

Calgary



100

RESILIENT

CITIES

#ResilientYYC

Preliminary Resilience Assessment

March 2018



Welcome to Calgary!

A great place to
make a living,
a great place to
make a life



- Introduction
- Calgary Context
- Perceptions Assessment
- Actions Inventory
- Challenges and Opportunities
- Discovery Areas
- Next Steps & References

Purpose of this report

- Provide a summary of the state of resilience in Calgary
- Describe the work that has been done to date to understand Calgary perceptions and opportunities to build resilience
- Identify emerging resilience cross cutting themes and discovery areas that will guide the development of a Resilience Strategy for Calgary



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INTRODUCTION



About 100 Resilient Cities in Calgary

100 Resilient Cities (100RC) – pioneered by The Rockefeller Foundation – is dedicated to helping cities around the world become more resilient to the social, economic and environmental challenges of the 21st century. 100RC supports the adoption and incorporation of a common definition of urban resilience that includes both the shocks – earthquakes, fires, floods, etc. – and the stresses – high unemployment, water shortages etc. – that weaken the fabric of a city on a day to day or cyclical basis. By addressing both the stresses and shocks, a city better responds to adverse events, develops its potential for collective and individual resilience and enhances delivery to all its residents.

The City of Calgary was among the third and final cohort of cities invited by 100RC to embark on an exciting effort to examine city resilience and to develop a strategy that is customized according to individual needs and capacity.

Calgary Mayor Naheed Nenshi

“Never mistake the desire for compassion, kindness, mercy, love and humanity for weakness. It is strength.”

Brad Stevens, Chief Resilience Officer

“This opportunity will allow Calgary to unify and strengthen the resilience initiatives already underway at The City, and help us become a Canadian leader in resilience planning.”

Jim Gray, Calgary Businessperson & Philanthropist

“We must act now – and we must understand that if we do not manage this challenge with energy, commitment, skill and resources, this challenge will manage us to our great detriment.”

Our Leaders

Calgary Mayor Naheed Nenshi



Naheed Nenshi, A'paistootsiipsii, was sworn in as the 36th mayor of Calgary on October 25, 2010 and has been re-elected twice; once in 2013 and again in 2017.

Prior to being elected, Mayor Nenshi was a Business Consultant focused on helping public, private and non-profit organizations grow. He designed policy for the Government of Alberta, helped create a Canadian strategy for The Gap, Banana Republic and Old Navy, and worked with the United Nations to determine how the business sector can help the poorest people on the planet. He then entered academia, where he was Canada's first tenured professor in the field of non-profit management at Mount Royal University's Bissett School of Business.

In honour of his work, Mayor Nenshi was named a Young Global Leader of the World Economic Forum, awarded the President's Award from the Canadian Institute of Planners, and the Humanitarian Award from the Canadian Psychological Association. In 2013, due to his stewardship of our community during devastating flooding, Maclean's magazine called him the second-most influential person in Canada after the Prime Minister. He was also awarded the 2014 World Mayor Prize by the UK-based City Mayor's Foundation as the best mayor in the world.

In 2014, he was honoured by Elder Pete Standing Alone with the Blackfoot name A'paistootsiipsii, which means 'Clan Leader' or 'He who moves camp and the others follow'. In 2016, Elder Bruce Starlight of the Tsuu T'ina First Nation honoured him with the name litiya, which means 'Always Ready'.

Mayor Nenshi holds a Bachelor of Commerce (with distinction) from the University of Calgary where he served as President of the Students' Union, and a Master in Public Policy from the John F. Kennedy School of Government at Harvard University where he studied as a Kennedy Fellow.

Our Leaders

Jeff Fielding, City Manager



As the City Manager, Jeff is focused on bringing stability to the civic administration and instilling confidence and trust in the municipal workforce. He oversees all City departments and works closely with the Mayor and Council on matters of importance to the citizens of Calgary.

Jeff attended the University of Waterloo where he received graduate and undergraduate degrees in urban geography and urban planning. Following this, Jeff started his career as a planner with the Region of Waterloo in 1979. Since then, he has held various planning and managerial positions in governments across the country, including the Peace River Region, Edmonton Metropolitan Region, City of Winnipeg, and The City of Calgary.

Jeff served as the Chief Administrative Officer for the City of Kitchener before becoming City Manager with the City of London; a role which he held for nearly eight years. In London, he led a team that successfully built a sustainable and fiscally responsible public service business, and was recognized for his role in establishing a strong, supportive workplace culture. Prior to rejoining the City of Calgary as City Manager in 2014, Jeff was City Manager for Burlington.

Jeff's leadership philosophy is simple: individual responsibility and collective accountability. He believes that no one ever fails or succeeds on their own, and feels this is especially true in the public service. Jeff maintains that every City of Calgary employee has a role to play in ensuring quality services are delivered to citizens and businesses within the community on a daily basis.

Our Leaders

Brad Stevens, Chief Resilience Officer



Brad Stevens began his career with The City of Calgary in 1992 as an articling student to the City Solicitor after graduating from Law School at the University of Calgary. In 2004, Brad returned to the University of Calgary to complete his MBA while working for The City.

Brad has held various management and leadership positions within The City of Calgary throughout his career. He has been involved in operations throughout the organization and is currently serving as Deputy City Manager and Chief Resilience Officer. In this role, Brad is responsible for providing oversight and strategy development for the integrated management of The Corporation's assets, including direct management and oversight for Facility Management, Fleet Services, Corporate Analytics and Innovation and the Real Estate and Development Services business units. Additionally, he has oversight of the Supply, Intergovernmental and Corporate Strategy divisions, as well as Resilience and Infrastructure Calgary.

Brad carries a long held understanding of the interconnectedness and collaboration required to support a resilient municipal organization, one that in turn is able to serve a resilient community. Brad firmly believes that the 100 Resilient Cities membership will significantly strengthen current work being done by The City of Calgary, and the Calgary community, to prepare for and recover from the shocks and stresses we collectively face.



What is a Preliminary Resilience Assessment?

This **Preliminary Resilience Assessment (PRA)** describes the city profile, the main stresses and shocks in Calgary, perceptions of stakeholders and the public, and the inventory of actions already in place. The information was drawn from surveys, individual meetings, and workshops with diverse stakeholders. These results led to the identification of four recommended discovery areas with one cross cutting theme that will serve as the basis for Calgary's resilience strategy.

The PRA is a living document that summarizes the method and principal results of the activities carried out by the resilience team to date. It supports Calgary's initiative to dive deeper into its discovery areas and to develop creative, bold and innovative initiatives during Phase 2.

Stresses: weakens the fabric of a city on a daily or cyclical bases. Examples include high unemployment, an overtaxed or inefficient public transportation system, and chronic food and water shortages.

Shocks: sudden, sharp events that threaten a city. Examples include earthquakes, floods, disease outbreaks, and terrorist attacks.

URBAN RESILIENCE

is the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.



Developing the Preliminary Resilience Assessment

Calgary used the 100 Resilient Cities process to prepare this Preliminary Resilience Assessment. The tools used include:

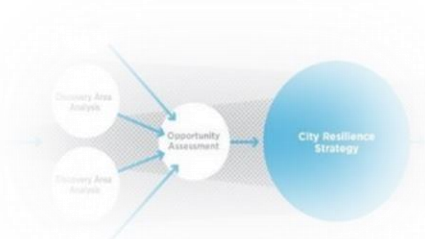
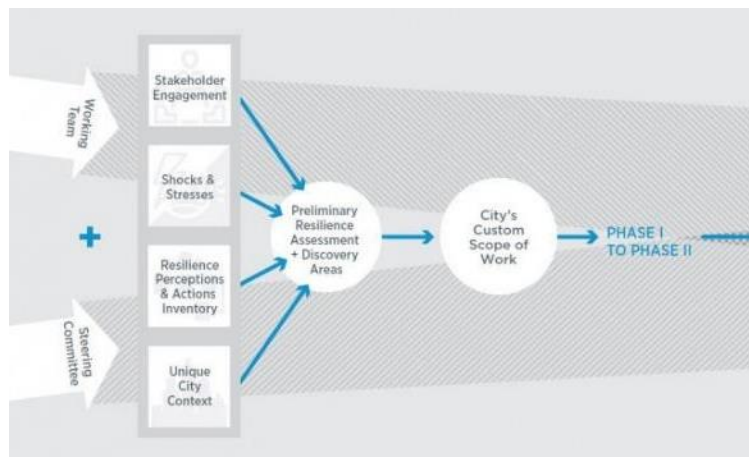
- City Context
- Compilation of major shocks, stresses, and external forces or 'city trends'
- 100RC Assets and Risk Assessment Tool
- 100RC Perceptions Assessment
- 100RC City Actions Inventory

These processes provided a robust basis for identifying priority stresses and shocks, stakeholder perceptions of resilience, and an overview of actions already improving resilience within Calgary.

Results of these are documented in this Preliminary Resilience Assessment. The Discovery Areas are identified for further investigation in Phase 2.

Our Approach

Completed Phases 1A, B, C to prepare and understand the resilience issues in Calgary. The end result of this phase is the initial Preliminary Resilience Assessment and Discovery Areas that are to be explored further.



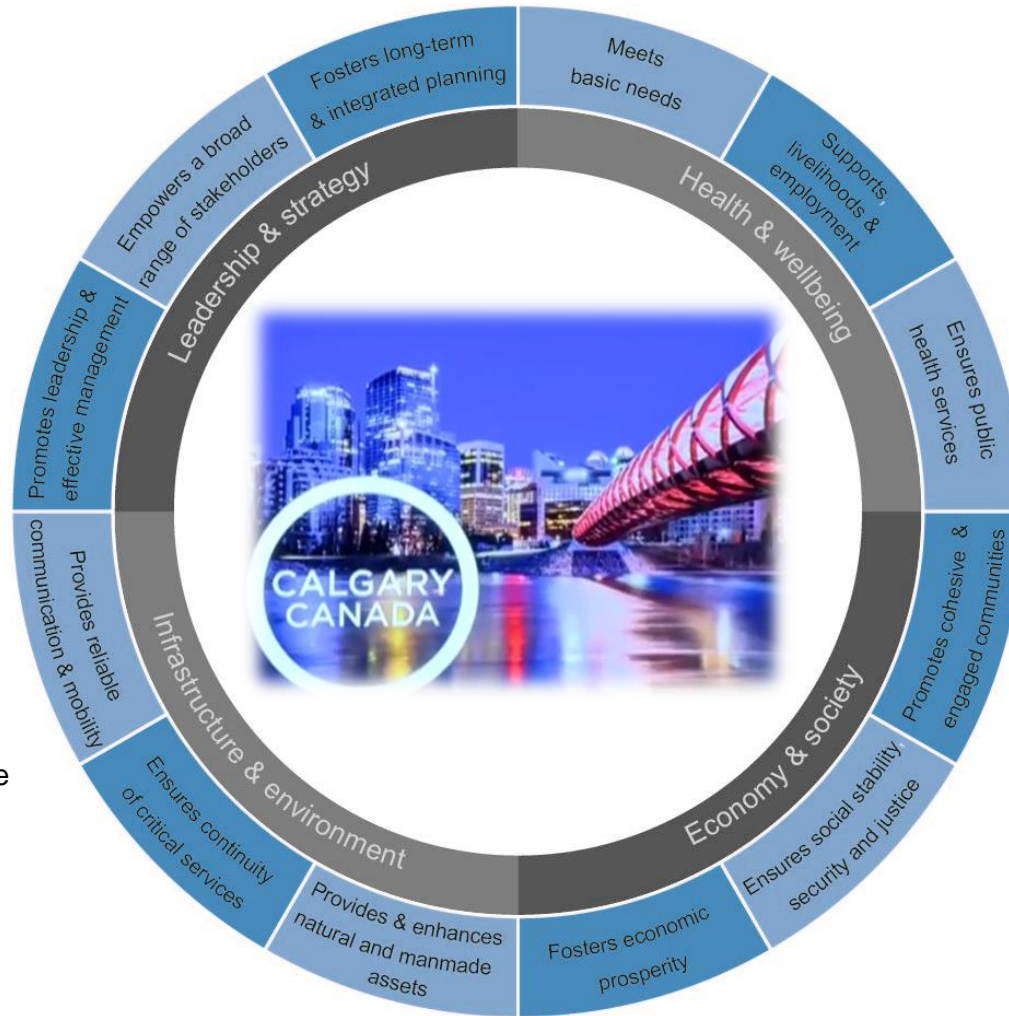


Leadership & Strategy

Effective leadership, empowered stakeholders, and integrated planning.

Infrastructure & Environment

The way in which man-made and natural infrastructure provide critical services and protects urban residents.

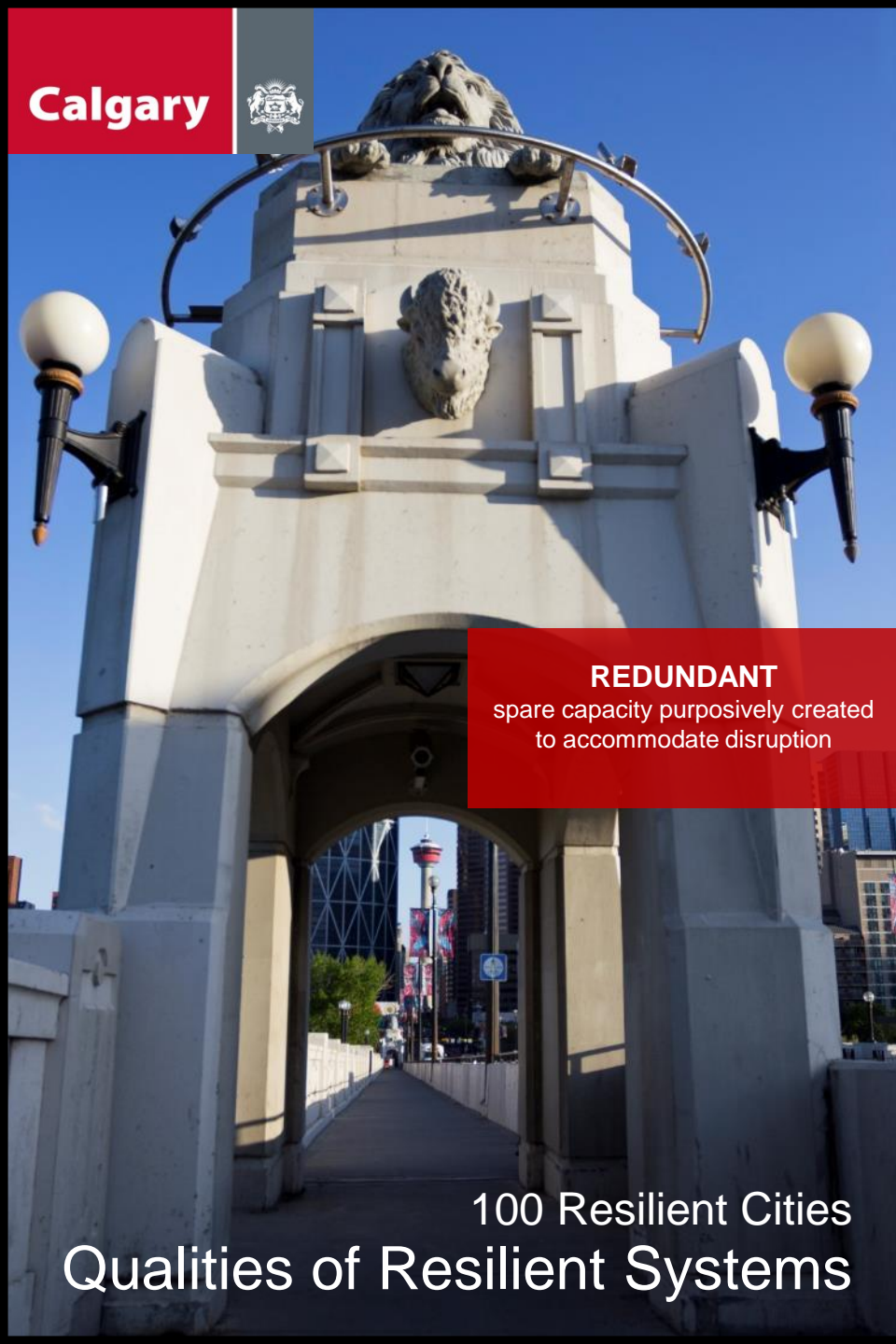


Health & Wellbeing

The health and wellbeing of everyone living and working in the city.

Economy & Society

The social and financial systems that enable urban populations to live peacefully, and act collectively.



REFLECTIVE

using past experience to inform future decisions

RESOURCEFUL

recognizing alternative ways to use resources

REDUNDANT

spare capacity purposively created to accommodate disruption

ROBUST

well-conceived, constructed, and managed systems

FLEXIBLE

willingness and ability to adopt alternative strategies in response to changing circumstances

INCLUSIVE

prioritize broad consultation to create a sense of shared ownership in decision making

INTEGRATED

bring together a range of distinct systems and institutions



CALGARY CONTEXT

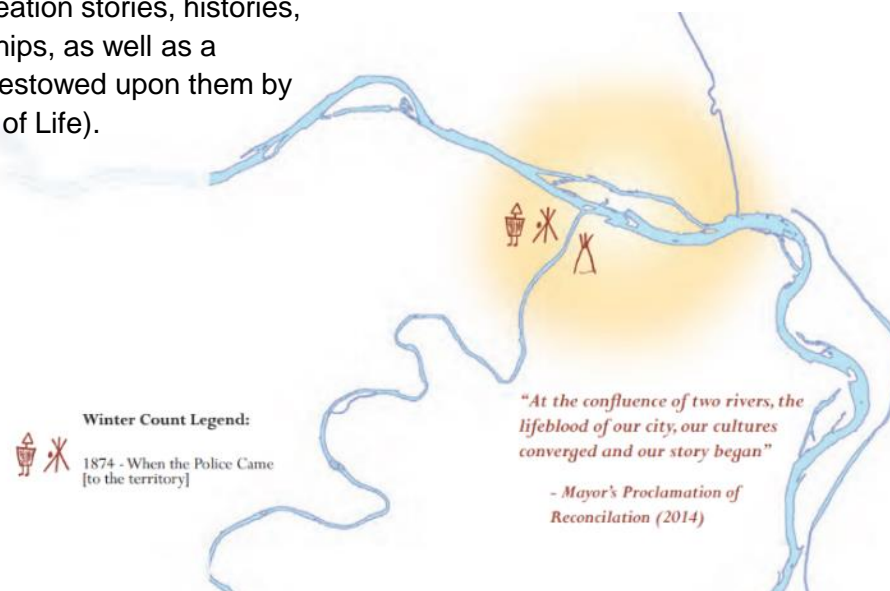


Moh'Kinsstis

Moh'kinsstis is a Blackfoot word used to describe the landscape of what is now known as Calgary. The literal meaning of Moh'kinsstis is elbow and refers to the area where the Elbow River meets the Bow River.

Moh'kinsstis was a gathering place for the Niitsitapi (the Blackfoot people) since time immemorial. The Niitsitapi evolved into four nations consisting of the Piikani, Siksika, and Kainai Nations, who are currently located in Southern Alberta, and the Amsskapipiikunni or Blackfeet, who are currently located in Montana and were once part of the larger group of the Piikani Nation. The Niitsitapi maintain a strong alliance known as the Siksikaitsitapi (Blackfoot Confederacy) and share common creation stories, histories, language, culture, customs and kinships, as well as a sacred traditional territory that was bestowed upon them by Is tsi pa ta piyopi (Creator or Source of Life).

Is tsi pa ta piyopi marked the territory of the Niitsitapi by significant landmarks which are found within the vast area that borders the North Saskatchewan River to the north, the Great Sand Hills (Cypress Hills) to the east, the Yellowstone River to the south, and the Continental Divide (Rocky Mountains) to the west. Upon their traditional territory, Is tsi pa ta piyopi instructed the Niitsitapi to co-exist with all parts of creation, including the sacred land, environment and all other living beings. Is tsi pa ta piyopi's teachings are captured, preserved and expressed in the creation stories of the Niitsitapi, including creation stories that encompass the area known as Moh'kinsstis.





Interesting Facts About Calgary

Overview

- Calgary is named after Calgary Bay on the Isle of Mull, Scotland. It was originally thought to mean 'clear running water' but has since been defined as 'bay farm'
- Calgary sits in the sunny eastern foothills of Canada's Rocky Mountains
- 4th largest city in Canada
- Calgary is 848 square kilometres in size
- Sits at an elevation of 1,048 metres above sea level
- Calgary is among the top 5 most livable cities on earth
- Calgary has more volunteers per capita than any other city in the world

Cost of Living

- More affordable to live in Calgary than in many large North American cities
- Provincial tax, personal income taxes and inheritance taxes in Alberta are among the lowest in the country
- Albertans' provincial health care insurance is free
- No sales tax

Weather Facts

- Summer Temperature (June – August)
Daily Average: 15.2C
Daily Maximum: 21.9C
- Winter Temperature (December – February)
Daily average: -7.5C
Daily maximum: -1.4C
- Precipitation
Rainfall per year is 321mm
Snowfall per year is 127cm
- The sun shines an average of 2,300 hours every year making Calgary the sunniest major city in Canada
- The warm wind of Calgary (chinooks) can raise the temperatures from a low of 5 degrees centigrade to highs of 15 degrees centigrade in a matter of hours
- Calgary weather is definitely unpredictable



Snapshot of Calgary's History

2009-2013

The City undertakes concerted effort to manage density – a shift from previous growth budgets

2010

Calgary elects 38 year old Naheed Nenshi as Mayor – first Muslim mayor in a major North American city



1933

The Glenmore Reservoir is completed. It controls the downstream flow of the Elbow River allowing the city to develop property near the river's banks with less risk of flooding

1947

Leduc No.1 sparks oil boom in Alberta

1917

Annie Gale is elected the first woman in the British Empire to serve on municipal council



1929,1932

Bow & Elbow rivers flood due to heavy rain, damaging the Calgary Zoo 1320 & 1520 m³/s



Pre-Treaty

The Blackfoot Confederacy (Siksika, Kainai and Piikani) and Métis peoples populated the foothills and plains surrounding Calgary

Arrival of the Tsuut'ina Nation

North West Mounted Police establish a fort at confluence of the Bow and Elbow Rivers

1877

Making of Treaty 7

1883

CP Rail Reaches Calgary; in 1996 it moves its headquarters to the city

1894

Calgary officially incorporated as The City of Calgary

1884

Calgary officially incorporated as Town of Calgary; George Murdoch elected Mayor

1915

Bow River flood washes away Centre St. Bridge 1130m³/s

1912

Guy Weadick brings Stampede to Calgary

1988

With great community volunteerism, Calgary hosts the Winter Olympics

1982

The Charter of Rights and Freedoms is signed into the Constitution

1981

Global oil prices collapse leading to high unemployment and bankruptcy

2009

Oil price and economic boom sees Calgary population hit 1.1 million people

2005

Heavy rainfall and associated flooding resulted in CAD 300 million in insured damages in southern Alberta

2016

Calgary admitted 21,430 permanent residents

2015

Left leaning New Democrats and Rachel Notley are elected to form a majority government following 44 years of Progressive Conservative leadership

2014

Dropping oil prices leads to a provincial recession

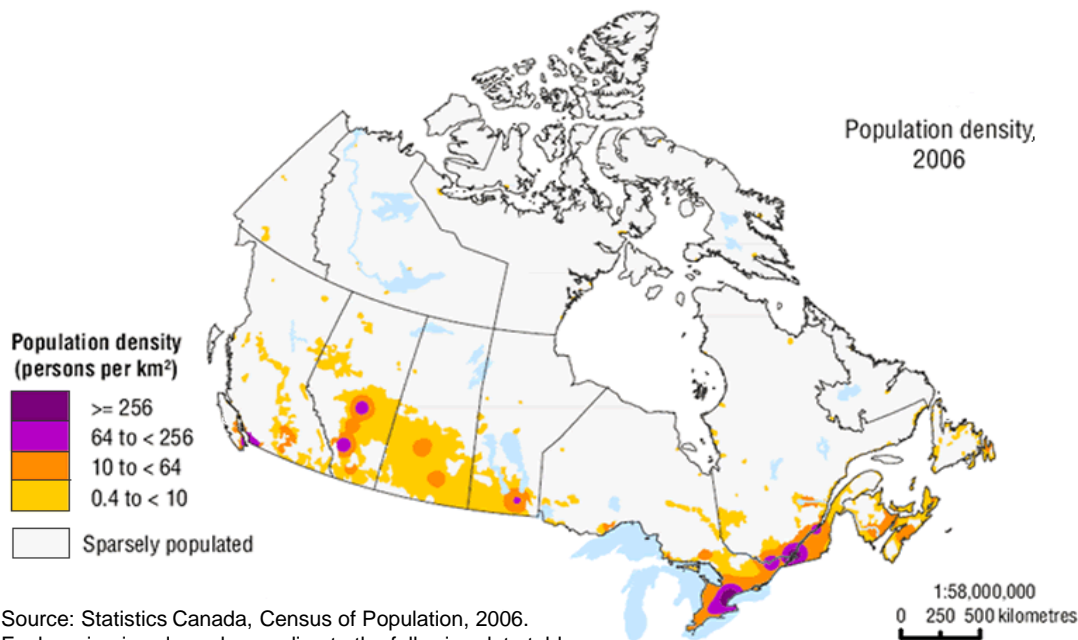
June 20, 2013

26 Calgary communities were evacuated as both the Bow and Elbow breach their banks



Population Density

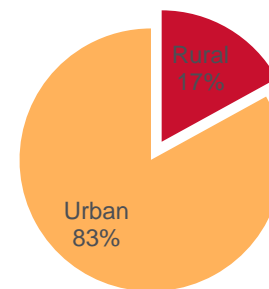
In Canada, most people live in densely populated cities. This is the same in Alberta, where most residents live in cities. The Calgary and Edmonton metropolitan areas make up 67% of the provincial population.



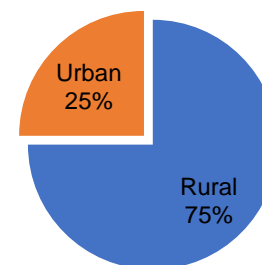
Source: Statistics Canada, Census of Population, 2006.
Each region is coloured according to the following data table:

Population density	Group	Colour
Greater than or equal to 256 people per km ²	1	Dark purple
Greater than or equal to 64 but less than 256 people per km ²	2	Light purple
Greater than or equal to 10 but less than 64 people per km ²	3	Orange
Greater than or equal to 0.4 but less than 10 people per km ²	4	Yellow

% Urban vs. Rural Population Alberta - 2011



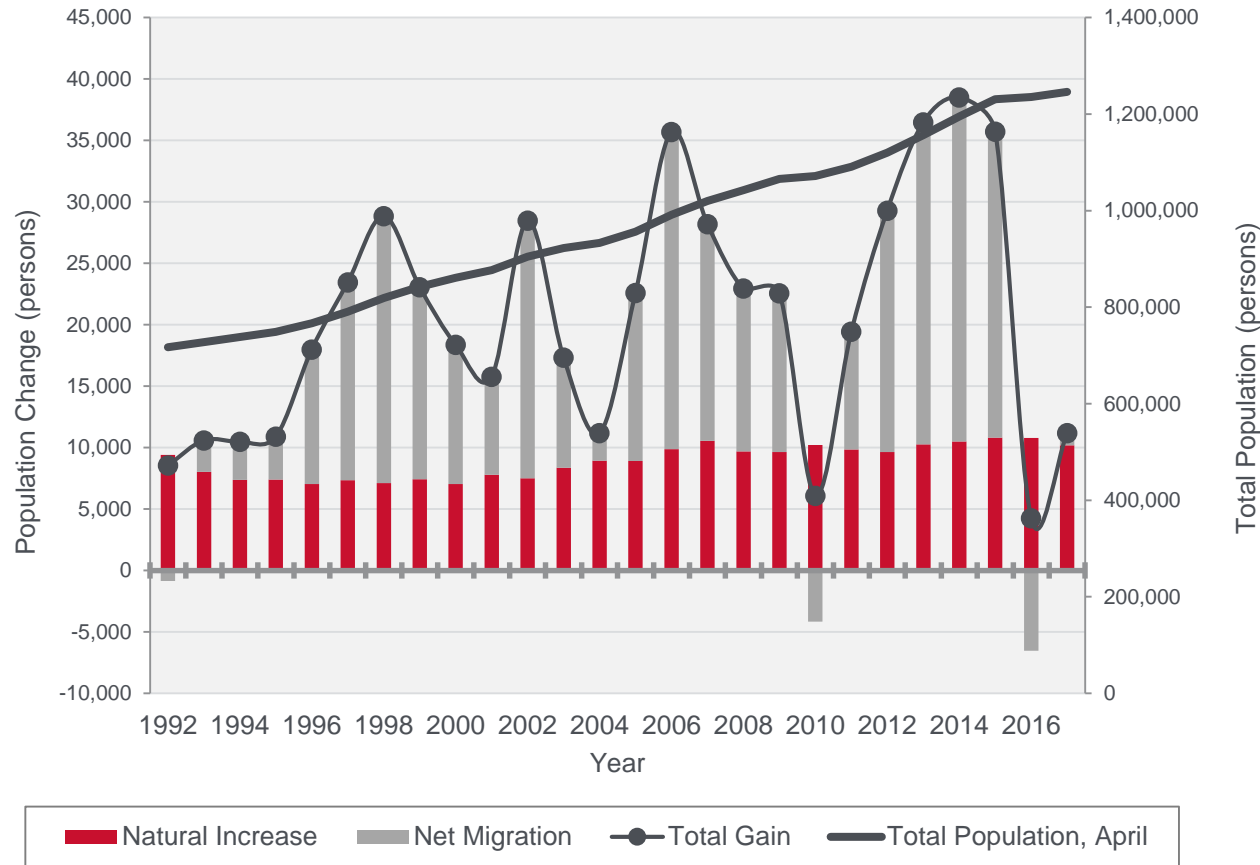
% Urban vs. Rural Population Alberta - 1901





Population Growth

Historic Population Growth in Calgary, Total and by Component



- Calgary’s municipal population has been increasing steadily since 1984, with our current population 1,246,337 (based on Calgary Civic Census)
- Net migration (the number of people moving to Calgary less the number of people who leave) changes as the economy improves and declines
- Calgary saw its highest growth in 2013-2015 with significant declines in growth in 1992, 2010, and 2016
- The decline in growth in 2016 was considerably more significant than previously experienced in 2010, with net migration for the following year much weaker than experienced after 2010



In Calgary, Culture Matters

Calgary's cultural identity is evolving. For many years, Calgary's primary shared culture was based on a foundation of agriculture and ranching. With an increasingly diverse and young population living in our city, new forms of cultural expression are emerging. This has resulted in our cultural makeup becoming more varied, cosmopolitan and inclusive.

This zest for a rich and diverse cultural life can be seen through a variety of community events in our City. The record number of Jane's Walks, Neighbour Day celebrations, crowded neighbourhood night markets, a plethora of Stampede events along with a variety of successful film and theatre festivals and an increasing presence and acknowledgment of Indigenous history and cultural expression are all examples of this diverse culture.

The Year of Music, the successful hosting of the Juno Awards, the 10th anniversary of Sled Island Festival, the opening of Festival Hall and the community instigation of the Music Mile are also examples of an increasingly varied cultural make-up of Calgary.

The hunger for storytelling and city-shaping in sold out series such as d.talks, RedxTalks, and PechaKucha; the thriving culinary, design, architecture and digital media scenes; community-based maker spaces; and the opening of the King Edward School Arts Incubator all speak to innovation, energy and cultural depth.

Philanthropists and corporate donors have shown their commitment through investing in major cultural infrastructure, such as the Glenbow Museum, National Music Centre, Decidedly Jazz Dance Centre, Nickle Galleries, and the Taylor Centre for the Performing Arts as well as neighbourhood-based grant programs and free public programs at the Esker Foundation Contemporary Art Gallery.

The significance of creative industries in our city is seen through film and television production and the opening of the Calgary Film Centre; the growing number and size of art and design fabricators; the largest comic festival in Canada for the cosplay crowd; a significant and growing design, architecture and digital media scene; and made-in-Calgary commercial/craft events such as Market Collective.

Calgary has the building blocks needed for our residents to enjoy rich cultural lives. Calgary's cultural organizations and creative individuals produce award winning original work and there is a variety of cultural institutions that rank as some of the best in the nation. On any given weekend in the summer there are thousands of people enjoying the many ethno-cultural, arts and neighbourhood festivals, and a multitude of outdoor and recreation activities. Calgary has developed a variety of plans and strategies intended to support investment in the city's cultural resources including Calgary Arts Development Authority's Living a Creative Life, Calgary Economic Development's Building on Our Energy: An Economic Development Strategy for Calgary and numerous City initiatives and policies such as the Calgary Civic Arts Policy, Public Art Policy, Festival and Event Policy, Calgary Heritage Strategy, the Cultural Landscape Policy and the newly endorsed Civic District Public Realm Strategy.



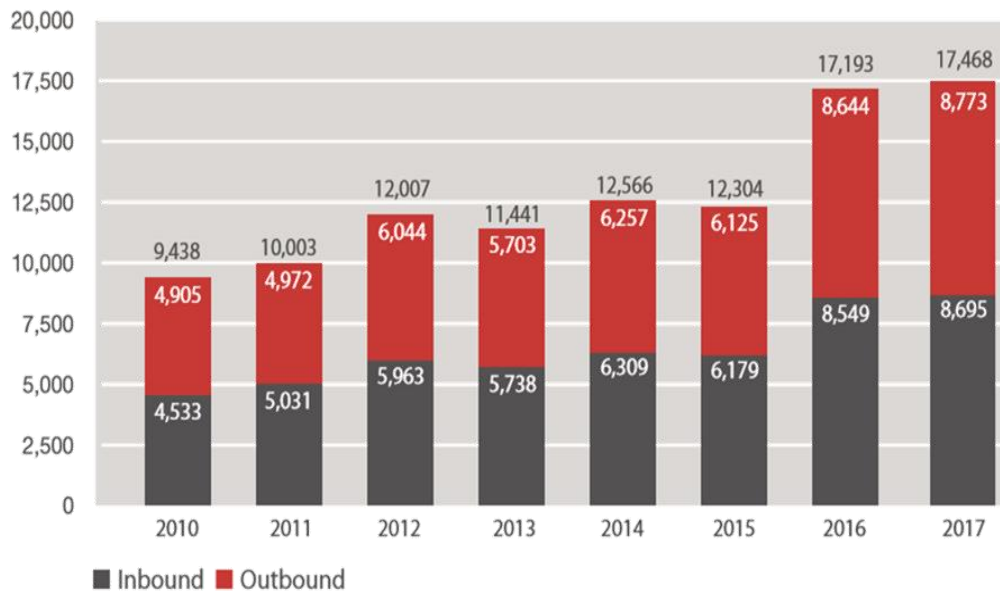
Infrastructure & Environment - A City That Moves

Calgary is considered the best city in North America in which to drive according to a large global survey done by a German firm, kfzteile24. Calgary scored especially well as the third-least congested city out of 100 cities on an international list.

According to The City's 2017 cordon count, more Calgarians choose private vehicles over transit as their main mode of commuting in the morning: 46% of commuters took transit; 46.2% arrived in vehicles; 12.7% carpooled; 33.5% drove solo.

14.5% of Calgary's population live within 400m of a primary transit network.

Modes	AM Peak (07:15-08:15)		PM Peak (16:15-17:15)		16 Hour (06:00-22:00)	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Auto	46.2%	60.2%	53.4%	44.1%	56.2%	56.6%
Transit	40.6%	26.8%	32.7%	42.2%	30.2%	29.6%
Pedestrian	9.4%	10.9%	11.6%	9.8%	11.0%	11.2%
Bicycle	3.8%	2.1%	2.3%	3.9%	2.7%	2.7%
Total	46,000	16,000	24,000	50,000	327,000	328,000



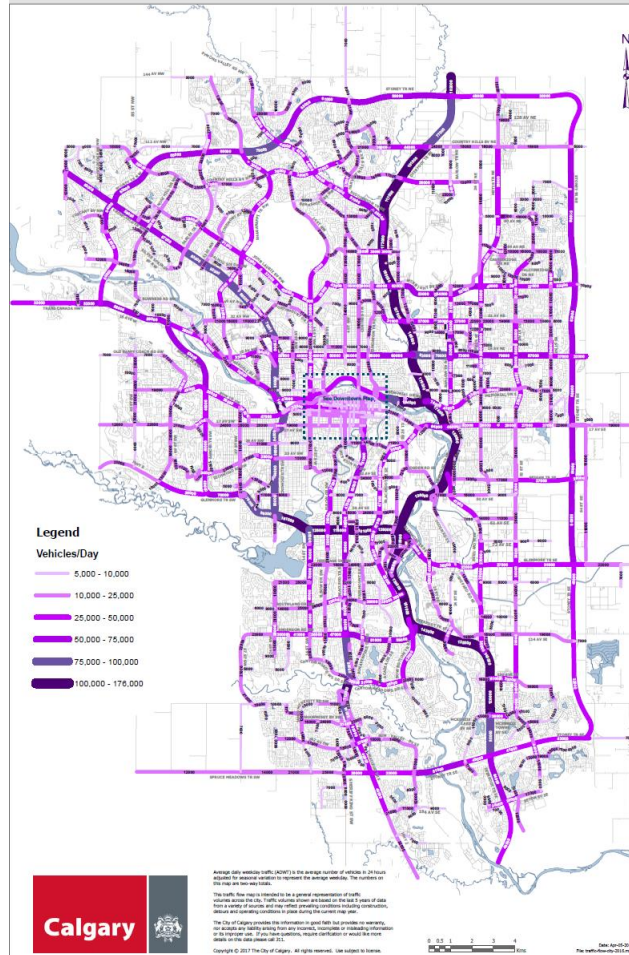
This table displays the proportion of persons entering and exiting the central business district by automobile, transit, walking and cycling. Data was collected in May 2017 and excludes persons travelling via truck and motorcycle. Totals are rounded to the nearest 1,000.

The City has a vision to become a bicycle-friendly community that will encourage more people to ride their bikes. To achieve this vision, in 2011, Council approved and funded the Cycling Strategy which was guided by policies in the Calgary Transportation Plan (2009). Since this time, there has been a marked increase in people utilizing bikes for transportation.



Transportation Corridors

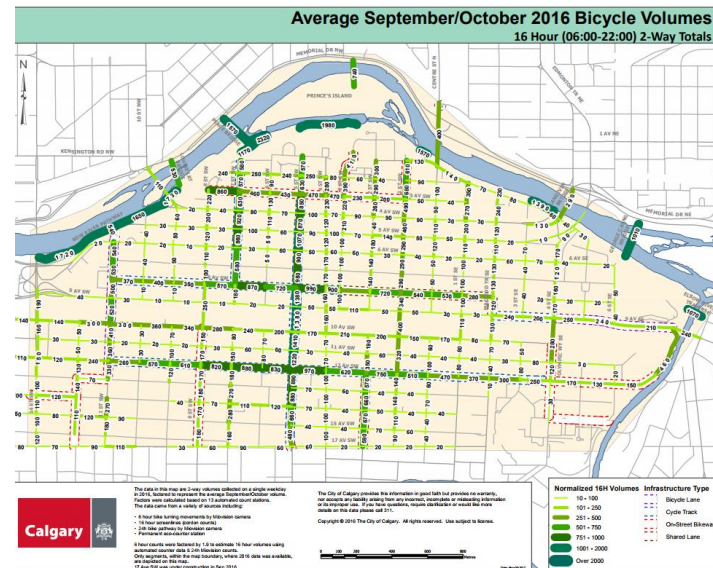
The City of Calgary 2016 Average Daily (24hr) Weekday Traffic Volume



Although Calgarians lament traffic congestion, for a large car orientated city, Calgary enjoys some of the lowest commute times when compared to other large Canadian cities (2017, Stats Canada). 68% of Calgarians drive to work with only 14.4% taking transit, 4.7% walking and 1.5% cycling. Reasonable access to transit and affordable live/work scenarios are key contributors to the number of people using public transit, cycling or walking to work.

The City of Calgary monitors cyclists, pedestrians and mobility scooter users at 90 locations across the city. This data is used to evaluate and plan non-motorized connectivity.

- 25% of all cyclists counted were female, up from 21% in 2013
- 80% of cyclists wore helmets, down from 86% in 2013
- 3% of cyclists were under the age of 18, up from 2% in 2013
- 75,927 pedestrians and 34 wheelchair and mobility scooter users were counted





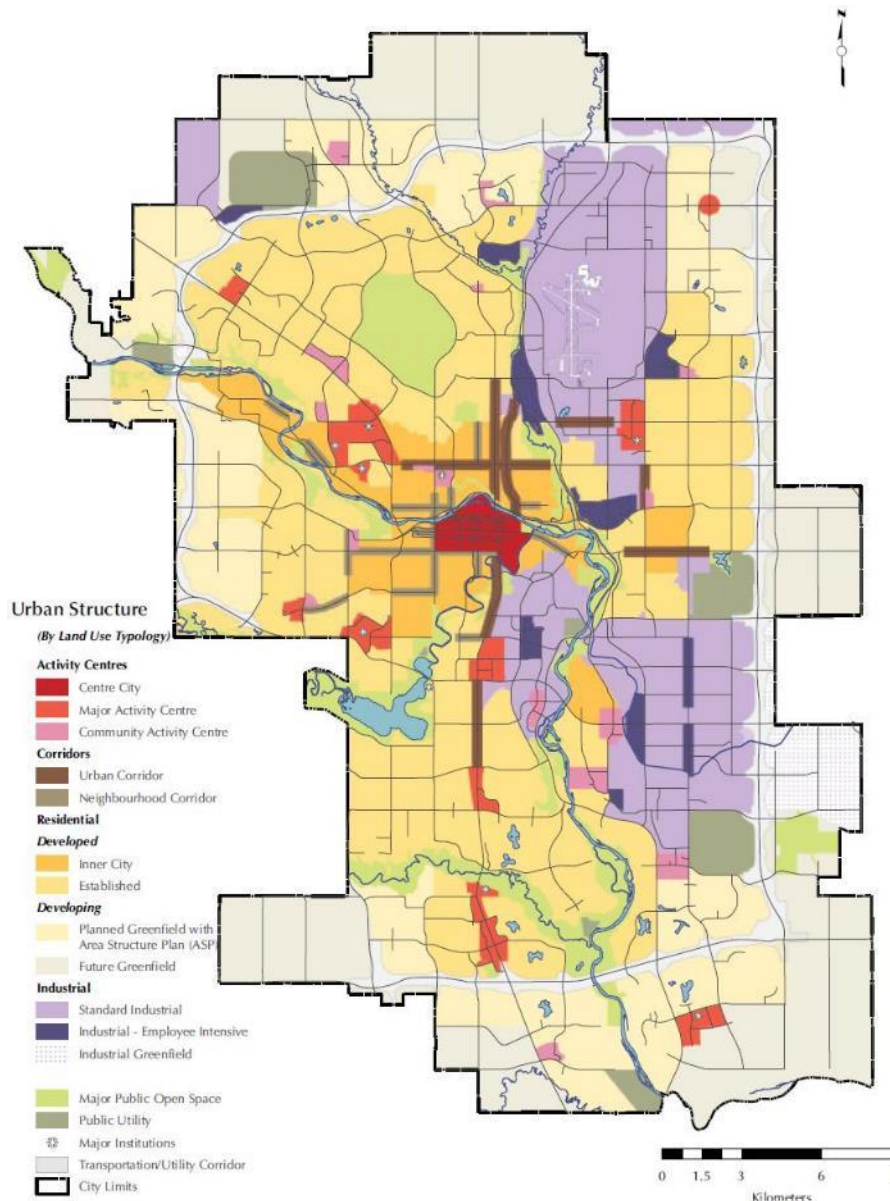
Land Use

Downtown Calgary continues to be the major activity centre in the city employing approximately 140,000 people. Historical industrial areas in the southeast that were developed along the CPR rail line in the early 1900's continue to be the predominate land use today.

In the northeast, the Calgary Airport Authority has impacted land use where supporting industry has been established, particularly those related to warehousing and logistics. Lower taxes, less restrictive land use policy and lower property values have also encouraged industry development in the adjacent Rocky View Municipal District. This is exceedingly evident to the north of the city.

There has been an increasing effort to develop major activity centres outside of the downtown core. Strengthening Transit Orientated Development continues to be the preferred position when locating these centres.

The effort to increase activity centres outside of the core has impacted the downtown office space vacancy rate negatively. For example, in 2016, Imperial Oil completed the transition of over 3,000 employees from downtown to Quarry Park which is located along a future LRT line in south central Calgary.





Calgary Housing

Homeownership is more common in Calgary

Homeownership rates vary across Canada's urban centres. In Toronto, the homeownership rate is near the national average of 66.5%. Calgary has a homeownership rate of 73.0%, well above the national average. Vancouver was slightly lower at 63.7%, and Montreal much lower at 55.7%. Within Calgary, 10.3% of renters live in subsidized housing.

The majority of occupied private dwellings in Canada in 2016 were single-detached houses. This same year, single-detached houses represented approximately half (53.6%) of all dwelling types in Calgary. Single-detached houses represent a much smaller market in Toronto (39.6%), Montreal (32.7%) and Vancouver (29.4%). The demand for detached houses in Calgary isn't limited to the suburbs, as the inner city is seeing higher density detached housing being developed.

Dwelling values are more affordable in Calgary

In May 2016, Vancouver homeowners reported the average estimated value of their dwellings to be \$1,005,920. This compared with Toronto at \$734,924, Calgary at \$527,246, and Montreal at \$366,974. Canada-wide, the average value in 2016 was \$443,058.

Prices have decreased in Calgary over the last couple of years. According to the Calgary Real Estate Board, the benchmark resale price on single-family homes in Calgary in 2016 was \$505,166, down 3% from \$521,958 in 2015.

Rental rates are affordable, but rising faster than incomes

In the last 10 years, median household income in Calgary grew by 22% while the average rent for a 2 bedroom apartment grew by 56% (average rent for 2 bedroom apartment went from \$852 in 2006 to \$1,329 in 2015).



