



CITY OF AIRDRIE

# Growth Strategy Update

Phase 1: Population and Land Supply/Demand Analysis

April 2018

# Table of Contents

## Executive Summary

1.0	Introduction	5
1.1	Previous Studies .....	5
2.0	Policy and Growth Trends	7
3.0	Airdrie Economic Profile	9
4.0	Population & Employment Projections	11
4.1	Population.....	11
4.2	Employment.....	13
5.0	Land Supply and Demand Assessment	15
5.1	Land Supply .....	15
5.2	Land Demand .....	16
5.2.1	Residential.....	17
5.2.2	Non-Residential .....	18
5.3	Land Supply and Demand Summary.....	20
5.3.1	Ten Year Land Demand and Supply .....	21
6.0	Conclusions	23

## Figures

Figure 1: Number of Jobs per Category (2016) .....	10
Figure 2: Population Forecast (2015 - 2065) .....	12
Figure 3: Employment Forecast (2015 - 2065).....	14
Figure 4: Future Growth Area .....	15

## Tables

Table 1: Employment Profile (2016) .....	9
Table 2: Population Forecast: 10, 20, 30 and 50 Years .....	12
Table 3: Employment Forecast: 10, 20, 30 and 50 Years .....	14
Table 4: Land Supply (2016).....	16
Table 5: Residential Land Demand Projections (2015 - 2065) .....	18
Table 6: Land Demand and Supply Summary – Base Scenario .....	21
Table 7: Land Demand and Supply Summary – Alternate Scenario.....	21

## Appendices

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- A Applications Management Consulting Limited
- B Population Projections (2015-2065)
- C Employment Projections (2015-2065)
- D Residential Land Supply and Demand Projections (2015-2065)
- E Industrial/Employment Land Supply and Demand Projections (2015-2065)
- F Commercial Land Supply and Demand Projections (2015-2065)

# Executive Summary

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In March 2012, the City of Airdrie (the City) annexed 12,640 acres of land from Rocky View County. The land was meant to provide the City with a 50-year land supply that will see the development of services, amenities and housing over that time frame. The annexation lands were divided into first and second priority lands for servicing. Between the 2012 annexation and 2016, Airdrie grew by over 16,000 residents or 35% for a total population of 61,842 residents. The one year growth rate between 2015 and 2016 was 5.3%.<sup>1</sup> This far exceeded earlier projections, even considering the recent economic downturn.

As a result of the recent population growth and the City's desire to increase its non-residential tax base, the City requested an update of the 2011 Comprehensive Growth Study (CGS). This Phase I Report involved a review of the population and employment projections and the associated land demand analysis to reflect new growth scenarios, development demands, municipal policies and priorities, and regional growth trends. By identifying and confirming growth projections, the City can plan for an adequate inventory of residential, commercial, industrial land and public services. This report is meant to form the basis for Phase II which would include an opportunity and constraint analysis and the development of specific growth scenarios.

Based on the strong growth that the City of Airdrie has recently experienced, two updated population and employment scenarios were prepared covering the period 2015 to 2065. In the Base Scenario, the City of Airdrie is projected to grow from 58,690 in 2015 to 134,111 residents in 2045 representing an annual growth rate of 2.8%. By 2065 the population is expected to be 168,468 indicating a 50-year growth rate of 2.1%.

In the Base Scenario, employment in Airdrie is projected to grow from 15,261 in 2015 to 43,942 in 2045 based on an annual increase of 3.6%. Employment is then projected to grow to 55,689 by 2065 based on a slightly lower annual growth rate of 2.6%.

In the more aggressive Alternate Scenario, the population is projected to be 165,534 in 2045 and 211,112 by 2065. This represents an annual average growth rate of 3.5% up to 2045 and reducing to 2.6% to over the 50-year timeframe.

In the Alternate Scenario, employment in Airdrie is projected to grow from 15,261 in 2015 to 67,764 in 2045, representing a 5.1% growth rate. Employment is then projected to grow to 94,175 by 2065 reflecting an average 50-year growth rate of 3.7%. The realization of these job numbers will require an aggressive and well-structured economic development plan.

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<sup>1</sup> Source: City of Airdrie Municipal Census results: City of Airdrie Planning and Building Inspections



Based on the policy direction of the City, the Alternate Scenario for employment supports the goals for the City of Airdrie to attract a greater number of employment opportunities and reach its objective of having a tax ratio of 75% residential and 25% non-residential (the ratio is currently 84% to 16%).

The City of Airdrie has a total of 21,387 gross acres of land within its current municipal boundaries as identified in information supplied to Dillon from the City. This includes 8,329 gross acres in the Current Growth Area, 5,062 gross acres in the Anticipated Growth Area, and 7,996 gross acres in the Future Growth Area.

The land identified in the Airdrie City Plan (2014) for Current Growth is projected to be exhausted between 2023 and 2026 across residential and non-residential land uses. However, there is sufficient land in the total municipal boundaries (Current, Anticipated and Future Growth) to meet the projected 50-year land demands.

## 1.0

# Introduction

The City of Airdrie (the City) has experienced significant growth over the last five years which far exceeded earlier projections, even considering the recent economic downturn. As a result, the City has requested an update of the 2011 Comprehensive Growth Study (CGS). This has involved a review of the population and employment projections and the associated land demand analysis to reflect new growth scenarios, development demands, municipal policies and priorities, and regional growth trends. By identifying and confirming growth projections, the City can plan for an adequate inventory of residential, commercial, industrial land and public services. This study will be used to guide decisions on future development patterns and the sequencing of growth.

This study is based on desktop research and information supplied by the City, and population and employment projections provided by Applications Management Consulting Ltd. The research included a review of the following documents:

- Previous growth strategies,
- Airdrie Civic Census,
- CMHC housing data,
- Airdrie Municipal Development Plan,
- Calgary Metropolitan Plan, and
- Calgary Regional Partnership growth studies and regional servicing model.

The study area includes all the lands within Airdrie's current corporate limits.

## 1.1

## Previous Studies

In 2007, Dillon Consulting Limited (Dillon) was retained by the City to develop a CGS to look at future growth in Airdrie. The CGS identified the amount and location of land required for long-term growth and included a strategy for future annexation. The CGS was completed and accepted by Council in 2008.

In 2010, Dillon provided a supplement to the 2008 CGS, using new data from a recent ecological inventory and a new proposed annexation boundary that had been agreed to by the City and Rocky View County in 2009 through the Airdrie and Rocky View County Intermunicipal Annexation Negotiation Committee and approved by the Municipal Government Board. The new ecological inventory data allowed for a re-evaluation of land surrounding the City, and the new boundary permitted a new Growth Scenario to be developed to form the basis of the City's new Municipal Development Plan. The new boundary was more balanced to the west and north, with less change to the south.

In 2011, Dillon undertook a revision to the 2010 Supplement using data from the previous studies and based on the revised municipal boundary. The 2011 CGS updated the land requirements and preferred growth and annexation direction to accommodate a 50-year horizon. The purpose of the study was to

guide future development in the region by reflecting the vision and aspirations of existing landowners and other stakeholders, while at the same time promoting the unique natural and physical qualities of the area. City Council wanted a document that would provide a more complete understanding of the implications of growth, particularly in terms of potential impacts on infrastructure and the financial requirements for upgrading and extending services.

## 2.0 Policy and Growth Trends

Between 1975 and 1995, Airdrie grew from 1,397 residents to 15,222. This was an increase of almost 14,000 people. In the next 10 years, from 1995 to 2005, the City added almost 12,000 new residents for a population of 27,069. This exponential growth has continued with over 34,000 people moving to the community between 2005 and 2016.<sup>2</sup> As of July 2016, Airdrie's population was 61,842.

In March 2012, the City of Airdrie annexed 12,640 acres of land from Rocky View County. The land was meant to provide the City with a 50-year land supply to accommodate the development of services, amenities and housing over that time frame. The most recent growth in Airdrie has been through the development of new neighbourhoods to the southwest and southeast. Future residential growth is anticipated to be mostly to the west, with some residential growth to the southeast.<sup>3</sup>

The City of Airdrie Municipal Development Plan (MDP), the Airdrie City Plan, establishes the following growth management objectives:

- Manage growth in a way that recognizes limits to land, natural areas, water, infrastructure, and tax-supported revenues,
- Ensure that new development can be provided with the necessary urban services and public amenities in a cost-effective way,
- Prevent premature development and maintain the lands outside the built-up areas in low intensity agricultural and other open space uses until the land is needed for planned city expansion and development, and
- Reduce land use conflicts between the City of Airdrie and neighbouring jurisdictions.

