

What's Next for Calgary?

Economic Scenarios & Community Impacts





CONTENTS

| | Page |
|---|-------------|
| 1 Executive Summary ----- | 3 |
| 2 Introduction ----- | 4 |
| 3 Methodology ----- | 5 |
| 3.1 Methodology & Assumptions for the Economic Scenarios ----- | 5 |
| 3.2 Methods used for the Community Impact Analysis ----- | 6 |
| 4 The Three Economic Scenarios ----- | 7 |
| 4.1 Key Economic Drivers & Assumptions ----- | 9 |
| 4.2 Economic Conditions for All Three Scenarios vs. Action Plan ----- | 10 |
| 4.3 Pushing the Limits of the Three scenarios ----- | 13 |
| 5 Impacts on the Community ----- | 14 |
| 5.1 Impacts of the Economy on Citizens ----- | 15 |
| 5.2 Impacts of the Economy on Community Groups ----- | 18 |
| 5.3 Impacts of the Economy on Businesses ----- | 20 |
| 5.4 Impacts of the Economy on Citizens' use of City Services ----- | 22 |
| 5.5 Impacts of the Economy within the Organization ----- | 24 |
| 6 Conclusion ----- | 25 |
| 7 References ----- | 26 |
| 8 Acknowledgements ----- | 28 |



1 EXECUTIVE SUMMARY

Back in November 2014, The City of Calgary's four-year business plans and budgets for 2015-2018, or *Action Plan*, was approved by Council.

Action Plan was developed against a background of high oil prices and strong economic growth in Alberta, with oil prices projected to remain in the US\$90s range, the price of other commodities remaining strong, and where Calgary would continue to face strong population growth.

Shortly after the approval of Action Plan, however, the price of oil has been volatile, driven by an increasing global supply of oil, a weakening energy demand from emerging markets, and the strengthening of the US dollar. The fourth quarter of 2014 saw the price of crude oil plummeting from peaks of \$112 USD/barrel in June 2014, reaching as low as \$27 USD/barrel by February 2016, and staying in the \$40 USD/barrel range by mid-May 2016.

The fluctuating oil prices have had a generally unfavourable impact on certain key indicators that affect The City of Calgary's planning and operations. In order to respond to this new economic reality, understand its effect on our citizens and community, and adjust accordingly, The City has developed three potential economic scenarios – low, moderate, and high. Each scenario offers a good perspective of the alternative futures for Calgary based on a range of updated assumptions of oil prices and other commodities. The objective of using alternative scenarios is to allow The City to consider a range of possible outcomes for the future and respond with strategies for adjustments that are valid across all three scenarios.

The three scenarios, including the most optimistic, show depressed projections for key economic indicators compared to those in Action Plan. Unemployment rates in all three scenarios are

almost double the level predicted in Action Plan. The one exception to these trends is population growth, which remains close to original forecasts.

Historically, recessions have been notorious for hitting those already in vulnerable positions the hardest (Arsenault and Sharpe, 2009). The current recession is no different. Representative groups serving citizens reported, through workshops, that there has been an increase in demand for social and community programs and services. This is particularly true amongst low income families, single parents, children and youth and recent immigrants. They also observed an increase in cases of mental illness and domestic violence. These observations in the frontlines are consistent with research gathered by The University of Calgary on the social impacts of economic downturns.

For businesses, there has been a drain of available talent as massive layoffs have forced potential candidates to leave Calgary for other US and Canadian cities. City staff perceived an increase in the demand for some City services; and a decline in usage for others. There is also a perceived change in the usage patterns (e.g. time of day) of some City services, requiring City service providers to remain flexible in their service delivery. Where available, data showing the change in usage of City services since last year is provided. In some cases, this data is compared against that during the last recession in 2008 – 2009.

The moderate case scenario, though lower than what was projected at Action Plan, is not all doom and gloom. All representative groups at the workshops noted opportunities for innovation, collaboration, better coordination, and service improvements. The moderate scenario, which has the highest probability of occurring, will be used by Administration for the planning and adjustments of the remaining years (2017 - 2018) of Action Plan.

2 INTRODUCTION

Faced with an uncertain economic climate for the next few years, The City of Calgary is seeking to better understand the impacts of the economic downturn on citizens, businesses, not-for-profits serving the community, as well as the potential changes in demand for City services. Although some of the impacts presented may fall outside The City's mandate, they are nevertheless inter-related in many ways. For example, while support services that directly address mental illness are outside of The City's purview, the indirect effects of those suffering from mental illness may include an increased reliance on other related social and community programs offered by The City. This study puts forward a comprehensive understanding of the impacts of the downturn, enabling The City to respond accordingly.

Three alternative economic scenarios were developed to examine the impact of commodity price forecasts and the exchange rate on investment, expenditures, population, and employment. As a short- and long-range planning tool, the scenarios take into consideration past economic behaviours, as well as current trends.

Economic scenarios, on their own, are of limited use, since they do not immediately translate into an understanding of how citizens, local businesses, and The City of Calgary as an organization will be impacted. For this reason, the economic scenario work was supplemented by community impact analysis. Together, the scenarios and the impact analysis will allow The City to consider a range of possible outcomes for the future and respond with strategies for adjustments that are valid across all three scenarios.

A fourth even "lower-case" scenario was developed following the workshops in response to feedback that the low scenario was too optimistic. Although the "lower-case" scenario is highly unlikely at this point (since crude oil prices would have to remain

at \$23 USD/barrel for the remainder of 2016), it does serve as a helpful consideration in the event of a major event such as a natural disaster.

The City's Administration will consider all scenarios when planning for the adjustments to Action Plan. However, the moderate case scenario (which has the highest probability of occurrence) will be the basis for bringing forward adjustments that address these impacts as part of the Investment Framework for Council's consideration in November 2016.

Supporting materials

This report is a summary of information gathered from a number of sources. It should be noted that some of these sources contain qualitative data (such as the workshops with various groups); and some contain quantitative data (such as the economic modelling analysis and the research on social impacts gathered from various authorities through the University of Calgary).

Where available, data from The City's surveys of users since the start of the current downturn is compared against the same from the last recession in 2008 – 2009. This provides a quantitative perspective of the story behind City services.

Each source of information is included as attachments of Council Report C2016-0472, as follows:

[Attachment 3: Economic Scenarios – Report & Presentation Slides by the Centre for Spatial Economics, C4SE.](#)

[Attachment 4: Social Impacts of an Economic Downturn - Report by the University of Calgary\).](#)

[Attachment 5: Community Organizations, Business and Staff Engagement Results from workshops in April 2016.](#)

3 METHODOLOGY

There are two main parts associated with this study:

- (i) The development of the economic scenarios by expert economists; and
- (ii) Increasing understanding of the impacts of these scenarios on Calgary’s communities.

The economic scenarios include the economic drivers (both local and global), and the local economic conditions likely to result from these drivers.

The community impacts analysis draws on a summary of research provided by the University of Calgary, and on the results of a series of workshops with business and community representatives and City of Calgary staff.

Details on the methods for each part of the study are provided in the following pages.

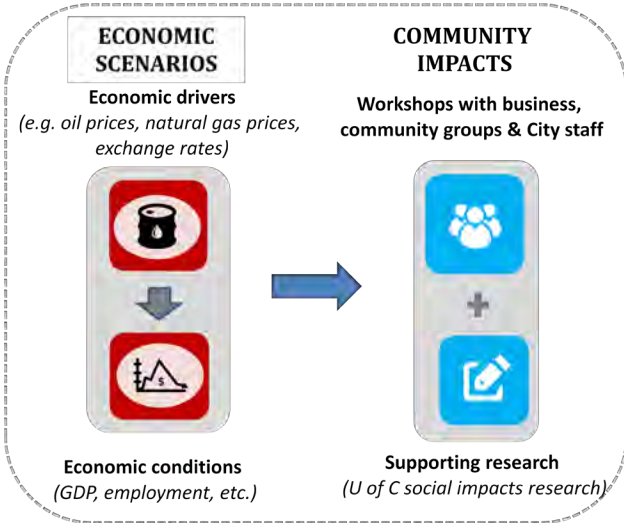


Figure 1. Diagram showing the key considerations for this study.