73%
home
ownership



Calgary Housing

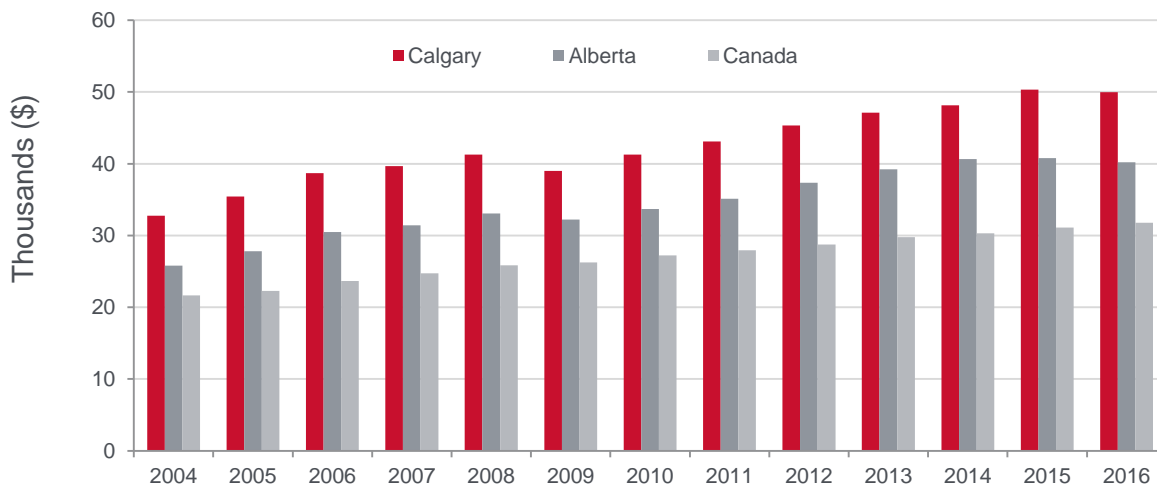
Calgary's Shelter Costs are Favourable Compared to Toronto and Vancouver

The ability to afford monthly shelter costs is important to ensure people have stable housing. In 1986, the Canada Mortgage and Housing Corporation (CMHC) and the province agreed to assess housing affordability against a threshold based of whether the household spent 30% or more of its average monthly total income on shelter costs. For this purpose, shelter costs include mortgage payments, rent, the cost of electricity, heat, water and other municipal services, property taxes, and condominiums fees.

Canada-wide, the proportion of households with monthly shelter costs considered unaffordable has remained virtually unchanged over ten years (24.1% in 2016 compared with 24.4% in 2006). Among census metropolitan areas in 2016, Toronto (33.4%) and Vancouver (32.0%) had the highest proportion of households that paid 30% or more of their total income on shelter costs. Montreal (24.6%) was close to the national average. Calgary has the lowest proportion of households living in dwellings where shelter costs are considered unaffordable (21.9%).

In Calgary, the average monthly shelter cost is higher for owners than renters. On average, owners in Calgary spent \$1,612 a month on shelter as compared to renters who spent \$1,354. In Canada overall, owners spent \$1,313 on average per month for shelter, while renters spent \$1,002.

Personal Disposable Income per Capita



Disposable Income and Housing

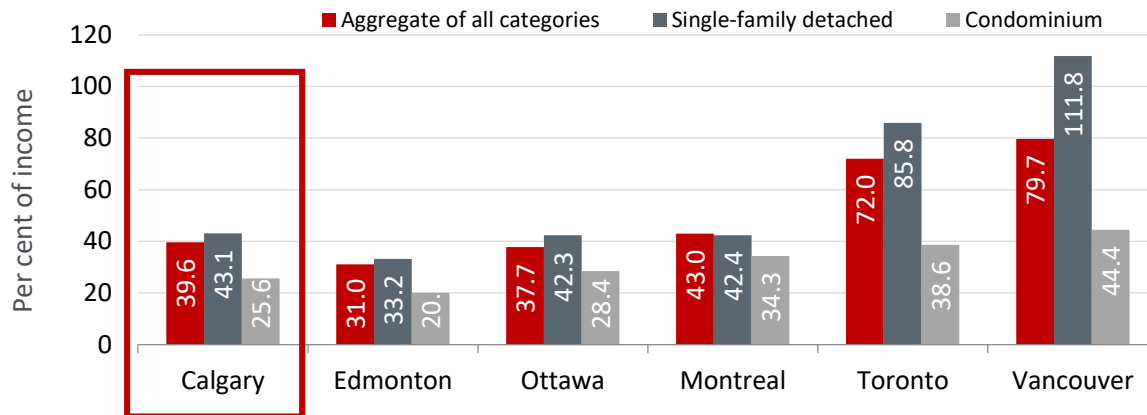
Calgarians have more disposable income per capita than those living in Alberta and across Canada – this can be attributed to Calgary having a greater number of jobs in industries that pay higher wages.

Source: Conference Board of Canada; Corporate Economics



Calgary Housing

Housing Affordability: Housing Costs as a Per cent of Income



Source: RBC Economics. Housing Trends & Affordability, June 2017

Individuals facing housing challenges

42,425 households in the Calgary Census Metropolitan Area earn less than \$60,000 and spend more than 50% of their income on shelter costs. These households are considered to be at high risk of becoming homeless.

Nearly half of the households in the 2016 Census residing in subsidized housing in the Calgary Census Metropolitan Area are spending more than 30% of their income on shelter, despite living in subsidized housing.

For those just above the poverty line, there is some reprieve, as the rental market in Calgary continues to favor tenants. In 2016, the vacancy rate hit 6.9%, a level not seen in Calgary since the inception of the National Energy Program of 1982-84, which largely impacted oil & gas workers in Calgary. The apartment/high rise condo market has faltered recently and the apartment vacancy rate is now at 9.6% and is expected to continue to favor tenants for at least 5 more years. Year-over-year, Calgary has also seen a drop in new home construction; in August 2016 there were 9,508 new homes under construction compared to 12,998 homes in the year before.

Disposable Income and Housing

- The Royal Bank Housing Affordability Index compares housing costs relative to the total amount needed to pay for a mortgage, utilities and property tax. It then compares these numbers to average household incomes. The higher the number, the more difficult it is to afford a house
- Based on the average price of a single-family detached home, it takes 43.1% of a Calgarian's household income to pay for the mortgage, utilities and property taxes every month
- When compared to Vancouver or Toronto, Calgary has better housing affordability



Calgary Housing

Non-Market Housing

In 2015, there were 16,702 non-market housing units identified in Calgary, compared to 12,483 units in 2011. Currently, 80% of all affordable housing units are over 25 years old and more than half of Calgary’s residential communities have no affordable housing. The true net gain of non-market housing units, less demolished units that have reached the end of their lifespan and conversions into other uses, is about 308 units per year on average. Calgary’s overall proportion of non-market housing is 3.6%, while the national average across Canada is 6%.

Homelessness

The Calgary Homeless Foundation counted 3,222 as experiencing homelessness in 2016:

2016 HOMELESSNESS IN CALGARY:



8,000

Housed with support



26%

*Decrease in homelessness
(Per 100,000 Pop.)*



3,222

Counted as homeless



15,600

In extreme housing need



Snapshot of Calgary's Demographics



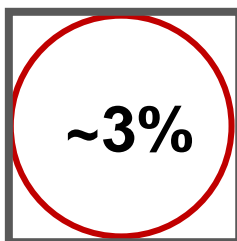
1,239,220
Population of Calgary city (2016)

*Low-income measure after tax (LIM-AT)

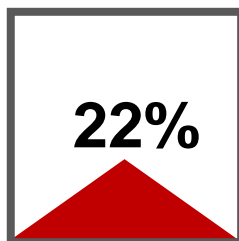


Understanding Calgary's Urban Indigenous Communities

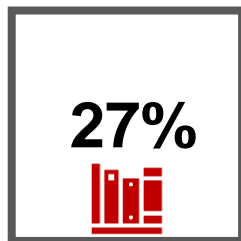
Urban Indigenous peoples represent one of the fastest growing segments of urban populations in Canada, with Calgary having the third largest urban Indigenous population in our country. Indigenous peoples have diverse identities, histories, languages, cultures, perspectives, assets and lived experiences. It is important to note that identities and terminology associated with urban Indigenous communities are complex.



About 3% of Calgarians (35,200 people) have an Aboriginal identity



Calgary's Aboriginal identity population increased by 22% between 2011 and 2016, similar to the increase of the Aboriginal identity population in Canada overall (19%)



In 2011, 27% of the Aboriginal identity population had no certificate, diploma or degree, while for Calgary's population as a whole this proportion was 15%

Calgarians with an Indigenous Identity

First Nations

44%

Métis

52%

Inuit

1%

Multiple Identities / Indigenous Identities not included elsewhere

~3%

Of all Indigenous peoples living in Calgary in 2016, the majority (52%) were Métis



30.9

Calgarians with an Aboriginal identity were younger than those with a non-Aboriginal Identity. In 2016, the average age of Aboriginal identity persons in Calgary was 30.9 years, compared to 37.4 years for the non-Aboriginal Identity population. 42% of Aboriginal identity persons in Calgary were under age 25, compared to 30% of non-Aboriginal Identity Calgarians

2015 Median Income

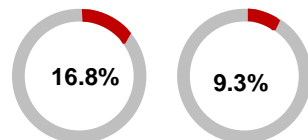
\$36,180 Aboriginal Identity Persons

\$43,908 General Population

Aboriginal identity persons in the Calgary census metropolitan area (Calgary CMA) had lower median incomes than the non-aboriginal population in 2015 (82% of the median income of non-aboriginal population)

Prevalence of Low Income

Low-income measure after tax (LIM-AT)



Aboriginal Identity persons 16.8%
Total population 9.3%

In 2016, there was a higher prevalence of low income in Aboriginal identity persons than of non-aboriginal population



Aboriginal people were overrepresented in the Calgary Homeless Foundation Point-in-Time Count Report: Winter 2014. 3,533 homeless people were identified in winter 2014; 21% of the homeless population was Aboriginal (706 individuals) – yet in 2011, only 2.7% of the Calgary population overall had an Aboriginal identity

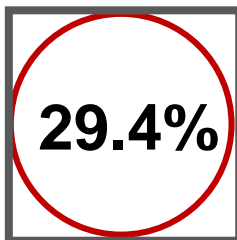
Urban Indigenous Peoples

refers to First Nations, Métis, and Inuit peoples who reside in urban areas. In Calgary, Urban Indigenous peoples may have come to the city from another traditional territory, province, or city and may also be members of a Treaty 7 First Nation and call Calgary a city within their own traditional territory, home.

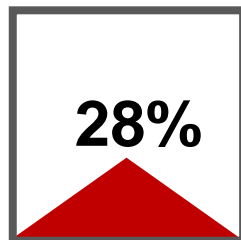


Immigration Shaping Calgary

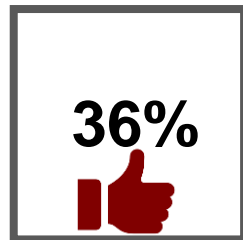
Calgary's demographics have been shaped and reshaped through migration within Canada and immigration from other countries. This change has contributed to an ever evolving cultural identity blending Calgary's western identity with a broadening range of diverse customs and traditions.



Immigrants make up 29.4% of Calgary's population



The population of immigrants grew 28% between 2011 and 2016. The population of Calgary increased by 13%



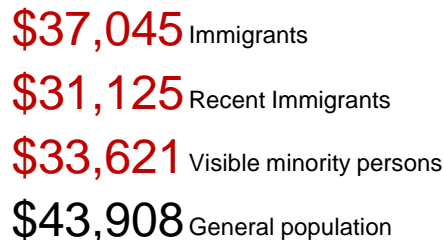
More than 1 in 3 Calgarians was a visible minority. In 2016, there were 442,585 visible minority persons in Calgary. This is a 36% increase from 2011

Top five places of birth



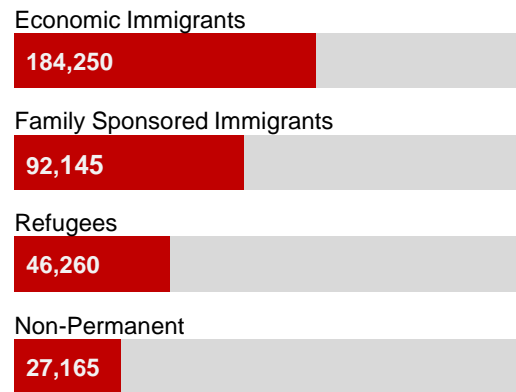
In 2016, 44% of all immigrants living in Calgary were born in one of these countries

2015 Median Income



Immigrants and visible minority persons in the Calgary census metropolitan area (Calgary CMA) had lower median incomes than the non-immigrant population in 2015

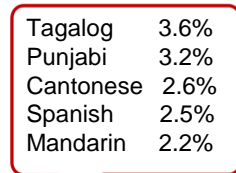
Immigrants Living in Calgary



Of all immigrants living in Calgary in 2016, the majority (57%) were admitted to Canada as economic immigrants

Most Common Languages Spoken at Home

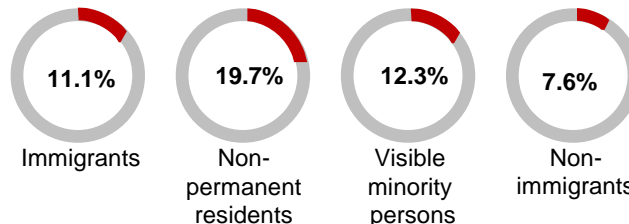
(other than English or French)



In 2011, 6% of Calgary immigrants and 2% of Calgarians overall did not have a knowledge of English or French

Prevalence of Low Income

Low-income measure after tax (LIM-AT)



In 2016, there were a higher prevalence of low-income immigrants, non-permanent residents and visible minority persons than of non-immigrants



WHY is immigration important to Calgary



Immigrants are by definition risk takers and seekers of a better way - the very embodiment of innovation



Immigrants are an important supply of talent with higher levels of education and international work experience



Immigrants provide Calgary with the opportunity to strengthen its economic and cultural ties around the world. This could yield significant economic benefits for Calgary in improving its business linkages with emerging markets



Immigrants will account for all of Calgary's population growth and labor market growth



Immigrants are not represented in Calgary's leadership or decision making roles. They cannot vote in municipal elections if they are not a Canadian Citizen. This means that immigrants can't impact policy decisions that directly affect them



The barriers to meaningful employment are:

- Non-recognition of foreign education qualifications
- Undervaluing of international work experience
- Non-inclusive hiring practices and promotion culture
- Workplace discrimination



A larger % of recent immigrants from Eastern /Western Europe and United Kingdom worked in a similar job to the one they had before coming to Canada. A much larger % of recent immigrants from Africa, Asia and the Middle East were working in jobs that were different from the jobs they had before coming to Canada



Alberta immigrants are under-employed: Almost 35% of recent immigrants found it difficult to extremely difficult to find a job that made use of their qualifications. Just over 50% were employed full time

And Yet ...



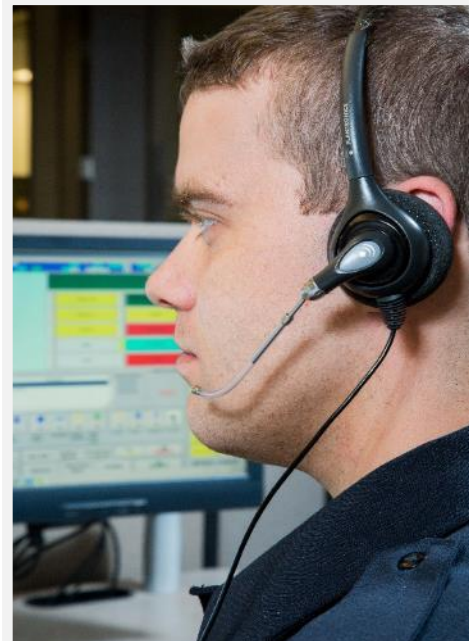
Racial Profiling

84% of racialized Calgarians reported they had personally experienced racial profiling at least once in the past 12 months. Male respondents were slightly more likely than female respondents to have encountered at least 6 racially biased incidents in a year (33% vs. 28%). Respondents reported the highest incidence of racial profiling in their interactions with the school system (37%), followed by interactions with store personnel and security (29%), employers (27%), service providers (23%), law enforcement officers (22%), airport personnel (21%), bar or night club door persons (20%) and restaurant staff (19%).



Right Wing Extremism in Calgary

There is evidence of a Right Wing Extremist (RWE) movement in Calgary. Indigenous individuals and communities are common targets, but members of lesbian, gay, bisexual, transgender, queer and two-spirited (LGBTQ²) communities are also at risk.



In 2013, the first annual White Pride March weaved through the streets of downtown Calgary. This event was Calgary's first major introduction to the Aryan Guard which quickly became the most notorious Neo-Nazi group in Canada.



Distribution of RWE Groups in Alberta

- Estimated # of groups: 12-15
- Estimated # of members per group: 10-15
- Target communities: Indigenous, Black, Jewish, Immigrant, Muslim, Asian, LGBTQ²



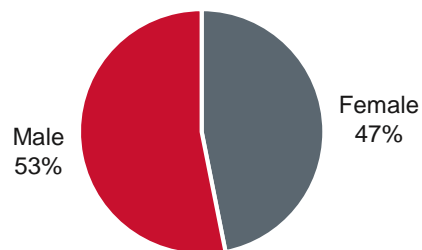
Gender

Calgary is split evenly along gender lines in its population and labour force. It is important to note that the term 'gender' is complex and was coined to indicate the differences between women and men that are not biologically rooted, but constructed socially. As with other groups, all people have multiple and diverse identity factors that intersect.



In 2016, the number of females and males in the Calgary census metropolitan area (Calgary CMA) are roughly equal.

Calgary Labour Force, 2016



2015 Median Income

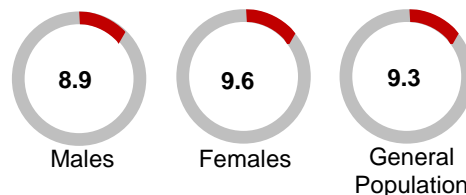
\$35,523 Females

\$52,567 Males

Females in the Calgary census metropolitan area (Calgary CMA) had lower median incomes than males in 2015 (67.6% of the median income of males)

Prevalence of Low Income

Low-income measure after tax (LIM-AT)



In 2016, there was a higher prevalence of low income for females than males

Calgary's Municipal Election, by the Numbers

- 10:** Men who ran for mayor in the 2017 election
- 0:** Women who ran for mayor in the 2017 election
- 3:** Women in the current council
- 21:** Women who ran for council in the 2017 election
- 2:** Women on the 2013-17 council
- 8:** Women who ran for council in 2013
- 4:** Racialized people in the current council
- 1:** Racialized woman in the current council
- 31:** Age of the current council's youngest member — Ward 11 Jeromy Farkas
- 387,306:** Calgaryans who voted in the 2017 election, amounting to a 58.1% voter turnout



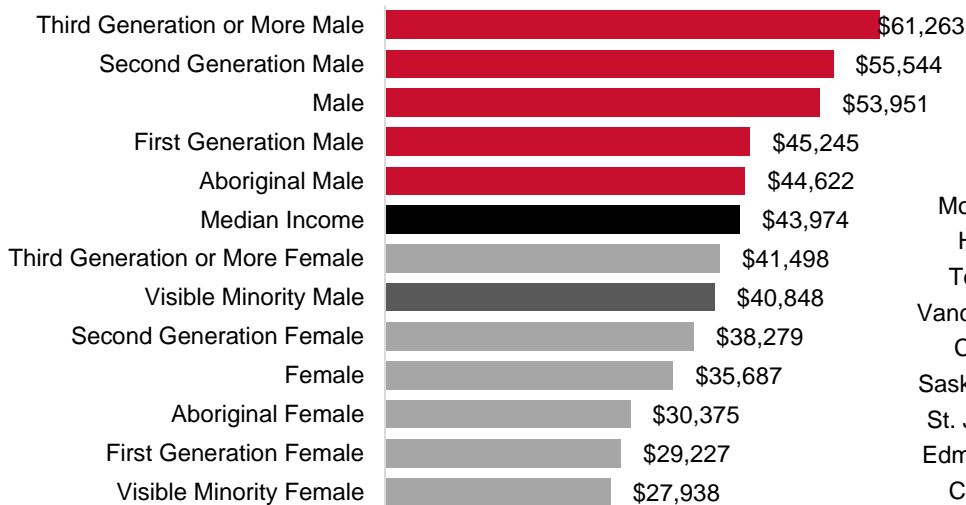
of Calgaryans worked from home. Of those working from home, 47% are male and 53% are female



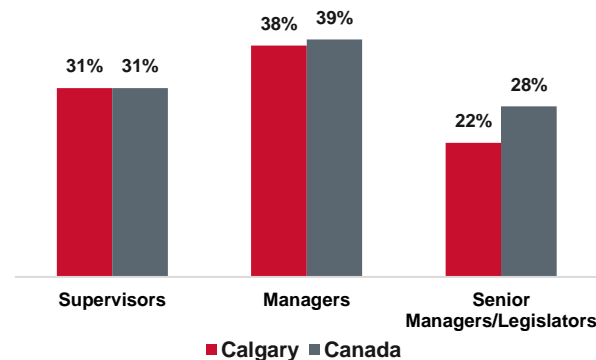
Gender Disparity in Calgary

There is a significant gap between the earnings of men and women, with visible minority, immigrant and Aboriginal women experiencing an even larger income gap. Gender inequality is also evident in positions of leadership in Calgary, with women under-represented in senior management positions in the corporate sector as well as in elected office. Based on a number of indicators, from safety to health to economic security, Calgary was recently ranked as 22 out of 25 Canadian cities in terms of its gender gap.

Median Incomes, Calgary CMA, 2015



Female Representation in Leadership Occupations 2016



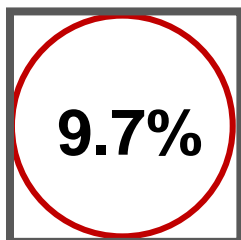
Median Income Ratios (Female/Male, Worked Full Year, Full Time, CMA, 2015)



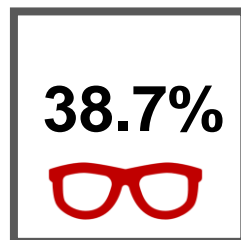


Disabilities and Seniors

People with disabilities are a highly diverse group. Isolation is a common issue faced by this group and causes for this isolation include barriers to employment, transportation challenges and discrimination.



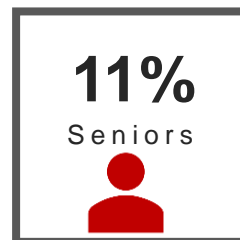
2012 disability prevalence in Calgary



Percent of persons in Calgary with disabilities classified as having severe or very severe disabilities, 2012



Number of Calgary persons with disabilities aged 15 and over, 2012



Percent of persons in Calgary aged 65 years and older, 2016

Most Common Types of Disability

Pain
Mobility
Flexibility

2012 Total Income Under \$40,000

70.8% Adults with Disabilities

52.6% Total Alberta Population

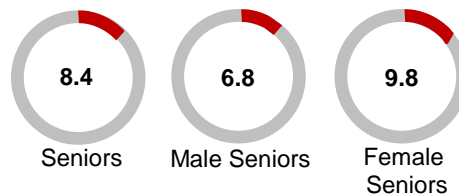
In 2012, the majority of adults with disabilities in Alberta (70.8%) had a total income under \$40,000. In contrast, the incomes of the total Alberta population were more evenly distributed, with just over half (52.6%) having incomes under \$40,000. While a smaller proportion of adults with disabilities had no income versus the total population of adults in Alberta (3.0% and 4.4%, respectively), adults with disabilities tended to have lower incomes over all



In 2012, a smaller percentage of persons with disabilities were in the labour force as compared to persons without disabilities in the **Alberta** population (64.0% versus 81.8%). Unemployment was somewhat higher amongst people with disabilities, at 7.4%, compared to 5.8% for the Alberta population overall

Prevalence of Low Income in Seniors

Low-income measure after tax (LIM-AT)



In 2016, there was a higher prevalence of low income for female seniors than male seniors

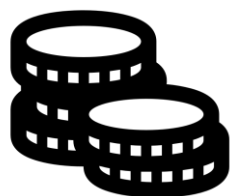


Issues / Challenges Faced by People with Disabilities (PWD)

Research has shown that people with disabilities (PWD) are more likely than people without disabilities to experience social exclusion and discrimination resulting in unequal access to social, cultural, political, and economic resources. Access and transition to employment is key for people with disabilities. Workplaces need to address barriers (physical, transportation, stigma, communication and systemic) in order for persons with disabilities to first obtain a job, then find success in their work environments, and eventually be promoted as leaders. Employers need to understand that workplace adjustments can often be smart investments that help all employees and their businesses/organizations succeed. It is important that workplace policies do not result in further barriers to accessibility, including making sure employers understand the value that employees with disabilities can bring to the workplace.

Addressing these barriers/issues will become increasingly important over the next 13 years. The Conference Board of Canada estimates that the accessibility challenged population in Canada will grow by 1.8% annually during this time period, nearly double the pace of projected growth for the total population (0.9% annually). As a result of this projected growth, it is estimated that 1 in 5 Canadians will report having a disability or being a senior by 2030. This will equate to 7.3 million Canadians and 250,000 Calgarians will have a disability by 2030 (20% of general population).

Economic Impact of PWD Participation



Canadians with disabilities represents 12.6% of the total consumer market and \$144 billion in spending.



Assuming higher incomes due to better access to employment and a rising proportion of Canadians with a disability, spending power rises substantially by 2030 (at 3X the pace of overall population).



By 2030, spending could rise to nearly \$277 Billion annually (in 2017\$), and account for 18.4% of the total consumer market.



The overall economy stands to benefit as nearly \$15 billion would be added to Canada's real GDP.



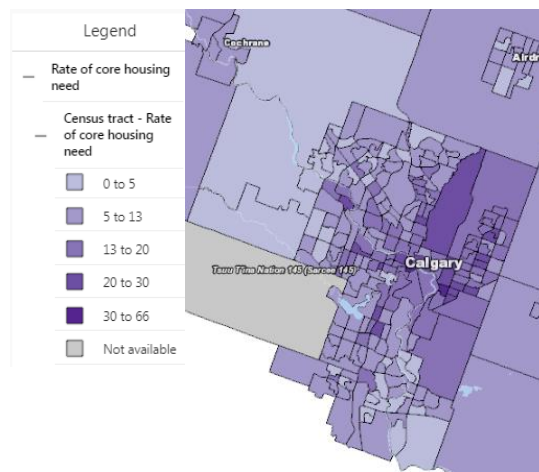
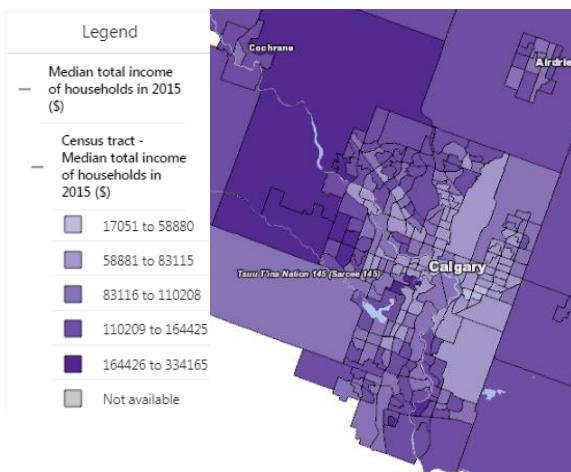
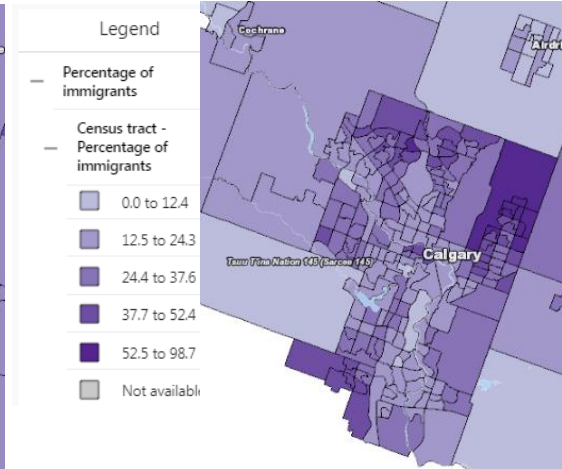
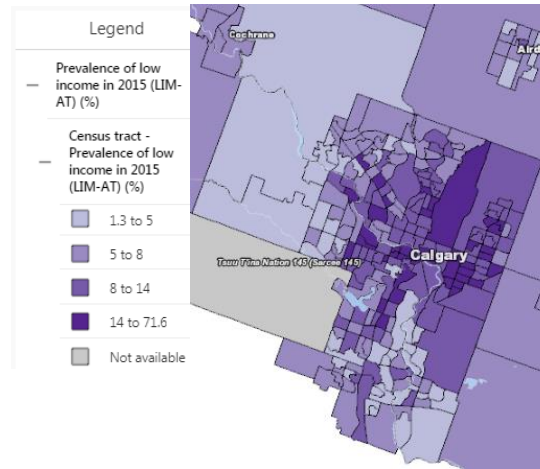
Employers would benefit from access to a larger talent pool, as 480,000+ Canadians would be fully engaged in the workforce through 2030.



Spatial Concentrations of Vulnerability

While most Canadian cities have yet to experience the depth of urban decay encountered in other countries, Calgary have seen a trend toward increasing economic spatial segregation and isolation.

Maps based on 2016 Census data reveal that large concentrations of low income individuals reside in the northeast areas of the city, with pockets in the west and south of downtown. Higher rates of core housing need are in similar areas while areas with high percentages of immigrants and visible minorities live in the northeast areas of Calgary. Residents with higher median total income primarily live further away from downtown in the northwest and far south.

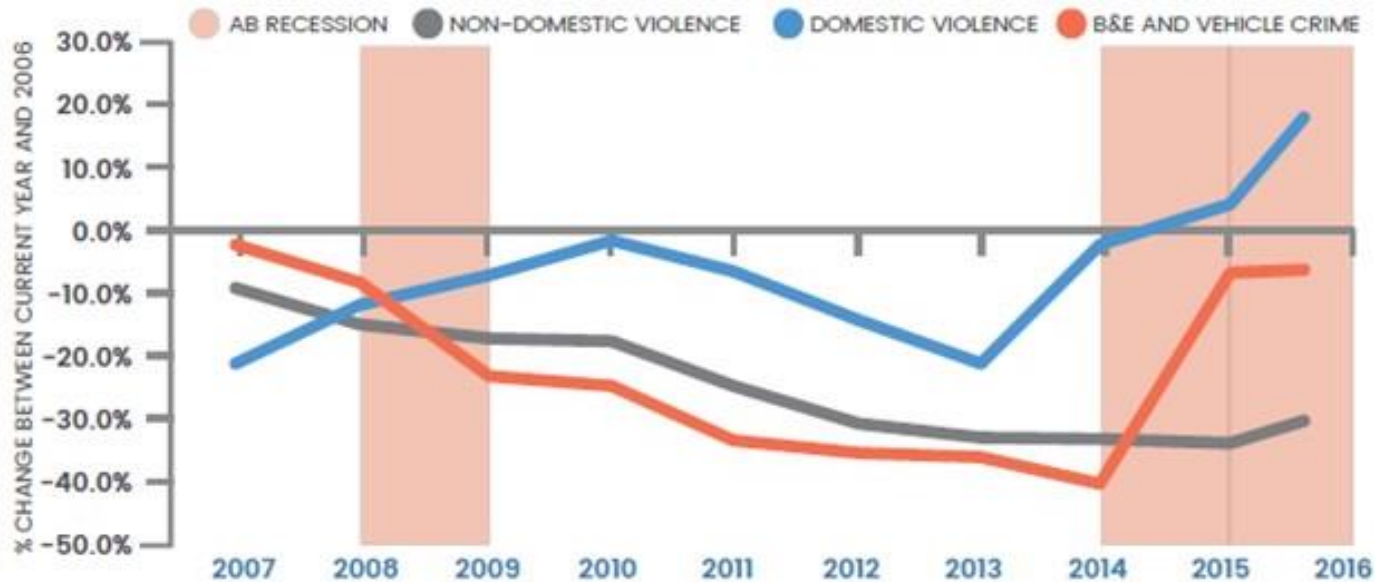




Crime and Safety in Calgary

Over the last 5 years, Calgary has experienced increases in crimes against both person and property. The graph below shows Calgary's crime rate in decline for a number of years until 2014, when significant increases in domestic violence and some property crimes occurred. There is no single causal factor that can account for these shifts and increases; rather, it is a combination of the downturn in our economy, proliferation of drugs, commodity-driven crime and Calgary's increasing connections to the provincial, national and international crime landscape.

Calgary Crime Rates





Crime and Safety in Calgary

Table 1 provides statistics for 2012-2016 and shows an increase in both person and property crimes in 2014. The increase in the number of crimes against person has been driven largely by assaults and domestic violence. The increases in domestic violence have been most significant; the rate of domestic violence incidents in 2016 registered a 48% increase over 2013. Analysis shows a correlation between the economy and incidents of domestic violence in Calgary, however, this is not a causal relationship. In fact, healthy families can often weather the storm while families already prone to violence may react with increased violence. There has also been significant increases in commercial and bank robberies suggesting that offenders are more willing to engage in high-risk methods to acquire property and money.

Table 1: Crime Statistics January-December, 2012-16

	2012	2013	2014	2015	2016	Average
Crimes Against Person	7,124	7,252	8,028	8,781	9,184	8,074
Crimes Against Property	35,190	36,140	36,130	49,925	50,614	41,600
Total Crimes	42,314	43,392	44,158	58,706	59,798	49,674

Crimes against person includes: level 1 assaults (assaults that cause little to no physical harm to victims); level 2 assaults (assaults with a weapon or causing bodily harm), robberies and sexual assaults (level 1 sexual assault offences - without a weapon or evidence of bodily harm). Table 2 provides a breakdown of the age, gender and nature of the relationships in crimes against person and shows that the vast majority of person crimes involve non-related adults males who are known to the victim in some capacity. The pattern for women victims is different as adult females are more likely to be involved in violent situations involving their intimate partner.

Table 2: Age, Gender and Relationship of Accused to Victim in Crimes against Persons 2013-2016

	Female		Male		Female		Male		Total
	Non-Domestic				Domestic				
	Stranger	Known	Stranger	Known	Intimate Partner	Family/ Other	Intimate Partner	Family/ Other	
Child	149	75	135	112		410		331	1212
Youth	727	493	671	691	214	373	11	332	3512
Adult	2539	3232	3427	6726	7024	1591	2007	1426	27972
Senior	74	102	100	156	54	100	47	87	720
Unknown	147	268	220	1111	50	75	14	119	2004
Total	3636	4170	4553	8796	7342	2549	2081	2293	35420



Crime and Safety in Calgary

Analysis indicates that of all crimes, automobile theft is most likely to be associated with possession of drugs charges. While auto theft has been increasing since 2015, the statistics for 2017 show significant increases compared to the 5 year average. Table 3 shows the number of occurrences (events) where a drug charge has been laid. Drug As MSV (most serious violation) indicates that the drug-offence was the most serious ‘crime’ which took place and Drug Not MSV means the drug-offence was not the most serious, meaning the drug crime was less serious in nature compared to the other offences that took place.

Table 4: Third Quarter Drug Seizures 2012-2017

	2012	2013	2014	2015	2016	2017	5 YR Ave	%Change 2017: 5 YR
Fentanyl	1	2	6	84	144	129	47	172%
Cocaine	609	563	605	508	482	349	553	-37%
Heroin	25	36	63	86	143	131	71	86%
Meth	83	112	222	373	597	661	277	138%
Marihuana	1027	1070	1064	745	735	675	928	-27%

Table 4 provides a breakdown of drug seizures by type of drug. It is interesting to note that this table indicates Calgary did not see fentanyl being used as an illicit drug until 2012. The dramatic rise in fentanyl and meth seizures corresponds to increases in acquisitive crimes. While there is a relationship between drugs and crimes, a statistically demonstrated causal relationship has not been established.

Table 3: Occurrences With Drug Offence 2014-2016

	2013	2014	2015	2016
Drug As MSV	1,416	1,490	1,165	1,210
Drug Not MSV	141	178	205	323
Sum:	1,557	1,668	1,370	1,533

Table 5 shows that racialized and ethnic individuals have consistently been the highest targeted communities for reported hate/bias incidents.

Table 5: Hate/Bias Incidents by Motivation, 2012 - 2016

Motivation Type	2012	2013	2014	2015	2016
Motivated by Race / Ethnicity	30	32	50	37	35
Motivated by Religion	16	8	13	15	10
Motivated by Sexual Orientation	9	14	11	7	5
Motivated by Other*	1	3	1	2	0
Total	56	57	75	61	50

*Other includes: Mental or physical disability, language, sex, age and other similar factors



Opioid Use in Calgary

From January 1, 2016 to March 31, 2017, the number of apparent drug overdoses related to fentanyl continued to be significant. 80% of deaths due to an apparent fentanyl drug overdose were among males. Across both sexes, the group with the highest number of deaths was among individuals in aged 30-34. 62% of deaths due to an apparent non-fentanyl opioid drug overdose were among males. In males, the age group with the highest number of deaths was among individuals aged 30-34, and among females, was aged 50-54.

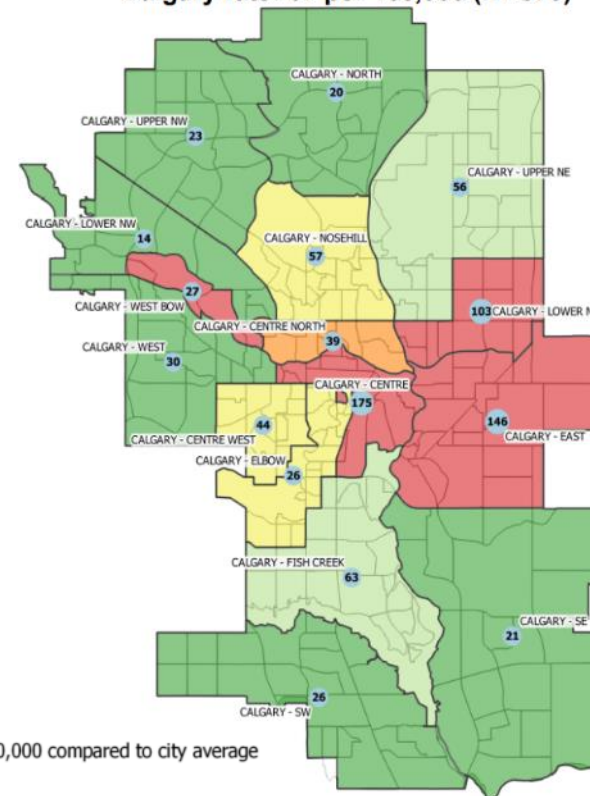
2016		2017 YTD (to March 31, 2017)	
Count	Rate	Count	Rate
152	11.5	49	3.7

Rate (per 100,000) and number of deaths due to an apparent drug overdose related to fentanyl. Jan. 1, 2016 to Mar. 31, 2017.

Of the EMS opioid related responses that occurred in Calgary (870), the highest count was in the Centre area (175). The other geographic areas with significantly higher rates of EMS related events compared to the city rate were West Bow, Lower NE, and East.

The Calgary Zone dispensed the next highest volume of Naloxone kits by community pharmacies with an average of 107 kits per month.

Calgary rate: 67 per 100,000 (n =870)



Legend

Rate of EMS opioid related responses per 100,000 compared to city average

- Significantly lower
- Lower
- Average
- Higher
- Significantly higher

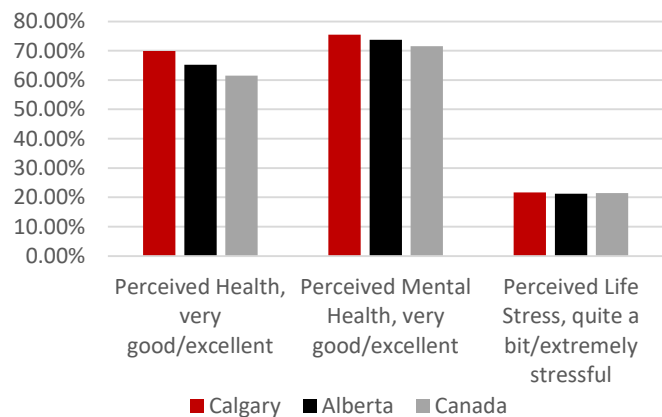
Rate per 100,000 and counts of apparent opioid (including fentanyl) drug overdose deaths, in Calgary, based on place of overdose, by LGA. Jan. 1, 2016 to Dec. 31, 2016.



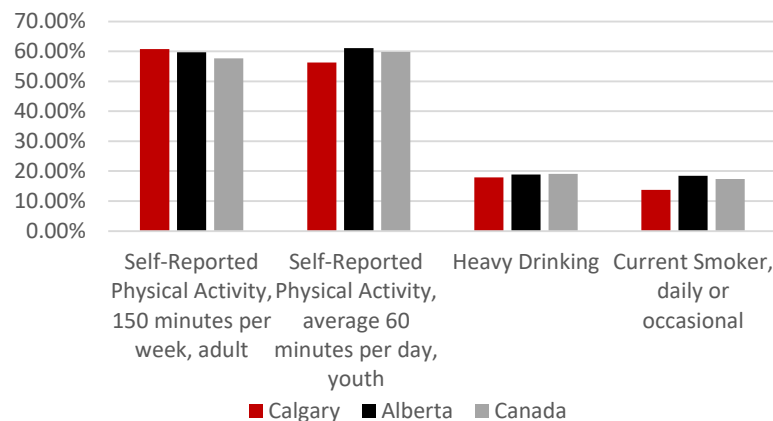
The Health and Well-Being of Calgarians

In 2015-2016, Calgary residents aged 12 and over reported information related to their health in the Canadian Community Health Survey. Overall, Calgary's perceived health and well-being is better than the Canadian average and Calgarians are reportedly satisfied with their lives. Just over 60% of Calgarians had a somewhat or very strong sense of belonging to a local community.

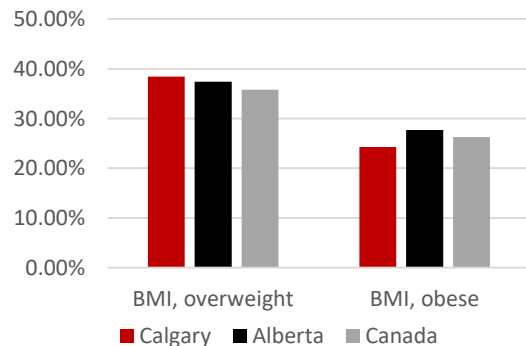
Well-Being



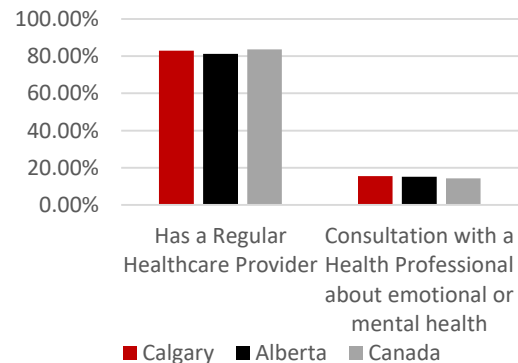
Health Behaviours



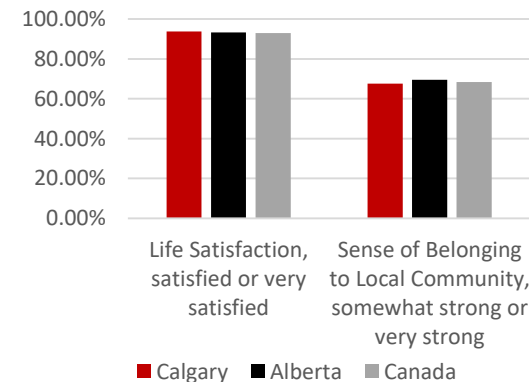
Health Conditions



Health System

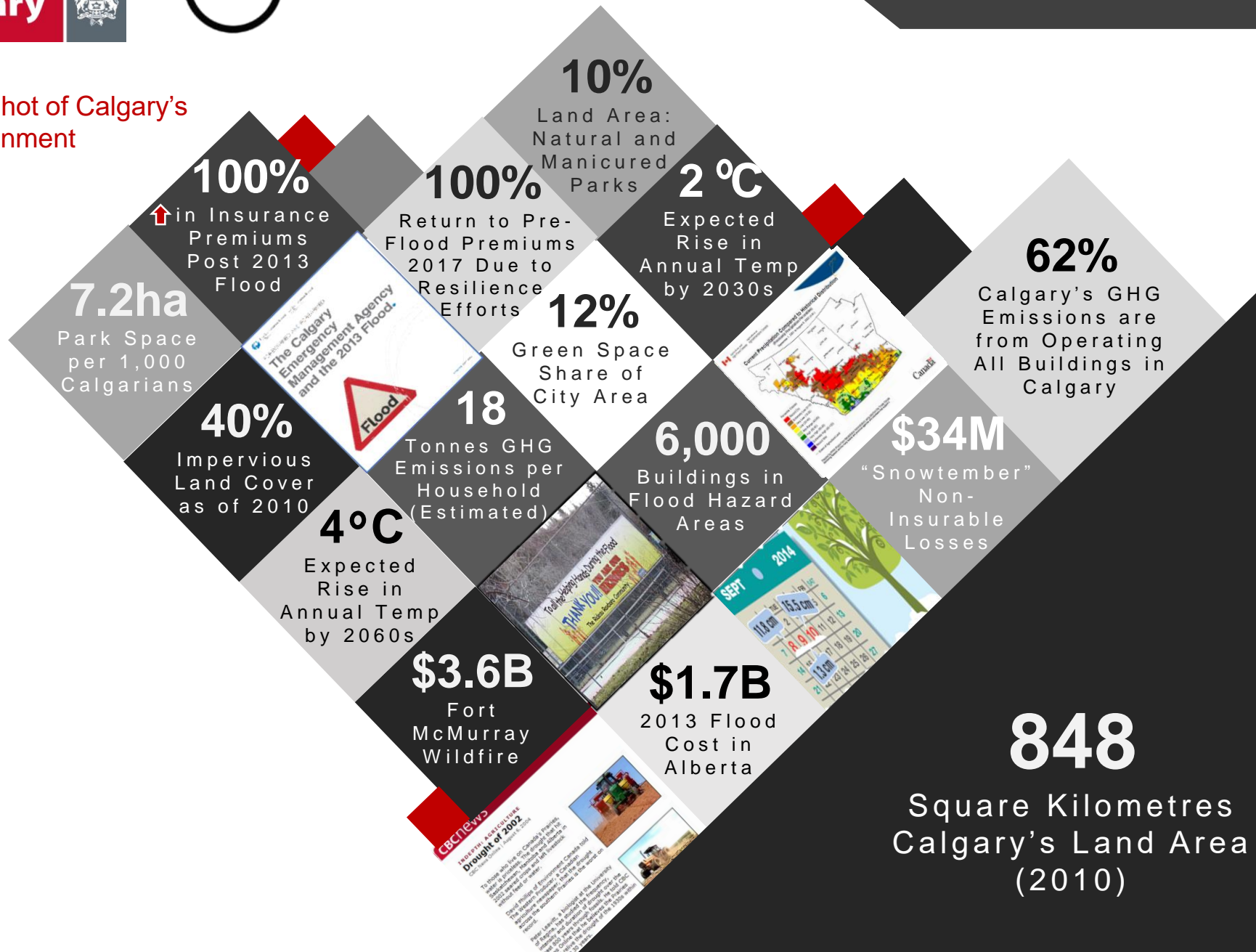


Personal Resources





Snapshot of Calgary's Environment






Calgary Context in North America's Ecoregions

Calgary is at the crossroads of the Great Plains and Northern Forests Ecoregions, and at the transition between the prairies and foothills of the Rocky Mountains. This transition area allows for a diverse landscape rich in ecological diversity. Proximity to the mountains impacts our climate by limiting the reach of humid air from the Pacific Ocean. This, combined with Calgary's elevation (1042 m. above sea level) and latitude (51.05 degrees north), lead to a relatively dry climate with short, hot summers and long, cold winters. As a result, Calgary has a short growing season and water scarcity, and the natural landscape is dominated by grasslands, with forests abundant in cooler, wetter north facing slopes.