The MDP further identifies the following population planning objectives:

- Maintain and improve quality of life,
- Ensure that growth is fiscally, environmentally and socially sustainable,
- Plan and develop infrastructure to support the projected population,
- Identify and respond to changing demands for housing, mobility, workplaces, community services, protective services, as the City continues to grow, and
- Monitor and track population projections and adjust the plan accordingly.

<sup>2</sup> City of Airdrie. "Population Growth Over 40 Years." [www.airdrie.ca](http://www.airdrie.ca)

<sup>3</sup> City of Airdrie. "Airdrie City Plan Future Growth Areas Map." [www.airdrie.ca](http://www.airdrie.ca)

Airdrie is the second largest community in the Calgary Region and is a member municipality of the Calgary Regional Partnership (CRP). The Regional Partnership has come together to create a plan for growth and has established the following growth management principles:

- Develop compact settlements through efficient use of land, development form and location and the establishment of a minimum density (8 – 10 units per gross acre (upga);
- Encourage 25% of new population growth through intensification of existing developed areas;
- Build sustainable communities which are financially, environmentally and economically viable; and
- Work toward a regional infrastructure system to reduce costs and increase sustainability.

In June 2016, the provincial government announced plans to make membership in the CRP mandatory for a defined area which includes the City of Airdrie. Should this plan be approved, the CRP's policies and plans will continue to shape development in Airdrie for the foreseeable future. Future changes to the provincial legislative framework could require municipalities to meet regional targets with the land use plans.

Currently, the City of Airdrie has a tax base that is 84% residential and 16% non-residential (commercial and industrial). The City has a vision to rebalance this ratio to 75% residential and 25% non-residential.<sup>4</sup> To achieve this ratio, the City will have to define a clear vision of the types of businesses it plans to attract, develop a plan for promoting that development and increase the number of jobs in the City significantly. They must also recognize the competition for development from the City of Calgary and Balzac. The target must be to develop more land per year for commercial and industrial than has ever previously developed. The results of the economic development study currently underway will be a key element in the City's future land use plans. This will require the creation of many jobs in the City. This shift to a greater non-residential tax base will increase the City's financial sustainability, with less commuting and more local employment opportunities for residents.

<sup>4</sup> Airdrie Municipal Development Plan, 2014.

## 3.0 Airdrie Economic Profile

When forecasting commercial and industrial land needs, it is important to have an understanding of the types of jobs currently in Airdrie and the economic vision for the future. The MDP identifies Airdrie as a blue collar community with the top industry sectors being the trades, construction and property services. By comparison, Calgary's top industry sector is professional, science and technical services.

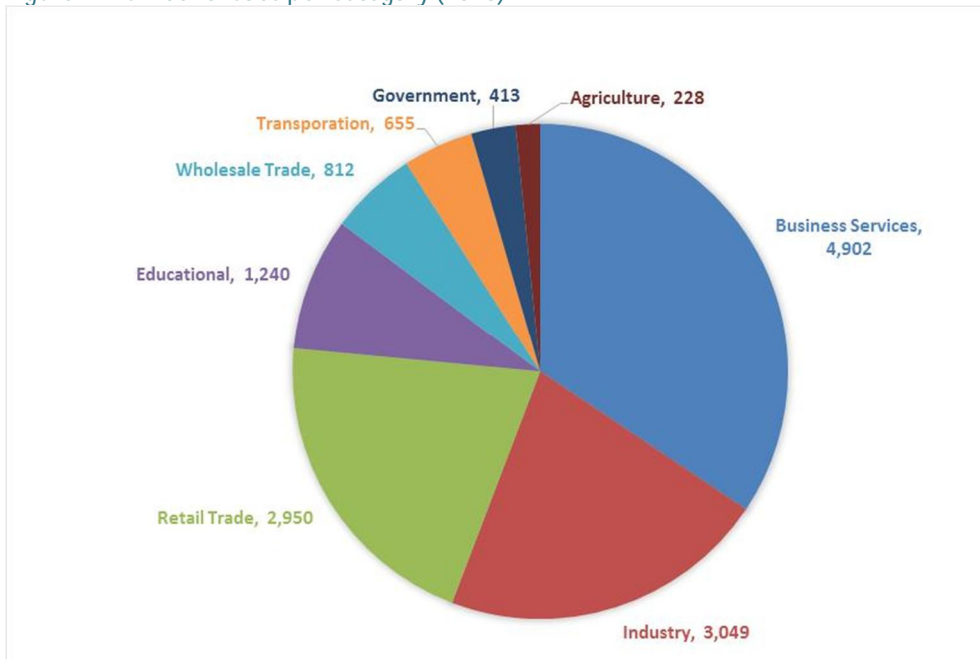
Major employers within Airdrie include Propak Systems, the municipality, Rocky View Schools, WalMart Canada and Fortis Alberta. To increase the non-residential tax base to 25% and to increase sustainability, reduce dependency on Calgary and commuting, Airdrie will have to promote more of the professional service employment opportunities and more science and technology businesses.

In 2016, it is estimated by the City that there were 14,249 full and part-time jobs in the City. Table 1 breaks out the jobs by sector as well as full-time and part-time. The 2008 CGS divided the City's employment into eight (8) categories. As the City has not experienced a major shift in the composition of its local economy since that time, the 2016 jobs could be divided into the same categories as the 2008 study. Figure 1 shows dominance of business services, industry and retail jobs in the City.

Table 1: Employment Profile (2016)

	Full-time Jobs	Part-time Jobs
Industrial (Industrial, Agriculture, Transportation)	1,759	66
Commercial (Business Services, Retail Trade, Educational, Wholesale Trade, Government)	9,180	1,490
Home based (Business Services, Retail Trade)	1,445	309
	12,384	1,865

Figure 1: Number of Jobs per Category (2016)



In 2015, the City undertook an analysis of the economic sectors represented in the community. The goal was to understand the City's economic strengths and where it should be targeting its resources for future growth.<sup>5</sup>

The report recommended that Airdrie:

- Focus on developing the manufacturing sector, which was a traditional strength in the local economy, as this sector has a high economic multiplier effect leading to higher assessments and higher employment per acre. This growth would also increase the demand for associated development in the service industry,
- Make the professional service industry a high priority and market the community as a professional service hub. As the population reaches 100,000 people, residents will expect to have increased access to medical, legal and other professional services without having to drive to Calgary, and
- Continue to support transportation and logistics companies, but focus fewer City resources on developing this industry.

The City is currently undertaking a comprehensive economic development strategy which is targeted for completion in 2017. This will certainly inform investment and land use decisions made by City Council and the land development industry.

<sup>5</sup> Rynic Communications (2014). City of Airdrie Target Sector Review.

## 4.0 Population & Employment Projections

The City of Airdrie has consistently shown strong population growth over the last 20 years. From 1995 to 2016, the City's population grew from 15,222 to 58,690, reflecting an average annual growth rate of 6.98%. Between 2015 and July 2016, an additional 3,152 people moved to the City for a total population of 61,842 (5.37% one year growth rate).

This section reviews and updates the 2011 population and employment projections to reflect recent growth patterns and the City's desire to rebalance its tax base from the current 84:16 residential to non-residential<sup>6</sup> ratio to 75:25.

### 4.1 Population

The 2008 CGS provided a 50-year population forecast for the City of Airdrie. The forecast included a detailed calculation for 2007 to 2037 and an extrapolation of the projection for an additional 20 year period from 2038 to 2057. The population was projected to grow from 31,352 in 2007 to just over 85,000 by 2037. When this was extended out to 2057, the population was projected to reach 108,906 residents. The study projected Airdrie would have a population of approximately 50,000 by 2019 and 60,000 by 2030. Airdrie's population was almost 60,000 in 2015, a full 15 years ahead of the projection. The 2008 numbers were used in the 2011 CGS update.

Based on the strong growth that the City has recently experienced, two updated population scenarios were prepared for this study covering the period 2015 to 2065.<sup>7</sup> The model includes an employment based method to project net migration as well as consideration for fertility and mortality and net migration which are key factors that affect population changes.

In the Base Scenario, the City is projected to grow from 58,690 in 2015 to 134,111 in 2045. The 50-year population projection is for a population of 168,468 in 2065. This represents an annual growth rate of 2.8% between 2015 and 2045, and 2.1% from 2015 to 2065. This is considered a conservative estimate given that the City of Airdrie grew 5.37% (from 58,690 in 2015 to 61,842 in 2016) in a year considered to be a deep recession.

