> <li>Added 'equitable' language to align with the principles of the <i>Social Wellbeing Policy</i>. The result of equity is that all people can benefit equally from City services.</li> </ul>
3.7	<ul style="list-style-type: none"> <li>Language in the Industrial Area typologies has been refreshed to recognize the economic importance of these areas and the need to protect them from non-industrial encroachment.</li> </ul>
4.3.3	<ul style="list-style-type: none"> <li>Spell out the acronym AVPA (Airport Vicinity Protection Area)</li> </ul>
Glossary	<ul style="list-style-type: none"> <li>Remove the term "Built Environment" from "Built Environment, or Built Form" glossary definition to align with the <i>Guidebook for Great Communities</i>.</li> </ul>
Glossary	<ul style="list-style-type: none"> <li>Change the definition of "land use bylaw" to align with the <i>Guidebook for Great Communities</i></li> </ul>
Glossary	<ul style="list-style-type: none"> <li>Change the definition of "public realm" to align with the <i>Guidebook for Great Communities</i>.</li> </ul>

### Proposed changes specific to the Calgary Transportation Plan:

Policy section	Proposed changes
Throughout	<ul style="list-style-type: none"> <li>References to the Primary Cycling Network have been revised to reflect the recent Council approval of the "5A" Network (Always Available for All Ages &amp; Abilities) Guiding Principles for prioritized walking and wheeling infrastructure in Calgary.</li> </ul>
3.3 d.	<ul style="list-style-type: none"> <li>Housekeeping edit to remove "council-approved" from performance standard for transit service. Transit service has performance targets, but there are no minimum standards that they are required to meet.</li> </ul>
3.8 b.	<ul style="list-style-type: none"> <li>Remove this policy to reduce the application burden, as the measure has not proven to be very effective.</li> </ul>
Appendix B	<ul style="list-style-type: none"> <li>Revise the title of the appendix to clarify that the criteria within are for all watercourse crossings, not just rivers (specific application of the criteria will vary depending on the guiding policy statement).</li> </ul>
Map 1	<ul style="list-style-type: none"> <li>Map 1 has been temporarily omitted and will be replaced by a map consistent with the recently approved Pathway and Bikeway Plan. This is expected to be available in 2020 April.</li> </ul>
Map 5	<ul style="list-style-type: none"> <li>Some additional Goods Movement routes have been identified or adjusted given network development since 2009. A more comprehensive review of the network is expected as a future piece of work.</li> </ul>
Map 6	<ul style="list-style-type: none"> <li>Some HOV routes have been extended where additional network has been developed.</li> </ul>

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### Topic Area: **Prosperous Economy**

Calgary is home to an innovative and diverse economy. It is ranked among the most livable and affordable cities globally. Despite an economic de-acceleration beginning in 2015, Calgary continues to experience a positive GDP rate and population growth. It is anticipated the City's economy will continue to improve. City led economic initiatives will further support attracting new businesses and residents to Calgary and help retain existing ones.

Economic initiatives underway include the Calgary Comeback, Downtown Strategy and partnerships with Calgary Economic Development. Each of these are aligned with the present *Section 2.1 Prosperous Economy* objectives and policies. This alignment suggests the Section is responding to and adaptable to Calgary's present and emerging condition.

With Section 2.1 functioning well, when the MDP scope was revised, the need for a technical update, or major amendments, was not seen as crucial. *Section 2.1 Prosperous Economy* maintains its existing objectives and policies and supports Calgary vision for a city that supports:

- economic development which is adaptable and increasingly diverse;
- a high quality of life which maintains and attracts people and businesses;
- a strong skilled workforce and prosperity; and.
- sustainable municipal financial decisions.

The MDP is now and will remain committed to building a globally competitive city and Section 2.1 amendments are summarized below:

TABLE - Policy-specific details

Policy section	Proposed Changes
2.1	<ul style="list-style-type: none"> <li>• New introduction</li> <li>• Language updated to reflect the "Calgary in the New Economy" strategy, which emphasizes 13 key initiatives to support the economy, and the focus on existing and emerging industry clusters.</li> </ul>
2.1.1	<ul style="list-style-type: none"> <li>• Introduction broadens the lens of attraction with a greater focus on talented and skilled residents.</li> </ul>
2.1.2	<ul style="list-style-type: none"> <li>• Policy 2.1.2(d) references complete communities to support the multi-community planning and <i>Guidebook for Great Communities</i></li> </ul>
2.1.3	<ul style="list-style-type: none"> <li>• The levels of government have been rearranged to reflect the levels of economic support they may offer</li> </ul>
2.1.4	<ul style="list-style-type: none"> <li>• Heading has been expanded to place emphasis on the existing policies goal of prioritizing and long-term benefits.</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Development Next to Freight Rail Corridors**

There is a large presence of freight rail network within the boundaries of the City of Calgary, owned and operated by both the Canadian Pacific Railway (CP) and Canadian National Railway (CN). The rail network is a strong contributor to the economic growth and prosperity for Calgary and the region and will be a long-term fixture within Calgary's boundaries. With the increasing awareness for potential risks of accidents and the impact of train derailments, and the increasing demand for development, Council approved the *Development Next to Freight Rail Corridors Policy* to guide development along freight rail corridors. This is to ensure that a consistent risk management approach is employed to mitigate the potential impact of safety and noise associated with freight rail operations.

As the *Development Next to Freight Rail Corridors Policy* is not a statutory policy, it is important that we reference this policy in the MDP to provide statutory weight to the policy. Below are the proposed changes to incorporate this policy into the MDP.

#### **Proposed changes to the Municipal Development Plan (Volume 1):**

Policy section	Proposed changes
4.5 (new section)	Include a new section and policy to ensure that all development next to freight rail corridors must comply with the requirements of the Development Next to Freight Rail Corridors Policy.

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Shaping a more compact urban form**

This section describes the vision for a long-term pattern of growth and development in Calgary over the next 60 years and provides policies that will continue to create that form of city over the next 20 years. Shaping a more compact urban form aims to direct future growth of the city in a way that fosters a more compact efficient use of land, creates complete communities, allows for greater mobility choices and enhances vitality in local neighbourhoods.

The City's continued work to direct and plan for balanced growth ensures that we sustain and promote a healthy environment and an urban economy where people, businesses and neighbourhoods thrive. The aim of achieving a balance of growth means encouraging more development within existing areas of the city than was previously encouraged, and directing a larger portion of new housing and jobs within higher intensity, mixed-use areas that are well connected and served by high-quality transit. These areas include Activity Centres and Main Streets with retail and business districts supporting higher density, more diverse forms of housing, public and essential services, and amenities for Calgarians. At a citywide level a more dense urban form reduces the cost of service provision and requires less revenue in the form of taxes to provide the quality of life that Calgarians enjoy.

Through our engagement process it was recognized that we are moving towards the outcomes of our plans in several ways. To further advance the vision, fill in policy gaps and address current challenges, a focused suite of amendments was developed to guide decision-making in a manner that recognizes the inter-related challenges Calgary's communities face. At a high level these include: a continued focus on redevelopment in key intentional areas; supporting communities undergoing significant change; clarifying the role of identity and character as communities change, and advance social equity through increased opportunities and access for everyone.

#### Proposed changes to the Municipal Development Plan (Volume 1):

Policy section	Proposed changes
2.1.1 Preamble	<ul style="list-style-type: none"> <li>Remove wording specifically referring to 'low density' neighbourhoods as all existing neighbourhoods, no matter their form and density, should benefit from more predictable redevelopment.</li> </ul>
2.2.1 a. i.	<ul style="list-style-type: none"> <li>The policy has been revised to indicate that the desired outcome of this policy is to achieve a 'mix of uses across the area', not 'mixed-use parcels'. Requiring every parcel to be mixed use within an Activity Centre or Main Street is unsustainable and counterproductive to the overall goal of these areas. This policy language more accurately describes that the mix of uses is to be accomplished over the entire area of an Activity Centre or Main Street rather than on every site and in every building.</li> </ul>
2.2.1 a. vii.	<ul style="list-style-type: none"> <li>Highlight that the role of the public realm within Activity Centres and Main Streets is to be one of 'vibrant activity' first and foremost, which in turn promotes walking and local connectivity.</li> </ul>
2.2.1 b. i, ii, iii.	<ul style="list-style-type: none"> <li>Remove wording specifically referring to 'low density' neighbourhoods as this policy should apply to all neighbourhoods, no matter their form and density.</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