Legend

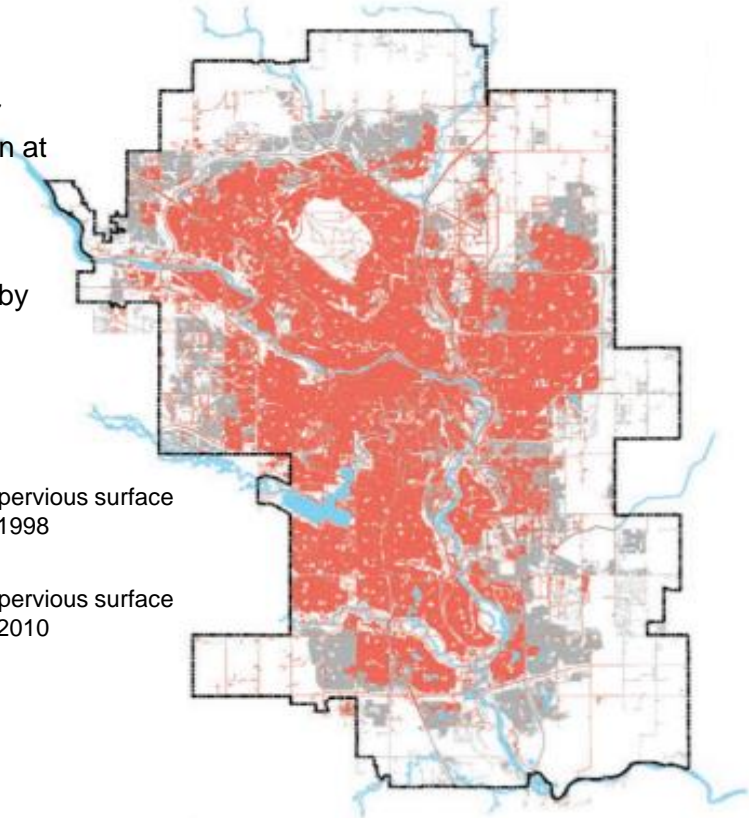
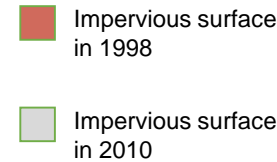
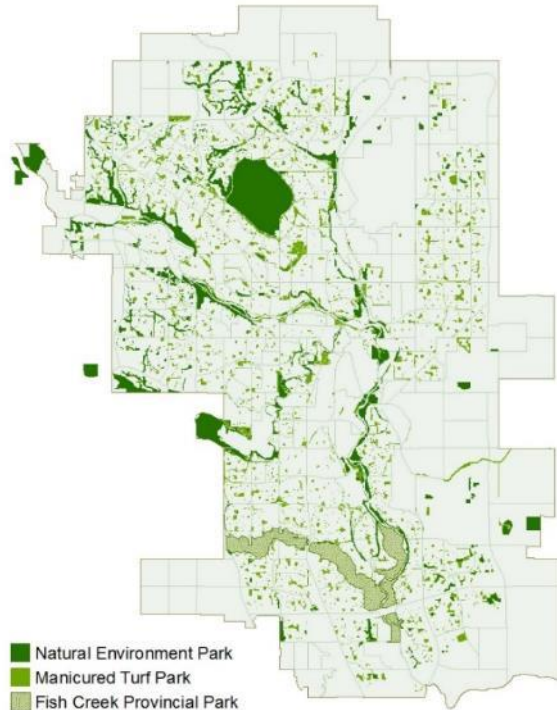
-  Arctic Cordillera
-  Tundra
-  Taiga
-  Hudson Plains
-  Northern Forests
-  Northwestern Forested Mountains
-  Marine West Coast Forests
-  Eastern Temperate Forests
-  Great Plains
-  North American Deserts
-  Mediterranean California
-  Southern Semi-Arid Highlands
-  Temperate Sierras
-  Tropical Dry Forests
-  Tropical Wet Forests





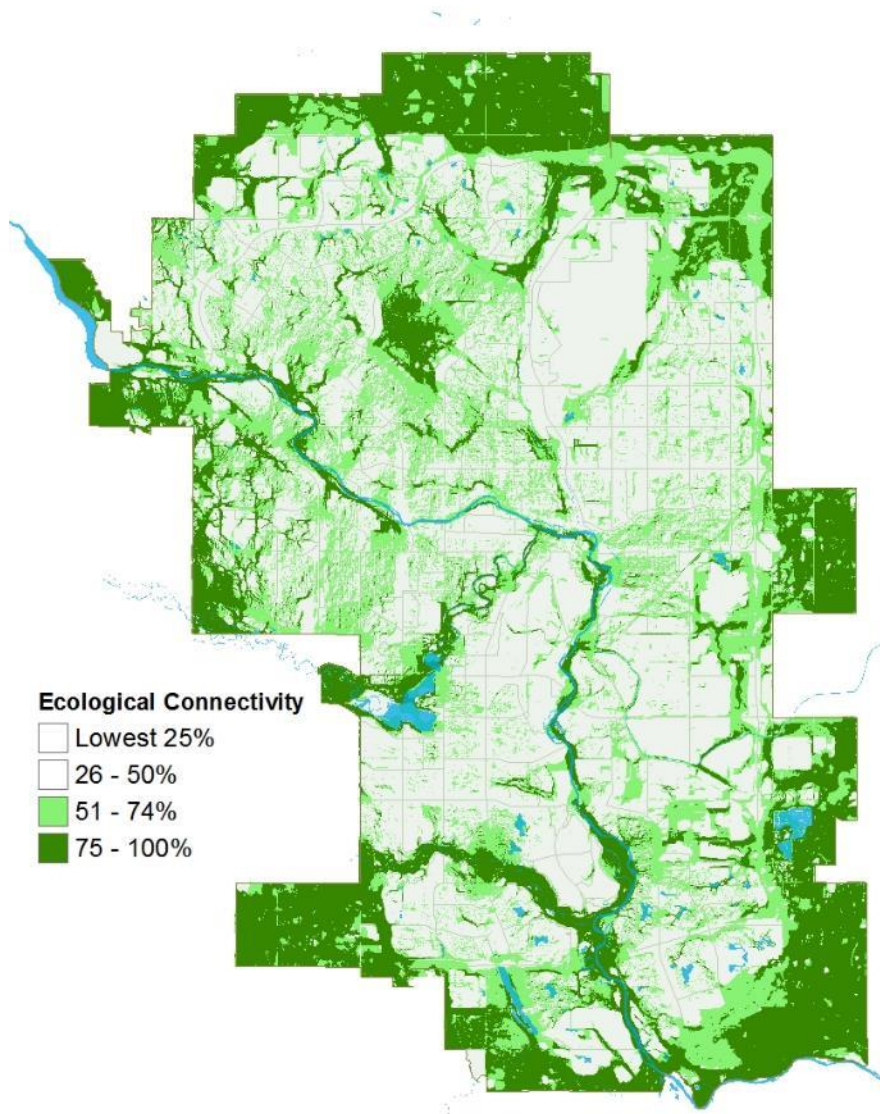
Parks and Impervious Surfaces in Calgary

Calgary's park space per land area ratio is similar to other Canadian cities, however, due to population density, park space per capita is higher than other Canadian cities at 8.6 hectares per 1,000 people. This compares to: Edmonton at 7.6 ha, Toronto at 3.2 ha, Vancouver at 2.0 ha and Montreal at 1.2 ha. A challenge for Calgary related to park spaces is that it is not evenly distributed throughout the city, and in many cases, lacks connectivity. A reason for this is that protection of natural areas as environmental reserve is largely mandated by the Municipal Government Act. Within this legislation, land abutting water or prone to flooding is prioritized which leaves out some areas that may be ecologically significant (such as grasslands in the NE).



Calgary's impervious surfaces grew from 36% to 40% from 1998 to 2010 which is well over the 10-20% 60 year target in Calgary's Municipal Development Plan. Areas with a higher share of impervious land cover experience higher temperatures (due to the heat island effect) and increased storm run-off which carries pollutants and sediment into waterways and increases flood risk.

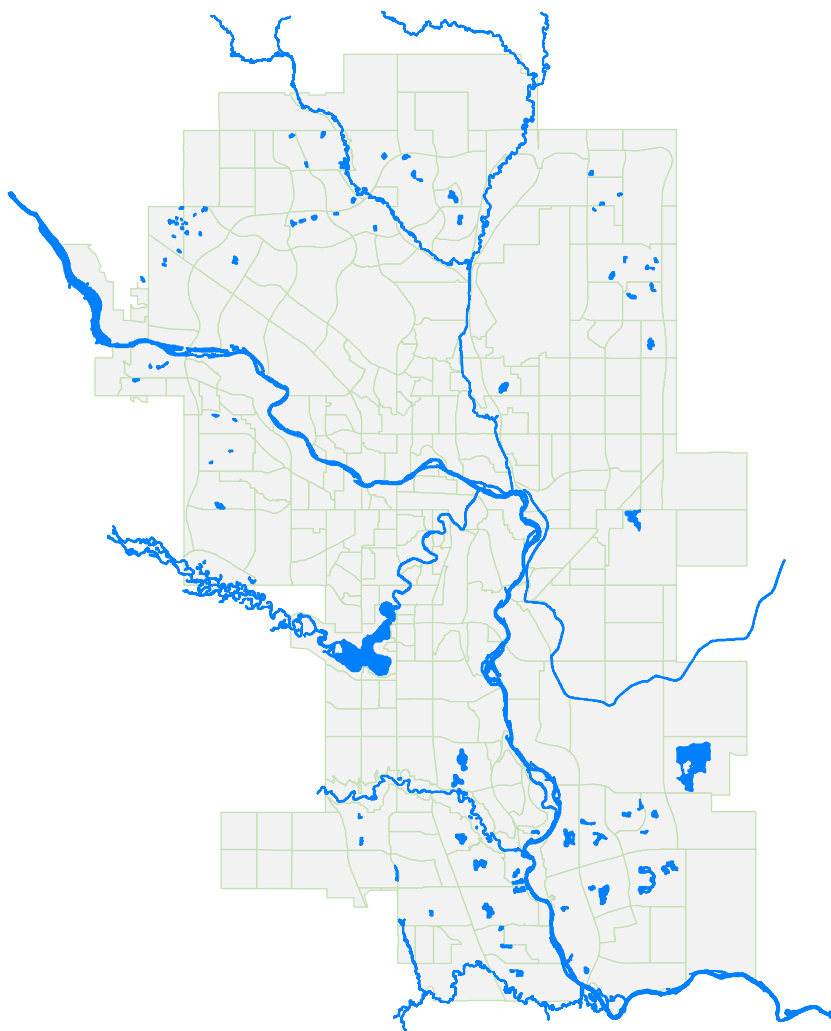
Ecological Connectivity in Calgary



This map is a predictive model of ecological connectivity for mobile terrestrial wildlife. It is based on the understanding that where landscape is open (based on a 5 by 5 meter grid) and provides habitat, wildlife are more likely to be able to move across the area. Using data from across the city and surrounding region, the connectivity map shows where the top 50% connectivity or permeability potential is for animal mobility.

One of the key findings of this connectivity analysis is that river corridors are the primary cross-city areas of connection for wildlife movement, and thus are most valuable for protection/conservation from a connected ecosystem perspective.

Overland Hydrology in Calgary



Calgary's Bow and Elbow rivers provide water for a number of uses and flow fluctuation is expected to increase with climate change.

- Bow and Elbow rivers are part of the South Saskatchewan River Basin and are fed by run-off from the Rocky Mountain region.
- River water is used for hydroelectric power, irrigation, and drinking water.
- River flows can be highly variable due to conditions in the mountains such as past and current precipitation levels, the rate of snow melt, and soil conditions.
- The Bow and Elbow river watersheds are prone to floods and droughts, with drought being a more frequent occurrence.
- Climate change forecasts predict reduced flow in the Bow River and continued reduction of mountain glaciers which raises concerns of the sustainability of the Bow River flow in the late summer and fall seasons.

Riparian areas and Soil Erosion

- Soil erosion and sedimentation can adversely affect waterways impacting Calgary water supplies, fish habitats, and flood control.
- A study of Calgary's riparian areas between 2007 and 2010 found only a small portion of these areas were healthy, putting at risk Calgary's river ecosystem and the stability of the river banks.
- Data on the health of Calgary's riparian areas was gathered prior to the 2013 flood, an event which caused further damage to riverbanks. Riverbank repair has improved the health of some riparian areas and The City is currently developing a riparian monitoring program.
- The City's Guidelines for Erosion and Sediment Control outline regulatory requirements for municipal development to minimize soil erosion.



Increasing Insurable Losses

“Extreme weather over the last five years has been occurring with a regularity that’s about *three times the norm.*” – Source: *Insurance Journal, January 12, 2017*

“Over the past six fiscal years, the federal government spent more on recovering from large-scale natural disasters than in the previous 39 fiscal years combined.” – Source: *Office of the Auditor General of Canada Report 2 – Mitigating the Impacts of Severe Weather, Spring 2016*

Climate change offers a glimpse of a stressor that can present itself as a series of shocks. In Alberta specifically, we are seeing an increase in temperatures since the 1970s, with higher frequency and intensity of climate related shocks, including; fire, hail, severe winds, floods and drought. For example, an early snowfall during the Fall of 2014 resulted in \$34 million in non-insurable losses. Calgary’s 2013 flood was also costly, with funding/cost recovery being a big part of this focus. The City of Calgary has a 94.6% recovery rate for submitted capital project costs reviewed by the Government of Alberta.

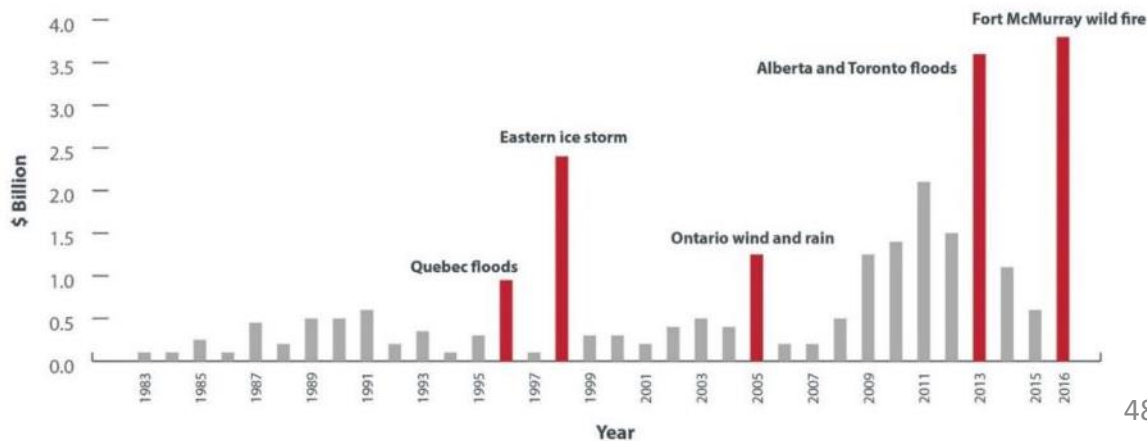
The ability to pay for future disasters is expected to be a growing challenge, and recovery from other orders of government, as well as from the insurance industry, will be an ongoing issue.

After the 2013 flood, Calgary was forced to go to multiple providers in order to re-insure and initially faced a 100% increase in premiums. These were later reduced to pre-flood levels due to resilience actions undertaken by The City.

This will be an increasing challenge for cities which may need to look at other funding mechanisms such as self-insurance, a dedicated reserve fund and funding climate adaptation initiatives. The need to use evidence based tools to show the potential benefit of taking resilience actions has never been greater.

Catastrophic Insured Losses

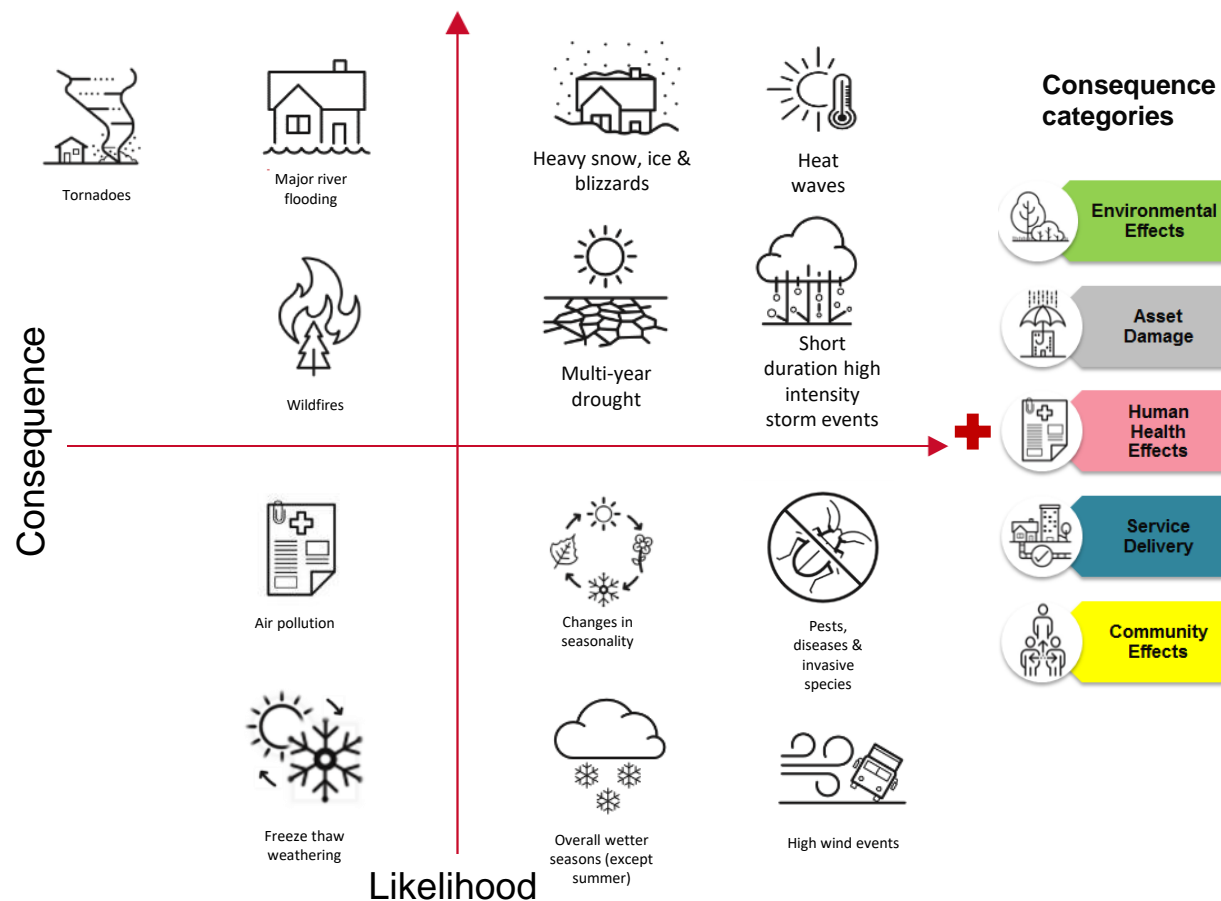
Source: Insurance Bureau of Canada





Climate and Urban Environment

Alberta has experienced significant changes in its climate in recent decades. Average annual temperatures are increasing, and could rise as much as 2°C by the 2030s and 4°C by the 2060s (as compared to temperatures in the 1990s). Just as a fever can be dangerous to our body, a change of a few degrees can have significant and dangerous impacts on the climate.



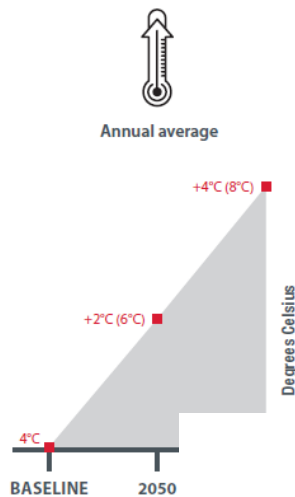
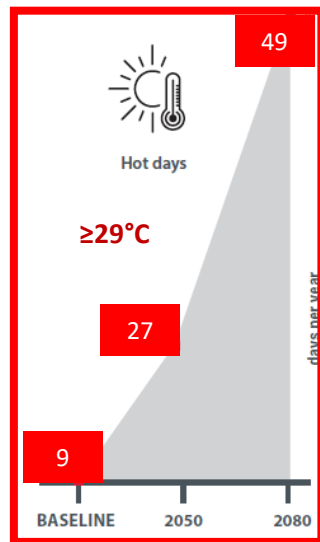
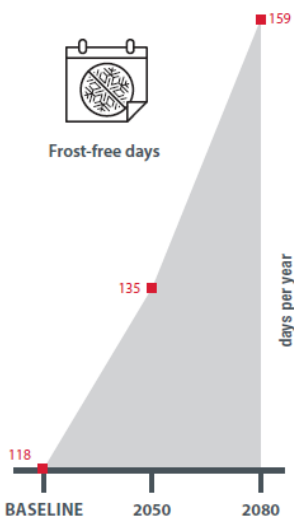
These climatic changes are expected to lead to a host of hazards, such as increasing severity and frequency of extreme weather, including severe flooding, drought and storm events.

Hazards such as these have worrying implications for cities, including: negative impacts on city water resources; disruption of power supply and other city services; environmental effects (i.e., increase of invasive species); increased operating costs; failures of infrastructure when design assumptions are exceeded by changing condition; and negative impacts on human health – particularly to vulnerable populations such as seniors and individuals experiencing homelessness.

With the intensification of our province’s urban population, climate related shock events have a potentially higher impact in that they affect more people and they are increasingly costly. Impacts are experienced socially, environmentally and economically as communities.

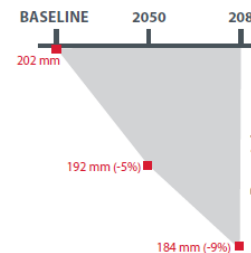
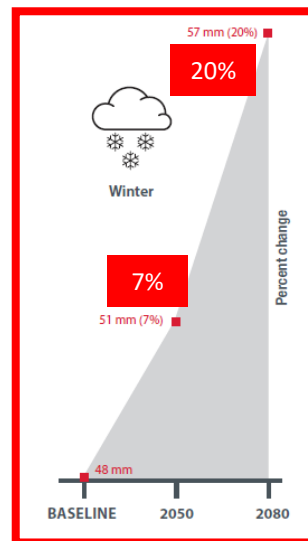
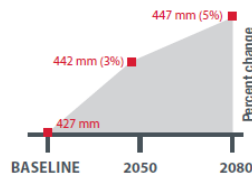


Climate and Urban Environment



The number of **hot days** (equal or over 29°C) is expected to increase from an average of 9 days per year to 27 days per year by the 2050s and 49 days per year by the 2080s. Populations without adequate housing or air conditioning are vulnerable to negative health impacts and increased mortality.

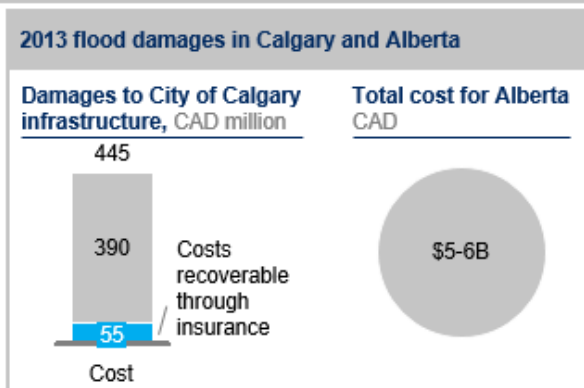
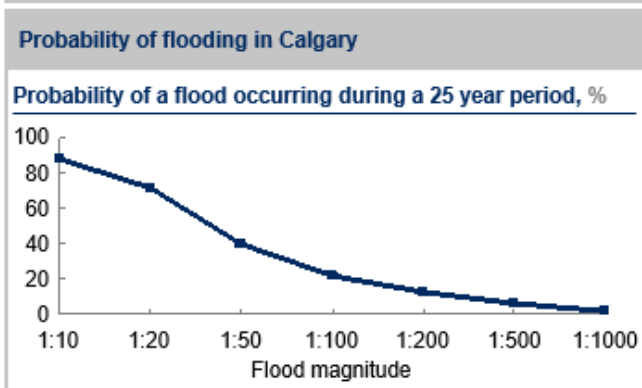
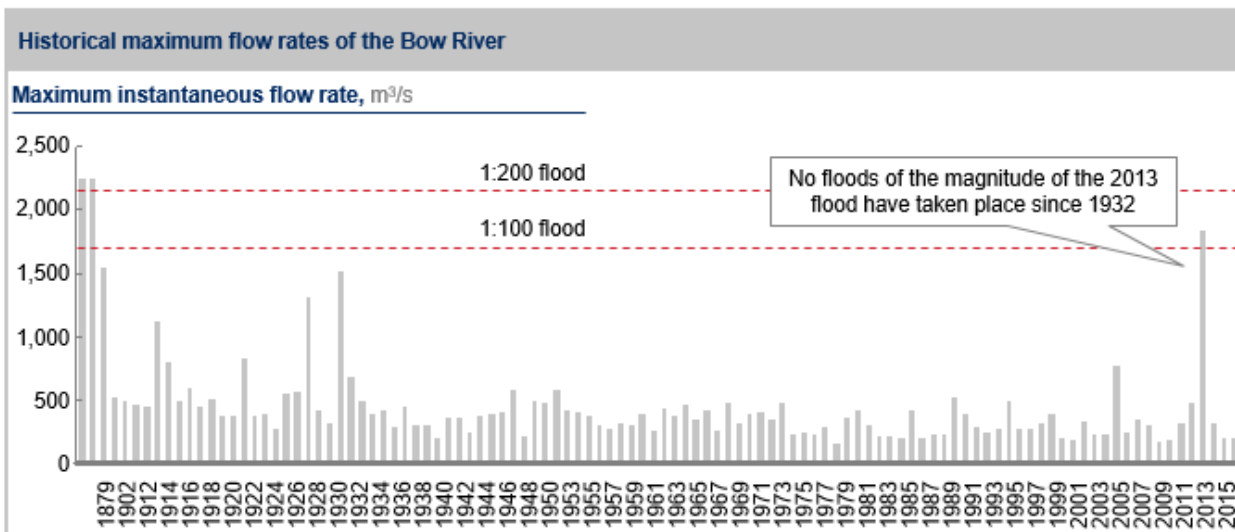
Winter precipitation will increase by 7% in the 2050s and by 20% in the 2080s resulting in an increase in significant winter storm events. Summer precipitation is expected to decrease by 5% in the 2050s and by 9% in the 2080s, contributing to drought.





Calgary and Flooding

Flooding can occur at any time with little to no warning. May 15 to July 15 is when Calgary receives our largest rainfalls and when we are most likely to experience river flooding. Our last major river flood event took place in June 2013.



The 2013 Flood was a shock event that resulted in significant impacts on our communities.

People

- Over 80,000 people in 32 communities were evacuated
- 6,000 homes and 4,000 businesses affected

Infrastructure and Community

- Over \$400 million in initial damage to municipal infrastructure and over 240 recovery projects identified
- Bonnybrook waste water treatment plant flooded
- Light rail transit (LRT) tunnels flooded, 16 LRT stations closed, 22 bridges and numerous roads closed

Services

- 35,000 electrical utility customers without power
- Municipal, provincial and federal government complexes, Calgary Zoo, Stampede grounds and Saddledome, recreation facilities and schools closed



Regulatory Environment Overview

Federal

- Pan-Canadian Framework on Climate Change: Carbon Management and Adaptation Planning

Provincial

- 2003 Climate Change and Emission Management Act
- 2016 Climate Leadership Plan and Programs – Energy Efficiency, Carbon Levy, Infrastructure Funding
- Mandatory Mitigation and Adaptation Plans with regular reporting (City Charter)
- New responsibilities under the Municipal Government Act (MGA) for cities to address Environmental Well-being

The City of Calgary Council and Corporate Direction

- Action Plan 2015 – 2018 (H3.2. Develop a comprehensive climate adaptation plan and implementation tools to reduce future impact)
- Big City Mayor's Caucus – Climate Change Resolution





Regulatory Environment

The federal **Pan-Canadian Framework on Climate Change: Carbon Management and Adaptation Planning** is a climate change framework that focusses on Canada-wide carbon management and adaptive measures. These measures include:

- A national carbon pricing scheme with a set price of \$50/tonne by 2022
- Funding for climate adaptation and mitigation projects and plans to help combat climate change in Canada
- Resilient infrastructure funding
- A proposed pathway to new building standards for energy efficiency for new and existing structures
- Funding and resources for renewable energy

Changes to the Provincial framework include an update to the **2003 Alberta Climate Change and Emissions Act** with the following new regulations:

- **Output-based Allocation (OBA) System** was introduced to replace the Specified Gas Emitter Regulation (SGER) which includes expiry dates and other limits to carbon offsets for regulated facilities
- **Carbon Competitiveness Incentive Regulation** lowers the GHG emissions threshold for reporting from 50,000 tonnes CO₂ emissions per year to 10,000 tonnes for a single facility. As well, the compliance price for facilities with emissions above the 100,000 tonnes threshold increased from \$20/tonne CO₂ emissions to \$30/tonne CO₂ emissions

The **Climate Leadership Act** established in 2016 instituted a Carbon Levy on major fuels taking effect January 1st, 2017. Under this Act, the Province intends to follow the lead of the Federal government and institute a \$50/tonne carbon price by 2022. The Act also provides the framework for **Energy Efficiency Alberta** which funds energy efficiency programs and capital investment in the province.

“The draft **City Charter** regulation mandates that cities complete a GHG Mitigation Plan and a Climate Change Adaptation Plan by the end of 2020. New responsibilities under the **Municipal Government Act** for cities to address Environmental Well-being are expected to be approved Spring 2018 (retroactive to January 1, 2018). These will require municipalities to define environmental well-being and allow for additional regulatory tools at the municipal level.”

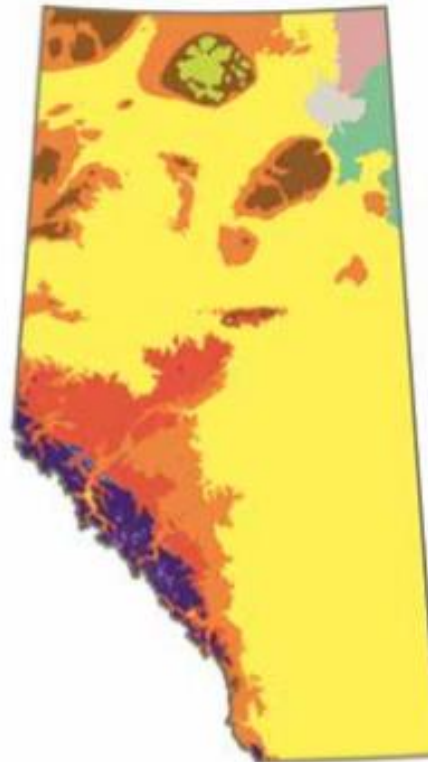


Ecosystem Habitat Change

By 2050, our habitat is projected to change to a more dry, mixed grasses from the diverse ecosystem of today. This may be significant for changes in agricultural food production, increasing fire risk, increases in invasive species and reduction in species habitat diversity.



Current ecosystem



Hot Scenario map of ecosystem habitat change

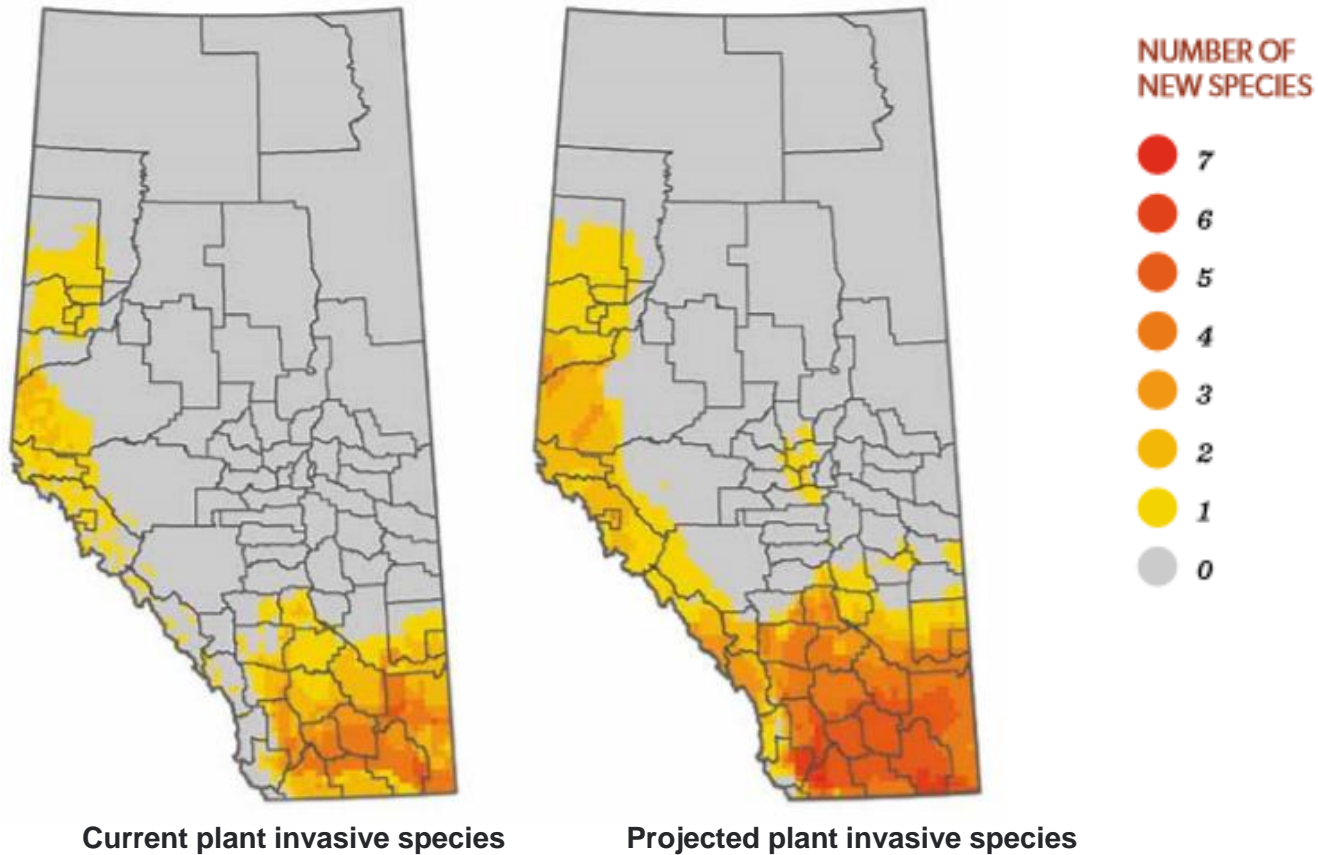
NATURAL SUBREGION

- *Alpine*
- *Athabasca Plain*
- *Boreal Subarctic*
- *Central Mixedwood*
- *Parkland*
- *Dry Mixedgrass*
- *Dry Mixedwood*
- *Foothills Fescue*
- *Kazan Uplands*
- *Lower Boreal Highlands*
- *Lower Foothills*
- *Mixedgrass*
- *Montane*
- *Northern Fescue*
- *Northern Mixedwood*
- *Peace-Athabasca Delta*
- *Subalpine*
- *Upper Boreal Highlands*
- *Upper Foothills*



Invasive Species Due to Ecosystem Habitat Change

Also by the 2050s, the number of invasive species in Alberta is expected to increase, particularly in the Calgary region and south. At the same time, plant species' diversity is expected to diminish. This could impact urban and rural agriculture as well as habitat for terrestrial and aquatic species. Some rare species will be vulnerable to climate shocks and other species able to thrive as the landscape changes. Compounding this will be increasing pressures on natural areas due to expanded human land use.

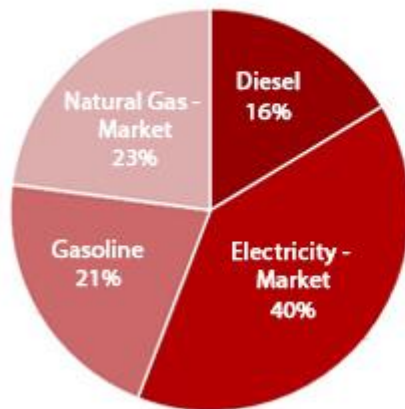




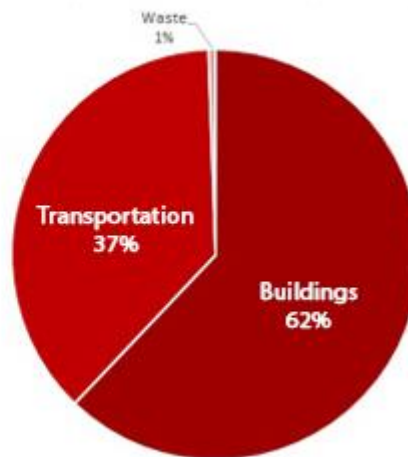
Climate and Urban Environment

Climate change is caused by greenhouse gas emissions, primarily through the combustion of fossil fuels. In alignment with the Pan-Canadian Framework on clean growth and climate change, Calgary is doing its part to reduce emissions and drive clean growth. In Calgary, we track the amount of greenhouse gas emissions added to the atmosphere every year through activities that happen within city boundaries. Everyday activities, such as heating and lighting our homes, moving around the city and disposing of our waste, all contribute to the issue of climate change.

Community-wide Energy Use by Fuel Type (2016)



Community-wide GHG Emissions by Source (2016)



In 2016, 62% of the total greenhouse gas emissions in Calgary were as a result of heating, lighting and power demands in buildings. 37% of emissions were due to transportation emissions (gasoline and diesel usage), and the remaining 1% was due to methane emissions from our landfills.

City of Calgary operations (our buildings and facilities, our fleet, our landfills) represent 4% of the total emissions in Calgary. The remaining 96% comes from the residential, commercial, industrial and institutional sectors in Calgary.



Infrastructure Assets

The City of Calgary's 2017 infrastructure assets are valued at \$84.70 billion. Engineered Structures comprise approximately \$74.68 billion of this total, followed by Buildings at \$4.53 billion, Land Improvements at \$2.87 billion, Vehicles at \$1.81 billion, and Machinery and Equipment at \$0.81 billion.

While the overall asset health is good (at 88%), the condition profile has deteriorated since 2013 from 95%. This indicates that The City should consider additional expenditure on asset replacement, lifecycle maintenance and upgrades in order to maintain the desired service standards.

As the infrastructure asset inventory expands to support growth, operating and maintenance costs associated with these new assets increases. If there is not enough funding to repair, maintain and upgrade these assets, it creates a backlog of maintenance related projects. This affects The City's ability to deliver quality public service to its citizens and, in turn, has an impact on Calgarians' quality of life.

Capital investments are mostly long-term. Therefore, infrastructure spending relates not only to building long-term capital assets but includes plans to repair and eventually replace these assets. Infrastructure Gap is an estimate of the total of unfunded investments and is grouped into the following three categories:

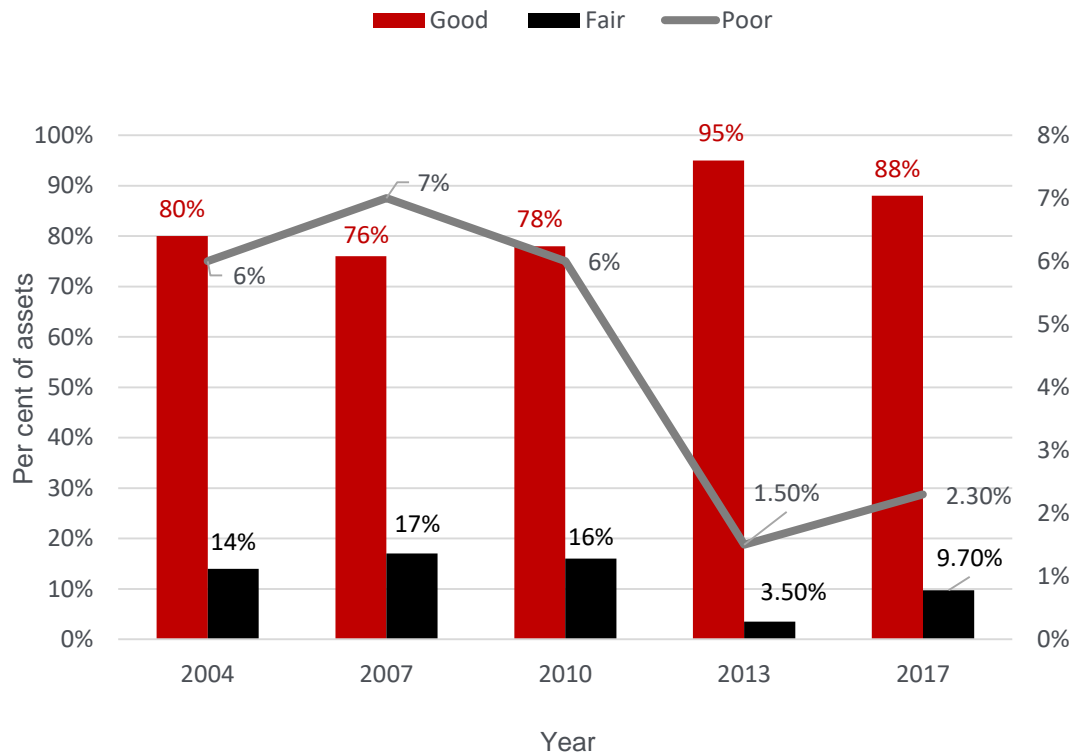
1. Capital Growth Gap: Unfunded investments required to support The City's expansion. Primary drivers of growth-related expenditures are economic growth, population growth and demographic changes.
2. Capital Maintenance Gap: Unfunded investments required to maintain and upgrade existing infrastructure assets.
3. Operating Gap: Funding shortfall required to bring existing assets to a minimum acceptable level for operation over their service life.

It is estimated that The City's total infrastructure needs, funded and unfunded, over the next 10 years is approximately \$25.87 billion. The City forecasts the ability to fund approximately \$20.2 billion during this time. The remaining \$5.67 billion has been identified as the 10-year infrastructure funding gap. In the 2013 report, the 10-year gap was reported as \$7.04 billion. Narrowing this gap is an indication that The City is maturing in its asset management practices. This also reflects a dedication by City Council to invest in infrastructure.



Infrastructure – Assets Physical Condition

Assets Physical Condition



*Infrastructure Status Report – scheduled for release 2018

*Infrastructure Status Report – scheduled for release 2018

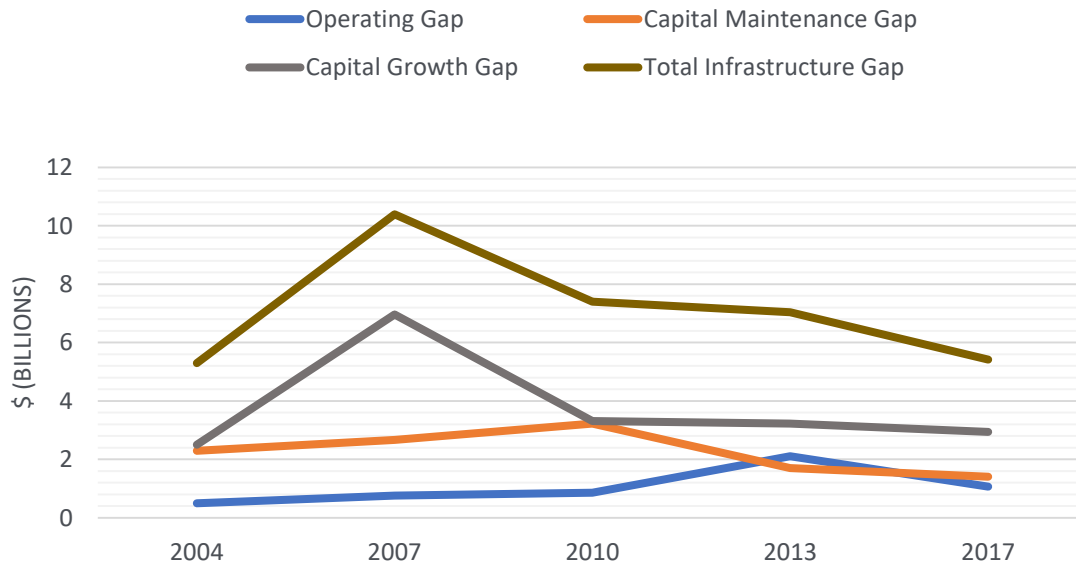
State of Infrastructure

- Assets in The City of Calgary include investments such as engineered structures, buildings, land improvements, vehicles, machinery and equipment, etc.
- They do not include natural assets where we have not made capital investments.
- The physical condition of an asset may or may not affect its performance. The performance of an asset is its ability to provide the required level of service to customers in terms of reliability, availability, capacity and to meet customer demands and needs.
- Knowing the condition of infrastructure is critical in determining the remaining useful life of an asset, and more importantly, when it is time to improve the asset to enable it to perform as it should.
- While the physical condition of The City of Calgary’s infrastructure assets has improved over the past 10 years, there has been an increase in fair and poor condition assets since 2013.
- Efforts are ongoing to improve the state of City assets. Council will receive an update on City infrastructure in the 2018 Infrastructure Status Report.



Infrastructure Gap

*10 Year Infrastructure Gap



Infrastructure Funding Impact

- The City of Calgary defines assets to include all physical infrastructure that is necessary to support the social, economic and environmental services provided by The Corporation. This currently does not include natural assets regardless of their role in providing service benefit.
- As Calgary has a large infrastructure/asset base, it is important to have a good understanding of what is required to maintain and continue to upgrade these assets.
- The 'Infrastructure Gap' is defined as the sum of capital growth, capital maintenance and operating against the required investment over 10 years.
- Ongoing budget cuts impact service levels and capital maintenance, which can negatively impact The City's 10-year infrastructure gap forecast and ultimately service delivery.
- More information about Calgary's infrastructure gap will be forthcoming in The City of Calgary's Infrastructure Status Report (ISR) scheduled for release Q1 2018.