In the Alternate Scenario, the population is projected to be 165,534 in 2045. This represents an annual average growth rate of 3.5% between 2015 and 2045. The population forecasts were extended to 2065 by trending the annual growth rates from 2015 to 2045. Again, the growth has been reduced slightly from 2045 to 2065. This reflects the increased uncertainty in a 50-year population projection. However,

<sup>6</sup> Non-residential includes commercial and industrial.

<sup>7</sup> Full report is in Appendix A.



this scenario would see the City of Airdrie grow to a population of 211,112 in 2065, representing an annual growth rate of 2.6% over 50-years. A detailed table with the population figures is in Appendix B.

Table 2 shows the 10, 20, 30 and 50-year projections, and Figure 2 shows the trend lines with reference points to the 2008 projections. The Base and Alternate Scenarios start with the actual population in 2015. The 2008 projection for 2020, shown in Figure 2 was well below the actual for 2015, indicating in unprecedented growth in the City of Airdrie.

Table 2: Population Forecast: 10, 20, 30 and 50 Years

Year	Base Scenario	Alternate Scenario
2025 (10 year)	84,528	92,769
2035 (20 year)	109,574	127,307
2045 (30 year)	134,111	165,534
2065 (50 year)	168,468	211,112

Figure 2: Population Forecast (2015 - 2065)

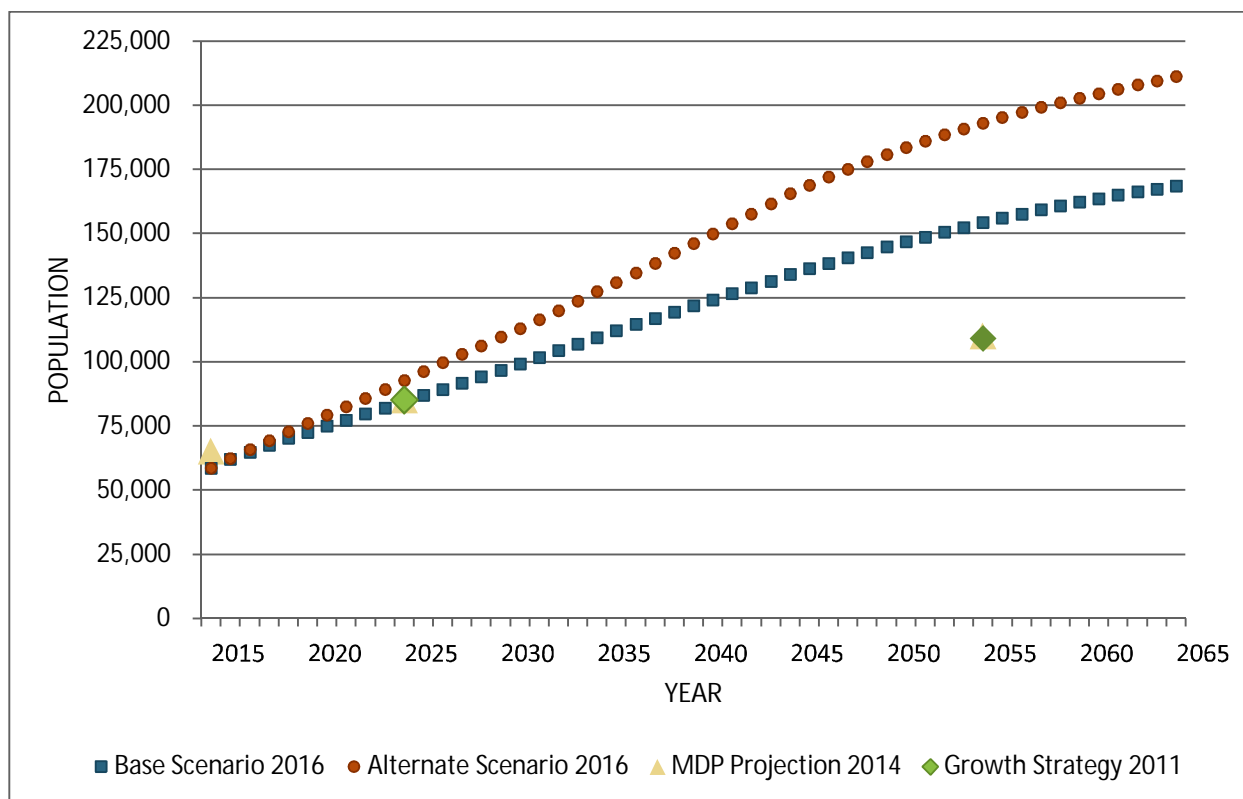


Figure 2 also shows that the Base and Alternate Scenarios are in the same range as those used for the Municipal Development Plan (2014):

- 65,000 by 2017-2020.
- 85,000 by 2025-2028.
- 90,000 by 2027-2031.

The 2011 CGS projected a population of 108,906 by 2057. The new population projections show this number being reached between 2030 (Alternate) and 2035 (Base). The new population projections could have a significant impact on land development and service provision in the City of Airdrie.

## 4.2 Employment

The 2008 CGS forecast employment in the City would grow from 13,853 in 2007 to almost 30,000 in 2037. The average rate of employment growth was expected to be 2.6%. Using this information to project to the 50-year target, a straight line extension of this forecast to 2057 would estimate 38,302 jobs in the City.

The employment forecasts for this study were undertaken by Applications Management Consulting Ltd. In the Base Scenario, the employment is projected to grow from 15,261 in 2015 to 43,942 in 2045. This represents an annual average rate of employment growth of 3.6% between 2015 and 2045. Employment in the City is projected to grow to 55,689 in the Base Scenario by 2065. This represents an annual employment growth rate of 2.6% over 50 years.

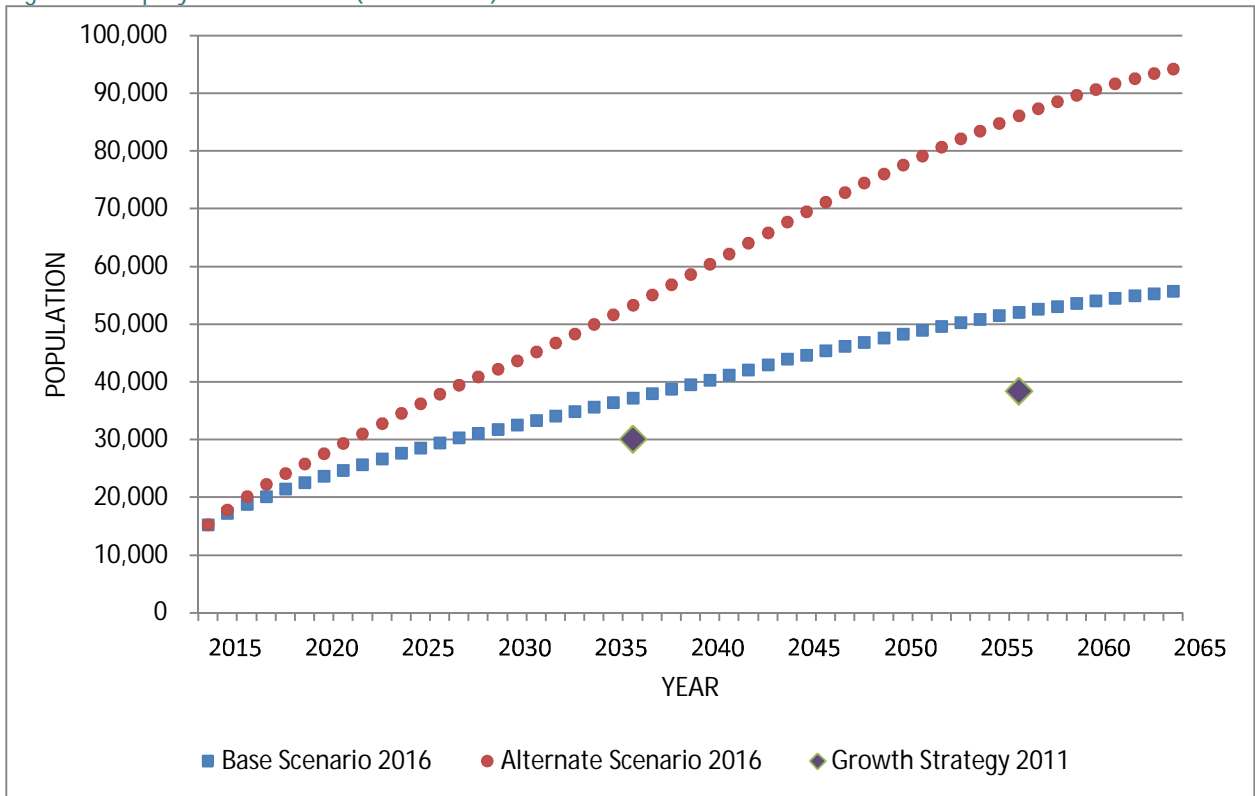
The Alternate Scenario includes expectations that the City will create a greater number of employment opportunities and increase the non-residential tax bases to align with the City vision of 75:25 (residential : non-residential). In the Alternate Scenario, the City's employment is projected to grow to 67,764 in 2045. This represents an annual average growth rate of 5.1% from 2015 to 2045. By 2065 in the Alternate Scenario, employment in the City is projected to grow to 94,175. The average annual employment growth rate from 2015 to 2065 is 3.7%.