	<ul style="list-style-type: none"> <li>Amend language around height and density transitions for greater accuracy of desired outcome.</li> </ul>
2.2.2 Preamble	<ul style="list-style-type: none"> <li>Add language highlighting the importance of transit service with the intent to address the value of transit to people before discussing how to best support it.</li> </ul>
2.2.4 Preamble	<ul style="list-style-type: none"> <li>Amend language in the preamble to provide clarity and certainty in explaining the concept of 'complete communities' and how it links to preferred city structure.</li> </ul>
2.2.4 b. i.,iv, vi, xi., c. iii.	<ul style="list-style-type: none"> <li>Add 'equitable' language to align with the principles of the <i>Social Wellbeing Policy</i>.</li> </ul>
2.2.4 b. iii.	<ul style="list-style-type: none"> <li>Add language to provide a more detailed description of 'day-to-day needs' to provide better direction towards the desired outcomes and align with <i>Calgary Eats! A Food System Assessment and Action Plan</i>. Through the implementation of <i>Calgary Eats!</i>, The City is facilitating improved access to healthy food to consumers while creating favourable conditions to ensure the investments needed to increase food production, processing and distribution capacities can be realized.</li> </ul>
2.2.4 b. v.	<ul style="list-style-type: none"> <li>Add 'resiliency' and 'pride in ones' community' to provide a more detailed description of this component of complete communities. Urban resilience is the capacity of individuals, institutions, businesses and systems within a city to adapt, survive and thrive no matter what kind of chronic stresses and acute shocks they experience.</li> </ul>
2.2.4. b. vii.	<ul style="list-style-type: none"> <li>Revise this criteria to expand the scope of activities related to food production in alignment with <i>Calgary Eats! A Food System Assessment and Action Plan</i>.</li> </ul>
2.2.4. b. viii.	<ul style="list-style-type: none"> <li>Replace 'worship' with 'celebration' because it is more inclusive than 'worship'.</li> </ul>
2.2.4 b. x	<ul style="list-style-type: none"> <li>Added resilient environment to the criteria</li> </ul>
2.2.4 b. xii	<ul style="list-style-type: none"> <li>Revise the criteria to include natural infrastructure.</li> </ul>
2.2.5 c.	<ul style="list-style-type: none"> <li>Provide specific direction to consider to the policies of section 2.3.2 when applying this policy.</li> </ul>
2.2.5. e.	<ul style="list-style-type: none"> <li>Policy has been deleted as it is redundant with 2.4.2.d</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Transit**

High quality transit service is essential for the creation of vibrant and attractive cities, and improves the social, economic, and environmental health of Calgary's communities. Calgary Transit provides two levels of service, the Primary Transit Network (PTN) which is a permanent network of high frequency transit service and a base transit service that provides a range of services that connect to the PTN. Transit and land use decisions are linked so that compact, mixed-use, pedestrian friendly developments are located along primary transit network corridors and supported by timely investment in transit.

Policy review from the Next 20 process indicates support for existing policies, but operating funding remains a challenge. Current funding levels create challenges servicing the PTN, maintaining the transit fleet and facilities, and providing base service to new communities. The PTN has been adjusted and expanded to reflect the implementation of the MAX BRT routes and the commitments made in community plans.

The most significant changes to transit policies relate to the provision of regional transit. The Calgary Regional Partnership (CRP) approved a regional transit plan in 2009 that was not adopted by the Calgary Metropolitan Region Board (CMRB) when it was formed after the CRP's dissolution. The CMRB is currently looking at regional servicing needs and Calgary Transit's participation in regional transit planning needs to be part of a coordinated approach towards regional requests for City services.

Note: Report TT2016-0851 West LRT – Mount Royal University Rail Connection Feasibility recommended that the CTP/MDP update review the suitability of a rail connection from the Blue Line to Mount Royal University primary transit linkage. This report was approved before the scope to the CTP/MDP update was reduced. As a result, a detailed review of the corridor characteristics is not in scope. This connection will remain on the Primary Transit Network map as a connection with the transit type to be determined. Specific details of this route will be provided through a future *RouteAhead* update.

### Proposed changes to the Municipal Development Plan (Volume 1)

Policy section	Proposed changes
2.5.2	<ul style="list-style-type: none"> <li>Make minor changes to the regional transit objectives to reflect changes in regional governing structures.</li> </ul>

### Proposed changes to the Calgary Transportation Plan

Policy section	Proposed changes
3.3 a.	<ul style="list-style-type: none"> <li>Revise this policy to reflect the change of focus in the regional board. The Calgary Regional Partnership was dissolved in 2018 due to the implementation of the Calgary Metropolitan Region Board.</li> </ul>
3.3 i.	<ul style="list-style-type: none"> <li>Enhance to increase the priority of transit optimization strategies along transit corridors.</li> </ul>

**MDP/CTP Summary of Proposed Revisions – 2020 February**

Appendix A	<ul style="list-style-type: none"> <li>Revisions have been made to reduce redundant content about the Primary Transit Network, and remove specific content on regional transit (since this is pending the outcome of CMRB work).</li> </ul>
Map 2	<ul style="list-style-type: none"> <li>Revise Map 2 to reflect changes in investment in the primary transit network.</li> </ul>
Map 3	<ul style="list-style-type: none"> <li>Revise Map 3 to reflect the construction of the West LRT and the proposed Green Line alignment.</li> </ul>
Map 4	<ul style="list-style-type: none"> <li>Remove Map 4 while a new regional servicing strategy is being developed. Replace Map 4 with the new regional transit servicing map when it is approved.</li> </ul>

FOR INFORMATION ONLY

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Transportation Infrastructure Investment**

Investment in transportation infrastructure is directly addressed in the Calgary Transportation Plan in Part 2 “Implementation through strategic investment”. Stakeholder engagement, policy review and coordination with the Municipal Development Plan review identified several issues that warranted inclusion and commentary.

Part 2 of the CTP has been changed to:

- Reinforce in discussion and policy the role of the ‘MDP Framework for Growth and Change’ in guiding growth decisions in Calgary;
- Recognize in discussion and policy the role of Infrastructure Calgary, created after the approval of the CTP in 2009;
- Revise policies for clarity (see table below); and
- Add new policies (see table below)

### Proposed changes to the Calgary Transportation Plan

Policy section	Proposed changes
Part 2 a.	<ul style="list-style-type: none"> <li>• Revise to provide additional clarity on the requirement for alignment and coordination.</li> </ul>
Part 2 e.	<ul style="list-style-type: none"> <li>• Revise to provide additional detail in the characteristics of the funding sources that should be identified and pursued.</li> </ul>
Part 2 g.	<ul style="list-style-type: none"> <li>• Revise to include “transportation strategic plans” as sources of infrastructure and implementation strategies.</li> </ul>
Part 2 h.	<ul style="list-style-type: none"> <li>• Add to ensure the integration of the long-term goals and objectives of the MDP and CTP into capital management and investment planning processes.</li> </ul>
Part 2 i.	<ul style="list-style-type: none"> <li>• Add to address the risk of deferral of high priority investments due to a lack of uncommitted capital funding.</li> </ul>



## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Transportation Network Connectivity**

Local network connectivity describes all the different ways we can get from one place to another by any travel mode. This movement can happen on one or more the transportation networks, and the organization of these networks has a significant effect on how people travel. These networks support travel for any reason, including to work, school, social or recreational, or commercial activities. Improving connectivity in communities decreases emergency services response times, improves the transportation modes available to people and reduces the time spent travelling.

Feedback through the Next 20 process indicated that the policies in Section 3.8 of the CTP were generally effective, but the calculation requirements of the connectivity index were cumbersome. A review of the policies and a sample of new outline plans was undertaken to see if connectivity has improved since the CTP was approved in 2009. The analysis shows that connectivity is improving because of these policies. The number of cul-de-sacs in new communities is significantly less, streets and pathways have increased connection points and average block lengths have been reduced (Table 1).

Table 1: Local Network Connectivity Indicators

Indicator	1980s	1990s	2000s	2010s
Number of cul-de-sacs # per square km	8.3	8.0	5.6	3.3
Average length of cul-de-sac (km)	2.2	2.0	2.0	0.9
Street Connectivity Index	1.47	1.43	1.53	1.67

To continue improving connectivity in new developments across Calgary, enhancements are being proposed to streamline and improve connectivity in new and existing communities. Many of the current policies have already been successful in improving street and active transportation connectivity. The changes proposed strengthen temporary access policies and remove design targets that increased application burden but provided little value.

#### Proposed changes to the Municipal Development Plan (Volume 1):

The connectivity policies in section 2.5.4 (Local transportation connectivity) were reviewed and the objective and policy for this section are still appropriate. No changes are proposed.

Policy section	Proposed changes
Glossary	<ul style="list-style-type: none"> <li>Removed reference to the connectivity index.</li> </ul>

#### Proposed changes to the Calgary Transportation Plan

Policy section	Proposed changes
3.8 preamble	<ul style="list-style-type: none"> <li>Removed reference to the obsolete Connectivity Handbook document.</li> </ul>

**MDP/CTP Summary of Proposed Revisions – 2020 February**

3.8 b.	<ul style="list-style-type: none"> <li>Policy will be removed as it increased application burden without improving connectivity in new communities. This policy required quantifying street and active mode connectivity within new developments. However, neither the measures nor the targets for success were defined so the policy was rarely applied. Further, other policies were successful at improving the connectivity in Calgary's new communities.</li> </ul>
3.8 g.	<ul style="list-style-type: none"> <li>Revisions and additions to the wording of the policy strengthen the existing policy by ensuring that temporary access points to new developments are accessible to the public. The policy still maintains the flexibility to allow temporary access points available to emergency vehicles only, if access is maintained by the developer year-round until a permanent, public access point is built.</li> </ul>

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Transportation Strategic Plans**

The *Cycling Strategy*, *Route Ahead Strategic Transit Plan*, the *Calgary Safer Mobility Plan*, the *Complete Streets Guide and Policy*, the *StepForward Pedestrian Strategy*, *Calgary Parking Policies*, the *Future of Transportation in Calgary*, the *Goods Movement Strategy*, and *Calgary's Electric and Low-Emissions Vehicles Strategy* (all referred to hereafter as the “transportation strategic plans”) were addressed or anticipated in a variety of sections within the Calgary Transportation Plan. Stakeholder engagement and policy review identified several issues that warranted discussion, policy changes or policy additions. Please see the table below for proposed changes.