3.1 METHODOLOGY AND ASSUMPTIONS FOR THE ECONOMIC SCENARIOS

The economic projections for each scenario were prepared using proprietary provincial and regional

economic modelling systems¹, which produce forecasts based on economic, demographic and financial activity by Alberta and the Calgary region.

A set of assumptions, namely commodity prices and its impact on the Canada-US exchange rate, were then made and entered into the model (see Figure 1 and Section 4.1). The results produced by the consultant were specific to the Calgary Economic Region, shown in Figure 2.

The forecasts of key economic indicators specific to the city of Calgary (marked in brown in Figure 2) were then generated by The City’s Corporate Economics team. To add perspective, the city of Calgary represented 84% of the region’s population in 2011.

The three economic scenarios prepared by C4SE and Corporate Economics are internally consistent. This has implications for how they can be used for planning purposes. Specifically, one may not pick a forecast variable (e.g. housing starts) from one scenario and then pick another forecast variable (e.g. unemployment rate) from a different scenario. Doing so will yield an inconsistent outlook which is not supported by the analysis.

¹ The three alternative economic scenarios were developed by the Centre for Spatial Economics (C4SE), which has extensive experience in economic modelling and forecasting for a variety of industry sectors throughout Canada.

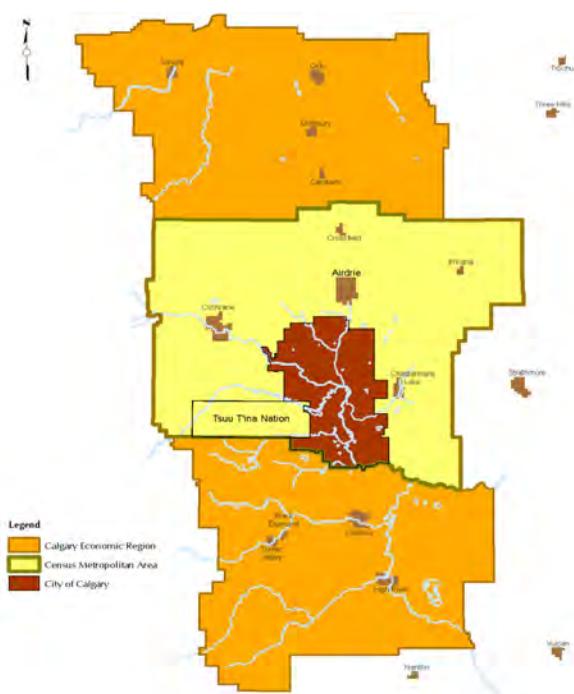


Figure 2. Diagram providing perspective of the city of Calgary, Calgary Economic Region, and the Census Metropolitan Area.

3.2 METHODS USED FOR THE COMMUNITY IMPACT ANALYSIS

The impact of the scenarios on the Calgary community was determined from two sources (see Figure 1).

(1) Business and Community groups, and City employees:

This review was undertaken to obtain perspectives on the potential impacts of the three alternative futures on the people and markets served by these groups, as well as their programs and services.

A total of five workshops were conducted during the first week of April 2016:

- Through Calgary Economic Development's existing business network, twelve members of the Business Community were invited to participate in the workshop on April 4th, 2016. They were from different business sectors, including financial, energy, construction, manufacturing, recruitment, and innovation.

- Eighteen representatives from Community groups attended the workshop on April 5th, 2016. The groups were identified with the help of umbrella organizations currently well-networked with Calgary's community and social groups – United Way of Calgary, the Calgary Chamber of Voluntary Organizations (CCVO) and The City's Calgary Neighbourhoods business unit. The participants represented groups serving different demographic populations, including immigrants, families, youth, vulnerable populations, homeless, seniors and Aboriginals.
- Sixty-six representatives from City departments attended the workshops on April 5th, 6th and 7th, 2016. These representatives are attuned with services The City provides to the public, and internally in the case of enabling services.

Workshop participants were asked to consider all three scenarios, but focus primarily on the moderate case scenario, given its highest probability of occurrence.



(2) Research on the social impacts of an economic downturn.

There is extensive research on the social impacts of economic downturns. The University of Calgary was commissioned to prepare a summary of existing research from a variety of sources on the social impacts of economic downturns. The complete version of this report is provided in Attachment 4. As well, relevant research information from the University of Calgary report has been incorporated alongside observations shared by representatives at the workshops.

The benefit of using both sources of information is that the workshops have provided local knowledge and experience, while the research has provided evidence-based analysis to help separate speculation from fact.

Where available, data showing the change in usage of City services since last year is provided. This information is based on City survey of users or other tracking data. In some cases, this data is compared against that during the last recession in 2008 – 2009. This information offers additional perspective from what was heard at the workshops.

4 THE THREE ECONOMIC SCENARIOS

As described in Figure 1, the three economic scenarios – presented as **low, moderate and high** – were derived by considering the behaviour of key economic drivers, such as prices of oil, natural gas, and metals and minerals; and their impacts on the Canada-US exchange rate. Each contains significant differences in assumptions and consequently provides three very different futures for the Calgary economy for the forecast period of 2016 to 2025.

The moderate case is the base case as it is the most likely to occur (having a probability of 50%, compared to the 25% probability assigned to the low and high case scenarios). All three scenarios show key indicators differing significantly from Action Plan projections, except for population projections (see Figure 3 on the next page).