According to the Applications Management analysis completed for this study, approximately 35% of the jobs in Airdrie are filled by local residents. In the Base Scenario, this is projected to be 50% by 2045. The more aggressive Alternate Scenario projects this number to be 60% by 2045. People will increasingly choose to live in Airdrie because there will be a significant range of employment opportunities as well as a range of amenities and competitive housing prices. Table 3 summarizes the 10, 20, 30 and 50 year employment growth numbers. Appendix C provides a detailed breakdown of the employment projection numbers.

Table 3: Employment Forecast: 10, 20, 30 and 50 Years

Year	Base Scenario	Alternate Scenario
2025 (10 year)	27,684	34,539
2035 (20 year)	35,679	50,003
2045 (30 year)	43,942	67,764
2065 (50 year)	55,689	94,175

Figure 3: Employment Forecast (2015 - 2065)



## 5.0 Land Supply and Demand Assessment

The purpose of this Growth Strategy Update is to determine the best ways of accommodating the growth Airdrie will expect in the next few decades. This Phase 1 report is focused on determining the base numbers that will inform more detailed land use planning. The growth can be within existing neighbourhoods (intensification and redevelopment) or in new neighbourhoods (new greenfield community development). Airdrie's residential and non-residential growth has largely been through greenfield growth and this is reflected in the analysis in this section. The Calgary Metropolitan Plan has policies encouraging 25% of new population growth through intensification of existing developed areas and greenfield development with a density of 8 – 10 units per gross acre (upga).

### 5.1 Land Supply

The City of Airdrie has 21,387 gross acres of land within its current municipal boundaries as identified in information supplied to Dillon from the City. This includes 8,329 gross acres in the Current Growth Area, 5,062 gross acres in the Anticipated Growth Area, and 7,996 gross acres in the Future Growth Area. The land supply analysis (**Table 4**) has been divided into three areas reflecting the City of Airdrie Growth Areas map (**Figure 4**) from the MDP.

**Figure 4: City of Airdrie Growth Areas**

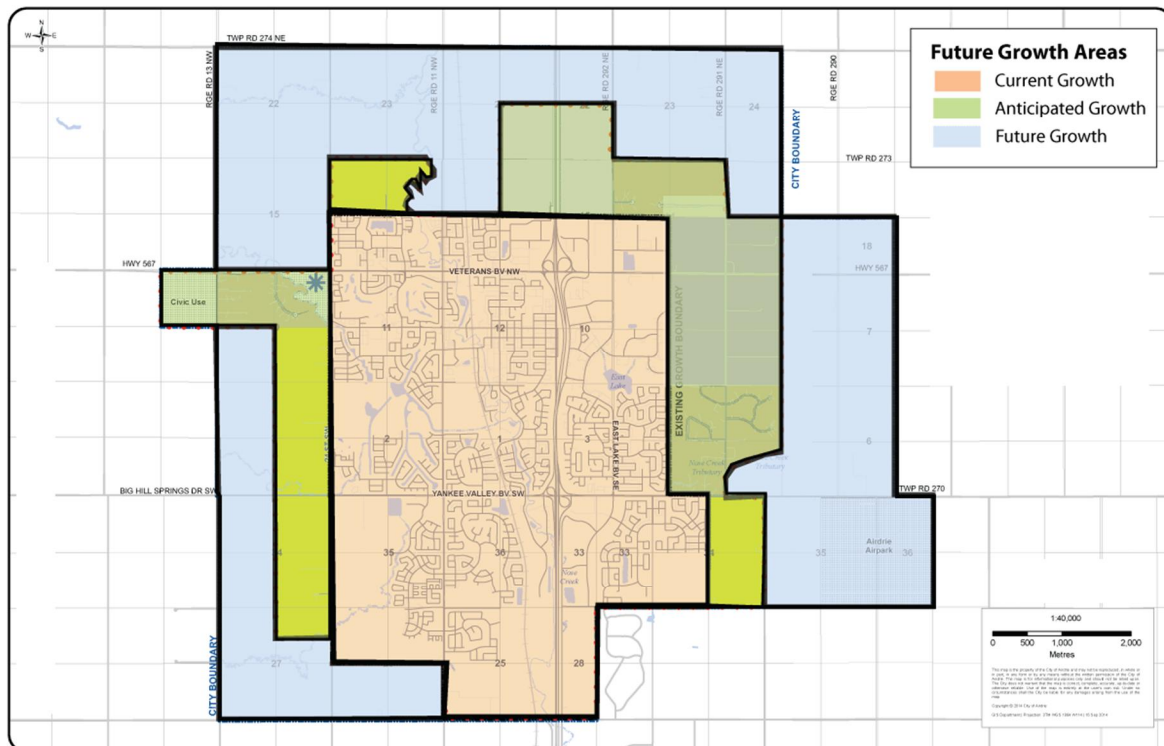


Table 4: Land Supply (2016)<sup>8</sup>

Zone	Developed (ac)	Available (ac)	Total (ac)
<b>Current Growth Area</b>			
Residential/General Urban	4,603	1,410	6,012
Commercial/Commercial Mixed/Downtown	247	147	393
General Industrial/Light Industrial/Mixed Business	817	560	1,376
Special Study & Transportation	548	0	548
<b>Current Growth Area</b>	<b>6,212</b>	<b>2,117</b>	<b>8,329</b>
<b>Anticipated Growth Areas</b>			
Residential	0	1,460	1,460
Rural Residential	1,053	0	1,053
Commercial/Commercial Mixed	0	0	0
General Industrial/ Light Industrial/Mixed Business	0	1,557	1,557
Special Study & Transportation	992	0	992
<b>Anticipated Growth Areas</b>	<b>2,045</b>	<b>3,017</b>	<b>5,062</b>
<b>Future Growth Area</b>			
Rural – no use designated	0	7,996	7,996
<b>Total</b>	<b>8,009</b>	<b>12,810</b>	<b>21,387</b>

## 5.2 Land Demand

The 2011 CGS contained several assumptions for calculating the residential and non-residential land use needs to 2057. These included:

- Residential land density will increase to 7 units per gross acre (upga) by 2037. There was an average of 6.3 upga over the 50-year projection period.
- Number of people per household would decrease to 2.6 until 2037 and then hold constant to 2057.
- Ratio of industrial land per 1,000 new residents would increase from 19 acres per 1,000 new residents to 30 acres per 1,000 new residents by 2057.
- Commercial floor space per capita was a steady 55.8 m<sup>2</sup> from 2002 to 2057. This equates to 5-8 gross acres per additional 1,000 residents.
- Demand for land for transportation, institutional and flex-land (land not yet available for development) were not calculated individually. These are captured when the net land for development is calculated for a specific project.

<sup>8</sup> City of Airdrie.

## 5.2.1

## Residential

A review of information from the City of Airdrie and conversations with municipal staff indicated that the people per household should be adjusted to 2.66, and residential density should not be higher than 9 upga. The residential land demand model for this study ranges from 6.5 in 2015 to 9 upga. This reflects the Calgary Regional Partnership policy that “unplanned lands (greenfield areas) in existing priority growth areas and lands identified for new priority growth areas will be designed and approved in local plans to achieve a minimum density of 8 to 10 units per gross residential acre, and encourage higher densities where achievable.”<sup>9</sup> Dillon had proposed to the City that the density increase to 10 upga from 2056 to 2065, but the City directed that the maximum should be 9 upga. This limit will have implications for the overall density, the types of housing and potentially the City’s ability to reach its 75:25 tax ratio.

The residential land needs have been calculated with the following formula:

1. Annual Population Growth/People per Household = Number of new houses required.
2. Number of new houses required/houses per gross acre = annual land requirement.

Of course, not every person or family moving to Airdrie will require a new residence, but a more detailed real estate analysis was outside of the scope of this project. This calculation allows a projection of the maximum land requirements for residential development over 50-years.

Appendix D shows the details of the residential land demand calculations.