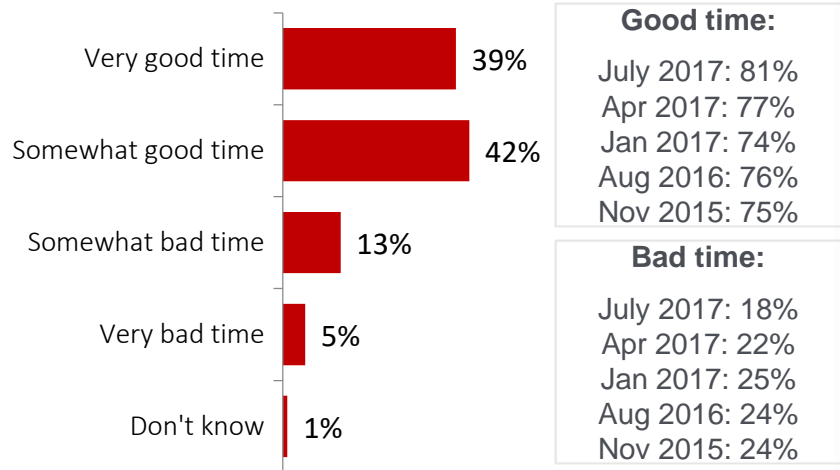
*Infrastructure Status Report – scheduled for release Q1 2018



Perception of Infrastructure Investment

Good or Bad Time for The City to Invest in New Projects

Q: Generally speaking, do you think that it is a good or a bad time for The City of Calgary to be investing in new projects like roads, public transportation, and local facilities?



Good time:

July 2017:	81%
Apr 2017:	77%
Jan 2017:	74%
Aug 2016:	76%
Nov 2015:	75%

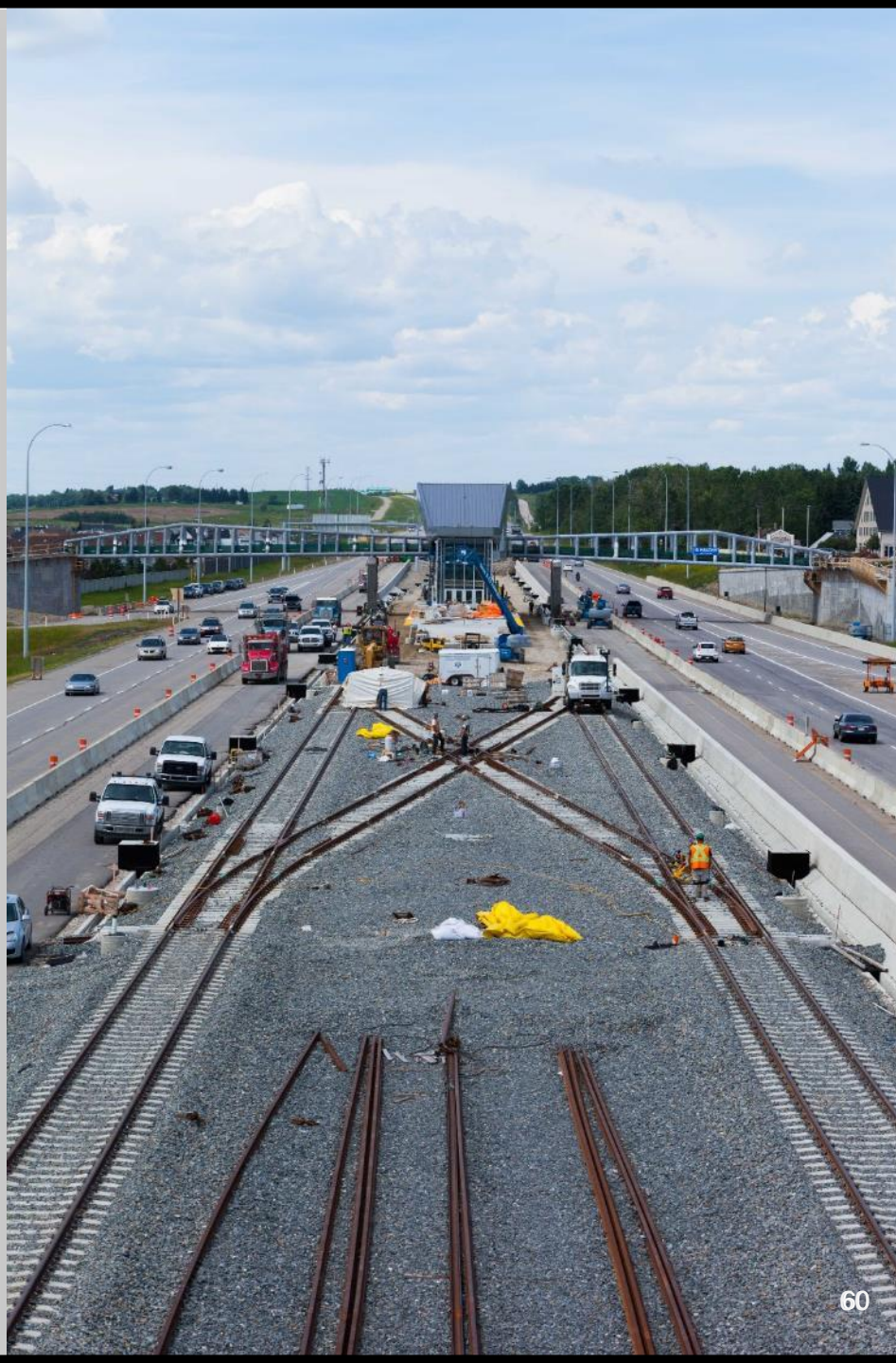
Bad time:

July 2017:	18%
Apr 2017:	22%
Jan 2017:	25%
Aug 2016:	24%
Nov 2015:	24%

Sources: 2017 Economic Perspectives survey (April) | Base: All respondents (n=500) / 2017 Business Perspectives Focus Groups

Infrastructure Investment

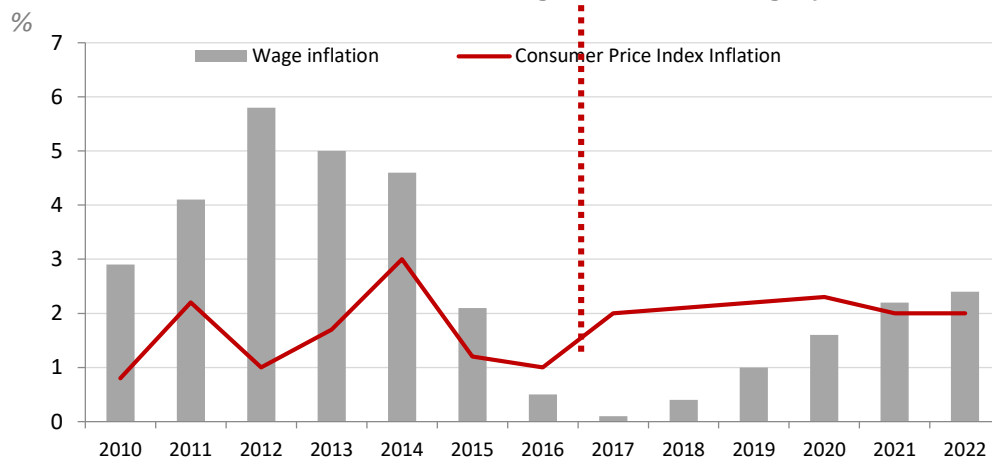
- Currently, 81% of Calgarians surveyed believe it is a good time to be investing in new projects, a 4 point increase from April 2017, and an overall 6 point increase from November 2015.



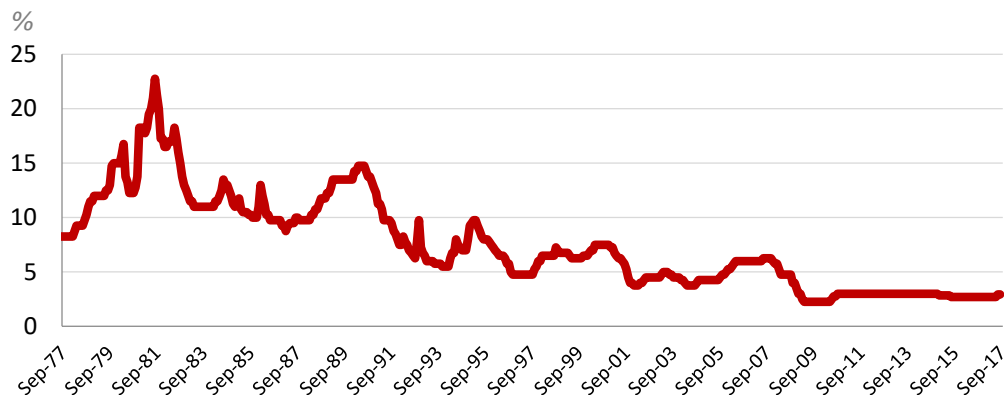


Infrastructure and Inflation

Inflation and Wage Growth in Calgary



Bank of Canada Prime Lending Rate: 1977 - 2017

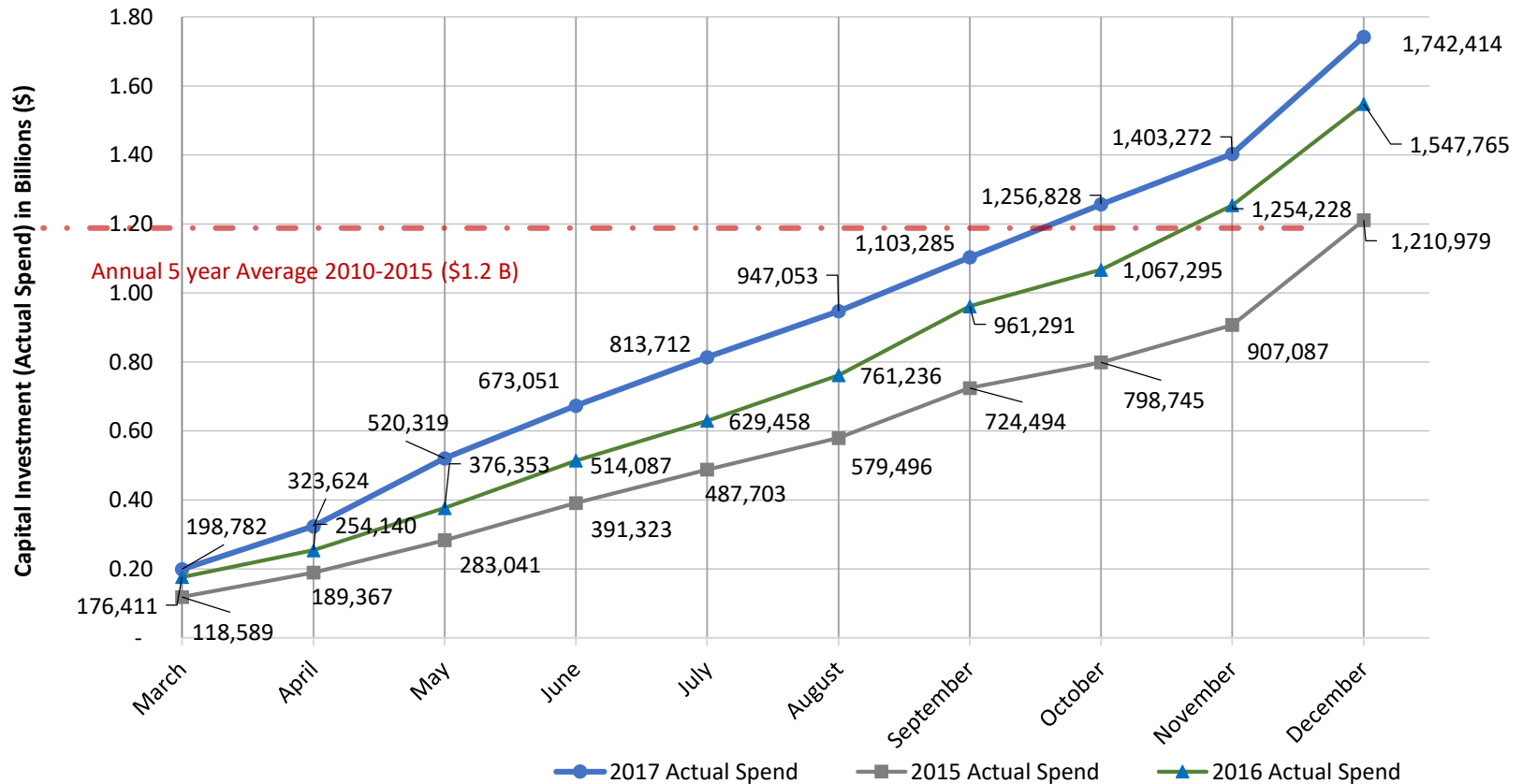


Infrastructure Cost and Impact of Inflation

- During an economic downturn, the costs of materials, labour and capital borrowing are lower than normal.
- Inflation in Calgary has been well controlled over the past 2 years, and is expected to remain so over the next 5 years, at around 2% per year.
- Salary and wage increases are expected to be limited over the next few years due to moderate economic recovery.
- Since 2009, lending interest rates have been at historically low levels. (This is despite the fact that the Bank of Canada raised rates by 0.25% in both July and September 2017). For municipalities like Calgary, this also means low capital costs for infrastructure investment.



The City's Capital Investment (2015-2017)



Capital Investment (2015-2016)

- Since 2011, The City's average yearly capital budget was above \$2 billion annually
- Since 2015, The City increased its actual spend on capital every month
- In 2016, business unit spend rates were up an average of 30% each month as compared to 2015



Snapshot of Calgary's Economy

90%
Calgarians Say We Need to Diversify the Economy

883,000
Total Employed Regionally

86.6
Self-Employed per Capita

2029
Expected Year for Completion of New Office Space

\$45M
Subsidy to Freeze the Non-Residential Tax Rate

27%
Downtown Office Vacancy Rate: Head & Sub lease

3
North American Rank for Future Business Friendliness

17.7%
Graduates with Degrees in STEM*

39.2
Small Businesses per Capita

1
Canadian Rank for Concentration of Millionaires

\$73,3669
Average Salary per Employee



Top 10
Most Attractive Cities for Workers

1
Participation Rate and Labour Productivity of Major Cities in Canada

7.2%
Unemployment Rate (Dec. 2017)

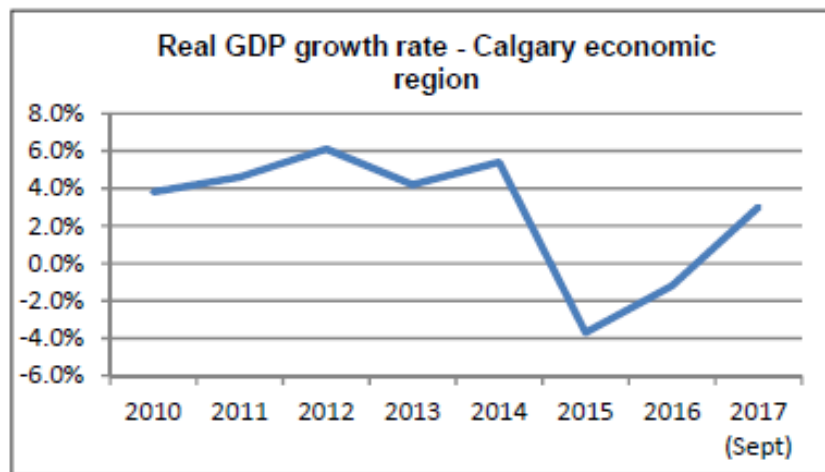
23,500
New full-time jobs in 2017

*Science, Technology, Engineering, Math (STEM)

Current Economic Environment

Calgary's population has been increasing, with net migration the major source of growth. Prior to the current economic recession, strong labour market conditions created an increasing demand for workers, drawing job seekers from the rest of Canada and internationally. From 2012 to 2015, there were approximately 100,000 total net migrants. In 2016, there were more people leaving the city than arriving, with a net loss of 6,527 persons. The 2017 Calgary Civic Census showed a net gain of 974 people. This slight increase signals that current market conditions have improved. As the economy continues to improve, net migration is expected to increase, however is not expected to return to pre-recession levels in the near future. Data sources: City of Calgary Civic Census, Corporate Economics.

Calgary experienced decreases in real Gross Domestic Product (GDP) in 2015 and 2016 stemming from the oil price slump that began in late 2014. The loss in economic output from the Calgary Economic Region between 2014 and 2016 is estimated at \$5.4 billion in 2007 dollars. Real GDP is expected to grow at 3.0% in 2017 as economic activities adapt to lower energy prices.

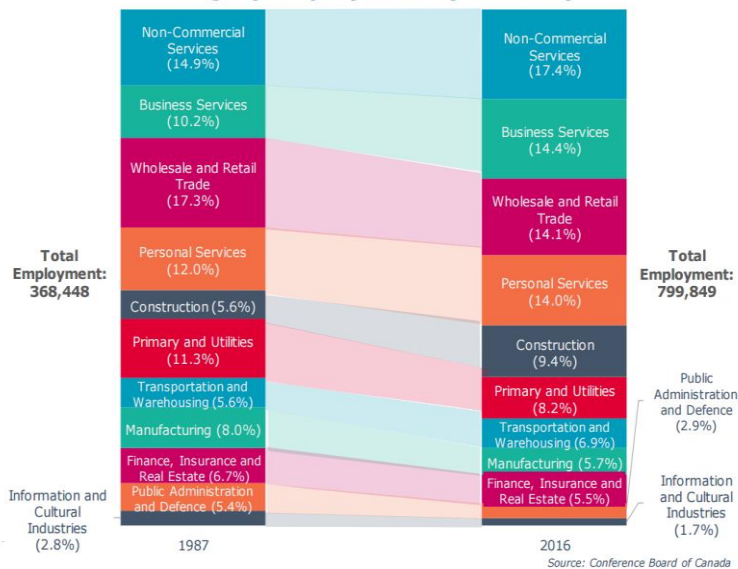




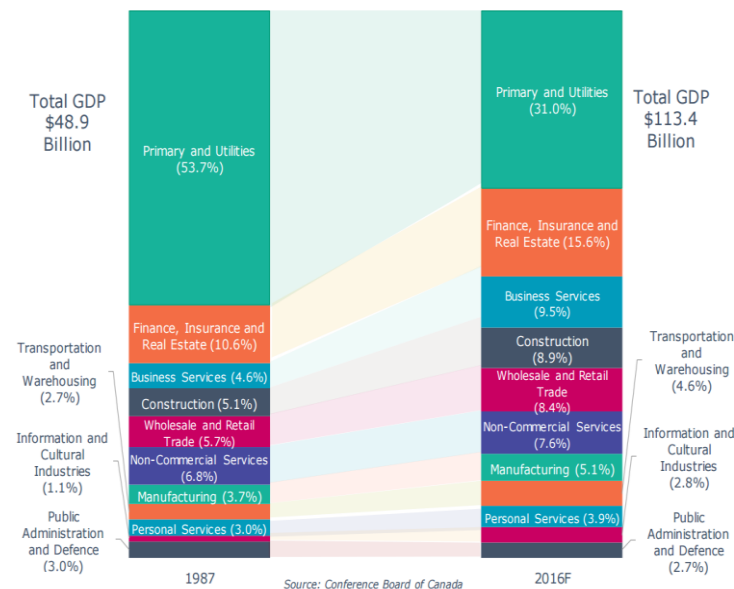
Current Economic Environment

Calgary's economy has been diversifying over the last 3 decades. Primary and utilities industry share of GDP dropped from 54% in 1987 to 31% in 2016. Many other industries have experienced increases in GDP shares, including finance, insurance and real estate; business services; wholesale and retail; and non-commercial services. (Data source: Statistics Canada) Over the past 20 years, the annual unemployment rate in Calgary has averaged 5.3%. This has ranged from a low of 2.6% in December 2006 to a high of 10% in October 2016. When unemployment in Calgary is in the range of 5 to 6%, the economy is experiencing normal job turnover. Outside of that range, the economy experiences undue inflation and either employers can't find enough workers or workers can't find enough jobs. Over the past 20 years, Calgary has enjoyed the lowest unemployment rates across the country which has attracted many people to Calgary. The unemployment rate today is elevated and hasn't been this high since the 1991-1994 recession when the Calgary unemployment rate peaked at 10.3% in 1993. At that time, it took 4 years for the unemployment rate to drop back to the normal range of 5 to 6%.

Calgary Employment by Industry



Calgary GDP by Industry



Current Economic Environment

In Calgary, building permit values are an indicator of the investment intentions of the real estate market. In 2013 and 2014, building permit values were elevated due to strong demand from both residential and non-residential sectors. Changes in building construction rules in 2015 and 2016 resulted in many builders advancing their construction plans. This resulted in a surplus inventory prior to the recent recession hitting Calgary, with levels now returning to normal. Consequently, vacancies increased and future building plans were muted. In 2017, the overall residential vacancy rate in Calgary was 4.8%, while the apartment vacancy rate was 9.6%. The office vacancy rate of downtown Calgary reached 27.4% in the fall of 2017. Though landlords are collecting rent on 83.1% of downtown office space, current tenants would like to sub-let 10.5% of their leased space in order to lower their costs.





Current Labour Environment

In 2017, the Calgary Economic Region (CER) gained back all of the job losses from 2016, and added more. The region's total employment increased to 883,000 in 2017, up 23,000 from 2016, with the majority of the job gains in full-time positions (+19,000). Among all industries, the greatest gains in job creation were Transportation and Warehousing (+8,800), Accommodation and Food Services (+8,100) and Public Administration (+7,100) industries. The greatest losses were in Construction (-7,600) and the Forestry, Fishing, Mining, Oil and Gas (-7,200) industries.

This increase in job creation in 2017 brought optimism to the Calgary Economic Region (CER). More people participated in the labour market and as a result the number of people not in the labour force declined from 345,000 in 2016 to 341,000. In 2017, there were 83,000 people unemployed in the region, compared to 85,000 in 2016 and the unemployment rate was 8.6%, compared to 9.0% in 2016. As the region's labour market remained less attractive to outside job seekers, the growth of working age population slowed in 2017.

Statistics Canada's Labour Force Survey from December 2017 found the following:

- In the Calgary Economic Region (CER), total employment increased by 6,900 from the previous month, and 13,500 from a year ago. The region's unemployment rate was 7.2%, compared to 6.7% in Alberta and 5.5% across Canada.
- From December 2016 to December 2017, new full-time jobs (+23,500) were partially offset by the losses in part-time positions (-10,100). New jobs were added in both the goods-producing (+7,100) and service-producing (+6,400) sectors.
- In the Calgary Census Metropolitan Area (CCMA), the average weekly wage rate in December 2017 was \$1,159, up by \$25 or 2% from a year ago; the total weekly wage bill for the CCMA was \$809 million, up by \$36 million year-over-year.
- In October 2017, there were 21,220 employment insurance (EI) recipients in the CCMA, down 35% from a year earlier.



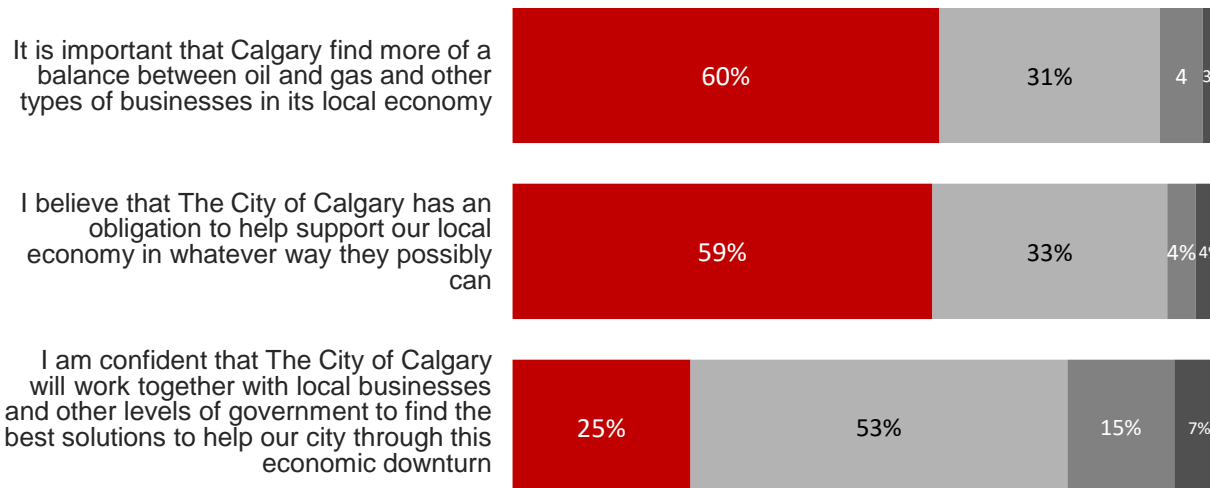
Role of The City in the Economy

Perceptions of the Role of The City & the Economy

Q: Please tell me whether you agree or disagree with each of the following statements regarding the role you would like to see The City of Calgary play in the current economic downturn.

■ Strongly agree ■ Somewhat agree ■ Somewhat disagree ■ Strongly disagree

% Agree			
Jul 2017	Apr 2017	Jan 2017	Aug 2016
91%	93%	87%	90%
92%	89%	95%	91%
78%	74%	78%	82%



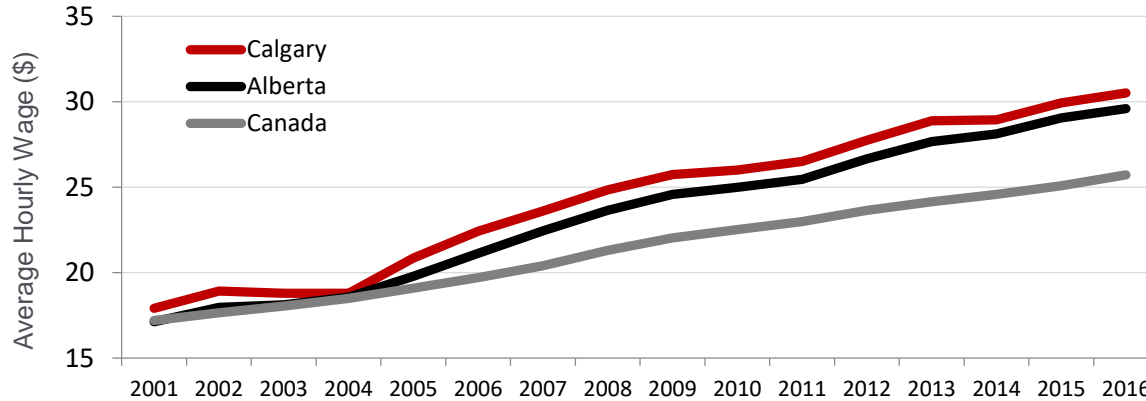
Source: 2017 Economic Perspectives survey (April) | Base for each wave n=500

- More than 90% of Calgarians agree it is “important that Calgary find a greater balance between oil and gas and other types of businesses in its local economy.”
- A similar proportion also agree “that The City of Calgary has an obligation to help support our local economy in whatever way they possibly can” however this is down slightly from January 2017.
- Calgarians’ confidence “that The City of Calgary will work together with local businesses and other levels of government to find the best solutions to help our city through this economic downturn” has decreased slightly since August 2016.



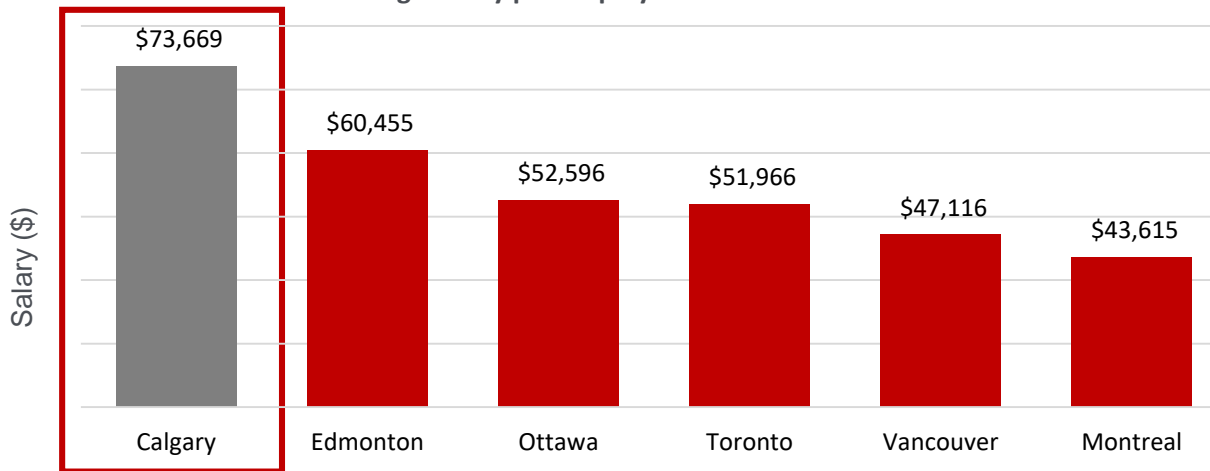
Wages and Salaries

Canada, Alberta and Calgary Census Metropolitan Area (CMA):



- From 2001-2016, Calgary's hourly wage rates have consistently been higher than the rest of Alberta and Canada. This led to increased migration from other provinces and countries.
- Despite the economic downturn in 2015 and 2016, average hourly wage rates in Calgary grew and were higher than Alberta and Canada, respectively.
- Average wage and salary per employee were highest in Calgary in 2016 (\$73,669) as compared to all other major Canadian cities.

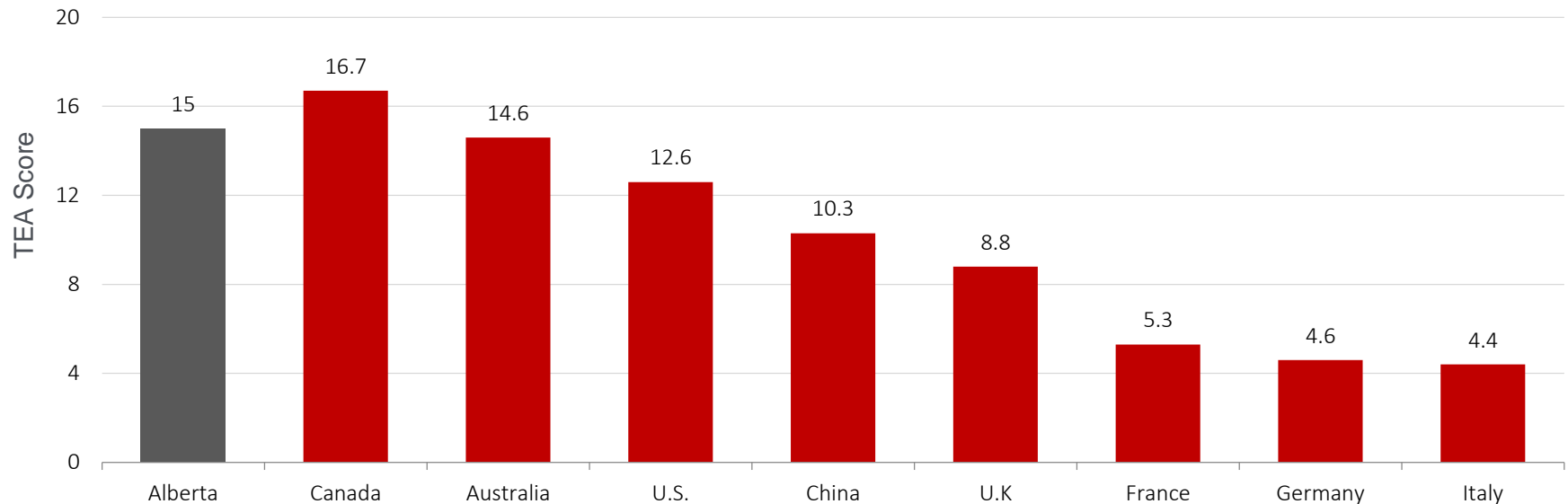
Average Salary per Employee 2016 for Canadian CMAs





Entrepreneurship (Alberta)

Total early-stage Entrepreneurial Activity (TEA) Score in 2016



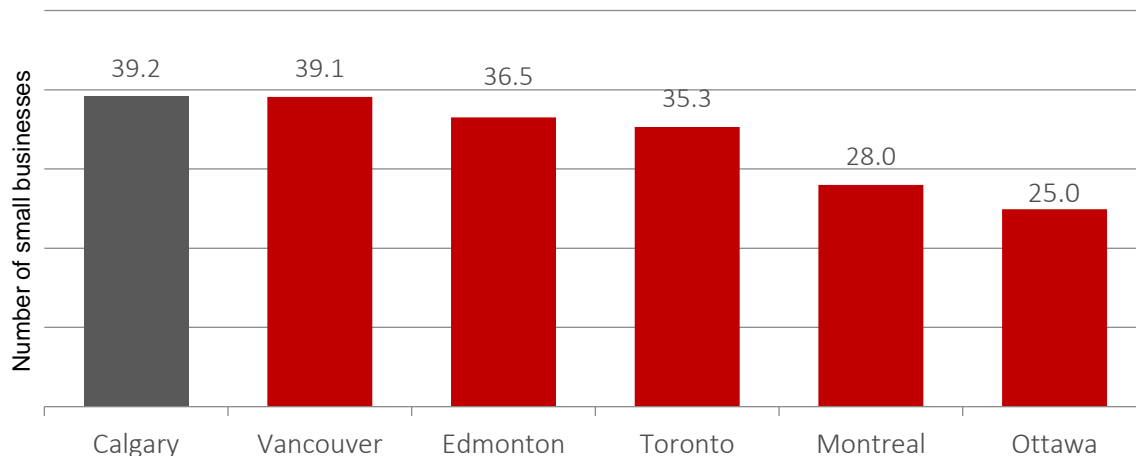
Source: 2016/2017 Global Entrepreneurship Monitor Report, February 2017
Note: the Alberta TEA score is 2015 index due to the unavailability of 2016 data.

- The 2016/2017 Global Entrepreneurship Monitor Report calculates the value of entrepreneurs in different provinces, cities and countries. The criteria for making this determination are: economic growth, job creation, sustainability and quality of life.
- Alberta scored 15, higher than all other countries and economies, with the exception of Canada as a whole.
- One conclusion that could be drawn from this data is that unemployed Calgarians become self-employed more easily in Alberta than in other parts of the world. This also implies Calgary's labour market may be more adaptable and resilient because of Alberta's entrepreneurial spirit.

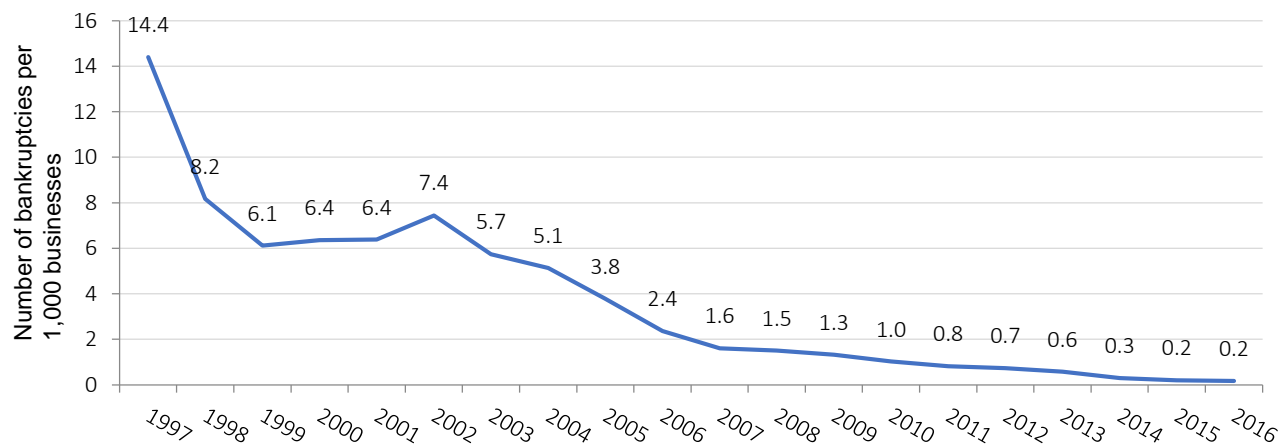


Small Businesses and Business Bankruptcy Rates

Small Businesses per Capita (per 1,000 population) in 2016



Business Bankruptcy Rates in Calgary CMA (per 1,000 businesses)



Small Business

- Statistics Canada defines a small business as one with less than 50 employees.
- Small businesses are often called the engine of an economy. They create jobs, improve employment rates, and ultimately make a positive contribution to the Gross Domestic Product (GDP).
- Calgary has a higher ratio of small businesses per capita than other major Canadian cities.

Business Bankruptcy

- Calgary's business bankruptcy rate has continued to decline since 1997.
- This is significant as more than 90% of businesses in Calgary's census metropolitan area (CMA) are considered 'small'.



Current Downtown Office Vacancy

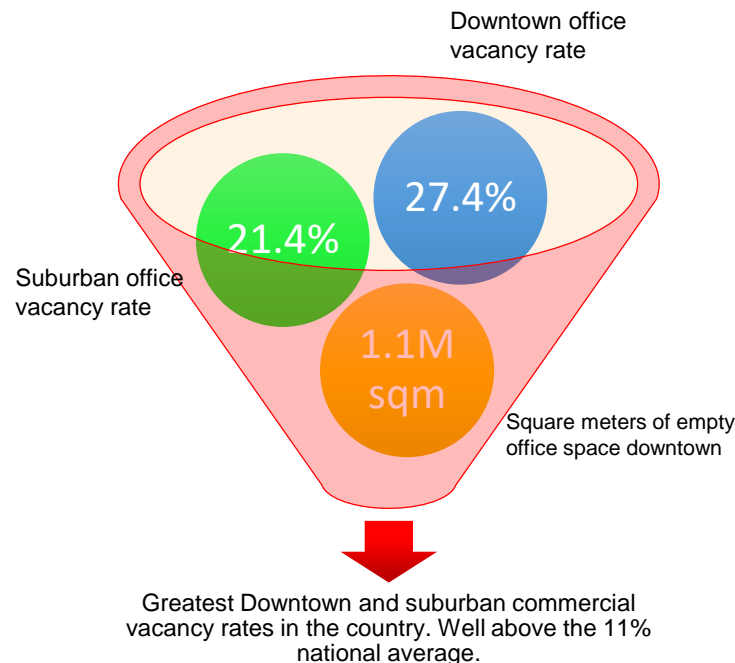
Business tax assessments decreased by 6% in 2017 due to high vacancy rates in downtown office space. It is predicted that the vacancy rate will likely stay above 25% for at least another year, meaning that the bulk of the tax burden will be on businesses outside the downtown core, although 2018 will not likely be as difficult as 2017. City Council approved a \$45 million subsidy to freeze the non-residential tax rate at 5% for 2017 and 2018. It is believed that the current downtown office supply will be sufficient for the next 20-25 years.

On June 12, 2017, Calgary City Council approved amendments to the Land Use Bylaw that removed a number of processes and regulatory requirements in the Centre City to make it easier for businesses to relocate into new spaces and for building owners to make improvements and modifications to their buildings to attract and accommodate new tenants. These new rules came into effect on June 26, 2017. The objective of the Centre City Enterprise Area (CCEA) is to reduce retail and office vacancies and maintain and enhance activity levels in the Centre City area.

The CCEA is a special area defined in the Land Use Bylaw where certain rules and processes have been suspended to facilitate changes in tenancy and upgrading of existing buildings. While there are certain exceptions, for most buildings, there is no requirement to obtain a development permit for the following common business and development transactions:

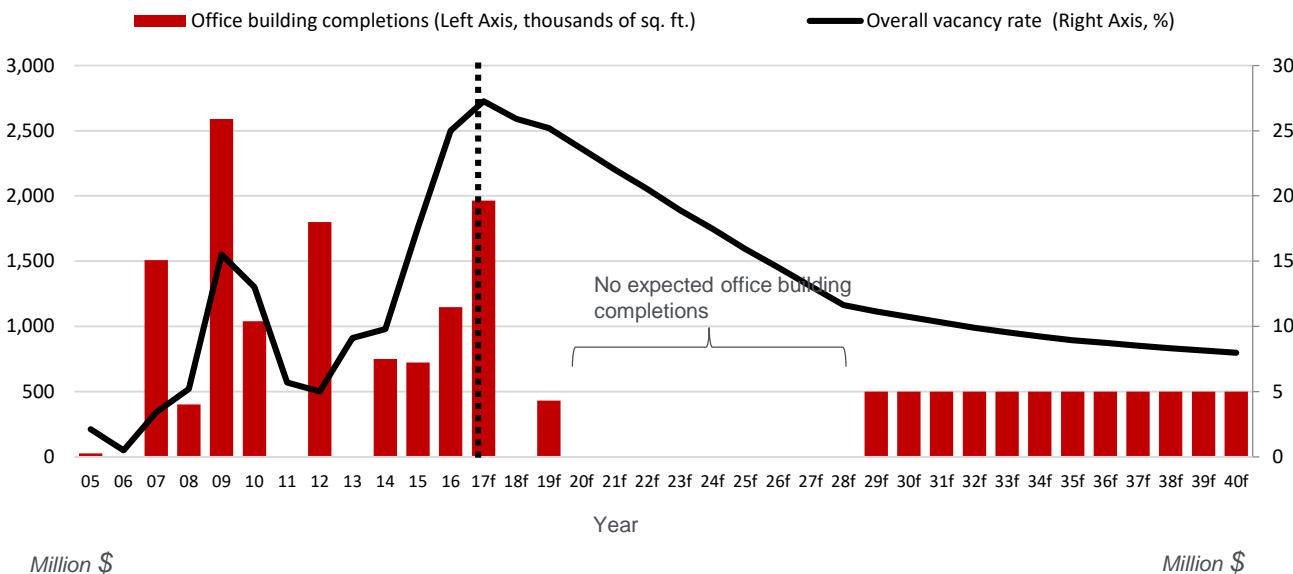
- To change from one defined use in Land Use Bylaw 1P2007 to another defined use (e.g. from retail to medical office or from office to residential) within the applicable land use district
- To change or modify the exterior of an existing building
- To make an addition to the building that is less than 1,000 square metres in area

Decreased assessed values of downtown office buildings has shifted the tax burden to other non-residential properties. The equivalent of 1 in 4 downtown office buildings are empty, and coupled with high unemployment, this poses a serious concern for The City. There is also a potential opportunity to pivot our economic drivers, explore new industries which diversify the economy and capitalize on our talented labour force.





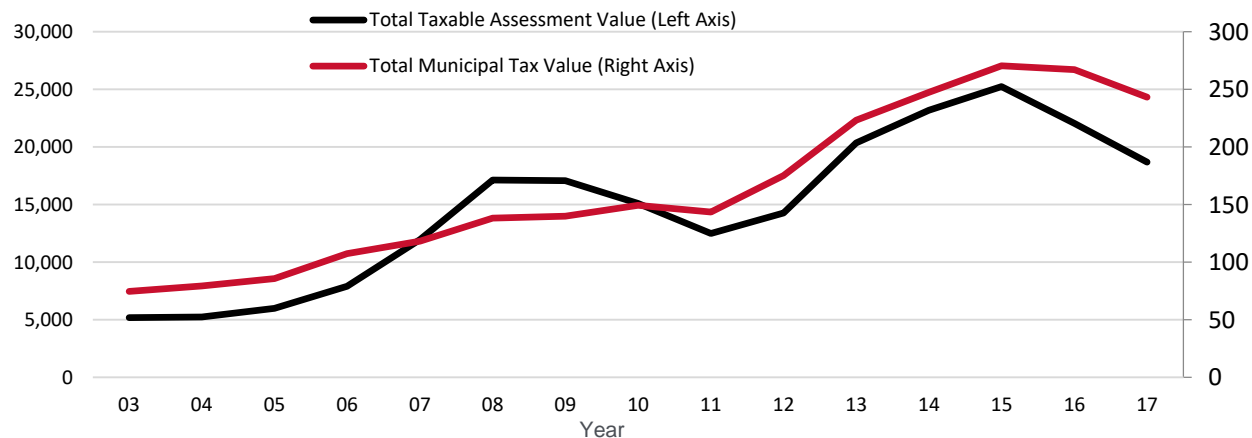
Office Building Completions and the Overall Vacancy Rate in Downtown Calgary



Downtown Office Space

- It is anticipated that downtown office vacancy rates will remain high and average rental rates will continue to decrease.
- After the opening of the Telus Sky office building in early 2019, The Conference Board of Canada anticipates there will be no major new office buildings constructed in the downtown core until 2029.
- The assessed value of downtown office buildings steadily increased from 2011 to 2015 but began to decline in 2016.
- The total assessed value of office buildings in 2017 is 24% lower than at the peak in 2015.
- Decreased assessed values of downtown office buildings has shifted the tax burden to other non-residential properties.

Total Assessment and Tax Value of Calgary Office Space



Note: 2017 assessment is determined as of the July 1, 2016 valuation date



Office Vacancy as an Opportunity

Calgary Economic Development understands that office vacancy has caused increased tax burden across the City. They also understand that there is an incredible opportunity to rethink our downtown core and have undertaken efforts to capitalize on this opportunity by utilizing the Economic Development Investment Fund and encouraging stakeholders to:

- Create spaces for collaboration and innovation in the Centre City and Downtown
- Continue investment in live, work, play opportunities in the Centre City and Downtown

Priorities

- Residential densification
- Creating more hubs/innovation centres and centres of excellence (entrepreneurial, exchange, high tech research and development)
- Strengthening the Arts and Culture District
- Repurposing existing downtown real estate
- Enhancing our events and festivals
- Bringing more post-secondary Downtown
- Increasing walkability and cycling infrastructure
- Expanding music city/district and supports
- Supporting new arena district
- Supporting convention centre expansion

Tactics

- Funding/seed capital from both public and private sector, land incentives
- Partnerships/collaboration between public and private sector
- Attracting entrepreneurs and innovative industries
- Integrating and/or co-locating incubators and accelerators
- Improving government processes/cutting red tape
- Enabling legislation/improved zoning and land use
- Repurposing office space in Downtown for other uses/providing space for free
- Building a Downtown university campus with student housing
- Adjusting parking strategies to accommodate residential
- More transportation options
- Improving neighbourhood vibrancy



Economic Development Investment Fund (EDIF)

City Council approved a \$100 million expenditure in order to develop the Economic Development Investment Fund (EDIF). The EDIF will support the overall efforts of Calgary Economic Development to market our city’s talented workforce, business advantages and quality of life to spur economic growth, investment attraction and retention of businesses and jobs.