### Proposed changes to the Calgary Transportation Plan

Policy section	Proposed changes
1.8	<ul style="list-style-type: none"> <li>Additional content showing the relationship between the CTP and strategic plans, and describing aligned decision making</li> </ul>
3.1 a.	<ul style="list-style-type: none"> <li>Revise to strengthen the language requiring consideration of the needs of sustainable modes, in order to improve compliance and to reflect the importance of sustainable modes in achieving the long-term goals and objectives of the CTP.</li> </ul>
3.2 a.	<ul style="list-style-type: none"> <li>Revise to strengthen the language requiring the provision of routes for people walking and cycling throughout Calgary, in order to reflect the importance of sustainable modes in achieving the long-term goals and objectives of the CTP.</li> </ul>
3.2 d.	<ul style="list-style-type: none"> <li>Revise to strengthen the language requiring the ‘emphasis’ of walking and cycling environments in Activity Centres, Main Streets, TOD sites and residential communities to reflect the critical nature of active transportation to the success of these development areas.</li> </ul>
3.2 i.	<ul style="list-style-type: none"> <li>Revise to reflect feedback from internal stakeholders.</li> </ul>
3.2 j.	<ul style="list-style-type: none"> <li>Revise to strengthen the language requiring the ‘minimization’ of disruptions to people walking and cycling, to improve compliance and reflect actions identified in <i>Step Forward</i>.</li> </ul>
3.4 (preamble)	<ul style="list-style-type: none"> <li>Revisions to reflect recent goods movement information. Additional clarification on the role of the primary and secondary goods network has been added.</li> </ul>
3.4 c.	<ul style="list-style-type: none"> <li>Revise to reflect feedback from internal stakeholders and redundancy with the <i>Complete Streets Guide</i>.</li> </ul>
3.7 k.	<ul style="list-style-type: none"> <li>Revise to reflect stakeholder feedback regarding applicability.</li> </ul>
3.9 a.	<ul style="list-style-type: none"> <li>Revise to reflect the wording contained in the <i>Downtown Parking Strategies</i>, which were revised after the CTP approval in 2009.</li> </ul>
3.9 b.	<ul style="list-style-type: none"> <li>Revise to reflect the wording contained in the <i>Downtown Parking Strategies</i>, which were revised after the CTP approval in 2009.</li> </ul>
3.9 h.	<ul style="list-style-type: none"> <li>Revise to reflect feedback from internal stakeholders.</li> </ul>
3.10 (preamble)	<ul style="list-style-type: none"> <li>Updated the elements of the integrated approach to safety as per the <i>Safer Mobility Plan</i></li> </ul>

**MDP/CTP Summary of Proposed Revisions – 2020 February**

3.10 f.	<ul style="list-style-type: none"><li>• Add to ensure that design is applied as the principle tool for reducing operating speeds on Residential Streets, rather than relying on speed enforcement.</li></ul>
3.11 b	<ul style="list-style-type: none"><li>• Added reference to The City's <i>Access Design Standards</i></li></ul>

FOR INFORMATION ONLY

## MDP/CTP Summary of Proposed Revisions – 2020 February

### Topic Area: **Transportation User Experience**

User experience is not directly addressed in the Calgary Transportation Plan. It is indirectly addressed in the following sections: “Transportation choice”, “Walking and cycling”, “Transit”, “Quality of service”, “Complete Streets”, “Local transportation connectivity”, “Parking”, “Transportation Safety”, “Universal access”, “Environment and Transportation”, and “Infrastructure management”.

The topic of “user experience” has been incorporated into section 3.6 “Quality of service”. The title of the section has been revised to “Quality of service and user experience”, some of the detail on intended methodology has been removed, and policy implications have been identified

### Proposed changes to the Calgary Transportation Plan

Policy section	Proposed changes
1.6	<ul style="list-style-type: none"> <li>Additional content outlining the consideration of user experience with respect to public engagement.</li> </ul>
3.6 Objective	<ul style="list-style-type: none"> <li>Revise for clarity by removing unnecessary descriptive detail.</li> <li>Add “while addressing the travel experience for all users”.</li> </ul>
3.6 Discussion	<ul style="list-style-type: none"> <li>Add contextual information and a list of policy implications resulting from the incorporation of user experience in this Section:               <ul style="list-style-type: none"> <li>Development and communication of a vision and goals</li> <li>Establishment of comprehensive and meaningful customer engagement processes</li> <li>Production of a ‘user experience action plan’</li> <li>Evaluation of the resulting impact to user experience</li> </ul> </li> </ul>
3.13 i	<ul style="list-style-type: none"> <li>Added policy to support designing assets to ensure efficient operation that can support ongoing user experience expectations.</li> </ul>

**FOR INFORMATION ONLY**

PROPOSED REVISIONS TO MAPS CONTAINED IN

THE CITY OF CALGARY

CALGARY TRANSPORTATION PLAN and

MUNICIPAL DEVELOPMENT PLAN

FEBRUARY 2020

Notes to Reader

This set of maps contains updated based upon previously approved Council direction since 2009 that has not previously been reflected through formal amendments. Where available, base map data has also been updated. Any other map changes have been noted in the Summary of Proposed Revisions document.

The following maps are contained in this document:

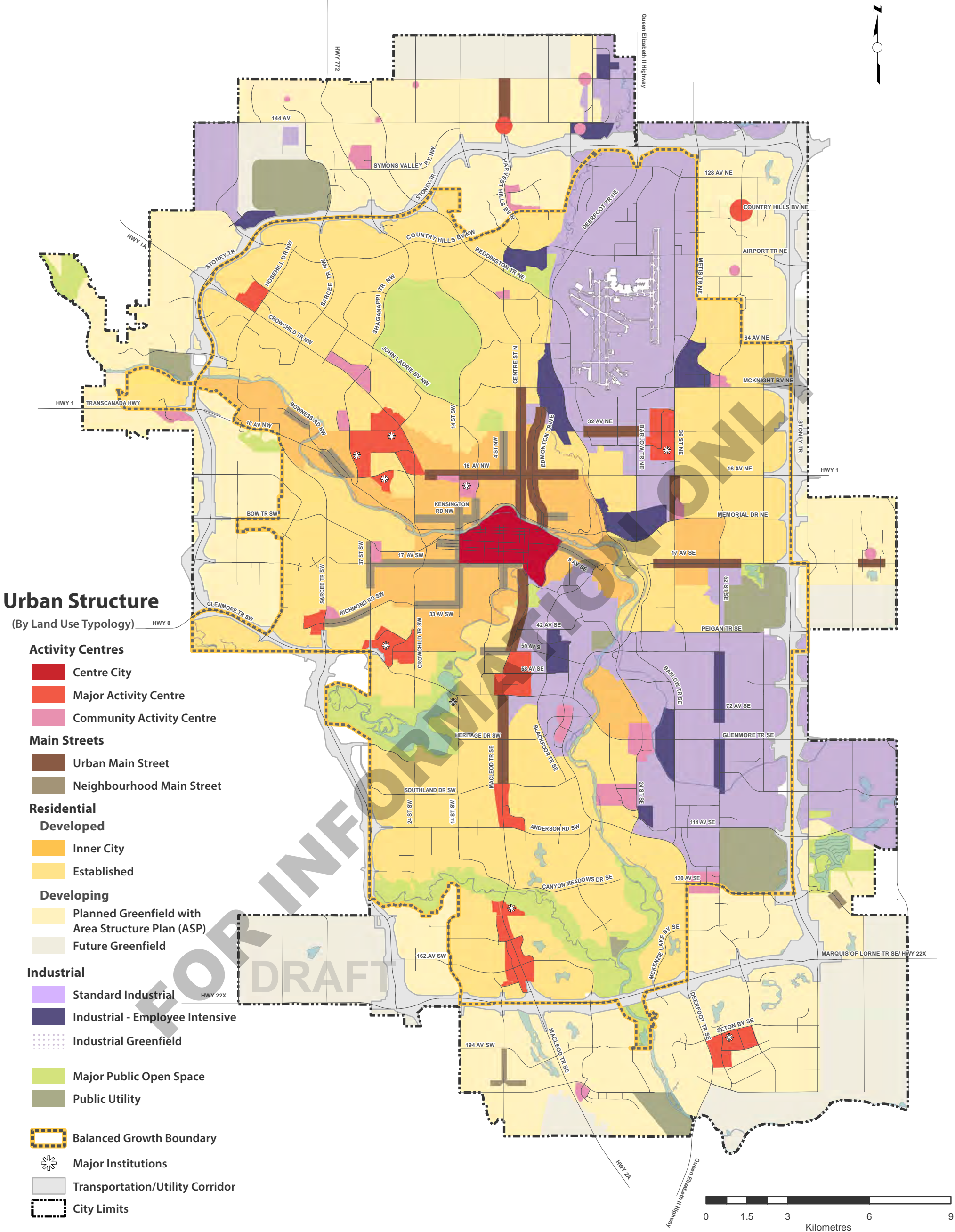
- Urban Structure (MDP Map 1)
- Primary Transit Network (MDP Map 2, CTP Map 2)
- Road and Street Network (MDP Map 3, CTP Map 7)
- Natural Areas and Open Space (MDP Map 4)
- Jurisdictional Areas (MDP Map 5)
- Major Development Influences (MDP Map 6)
- Downtown Transit Network (CTP Map 3)
- Primary Goods Movement Network (CTP Map 5)
- Primary HOV Network (CTP Map 6)