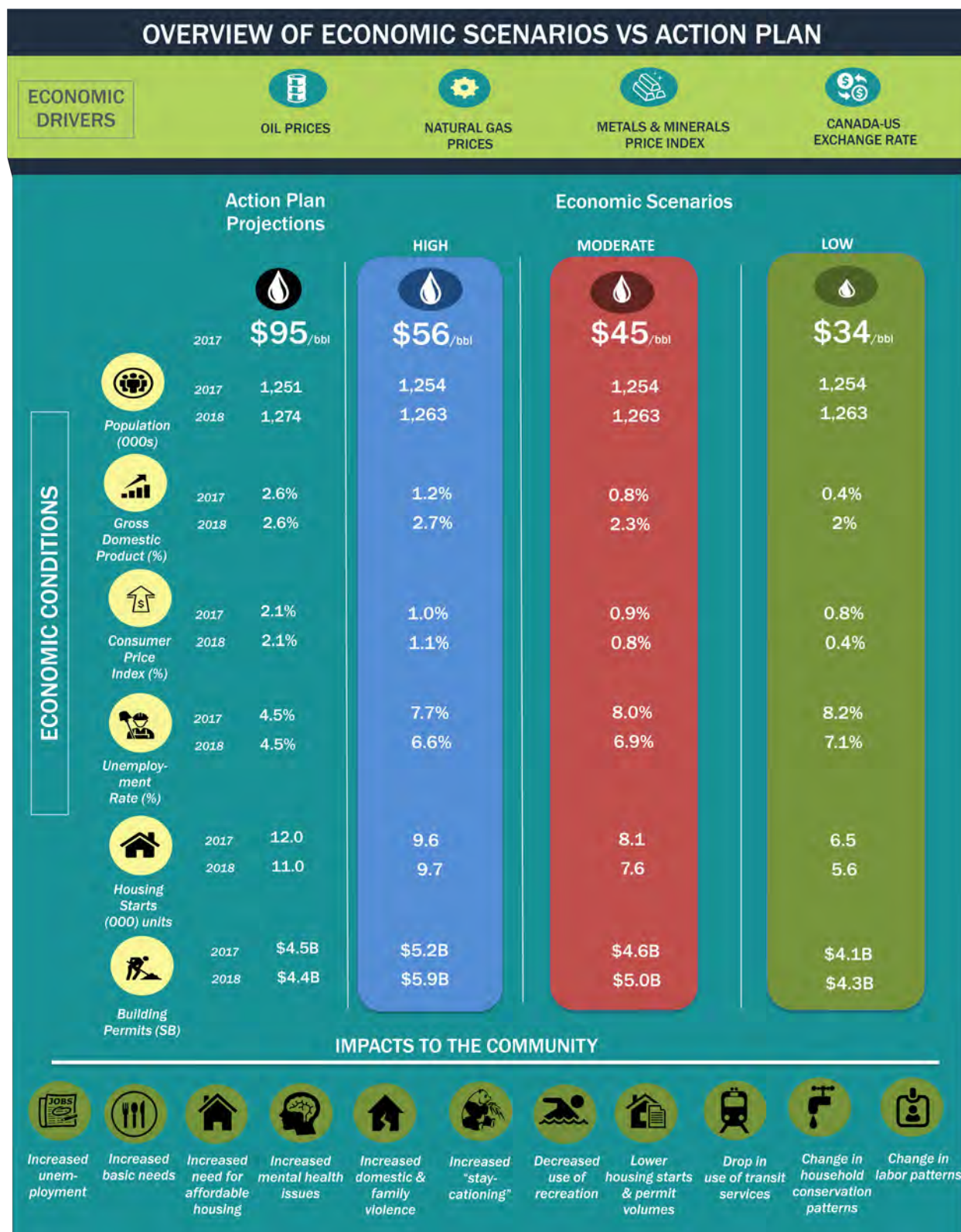


Figure 3. Overview of the three economic scenarios vs Action Plan projections.



4.1 KEY ECONOMIC DRIVERS AND ASSUMPTIONS

WTI oil price

The forecast prices for West Texas Intermediate (WTI) oil and natural gas under the three scenarios are shown in Figures 4 and 5 on the right. What is striking is that all three of these forecasts, including the high scenario (most optimistic), are significantly lower than what was projected during the Spring of 2014 for Action Plan (shown as orange bars). For 2017, the Action Plan forecast for the WTI oil price was \$95 USD/barrel. With even the current high scenario showing oil price at \$56 USD/barrel, the gap of \$39 USD/barrel undoubtedly explains the impacts currently felt across the community.

This significant difference between the Action Plan forecast and the new scenarios continues beyond 2020, suggesting that it will be some time before Calgary returns to the economic conditions of 2010-2014.

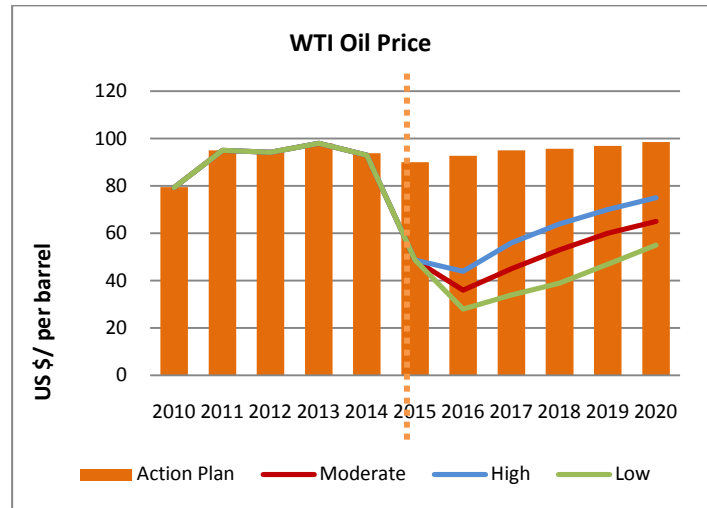


Figure 4. WTI Oil price projections for the three scenarios compared to Action Plan projections².

The gap between the moderate (most-likely) case scenario and what was projected during Action Plan is \$50 USD/barrel for 2017.

Natural gas price

For 2017, the Action Plan forecast for Natural Gas was \$4.22/GJ (gigajoules). The current high scenario shows the Natural Gas price at \$3.73/GJ – a gap of \$0.49/GJ.

The gap between the moderate (most-likely) case scenario and what was projected during Action Plan is \$0.85/GJ for 2017.

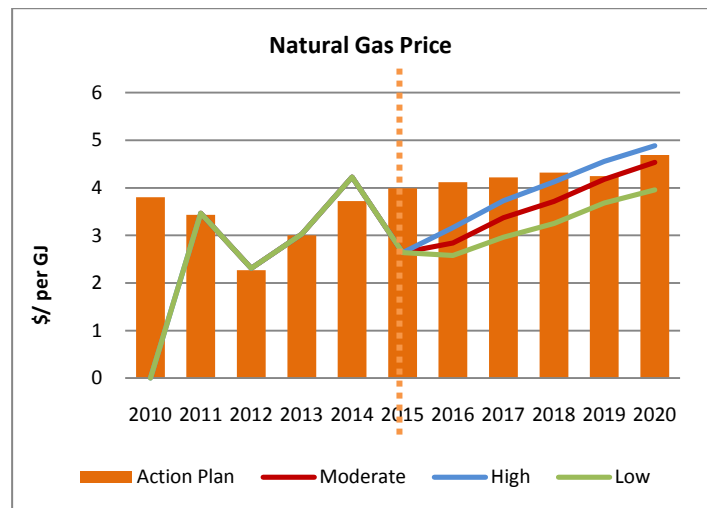


Figure 5. The Alberta Natural Gas price projections for the three scenarios compared to Action Plan projections.

² It should be noted on all charts that Action Plan projections were made in Spring 2014.



Canada-US exchange rate

The influence of commodity prices, particularly oil, on the Canada-US Exchange rate is shown on the right (Figure 6). Oil prices have a positive correlation with the exchange rate: higher oil prices are associated with a higher dollar value and low oil prices with a lower dollar value.

This trend is expected to continue over the next few years for all three scenarios, climbing only slightly as commodity prices improve. While the low Canada-US exchange rate is a plus for manufacturing-related exports and provides some offset to the negative effects of lower oil prices, it is bad news for importers and Canadian travellers outside of Canada.

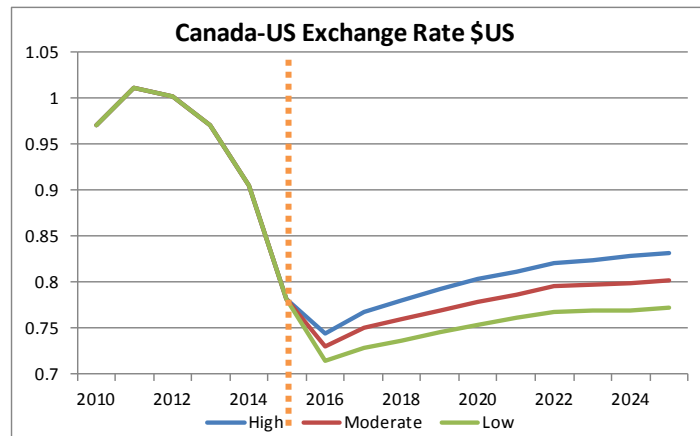


Figure 6. Canada-US exchange rates for the three scenarios (Note: Canada-US exchange rate data for Spring 2014 not included).

4.2 ECONOMIC CONDITIONS FOR ALL THREE SCENARIOS VS ACTION PLAN

The following charts show how the scenarios relate to each economic driver relevant to The City of Calgary's planning and operations, and how each compares to previous Action Plan forecasts.

Calgary's population

Population projections in all three scenarios show growth. This is one of few areas where projections have not changed significantly since Action Plan, with the moderate case scenario being very similar to Action Plan projections. Since population is a big driver for service demand, it can be expected that the demand for some City services will remain similar to original forecasts.