The key points from the residential calculation are;

- By 2065, the City will need between 5,183 (Base) and 7,241 (Alternate) gross acres of land for residential development. Within its municipal boundaries (Current, Anticipated and Future growth), the City has 7,668 gross acres available for residential development.
- In 10 years (2025) the City will need between 1,305 (Base) and 1,761 (Alternate) gross acres of land for residential development. There is sufficient land in the Current Growth Area for the Base Scenario, but the Alternate Scenario will require 351 gross acres from the Anticipated Growth Area.
- Under the Base Scenario, by 2026 the City will have exhausted the residential land supply in the Current Growth Area, and by 2038 the residential land supply will be exhausted in the Anticipated Growth Area. The City will require 2,313 gross acres from the Future Growth Area by 2065 for residential development under this Scenario.
- Under the Alternate Scenario by 2024 the City will have exhausted the residential land supply in the Current Growth Area, and by 2032 the residential land supply will be exhausted in the Anticipated Growth Area. The City will require 4,371 gross acres from the Future Growth Area by 2065 for residential development under this Scenario.

<sup>9</sup> Calgary Regional Partnership. “Calgary Metropolitan Plan” page 28.

To better compare the residential land use needs from the 2011 to this update, the land needs have been calculated based on each additional 1,000 residents. Table 5 shows that the 2011 CGS projected an additional 6,200 gross acres of land<sup>10</sup> would be needed for 77,554 new residents. This works out to 77.9 gross acres for each additional 1,000 people. Assuming that development over the next 50-years will be based on 2.66 people per unit (as per direction from the City) and 6.5 - 9.0 units per gross acre (as per the Calgary Regional Partnership policy and direction from the City of Airdrie), the City will need 5,183 gross acres to accommodate an additional 109,778 residents by 2065 (Base Scenario) or 7,241 gross acres for an additional 152,422 residents (Alternate Scenario).

The lower land needs reflect a slightly higher number of people per unit, as well as denser development targets. Trends and projections for urban development support even higher densities over 50-years. It is possible that over time the City will increase their development density and as such, there will be lower land requirements in the future.

Table 5: Residential Land Demand Projections (2015 - 2065)

	2011 Study	2016 Base Scenario	2016 Alternate Scenario
Population 2007	31,352		
Population 2057	108,906		
Population 2015		58,690	58,690
Population 2065		168,468	211,112
Population gain	77,554	109,778	152,422
People per household	2.6 <sup>11</sup>	2.66	2.66
Houses per gross acre (upga)	6.4 <sup>2</sup>	6.5 – 9.0	6.5 – 9.0
Land required for population gain by 2065	6,200 gross acres	5,183 gross acres	7,241 gross acres
Land required for each additional 1,000 people	79.9 acres	47.2 acres	47.5 acres

### 5.2.2

### Non-Residential

This report uses a similar method to the previous Community Growth Study to calculate non-residential land needs.

For industrial and employment lands, the two options for land need calculations are “land per capita” and “historical land absorption.” The “land per capita” method accounts for the direct link between population growth and economic activity. As the population grows, so does the demand for industrial. The “historical land absorption” uses recent historical rates and as indicator for the future. Given

<sup>10</sup> This is calculated on a net to gross factor of 30% from the estimated demand of 4,695 net acres.

<sup>11</sup> These are averages calculated from the information in the 2011 study.



Airdrie's desire to increase the rate of non-residential development, the historical rates are not a good indicator of future growth plans. The "land per capita" was used in 2003 and 2011, and is the best option for this study.

In the 2011 Community Growth Study Update it was estimated that the demand for industrial and employment land would increase from 19 acres to 30 acres per 1,000 new residents by 2057. This report used the same range for both the Base and Alternate scenarios reflecting the City's increasing role as a regional employment centre with a higher non-residential tax base. Compared to the 2011 study, the projected industrial and employment land needs have increased with this study because of the higher population projections. These numbers are also higher than the historical development patterns in Airdrie. However, if the City is going to achieve its goal of a 75:25 tax ratio (residential: non-residential) then significant lands will have to be brought into the market place and developed.

Appendix E shows the detailed summary of the industrial and employment land demand and supply calculations.

The key points from the industrial and employment lands analysis are:

- By 2065, the City will need between 2,612 (Base) and 3,629 (Alternate) gross acres of land for industrial and employment development. Within its municipal boundaries, the City has 4,515 gross acres available for industrial development.
- In 10 years (2025), the City will need between 515 (Base) and 681 (Alternate) gross acres for industrial and employment development. There is sufficient land in the Current Growth Area for the Base Scenario, but the Alternate Scenario will require 121 gross acres from the Anticipated Growth Area.
- Under the Base Scenario by 2026 the City will have exhausted the industrial and employment land supply in the Current Growth Area, and by 2046 the industrial and employment land supply will be exhausted in the Anticipated Growth Area. The City will require 895 gross acres from the Future Growth Area by 2065 for this type of development under this Scenario.
- Under the Alternate Scenario by 2024 the City will have exhausted the industrial and employment land supply in the Current Growth Area, and by 2039 the industrial and employment land supply will be exhausted in the Anticipated Growth Area. The City will require 1,912 gross acres from the Future Growth Area by 2065 for this type of development under this Scenario.
- These projections represent significantly higher numbers than the City has historically developed. However, they use the same ranges that were accepted in the 2003 and 2011 study. The City will also have to increase from its historical development patterns if it is going to achieve its goal of a 75:25 tax ratio (residential: non-residential).

Commercial demand in the 2011 study was based on population growth and square footage for commercial space. This was then converted to acres with the result being 5 to 8 acres per additional



1,000 residents. This study uses the same range for the Base and Alternate scenarios reflecting the City's ability to support more commercial development as the population increases and it continues to expand its role as a regional service centre. Appendix F shows the detailed summary of the commercial land demand and supply calculations.

The key points from the commercial analysis are:

- By 2065, the City will need between 918 (Base) and 1,203 (Alternate) gross acres of land for commercial development. The City has only 147 gross acres designated for commercial development in the Current Growth Area.
- In 10 years (2025), the City will need between 142 (Base) and 190 (Alternate) gross acres for commercial development. There is sufficient land in the Current Growth Area for the Base Scenario, but the Alternate Scenario will require 43 gross acres from the Anticipated Growth Area.
- Under the Base Scenario the City has sufficient land in the Current Growth Area for commercial development to 2026. As there are no lands designated in the Anticipated Growth Area for commercial development, the City will have to re-designate lands to support commercial development.
- By 2065, under the Base Scenario, the City will have to designate 771 gross acres for commercial development in either the Anticipated or Future Growth Areas.
- Under the Alternate Scenario the City will run out of land for commercial development in the Current Growth Area by 2023. As there are no lands designated in the Anticipated Growth Area for commercial development, the City will have to re-designate lands to support commercial development.
- By 2065, under the Alternate Scenario, the City will have to designate 1,056 gross acres for commercial development in either the Anticipated or Future Growth Areas.

### 5.3 Land Supply and Demand Summary

Table 6 summarizes the land supply and demand to 2065 for the Base Scenario. Under this Scenario, there is sufficient land in the City's current boundaries, but land will have to be re-designated in the Anticipated Growth Area or in the Future Growth Area for commercial development. The overall land demand is slightly more conservative than the projections from the 2011 CGS.

Table 7 presents the Alternate Scenario for land development in Airdrie in 2065. This is based on a more aggressive population projection. Like the Base Scenario, there is sufficient land for the overall projections to 2065. However, there is also a shortage for lands for commercial development. There is sufficient land available in the other categories (residential and industrial/employment) to make up the short fall.

Table 6: Land Demand and Supply Summary – Base Scenario

	Cumulative Demand (2065) gross acres	Supply (2016) gross acres			Difference between Demand and Supply (2065) gross acres
		Current Growth Area	Anticipated Growth Area	Future Growth Area <sup>12</sup>	
Residential	5,183	1,410	1,460	4,798	2,485
Industrial/Mixed Use/Employment	2,612	560	1,557	2,398	1,903
Commercial	918	147	0	800	29
<b>Total</b>	<b>8,713</b>	<b>2,117</b>	<b>3,017</b>	<b>7,996</b>	<b>4,417</b>

Table 7: Land Demand and Supply Summary – Alternate Scenario

	Cumulative Demand (2065) gross acres	Supply (2016) gross acres			Difference between Demand and Supply (2065) gross acres
		Current Growth Area	Anticipated Growth Area	Future Growth Area <sup>13</sup>	
Residential	7,241	1,410	1,460	4,798	427
Industrial/Mixed Use/Employment	3,629	560	1,557	2,398	886
Commercial	1,203	147	0	800	(256)
<b>Total</b>	<b>12,073</b>	<b>2,117</b>	<b>3,017</b>	<b>7,996</b>	<b>1,057</b>

### 5.3.1 Ten Year Land Demand and Supply

City Administration has indicated that based on the recently approved Utility Master Plan, there may be issues with the ability to service the land projected for development in the next 10 years.