Note:

- Primary Cycling Map (CTP Map 1) has not been included, as Council has directed it to be replaced with the 5A network map for walking and wheeling as part of report TT2019-1431. A draft map will be available in 2020 April.
- Conceptual Calgary Regional Transit Plan (CTP Map 4) is proposed to be removed, until such time that a new regional transit plan is established as part of the Calgary Metropolitan Region Board growth plan.

**FOR INFORMATION ONLY**



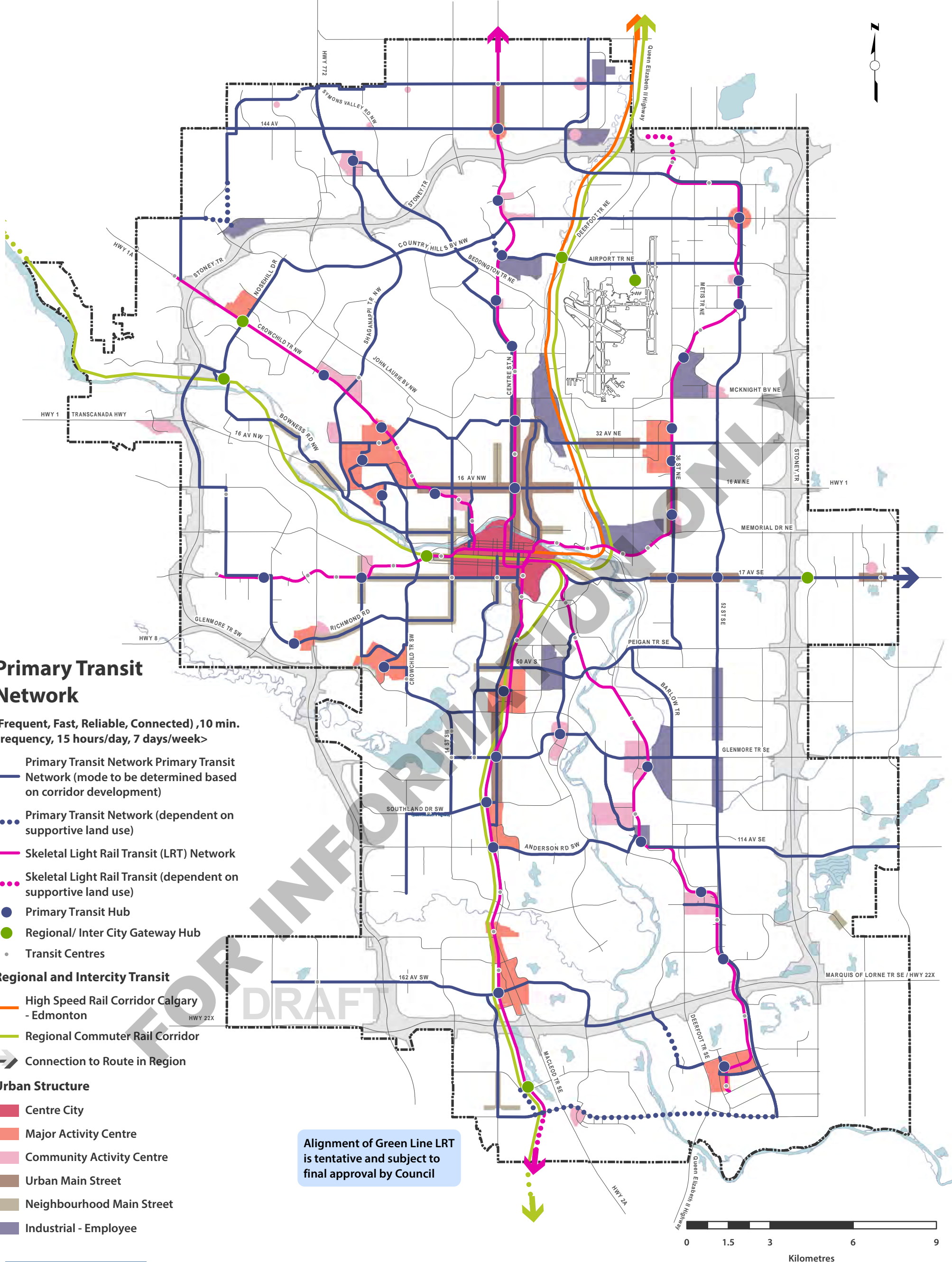


This map represents a conceptual land use structure and transportation networks for the city as a whole. No representation is made herein that a particular site use or City investment, as represented on this map, will be made. Site specific assessments, including environmental contamination, as well as the future financial capacities of the City of Calgary must be considered before any land use or City investment decisions are made.



# Urban Structure

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### Primary Transit Network

(Frequent, Fast, Reliable, Connected) ,10 min. Frequency, 15 hours/day, 7 days/week>

- Primary Transit Network Primary Transit Network (mode to be determined based on corridor development)
- Primary Transit Network (dependent on supportive land use)
- Skeletal Light Rail Transit (LRT) Network
- Skeletal Light Rail Transit (dependent on supportive land use)
- Primary Transit Hub
- Regional/ Inter City Gateway Hub
- Transit Centres

### Regional and Intercity Transit

- High Speed Rail Corridor Calgary - Edmonton
- Regional Commuter Rail Corridor
- Connection to Route in Region

### Urban Structure

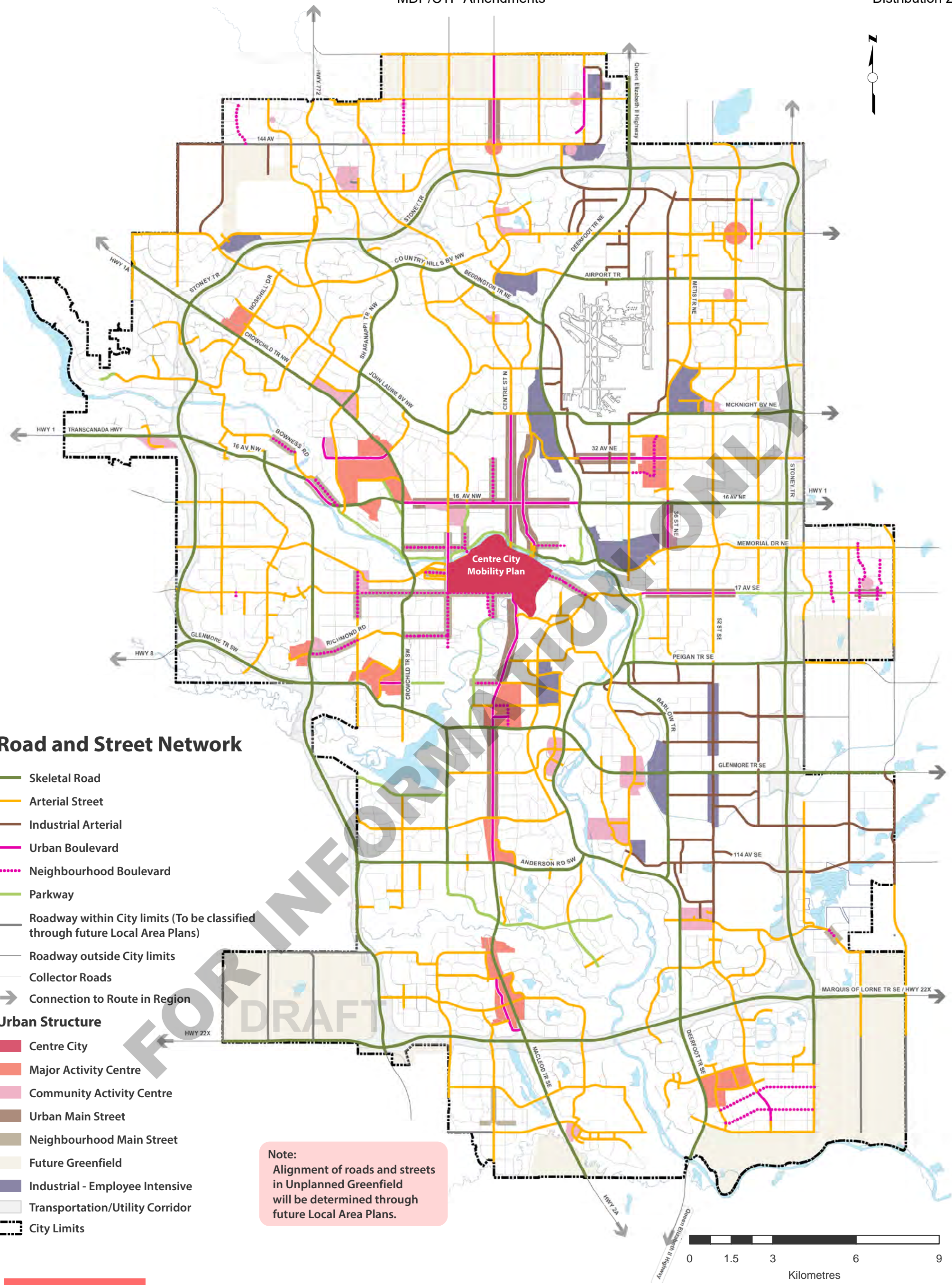
- Centre City
- Major Activity Centre
- Community Activity Centre
- Urban Main Street
- Neighbourhood Main Street
- Industrial - Employee