The growth in population is attributed to increases in net migration, as well as natural increase. Over the last ten years or so, net migration has accounted for close to 60 % of population growth. With higher unemployment rates in Alberta and Calgary, net migration would drop sharply in 2016 and remain below 2014 levels for most of the forecast period under the moderate case. Natural increase would also trend downwards in response to falling births and rising deaths. As the population ages, women of childbearing age (between 14 to 44 years of age)

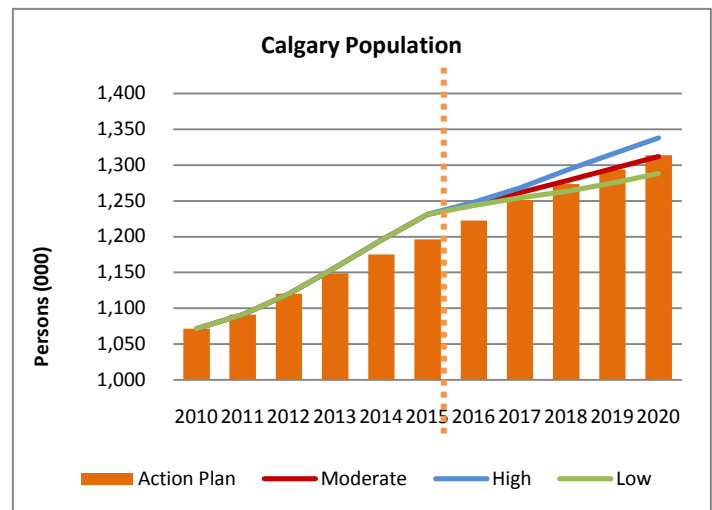


Figure 7. Population growth projections for all three scenarios, compared against Action Plan population projections.

would move into the less fertile cohorts and this would depress the level of births. As well, an aging population would contribute to rising death rates.



Gross Domestic Product (Calgary Economic Region)

The Action Plan projection for the Gross Domestic Product (GDP) growth rate for the Calgary Economic Region was 2.3% for 2017. For all three economic scenarios, GDP growth rate projections are significantly lower, with the moderate case scenario predicting a GDP of -1.7% in 2016 and climbing slightly to 0.8% in 2017.

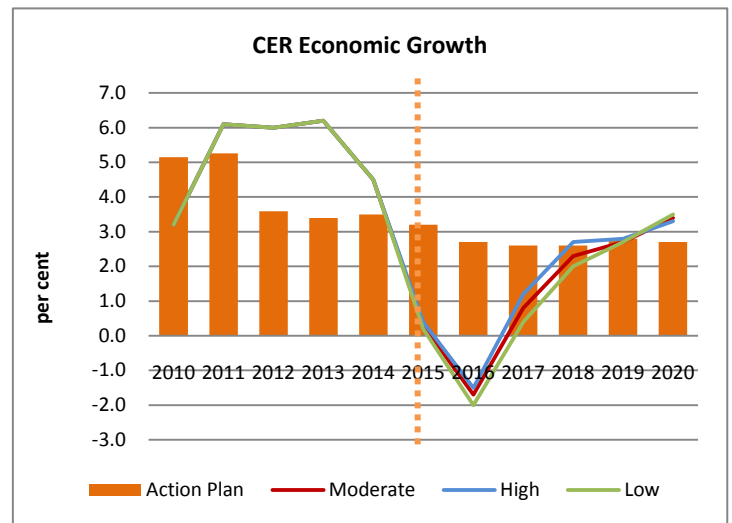


Figure 8. GDP projections for the Calgary Economic Region for all three scenarios, compared against Action Plan projections.

Consumer Price Index

The Consumer Price Index (CPI) projection for Action Plan was 2.1% for 2017. For all three economic scenarios, CPI projections are significantly lower, with the moderate case scenario projecting CPI at 0.5% in 2016 and climbing slightly to 0.9% in 2017, well below the historical average at around 2%. This offers some relief in terms of cost savings for the consumption of certain goods and services by The City.

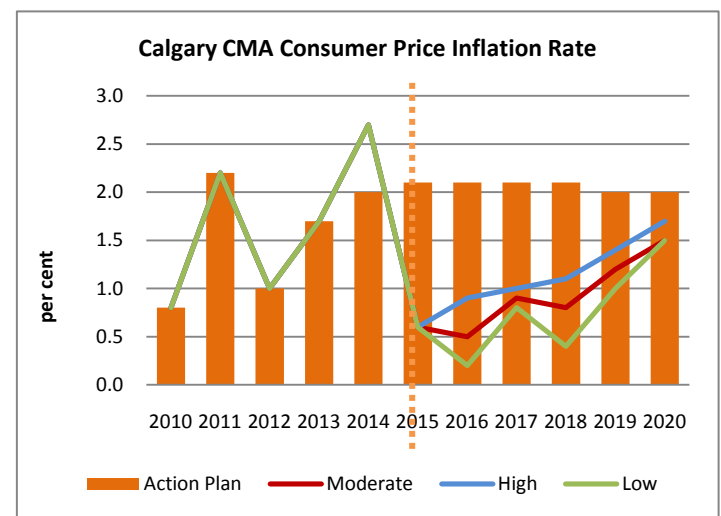


Figure 9. Consumer price inflation projections for the Census Metropolitan Region for all three scenarios, compared against Action Plan projections.



Unemployment rate

The Action Plan projection for 2017 was an unemployment rate of 4.2%. The current recession has resulted in job losses and sharp increases in the local and provincial unemployment rates. The unemployment rate in Calgary as of April 2016 was 8.3%, rising by 0.6 percentage points since January 2016 (Statistics Canada 2016). This is above the national unemployment rate of 7.2%. With the unemployment rate projected to average at 8.3% in 2016 under the moderate scenario, this economic downturn is close to the unemployment levels experienced during the height of the 2008-2009 recession.

In Calgary, since oil prices started trending down in June 2014, businesses have been adversely affected and have cut investment spending and reduced staffing levels. The total number of job losses in Calgary in 2015 was estimated at 19,600 (Statistics Canada, 2016).

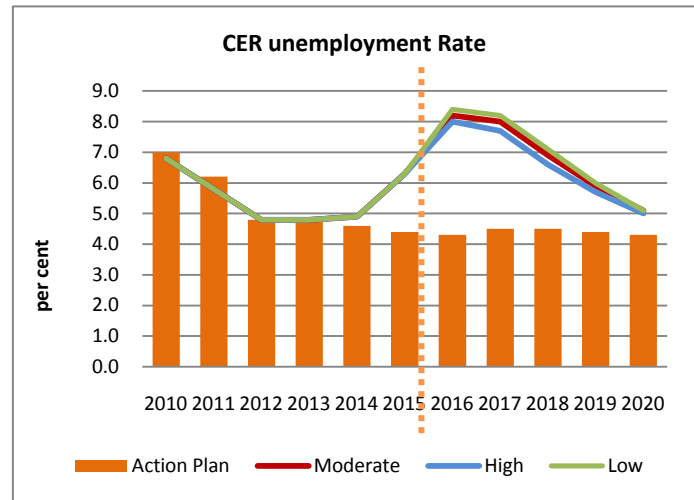


Figure 10. Unemployment rate for the Calgary Economic Region for all three scenarios, compared against Action Plan projections.

Housing starts

The higher population projections for Calgary in all three scenarios (see Figure 7) will result in an increasing number of households. This contributes to the projections for housing starts in Calgary in the next few years, although housing starts will increase at a slower pace than in 2013 and 2014 due to reduced labour incomes.

In the moderate case, housing starts slow dramatically from recent highs. Nevertheless, they remain more resilient than in the 2009 recession. In the low case a significant slowing in the growth of new housing is sustained for several years. In the high case housing starts decrease in 2016 but rebound rapidly as the economy experiences a much quicker recovery.