For this reason, City Administration has requested a specific summary of the 10-year land use requirements presented in the Growth Strategy Update.

<sup>12</sup> The MDP does not indicate the plans for development of the 7,996 gross acres in this area. For this analysis the total gross acres were divided 60/30/10 between residential, industrial and commercial

<sup>13</sup> The MDP does not indicate the plans for development of the 7,996 gross acres in this area. For this analysis the gross acres were divided 60/30/10 between residential, industrial and commercial

The 10-year summary numbers are:

- Population:
  - 2025 population forecast is 84,528 (Base) or 92,769 (Alternate). This represents an additional 25,838 to 34,079 residents by 2025.
- Residential Land:
  - The City will need between 1,305 (Base) and 1,761 (Alternate) gross acres for residential land development to support to projected population growth to 2025.
  - The City has sufficient land in the Current Growth Area to meet the Base scenario to 2025.
  - The City would be short 351 gross acres within the Current Growth Area to meet the 1,761 gross acres for residential land development in the Alternate Scenario. The land would have to come from the Anticipated Growth Area.
- Employment:
  - The 2025 employment is forecast is 27,684 (Base) or 34,539 (Alternate) jobs. This represents an additional 12,424 to 19,278 jobs by 2025.
- Industrial/Employment Land:
  - Under the Base Scenario, the City is projected to require an additional 515 gross acres of industrial lands by 2025. This can be met within the Current Growth Area.
  - Under the Alternate Scenario, the City is projected to require an additional 681 gross acres of industrial land by 2025. This will exhaust the industrial land supply in the Current Growth Area of 560 gross acres and require 121 gross acres from the Anticipated Growth Area.
- Commercial Land:
  - Under the Base Scenario, the City is projected to require an additional 142 gross acres of commercial lands by 2025. There is sufficient supply in the Current Growth Area to meet this demand.
  - Under the Alternate Scenario, the City is projected to require 190 gross acres of commercial lands by 2025. This will exhaust the supply in the Current Growth Area. As there are no lands designated for commercial development in the Anticipated Growth Area, 43 gross acres are would have to be re-designated from another use to meet this demand.

## Conclusions

In March 2012, the City of Airdrie (the City) annexed 12,640 acres of land from Rocky View County. The land was meant to provide the City with a 50-year land supply that will see the development of services, amenities and housing over that time frame. The annexation lands were divided into first and second priority lands for servicing. Between the 2012 annexation and 2016, Airdrie grew by over 16,000 residents or 35% for a total population of 61,842 residents. The one year growth rate between 2015 and 2016 was 5.37%. This far exceeded earlier projections, even considering the recent economic downturn.

This study presents Base and Alternate Scenarios for land supply and demand. Given Airdrie's strong growth historically, and the under projection of population growth in recent studies, it is recommended that the Alternate Scenario in the study be used for land use and planning purposes.

Based on the updated population projections and employment forecasts completed for this update, the following recommendations are presented:

- The City requires between 1,962 gross acres (Base) and 2,632 gross acres (Alternate) by 2025 for residential and non-residential land development based on the population projections presented.
- The land identified in the Airdrie City Plan (2014) as Current Growth is projected to be exhausted between 2023 and 2026 across residential and non-residential land uses.
- Under both the Base and Alternate Scenarios, the City has sufficient land within its current municipal boundaries (Current, Anticipated and Future Growth Areas) for the projected residential and non-residential land development needs to 2065.
- There is a small shortage of land designated for Commercial development, but this can be met by re-designating land from other categories.
- If the City is going to achieve its goal of having a larger non-residential tax base, a clear and focused strategy with a plan for increasing the amount of land available for development will have to be developed. This will need to include well defined development plans to maximize the long-term tax benefits and bring jobs to the community.
- Residential and non-residential building formats are changing and becoming more compact. This change in form will affect the projected long term land use needs.
- City Administration directed that for this study the residential density not increase past 9 upga over 50-years. This is within the current recommendation from the Calgary Regional Partnership of 8-10 upga. This decision could be revisited as higher residential densities would decrease the long-term land demands and promote more compact community development. This can reduce servicing costs and increase the viability of local commercial developments.

## Appendix A

*Applications Management Consulting  
Limited*



# City of Airdrie Population and Employment Projections 2015-2065

MAY 2016



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# Table of Contents

<b>Introduction.....</b>	<b>1</b>
Objective of the Work.....	1
Study Area .....	2
Population and Employment Forecasting Model.....	3
<b>Methodology .....</b>	<b>4</b>
City of Airdrie Historical Profile.....	4
City of Airdrie Municipal Census (2015) .....	6
Population Forecasting Model.....	7
Cohort Survival Model .....	8
Births.....	8
Deaths.....	9
Net Migration .....	11
Provincial Economic Growth.....	11
Calgary Region Growth.....	13
Airdrie's Share of Regional Growth .....	15
<b>Population and Employment Forecast Results .....</b>	<b>21</b>
Population Forecasts to 2045 .....	21
Employment Forecasts to 2045.....	22
<b>Extending Forecasts to 2065.....</b>	<b>23</b>
Population Forecasts .....	24
Employment Forecasts.....	25
<b>Tax Assessment Base.....</b>	<b>26</b>
<b>Appendixes .....</b>	<b>27</b>
Appendix A: Fertility / Mortality Rates .....	28
Appendix B: 2015 Employment Estimate.....	34
Appendix C: Population Forecast Summary .....	35
Appendix D: Employment Forecast Summary .....	36

# Introduction

The City of Airdrie has experienced significant growth over the last decade. Since 2006, the City's population has doubled in size, from 29,035 to a current population of 58,690. This represents an average annual growth rate of 8.1 % making Airdrie one of the fastest growing municipalities in Alberta.

In order to successfully plan for future land and infrastructure needs, an expectation of future growth is required, especially in areas of strong growth. Population projections are particularly important in long-term infrastructure planning as all key planning decisions, including those involving public facilities and services, depend on how many people will be living in the area. The potential for non-residential development is also important as from a fiscal point of view, non-residential development along with residential growth, provides a community with 'balanced growth'.

## OBJECTIVE OF THE WORK

The purpose of this study is to provide a 50 year population forecast, 2015 to 2065, for the City of Airdrie. This includes a detailed forecast for the 30 year forecast period, 2015 to 2045; and an extrapolation of this forecast for an additional 20 year period from 2046 to 2065.

To evaluate the potential for residential and non-residential growth within the City of Airdrie, the analysis was completed for two scenarios. This report presents the two scenarios of growth as described below:

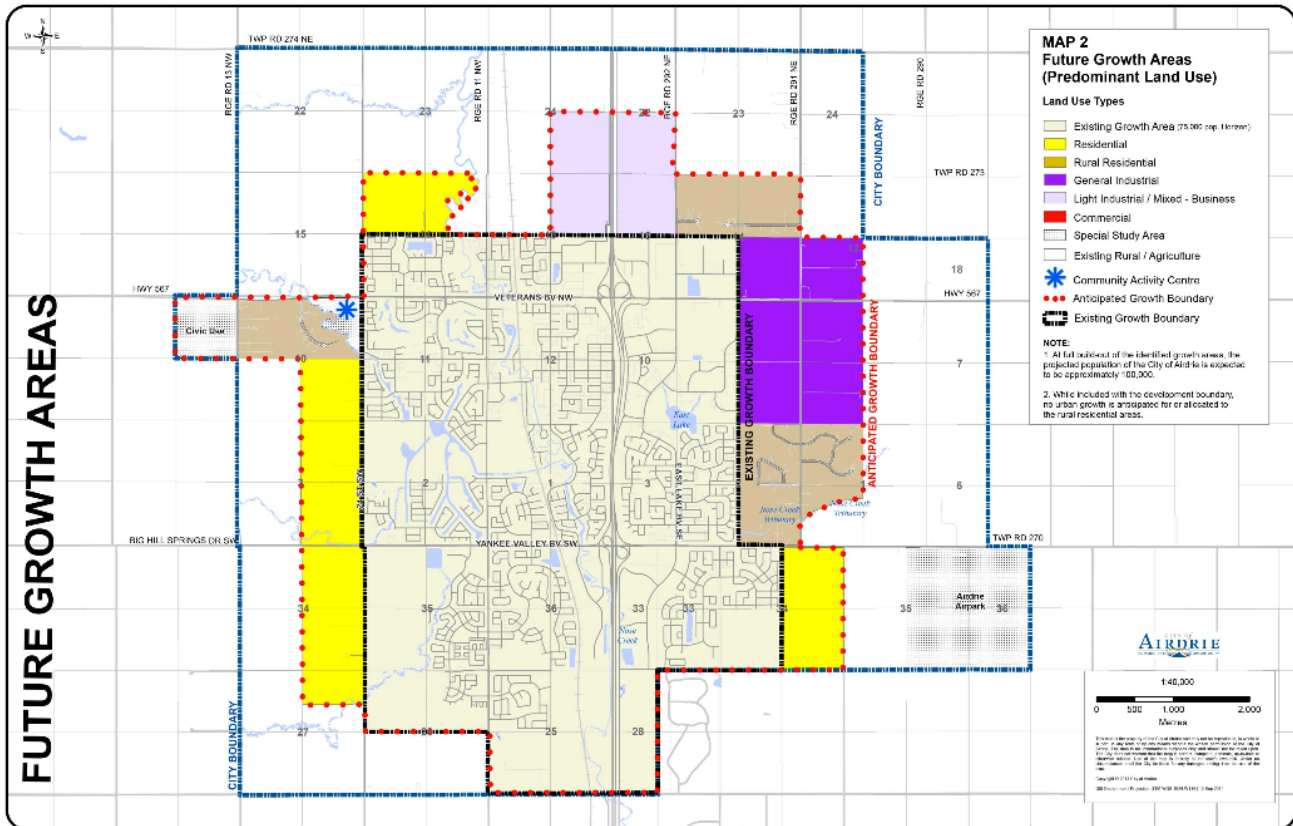
- *Base Scenario:* This scenario represents a plausible scenario within which growth can be reasonably expected.
- *Alternate Scenario:* This scenario represents a higher level of growth in the City and the surrounding Calgary region. This scenario demonstrates growth that could be achieved if the City could reach its vision of 25% non-residential tax base.



## STUDY AREA

A map of the City of Airdrie city boundary is shown below. All projections (unless noted otherwise) refer to historical or projected data for the defined Study Area as depicted in the attached map.

### CITY OF AIRDRIE BOUNDARY MAP<sup>1</sup>



<sup>1</sup> Airdrie City Plan: Municipal Development Plan for the City of Airdrie 2014.

## POPULATION AND EMPLOYMENT FORECASTING MODEL

The forecasts presented in this report were prepared using a Population and Employment Forecasting Model developed for the City of Airdrie. This model provides the City with the ability to update the factors used in developing the forecasts and prepare new projections on an as needed basis.

In economics, a model is often defined as a theoretical construct that represents economic processes by a set of variables and a set of logical and/or quantitative relationships between them. Generally, economic models use structural parameters which may change to create various scenarios on the expected scope and scale of population and employment change. It is anticipated that these projections will be useful to public policy makers, employers and other stakeholders in the region for future planning purposes.

# Methodology

This section provides information on the methodology and assumptions used in generating the population projections. The methodology used in the model to project population includes an employment based method to project net migration along with the ‘standard component method’ of projecting population growth. The standard component method takes into consideration fertility, mortality and net migration which are the key factors that affect population change.

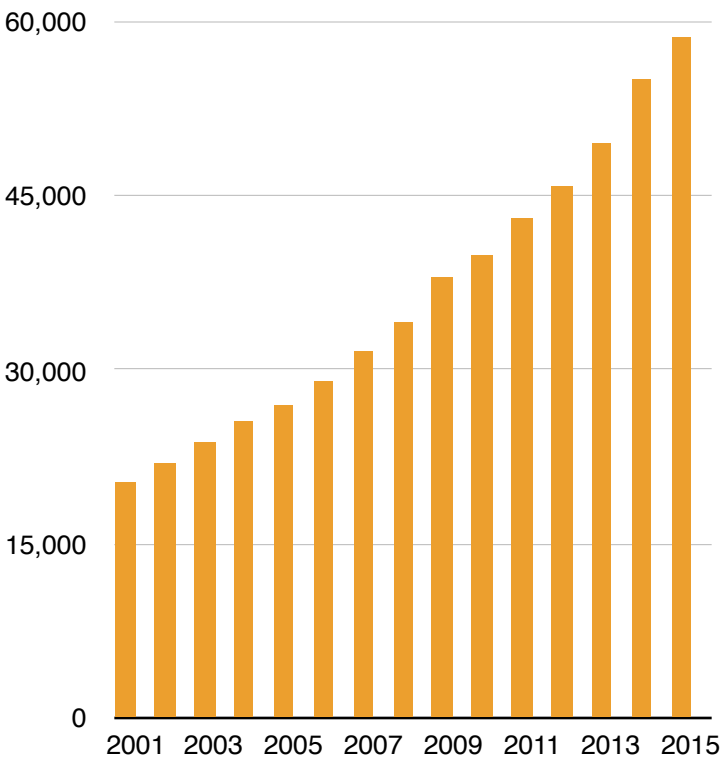
In addition, the City’s 2015 census population was disaggregated into finer detail to conform to the requirements of the Population Forecasting Model. This section of the report outlines the methodology employed in each of these areas.

## CITY OF AIRDRIE HISTORICAL PROFILE

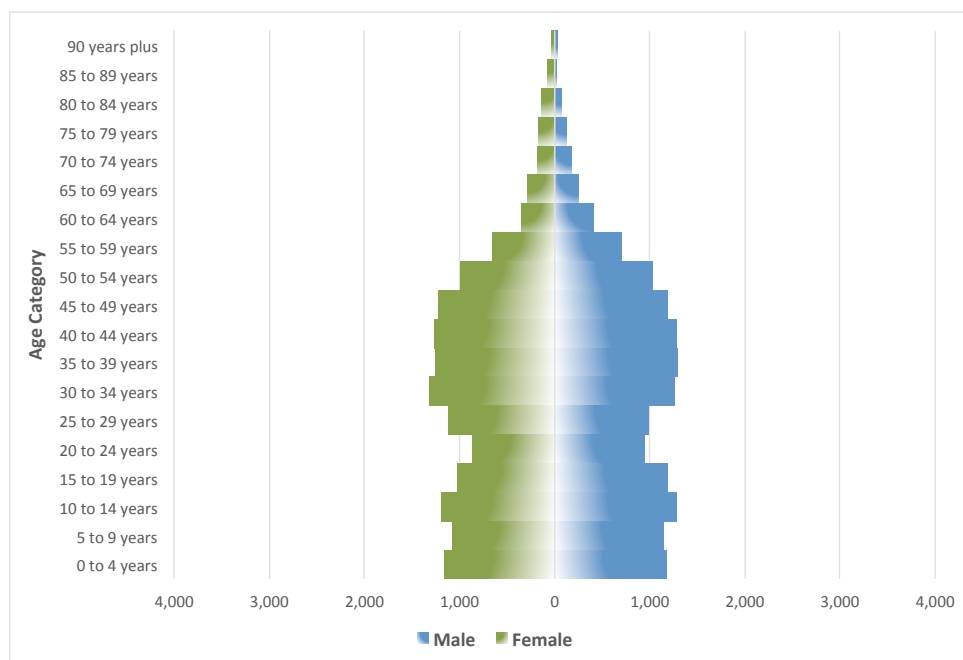
The City of Airdrie conducts a municipal census each year. Between 2001 and 2015, the City of Airdrie population more than doubled, increasing by over 38,000 people, at an average annual growth rate of 7.8 %. In recent years, between 2010 and 2015 Airdrie has continued to sustain strong growth. The average annual growth rate between 2010 and 2015 was 8.1 %.

Between 2006 and 2015, the population in Airdrie slightly aged. In 2006, the under 15 population comprised 24 % of the total population. By 2015, the under 15 comprised 25 % of the total population. The working age population, 15 to 64, comprised 70 % of the total population in 2006, and 68 % of the total population in 2015. In 2006, the seniors population comprised 5 % of the total population. By 2015, the seniors comprised 6 % of the total population.