Alignment of Green Line LRT is tentative and subject to final approval by Council

This map represents a conceptual land use structure and transportation networks for the city as a whole. No representation is made herein that a particular site use or City investment, as represented on this map, will be made. Site specific assessments, including environmental contamination, as well as the future financial capacities of the City of Calgary must be considered before any land use or City investment decisions are made.



# Primary Transit Network



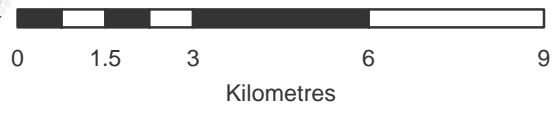
### Road and Street Network

- Skeletal Road
- Arterial Street
- Industrial Arterial
- Urban Boulevard
- ⋯ Neighbourhood Boulevard
- Parkway
- Roadway within City limits (To be classified through future Local Area Plans)
- Roadway outside City limits
- Collector Roads
- ➔ Connection to Route in Region

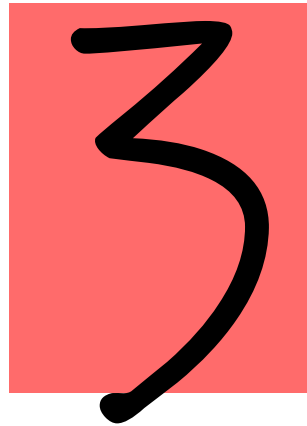
### Urban Structure

- Centre City
- Major Activity Centre
- Community Activity Centre
- Urban Main Street
- Neighbourhood Main Street
- Future Greenfield
- Industrial - Employee Intensive
- Transportation/Utility Corridor
- City Limits

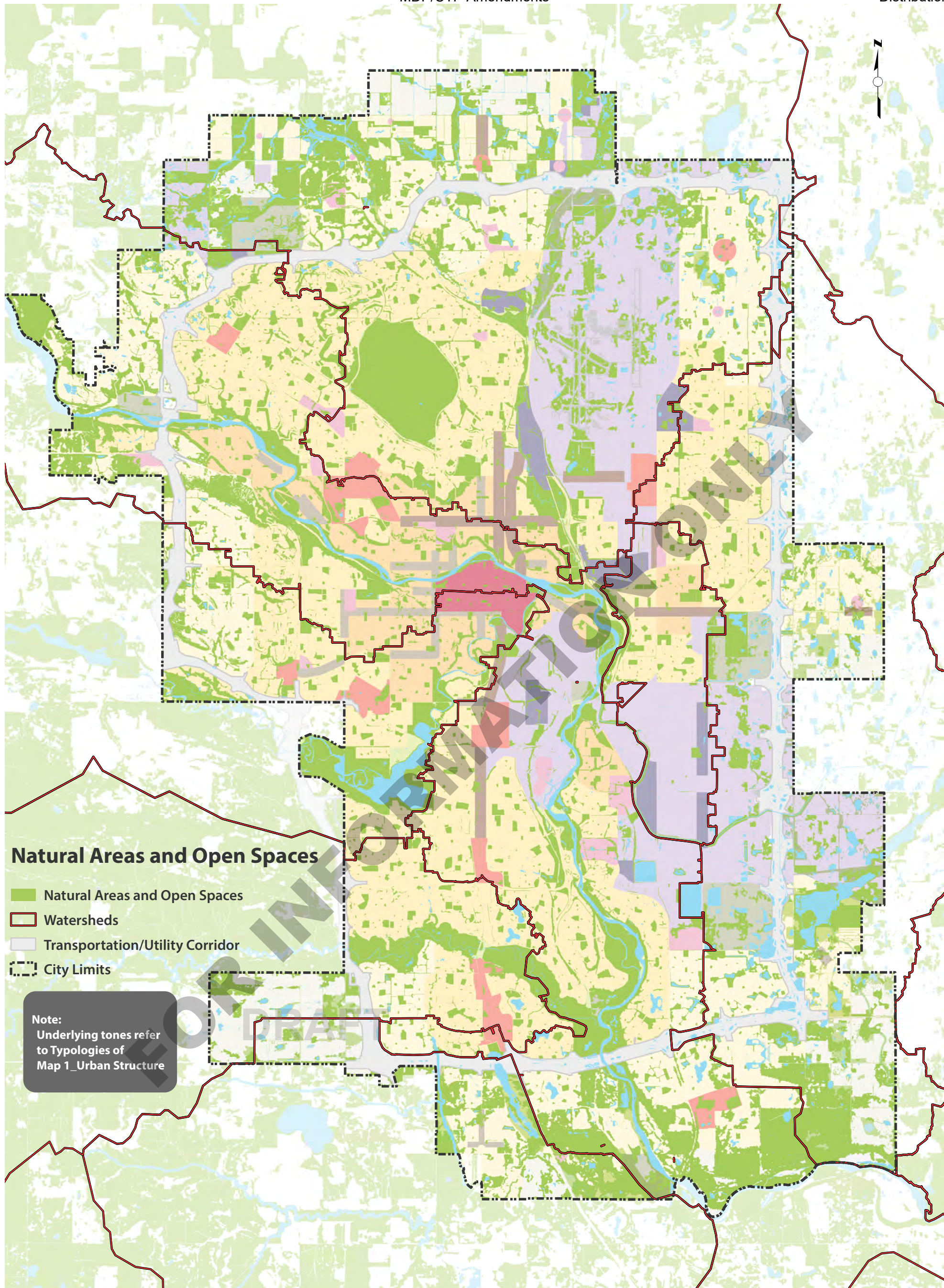
**Note:**  
Alignment of roads and streets in Unplanned Greenfield will be determined through future Local Area Plans.



This map represents a conceptual land use structure and transportation networks for the city as a whole. No representation is made herein that a particular site use or City investment, as represented on this map, will be made. Site specific assessments, including environmental contamination, as well as the future financial capacities of the City of Calgary must be considered before any land use or City investment decisions are made.

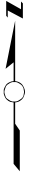


# Road and Street Network



# 4

## Natural Areas and Open Spaces



Rocky View  
County

Rocky View  
County

City of Calgary

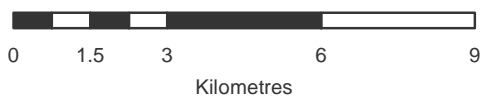
City of  
Chestermere

Tsuut'ina Nation

Foothills County

### Jurisdictional Areas

-  City Limits
-  Transportation/Utility Corridor
-  Identified City of Calgary Long-Term Growth Areas
-  Intermunicipal Development Area Foothills County
-  Intermunicipal Development Area Rocky View County
-  Tsuut'ina Nation



The City of Calgary provides this information in good faith but it provides no warranty, nor accepts any liability arising from any incorrect, incomplete or misleading information or its improper use. Unless otherwise specified within the MDP, the boundaries or locations of any symbols or areas shown on a map are approximate only, not absolute and will be interpreted as such. They are not intended to define exact locations or the extent of areas or influences.