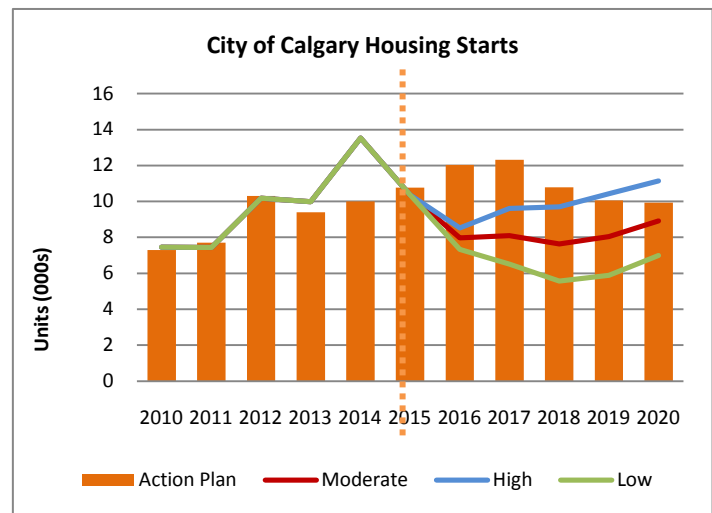


Figure 11. City of Calgary housing starts projections for all three scenarios, compared against Action Plan projections.



Value of Building Permits

Higher vacancy rates in the residential and non-residential sectors along with lower rates of population and employment growth would combine to reduce the need for additional space in both the residential and non-residential markets. The reduced demand for space would reduce the value of building permits below the 2014 level in all the scenarios by 2018. This will negatively affect City revenues.

In the moderate case scenario, the value of building permits is expected to fall from \$6.3 billion in 2015, to \$4.4 billion in 2016, and \$4.6 billion in 2017.

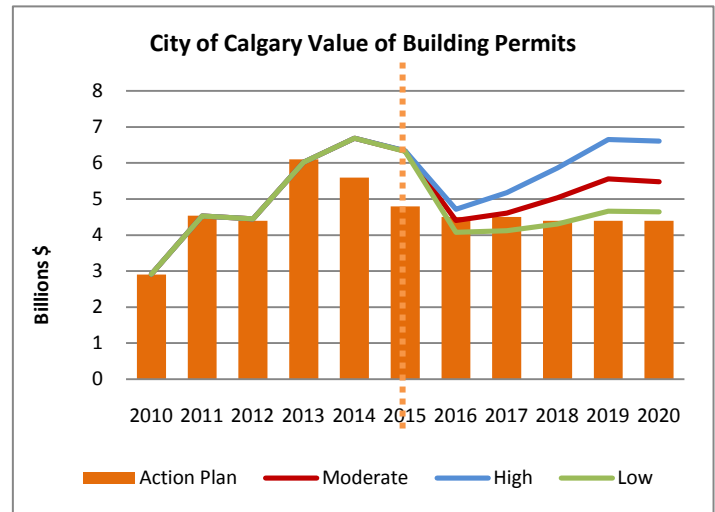


Figure 12. Projections for the value of building permits for the city of Calgary for all three scenarios, compared against Action Plan projections.

4.3 PUSHING THE LIMITS OF THE THREE SCENARIOS

An even “lower”-case scenario

There was feedback in the workshops with the business and community groups that the low-case scenario is too optimistic. As such, an additional “lower”-case scenario was developed as a form of stress test for the low, moderate and high economic scenarios (see Page 19 of Attachment 3). The “lower”-case scenario has a very small probability of occurrence as it estimates that crude oil prices would have to remain at about \$23 USD/barrel for the remainder of the year, to average \$27 USD/barrel in 2016 and \$29 USD/barrel in 2017. Yet, pushing the limits of the scenarios is a best practice and offers a perspective of the economic situation should Calgary be hit with another disaster, such as a drought or massive power outage.

This “lower”-case scenario makes the assumptions that commodity prices will remain flat in 2017 and 2018, and take longer to recover, moving towards the low case by 2026. In line with this, the Canadian

dollar will remain weak in 2017 and 2018, with recovery beginning only in 2019.

Under this “lower”-case scenario, it is assumed that there is no further credit rationing and investment will be lower as firms react to the new lower output that occurs in the economy. The unemployment rate will continue to rise in 2017 as the lack of a recovery causes lower employment in the oil and gas industry. Higher unemployment rates will in turn force additional people to leave the region for better opportunities elsewhere. The loss of high paying jobs and lower demand for housing will result in steep declines in housing starts that are anticipated to last over the medium term. The outlook for housing starts in this scenario is much worse than that in the 2009 economic downturn, but is expected to remain above the mid-80’s recession levels.

The Fort McMurray wildfires

During the production of this report, the city of Fort McMurray was hit by wild forest fires that consumed close to 230 thousand hectares of land. Though devastating and emotionally heart-



wrenching for the people involved, the fires appear to have left less damage than was originally feared. Oil sands production of 940,500 barrels per day has currently shut down in Fort McMurray. If production was curtailed for months as a result of the fire, global oil prices could be impacted significantly. However, damage to facilities has been minimal and production is expected to restart within weeks, resulting in minimal impact on the provincial Gross Domestic Product (GDP) or global energy prices.

The damage in Fort McMurray is currently estimated at 2,400 structures but government infrastructure, including schools and hospitals,

remain standing. Preliminary estimates of damages to structures are about \$4.7 billion, with the vast majority of damages to be of insured private dwellings. This amount is expected to be invested on rebuilding, which will consequently soften the blow of the current Alberta recession, not reverse it. Instead of shrinking by upwards of 2.5% in 2016, the Alberta economy may shrink by 1.5% instead.

There is likely to be minimal impact on the provincial budget, and the impact of funding to The City of Calgary at this time. It is also anticipated that the Fort McMurray fires will not have any significant impact on the three scenarios developed.

5 IMPACTS ON THE COMMUNITY

The economic scenarios presented above were reviewed with representatives from community groups, members of the business community, and City employees from diverse business units. It was also shared with faculty members from the University of Calgary through the Urban Alliance Group, who then generated supporting research on the social impacts of an economic downturn (excerpts from the University of Calgary research summary are shown in the boxes on the right). There was a high degree of consensus between the research summary results and the observations of front-line staff, albeit with slightly different outcomes in some cases.

The results are organized according to the impacts on three major groups: citizens, businesses and community groups.



5.1 IMPACTS OF THE ECONOMY ON CITIZENS

Unemployment

The unemployment rate in Calgary as at April 2016 was 8.3%, up from 4.4% in October 2014. Since the collapse of oil prices, the total number of job losses in Calgary in 2015 was estimated at 19,600 (Statistics Canada, 2016). Many of the social impacts of the downturn are related to the effects of unemployment and loss of income on individuals and their families.

Representatives at the workshops who offer placement services noted a higher rate of unemployment particularly among youth. There is also an increasing need for employment type services as the needs of employers are becoming increasingly selective. In many cases, employees with diverse skill sets and who can “do it all” are in demand. As such, groups involved in helping citizens secure employment are noticing the need to re-train them with a range of diverse skills desired by other industry sectors.

Apart from higher unemployment rates observed among citizens, another interesting labour force trend is the delay in retirement for those impacted by their own job loss, or that of a family member. This trend was also observed by City of Calgary staff.

There was also general agreement among both business and community groups on the need to re-train the available pool of talent in order to deploy them into industries other than oil and gas. In line with this, representatives of learning institutions in the workshops noted an increase in attendance in adult learning and education programs following job losses.

What the research shows...

In general around the world, youth aged 15 to 24 face higher unemployment rates than adults and are at greater risk for joblessness during an economic downturn (Verick, 2009) due to a lack of skills, experience, and financial resources (International Labour Organization, 2006). Data for Calgary showed that in 2008, youth employment fell by 11.9% (City of Calgary, 2010).

In addition to young people, research by Pasma (2010) on the 2008-2009 Canadian recession, also found the following groups to be most affected by job losses:

- *Men aged 25-54*
- *Families with young children*
- *Single mothers*
- *Those earning low wages*
- *Those without post-secondary education*
- *Indigenous people*
- *Immigrants (who came to Canada within the last five years).*

Pasma's findings are similar to the situation in Calgary, where employment among female-lone-parent households dropped significantly, as did employment for immigrants and Indigenous people (City of Calgary, 2010).