The economy is a top priority for Calgarians and the challenges brought by an evolving energy sector require bold thinking. The EDIF will support strategic investments that act as a catalyst that spur growth, employment and increase municipal taxes.

Work on the governance to oversee use of the funds is underway and will be presented to City Council in the first quarter of 2018.

There is intense competition among jurisdictions worldwide to attract investment and job creation. Calgary is recognized as being among the most frugal when working with companies to facilitate locating their investments here.

Major corporate investments are increasingly seen as partnerships and, at times, the municipality must be able to bring something to the table that will close deals to bring significant benefits to Calgary.

Projects that could potentially be supported under the EDIF can be located anywhere in the city and may include targeted infrastructure, strategic relocation of industrial land, investments in technology, job training, brownfield redevelopment, innovation clusters/zones and optimization of vacant space.

The goals for EDIF are to support 3,600 new jobs, \$238 million in leveraged funds, \$300 million in GDP and \$300 million in potential incremental investment.



Create a return on investment
(both direct and indirect)



Support downtown
office vacancy **reduction**



Increase the
assessment base



Economic Development Investment Fund (EDIF)



Strategic

and catalytic investments



Decisions

made based on solid non-political risk/reward and cost/benefit analysis



Not business as usual

outside the box thinking



Deal making

and deal closing mechanisms



Utilize third-party objective validation

where appropriate



Calgary must be bold

and innovative to compete



Fast

nimble, responsive and rigorous processes



Generate return on investment

(ROI) and material impact



Leverage funding

partnerships and expertise



Transparency

and accountability



Employment Structure: Location Quotients in 2016

Industry	Calgary CER Employment Distribution	Canada Employment Distribution	Location Quotients (LQ)
All Industries	100	100	1
Agriculture	0.4	1.6	0.27
Forestry, Fishing, Mining, Oil and Gas	6.6	1.8	3.61
Mining and Oil and Gas Extraction	6.5	1.5	4.44
Utilities	1.1	0.8	1.39
Construction	10.3	7.7	1.35
Manufacturing	5.1	9.4	0.54
Trade	14.8	15.2	0.97
Wholesale Trade	3.6	3.7	0.96
Retail Trade	11.2	11.4	0.98
Transportation and Warehousing	5.8	5	1.15
Finance, Insurance, Real Estate and Leasing	5.4	6.2	0.87
Professional, Scientific and Technical Services	11.7	7.7	1.51
Business, Building and Other Support Services	3.5	4.2	0.82
Educational Services	6.2	7	0.88
Health Care and Social Assistance	11.1	12.9	0.86
Information, Culture and Recreation	4.2	4.3	0.96
Accommodation and Food Services	6.4	6.7	0.95
Other Services	4.7	4.3	1.1
Public Administration	2.8	5.1	0.55

- This table shows that Calgary is specialized in industries like oil and gas extraction, utilities, construction, transportation and warehousing, and professional, scientific and technical services.



Local Governance Structure - Council

The Local Authorities Election Act (LAEA) governs the election of persons to office in local jurisdictions in the Province of Alberta, which includes the City of Calgary and Calgary Public and Separate School Boards. The most recent version of the LAEA was amended December 10, 2012. The Calgary Election Regulation, AR 293/2009, amended by A/R 178/2012, modifies this Act specifically for the City of Calgary.

The City of Calgary utilizes 14 Wards to elect individual Councillors. The current Ward Boundary Bylaw for The City is Bylaw 19M91 and was amended by Bylaw 25M2016 to change the ward boundaries and the population of each ward to within +/- 15% deviation as required by Council Policy. Councillors hold office for four years.

Council roles and responsibilities

The Municipal Government Act (MGA) is the legislative framework in which all municipalities and municipal entities across the Province of Alberta operate. The current MGA is one of Alberta's largest pieces of legislation, containing 18 parts and more than 650 sections. The MGA provides the governance model for cities, towns, villages, municipal districts, specialized municipalities, and other forms of local government. It lays the foundation for how municipalities operate, how municipal councils function, and how citizens can work with their municipalities. The MGA contains three major areas of focus: governance; planning and development; and assessment and taxation.

Council is the governing body of the municipal corporation and the custodian of its powers, both legislative and administrative. The MGA legislates that councils can only exercise the powers of the municipal corporation in the proper form, either by bylaw or resolution.

Calgary's form of government is called a **council-policy committee system**. Council establishes its policies for governing the city based on information provided by 4 standing policy committees. These committees are composed of councillors and are responsible for approving and recommending policies to City Council in 4 main areas: operations and environment, finance, transportation, and community services.

A councillor's role is to work with other council members to set the overall direction of the municipality through their role as a policy maker. The policies that council sets are the guidelines for administration to follow as it provides services to citizens. A councillor will spend the majority of their time while on council creating new policies and programs or reviewing current ones to make sure they are working as they should. A councillor is elected to look after the interests of the entire municipality but is elected by the constituents of their ward. A councillor must be careful not to place the interest of the ward or electoral district above the interest of the whole municipality.

The Mayor, in addition to performing a councillor's duties, must preside when attending a council meeting, unless a bylaw provides otherwise. The Mayor must also perform any other duty imposed under the MGA or any other enactment. In practice, the Mayor is also generally the main spokesperson for the municipality, unless that duty is delegated to another councillor.

The Mayor is elected city-wide by all eligible voters and the duties of the role includes: Chairperson of council, consensus seeker amongst members of council, liaison with senior elected officials, ex officio member on various boards and committees, key representative with regard to ceremonial responsibilities, liaison with other orders of government, and advisor with regard to policy development.



Council's Approved Directives 2019-2022

These 5 priority areas – stemming from the [imagineCalgary vision](#) – will ensure Calgary remains a great place to make a living and a great place to make a life.

A Prosperous City – Calgary continues to grow as a magnet for talent, a place where there is opportunity for all, and strives to be the best place in Canada to start and grow a business.

A City of Safe and Inspiring Neighbourhoods – Every Calgarian lives in a safe, mixed and inclusive neighbourhood and has the right and opportunity to participate in civic life. All neighbourhoods are desirable and have equitable public investments.

A City That Moves – Calgary's transportation network offers a variety of convenient, affordable, accessible and efficient transportation choices. It supports the safe and quick movement of people and goods throughout the city and provides services enabling Calgarians and businesses to benefit from connectivity within the city, throughout the region and around the globe.

A Healthy and Green City – Calgary is a leader in caring about the health of the environment and promotes resilient neighborhoods where residents connect with one another and can live active, healthy lifestyles.

A Well-Run City – Calgary has a modern and efficient municipal government that is focused on continuous improvement to make life better every day for Calgarians by learning from citizens, partners and others.





Local Governance Structure - Administration

The Deputy City Manager/Chief Resilience Officer, the Director of Resilience and Infrastructure Calgary/Deputy Chief Resilience Officer and the Resilience team are embedded as permanent roles in The Corporation, and by the very nature of these positions, meet with and receive input from internal and external stakeholders on an ongoing basis. They participate and chair meetings that directly support resilience initiatives in relation to The City of Calgary leadership, strategic planning and operations. They also participate and chair external committees, and as The City's resilience champions and leaders, they give presentations and sit on panels for internal, local and national audiences.

Over the last 6 months of gathering input, the overall feedback received from internal and external stakeholders is that there is a demand to address resilience. Ongoing discussion and dialogue are needed to help define a common understanding of what 'resilience' means, clarification of its role and the benefits of resilience activities relative to other related initiatives (i.e., Climate Change Adaptation and mitigation, sustainability, emergency management etc.) Over the next 4 years, and as The City of Calgary moves from a business unit hierarchy toward a service based delivery model, resilience will be a key element in identifying the value of service to our citizens.

The shocks and stresses identified at the Agenda-Setting Workshop and The City's 100RC application are valid. In addition to these, the following are other areas of risk and concern to The Corporation and Calgary as a community: funding sources from other orders of government, the implications of the City Charter and Regional Boards and the Low Carbon Economy.

Key messages from dialogue with external stakeholders and citizens has identified concerns with the economy, value for money, and taxation (Citizen Satisfaction Survey 2017) and educational institutions (i.e., University of Calgary) express concern about the environmental and community well-being. Many organizations would like to see The City move more quickly (i.e., on the environment as it pertains to a low carbon economy) with innovation and creativity being evident in the private sector. Ongoing maturation of multi-stakeholder approaches to significant challenges are requiring clarification of roles and responsibilities among government in topic areas such as reconciliation, consultation policy renewal, environmental impact assessments and low carbon issues. Lastly, refreshed Regional Boards functions will require intentional alignment and planning to best access resources and manage natural and manmade infrastructure.



Local Governance Structure

Administrative Leadership Team (ALT)

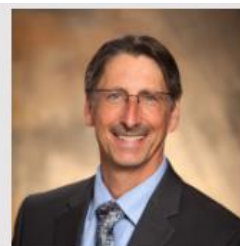
The Administrative Leadership Team (ALT) is the most senior group of administrative officials in the organization. The ALT exists to understand, make decisions about, and co-ordinate the various programs, projects and initiatives that have broad corporate scope, and provide influence to balance priorities in the best interests of the city community as a whole. The ALT tries to look beyond departmental or business unit silos and strives to connect all work processes so that they support overarching corporate goals.

At ALT meetings, the group will consider not just what needs to be done in various departments, but how work processes flow together, how employees can be best empowered to perform their jobs, and how each initiative will deliver on the priorities of Council. The ALT recognizes that moving The Corporation ahead effectively and consistently requires that leaders fully understand risks and issues and develop a vision for the future based on that understanding.

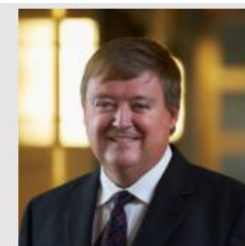
Jeff Fielding,
City Manager



Brad Stevens
Deputy City Manager
Deputy City Manager's Office
Chief Resilience Officer



Nelson Karpa
Acting Director
Customer Service &
Communications



Eric Sawyer
Chief Financial Officer
Chief Financial Office



Glenda Cole
City Solicitor & General
Counsel
Law & Legislative Services



Heather Reed-Fenske
Director/Chief Information
Technology Officer
Information Technology



Kurt Hanson
General Manager
Community Services



Michael Thompson
Acting General Manager
Transportation



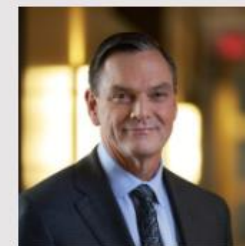
Mark Lavallee
Chief Human Resources
Officer
Human Resources



Dan Limacher
Acting General Manager
Utilities & Environmental
Protection



Rollin Stanley
General Manager
Urban Strategy



Stuart Dalglish
General Manager
Planning & Development

We are One City, One Voice

Our Vision – Calgary: a great place to make a living, a great place to make a life.

Our Purpose – Making life better every day.

Our Values – Individual responsibility – I act responsibly, perform my duties to the best of my ability and present myself as a positive ambassador for The City; and Collective accountability – We work together for the benefit of the people of Calgary.

Our Promises – Service Promise – What matters to you matters to us. We listen, respect and act. Employee Promise – The City supports a safe and respectful work environment. Above all, employees are afforded the same concern, trust, respect and caring attitude they are expected to share with every Calgary resident, business and visitor.

The City of Calgary has approximately 14,000 full and part-time employees. In 2017, Canada's Top 100 Employers named The City of Calgary one of Canada's top employers for young people.





Leadership & Strategy – Governance – MGA

The City will receive new legislative authorities to strengthen its role in environmental stewardship in Q1 of 2018 through the Municipal Government Act (MGA)

- **MGA:** new municipal purpose ‘to foster the well-being of the environment’.
- **City Charter:** bylaw making powers for any municipal purpose and specifically for environmental issues; recognition in planning part of MGA.
- **Calgary Metropolitan Region Board:** environmental considerations within the mandate.
- In absence of legislative definition for ‘environmental well-being’, the City of Calgary is exploring options to add clarity.

Strategic Alignment is under development with the understanding that results will better align existing City policies and ongoing work that touches upon the environment and environmental systems

Examples for future use:

- **Environmental & Safety Management (ESM)** – Implementation of corporate-wide environmental management system; establishment of corporate environmental objectives and enhanced environmental risk management; and update of The City of Calgary’s Environmental Policy.
- **Resilience & Infrastructure Calgary** – Alignment with focus areas for inclusion in Resilience Strategy for Calgary; better understanding of relationship between environmental well-being and social and economic resilience; support for climate resilience plan (ESM) and update of economic strategy (CED).
- **Calgary Neighbourhoods** – Alignment with The City’s contribution to social well-being; advancement of both social and environmental contributions to achieving Quality of Life Results.



The Office of the Deputy City Manager & Chief Resilience Officer

The Deputy City Manager's Office (DCMO) & Chief Resilience Officer (CRO) provide enabling services to The Corporation as well as the citizens of Calgary.

There are six business units that make up the DCMO: Facility Management (FM), Fleet Services, Supply Management, Real Estate and Development Services (RE&DS), Corporate Analytics and Innovation (CAI), and Resilience and Infrastructure Calgary (RIC).

Each area in the DCMO provides support to The Corporation, working with departments and business units that work directly with citizens to ensure they are able to provide the services required.

FM: Plans, builds and operates The City's portfolio of civic facilities.

Fleet Services: Enables citizen service deliveries through the lifecycle management of City vehicles and equipment.

Supply Management: Supports all City areas through the procurement of construction, consulting, goods and services, inventory management, fuel infrastructure maintenance, and disposal of City assets.

RE&DS: Provides expertise on real estate services and solutions to City departments and customers and sells services City-Owned lands to attract and retain employment in Calgary.

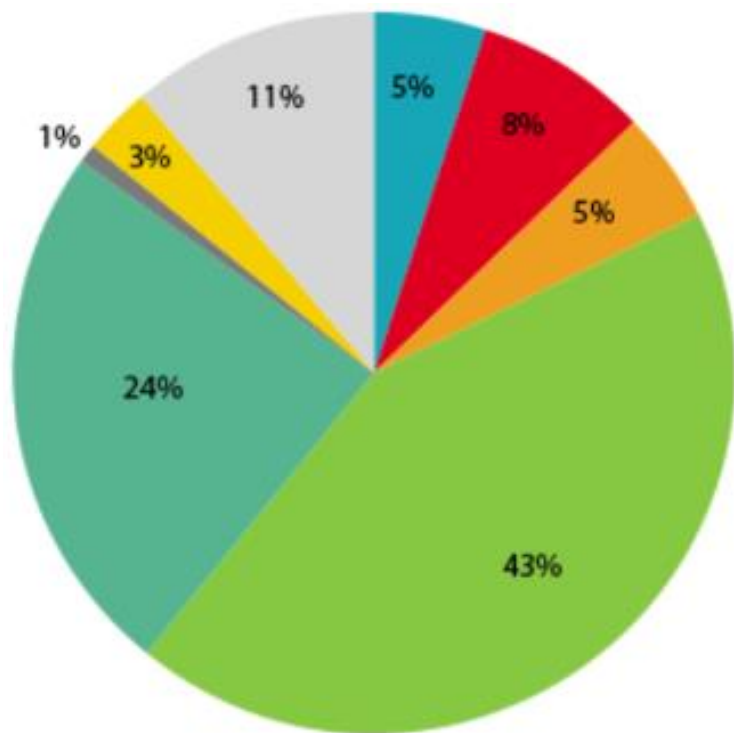
CAI: Creates, analyzes and provides data and information that enables City departments to make informed decisions about their services, including Calgary's Civic Innovation YYC Lab.

RIC: Collaboratively develops and implements strategies to reduce the efforts of social, economic and environmental shocks and stresses on Calgary, and supports capital invest. This Business Unit supports the CRO by providing resilience leadership, programming and policy development support.



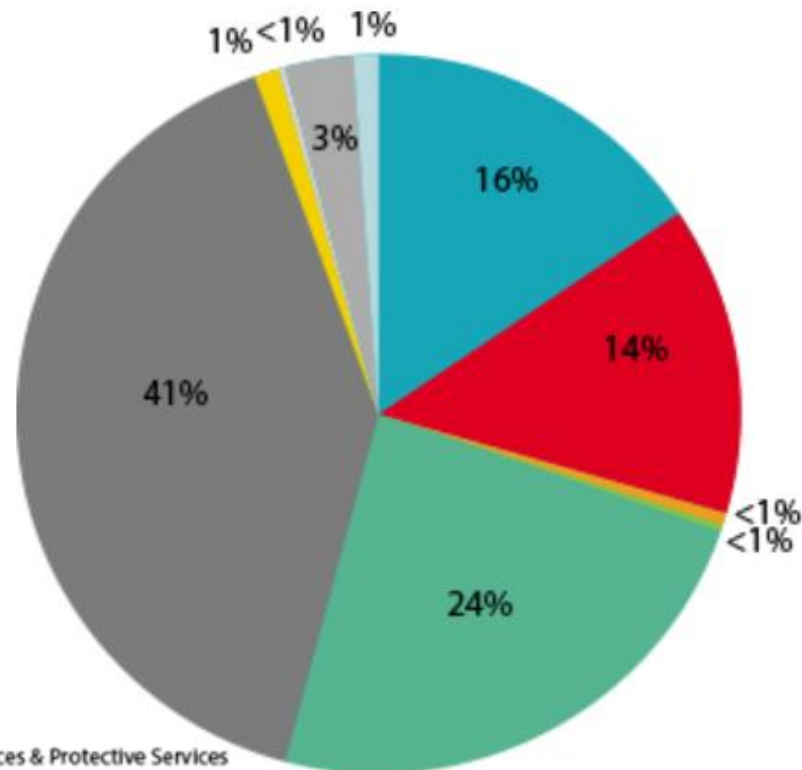
2014-2018 Capital Budget: \$5.8 billion

Raising the capital



- Federal Gas Tax
- Alberta Fuel Tax Sharing
- Other Government Grants
- Debt
- Capital Reserves
- Acreage Assessments
- Other Funding
- Municipal Sustainability Initiative

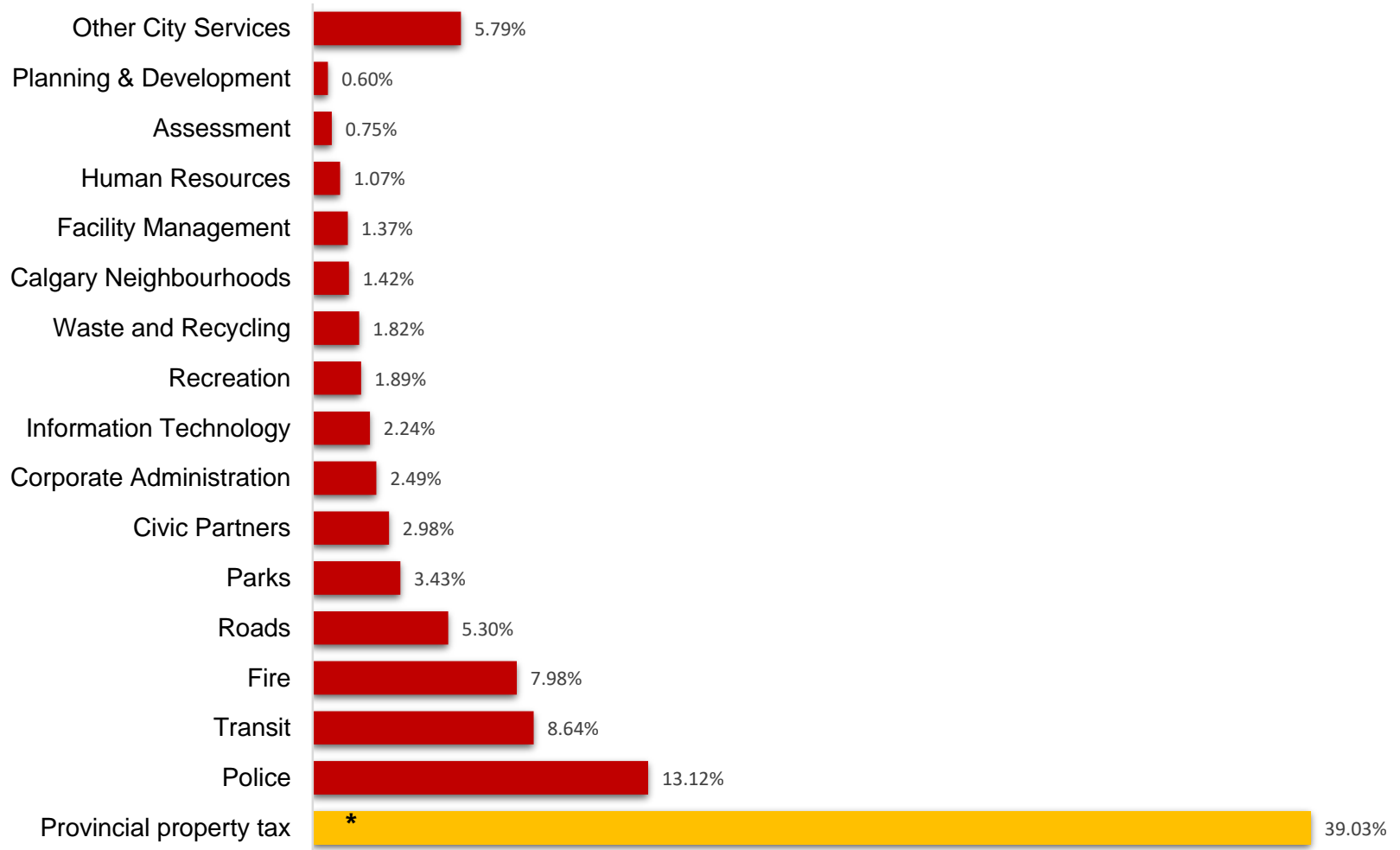
Spending the capital



- Community Services & Protective Services
- Corporate Services
- Calgary Housing Company
- Planning, Development & Assessment
- Transportation
- Utilities & Environmental Protection
- Calgary Police Service
- Corporate Administration
- Civic Partners
- Calgary Parking Authority



2017 Tax Breakdown



* This tax is collected by The City of Calgary and sent to the Alberta Government to pay the provincial property tax requisition.



Recent YYC Stresses and Shocks

2013				2014				2015				2016				2017			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<p>2013 Flood</p>				<p>Build Calgary</p>				<p>Economic Shift Affordable Housing Shortage</p>				<p>Infrastructure Calgary</p>				<p>Infrastructure Economic Development Investment & Fund</p>			

	2013	2014	2015	2016	2017
Total Population	1,156,686	1,195,194	1,230,915	1,235,171	1,256,389
Net Migration	26,201	28,017	24,909	-6,527	7,501
Overall Change in Population	36,461	39,508	35,721	4,256	11,166
Unemployment Rate (%)	4.8	4.9	6.1	9.0	7.2
CPI (Calgary)	128.8	132.7	134.3	135.6	138.9
\$USD/Barrel/Western Canada Select Oil	73	74	36	29	33
Downtown Office Vacancy Rate	6.1	8.3	12.2	23.9	27.4

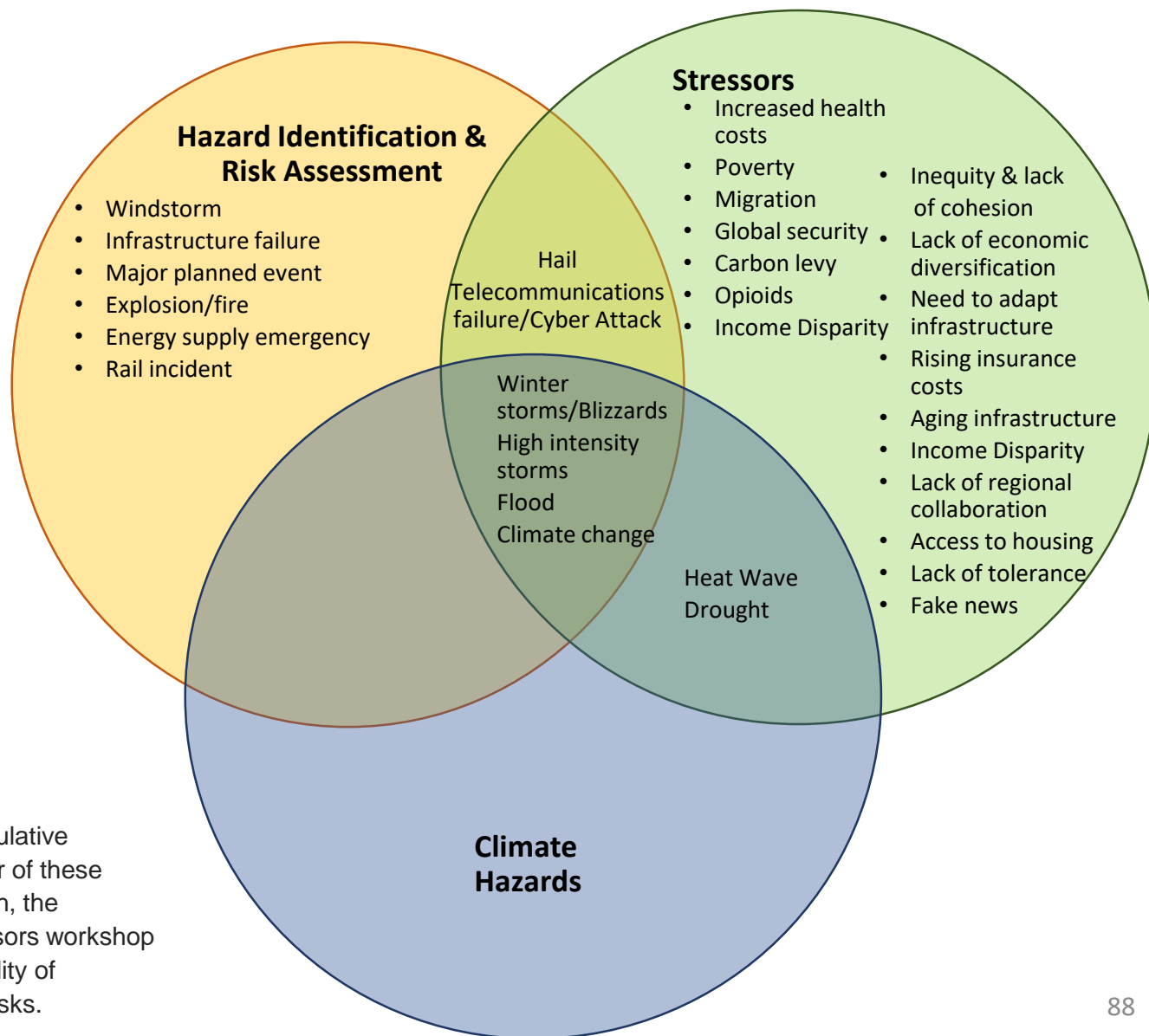


Corporate Risk Assessments

Calgary Emergency Management Agency (CEMA) conducts a semi-annual Hazard Identification and Risk Assessment (HIRA) with other corporate and partnering service providers. This assessment informs response and exercise planning efforts across The Corporation.

Historical trends in Calgary indicate that the average temperatures have steadily increased, warming approximately 0.8°C. This temperature change has resulted in an increase of frequency and intensity of climate impacts. The City's Climate Change and Environment team commissioned a report to identify Calgary's principal climate hazards.

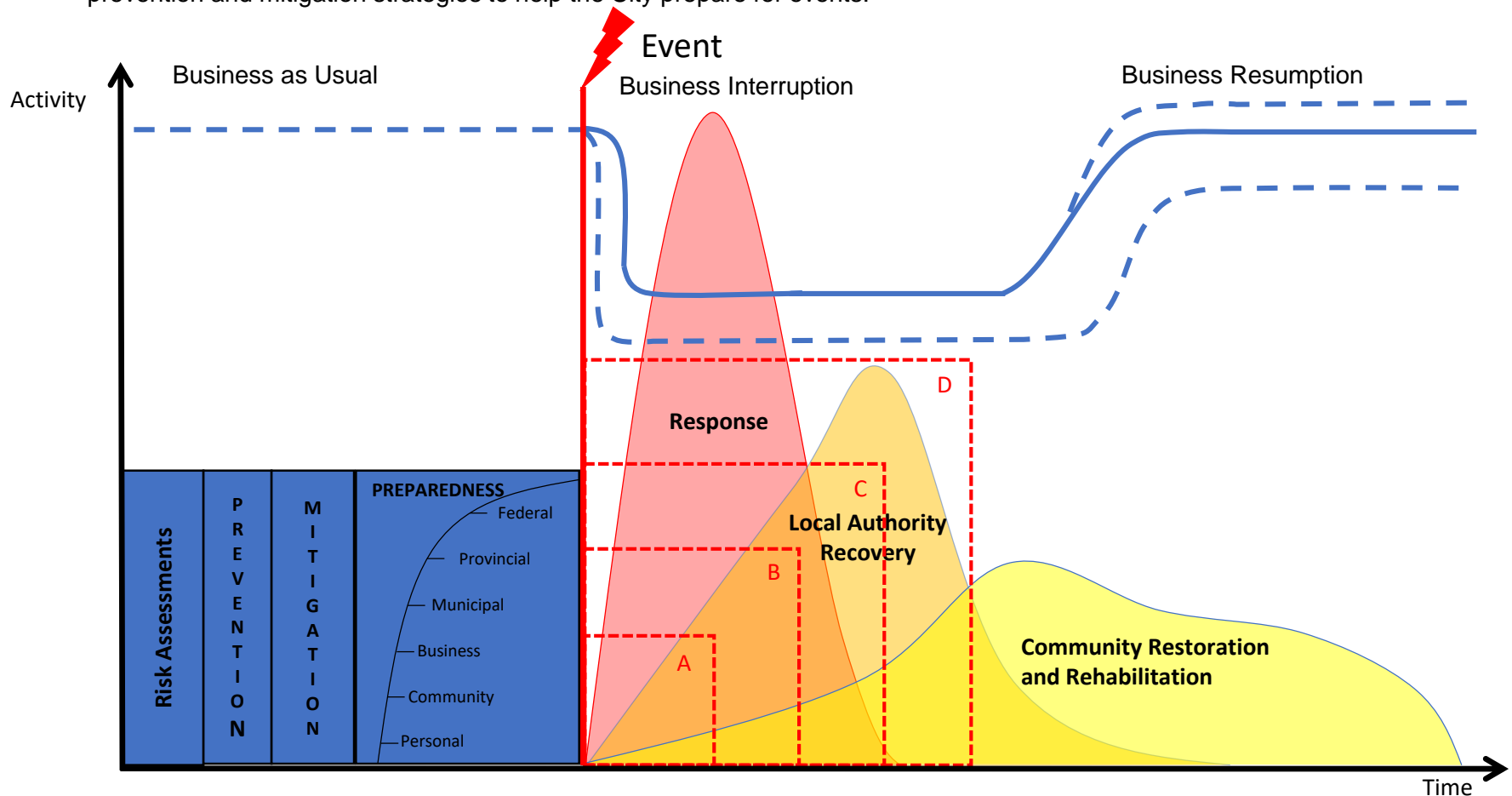
Many issues with long term accumulative impacts were not identified in either of these shock based assessments. As such, the Resilience team undertook a stressors workshop to examine the impact and probability of plausible community incremental risks.





Calgary Emergency Management Model

The Calgary Emergency Management Agency (CEMA) plans and coordinates emergency services and resources during major emergencies and disasters. CEMA works with other City departments, corporations, communities and non-profit agencies to increase Calgary's capacity to be prepared for and recover more quickly from a disaster. They coordinate the Hazard identification Risk Assessment as well as Corporate business continuity efforts. The goal of the response model is to understand the risks and develop prevention and mitigation strategies to help the City prepare for events.

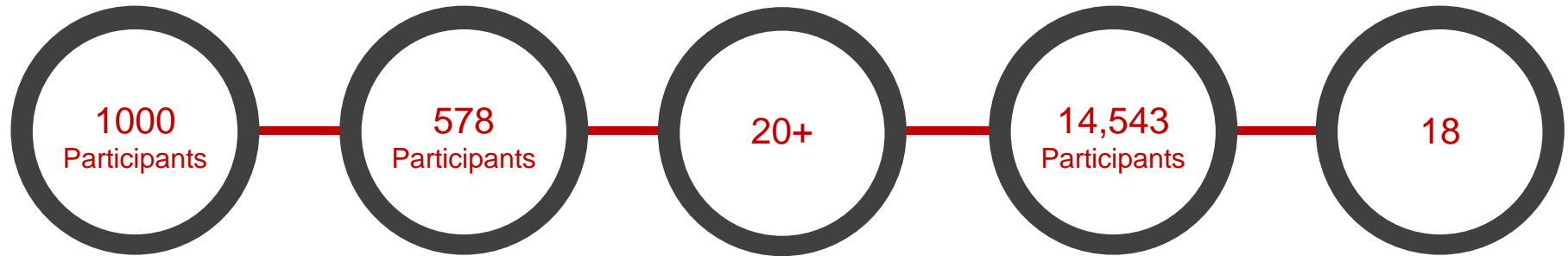




STAKEHOLDER PERCEPTIONS



Engagement



Workshops

- Environment Expo
- Agenda-Setting Workshop
- Agenda-Setting Workshop Table Input
- Discovery Area Confirmation Workshop
- Trends 2018 Workshop

Focus Groups

- Business Group
- Seniors
- Youth
- General Population
- Committee on Immigrant Inclusion

Interviews

- Calgary Economic Development
- Calgary Chamber
- Calgary Chamber of Volunteer Organizations

Surveys

- Citizen Satisfaction
- Economy, Quality of Life, and Infrastructure
- Seniors Age-Friendly Strategy Research
- Calgary Police Commission - Annual Citizen Satisfaction

Other

- Deputy City Manager Office Review
- Social Media

Citizen and stakeholder input helps City leaders and decision makers better understand the perspectives, opinions, and concerns of people potentially impacted by City decisions. Calgary's Resilience Team engaged a broad range of citizen and stakeholder input in forming and confirming its Preliminary Resilience Assessment (PRA) and Discovery Areas. Over 16,000 participants from a broad age spectrum, from youth at Calgary's Mayor Environmental Expo to targeted focus groups with Seniors, were engaged across a variety of platforms, yielding over 280+ discrete perceptions.

280+ perceptions engaging over 16,000 participants

Agenda-Setting Workshop

In order to gather perceptions, 2 workshops were conducted. On March 3, 2017, Calgary's Resilience team co-hosted an Agenda-Setting Workshop (ASW) with 100RC. This workshop brought together a diverse group of stakeholders and city leaders – including those who participated via livestream within The City, a first of its kind for the 100RC network – to discuss the concept of resilience and begin to identify the city's resilience priorities.

Participants included leaders from across Calgary's civic and community organizations, businesses and foundations, academic institutions, and government agencies. Groups of 6 to 10 people engaged in facilitated conversations at their tables.

Approximately 150 stakeholders and 50 support staff, including facilitators, participated in these conversations at the Calgary Stampede BMO Centre venue, and approximately 20 additional participants (including facilitators) took part remotely at The City of Calgary Civic Innovation YYC Lab. A further 425 people were able to take part virtually via livestream of the ASW throughout the day.

Major stresses and shocks cited by participants included connected communities, the importance of empathy and kindness, purposeful planning for the future, economic stress and uncertainty, weather and climate change, and lack of social cohesion and inequity.

After discussing the most urgent stresses and shocks facing Calgary, groups identified common patterns in the interactions between them. These patterns included negatively reinforcing cycles such as infrastructure investment declines leading to a reduction in the incentive to invest, economic stagnation in the downtown core reducing incentives for moving to and investing in the area, and groups that are more vulnerable to public health shocks becoming increasingly marginalized.

The groups also identified positive reinforcing cycles in the interactions between stresses and shocks, including a shock which could create increased communication and sense of cohesion between disparate groups, and efforts to reach out to/include marginalized communities (e.g., new Canadians) which creates greater links to, and thus early awareness of, the challenges these groups are facing.





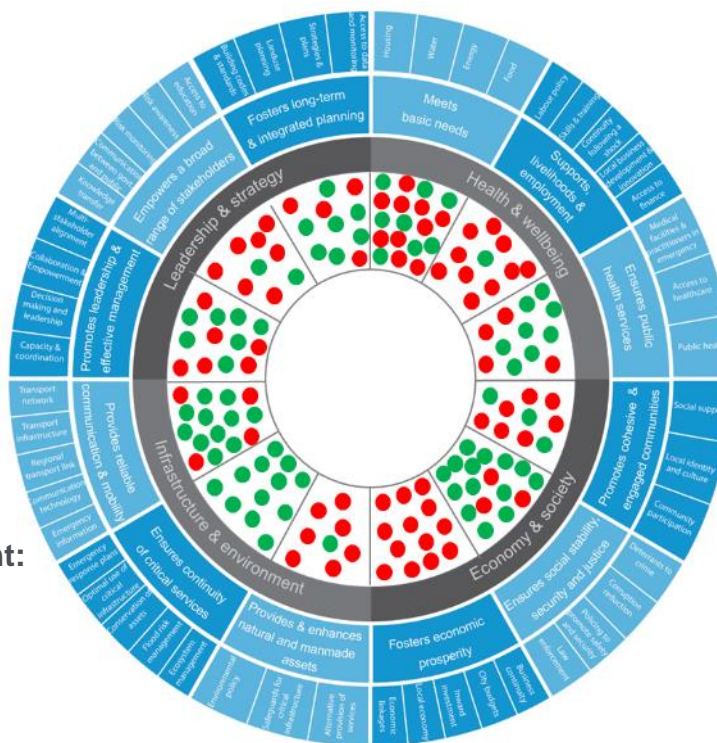
#ResilientYYC Agenda-Setting Workshop Findings

Strengths

- Social Stability, security and justice
- Continuity of critical services
- Reliable communication and mobility

Opportunities for Improvement:

- Foster economic prosperity
- Support livelihoods and employment
- Meet basic needs



Top Identified Stresses

- Economic uncertainty and increased unemployment
- Weather and climate change
- Poverty/access to housing and homelessness
- Inequality and lack of social cohesion
- Lack of economic diversification
- Increased unemployment and poverty rates

Top Identified Shocks

- Financial and economic crisis
- Extreme weather incidents: severe storms and rainfall/flooding
- Cyberattack
- Drought
- Fentanyl crisis

Agenda-Setting Workshop

Participants advocated for a number of actions to be undertaken:

Strengthening communities - A number of actions related to the imperative of improving communities' capacity to prepare for and deal with stresses and shocks. These suggestions emphasized creating self-reliance and capacity for local action among all communities in Calgary. The suggestions also addressed the need to ensure equity in economic conditions, opportunities, and access between communities.

Improving education and awareness around resilience - Many participants stressed the importance of education in preparing residents at all levels to become more resilient and to increase the city's overall ability to recover from stresses and shocks. Education in this sense refers to both formal learning and knowledge Calgarians develop through interactions with their peers.

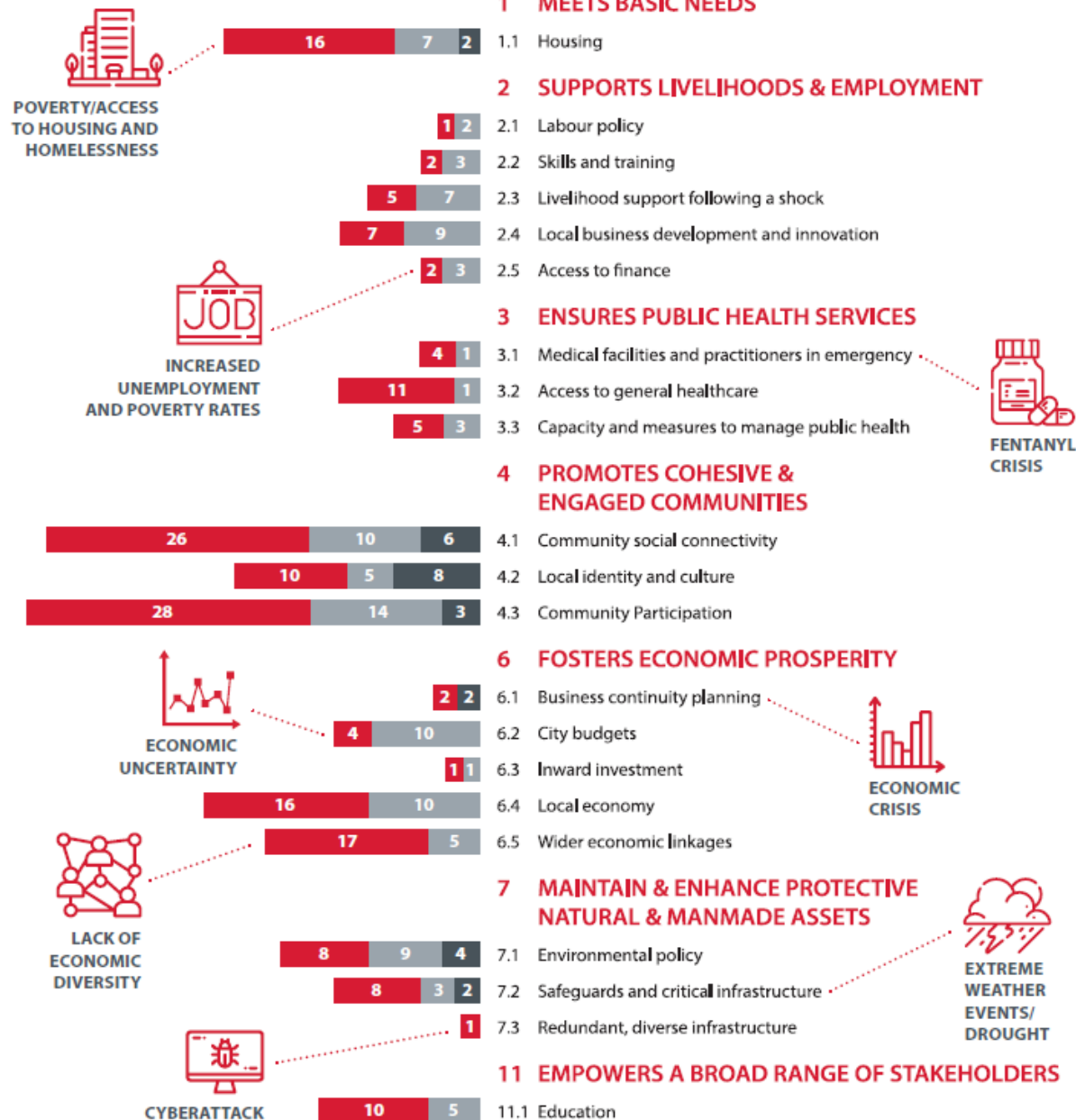
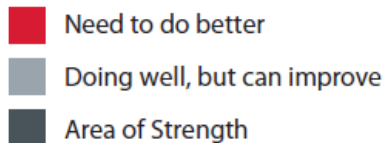
Building stronger governance and policies and executing plans - In addition to this emphasis on self-reliance, the group also recognized that formal governance and policies need to be aligned to successfully create a more resilient city. Participants felt that both individual policies and general operating principles could improve governments' ability to prepare for and deal with stresses and shocks. There was also an emphasis on the importance of ensuring a strong mechanism is in place to execute these plans.





Perceptions Alignment

The Agenda-Setting Workshop (ASW) aligned well with overall perceptions analysis. Citizens surveyed were more likely to respond positively to City efforts to address shocks and stressors than ASW attendees or focus groups. ASW participants and focus groups were driven to identify issues which may have resulted in the disparity of opinions.



POVERTY/ACCESS TO HOUSING AND HOMELESSNESS

INCREASED UNEMPLOYMENT AND POVERTY RATES

ECONOMIC UNCERTAINTY

LACK OF ECONOMIC DIVERSITY

CYBERATTACK

FENTANYL CRISIS

ECONOMIC CRISIS

EXTREME WEATHER EVENTS/ DROUGHT



Agenda-Setting Workshop

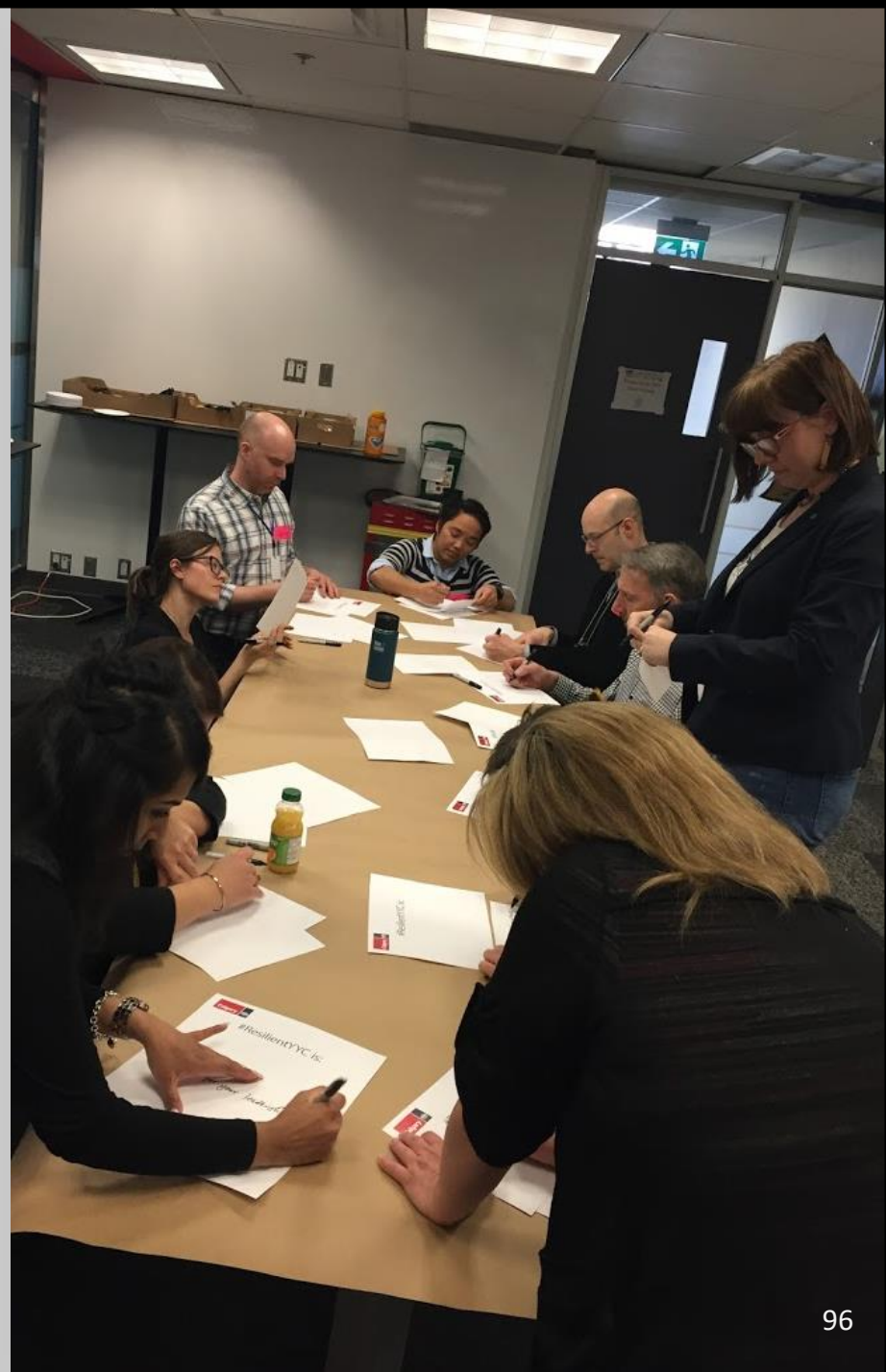
After prioritizing Calgary's stresses and shocks and discussing how to build more resilience in the city, the group conducted a broad assessment of Calgary against the City Resilience Framework (CRF). The framework provides a means of understanding the complexity of cities, the drivers that contribute to their resilience, and a common language that enables cities to share knowledge and experiences.