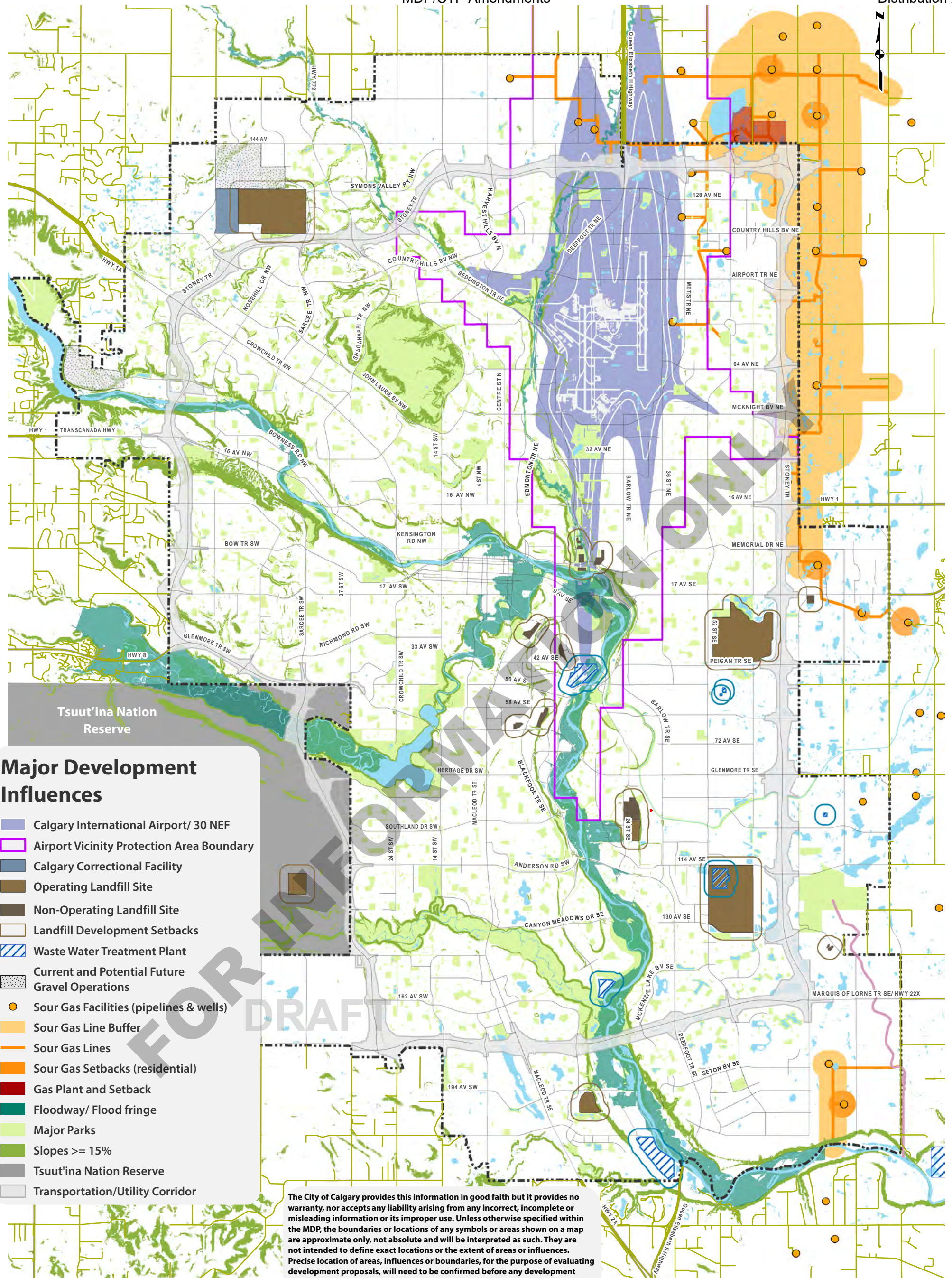
Precise location of areas, influences or boundaries, for the purpose of evaluating development proposals, will need to be confirmed before any development decisions are made or will be determined by City Administration at the time of application.

This information may be updated on a daily basis as changes occur.

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# Jurisdictional Areas

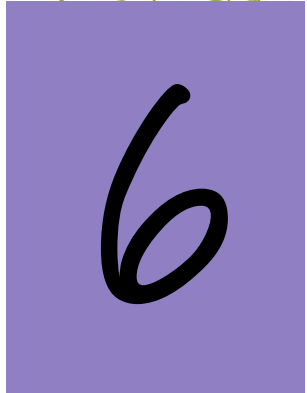
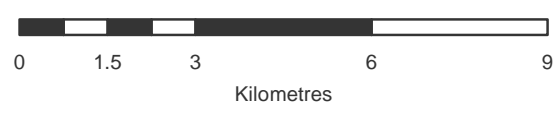


### Major Development Influences

- Calgary International Airport/ 30 NEF
- Airport Vicinity Protection Area Boundary
- Calgary Correctional Facility
- Operating Landfill Site
- Non-Operating Landfill Site
- Landfill Development Setbacks
- Waste Water Treatment Plant
- Current and Potential Future Gravel Operations
- Sour Gas Facilities (pipelines & wells)
- Sour Gas Line Buffer
- Sour Gas Lines
- Sour Gas Setbacks (residential)
- Gas Plant and Setback
- Floodway/ Flood fringe
- Major Parks
- Slopes >= 15%
- Tsuut'ina Nation Reserve
- Transportation/Utility Corridor

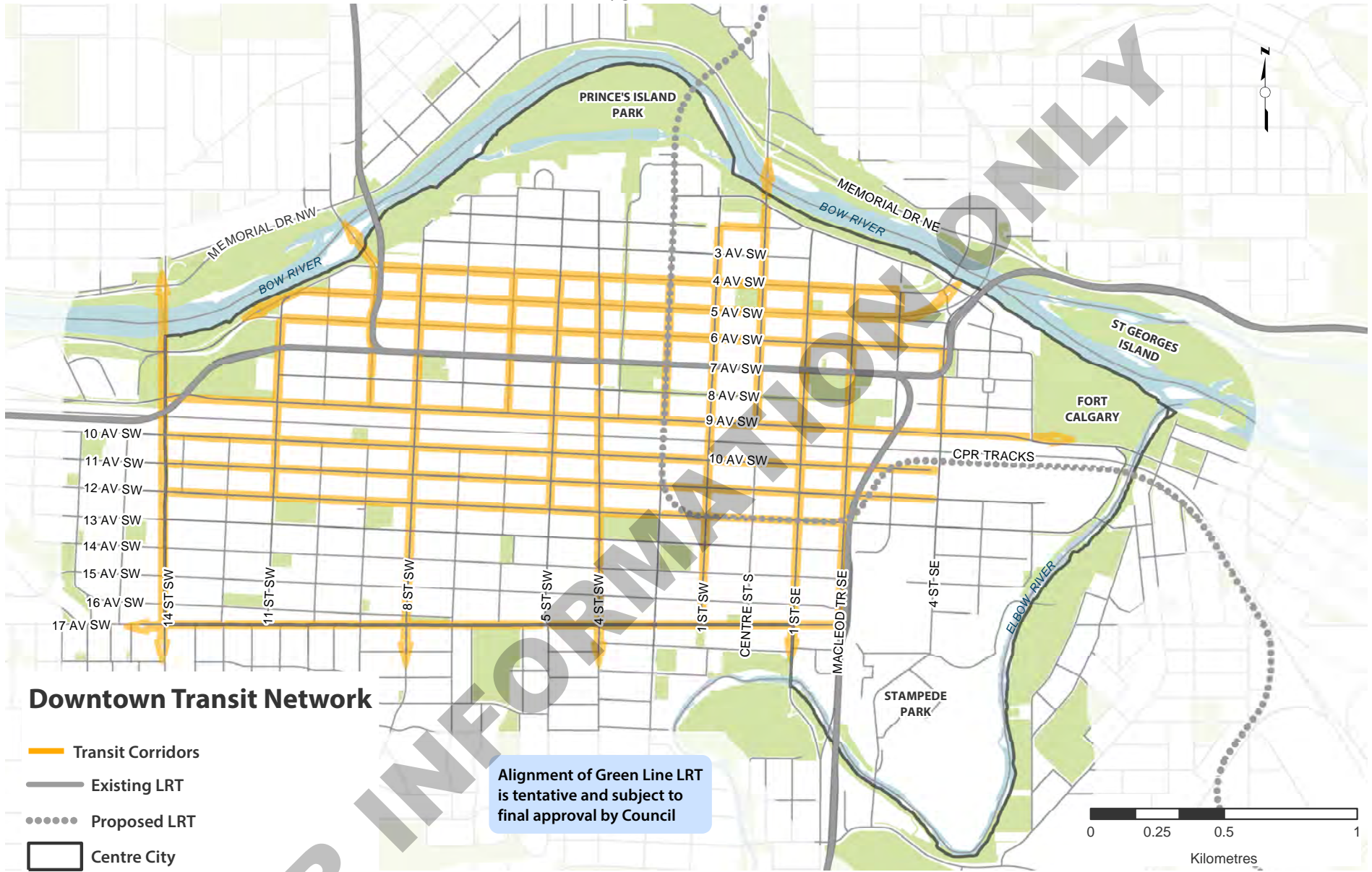
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# Major Development Influences