Research also shows that the composition of employment in an economic downturn changes. During the 2008 recession, full-time employment fell by 2.8%, while part-time employment rose by 10.5% (City of Calgary, 2010). This contributes to financial insecurity and low income, particularly in women (Parkland Institute, 2012) and immigrants (City of Calgary, 2010).



Poverty & basic needs

In the face of the economic downturn, the community groups represented at the workshop have noticed the following trends:

- **An increase in demand for basic needs, including food, as a result of income loss.**

- **An increase in housing and shelter needs, which is especially prominent in the unemployed:**

The Community groups and City of Calgary staff present at the workshops expressed concern about the high number of people on the Calgary Housing waiting list, as well as the increase in housing and shelter demands among the unemployed.

City staff involved in law enforcement also described an increase in encampments in the city, which has resulted in more patrols and enforcement.

What the research shows...

Research has consistently shown a strong relationship between unemployment and poverty – when unemployment increases, so does poverty (Arsenault & Sharpe, 2009).

In general, poverty disproportionately affects Indigenous families, recent immigrants, those with disabilities and families led by a female lone parent (Campaign 2000, 2015). The effects of poverty are obvious in the rise in government social assistance rates that occurred during the 2008 recession (Pasma, 2010), where Alberta saw a jump in social assistance cases from just below 26,000 in 2008 to over 40,000 in 2010 (The Caledonian Institute of Social Policy, 2015).

Food Banks Canada (2009) recorded an 18% increase of food bank needs during the economic recession of 2008 – 2009. Alberta fared the worst, experiencing the highest rise in use in the country at a significant 61% increase. In Calgary, the Calgary Food Bank recorded a 32% increase in food hampers and 1500 new clients over a three-month period from December 2008 to February 2009 (United Way of Calgary, 2009).

What the research shows ...

Research shows that in an economic downturn, housing affordability impacts households at all income thresholds (Westman Centre for Real Estate, 2015).

In 2014, a study of 86,750 households in Calgary revealed that 1 in 5 was estimated to be unaffordable (Community Housing Affordability Collective, 2015). As well, 10.5% have annual household incomes would not be adequate to cover average market prices, and 15,000 more households are at risk of becoming homeless.

Renters (being vulnerable to market conditions and having a tendency to be younger males with less disposable income), low-income earners, recent immigrants, Indigenous people and women, are historically found to be at greatest risk of homelessness (Segeart, 2012; Gaetz, Donaldson, Richter & Gulliver, 2013).



Mental Health

- **An increased rate of mental health issues, including suicides, addictions, depression and anxiety:**

Community groups and City of Calgary employees who deliver social support programs noted an increased rate of mental health-related issues, including depression, anxiety, suicide, and addictions since massive layoffs started in the city.

Aligned with the perceived trend of increasing social need, counselling services have estimated an 80% increase in demand in the wake of layoffs in the oilpatch industry (source: Calgary Distress Centre, 2015).

City employees in law enforcement-related services reported an increase in fires, arson, crime, including property crime, and other high risk social issues. The number of arson fires reported, for example, increased by almost 10% since 2012, with 2015 seeing the highest number of arsons reported in the last four years. Such crimes have been linked to increased addictions (Rehm et al., 2006).

While some studies have shown that unemployment, in particular, has a small but significant positive effect on property crime (Lin, 2008), it is not conclusive that there is a direct relationship between unemployment and violent crime (Ruddell & Jones, 2014; Uggen, 2012).

What the research shows...

Research supports the increase in frequency of common mental health issues, such as depression and elevated stress, during times of financial hardship (Lai, 2011; Modrek & Cullen, 2013; United Way Centraide of Windsor-Essex, 2015a; Wahlbeck & McDaid, 2012). Those living in poverty, those with pre-existing mental illness and those who are "least well educated" are likely to experience more significant declines in mental health following job and housing loss (Zivin, Paczkowski & Galea, 2010).

A recent report by the chief medical examiner's office in Calgary stated that 30% more Albertans committed suicide in the first half of 2015 compared to the same period last year. There is well-supported data that shows that economic recession leads to an increase in suicidal behaviours, especially among males of working age (Haw et al., 2014), although the association between suicide rates and the economy is not always straightforward.

A U.S. national survey on alcohol and drug use during the 2009 economic downturn revealed that rates of alcohol addiction were 50% higher in the unemployed versus employed; and rates of illicit drug addiction were twice as high. During this time, unemployment in the U.S. grew from 5.8% in 2008 to 9.3% in 2009.



Impacts on Families

- **Increased domestic violence incidents, divorces, family stress:**

The Community groups present at the workshops shared that they have seen an increase in domestic violence incidents, with groups indicating there were 3,800 more incidents in 2015 than in 2014. Other forms of incident reports are through 211 calls managed by United Way of Calgary and Area, The City of Calgary, and Distress Centre Calgary; as well as 311 and 911 calls received by The City of Calgary.

City employees providing other social services and support programs have also noted an increase in domestic violence issues, family stress, and divorces.

Community groups working closely with families and children also shared a perception of seeing increased impacts of the economic downturn on children.

What the research shows...

There is a strong correlation between job instability, decreasing household income and financial strain, and a rise in domestic violence rates – all factors anticipated to increase during an economic downturn (Thompson & Smeeding, 2013). This research suggests that male job instability, decreasing household income and financial strain are all associated with a rise in domestic violence rates.

Studies of youth trajectories following economic downturns show increased rates of crime and psychiatric care amongst youth who were born just prior to an economic recession period (Paananen et al., 2012).

Summary of impacts felt by citizens:

- Increased unemployment, particularly for vulnerable groups;
- Social and community needs becoming more complex and intense, including increasing demand for:
 - Support with basic needs;
 - Affordable housing and shelter;
 - Support for mental health issues;
 - Support for issues related to domestic violence and family stress.

5.2 IMPACTS OF THE ECONOMY ON COMMUNITY GROUPS

Increase in demand for services

In general, the Community groups represented agreed that they have seen an increase in the demand for social services in the community. A 2015 survey of not-for-profits conducted by the Calgary Chamber of Volunteer Organizations (CCVO) showed that three in five non-profits reported an increase in service demand in the past year, with 21% reporting that their ability to meet the needs and demands of clients has fallen.

Revenues, including donations

The Community groups noted that there is a decline in the number of charitable donations. There is also reduced philanthropic giving, which leaves groups that are dependent on donations feeling the pain of reduced funding. A 2015 survey of non-profit organizations conducted by the Calgary Chamber of Volunteer Organizations (CCVO) showed that the



proportion of organizations reporting increased total revenue dropped from 41% to 24%, approximately the same percentage as in 2010.

Labour force

From the perspective of the Community groups, the available talent pool as a result of layoffs in the oil and gas industry opens up new opportunities for Community groups to hire the best talent. In general,

the gap in wages between the private and non-profit sectors is narrower as salary expectations of potential candidates are lower in the current economic climate. There were others, however, who expressed that there are job seekers from the oil and gas industry who are not willing to take on lower salaries or to undertake the kind of jobs that the not-for-profits offer.

What the research shows ...

The impacts on groups serving the Calgary community are supported by research conducted in Calgary in 2008, where 80% of participating social service agencies reported a 5% increase in service demand over a six-month period, 60% of agencies had a 6-25% service increase, and 17% experienced over 25% increase in service demand (United Way of Calgary, 2009).

A comparable report by the Calgary Chamber of Voluntary Organizations (2009) indicated that charities and non-profits were under duress during the 2008 recession. This was related to the concern for staff in non-profits and the stress that increased demands play on their well-being given funding shortages, risks of stopping services, less time to do the work required, lower wages on the front lines and increased burnout.