The top resilience strengths identified in Calgary were:

- Ensures continuity of critical services
- Ensures social stability, security, and justice – pride in policing
- Provides reliable communication and mobility
- Meets basic needs – water

The discussion regarding areas for improvement largely centered on one theme – the economy. Fostering economic prosperity, supporting livelihoods and employment, and providing and enhancing natural and manmade assets were identified as areas for improvement.

- Fosters economic prosperity
- Supports livelihoods and employment
- Provides and enhances natural/manmade assets
- Meets basic needs – affordable housing





Focus Groups

As a follow-up to the Agenda-Setting Workshop, The City’s Corporate Research Team (CRT) conducted qualitative research (focus groups) with seniors (65+), youth (18-25), private sector (Calgary businesses), and the general public to develop deeper insights into each of their perspectives, understanding, and aspirations regarding resilience. A total of 664 individuals served as focus group participants.

Quality of life was a cross cutting theme as seniors, youth and business owners cited this as a major stressor. Seniors worried about decreasing quality of life as they age due to both physical changes and economic difficulties. Youth saw quality of life impacts through the lens of their own personal environment, from school stressors and self image to bullying. Business owners saw quality of life as a means to attract and retain talent. Youth and seniors talked about mental health as a threat to quality of life but also an insulating factor when faced with shocks and stresses. The current economic crisis was reflected in the shocks and stresses identified by businesses as would be expected, but also by the general population and seniors who worried about their retirement assets and ability to meet basic needs.

	Top Stresses	Top Shocks
Seniors	<ul style="list-style-type: none"> ▪ Quality of life ▪ Mental health ▪ Meeting basic needs 	
Youth	<ul style="list-style-type: none"> ▪ Mental health ▪ Quality of life ▪ Reliance on technology 	<ul style="list-style-type: none"> ▪ Threats to safety and personal harm ▪ Terrorism
Business Owners	<ul style="list-style-type: none"> ▪ Quality of life ▪ Economic diversification ▪ Government change/policy 	<ul style="list-style-type: none"> ▪ Flood
General Population	<ul style="list-style-type: none"> ▪ Poverty ▪ Homelessness ▪ Economic diversification 	<ul style="list-style-type: none"> ▪ Power outages ▪ Severe storms ▪ Economic crisis

Focus Groups Youth - Calgary's Mayor's Environmental Expo



Calgary's Resilience team had an opportunity to talk to Calgary's youth at the City's annual Mayor's Environment Expo, held June 6-8, 2017. The Expo gives students throughout the city a chance to learn about environmental issues and ways they can help protect the environment.

The Mayor's Environment Expo gave Calgary's Resilience team an opportunity to garner input from younger youth in Calgary to add to their existing work in developing a resilience strategy. Through collaborative discussions, a partnership was formed between the coordinator with the Mayor's Environmental Expo (an initiative through Environmental & Safety Management), the Resilience team and the Innovation lab which resulted in 2 focus groups for youth under 18.

Two classes – together consisting of 97 students from grades 5, 7, 8 and 9 – were asked to participate in resilience focus groups. These classes were selected by Expo organizers based on three factors:

- Classes were scheduled to participate in the Expo
- Teachers had existing relationships with organizers
- Schools had a diverse student demographic

The youth focus group included a basic introduction to the topic of resilience, stresses and shocks, and how stresses and shocks impact communities, our city and individuals differently. Youth discussed what resilience means to them, identified what stresses and shocks impact them most, and how stresses and shocks can intersect with situations.

Youth cited 5 major areas for what resilience means to them:

- The ability to bounce back from a problem
- The ability to refocus, reframe or try a new approach
- Gain knowledge
- Persevere
- Keep improving



In the second activity, youth were asked to identify what stresses and shocks they feel impact them the most. These ideas were generated at the session rather than utilizing a pre-existing list of stresses and shocks.

Stresses:

- School, including school work and tests
- Bullying
- Terrorism
- Self-image
- Reliance on technology

Shocks:

- School, including changing schools
- Physical harm, injury

Lastly, the third activity asked youth participants to relate how seemingly unrelated stresses/shocks intersect with various people/places/things (situations). Interdependencies discussed include:

- Money and seniors
- Money and pets
- Bullying and recreation centre
- Indigenous youth and family issues
- Youth not living with family members and losing a loved one
- Seniors and environment
- Self-image and Indigenous youth
- Tests and trees
- Reliance on technology and the farmer's market
- School and school
- Youth not living with family members and relationships



Broader Resilience Conversations

Input from participants at broader resilience-themed consultations have raised a number of issues that should be considered in refining the discovery areas. A summary of these consultations are included.

A Conversation with the Chief of the Alberta Human Rights Commission

On May 9, 2017, Robert A. Philp Q.C., Chief of the Commission and Tribunals, Alberta Human Rights Commission, hosted a meeting with organizations in Calgary to learn about local human rights issues and priorities with 51 participants representing various sectors attending.

The key takeaways from this conversation were:

- **Immigrants, refugees and Indigenous people experience racism and discrimination**, particularly in the areas of housing, employment, healthcare and education. It is believed that many people stereotype and make racist assumptions about these groups, and that racism is often 'internalized and unconscious.'
- **Economic inequality and discrimination based on socio-economic background** is a reality for many Calgarians and this discrimination is fueled by assumptions about people's socio-economic status. There should be a stronger focus on reducing economic inequality, rather than poverty or wealth disparity.
- **Basic services, like food, shelter and health, are limited and often too difficult to access**, and those already marginalized and most vulnerable in Calgary, such as Indigenous people, people experiencing homelessness, refugees and immigrants, face the most barriers in accessing services.
- One of the biggest barriers was **limited funding and resources** for human rights work.
- Preconceived thoughts, myths and stereotypes about certain groups are barriers in dealing with human rights issues in Calgary's communities.
- Human rights incidents, issues and concerns go unreported, as there is a **fear of reporting or speaking up about human rights**.





Kitchen Table Discussions with Calgary's Immigrants

In 2017, over 500 immigrants participated in 100 kitchen table discussions to discuss the barriers they face to inclusion in Calgary. The focus groups were conducted by 30 immigrants in a language and manner that was comfortable for each group. Key themes found were:

Employment Barriers

- Immigrants believe that they are under-employed, i.e., their education qualifications and international work experience are not recognized and valued by Calgary's employers and provincial licensing bodies for professionals and trades
- Immigrants face work-place discrimination (lower wages, bullying, limited term contracts, non-inclusive hiring practices)

Participation Barriers

- Calgary has not taken leadership/responsibility on issues of racism, xenophobia, islamophobia and discrimination
- There is unequal access to public space, without discrimination
- Engagement opportunities require high English literacy and do not take into account different cultural norms/worldviews
- Leaders in all sectors are not representative of immigrant/racialized communities
- Believe that they need to be a Canadian citizen to participate in municipal decision making
- There is a perception that immigrants living in residential concentrations of other immigrants are not interested in civic engagement
- Limited access to transportation located in residential concentrations of immigrants and insufficient appropriate, affordable and safe housing
- Planning and development policies and practices have contributed to spatial segregation/ethnic enclaves

Social Capital

- Calgary has not encouraged Reconciliation between Indigenous and immigrant communities
- Immigrants are great at connecting with people within their own ethnic/religious communities, but not with other communities

Other

- There are insufficient social safety protections for temporary residents, immigrant women and seniors (i.e., exploitation, super-visas)



Disabilities and Accessibility Consultations

In 2015, consultants met with a variety of Corporate staff and people with disabilities to understand the successes, challenges and future of accessibility at The City of Calgary, with 86 individuals participating in either focus groups, in-person or email interviews.

The themes that emerged were:

- Accessibility is not seen as critical for all City Business Units and there is a lack of coordination between them
- Need to strengthen the implementation of access design standards for city infrastructure
- Need to get better representation of people with disabilities in leadership positions and council committees to influence municipal decision making

Urban Aboriginal Peoples Study

This engagement, conducted by the Environics Institute, and guided by an Advisory Circle of recognized experts from academia and from Indigenous communities, investigated relationships with Calgary's Indigenous and non-Indigenous people, life aspirations and definitions of success, and experiences with discrimination. The engagement revealed the following themes:

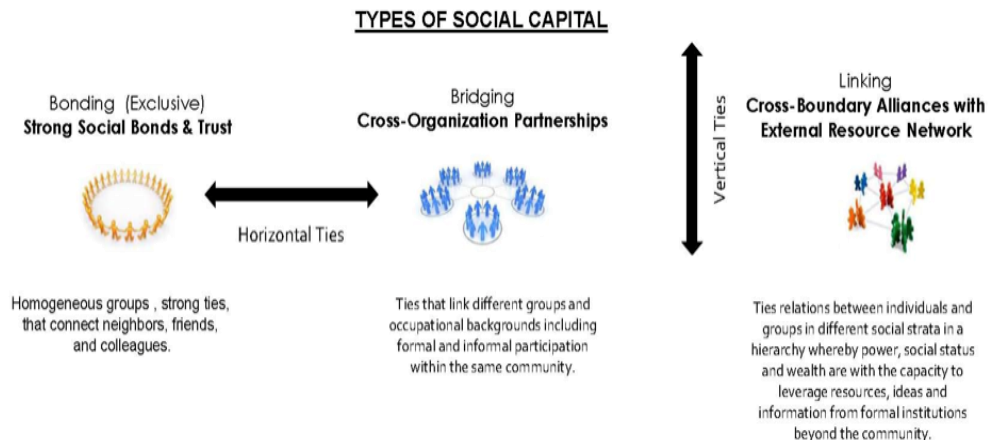
- A majority of Indigenous peoples in Calgary consider the city to be their home and like living in their city
- There is strong Indigenous pride among Indigenous peoples in Calgary, yet, they are also among the most concerned about their ability to retain their cultural identity
- Discrimination of Indigenous peoples is a pervasive problem that majorities have personally experienced
- Addiction problems dominate the list of negative and distorting stereotypes that non-Aboriginal people are believed to hold about Aboriginal peoples
- The top life aspirations for Indigenous peoples in Calgary are completing their education and raising a family
- Family and friends, and a balanced lifestyle, are considered the most important ingredients of a successful life
- 6 in 10 Aboriginal peoples in Calgary think they can make the city a better place to live
- Calgary residents are divided about whether Aboriginal peoples have unique rights and privileges as the first inhabitants of Canada or are just like other cultural or ethnic groups in Canadian society



Disaster Psycho-Social Resilience Capacity Building Forum

In November 2017, a forum was held with a variety of strategic planners, emergency managers, program leaders and researchers from The City of Calgary, Alberta Health Services, NGOs, etc. This 2 day event was an opportunity for approximately 80 stakeholders to contribute to Calgary’s disaster preparedness, response and recovery activities. Participants discussed:

- 1. Role of Bridging Social Capital in Resilience** - While Calgarians are great at coming together to help in a disaster, Calgary has not focused enough on building bridges at the neighbourhood level before a crisis strikes. Participants felt that residents need to have this in place beforehand if neighbourhoods are to recover faster. Calgary communities are great at bonding social capital, where like groups like to hang out with like groups. They feel safe with their own communities, however, Calgarians have a harder time with other groups that don’t think or look like them. They don’t know how to come together in times of crisis. Calgary doesn’t have comprehensive plans to restore community networks. This needs to change because it’s only when all residents work together will the neighbourhood survive and thrive (move from me to we).
- 2. Neighbourhood Self-Sufficiency** - Participants believed that Calgary’s neighbourhoods could not be sufficient if emergency services could not reach them. They were especially concerned about neighbourhoods with high numbers of residents facing vulnerabilities, such as poverty, language barriers and physical disabilities. Participants felt that Calgary should recognize the people assets for each of their neighbourhoods, map them, and then leverage them during a disaster. This includes assets that under-represented populations bring to the table.
- 3. Role of Linking Social Capital in Resilience** - As large system players (The City of Calgary, Alberta Health Services, etc.), we have not done a good job at building mutually trusting relationships with residents facing vulnerabilities. Participants recognize that there is a large power imbalance, therefore, it is difficult to build meaningful relationships. They also discussed how hard it was to build relationships with immigrants who come from countries with corrupt governments.





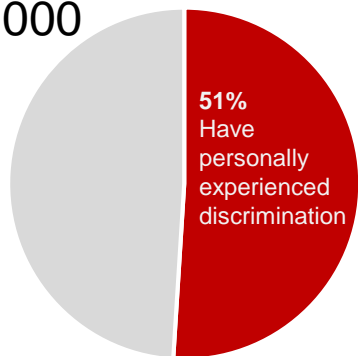
Calgary Foundation Survey - Inclusion in Calgary

1,707 residents completed the Calgary Vital Signs survey between May 25 – July 14, 2016 by assigning grades, choosing priorities, and voicing their opinions about key issue areas. The online survey is based on a self-selected respondent population. The results include:

Muslim's Personal Experience of Discrimination in the Past 5 Years

Total Muslim Population in Calgary:

70,000



76% Believe discrimination has risen in the past 5 years

23% Of incidents identified as verbal abuse or physical attacks

Islamophobia Hotline

78 Complaints

80% Workplace related

Sport is Not Accessible to Everyone

LGBTQQ Communities

81% Reported witnessing or experiencing homophobia in sport

70% Believe youth team sports are not welcoming or safe for LGBTQQ people

25% Of gay men who did not play youth team sports, 45% of them stated negative experiences in school turned them off team sport, while 34% say they feared rejection because of their sexuality

Indigenous Communities Participation

60% Boys 12-17

46% Girls 12-17

23.5% Men

11.2% Women



Quality of Life Report: Resilience – Story Behind the Numbers

Economic - While business openings and closures are close to the 5 year average, Calgary will no longer be home to the highest number of small businesses per capita. Businesses are the foundation of our economic prosperity. Not surprisingly, businesses' perception and confidence in the local economy is poor. In addition to a struggling economy, businesses in Calgary feel they are facing seemingly uncoordinated policy, regulations and tax changes within the municipal, provincial and federal governments. In a confidence survey conducted by Calgary Economic Development and Calgary Chamber, businesses cited reducing taxes and fees, creating a more business friendly environment and removing regulatory barriers as the top things government could do to support business in Calgary. When asked about the most important considerations for organizational growth, businesses cited securing new clients, competitive tax environment, improved productivity and acquiring suitable staff. The opportunity still exists to invest in infrastructure to support the economy.

Social - Socially inclusive and cohesive communities have residents who are well connected with one another and have a strong sense of belonging. In 2017, 38% of residents believed that a more ethnically diverse population leads to less connections between people. This can result in increased segregation and heightened racial, ethnic and religious tensions in communities. In 2015, Indigenous, immigrant and visible minority people earned lower wages than the general population. This income disparity has a negative impact on economic mobility, social capital and meeting basic needs for those impacted people.

Transport - While providing the essential requirements needed to deliver services to citizens, the nature, quality and design of infrastructure can play a pivotal role in defining or fostering the character of a place, or in supporting communities as they are challenged by economic, social or environmental challenges. According to the 2017 Economic Perspectives survey (April), conducted by The City of Calgary, Calgarians believed it was a very good time (39%) or somewhat good time (42%) to invest in new projects like roads, public transportation and local facilities. As investment in infrastructure, whether constructed or natural, matures beyond addressing basic service needs to facilitate resilience planning and opportunities, the community will become strengthened with more individuals safeguarded from harm.

The City of Calgary's historical \$2 billion annual capital investment as the financial mechanism to address and support citizen expectations, and important quality of life directives, is at risk in future years.



Bootcamp & Engagement

September 26-30, 2016 100RC/City of Calgary Orientation Meetings: Pre-ASW Orientation

ORGANIZATIONAL COMMITMENT TO RESILIENCE - 16 meetings, including site visits. Met with over 100 City of Calgary leaders/employees representing all City departments, with themes as follows:

Leadership – We witnessed a true desire across the organization to find solutions and solve problems. It resonated that leadership at The City had adopted a thoughtful commitment to address issues and identify opportunities for service improvement.

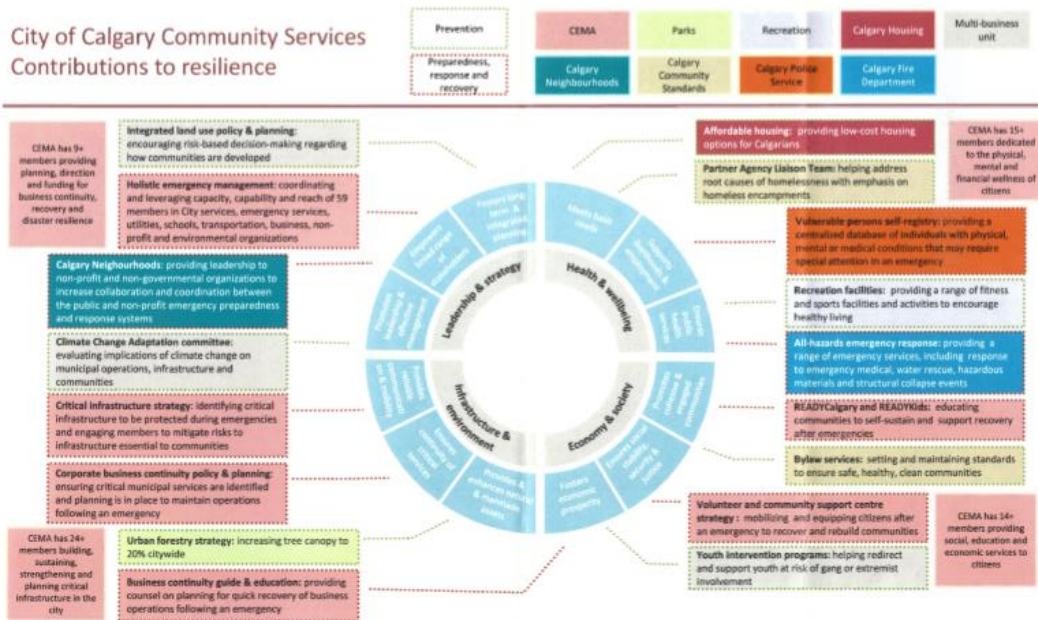
Collaboration – Building networks internally and externally, to ensure optimal use of our resources. It was very apparent that not only are we very aware of each other in The Corporation but that we already collaborate and work together. This 100RC opportunity offers additional resources to build on our relationships and create tangible strategic goals and targets to achieve together.

Environment/Climate Change and Sustainability – Realizing opportunities to build on the work undertaken and have closer alignment to one another.

People and community – Across the organization, we are here for our citizens and the Calgary community.

Regional and Community partnerships – We all realize that we need to work within Calgary and with our regional partners and beyond to ensure that our Resilience Strategy can be successful.

Identified Opportunities – 100RC ASW (participation/support), Strategy development (contribution/alignment) and Strategy Implementation (integration into business plans & budgets). Sample submission - Community Services: resilience commitment/focus/alignment.



Engagement – Peer Reviews

November 14, 2017 – Peer Review

Engaged over 40 City of Calgary Subject Matter Experts (SMEs) regarding the resilience themes. Consensus and some refinement to the data (i.e., M&Co. Urban Insights Diagnostic, June 2017 findings underrepresented the level of maturity in the organization in some programs related to climate mitigation and adaptation).

December 14, 2017 and January 25, 2018 – Peer Review Climate and the Environment

Engaged City of Calgary Subject Matter Experts (SMEs) from City teams related to Water, Climate Change (Mitigation & Adaptation), Environmental Management, Environmental Well-being, Sustainability and Biodiversity to create shared understanding of city context, challenges and opportunities regarding related theme.





Interviews & Engagement

January 9, 2018 TRENDS 2018 – Calgary’s City Manager’s provided the following insights to 300+ city employees and leaders: “Yet, for all the ingenuity, inventiveness, and imagination of the human race, **we tend to be slow to adapt to change.** There is a powerful human tendency to **want the future to look much like the recent past.** Revisiting our assumptions about the world we live in—and doing nothing—will leave many of us highly vulnerable. Gaining a clear-eyed perspective on **how to negotiate the changing landscape will help us prepare to succeed...**”

- **End of Majority and the Rise of Polarity** - Insight: There is no silent majority, and the concept of public good is being challenged.
- **Revolution in Transparency** - Insight: Lack of hidden agendas or conditions, accompanied by the availability of full information required for collaboration, cooperation, and collective decision making.
- **Culture and Function are Meshed** - Insight: Brand culture is a company culture in which employees ‘live’ to brand values, to solve problems and make decisions internally, and deliver a branded customer experience externally.
- **Intolerance of Inequity** - Insight: Diversity Matters.
- **The New Leader** - Insight: The decline of the heroic leader and the rise of collective leadership founded on high ethical and moral standards as the key competencies of the new leader.
- **Informality** - Insight: Formality and informality in government – getting the balance right.
- **Resilience** - Insight: Cities have transformative powers.
- **The Interconnected City** - Insight: Cities are the concentration points for the talent, hardware engineering services and venture capital support to build the next generation of Internet of Things (IoT).
- **Liquidity and Investment** - Insight: Opening up opportunities for business and city leaders to work together to help increase their commercial competitiveness as well as ensuring they are good places to live and work.



Calgary Resident Surveys

Each year, The City of Calgary conducts research and engagement to develop a better understanding of citizen's preferences, needs and satisfaction levels with our programs and services. Multiple surveys are fielded annually, many of which include questions that speak to resilient qualities. Extensive information already exists that provides insights into citizen perceptions!

The City of Calgary's Corporate Research team conducted a review of existing research findings from the past 3 years (2015-2017) for all resilience related inputs. Questions were pulled from 18 surveys, with a combined response base of 14,543 citizens. Specific surveys by year with sample size are included below:

2015 – 3 surveys with 100 respondents; Shocks & Stresses surveys 1-3

2016 – 11 surveys with 10,443 respondents; 2016 311 Satisfaction Research, 2016 Communicating on Infrastructure Investments in Calgary, 2016 Riparian Action Plan: General Public Survey, 2016 Economy, Quality of Life, and Infrastructure, 2016 Calgary Transit Customer Satisfaction - Biennial user and non user survey, 2016 Green Cart Implementation Research: Wave 1, Citizen Satisfaction Survey - 2016 (p.55), Calgary Police Commission - Annual Citizen Satisfaction Survey Report - 2016 (p.7), 2016 Calgary Transit Safety, Security and Cleanliness Survey, Community Needs and Preferences Research, 2016 Calgary Transit Customer Satisfaction - Biennial user and non user survey

2017 – 4 surveys with 4,000 respondents; 2017 Citizen Perspectives Survey, 2017 Economic Perspectives Research, Citizen Satisfaction Survey - Spring 2017 (p.38), 2017 Seniors Age-Friendly Strategy Research

All surveys were telephone based, including both landline and cellular telephone numbers. Respondents were Calgarians 18 years of age and older, utilizing random digit dialing (RDD) with live callers. This approach ensures surveys are statistically valid and representative, as opposed to other approaches which may utilize online 'open link' surveys, online panels, or robo-polling.

Survey results were added to the 100RC perceptions tool, informing this Preliminary Resilience Assessment (PRA).

Calgary Resident Surveys

2017 Calgary Police Commission Public Consultation

Every year, since 2008, the Calgary Police Commission has conducted an annual survey, via telephone, to quantify residents' perspectives on safety, crime, and the Calgary Police Service. In 2017, 1,000 participants were recruited via an online screener survey from professional market research online general population panels. Participants represented a diverse group of Calgary citizens that included a mix of gender and ages, visible minorities, residents with disabilities, LGBTQA+ residents, and individuals with varied experiences and attitudes about safety in Calgary and the police.

- The majority of participants perceive Calgary as a safe place to live. Participants often compare safety in Calgary to other similar and larger size cities in Canada, the United States, and worldwide, recognizing that in comparison, Calgary has a much lower crime rate and generally fewer safety issues or concerns. That being said, those perceptions have been declining over recent years.
- The idea that Calgary is a safe place to live is eroding based on a perceived increase in crime, the economic downturn, **changing demographics**, media coverage, and the growth of the city.
- Social disorder is often linked to at-risk or vulnerable populations. Social disorder is perceived to be increasing in the city. Examples that were cited were encountering more individuals who are homeless, intoxicated, or mentally ill.
- Participants express a desire for more 'meet and greet' opportunities with Calgary Police Service as a way to build **positive relationships between police and the community** and break down barriers including fear of authority figures and the impression of officers being unapproachable.





Engagement – Social Media

What we heard

The resilience program has been promoted mainly through social media channels, Twitter primarily, and through the use of local media outlets only when there are major events and milestones to report on.

Twitter coverage has been significant, with 15,471,015 potential impressions and 2,957 tweets between January and June 2017. Twitter coverage occurred using The Corporate Calgary twitter account, with the #ResilientYYC hashtag as an identifier.

Although the local media has only been engaged during major events, the uptake has been quite successful. The coverage of the Agenda-Setting Workshop and the announcement of the Chief Resilience Officer had an estimated circulation rate of 1,854,449 and an estimated value of \$40,642.



100 Resilient Cities @1... · 2016-09-26 ✓
 We're excited to kick off this journey together @cityofcalgary!
calgarycitynews.com/2016/09/calgar... #resilientcities



Calgary builds resilience with help from global network
calgarycitynews.com



Eco-Leaders at the Mayor's Environment Expo are learning about resiliency and what it means to them. #mayorexpo #resilientyyc

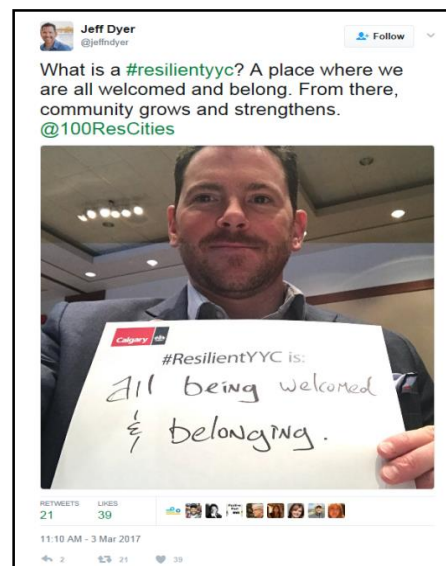
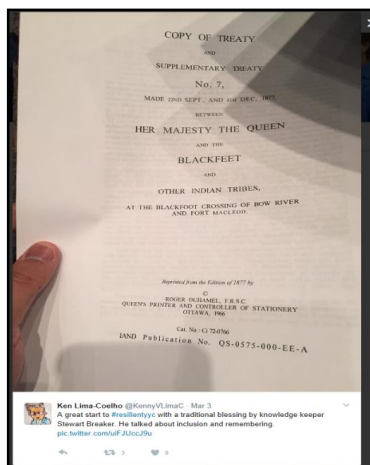
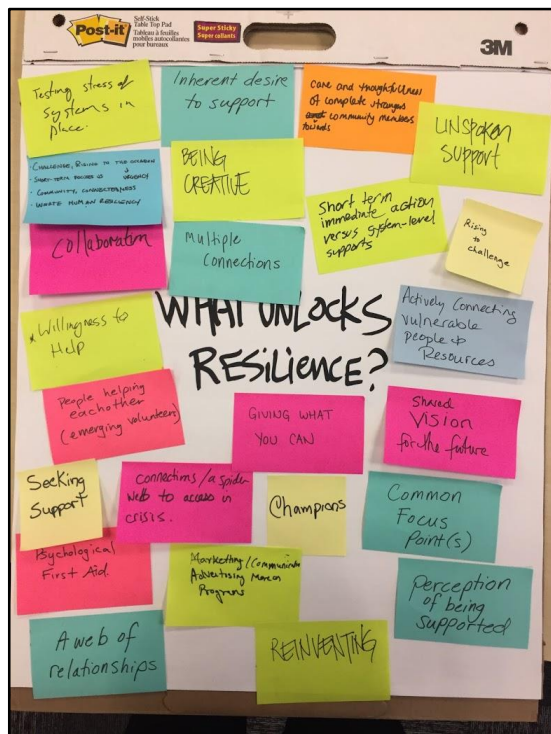
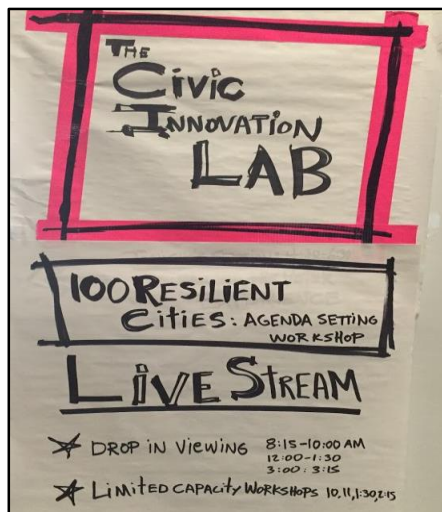


12:14 PM - 7 Jun 2017

7 Retweets 13 Likes



Engagement - Social media ASW @ Civic Innovation YYC Lab 2017 March 3 #ResilientYYC





Engagement – Social Media - Digital literacy #ResilientYYC

In keeping with The City’s commitment to One City, One Voice, collaboration and innovation, the Resilience Team partnered with The City’s Civic Innovation YYC lab to livestream the Agenda-Setting Workshop and provide an opportunity for others to participate. Over 425 people participated throughout the day at the lab or virtually via the live-streaming while over 100 City employees logged in to view the launch of the day’s event.

This innovative approach was very important as digital literacy (the ability to use digital technology, communication tools, or networks to locate, evaluate, use, and create information) is a key component of resilience. Several participants at the workshop shared anecdotes from Calgary’s flood, during which social media enabled community mobilization, connected otherwise disparate communities, and provided a source of rapid information and coordination. Workshop participants engaged in social media, and **#ResilientYYC trended as a top 5 twitter conversation in Canada.**

This successful and innovative launch to the Resilience Program has set up the resilience strategy development for success and has provided a model for future innovation and collaboration aligned with The City’s One City, One Voice commitment.

Background: Internal Live stream Engagement numbers: Highlights*:

Total views: 758 Unique views: 425 Concurrent: 139

Locations: Canada – 749; Other – 9

Devices: Desktop – 686; Mobile/Tablet/Other – 72

Note: *Triple viewership is a big deal with livestreams. The concurrent number is the largest number of people who have tuned in at the same time; Unique vs Total shows us how many people came back to watch more

Datetime	Views
Mar 03, 2017 7:00 am	27
Mar 03, 2017 8:00 am	116
Mar 03, 2017 9:00 am	139
Mar 03, 2017 11:00 am	48
Mar 03, 2017 12:00 pm	57
Mar 03, 2017 1:00 pm	62
Mar 03, 2017 2:00 pm	24

Livestream viewership breakdown by hour



ACTIONS INVENTORY



Process

Method of Collecting Actions – Trained 100+ business strategists, policy analysts and executive advisors on the 100RC perceptions and actions tools via webinars and meetings. These colleagues collaborated with the Resilience Team to code the strategies and plans. This coincided with a Corporate effort to identify plans and strategies across the City. This effort, named ‘Connect Four’ brought departmental planners together to identify and catalogue all guiding documents that impact our work within the City. These fulsome efforts have lead to the over representation of plans and strategies in the Action Tool.

We focused on city-level strategies, plans and policies; however, there are policies and regulations that we adhere to and work within from other orders of government (and the region). Our 2017 Citizen Satisfaction survey, along with some census data, although referenced, has not been entered as it was not released in time to incorporate into the tools. Some strategies and plans of note include:

- Municipal Development Plan
- Calgary Transportation Plan
- The Route Ahead
- Calgary’s Poverty Reduction Strategy
- Fair Calgary
- Calgary’s Cycle Strategy
- Centre City Plan
- Climate Resilience Plan

Land Use and Transportation Plans

Municipal Development Plan (MDP) and the Calgary Transportation Plan (CTP)

Objectives of the Municipal Development Plan (MDP) and the Calgary Transportation Plan (CTP) are to identify the land use and transportation framework for the future development of Calgary. The plans were developed around 11 sustainability principles and 8 key directions, rooted in supporting the 100-year community-developed vision, imagineCALGARY. Most of Calgary's long term plans touch briefly on future technologies and societal trends. Future technologies are not always emphasized as part of the planning process due to the uncertainty to if and when the technology will come to fruition, and how it will impact the transportation network. However, the focus of the Future of Transportation report is on understanding longer term technologies that may be more fundamentally transformative and are most impactful to The City's MDP and CTP. Highlights of each plan are as follows:

Smarter Mobility Plan – Roads document focused on identifying new and emerging technologies, and the infrastructure gaps needed to prepare for those technologies.

RouteAhead – Transit plan which discusses new technologies, including new fare payment systems, real time information systems and alternative fuels. The plan also anticipates that new transportation technology could be available to service projects like the West Campus.

Step Forward – Pedestrian strategy which discusses the societal transformation of creating walkable pedestrian oriented environments, and steps away from the car oriented paradigm of much of the 20th century. The use of new pedestrian safety technologies like rectangular rapid flashing beacons (RRFB) is also discussed. At the end of Step Forward, there is mention of how new technologies, like wearable devices and autonomous vehicles, will likely have to be accommodated in future revisions.

Cycling Strategy – The strategy recommends social innovations such as bike sharing and intelligent transportation solutions, like bike detection at signals. The strategy also calls for further investigation of electric bikes and utilizing new technology for enhanced data collection.

Future of Transportation in Calgary - A high-level overview of the key trends occurring in transportation and gives information on what local governments are responsible for, the benefits and risks of each technology, and the best way for The City of Calgary to move forward. Autonomy, electrification, shared mobility and other disruptors.



Transportation Plans

Calgary's CMA main mode of commuting in 2016

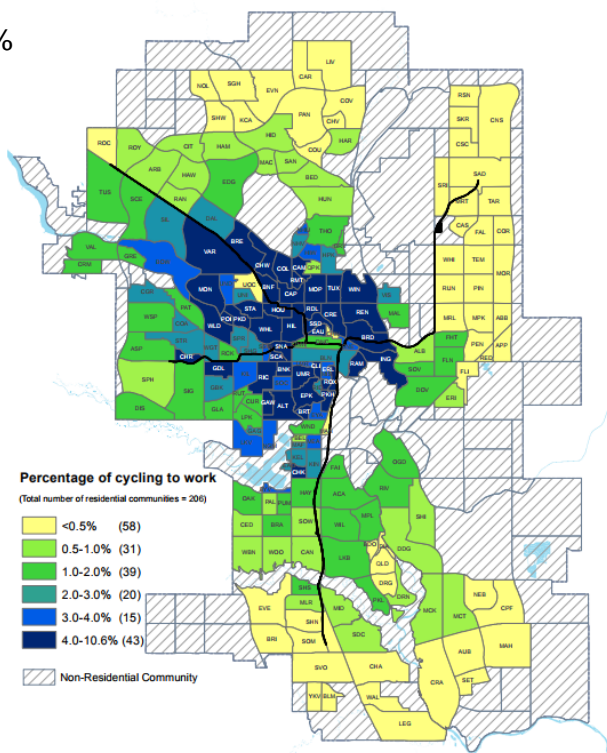
Car, truck, van – as a driver = 72.8% of employed labor force with a usual place of work or no fixed workplace address

Public Transit = 14%

Bicycle = 1.5%

Walk = 4.7%

2016



How did a person living in the household that is employed travel to work on the last weekday that he or she worked?

Total number of households surveyed in residential community: 387,026.

City-wide percentage of cycling to work: 1.76%

Weather in 2016: Apr : Average temperature: 8.8°C & Total precipitation: 4.0mm

Data Source: 2016 Civic Census

Average commuting time = 26.5 minutes

Place of Work Status

Usual place of work = 78.6%

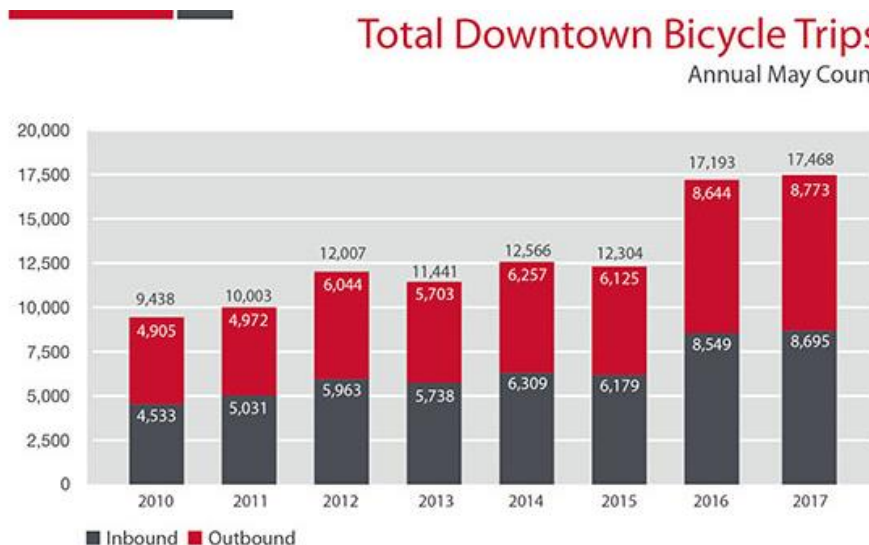
Worked at home = 7.1%

No fixed workplace address = 13.8%

Worked outside of Canada = 0.4%

Total Downtown Bicycle Trips

Annual May Count



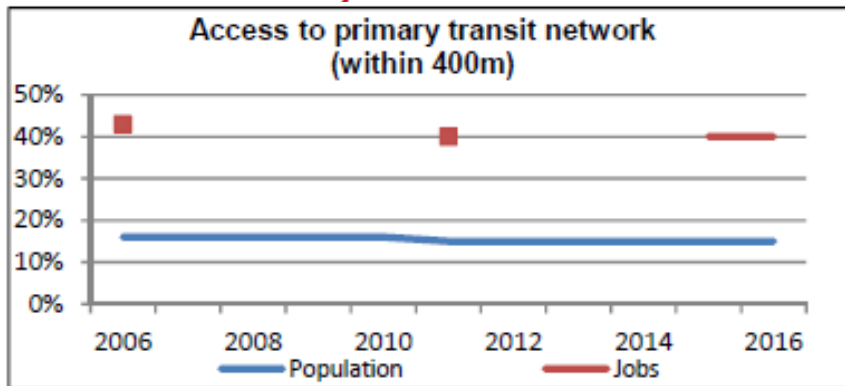
Source: The City of Calgary Central Business District Cordon Count. The total number of bicycles entering and exiting the downtown are counted annually on a weekday in May from 6 a.m. to 10 p.m.

calgary.ca/bikedata



Transportation

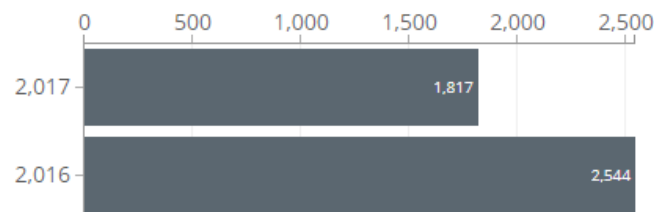
Indicators of a city that moves



[View Source Data](#)

Casualty Collisions

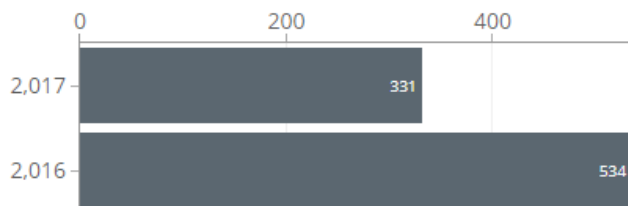
Total collisions on parking lots & private property as well as trains, medical, suicide, in...



[View Source Data](#)

Pedestrian Collisions

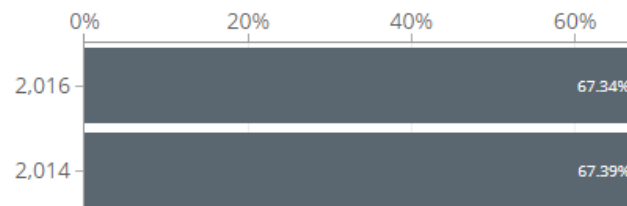
Total collisions on parking lots & private property as well as trains, medical, suicide, in...



[View Source Data](#)

Drive alone to work

Percentage of population who drove alone on last trip to work



[View Source Data](#)



Calgary's Housing Initiatives

Homelessness

Alberta was Canada's first province to commit to ending homelessness with the release of *A Plan for Alberta Ending Homelessness in 10 Years* (2008). The plan was community-led and paralleled local commitments to end homelessness by Alberta's 7 Cities (Calgary, Grande Prairie, Lethbridge, Edmonton, Medicine Hat, Red Deer and Wood Buffalo). Calgary was a leader in implementing Canada's first 10 Year Plan to End Homelessness.

The Province of Alberta has also committed to ending youth homelessness. In 2015, the province released *Supporting Healthy and Successful Transitions to Adulthood: A Plan to Prevent and Reduce Youth Homelessness*. This was the first provincial youth homelessness strategy in Canada and emphasized the need to focus on prevention efforts.

Calgary's 10 Year Plan to End Homelessness counts the following successes 9 years into its 10 year plan:

- 2,100 additional programming spaces, ensuring that individuals are housed and housed with the right supports.
- 26% fewer people (per capita) experiencing homelessness today than in 2008.
- housed more than 8,700 people and on track to house 10,000 people by the end of 2018.
- built more than 500 units of permanent housing with supports and are on track for more than 620 units of housing for vulnerable individuals by the end of 2018.





Calgary's Housing Initiatives – The City of Calgary

Housing Support and The City of Calgary

In 2016, Council unanimously adopted Foundations for Home, a new affordable housing strategy for Calgary. The strategy's vision is to:

- Enable a transformed housing system in Calgary, where collaboration between stakeholders drives better outcomes for individuals and communities through safe, affordable housing solutions.
- Contribute to an increase in non-market housing supply sufficient to provide homes to a minimum of 6% of households in Calgary, consistent with the national average of non-market supply. In 2016, meeting this standard would require 15,000 new units in addition to maintaining current supply.

On June 12, 2017, Calgary City Council approved amendments to the Land Use Bylaw that remove a number of process and regulatory requirements in the Centre City in order to make it easier for businesses to locate into new spaces and for building owners to make improvements and modifications to their buildings to attract and accommodate new tenants. These new rules came into effect on June 26, 2017. The objective of the Centre City Enterprise Area is to reduce retail and office vacancies and to maintain and enhance activity levels in the Centre City area. This is an excellent opportunity to partner with developers and building owners to create affordable housing opportunities in the inner city.

Calgary Housing Company (CHC) is a wholly-owned subsidiary of The City of Calgary with a mandate to management of approximately 10,000 housing units and programs with approximately \$100 million allocated to providing affordable housing options.

Calgary Housing Company works in cooperation with the Government of Canada, Province of Alberta and The City of Calgary to achieve mutual affordable housing goals.



Calgary's Housing Initiatives – The City of Calgary

Rent Supplement

Calgary Housing Company (CHC) assists more than 2,330 families through the provincial government's Rent Supplement programs, accounting for almost one third of the total number of families supported by CHC. Rent Supplement programs operated by CHC in 2018 will include:

- **Private Landlord Rent Supplement program (PLRS)** – 1,259 units with funds distributed to private landlords on behalf of the tenant
- **Direct Rent Subsidy (DRS)** (Calgary and Airdrie) – 599 units with funds distributed to tenants
- **Homeless Eviction Prevention (HEP)** – 284 units designated specifically for individuals at increased risk of homelessness
- **Municipal Rent Supplement (MRS - *formally New Start program*)** – 72 units with funds distributed to tenants who were previous participants in New Start Program supporting individuals either working or in school
- **Victims of Family Violence Rent Supplement (VRS)** – 32 units designated specifically for victims of family violence

CHC's budget for rent supplement will remain steady at \$19.2 million in 2018, with the Government of Alberta announcing it will maintain the same level of funding as this past year.





Calgary's Housing Initiatives – The City of Calgary

Affordable Housing

Designing and building new City units is one of the strategic directions of Foundations for Home, The City of Calgary's affordable housing strategy. Housing development milestones for 2017 included:

Wildwood – The Affordable Housing team is developing a three-storey, multi-residential building comprised of 48 units in Wildwood at 4010 Bow Trail SW. Site preparations began in May 2017 and construction is now well underway, with framing complete on all three buildings. Windows and doors have been installed and the 48 units are taking shape. Construction is expected to be complete by fall 2018.

Rosedale – In September 2016, City Council approved the funding and development of new single detached homes on 8 City owned properties adjacent to 16 Avenue N.W. in Rosedale. The development is expected to provide up to 16 affordable homes for Calgarians. The design-build team has been selected the project is now entering the design phase.

Crescent Heights – An event was held May 17, 2017 to announce that construction was complete on this affordable housing development in Crescent Heights. The three-storey, 16-unit multi-residential property is certified silver by Built Green Canada and features 4 studio units, 4 one-bedroom units, 4 two-bedroom units and 4 three-bedroom units, 2 barrier-free units and 1 built to accommodate the visually impaired.

Bridgeland – On July 19, 2017, Calgary Housing celebrated the official opening of an affordable housing development in the community of Bridgeland. The second City affordable housing development to open that year, the 24 residence stacked-townhome development features 4 studio, 8 one-bedroom, 4 two-bedroom and 8 three-bedroom family homes with 3 barrier-free homes and 1 built to accommodate the visually impaired.

Kingsland - A dedication and community celebration was held on Sept. 9, 2017 for a new affordable housing development in the community of Kingsland, the third new City of Calgary affordable housing development to open in 2017. Named Clarke Court in honour of Ann Clarke, a long-serving member of the Kingsland Community Association, this new development will provide affordable homes to 32 individuals and families.