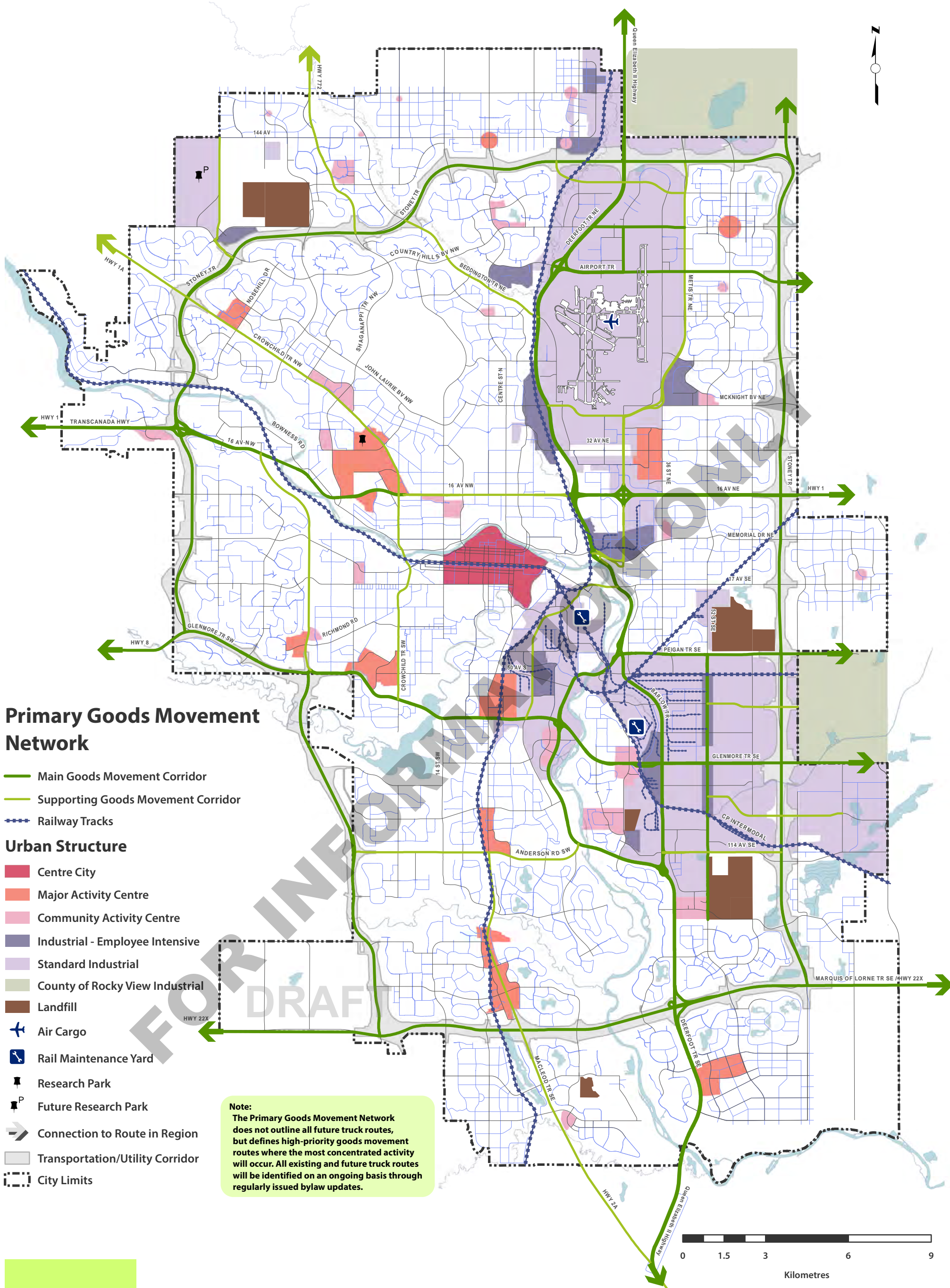
MDP/CTP Amendments



This map represents a conceptual land use structure and transportation networks for the city as a whole. No representation is made herein that a particular site use or City investment, as represented on this map, will be made. Site specific assessments, including environmental contamination, as well as the future financial capacities of the City of Calgary must be considered before any land use or City investment decisions are made.



# DRAFT Downtown Transit Network



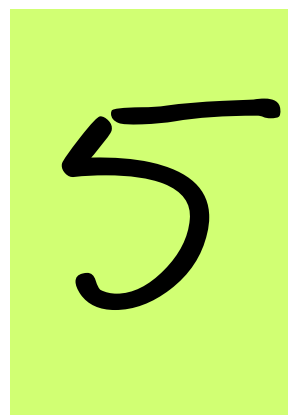
### Primary Goods Movement Network

- Main Goods Movement Corridor
- Supporting Goods Movement Corridor
- - - Railway Tracks

### Urban Structure

- Centre City
- Major Activity Centre
- Community Activity Centre
- Industrial - Employee Intensive
- Standard Industrial
- County of Rocky View Industrial
- Landfill
- ✈ Air Cargo
- 🚂 Rail Maintenance Yard
- 📍 Research Park
- 📍<sup>P</sup> Future Research Park
- ➔ Connection to Route in Region
- ▭ Transportation/Utility Corridor
- ▭ City Limits

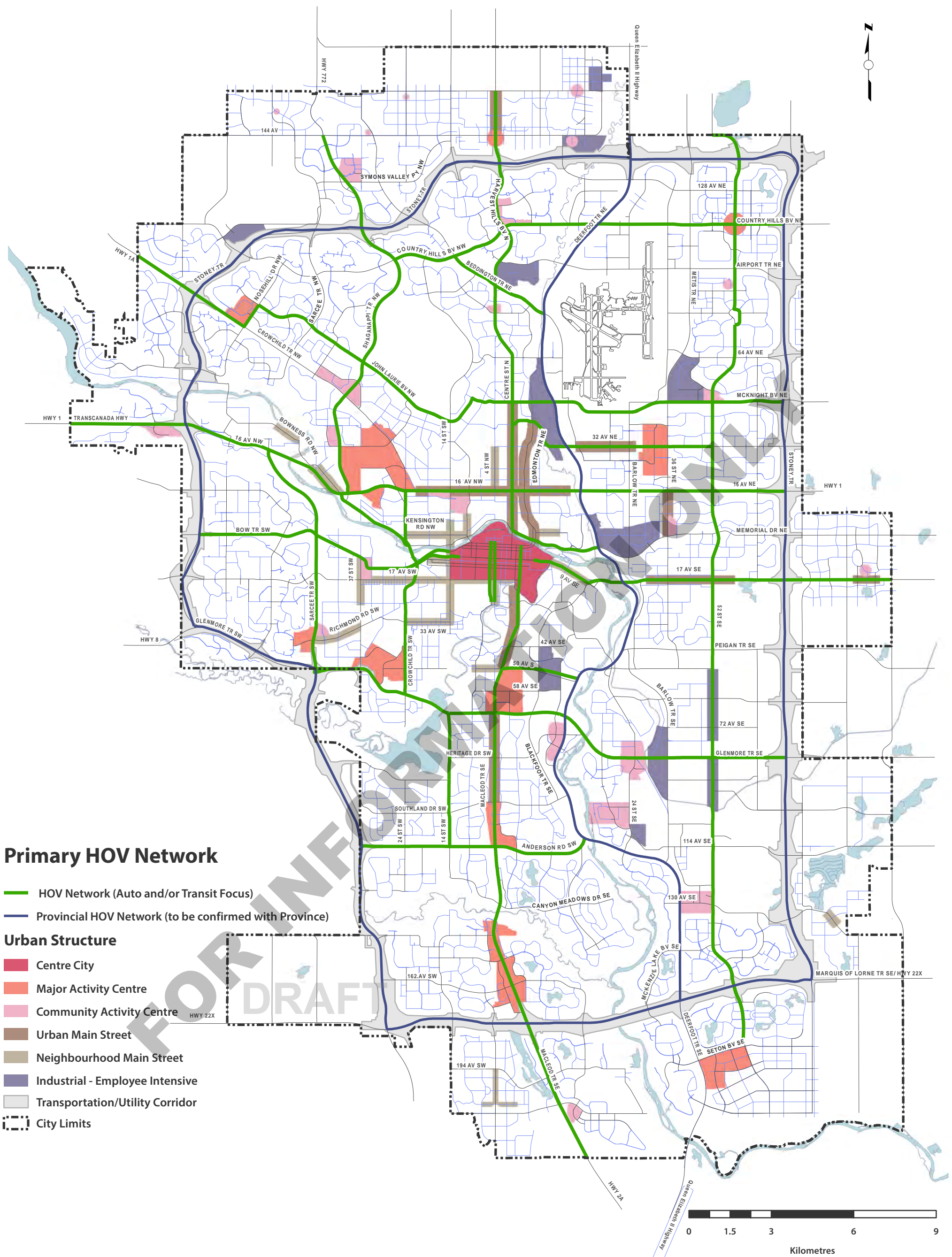
**Note:**  
The Primary Goods Movement Network does not outline all future truck routes, but defines high-priority goods movement routes where the most concentrated activity will occur. All existing and future truck routes will be identified on an ongoing basis through regularly issued bylaw updates.