Opportunities

With regards to government spending, the Community groups expressed the need for program expansion in response to increased demand for social programs and services. There was also general agreement that the relationship between investments and outcomes needs to be better demonstrated. The Community groups also saw the downturn as an opportunity for coordination and

collaboration across service providers, as well as The City of Calgary, in order to serve the needs of Calgary's population effectively.

As well, it was said that media scrutiny around the massive layoffs in the oil and gas sector has overshadowed other successful and growing sectors in Calgary, such as the high-tech industry.

Summary of impacts felt by the community groups serving citizens:

- Increasing demand for support services.
- Reduced funding through donations with the economic downturn.
- Opportunities to:
 - Demonstrate better accountability between investments and outcomes;
 - Better coordinate and collaborate efforts across service providers, including The City of Calgary;
 - Communicate successes of other growing sectors in Calgary, other than oil and gas.



5.3 IMPACTS OF THE ECONOMY ON BUSINESSES

Labour force

The moderate scenario shows a gradual decline in the working age population over the next few years, and well into 2020.

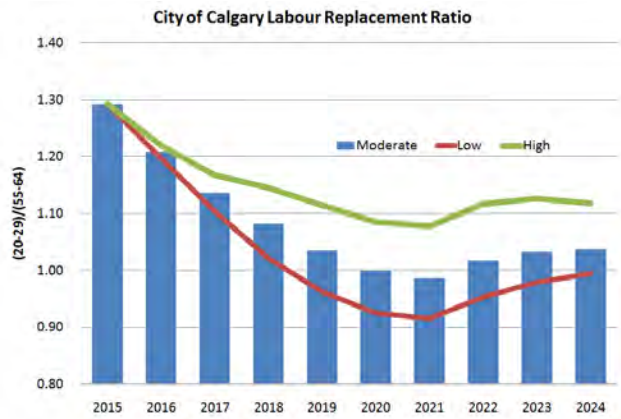


Figure 12. Ratio of 20 to 29 year-olds (working age population) to 55 to 64 year-olds (retirees). When the ratio drops below 1, there are more retirees than working aged persons.

The business community described losing their talent pool to other Canadian and US Cities, where economies are stronger and are commonly perceived as supporting a better quality of life. It was brought up that a strong and vibrant art and culture scene is important in attracting people, especially young talent, to Calgary.

There was also concern among the business community over losing their employees to the government sector, where the perception is that employment is more stable. This issue is further exacerbated by the fact that current salary offerings in the private sector are lower than pre-recession levels with limited perks, as companies struggle to manage their budgets during the downturn, resulting in difficulty attracting and retaining employees.

Another emerging issue brought forward by members of the business community related to employment is the skill limitations of the available talent pool. The pool of workers currently available in the market have very specialized skills and experience in the oil and gas industry, and may lack certain skills desired by other industry sectors. There was general agreement among both business and community groups on the need to re-train the available pool of talent in order to deploy them into industries other than oil and gas. In line with this, the learning institutions in the workshops noted an increase in attendance in adult learning and education programs following job losses. As well, the business community is concerned that with massive layoffs in the oil and gas industry, in some cases of senior and middle-class management, there is left a thin layer of leaders for the future.

Consumer spending habits

The business group noted that the lack of confidence in the economy has motivated a change in consumer spending behaviours. Those still employed but whose salaries have been frozen by their employers are withholding spending as there is a general feeling of fear and anxiety. It was also noted that there is a lag in foreclosures and loan delinquencies because those who have been laid off have received severance packages and/or are still on employment insurance. As such, it is anticipated that financial institutions will see more foreclosure and delinquency cases in 2017 and 2018. There was also general agreement that housing prices, particularly condominiums, have declined and will continue to do so. The business group did speculate that, unlike the economic situation in the 1980s, the current low interest rate environment is expected to stay.

Government spending

The business group cautioned that the downturn is a time for government to be prudent in spending, but



not necessarily to reduce investments. In particular, it was mentioned that more government investment is needed to increase innovation, help build business investment confidence, and improve Calgary's competitive advantage to attract and retain skilled labour. They also cautioned that increased taxation of businesses by other levels of government is making it more attractive for businesses to leave Calgary and set up in other US or Canadian cities.

The businesses represented saw the economic downturn as an opportune time to narrow the salary gap between the oil and gas, and other industry sectors. They also expressed that there is an over-reliance on the oil and gas sector, and that there is a need to leverage the strengths and assets of other industry sectors in Calgary for a more balanced revenue portfolio.

This group also expressed urgency in attracting new talent to Calgary by further developing its cultural, art and urban scene, and marketing itself as a great place to live, work and play.

Opportunities

Summary of impacts felt by Businesses:

- Loss of talent to other US and Canadian cities, as well as the public sector.
- Massive layoffs may impact availability of leaders for the future.
- Available talent pool lacks skills needed by other industry sectors.
- Opportunities to:
 - Narrow the salary gap between the oil and gas, and other industry sectors;
 - Diversify Calgary's economy;
 - Attract new talent to Calgary by further developing Calgary's cultural, art and urban scene.



5.4 IMPACTS OF THE ECONOMY ON CITIZENS' USE OF CITY SERVICES

General impacts

All three economic scenarios project continued growth for Calgary, with the extent of growth differing by only 14,000 people between the low and high scenarios.

There was general agreement that demand for certain City services, such as community and social services, will continue to increase at the pace originally projected in Action Plan. This translates into continued pressures to maintain service levels in accordance with current expectations. There were others who noted that service demands have declined for some City services, such as transit. For some City services, staff perceived a shift in usage patterns. This includes higher usage of City facilities and services during non-peak times (such as weekdays) likely attributed to an increased rate of unemployment in the population. As well, there appears to be an increasing number of walk-in and call-in requests for services that were traditionally accessed online.

Where available, data to show trends in the use of certain City services since the start of the downturn compared to the 2008 – 2009 recession is shown below. This data serves to provide a quantitative perspective of the impact of the recession on the use of City services.

Community and Social Services

In addition to noting a higher demand for community and social programs and services delivered by The City, staff at the workshops noted that there is a higher demand for free and low-cost, subsidized support programs and services, including volunteer and drop-in programs. This trend is observed for services for various segments of the population, including children, families and migrants. Some examples of data obtained after the workshops that show increased uptakes include:

- A 20% increase in the number of visits to the Youth Employment Centre Resource Area from 2014 to 2015.
- A 6% increase in the use of City parks “several times per week” in 2015 compared to 2014.
- Higher usage of Cultural Access Passes by new Canadians to access Civic Partner facilities, including 249% more usage to access Heritage Park; and 213% higher usage to access the Aerospace Museum.

Affordable Housing Services

There also appears to be a need for more affordable housing options in all three economic scenarios. The current economic climate offers the potential to acquire or build buildings at lower rates given lower construction costs, or stimulate the economy through jobs in the construction of affordable housing. However, in the low scenario, there is difficulty renting out units as a result of lack of affordability. The waitlist at Calgary Housing Company for those most in need has also risen from 3,400 to 4,000 in the last year.

In the high scenario, an increased demand would translate into fewer vacancies and higher prices, creating additional need for affordable housing options. The accessibility of secondary suites was brought up, on a number of occasions, as an affordable housing option for seniors and others looking for low end of market rentals.

Recreation Services

The City's Recreation saw overall participant visits decrease by 3% in the first quarter of 2016 compared to 2015. This trend is demonstrated in program registration which has decreased 7% as have single admissions and passes.

There is also a reduction in facility rentals as a result of a drop in corporate and community leagues booking fields and arenas. There is however an



increase in recreation fee assistance applications (82%) and redemptions (39%) in the first quarter of 2016 compared to 2015, due in part to the introduction of Fair Entry. In addition, there was also increased participation in Calgary AfterSchool programs and increased pass sales for the program season (2015-2016) of 14% compared to the previous season.

There also appears to be higher usage of Civic Partner facilities, such as the Calgary Public Library, Calgary Zoo and Telus Spark. Data gathered following the workshops show that The Calgary Public Library has seen a 38% increase in usage over 2014, primarily in the uptake of children's programs at community libraries. The Calgary Zoo and TELUS Spark have also seen usage increase by 9% and 7% respectively from 2014 to 2015.