Attainable Homes Calgary Corporation (AHCC) is a nonprofit social enterprise and wholly owned subsidiary of The City of Calgary that delivers well-appointed, entry-level homes for Calgarians who have been caught in the city's growing housing affordability gap. To date, over 750 people have achieved attainable home ownership through this program.



RECONCILIATION

is in the best interests of all of Canada. [Reconciliation] is necessary not only to resolve the ongoing conflicts between Aboriginal peoples and institutions of the country, but also for Canada to remove a stain from its past and be able to maintain its claim to be a leader in the protection of human rights among the nations of the world....No Canadian can take pride in this country's treatment of Aboriginal peoples and, for that reason, all Canadians have a critical role to play in advancing reconciliation in ways that honour and revitalize the nation-to-nation Treaty relationship.

-White Goose Flying, 2016



Calgary's Journey in Reconciliation

In 2015, the Truth and Reconciliation Commission (TRC) released 94 calls to action for all Canadians to "redress the legacy of residential schools and advance the process of Canadian reconciliation". In response, Calgary's City Council asked its resident advisory committee, the Calgary Aboriginal Urban Affairs Committee (CAUAC) to review the calls to action and provide a report on how to respond locally. In 2016, CAUAC presented the **White Goose Flying Report** that identified 18 calls to action for The City to own and to be accountable for. In 2017, Calgary City Council adopted the **Indigenous Policy Framework**, the first in Canada, to help guide The City's efforts to be responsive to the White Goose Flying Report and the needs of Indigenous people in Calgary. Currently, The City is scoping an **Indigenous Relations/Resilience Office** to the recommendations.

Calgary Mayor's Proclamation for the Year of Reconciliation

In 2014, Mayor Naheed Nenshi was honoured by Elder Pete Standing Alone with the Blackfoot name A'paistootsiipsii, which means 'Clan Leader' or 'He who moves camp and the others follow'. Following this, in 2016, Elder Bruce Starlight of the Tsuut'ina First Nation honoured Mayor Naheed Nenshi with the name Iitiya: 'Always Ready'.

Mayor Nenshi has been a champion for Reconciliation. In March 2014, he proclaimed the Year of Reconciliation. He expressed that "The City of Calgary will use the lessons of reconciliation to continue the work we have started through...the Calgary Aboriginal Urban Affairs Committee (CAUAC), the imagineCALGARY plan, and the Calgary Poverty Reduction Initiative to ensure that our Indigenous populations has a meaningful role within our community, as full and equal participants in our city's quality of life....It is essential that Calgarians of every culture and tradition walk on a shared path paved with opportunity, recognizing that we are connected to each other and to this place, where our collective spirit generates enough for all."

Other Calgary Indigenous Initiatives of Reconciliation

In 2017, The University of Calgary launched **ii' taa'poh'to'p: Together in a Good Way – A Journey of Transformation and Renewal**. This Indigenous Strategy demonstrates the University's commitment to long term relationship building with Indigenous communities 'in a good way'. The Calgary Foundation, a major funder in Calgary, has prioritized supporting strategies that strengthen relationships between Indigenous and non-Indigenous people, that are built on mutual respect and traditional knowledge.



CITY OF CALGARY
OFFICE OF THE MAYOR

NAHEED K. NENSHI, MAYOR

PROCLAMATION

- Whereas: The Story of Mǫ'kinnistǫ says that before there was the place we call Calgary, the First Peoples were stewards of this land. At the confluence of two rivers, the lifeblood of our city, our cultures converged and our story began;
- Whereas: The first European settlers did not honour the unique culture of our Aboriginal ancestors. Aboriginal people were isolated from their traditional and spiritual ways. This is exemplified by the many thousands of Aboriginal children who were forcibly removed from their homes and taken to residential schools, but is also evident in many other examples of disenfranchisement;
- Whereas: The effects of government policies toward Aboriginal people have had a tremendously negative impact on our city and country. Canada has been denied the benefit of the contribution of First Nations to our collective history. Our story cannot be complete without listening to this voice;
- Whereas: Reconciliation is an opportunity for us to advance with a greater understanding of the historical impacts that have shaped the experiences of Aboriginal people to date. It will not right the wrongs of the past, but is the start of our journey together;
- Whereas: The City of Calgary will use the lessons of reconciliation to continue the work we have started through the Listening Circles of the Calgary Urban Aboriginal Initiative, the Calgary Aboriginal Urban Affairs Committee, the imagineCALGARY Plan, and the Calgary Poverty Reduction Initiative to ensure that our Aboriginal population has a meaningful role within our community, as full and equal participants in our city's quality of life;
- Whereas: It is essential that Calgarians of every culture and tradition walk on a shared path paved with opportunity, recognizing that we are connected to each other and to this place, where our collective spirit generates enough for all.

On behalf of City Council and the citizens of Calgary,
I hereby proclaim March 27, 2014 – March 27, 2015 as:

"THE YEAR OF RECONCILIATION"

NAHEED K. NENSHI
MAYOR



THE MAYOR'S PROCLAMATION OF RECONCILIATION (SOURCE: CITY OF CALGARY, 2016)



Equity/Social Initiatives

The City of Calgary's Advisory Committee on Accessibility - Strategic Plan 2017 - 2026

The Advisory Committee on Accessibility (ACA) is a resource committee that reports to City Council on issues, needs and services for people with disabilities. ACA addresses physical, transportation, communication, social and economic access issues that occur in The City of Calgary. The ACA's Access Design Subcommittee reviews and makes recommendations on issues and plans that relate to universal design for people with disabilities. This includes, but is not limited to, the review of public and private projects like properties, buildings, barrier-free walkways, parks, playgrounds and pathways.

Enough for All

Enough for All (E4A) is a community based poverty reduction plan that aims to reduce the number of people living in poverty in Calgary by 50% in 2023. All initiatives developed to advance the E4A strategy align to four foundational goals:

1. Everyone in Calgary has the income and assets needed to thrive
2. All Indigenous people are equal participants in Calgary's prosperous future
3. All Calgary communities are strong, supportive and inclusive
4. Everyone in Calgary can easily access the right supports, services and resources

Seniors Age Friendly Strategy

The Seniors Age-Friendly Strategy presents a vision and principles for creating a more age-friendly Calgary, as well as population-level results, strategies, partners, and proposed actions within each of the local priority areas.

Neighbourhood Social Strategies

Strategies were developed for each priority neighbourhood in which Community Social Workers engaged with populations considered socially and economically marginalized to ensure all residents have opportunities to participate in matters that affect them.

This is My Neighbourhood

This is My Neighbourhood (TIMN) was created to provide an opportunity for residents to partner with The City to identify ways to help make their neighbourhood an even better place to live, work and play. In 2016, The City delivered more than 100 programs, services and small-scale improvement projects to a first group of 14 communities. Over the next 2 years, The City will work with a new group of 14 communities.



Property Tax Assistance Program

This program provides a grant to low-income homeowners who have experienced an increase in their property tax over the previous year. It is aimed at residential property owners experiencing financial hardship, regardless of age. The program also connects homeowners to other government initiatives, including those from the federal and provincial governments, where they can access additional support.

Youth Employment Centre

The Youth Employment Centre (YEC) provides service to youth ages 15-24 to assist them with their career and employment needs. Youth could be in post-secondary, working, unemployed, under-employed, or a combination of these. Specialized programming is also offered to youth who might be vulnerable in a variety of ways, including immigrant youth, young offenders, single parents, aboriginal youth or post-secondary youth who are struggling to enter the workforce. YEC works with community partners to enhance services offered to clients.

Emergency Social Services

Emergency Social Services (ESS) program is a vital part of any major emergency or disaster response in order to provide the immediate physical and emotional needs of impacted residents. The ESS program offers reception and lodging centres to residents displaced from their home during an emergency or disaster. ESS centres provide a safe environment for residents where they can begin recovery and get back on their feet.

Fair Entry

Fair Entry is an application process that helps low income Calgarians gain access to City-subsidized programs and services (Recreation Fee Assistance, Calgary Transit Low Income Monthly Passes, Property Tax Assistance Program, Waste and Recycling Rebate, Senior Services Home Maintenance Program, and No Cost Spay/Neuter Program).

Calgary Local Immigration Partnership

Calgary Local Immigration Partnership (CLIP) is a City-led, community-based partnership which strives to enhance collaboration, coordination and strategic planning at the community level to foster more welcoming and inclusive communities and improve settlement for newcomers to Calgary.

Neighbour Day

Held on the third Saturday of June, Neighbour Day is a time for Calgarians to celebrate our neighbourliness and strong community spirit by organizing community events, such as front yard barbecues, garden parties, picnics, clean-ups or afternoon teas in a local park.





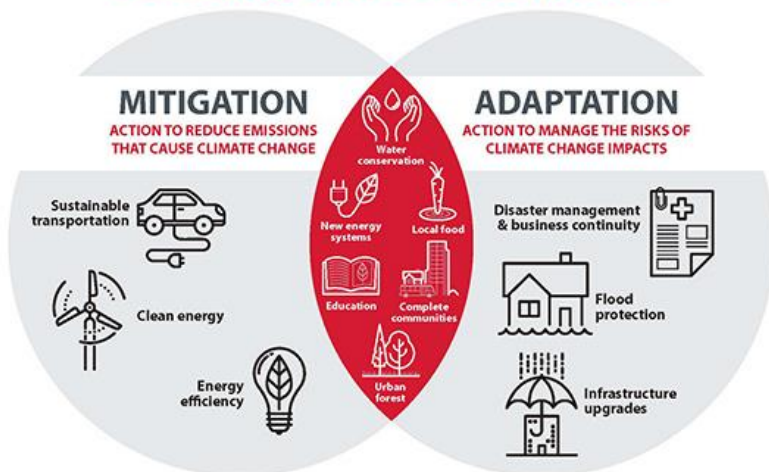
Climate Resilience Actions

The City will present the Climate Resilience Plan to Council in Spring 2018. The Climate Resilience Plan will outline The City’s strategies and actions in two areas:

- Mitigation – to improve energy management and reduce greenhouse gas emissions in line with our long-term targets:
 - 20% reduction in city-wide emissions below 2005 levels by 2020
 - 80% reduction in city-wide emissions below 2005 levels by 2050
- Adaptation – to identify actions to implement risk management measures and reduce the impact of extreme weather events and climatic changes on infrastructure and services (i.e., disruption to transit services due to roadway flooding).

The Plan will identify opportunities for carbon reductions and energy management in key sectors, including buildings and energy systems, land-use and transportation, and consumption and waste, needed to facilitate the successful transition to a low carbon future. Taking action to reduce climate change has the potential to also reduce energy expenditures, improve comfort and livability, improve health and reduce carbon levy costs for citizens, businesses and The City.

Building Climate Resilience



The recommended actions will comply with federal and provincial regulations, reduce the impact of extreme weather events and climatic changes on infrastructure and services, and identify ways to improve energy efficiency and reduce greenhouse gas emissions.

The Plan will be informed by the research series Building a Climate-Resilient City by the Prairie Climate Centre, in collaboration with the cities of Calgary and Edmonton. This research series outlines steps cities can take to engage in climate risk management in a range of areas, including transportation, agriculture, electricity infrastructure, disaster preparedness and emergency management.



Climate Resilience Actions

Calgary is already undertaking a number of initiatives to both mitigate and adapt to climate change.

Mitigation:

Green Buildings – Green building and sustainable design practices not only benefit the environment, but also reduce demand on infrastructure for long-term cost savings. This program includes a Sustainable Development Inventory that collects data to track sustainable building practices along with a guideline for permitting. Sustainable technologies currently addressed by permitting are: green roofs, solar hot water (space heating and potable water), photovoltaics, solar shading devices, solar ventilation and chimneys, cogen systems (combined heat & power generating units and tri-gen that includes hot water), wind turbines, geo-exchange systems, storm water retention tanks, water cistern, and grey water reuse.

Solar Potential Map – With an average of 2,396 hours of sunlight each year, Calgary is an ideal city for solar technology. The Solar Potential Map is a public tool and is a starting point for people interested in the viability of solar as an energy source for their particular building. Using data collected between 2012 and 2016, The City has created a map of all buildings within city limits. The map shows varying degrees of a roof's solar exposure, on an annual basis, in generalized optimal conditions. The data model used to generate the map takes into account the shape of the terrain and the relative position of building rooftops and structures, existing infrastructure, and tree canopies layered onto 2012 building data.

City solar projects – In support of The City's **Sustainable Building Policy**, and our commitment to efficiency and innovation, The City has evaluated and installed solar energy systems on a number of its facilities.

Under The City of Calgary's **Sustainable Building Policy**, all new occupied City-owned and City-funded buildings in excess of 500m² must meet or exceed the Gold level of the LEED® New Construction rating system. Major renovations of occupied facilities must meet or exceed either the Certified level of the LEED® New Construction rating system or the Silver level of the LEED® Commercial Interiors rating system. Minor renovations, unoccupied buildings, landscape/non-building infrastructure, and buildings less than 500m² are directed to follow The City of Calgary's Sustainable Building Best Practices. Calgary was the first Canadian municipality to adopt a sustainable building policy. The Sustainable Buildings Partnership Program was developed to enable compliance with the Sustainable Building Policy by identifying and/or improving the efficiency of existing corporate infrastructure.



Climate Resilience Actions

Calgary is already undertaking a number of initiatives to both mitigate and adapt to climate change.

Mitigation:

Electric Vehicle (EV) Strategy

The City of Calgary is developing an Electric Vehicle (EV) Strategy to meet the needs of this emerging technology. The EV Strategy is being developed as part of our Climate Program, since it represents one of the greatest opportunities to reduce greenhouse gas emissions from transportation.

Electric vehicles emit only two-thirds the emissions of the average gasoline-powered car in Alberta today, which will further improve as coal is removed from the provincial electricity system. As EVs become more affordable to the general public and more are on the road, we could see a 10-40% reduction in GHG emissions by 2040. When combined with The City's other strategies, EVs create the potential to achieve our long-term emission reduction goals.



LED Streetlights

e2 STREETLIGHTING PROGRAM:
Lighting Calgary's streets the energy efficient way!

WHAT IS LED LIGHT EMITTING DIODE TECHNOLOGY?
LED stands for "Light Emitting Diode". Each diode in an LED illuminating array can be controlled to light a specific area, meaning less light is lost and less energy is used which equals a longer life span.

LESS LIGHT IS LOST WITH LED LIGHTING
Standard streetlights emit 100 lumens of light. LED streetlights emit 100 lumens of light in a focused beam, reducing light loss.

WHAT YOU MAY NOT KNOW ABOUT STREETLIGHTS
all other energy consumption
20%
CALGARY'S ENERGY CONSUMPTION
Approximately 20 per cent of The City of Calgary's electricity is from streetlights. That's about 12.2 million dollars annually 2015.

IF THE CITY OF CALGARY CONVERTED 80,000 OF OUR 90,000 STREETLIGHTS TO LED:
1.0 MILLION DOLLARS
The approximate annual net savings to use in developing businesses over 10 years.
5.0 MILLION DOLLARS
The approximate annual net savings to use in annual electricity consumption. This is the equivalent of saving 1.58 million kWh over a growing 100 year period.

STREETLIGHTS CHANGED ANNUALLY
10,000
The City of Calgary changes approximately 10,000 high-pressure sodium streetlights annually.

REDUCE ENERGY CONSUMPTION BY UP TO 50%
Approximately 10 per cent in total net project to save in annual electricity consumption. This is the equivalent of saving 1.58 million kWh over a growing 100 year period.

LED'S - A BETTER QUALITY OF LIGHT SAFETY
Because LED lights emit a wider light than HPS lamps, streets appear clearer and more defined.

Copyright © 2015. The City will continue to increase the overall quality of service for all modes of transportation, using effective and cost efficient transportation management tools and technologies.

Green Fleet

The City of Calgary's fleet of more than 4,000 vehicles (consisting of 2,400 general use vehicles, 800 Police Services vehicles, 950 Transit vehicles and buses, and 170 Calgary Fire Department vehicles) represent approximately 20% of The City's total greenhouse gas emissions.

The City of Calgary is improving the fleet's overall fuel efficiency by implementing new practices and technologies that reduce fuel consumption and increase the use of renewable, green fuels and cleaner fossil fuels. Our Best in Class vehicle acquisition policy includes a 'right sizing' vehicle needs assessment.

Parks, Roads and Water operate five GMC Sierra gasoline-electric hybrid pickup trucks with a capability of 10 to 15% improved fuel economy. The vehicles save fuel by shutting off the engine when stopped.

The City's green fleet also includes 4 gas-electric hybrid (Toyota Prius and Honda Civic) cars as well as 6 fuel efficient Smart cars.



Climate Resilience Actions

Calgary is already undertaking a number of initiatives to both mitigate and adapt to climate change.

Mitigation:

Calgary Transit RouteAhead Strategy

RouteAhead is a long term plan to guide Calgary Transit over the next 30 years. It follows other forward-looking initiatives at The City, including imagineCALGARY, Plan It Calgary and the 2020 Sustainability Direction.

Cycling Strategy

The City has a vision to become one of the premier cycling cities in North America through four specific and measurable goals that indicate a shift towards a more bicycle-friendly city. These are: more people cycling; more bicycle infrastructure; safer cycling; and increased satisfaction with cycling in Calgary.



Route Ahead
A Strategic Plan for Transit in Calgary

Pedestrian Strategy

Step Forward was approved in 2016 and includes 49 actions to help make Calgary safer, more comfortable and interesting for walking. The strategy, called Step Forward, is built on the concerns and opportunities for improvement.



STEP FORWARD

A strategic plan for improving walking in Calgary

Transportation Department
 August 2016
calgary.ca/pedestrianstrategy

Green Line

The Green Line is designed to be both a transit system and a platform for development and City Shaping; it will provide efficient service and connections to destinations throughout the city and to areas where people can live affordably with access to amenities, services and sustainable mobility options.

The Green Line will be an important piece of Calgary's transit network, adding 46 kilometres of track to the existing 59 kilometres LRT system. End-to-end, it will connect communities between Keystone and Seton to downtown, and various other destinations along the way. Once the full alignment is built, the line will carry an estimated 240,000 trips per day.



Climate Resilience Actions

Calgary is already undertaking a number of initiatives to both mitigate and adapt to climate change.

Adaptation:

Ready Calgary

A community preparedness program developed by the Calgary Emergency Management Agency (CEMA) for the citizens of Calgary. It was designed to inform, educate and build resiliency to the impacts of emergencies.

READYCALGARY

Building Community Resilience

SECTION 1: INDIVIDUAL & FAMILY

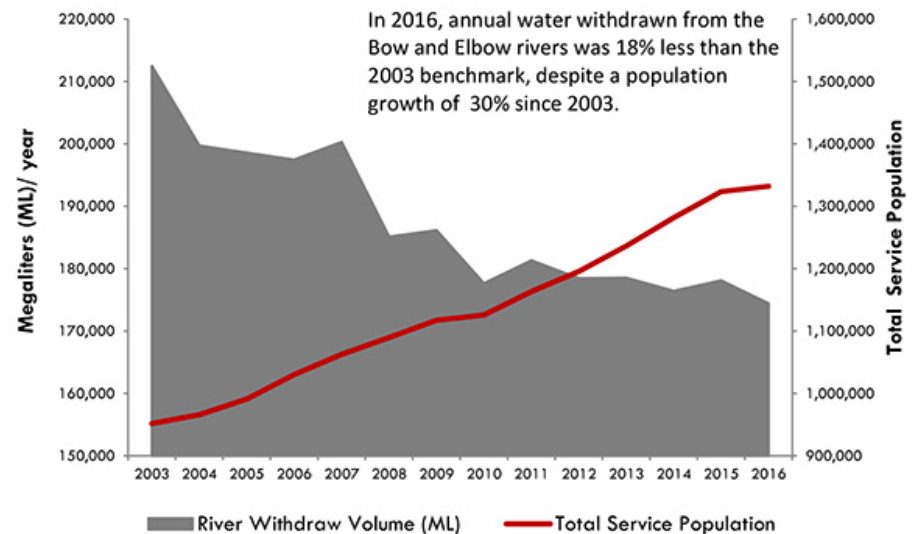


30 by 30 Water Efficiency Plan

The City of Calgary's 30-in-30 water efficiency goal is to accommodate Calgary's future population growth with the same amount of water removed from the river as in 2003. To do this, Calgary needs to reduce our water consumption by 30% over 30 years.

The Plan outlines how we can all contribute towards achieving sustainable levels of water use.

In 2016, Calgarians used an average of 214 litres per capita of water per day in a household. Water withdrawn from the Bow and Elbow Rivers totalled 174 billion litres which was below our 2003 benchmark of 213 billion litres.



Annual water withdrawal (ML/year) from the Bow and Elbow rivers compared with service population

Climate Resilience Actions

Calgary is already undertaking a number of initiatives to both mitigate and adapt to climate change.

Adaptation:

Waste Plan

In 2015, City of Calgary Council approved a revised target of **70% waste diversion by 2025** averaged across four sectors – single residential, multi-family residential, business and organizations, and construction and demolition.

Calgary has specific diversion targets for each sector:

- Single family – 70%
- Multi-family – 65%
- Business and organizations (Industrial, Commercial and Institutional) – 75%
- Construction and demolition – 40%



ReTree YYC

In September 2014, Calgary experienced a late-summer snow storm causing extensive and severe damage to more than one million trees. ReTree YYC was created to respond and recover from this disaster. The primary goal of ReTree YYC is to work with citizens to encourage the proper planting and maintenance of our urban forest. By helping Calgarians plant and maintain trees on both public and private property, we hope to make the city landscape better for generations to come.

Biodiversity

In the fall of 2016, The City of Calgary signed the Durban Commitment, becoming the third Canadian city to formally join an international program directed by Local Action for Biodiversity, a program representing local governments from across the world to improve biodiversity planning and management.

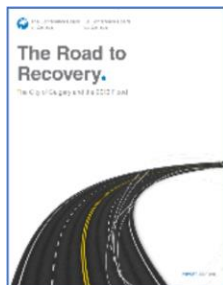
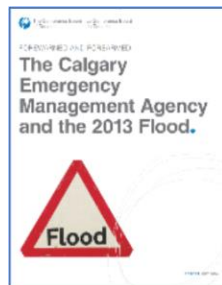
By signing this commitment, The City acknowledges “accountability and responsibility for the health and wellbeing of our communities through protecting, sustainably utilizing and managing biodiversity and recognizing its role as the foundation of our existence.”





Climate Resilience Actions

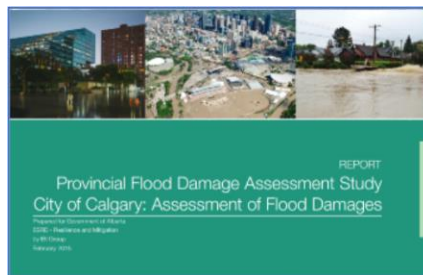
Assessing the 2013 flood and performance of the City's disaster response



Flood Planning

- The City has built a strong understanding of Calgary's flood risk and has developed a strategy to prevent future disasters.
- Expert panels and public engagement were used to develop the flood strategy.
- The City is actively executing a number of projects and commissioning additional reports to further improve flood resiliency.

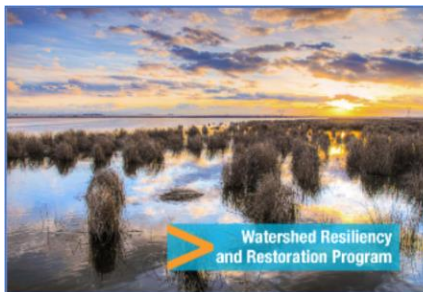
Understanding the risk of future flood events and developing flood prevention strategies



Flood mitigation and recovery projects

Since the 2013 flood, we have committed over \$150 million for various flood mitigation and resilience projects throughout Calgary. To date, we have completed 11 of the Expert Management Panel recommendations with the remaining 16 currently in progress. Mitigation work that is already complete or underway has reduced Calgary's exposure to flood damage by about 30% as compared to 2013.

Implementing a flood mitigation and resilience strategy



Flood Mitigation Measures Assessment

In 2016, The City of Calgary undertook a Flood Mitigation Measures Assessment to develop recommendations regarding the future of Calgary's flood mitigation and resiliency. These recommendations were unanimously accepted by City Council on April 10, 2017, and flood mitigation and resilience for Calgary has been identified as one of Council's top priorities.



Infrastructure

Through Infrastructure Calgary and our Capital Investment Plan, The City's goal is to increase the quality and speed of capital investment in Calgary. This will stimulate the economy, create jobs, deliver value to citizens and attract new investment to Calgary during a prolonged economic downturn.

The creation of Infrastructure Calgary and the work completed to date has helped accelerate The City's capital spending in 2016 to over 95% of the budgeted amount of \$1.5 billion. This is an increase, on average, of 30% per month as compared to 2015. In 2017, capital investment reached a budgeted amount of \$1.8 billion which supported approximately 14,000 jobs in the community. Also, in 2016, \$7 million was approved to accelerate the implementation of building on our energy, a 10 Year Economic Strategy for Calgary. This strategy, stewarded by Calgary Economic Development, is helping to further develop and diversify Calgary's economy. Investment in this strategy helps to provide a healthy supply of industrial land to support economic development and diversification, especially with small and emerging businesses, improve the movement of people with new rapid transit routes and work with industry partners to enhance the movement of goods in major routes throughout the city. Work is also being done to enhance Calgary's City Centre to make it a more attractive location choice for economic activity. These investments tie back to City Council's priority of 'a prosperous city'.

Capital Investment Plan

Capital investments across Calgary from government, private sector, public institutions and partner organizations are typically focused on individual projects and organizational goals. The lack of alignment and coordination leads to competition for public support, funding and resources, and can prevent the achievement of mutually beneficial outcomes. A more strategic and cohesive approach would result in greater collective benefit for the individual organizations and the broader Calgary community.

Geographic Investments

1. **Inland Port and Logistics District:** *Investment focus is the land surrounding the Calgary International Airport and includes northeast industrial and commercial lands.*
2. **Culture and Entertainment District:** *Investment focus are the areas downtown east of Centre Street, the Rivers District, Victoria Park and the Stampede grounds.*
3. **Innovation, Education and Wellness District:** *Investment focus is the city's northwest near the Foothills Medical Centre, University of Calgary campus and McMahon Stadium.*

Targeted Theme Investments

1. Transit and Transportation
2. Main Streets
3. Housing
4. Education
5. Resilience

Community Investments

1. Schools
2. Multi-Service Facilities
3. Parks and Public Spaces
4. Growth Infrastructure



Economic

Calgary Economic Development (CED) - Economic Strategy for Calgary

Building on our Energy, the 10-year Economic Strategy for Calgary, is a refresh of the original Strategy released in 2008. Calgary, and our world, has changed significantly in the last 10 years and it was necessary to evaluate our progress and reformulate our priorities as the Strategy approached the fifth year of implementation.

The process of refreshing the Strategy engaged more than 300 citizens, elected officials, community and business leaders from Calgary and the surrounding region to discuss the original priorities, evaluate the progress and assess whether our priorities had shifted.

The Strategy is the result of stakeholders emphasizing the need to focus on our strengths—to build on our energy. For stakeholders, ‘energy’ represents the energy of our people and our city.

Even in the current slowdown, Calgarians remain hopeful and have identified a number of economic opportunities for the city while recognizing the need to continue to build on our global reputation and foster purposeful diversification of our economy. There is also a need for a greater focus on building a strong community and ensuring everyone in Calgary has the opportunity to share in our prosperity. As a result, the Strategy was renamed Building on our Energy.

The Strategy identifies 6 energies as our areas of focus: **Global, Entrepreneurial, Innovative, Community, People and Collaborative.**

These build on the strength of the energy sector, support entrepreneurs, give greater attention to growing technology and innovation as well as raise the profile and importance of building, attracting and retaining a skilled work force through a renewed focus on people and community. Finally, and most importantly, there is attention given to the need to work more collaboratively to ensure the implementation of the Strategy is successful.

The status of the strategy’s actions was reported through the Economic Strategy Community Progress Report on March 31, 2016 as follows:



OF ACTIONS HAVE BEEN COMPLETED



OF ACTIONS HAVE COMMENCED WITH ONGOING ACTIVITIES



OF ACTIONS HAVE NOT YET COMMENCED



Perceptions and Actions

The Perception and Action tools enables the city team to capture relevant information about the resilience of the city through the perceptions of a broad range of stakeholders as well as our corporate actions in order to:

- Baseline the city's resilience strengths and weaknesses as perceived by city experts representing diverse perspectives and expertise
- Identify and catalogue issues relevant to the city's resilience work
- Understand where there is consensus and dissonance on city resilience performance
- Identify actions that exist to increase the resilience within the city
- Identify resilience areas the actions relate to
- Identify any aspects of resilience which the actions do not appear to fully address

While these tools helped the Resilience team identify perceptions, resilient actions and helped inform our Discovery Areas, there were some complications with how we applied the tool and our research.

The Resilience team utilized The City's plan and strategy library to identify actions. This comprehensive database led to the high frequency of actions in Driver 12, actions that 'Fosters long-term & integrated planning'. The tool did not allow for weighting based on resource allocation. As such, a community flood prevention infrastructure project worth millions of dollars was counted the same as the development of web portal.

The City conducts extensive citizen research with a great deal of insight into citizen perceptions. Capitalizing on the data available, numerous survey questions from 2016 and 2017 were included. The survey questions tended to focus on social perceptions resulting in the over amplification of perceptions in Driver 4, 'Promotes cohesive and engaged communities'.

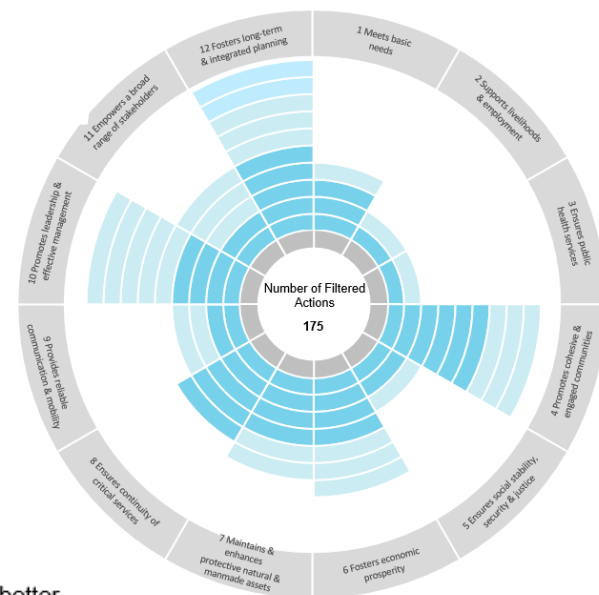
Legend

Actions

- Primary
- Secondary

Perceptions

- Need to do better
- Doing well, but can improve
- Area of strength





Perceptions and Actions: Council Priorities & Citizen Expectations

Though the order of expectations may have changed, these expectations themselves, now called 'Citizen Expectations', have not. Much progress has been achieved to-date on the existing 5 expectations and there are many opportunities to continue and move forward based on citizen feedback.

Economy

In 2016, as part of the mid-cycle adjustment process, there was a check-in with citizens to get their feedback on these expectations. Citizens' thinking had changed since the expectations were approved in 2014, and they were more focused on the state of the local economy and less on growth and expanding of services. This was no surprise given the significant shift in the local economy.

Social

A majority of Canadians surveyed (95%) believe Calgary, as a whole, is a safe place to live. This perception has not changed significantly for over 5 years. Safety perception within neighbourhoods has also remained stable over the last 5 years, with just over 8 in 10 (83%) saying they feel safe walking in their neighbourhood after dark, and over 9 in 10 (93%) saying they feel safe in their neighbourhood as a whole.

Over the past 5 years, 8 in 10 Calgarians reported feeling a sense of inclusivity and acceptance. This has remained fairly stable over time. In 2016, 81% of citizens continued to believe that "The City of Calgary municipal government fosters a city that is inclusive and accepting of all." This has also been stable for the previous 4 years. Those who are most likely to hold this view include younger citizens aged 18 to 34 (88%) compared to the 2 older groups aged 35 to 54 (81%) and 55 and older (75%). (Data source: City of Calgary Citizen Satisfaction Survey, 2017).

Although almost 8 in 10 (79%) in 2017 say The City fosters a city that is inclusive and accepting of all, this sentiment seems to be trending downward. Almost 9 in 10 (86%) say they are proud to live in their neighbourhoods, but only 41% say they feel connected to the community. Volunteering is an indication of a sense of belonging and 'giving back' to the community. The volunteer rate in Alberta rose steadily from 2004 to 2010, but has declined from 2010 to 2013, with the profile of the volunteer population shifting to older and more educated persons.

Environment and Health

Calgarians' perception of The City's stewardship of the environment is very strong, while the vast majority rate Calgary's overall environment as good. Most rate their own personal performance on environmental stewardship as very good.

Overall, the physical and mental health of Calgarians is a mixed story. According to the Canadian Community Health Survey, the percentage of Calgarians who self-report that they are physically or moderately active has been gradually rising since 2012. Calgarians who self-report their overall health as excellent or very good is fairly stable around 66%; while those who self-report their mental health as excellent or very good has declined since 2011 from 79 to 72%.

Perceptions and Actions: Council Priorities & Citizen Expectations

Well Run City

Although citizens providing positive ratings for the value they feel they receive from the property tax dollars paid has remained stable over the past several years (65% in both 2014 and 2013, and 62% in 2012), there was a statistically significant dip in 2017 (57%). Additionally, when it comes to increasing taxes or cutting services, Calgarians are evenly divided: slightly less than one-half (48%) support tax increases to maintain or expand services, while 47% support cutting services to maintain or reduce taxes. Almost three-quarters (72%) say The City can be trusted to make decisions in order that Calgary achieves its long-term vision, though fewer say they have a favourable impression of or trust The City.

Although almost three-quarters (73%) say The City is open to new ideas about being efficient, fewer believe The City is transparent in its decision-making (60%), or that The City allows citizens to have meaningful input into decision-making (60%), or that The City has become more open and transparent in the past twelve months (49%).

Calgarians' confidence "that The City of Calgary will work together with local businesses and other orders of government to find the best solutions to help our city through this economic downturn" (79%) has seen a slight decline from 82% from January 2017, but is up from this past summer. Optimism is also reflected in sentiments around The City "working closely with the private sector to develop investment solutions that will strengthen our city's economy down the road" (73%). Notably, a majority believe it is important that Calgary find more of a balance between oil and gas and other types of businesses as well as having an obligation to help support our local economy in whatever way we possibly can.





**CALGARY'S RESILIENCE
CHALLENGES / OPPORTUNITIES**



Calgary's Challenges and Opportunities List

Challenges

- ✓ Economic participation is hindered by systemic and mobility barriers
- ✓ Difficulty attracting business, venture capital, and talent
- ✓ Economy
- ✓ Stronger business continuity required
- ✓ 20-year office space oversupply
- ✓ Historical funding for infrastructure needs, including operating, capital maintenance, and capital growth, are at risk
- ✓ Financial impact of changing weather patterns and severe weather events
- ✓ Low carbon economy
- ✓ Urban water management
- ✓ Cyber-attack and telecommunications breakdown
- ✓ Insufficient appropriate infrastructure at the community level negatively impacts quality of life
- ✓ Local government approach not responsive in quickly changing VUCA (Volatile Uncertain Complex and Ambiguous)
- ✓ Emergence of regional governance models
- ✓ Organizational effectiveness
- ✓ Risk-adverse culture

Opportunities

- ✓ Leveraging social and intellectual capital of Calgary's diverse communities
- ✓ Pivotal point for inclusive leadership and decision making
- ✓ Biodiversity
- ✓ Climate resilience & environmental well-being regulation
- ✓ Housing





Economic Participation is Hindered by Systemic and Mobility Barriers

Build an economy where all are encouraged and able to participate.

- How do we reduce barriers to employment including mobility and training?
 - How do we activate youth entrepreneurship and creativity? (Calgary Economic Development's Strategic Plan)

Today about 8.25% of the Calgary population is disabled and we anticipate this proportion of the population to increase to 10% by 2050, the average among North American cities.

- Total employment in the Calgary Economic Region (CER) was estimated at 880,000 in 2017, slightly higher than employment in Calgary at the peak of the boom in 2015, however Calgary's population has grown by 15,500 since that time. The forecast for total employment indicates improving job prospects in Calgary with 901,000 jobs in 2018, and 930,000 in 2019. Job growth is expected to slow by 2022 when Calgary's unemployment rate dips to the 5.4% range.
- Some larger tenants in Calgary are relocating to the new CN Logistics Park located east of Calgary's city limits. This location offers lower construction and operating costs, easy access to rail loading facilities and quick highway access to Calgary and the airport, which are of benefit to some wholesale and distribution centres. This site does not, however, offer convenient customer access so this is viewed as a limited threat to the industrial space market in Calgary.

Difficulty Attracting Business, Venture Capital and Talent

As a community, how do we leverage the Economic Development Investment Fund (EDIF) to attract diverse investment and support business development in Calgary?

- Leverage quality of life and other strengths to attract talent and venture capital?
- Calgary's population is expected to grow by 1% in 2018 and, on average, by just over 1% per year from 2019 to 2021.
- Calgary is expected to experience modest stable growth until 2022. In 2022, oil prices are anticipated to stabilize above U.S.\$60/bbl. This will increase optimism in Calgary's future resulting in increased net migration in 2021 and thereafter.

City Council increased the EDIF to \$100 million to enhance the effectiveness of this vital tool. The EDIF will be used to attract and retain companies and support 'catalytic' investments in the Calgary economy.

The EDIF will support the overall efforts by Calgary Economic Development to market our city's talented workforce, business advantages and quality of life, to spur economic growth, investment attraction and retention of businesses and jobs.



Economy

The economy is a top priority for Calgarians and the challenges brought by an evolving energy sector require bold thinking. The EDIF will support strategic investments that act as a catalyst to spur growth, employment and increases to municipal taxes.

After 2 years of recession, Alberta's economy is growing. Real GDP in Alberta is expected to grow around 2.4% in 2018, and to maintain that pace of growth until 2022. At this stage, Calgary's economy will be diversified into the new lower oil price environment and GDP growth will slow thereafter.

Since the United States is Canada's major trading partner, a stronger U.S. dollar relative to the Canadian dollar makes Canadian manufactured goods cheaper in the U.S. The ability for the manufacturing industry to capitalize on this opportunity may help mitigate some of the adverse impacts of lower capital investment in Canada's energy sector. The U.S. President, Mr. Trump, has declared that one of his goals will be to re-invigorate U.S. public infrastructure. Airports, infrastructure along the U.S. southern border, and highways are all on the agenda for improvement. If large public work projects are undertaken, this will result in more jobs which will, in turn, increase demand for residential housing. Greater construction and economic activity in the U.S. encourages greater energy imports from Alberta. This also implies a larger market for the export of Alberta expertise in engineering and design.

Stronger Business Continuity Required

The 2013 southern Alberta floods had a significant impact on the business community in Calgary. Many businesses were forced to close temporarily during clean up, while a small number (1%) were impacted so severely that they were unable to resume their business operations altogether. Learning from the successes and challenges experience during the flood, Calgary Emergency Management Agency (CEMA) partnered with the Calgary Chamber to develop the Business Continuity Handbook. Leveraging CEMA's business continuity expertise and the Calgary Chamber's experience with the business community, the handbook is a step by step guide for local business to strengthen continuity. Future efforts should work towards greater participation by organizations in business continuity efforts, including non-profit sectors.

In 2017, business owners reported their perceived greatest shocks and stressors in a City survey with over 700 respondents.

- The most common shock was *financial and economic crisis*, which 90% of respondents experienced, including 80% who said it had the most impact.
- *Extreme weather* (40%) and *cyberattacks* (28%) were selected somewhat often, but rarely as having the most impact on their business.
- When asked for additional shocks, only one aspect (*change in government/government policies* – 5%) was mentioned by more than 2% of respondents.
- Overall, 75% of businesses *have developed* (25%) or *are developing* (50%) a plan to be more resilient.



20 Year Office Space Oversupply

The office vacancy rate in Calgary is expected to remain elevated above industry norms in the forecast period. Calgary's improving job market is expected to absorb the current excess supply of office space, but this will be a slow process.

The combination of weak population and employment growth and higher interest rates is expected to depress future building permit values. Relatively high vacancy rates in the residential and non-residential markets will also weigh on the construction of new space. The forecast for building permit values is \$3.6 billion in 2018, which is down slightly due to fewer provincial construction projects, and \$3.9 billion in 2019.

Head lease vacancy rate in the Calgary downtown office market currently sits around 21%. In addition, some tenants would like to sublease some of their space. Though landlords are currently being paid for this space, sublease space adds to the available inventory and impacts the rents that landlords can charge. Together, headlease space and sublease space available in Calgary's downtown has tipped the total vacancy rate to just over 25%. We anticipate this will rise in the next year as Brookfield Place and TELUS Sky projects, with a total of 3 million sq. ft., come online.

The second quarter of 2017 saw 54.9 million square feet of occupied office space in Calgary, with 650,000 square feet finishing construction, and 14.2 million square feet vacant. There are about 6.7 million square feet more vacant downtown office space today than compared to historical averages.

If Calgary's economy was in a full boom cycle, the quickest that Calgary's extra vacant space could be absorbed would be in about 2 years. Calgary's economy is in a slow growth cycle which suggests a slow uptake of this excess office capacity. With 1.5 to 3.3% growth in the Calgary economy expected over 2018-2026, Calgary's overall downtown office vacancy rate is expected to decline to its long-term average vacancy rate around 2025.

Current rents for 'class A' property in Calgary's downtown core have fallen to about \$15/sq. ft., with additional rent of \$20/sq. ft. This compares with Vancouver where asking rents are \$23/sq. ft. plus additional rent of around \$15/sq. ft. In Toronto, prices are just under \$29/sq. ft. with \$26/sq. ft. in additional rent. At these prices, Calgary's downtown offers significant value to a variety of companies and presents an opportunity for significant diversification of the Calgary economy.

If existing downtown office property owners decided that rather than wait for the market to turn, demolition and sale of their land was the best financial option, these projections would be advanced. On June 12, 2017, Calgary City Council approved amendments to the Land Use Bylaw that remove a number of process and regulatory requirements in the Centre City in order to make it easier for businesses to locate into new spaces and for building owners to make improvements and modifications to their buildings to attract and accommodate new tenants. These new rules came into effect on June 26, 2017. The objective of the Centre City Enterprise Area is to reduce retail and office vacancies and to maintain and enhance activity levels in the Centre City area. This is an excellent opportunity to partner with developers and building owners to create affordable housing opportunities in the inner city.



Historical Funding for Infrastructure Including Operating, Capital Maintenance and Capital Growth Are At Risk

The City of Calgary has identified that the current replacement value of its existing assets is approximately \$84.70 billion. With such an extensive asset base, it is important to understand the requirements for maintaining and upgrading these assets. As a municipality's overall capital stock grows, so do the funding requirements to help maintain, upgrade and repair these assets.

Capital investments are mostly long-term. Infrastructure spending therefore relates not only to building long-term capital assets but also includes plans to repair, and eventually replace these assets. Infrastructure Gap is an estimate of the total unfunded investments and is grouped into the following three categories:

1. Capital Growth Gap: Unfunded investments required to support The City's expansion. Primary drivers of growth-related expenditures are economic growth, population growth and demographic changes.
2. Capital Maintenance Gap: Unfunded investments required to maintain and upgrade existing infrastructure assets.
3. Operating Gap: Funding shortfall required to bring existing assets to a minimum acceptable level for operation over their service life.

The City's 10-year projected infrastructure funding gap is \$5.67 billion. This has declined from the \$7.04 billion reported in 2013.

The Provincial government has little capacity to further assist Calgary in the near future and there is little doubt that the Provincial government will do some budget tightening soon. The risk to Calgary is the degree to which the Provincial government may cut spending and what impact this will have on funding for local capital and operational projects.

Fortunes have shifted for the Alberta Government. From 1994 to 2016 the Province of Alberta had a positive net financial position. The Provinces' net financial position turned negative in 2017. Projections by the Royal Bank of Canada estimate that by April 2020, Alberta's net position will be negative by about 12% of annual GDP. Including all savings funds, like the Heritage Savings Fund, The Province's net position is projected to be about negative \$35 billion dollars or about 80% of the Provincial government's annual revenues from all sources.

- How do community associations maintain aging infrastructure?
- How do we strengthen community infrastructure resilience and business continuity of critical services? (Non-profit organizations)
- How does aging infrastructure accelerate innovation/development?
- When does aging infrastructure limit the delivery services/hinder healthy participation of services?
- How do we effectively manage our natural or ecological infrastructure which is currently outside of our capital asset management program?

Financial Impact of Changing Weather Patterns and Severe Weather Events

Over the last decade, Canada's economy has been heavily impacted by evolving severe and prolonged weather events, experiencing more frequent droughts, floods and forest fires. This is especially true in Alberta where 7 of the 10 costliest natural disasters in Canada have occurred, with 5 of those occurring in Alberta since 2011 (ISB).

The federal government estimates that annual costs to the Canadian economy due to these events will reach \$21 billion to \$43 billion within 4 decades (McKenna, 2017). The Fort McMurray wildfire financial impact alone was just under \$9 billion (ISB).

Financial impacts of weather events are not just a local issue. For example, the cost of living for Calgarians could rise if food source agricultural crops experience drought or other extreme weather. Other tangible impacts for citizens include the rising costs for insurance.

Governments must not only address rising insurance costs, but also the insurance gap for disaster insurance as disaster recovery funding for climate related impacts, including flood damage, are shrinking. Infrastructure remediation and mitigation upgrades are burdens that must be balanced with development policy and effective growth strategies along with return on investment.

Adaptation and mitigation decisions to reduce costs of climate related impacts require thoughtful planning, infrastructure investment and risk allocation. While dry dams and reservoir management reduce the risk, national, provincial or even municipal obligated residential flood insurance may help reduce the individual cost for coverage, capitalizing on the economy of scale, similar to what is seen in our health care system.





Low Carbon Economy

In December 2015, the Paris Agreement was signed by Canada and 195 other countries. This agreement committed participating countries to implement policies aimed at keeping global temperatures from rising more than 2 degrees Celsius from pre-industrial levels. As part of its commitment to the Paris Agreement, Canada's federal government announced several initiatives in 2016 aimed at reducing emissions, including a mandatory floor for carbon pricing in all provinces and the elimination of coal-fired electrical power generation plants by 2030. Canada's federal and provincial governments have also negotiated a Pan-Canadian Framework on Climate Change and are working to further define and implement supporting actions. Specific legislation is described further in this document.

Stemming from new Federal and Provincial legislation, and The City of Calgary's commitment to Climate Change Mitigation and GHG reductions, The City of Calgary created a Low Carbon Economy Advisory Committee in partnership with industry and academia to address this issue. Considerations include: the economic impact of carbon pricing; eliminating fossil fuel-fired electricity generation plants in Canada; and the investments in green technology development and implementation that will be required to achieve deep emissions reductions.