# Primary Goods Movement Network

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# Primary HOV Network

**FOR INFORMATION ONLY**

## A Rationale for Making the Calgary Transportation Plan a Statutory Document – 2020 February

The Calgary Transportation Plan (CTP) is a City of Calgary strategic policy plan, developed over the time period 2006-2009 in conjunction with the Municipal Development Plan (MDP). Taken together, the MDP and CTP establish a vision and policy direction for Calgary's future development. The plans were approved together by City Council in 2009. However, the MDP was approved by bylaw following a public hearing under the authority of the Alberta Municipal Government Act (MGA) as a 'statutory plan'. The Calgary Transportation Plan was not adopted by Bylaw as a statutory plan under the MGA. Rather, it was approved as a policy of Council. Statutory plans under the MGA are legally binding on development decision makers; other plans approved by council do not have the same legally binding nature. This difference in status between the two documents has, in practice, contributed to inconsistent application of CTP policies on the part of City Administration and successful appeals of development decisions at the Subdivision and Development Appeal Board (SDAB).

The Next 20 Project Team proposes re-positioning the CTP as a statutory document for the following reasons.

1. The original and enduring intention for the MDP and CTP plans was integration and equal treatment in application to subdivision and development matters, in recognition of the strength of interconnection between land use and transportation factors as it relates to urban development outcomes. Pursuing statutory status for the CTP at this time accomplishes this task.
2. To provide greater clarity to The City's subdivision and development authorities, their designates, and appeal bodies (e.g. SDAB) with respect to determining the conformance of subdivision and development decisions with the MDP and CTP. Pursuing statutory status for the CTP at this time reduces uncertainty for all parties on a go-forward basis.
3. To maximize the benefits of the "Compact" future growth scenario for Calgary approved by City Council in conjunction with the MDP and CTP vision. Our projected cost savings depends on the effective application of the plans. As well, the potential value to The City and its citizens is tied to the overall effectiveness of the application of the Plans. If the plans are not of equal status, their application is not equally as effective or beneficial.
4. Although a wholesale integration and reorganization of the MDP and CTP into a single, unified document is precluded by the current scope of the Next 20 Project, a number of alternative paths for achieving statutory plan status on the CTP have been established as feasible by The City's Law Department.

The Next 20 Project Team is of the opinion that the net benefits that would result from achieving statutory plan status for the CTP at this time merit a recommendation for action now. Statutory status will be proposed at the time of approval in June by way of either including the CTP in the MDP as an additional volume, or by approving the CTP as an "other statutory" plan in line with City Charter regulation.

**FOR INFORMATION ONLY**

### Initiatives supporting MDP and CTP (As of 2020 February)

In addition to ongoing day-to-day operations and work that aims to improve Calgary's quality of life as envisioned in both plans, there are several initiatives underway that are intended to improve how the City makes decisions and operates to further achieve the outcomes of both the MDP and CTP. The list below provides a summary of key initiatives. In some cases, changes to the MDP and CTP may be brought forward separately as appropriate by these initiatives, rather than as part of the Next 20 project.

Initiative	Relationship to MDP/CTP	Next Milestone
Guidebook for Great Communities and Land Use Bylaw Renewal*	This work is focused on people-centered design, first by planning for life, activity, and community values, then planning for public spaces, and finally for buildings and parcels. Once approved, the Guidebook will set the foundation for the renewal of the Land Use Bylaw and will provide the policy guidance for new land use districts.	Q1 2020 – Guidebook approval
Local Area Planning (AKA Multi-community planning)*	Comprehensive planning update to local area planning and policies. Convert 260 plans into approximately 40 modernized local area plans to remove duplicate / irrelevant policies and plans, streamline policy direction and facilitate growth through up to date policy. Each of these plans is a sub-project.	Q2 2020– North Hill Community Plan
Stormwater Strategy	Working with stakeholders towards an updates Stormwater Strategy and corresponding Stormwater Plan, which will establish the principles and outcomes for how stormwater is managed in Calgary in the future. Interim measures are currently being developed through a stakeholder working group.	Ongoing
City Wide Growth Strategy: Established Areas Growth and Change Strategy*	Identify areas of short term growth and proposed investments that can help enable growth and boost investor confidence, attract private investment to partner with public investments in communities, and deliver great communities for existing and future residents.	Q2 2020 – Phase 1 Recommendations
Main Streets Program*	Working with local residents, business owners, and developers to create new land use and public realm master plans for 35 main streets areas that are well suited for long-term growth. Council has	2020 – Land use to be developed with LAP, construction to

\* Indicates a project that directly supports the Next Generation Planning System

<b>Initiative</b>	<b>Relationship to MDP/CTP</b>	<b>Next Milestone</b>
	approved land use for 8 main streets, master plans have been approved for 6 main street areas, with phased construction starting in 2020 on 3 streets.	begin in 3 main street areas
Transit Oriented Development (TOD) Strategy*	Evaluate each TOD location, understand the factors that are critical to realizing successful TOD, and define an implementation strategy with actions to support success.	Ongoing (Strategy approved 2019 Dec)
Green Line City Shaping	This program is about investing and improving communities connected by a rapid transit network with a focus on people, places and programs.	Ongoing
Integrated Civic Facilities Planning Program	Development of a Corporate Facility Portfolio Plan that will create a complete picture of all facilities owned by The City (supply), understanding the needs of service lines to support service delivery now and into the future, analyzing the gaps and determining the best strategies for meeting the need. This planning takes The City's Facility Portfolio from "as-is" to an optimized "to-be" state and builds a 1-30 year plan of recommended programs and projects that provide the greatest value for both citizens and administration over time to meet short, mid and long-term the needs of our citizens.	Q2 2020 Current State
Off-Site Levy Bylaw Review*	This work will review the existing Centre City and Off-site Levy Bylaws, reflecting recent legislative changes.	Q3 2020
City Wide Growth Strategy: Industrial Strategy	This work will review current and future industrial areas in Calgary to ensure they remain competitive and viable, and have appropriate policies to ensure their long term sustainability.	Q4 2020 (Scope)
Planning with an Indigenous Lens	This work is a new initiative to have a broad conversation with the Indigenous community about their needs with respect to how we plan Calgary.	TBD – In Scoping
Centre City Plan Refresh Project	The Centre City Plan is being replaced with a new Plan which will provide an updated vision and direction over the next ten years for the downtown core and surrounding neighbourhoods.	Q3 2020 (draft plan)
City Wide Growth Strategy: New	This work will review proposed business cases for new community opportunities in Calgary. An invitation for submissions was open in	Q4 2020 (recommendations)

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<b>Initiative</b>	<b>Relationship to MDP/CTP</b>	<b>Next Milestone</b>
Community Growth Strategy*	2020 January, and current submissions will be reviewed by staff over 2020.	
CMRB Growth and Servicing Plan	This work, led by the Calgary Metropolitan Growth Board, seeks to establish a long-term Growth and Servicing strategy for the Calgary Region.	Q4 2020 (Final plan)
Flood Resiliency Planning	This project would continue previous work on reviewing development and treatment of lands in flood-vulnerable areas.	Q1 2021
Heritage Preservation Tools*	This work will provide findings for potential tools and incentives to encourage the preservation of heritage assets.	Q2 2020
Joint Use Agreement Update	This initiative will update the current Joint Use Agreements (JUA) that The City of Calgary has with the Calgary Board of Education, Calgary Separate School District, and the Francophone School Authorities. The JUA guides how the cities and schools collaborate and jointly administer reserve lands provided through subdivision for public use.	Negotiation Framework report to Council end Q2 2020
Urban Design	Creation of a checklist of urban design criteria for evaluating development applications.	Ongoing
Parking Requirements Review	Scope for this work was recently approved by Council: It will review development parking requirements to inform the renewal of the Land Use Bylaw. It will also examine a range of options around how and when parking requirements should be set and consider implications of ideas such as maximum requirements, or no requirements.	To begin in 2020
Residential Parking Permit Review	This initiative is establishing policy and reviewing the current residential parking permit process to ensure curb space is well used and fairly allocated, while aligning with long-term transportation goals.	Q2 2020
RouteAhead Update	The RouteAhead plan is being reviewed to update the major transit projects identified in the plan.	Q3 2020
Neighbourhood Speed Limits	Administration is investigating changes to the default (unposted) speed limit with the goal of improving safety on streets in residential areas in Calgary.	Q2 2020

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Initiative	Relationship to MDP/CTP	Next Milestone
Goods Movement Group and Network Review	As part of the recently approved Goods Movement Strategy, the Calgary Goods Movement and Logistics Advisory Group has been formed to advise on matters related to the strategy. As part of this, a network review exercise is anticipated in 2020 .	2020 (begin network review)
Calgary Climate Panel	The Calgary Climate Panel has been established to discuss and work on issues related to implementation of the Climate Resilience Strategy. Upcoming work plan items include looking at the issue of solar rights, energy benchmarking, and the role of natural infrastructure.	Ongoing

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