It is inconclusive whether the increase in visits is directly related to the economic downturn but participants at the workshops speculated that this could be due to an increasing trend of "stay-cationing", as opposed to "vacationing", where people are less likely to travel far in an economic downturn.

Transportation Services

There is a drop in the use of transit services, primarily attributed to increasing unemployment. Year-to-date ridership has declined by 4.8 per cent compared to 2015 levels. This has affected revenues from transit services.

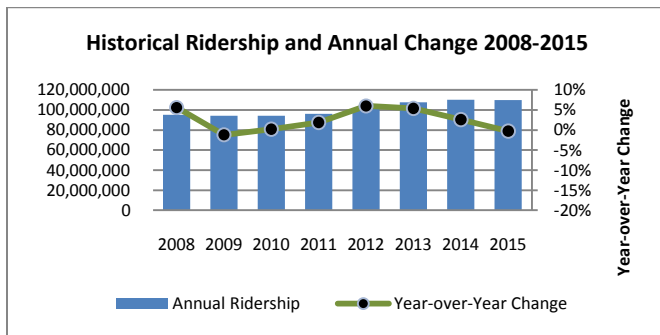


Figure 13. Annual ridership and year-over-year change from 2008 to 2015.

The last negative growth year was during the 2008 – 2009 recession. Previous recessions also show the same type of drop in ridership.

Utility and Waste & Recycling Services

In general, an economic downturn may result in reduced greenhouse gases, water consumption, energy usage and waste. For example, some participants noted a reduction in the amount of waste sent to the landfill. Data gathered shows a declining trend from 2007 to 2015 in the total amount of waste disposed at City of Calgary landfills by all customer sectors divided by the number of Calgarians. With the implementation of new waste diversion strategies and the rollout of the city-wide Green Cart Program, it is anticipated that waste landfilled per capita will continue to trend downward.

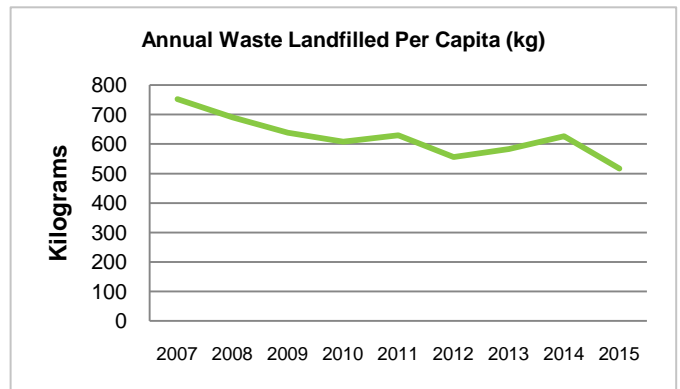


Figure 14. Recent data for per capita waste to City of Calgary landfills.

It should be noted that the reduction in waste received at City landfills may also be the result of The City's waste diversion efforts in recent years and other factors not directly attributable to the economic downturn.

Building & Development

Staff from this area has seen significantly lower building permit volumes and values, in general, as a result of the economic downturn. As of April 30th 2016, building permits volumes are down by 11%



and the total value of building permits is down by 32%. Additionally, year to date, development permits are down by 12%.

This is a shift in pace compared to a few years ago (when Action Plan 2015-2018 was first released) when Calgary was striving to keep up with the high pace of growth. Lower permit volumes translate into fewer inspections and lower building and development levies, which in turn affects Planning & Development's revenue base and reserves. The slower pace, however, opens up new opportunities for The City's Planning & Development Department to introduce process improvements. A review of the value of building permits during the 2008 – 2009

recession shows a similar downward trend starting in 2008.

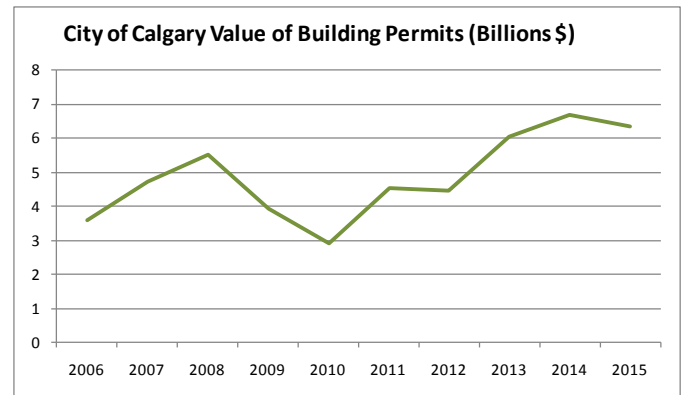


Figure 15. Recent data for City of Calgary Value of Building Permits (B\$) vs 2008-2009 recession data.

5.5 IMPACTS OF THE ECONOMY WITHIN THE ORGANIZATION

Human Resources

An interesting trend noted by the Community groups was the availability of a larger talent pool for hire as a result of massive layoffs in the oil and gas industry. This is a sentiment that is also felt by The City's Human Resources team. However, the other side of this coin is that retention could be a factor if the economy improves in a few years, where former oil and gas employees may prefer to return to the higher-salaried oil patch sector.

Uncertainty in the economy results in lower costs associated with advertising for hiring and retaining staff since existing employees tend to hold on to their jobs in search of security. However, the uncertainty can also add stress to employees. As

well, in the low and moderate cases, any impacts on available sources for The City may result in increased workloads, higher stress levels, and reduced employee satisfaction if employees are expected to perform at the same level of service with fewer resources. Job quality may go down, and the threat of losing employees increases.

OPPORTUNITIES

Amid the gloominess of the economy, City employees saw opportunities to “do more with less”, and be efficient and innovative. Noting the changing needs for some of The City's services, employees expressed the need to work across departments and find new ways of doing business.



Summary of impacts felt by City Service Providers:

- The three scenarios developed do not show any decline in population growth. As such, there will still be an increase in demand for some City services, as previously planned for in Action Plan.
- Changes in demand for certain City services will affect revenues for some areas.
- There is an increase in demand for free and low-cost subsidized programming and services.
- Hiring costs are reduced, but efficiency gains and cost reductions, coupled with expectations of the same service levels, may increase workloads and stress levels for existing staff.
- Increased availability of talent pool from layoffs in the oil and gas sector. However, unsure about future retention of staff when economy picks up.
- Opportunities to:
 - Be flexible with service delivery to meet changing usage and demands of City services;
 - Be more efficient and innovative, and “do more with less.”

6 CONCLUSION

The economic scenarios and the social impact analysis have greatly increased our understanding of how and for how long the current economic recession is likely to affect this community.

The moderate scenario shows clearly that the economic climate in Calgary is significantly different than it was when Action Plan was developed. The optimistic scenario provides important context and perspective because it makes it clear that, even if the situation improves, it is still unlikely to be close to the level of economic activity that was projected two years ago. The low scenario provides further insight as to how long the recession may last, and what its effects could be. The research summary and stakeholder workshops have drawn to the

surface the impacts of these economic changes on Calgary’s citizens and organizations. As well, there is a better understanding of issues that may arise if the situation worsens.

This information will be used in refining the Investment Framework, by sharpening its focus to the individuals and groups who are most likely to be affected by the economic change, and where an investment is most likely to make a difference. It has also begun the process of finding opportunities to respond to the current circumstances. For all of these reasons, it has been an important step in the process for adjusting Action Plan for 2017 and 2018, for Council’s consideration in November 2016.



7 REFERENCES

The following is a listing of all supporting research material analyzed and summarized by the University of Calgary through the Urban Alliance Research Partnership referenced in this report. A complete copy of the University of Calgary Report entitled “*Social Impacts of an Economic Downturn: Considerations for The City of Calgary (April, 2016)*” is available in Attachment 4 of Council Report C2016-0472.

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