The Conference Board of Canada analysis suggests the economy will shrink marginally in response to the carbon tax and the shift to higher-cost electric power generation. The challenge will be to look for opportunities to offset negative impacts through appropriate infrastructure, technological and energy investments. This is particularly important in Calgary, where the economy has historically been bolstered by our strength in the oil and gas sectors. There is an opportunity to leverage our technological and engineering skills and knowledge of the energy industry to transition successfully to low carbon solutions.

The Committee has identified shared responsibility to address this issue and early discussions indicate that, in many ways, The City of Calgary is lagging behind the private sector and other cities in addressing this issue. The Committee provides impetus for industry members to advance the issue within their own industry as well.



Urban Water Management

Calgary's experience during the 2013 Alberta floods was one of the primary reasons why The City applied to join the 100RC network. While flooding remains a concern, Calgary is in a drought prone region and our watershed is vulnerable to contamination from upstream fire events. Flooding and drought were both identified as critical issues at the Agenda-Setting Workshop and other sessions, focus groups and in citizen surveys.

Calgary's flood mitigation and adaptation programs are dependent on regional negotiations and from funding and programming with other orders of government. After the Flood of 2013, Calgary formed an Expert Management Panel and put forward 27 recommendations. Updates are as follows:

- Flood mitigation and recovery projects - Since the Flood of 2013, The City has committed over \$150 million for various flood mitigation and resilience projects throughout Calgary.
- To date, 11 of the Expert Management Panel recommendations are complete with the remaining 16 in progress. Mitigation work that is already complete or is underway has reduced Calgary's exposure to flood damage approximately 30% compared to 2013.

Further to this, in 2016, The City of Calgary undertook a [Flood Mitigation Measures Assessment](#) to develop recommendations regarding the future of Calgary's flood mitigation and resiliency. These recommendations were unanimously accepted by City Council on April 10, 2017, and flood mitigation and resilience for Calgary has been identified as one of Council's top priorities.

Upstream Mitigation for Calgary:

On the Bow River - [Alberta Environment and Parks](#) is responsible for the Bow River Water Management Project which addresses flood mitigation for the Bow River Basin. View the [Bow River Water Management Project final report](#).

On the Elbow River - [Alberta Environment and Parks](#) and [Alberta Transportation](#) are working together to deliver the [Springbank Off-stream Reservoir](#), also known as SR1, a dry reservoir that will store water temporarily during a flood.

As Calgary continues to develop both outward into the greenfield development and upward as urban densification, storm water management remains an issue. The focus for flood mitigation has largely been on hard infrastructure and stormwater management has not been fully integrated into other community use and design.

Calgary's other issues and challenges in this area are: watershed management and regional roles; access to water (licences); taxation and the disconnect between water conservation and revenue generation from water sales; interconnectivity; management of natural assets outside of the asset management framework; and, funding model.

Calgary's Integrated Watershed Management Framework includes: protect water supply; use water wisely; keep our rivers healthy; and, build resilience to flooding. There is an opportunity to leverage our commitment to watershed management and explore more integrated infrastructure design and the use of natural assets by learning from other cities and platform partners through the 100RC network.



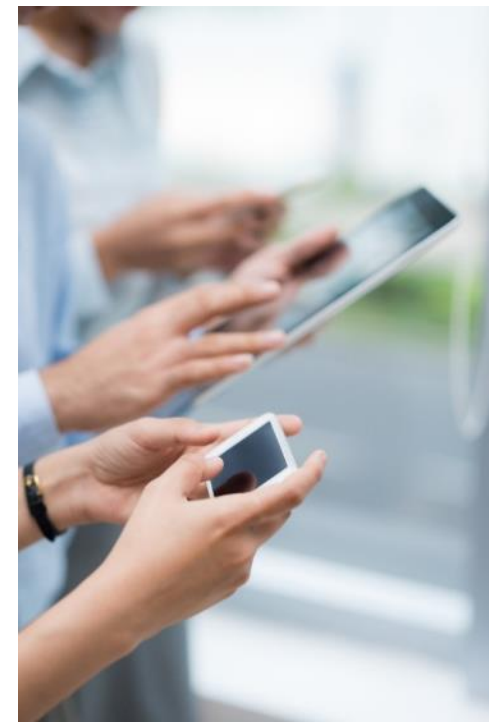
Cyber Attack and Telecommunications Breakdown

Cyber attacks are an ever-increasing threat to The Corporation. The purpose of the Cybersecurity Suite project is to help address risk to City of Calgary information and systems by allowing the implementation of technology to respond to these cyber attacks.

The scope of the City's Cybersecurity Suite project includes efforts in:

- Identifying, sourcing and implementing technology based systems to respond to and reduce the cyber security risks facing The Corporation.

Studies have found that 70% of people experiencing cybercrime have never reported it, and of those, 45% indicated they were unsure of whom to report the crime to. To help combat cybercrime, the Calgary Police Service is currently developing a service-wide procedure for responding to cybercrime calls for service, including a uniformed protocol to support response. They have also launched Business Cyber Academies to support improved knowledge and capacity among small and medium size businesses to protect the security of their online information and operations. Small businesses will learn how they can protect themselves against cyberattacks, how they can protect business and customer data and what cyber tips they should be teaching their employees. This session is meant for small businesses that do not have the knowledge, resources or capacity to hire a cyber expert.



Insufficient Appropriate Infrastructure at the Community Level Negatively Impacts Quality of Life

The Community Representation Framework (CRF) project is an opportunity to support the building and sustaining of complete communities for Calgarians through a framework which would allow for inputs into civic decisions that are repeatable, flexible and transparent. The framework will:

- Clarify the roles and expectations of organized community groups and The City in the civic decision-making process
- Outline a civic decision-making process that integrates regulatory, social, community services and infrastructure priorities and outcomes



Local Government Approach Not Responsive in Quickly Changing VUCA (Volatile Uncertain Complex and Ambiguous)

The City of Calgary has been going through a planning process to challenge assumptions, identify the challenges, liabilities, risks and opportunities on City services, City government, and the future needs of Calgarians. This is being done in order to build a foundation of future focused thinking as we develop our next business plan, resilience strategy and other high level strategies. We have been doing this through cross collaborative scenario based workshops where we have identified 'critical uncertainties' or drivers that could disrupt our business. An event held in early January 2018 included a full day of internationally renowned speakers and interactive workshops with over 300 City leaders and strategists.

Critical uncertainties that are considered relate to the STEEP topics of Societal, Technological, Environmental, Economic, and Political drivers that are influential, but hard to influence. Specific drivers could relate to: commodity prices, demographic shifts, artificial intelligence, transportation, shared economy, climate change, housing affordability, social diversity and more. We are also focusing on the evolution of society, citizen demands, and issues such as eroding of trust in government, and how governments need to prepare policies and strategies that support quality of life sooner rather than later.

At an October 19, 2017 Statistics Canada "Oil Prices and the Canadian Economy – Events and Impacts" presentation, the Chief Statistician, Anil Arora, presented that Calgary is faced with a structural shock or cyclical change and needs to broaden the economic base. Calgary is also faced with a changing labour market composition and needs to be more inclusive (i.e., include more Indigenous peoples, people with disabilities). Calgary must also adapt to a low carbon world and consider pricing, tax policies, clean technology, etc. Calgary's economy is tied to an oil & gas industry and is trying to emerge from a bust.

"In order to be a relevant and critical player in the future, local governments will need to rethink their design, strategy, operations, and processes in fundamental ways. Governments must contend with an increase in the diversity of stakeholders, limited capacity to predict the future, and an erosion of governing authority. A 20th century approach to governance will not cut it anymore; the outlook for current governance models is exceedingly bleak. Adaptability and recovery from shocks will be increasingly critical. Lean, nimble, proactive government systems must be designed." Source: *Local Government 2035: Strategic trends and implications of new technologies*

Emergence of Regional Governance Models

Upcoming legislative changes, requirements and responsibilities (i.e., Municipal Government Act, city charter and regional boards) will impact governance responsibilities of Calgary (i.e., environmental well-being) and our neighbouring municipalities and districts. There will be greater need for regional consultation and planning as well as funding impacts as critical infrastructure may transition to a more regional asset model.

Regional governance is likely to extend across discovery areas as many resilience areas require regional participation and solutions. Environmental resilience including watershed management cannot be done piecemeal. Economic competition between neighbouring municipalities and varying regulations and policies (i.e., land use, densification, bylaws, etc.) has not strengthened our region. In fact, some policies have created fragmented development along Calgary's borders where the municipality struggles to coordinate infrastructure, land use, environmental and social needs across boundaries.

The City has an obligation to collaborate regionally, and has a regional and municipal responsibility to recognize that Indigenous communities predate municipal boundaries and that future plans will benefit from interjurisdictional participation to ensure that all stakeholders are represented.





Organizational Effectiveness

A cross cutting theme and stress is 'organizational' resilience as it pertains to leadership, accountability to taxpayers, information sharing, budgets and 'trust' in government. Building stronger governance and policies, and executing plans, was identified as an action at the ASW. Calgary is adopting a 4 year service plan and budget and is in the process of developing a City Charter.

According to the 2017 Citizen Satisfaction Survey, satisfaction has declined with respect to confidence in The City's ability to communicate to taxpayers 'how' The City spends Calgarian's tax dollars and 'why' it is a priority. A lack of 'trust' of The City was also identified in the survey. City Administration is being asked to do more with less and shift their focus to the services citizen's want. Administration must find effective, efficient and resilient solutions. Hiring freezes are in place; lay-offs are underway; and, reduced budget packages are being considered. This stress might lessen the ability (as was identified at the ASW) of the organization to strengthen communities and improve education and awareness on resilience. Departments might pull back resources and limit participation if budget restraints are severe (further entrenching pockets of silos).

Participants at the ASW advocated for a number of actions to be undertaken by The City:

- Strengthening communities - A number of actions related to the imperative of improving communities' capacity to prepare for and deal with stresses and shocks. These suggestions emphasized creating self-reliance and the capacity for local action among all communities in Calgary. The suggestions also addressed the need to ensure equity in economic conditions, opportunities, and access between communities.
- Improving education and awareness around resilience - Many participants stressed the importance of education in preparing residents at all levels to become more resilient and increase the city's overall ability to recover from stresses and shocks. Education in this sense refers to both formal learning and knowledge Calgarians develop through interactions with their peers.
- Building stronger governance and policies and executing plans - In addition to the emphasis on self-reliance, the group also recognized that formal governance and policies need to be aligned to successfully create a more resilient city. Participants felt that both individual policies and general operating principles could improve governments' ability to prepare for and deal with stresses and shocks. There was also an emphasis on the importance of ensuring a strong mechanism is in place to execute these plans.

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The City of Calgary, to further its accountability to Calgarians, will implement a resilience and service-based business plan and budget for the 2019-2022 business planning cycle. This next cycle is aptly named 'One Calgary' in keeping with The City's One City, One Voice commitment. The Deputy CRO and the Resilience manager sit on several advisory committees for this process and the CRO provides input via the ALT monthly updates and as the leader of the Deputy City Manager's department. The service leaders and the program team have identified resilience and the resilience lens as a part of the process. It is the resilience team's goal to integrate the resilience strategy actions into the next business planning and budgeting cycle.

Other evidence of the resilience commitment in the organization was demonstrated on January 9, 2018 when over 300 City leaders (with 40 facilitators trained by the resilience team) led an afternoon strategic foresight discussion on what Calgary's future might look like with various scenarios of shocks and stresses. Inputs from attendees were captured for a follow up report. Council set their priorities in January and Administration will craft a Corporate Strategic Plan. The CRO, Deputy CRO and the Resilience Team have committed to a course of action to provide capacity in the organization by training key staff in Strategic Foresight and other related skills with a goal to build a community of resilience practice.

Risk Adverse Culture

Increased public demand for accountability and transparency has heightened scrutiny on government administration. Innovation and creativity are avoided, as preference for proven and traditional solutions and are thought to be less likely to come under public scrutiny. Reputational risk within the community, private sector, investors and with our global partners limits our ability to engage unproven tactics. Our risk adverse culture can prohibit government from keeping up with the private sector (i.e., land developers, oil and gas sector, etc.), the community and globally.

Technology, open data initiatives and social media provide an opportunity for the public to have greater access to operational activities and results. While greater civic engagement is often the goal for many levels of government, it has also lead to lengthy engagement processes that have the potential to prolong projects. Progress on critical local and global issues have been stalled due to concerns over alienating sectors of our economy. Meaningful discussion on climate change was tentative to balance the oil and gas sector's contribution to the economy. Issues related to urban sprawl and the cost of growth (new urban developments) are still a work in progress.



Leveraging Social and Intellectual Capital of Calgary's Diverse Communities

Census data and perceptions consultations reveal the significant opportunity Calgary has to strengthen its resilience. Diverse target communities are growing at a faster rate than the general population, and have become increasingly important to our overall community. Many bring global experience and education, different world views, unique ways of building relationships and the ability to think and act differently to solve VUCA (Volatile, Uncertain, Complex and Ambiguous) city resilience problems. This is supported by a report written by 100RC, "Global Migration: Resilient Cities at the Forefront." This report stated that immigrants present host cities with a variety of opportunities for building resilience, including financial investment, infrastructural innovation, a rejuvenated labor force, and new means of fostering social cohesion. Despite this, inequity in income and employment was consistently observed by all diverse target communities, even though they brought strong human assets to Calgary.

Calgarians take pride in their volunteering, community spirit and ability to come together in times of crisis regardless of background. This was evident during the 2013 floods where thousands of volunteers, City staff and local businesses worked together to help recovery of neighbourhoods that were affected by the flood. In times of crisis – Calgarians come together!

In non-crisis times, however, this is not the case. According to resident surveys, while most Calgarians (8 out of 10) believe that Calgary is inclusive and accepting of all, they still feel less safe as our population grows, demographics change, and perceived threats from extreme religious groups increase. Participants at the Agenda-Setting Workshop (ASW) were concerned about the lack of social cohesion and overwhelmingly believed that Calgary needs to be better at community social connectivity and participation. The Disaster Psycho-Social Resilience Capacity Building forum, held in November 2017, discussed how strong relationships between neighbourhood residents and government (bridging and linking social capital) was vital in community resilience. Participants believed that Calgary needed to focus more of their energy on this area rather than physical capital, physical infrastructure or financial capital.

In perception surveys and consultations with diverse target communities, participants overwhelmingly discussed the issues of discrimination, racism and islamophobia. These communities discussed work-place discrimination as demonstrated by lower wages, non-inclusive hiring and promotion practices and bullying. Perception analysis also showed unequal access to public space and to Calgary's opportunities, especially within Calgary's disabilities, LGBTQ²(lesbian, gay, bisexual, trans-identified queer and questioning), immigrant and racialized communities. Perception consultations also reveal the systemic barriers that target communities face when trying to participate in civic life. Examples of barriers include (non-exhaustive list): non-recognition of international education and work experience, limited access to transportation and affordable, accessible and appropriate housing, and national citizenship needed to vote in municipal elections.

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Calgary has been fortunate in that it does not have the number of enclaves that its Canadian counterparts do; however, spatial concentrations of vulnerability and safety remain a concern. There are current neighbourhood initiatives aimed at identifying and addressing the issues faced by those living in poverty and experiencing social isolation through community development.

While it appears that there are policy initiatives and strategies to address issues and barriers facing diverse target communities, these actions do not address social issues from a complex, multi-systems approach. Many only touch the surface by providing programs and services designed to 'fix' the diverse target communities. There is little attention on understanding the interacting system barriers and drivers that lead to inequity.

Pivotal Point for Inclusive Leadership and Decision Making

Calgary's Volatile, Uncertain, Complex and Ambiguous (VUCA) reality is driving the need for improved inclusive leadership and decision-making. Despite possessing strong education, competencies, work and community experiences for leadership, data shows low numbers of diverse target communities' representatives in leadership occupations and in elected civic roles. Perception surveys and consultations with diverse target communities overwhelming highlighted the need to be represented in leadership and to meaningfully participate in local decisions that impact them and Calgary. Diverse target communities discussed their experiences hitting the 'glass ceiling' and the systemic barriers they experienced in civic decision making.



Biodiversity

Calgary has developed a Biodiversity Action Program (BAP) which is the implementation plan for the Biodiversity Strategy and Policy. The strategy itself can be found at www.calgary.ca/biodiversity The program and strategy identify key program areas and targets that are top challenges/opportunities for the conservation of biodiversity in The City, namely:

- Ecological Resilience – addresses habitat fragmentation, habitat loss and invasive species. Watershed alignment is also identified here as a key crossover with Water Resources and the Riparian Action Plan. These 3 programs within Resilience are the key drivers that affect biodiversity globally. These programs and targets are intended to measure and offset ecological loss occurring in Calgary.
- Ecological Literacy – includes programs and targets related to internal (City staff) and public understanding and stewardship in support of conservation and biodiversity. This is a critical component of any program and includes Parks Environmental Education program as well as some biodiversity-specific initiatives such as a Citizen Science program which is used for citizen wildlife monitoring.
- Ecological Planning – relates to biodiversity protection, biodiversity planning and conservation mechanisms. There is an opportunity for The City to leverage and integrate this work further into City services. Ecological resilience will only progress if principles of conservation and ecological function are integrated into planning and city management.

Another key opportunity that The City has is as a signatory to the Durban Commitment. This commitment highlights the underlying role that biodiversity plays in healthy, sustainable cities. This aligns well with the 100 Resilient Cities framework, and is a good example of Council direction in support of what this plan is trying to achieve. The Biodiversity Advisory Committee is a public committee of Council that provides strategic advice on these matters.





Climate Resilience & Environmental Well-Being Regulation

Recent changes to Federal and Provincial climate change regulations have resulted in more regulatory requirements as well as positive and negative incentives for Canadian and Albertan municipalities.

The federal **Pan-Canadian Framework on Climate Change: Carbon Management and Adaptation Planning** sets carbon pricing that is anticipated to impact The City with increased energy prices for fossil fuels meaning there will be an incentive to reduce fuel usage in order to reduce costs. At the same time, there will be funding opportunities for climate change resilient infrastructure.

An update to the **2003 Alberta Climate Change and Emissions Act** will add expiry dates to offsets from previous emissions mitigation that The City has undertaken and will increase emission reporting for all 4 landfills and the Bonnybrook Water Treatment plant. More significant, the **Climate Leadership Act** establishes a Carbon Levy on major fuels as well as a framework for energy efficiency program funding and capital investment in the province. The carbon levy has increased operational costs for The City by \$6 million in 2017. This increase will drive actions to increase efficiency and reduce costs, particularly since the Province intends to follow the lead of the Federal government and institute a \$50 per tonne carbon price by 2022. For capital investment, the program has resulted in additional Provincial funding to expand solar energy generation at various facilities. The City is working with Energy Efficiency Alberta to secure funding of additional energy efficiency programs.

The draft **City Charter** regulation mandates that cities complete a Greenhouse Gas (GHG) Mitigation Plan and a Climate Change Adaptation Plan by the end of 2020. To this end, The City of Calgary is developing a Climate Resilience Plan and has been working within The Corporation to identify risks, impacts and potential actions related to adaptation that can be included within the next 4 year business cycle. These will then be developed into projects, programs and themes that could have cross-corporate and serviced based implications. To support this work, purposeful attention to integration, implementation and long-term monitoring is required. More research and technical analysis may also be needed to support policy development and changes to design specifications and standards.

Mitigation work is also underway and will support our goals toward a lowering GHG emissions and our path toward a low carbon economy. This work is being completed both internally to reduce carbon emissions from sources such as municipal facilities and fleet vehicles as well as externally with industry and others in the community to reduce emissions more broadly in the Calgary region.

New responsibilities under the **Municipal Government Act (MGA)** for cities to address Environmental Well-being are expected to be approved on March 1, 2018 (retroactive to January 1, 2018). These will require municipalities to define environmental well-being and allow for additional regulatory tools at the municipal level. Calgary has begun a process to define Environmental Well-being internally and more work is needed to further define and understand implications to City services and community development.

The combined impacts of the changes in the regulatory environment result in a unique and timely opportunity to address and integrate climate change and environmental well-being into the resilience conversation and the resilience strategy. In addition, new funding related to resilient infrastructure could result in opportunities to integrate natural assets, green infrastructure and innovative technologies into our traditional infrastructure and asset management frameworks and service delivery models.



Housing

Housing was prioritized as a mid-level stress by stakeholders, ranking behind issues relating to social cohesion and economic prosperity and on par with issues relating to environmental/climate change. The City Resilience Framework (CRF) does not distinguish between various components of 'housing,' such as housing affordability, housing support, affordable housing, adequacy or suitability of housing, housing market versus rental market, etc. Calgary has a homeownership rate of 73.0%, well above the Canadian national average (66.5%). Shelter costs – being able to afford monthly shelter cost payments – are also favourable compared to other major metropolitan cities such as Toronto and Vancouver.

Canada-wide, the proportion of households with monthly shelter costs considered unaffordable has remained virtually unchanged over 10 years: 24.1% in 2016 compared with 24.4% in 2006. Among census metropolitan areas in 2016, Toronto (33.4%) and Vancouver (32.0%) had the highest proportion of households that paid 30% or more of their total income on shelter costs. Montreal (24.6%) sits close to the national average. Calgary sees the lowest proportion of households living in dwellings with shelter costs considered unaffordable (21.9%), of the 4 areas. On average, owners in Calgary spent \$1,612 a month on shelter, compared to \$1,354 for renters. In Canada overall, owners spent \$1,313 on average per month for shelter, while renters spent \$1,002.

Indeed, participants at the Agenda-Setting Workshop (ASW) and other engagement opportunities focused on a lack of affordable housing to meet basic needs, perceived difficulty in securing accessible housing, and a concern that growing unemployment could lead to increased poverty and greater homelessness.

Local, Provincial and Federal governments, and community stakeholders, have made significant commitments in the areas of homelessness, housing support/rent supplement, as well as appropriate housing to suit the families of today. This includes housing for the larger families seen amongst many recent refugees, and accessible housing that supports an aging demographic. Several strategies and initiatives are underway by The City of Calgary and in the community. Examples include RESOLVE, Affordable Housing Strategy, Attainable Homes, Secondary Suite Reform, 10 Year Plan to End Homelessness, Alberta Provincial Plan to End Homelessness, and the Canada-wide (Federal) National Housing Strategy.

Homelessness

Alberta was the first province to commit to ending homelessness with the release of *A Plan for Alberta Ending Homelessness in 10 Years* (2008). The plan was community-led by Alberta's 7 Cities (Calgary, Grande Prairie, Lethbridge, Edmonton, Medicine Hat, Red Deer and Wood Buffalo). Calgary led the country by implementing Canada's first 10 Year Plan to End Homelessness (Calgary's Plan).

Calgary's Plan counts the following successes, 9 years into its 10 Year Plan to End Homelessness: 2,100 additional programming spaces, ensuring that individuals are housed and housed with the right supports; 26% fewer people (per capita) experiencing homelessness today than in 2008; housed more than 8,700 people and on track to house 10,000 people by the end of 2018; and, built more than 500 units of permanent housing with supports and are on track for more than 620 units of housing for vulnerable individuals by the end of 2018.



The Province of Alberta is also committed to ending youth homelessness. In 2015, the province released *[Supporting Healthy and Successful Transitions to Adulthood: A Plan to Prevent and Reduce Youth Homelessness](#)*. This was the first provincial youth homelessness strategy in Canada and emphasized the need to focus on prevention efforts.

Housing Support

Calgary Housing Company (CHC) is a wholly-owned subsidiary of The City of Calgary with a mandate to manage approximately 10,000 housing units and programs, with approximately \$100 million allocated to providing affordable housing options.

Rent Supplement

CHC assists more than 2,330 families through the provincial government's Rent Supplement programs, accounting for almost one third of the total number of families supported by CHC.

Affordable housing

Attainable Homes Calgary Corporation (AHCC), a non-profit social enterprise and wholly owned subsidiary of The City of Calgary that delivers well-appointed, entry-level homes for Calgarians who have been caught in the city's housing affordability gap. To date, over 750 people have achieved attainable home ownership through this program.

Designing and building new City units is also one of the strategic directions of [Foundations for Home, Calgary's affordable housing strategy](#). Housing development milestones for 2017 include:

- *Wildwood* – 48 units in Wildwood; construction is expected to be complete fall 2018.
- *Rosedale* – September 2016, City Council approved the funding and development of new single detached homes on 8 properties; development is expected to provide up to 16 affordable homes for Calgarians.
- *Crescent Heights* – May 17, 2017, event to announce that construction was completed on affordable housing development; three-story, 16-unit multi-residential property; certified silver by Built Green Canada - 2 units are barrier free, and 1 built to accommodate the visually impaired.
- *Bridgeland* – July 19, 2017, CHC celebrated the official opening of an affordable housing development; 24 residence stacked-townhome development features 4 studio, 8 one-bedroom, 4 two-bedroom and 8 three-bedroom family homes; 3 homes barrier free; 1 built to accommodate the visually impaired.
- *Kingsland* – Sept. 9, 2017 a new development was announced that will provide affordable homes to 32 individuals and families.

There are also a number of local organizations within our city focusing on housing support and homelessness, including the Calgary Homeless Foundation, steward of Calgary's 10 Year Plan to End Homelessness. Together, these initiatives continue to advance Calgary's efforts.

Calgary



DISCOVERY AREAS



Cross Cutting Theme

How do we encourage a trusting environment that supports intentional risk taking, innovation and co-creation?

Economic Resilience

How does Calgary strengthen our economic drivers to be better prepared for stressors & shocks?

Inclusive Leadership and Decision Making

How does Calgary capitalize on its diverse human assets?

Environment Resilience

How can Calgary strengthen our natural assets and ecosystems within our city and region?

Infrastructure Resilience

How does Calgary grow an integrated, connected and well managed city?



ECONOMIC Resilience

We strengthen our economic drivers to be better prepared for stressors and shocks

Benefits

The resiliency of a city improves when all are encouraged and able to participate in a diverse and strong economy. This enhances the community's ability to attract business, talent and investment. Calgary has the opportunity to capitalize on its high quality of life, available commercial real-estate and educated workforce as it continues to find its way out of recession. The community is engaged and local businesses, other levels of government, and our City partners are cooperating and exploring opportunities to build a resilient economy. This requires reducing barriers to employment, including mobility and training, activating youth and Indigenous entrepreneurship, strategic academic programming, and the utilization of innovative finance tools and approaches to address the challenges and opportunities.

Questions for Further Study

- What are the barriers to employment and economic participation for Calgarians and how can these barriers be best overcome, particularly for disadvantaged communities?
- What governance structures, human resources, and other assets are required to enhance Calgary's ability to attract business and talent that benefits the community as a whole in the long run?
- How can we best retrain and reutilize existing human and capital assets and resources as Calgary transitions to a more diversified economy less vulnerable to commodity price fluctuations?



Calgary



INCLUSIVE LEADERSHIP & DECISION MAKING

Capitalizing on Calgary's
Diverse Human Assets



Benefits

Resilience of a city improves when diverse people have meaningful voices in decision making and leadership. By leveraging the untapped human and intellectual capital of existing and future residents who have different perspectives and experiences, Calgary can create a better-informed path forward, one that is innovative and responsive in a VUCA Calgary (Volatility, Uncertainty, Complexity, Ambiguity). This includes impacting employment, income and social inclusion outcomes with resilient system based solutions. In addition, greater mutual understanding and acceptance and inclusion of others leads to increased bridging and linking social capital and more empowered residents in Calgary's communities, neighbourhoods, and city, resulting in greater resilience at all levels.

Questions for Further Study

- What are the economic arguments for reducing underemployment of diverse target populations and how can this benefit these populations and the city more widely?
- How can Calgary's civic institutions, businesses, and other influential organizations diversify their boards and senior leadership to ensure that the city's leadership reflects the needs and experiences of its residents?
- How can the City of Calgary build relationships of mutual trust, respect, and understanding with Indigenous communities and other diverse target populations in order to foster their meaningful involvement in decision-making processes?





ENVIRONMENT

Resilience

We strengthen our natural assets and ecosystems within our city and region

Benefits

Natural or ecological systems provide social, economic and environmental benefits. They contribute to physical and mental well-being and can contribute to a robust economy, in part by making the city more attractive to a skilled workforce and, therefore investment. Green, ecological or natural infrastructure can improve resilience to the gradual and sudden impacts of climate change and natural hazards. Healthy natural systems are self-adapting and require less intervention to thrive in changing conditions than more traditional hard infrastructure.

Challenges related to hard infrastructure (aging infrastructure, funding, adaptation to climate change) and opportunities related to the current regulatory environment, along with our commitment to biodiversity, and potential government funding for innovation and green infrastructure, all contribute to a unique circumstance in Calgary. An identified opportunity is to integrate natural assets, green infrastructure and innovative technologies into our traditional infrastructure and asset management frameworks and service delivery models.

There are many benefits to manage, conserve, integrate and enhance critical natural areas, and the hydrologic and ecosystem functions they provide. These include the reduced impact and cost of damage from extreme weather events and the increase of social and economic benefits for all Calgarians.

Questions for Further Study

- How can Calgary better utilize our natural assets to support biodiversity, ecological function and resilience for the future?
- How can we better understand our shared risk and co-create solutions that encompass the economic, ecological and social co-benefits of our natural assets and ecosystems?
- How can we best integrate, implement and monitor climate adaptation and mitigation programs in support of a strong economy, environment and society?





INFRASTRUCTURE Resilience

Calgary has infrastructure that supports an integrated, connected and well managed city



Benefits

Resilience of a city improves when the community has access to infrastructure. If the infrastructure is designed to accommodate the diverse and everchanging makeup of the community, it will serve the intended purposes. If adaptable, it will accommodate unintended uses. Harder working, multi-use and co-created infrastructure or retrofits may be solutions to consider in response to the VUCA (Volatility, Uncertainty, Complexity, Ambiguity) state the municipality finds itself in.

Relationships and partnerships are paramount as the municipality builds upon past and future legislated regional and community connections. The future leadership and policies of the municipality must nurture and advance these relationships, encouraging collaboration and co or shared management of infrastructure. Identifying and aligning with the regional or community values and interests, and identifying the co-benefits and accessibility of those assets, is paramount to building a resilient community and region.

The changing funding models (all orders of government, region, community) impact everyone and the global priorities/drivers/trends dictate a focus on resilience and the qualities of a resilient system. Strategic management of all infrastructure assets (hard, natural, community) will be one of the municipalities' most challenging undertakings, and if well managed, will result in significant benefits to the community (return on investment) and improved community, regional and city resilience.

Questions for Further Study

- How do we measure the value of infrastructure in enhancing quality of life and vibrant communities?
- How do we strengthen capital resilience by lowering the financial exposure to infrastructure risks?
- How do we strengthen partnerships, regional planning and resourcing of infrastructure, including the operation of infrastructure in public spaces?
- When does aging infrastructure limit or hinder the delivery services?



How do we encourage a trusting environment that supports intentional risk taking, innovation and co-creation?

Cross
Cutting
Theme

A wide-angle photograph of the Calgary skyline. The Bow Tower, a tall cylindrical skyscraper with a white geometric pattern, is the central focus. To its left are several other high-rise buildings. In the foreground, the Lion Gate, a white stone archway with a large lion sculpture on top, spans across the Bow River. The river is visible on the left side of the image. The sky is blue with scattered white clouds. A red banner with the text 'NEXT STEPS' is overlaid on the right side of the image.

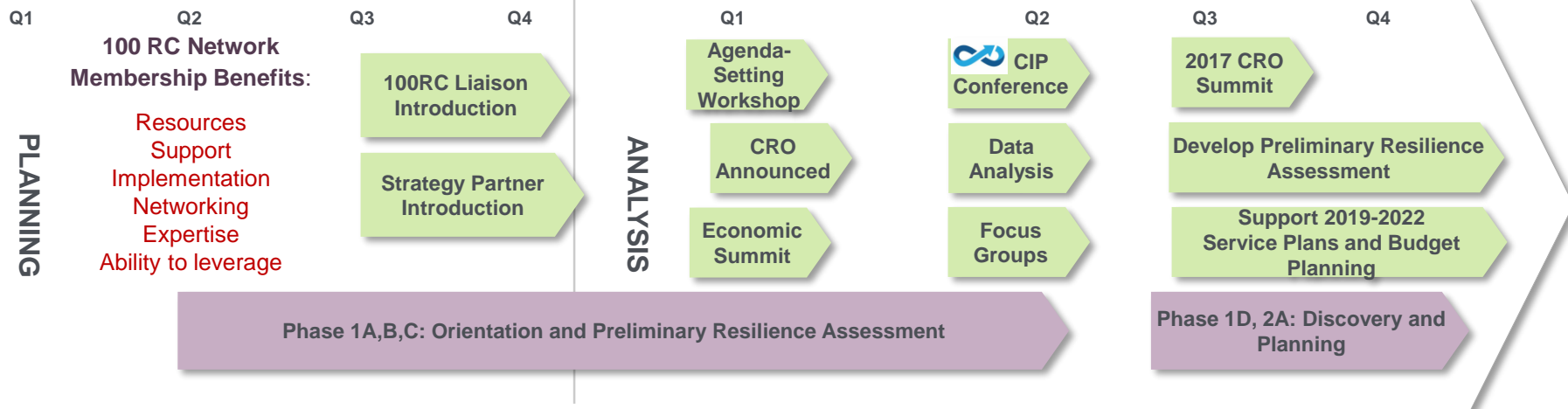
NEXT STEPS



Calgary Resilience Strategy Development & Implementation

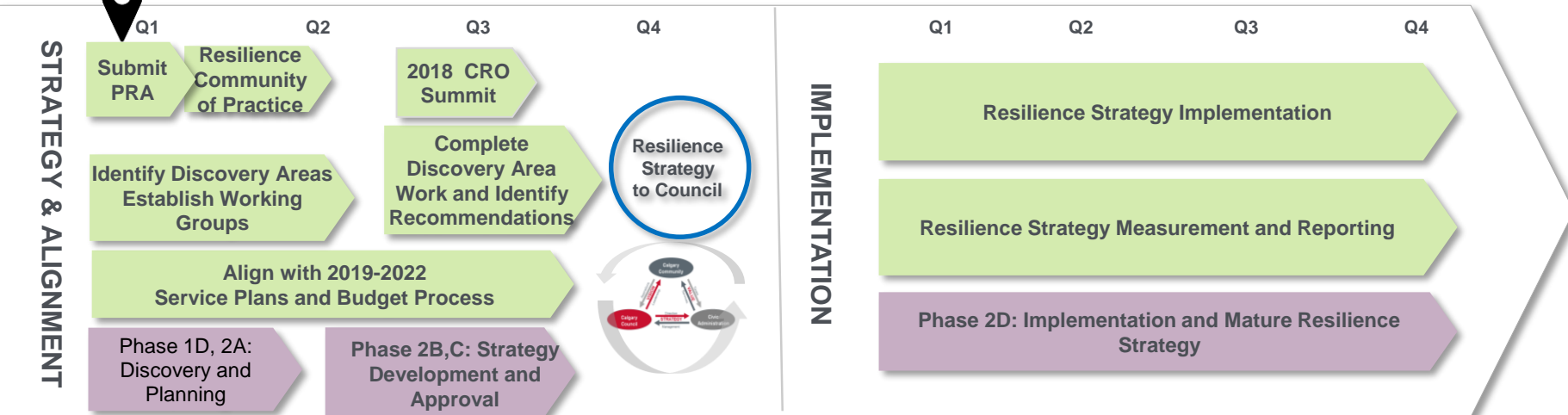
2016

2017



2018

2019+



Key Actions

Resilience Strategy Phase



Phase 1D, 2A – Discovery and Planning

2018 Q1-Q2 – Establish Governance and Resilience Community of Practice

- Leaders, advisors, and practitioners
- Discovery Area deep dive
- Resilience Strategy recommendations
- Community engagement

Phase 2B,C – Strategy Development and Approval

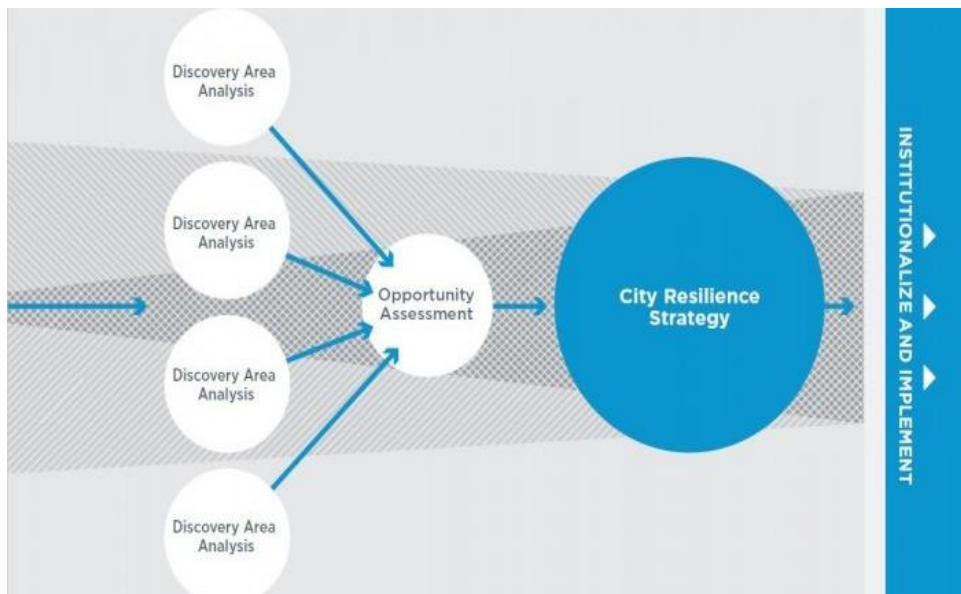
2018 Q2-Q3

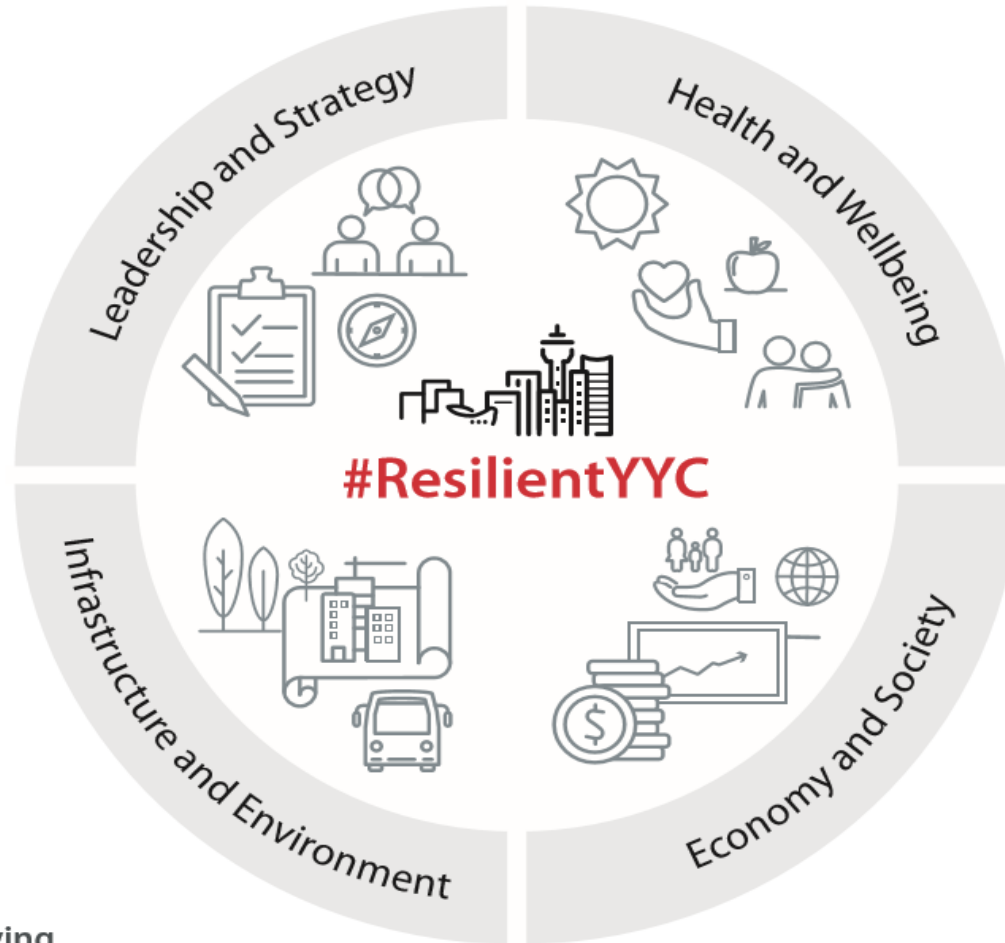
- Resilience Strategy and Actions released
- Alignment & integration with One Calgary and community

Phase 2D – Implementation and Mature Resilience Strategy

2018 Q3-Q4

- Measuring City Resilience Index
- Implementing strategy





CITY OF CALGARY VISION:
**A great place to make a living,
a great place to make a life.**

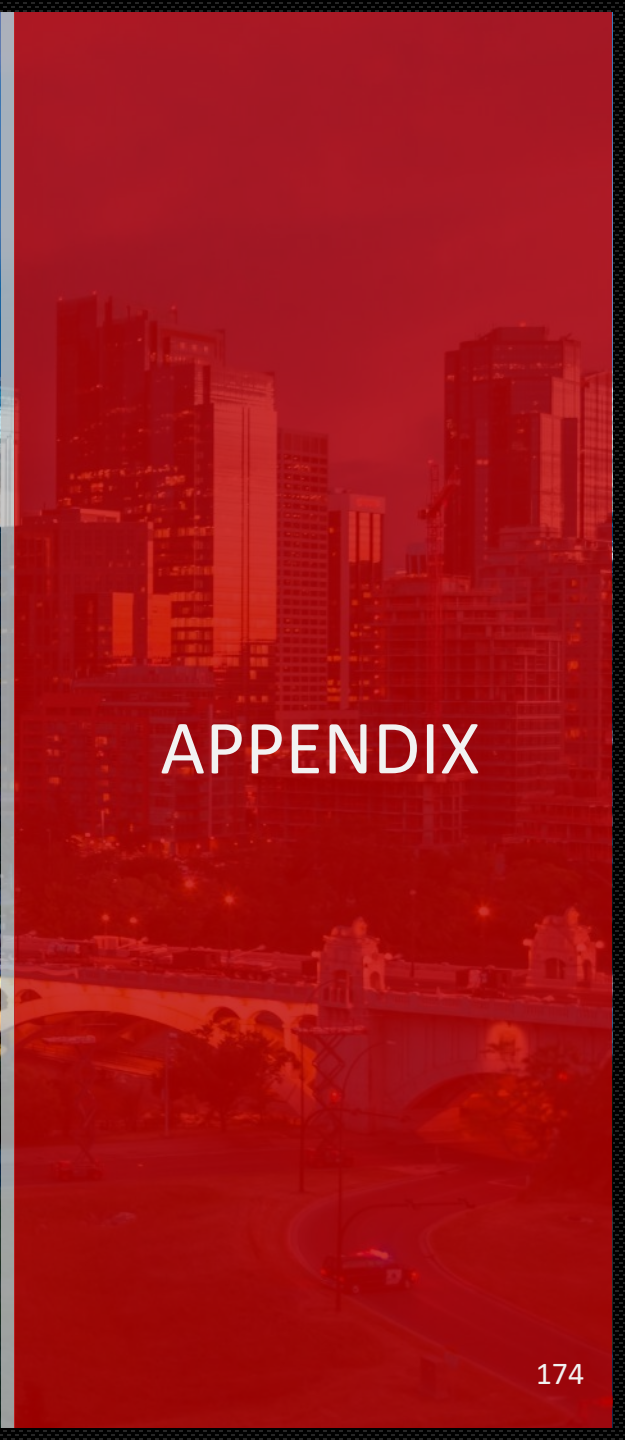
IN PARTNERSHIP WITH

PIONEERED BY THE
ROCKEFELLER FOUNDATION

100 RESILIENT CITIES



Calgary



APPENDIX



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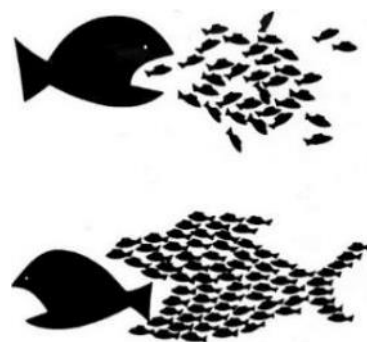
Relevant Definitions

Aboriginal peoples	Aboriginal peoples of Canada are defined in the Constitution Act, 1982, Section 35 (2) as including the Indian, Inuit and Métis peoples of Canada. It is the term used with Statistics Canada.
Accessibility	Factors that align with the ability for individuals to participate. This is achieved through the removal of barriers impeding access, which may include: social, financial, geographic and physical barriers. The result of accessibility is that everyone is able to participate in all aspects of society.
Equity	People receive tailored treatment according to their respective needs and social conditions. It requires recognition that different barriers (often systemic) exist for diverse individuals or groups. The result of equity is all people have the opportunity to benefit equally.
Sense of Belonging	The feeling of being connected to and accepted by others. It influences one's sense of identity, is associated with improved physical and mental health, and how much an individual participates in society.
Social	The interaction among individuals and groups, or the welfare of human beings as members of society.
Social Conditions	The variables that impact an individual's quality of life, access to opportunities, or lived experience. Positive social conditions may require that policies, programs and services are delivered equitably in order to advance equality.
Inclusion	Creating environments in which any individual or group is respected and valued. The result of social inclusion is that people feel they belong and can fully participate in society.
Reconciliation	A shared and active process between Indigenous and non-Indigenous peoples to transform relationships and understandings by acknowledging what has happened in the past, addressing the impact of colonial policies, and then following through with action.
Racial Profiling	Any action undertaken for reasons of safety, security or public protection that relies on assumptions about race, colour, ethnicity, ancestry, religion, or place of origin rather than on reasonable suspicion, to single out an individual for greater scrutiny or differential treatment. Profiling can occur because of a combination of the above factors, and age and/or gender can influence the experience of profiling.



Relevant Definitions

Indigenous Peoples	Indigenous peoples is a collective name for the original peoples of North America and their descendants
Economic Immigrant	Permanent residents are selected for their skills and ability to contribute to Canada's economy. Subcategories include skilled workers, business immigrants, provincial or territorial nominees, live-in caregivers and the 'Canadian experience class'.
Low Income Measure After Tax (LIM-AT)	A fixed percentage (50%) of median adjusted after-tax income of households observed at the person level, where 'adjusted' indicates that a household's needs are taken into account.
Visible Minority	Persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour. It is the term used by Statistics Canada.
Social Capital	Connections among people and organizations or the social glue to make things happen.



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