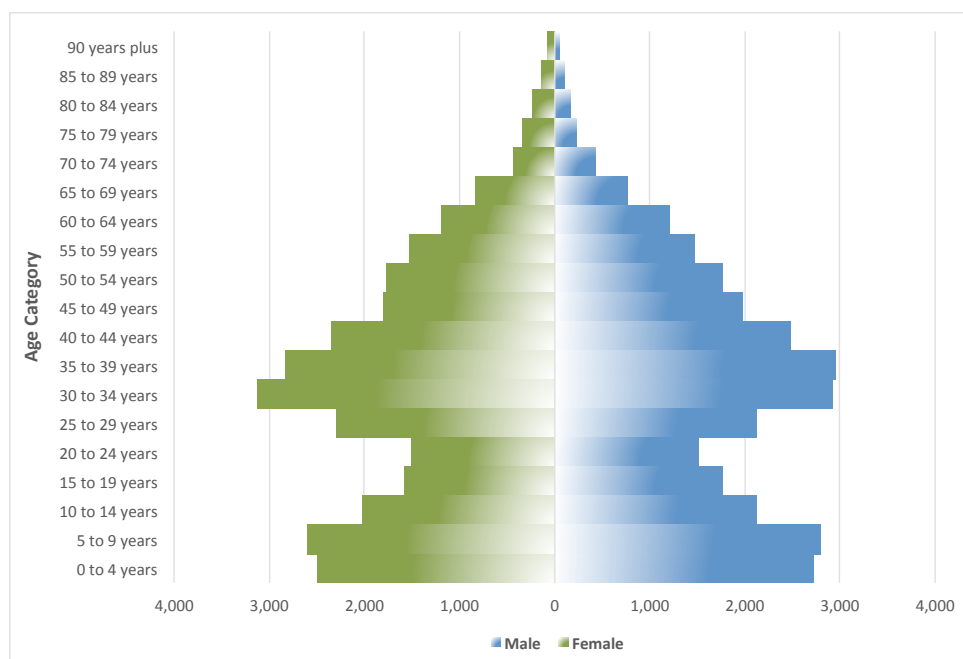
CITY OF AIRDRIE HISTORICAL POPULATION - 2000 TO 2015



## 2006 POPULATION BREAKDOWN BY AGE AND GENDER<sup>2</sup>



## 2015 POPULATION BREAKDOWN BY AGE AND GENDER<sup>3</sup>



<sup>2</sup> Statistics Canada, 2006 Census of Population.

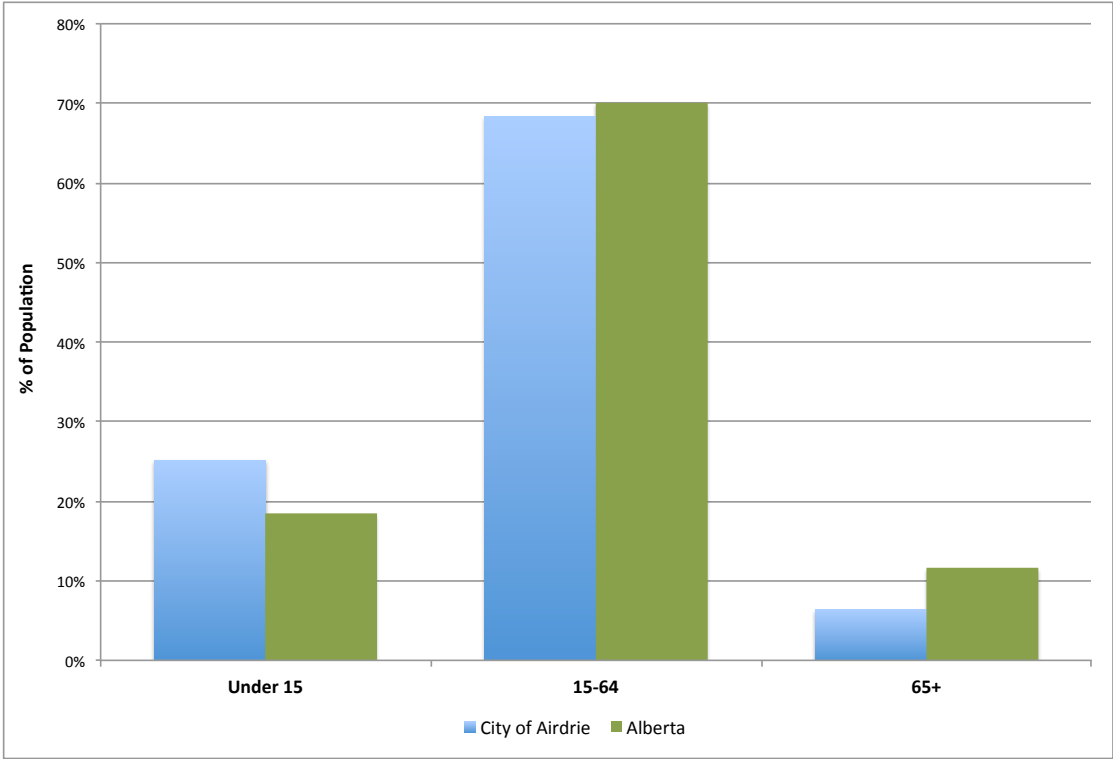
<sup>3</sup> City of Airdrie 2015 Municipal Census.

## CITY OF AIRDRIE MUNICIPAL CENSUS (2015)

The City of Airdrie municipal census in 2015 recorded a total population of 58,690.<sup>4</sup> The City of Airdrie is comprised of a young population, in comparison to the population across Alberta.

According to the 2015 municipal census, 25.2% of the population in the City of Airdrie is under 15 years of age. In comparison, across Alberta 18.4% of the population is under 15 years of age. The working age population, those between 15-64, make up 68.4% of the total population in the City of Airdrie. Similarly in Alberta, the population between 15-64 make up 70.0% of the total population. Seniors, 65+, make up 6.5% of the population in the City of Airdrie. The seniors population across Alberta makes up 11.6% of the total population. The figure below depicts the comparison of the population age distribution between the City of Airdrie and Alberta.

### 2015 POPULATION %AGE BY AGE - CITY OF AIRDRIE AND ALBERTA



<sup>4</sup> City of Airdrie 2015 Municipal Census.

The data from the 2015 municipal census was disaggregated in some age cohorts to conform to the requirements of the Population Forecasting Model. The following steps describe the methodology used to estimate the population for these age cohorts.

- ▶ The municipal census results provided a single number for males and females in the 75+ age cohort. This was disaggregated into the 75-79, 80-84, 85-89 and 90+ age cohorts by pro-rating the 2011 Alberta population data from CANSIM by gender and age cohort. This proportion of Alberta population in these age cohorts was applied to the Airdrie census data for the 75+ age cohort to estimate the respective population totals for Airdrie.
- ▶ The Population Forecasting Model provides single year age breakdowns for the population under 19 years. The five year age cohort data from the municipal census for the 0-4, 5-9, 10-14, 15-18 age cohorts was disaggregated into single year totals, to determine the number of births by age of mother. The data was disaggregated by assuming that each single year age had an equal distribution of its 5 year age cohort. Equal distribution among each 5 year age cohort was used because it was the best breakdown available.

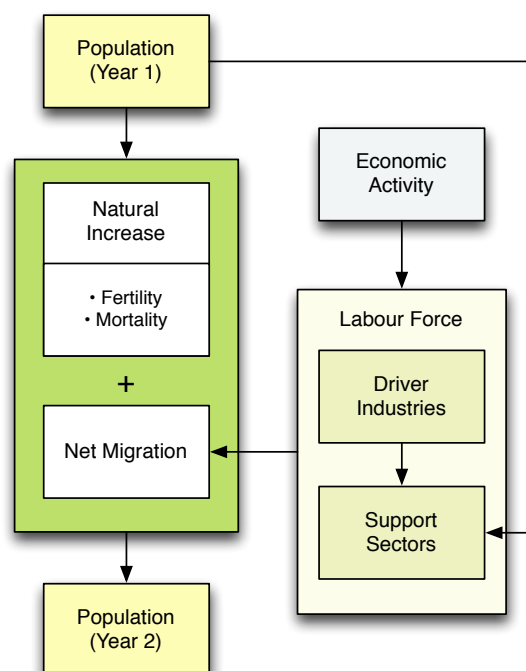
## POPULATION FORECASTING MODEL

The forecasting model used to develop these forecasts has been developed by Applications Management Consulting Ltd. This model is a comprehensive economic and demographic model that projects economic activity, employment and population at a provincial, regional and municipal level.

The methodology used in the model to project population includes an employment based method to project net migration along with the 'standard component method' of projecting population growth.

An expectation of economic activity at the provincial and regional level is used to determine growth in local employment and the demand for additional workers. The net flow of migrant workers and their family members, along with the natural aging of the

### Population & Employment Forecasting Model



population, impact total population growth within the municipality.

## COHORT SURVIVAL MODEL

The Population Forecasting Model uses cohort survival for the natural increase of the population. The model calculates the number of births and advances the age of the population in each of the projection years. Surviving members in each age cohort or age group proceed into successive age groups in each year of the projection. For the 5-year age categories between 20-89 years, it is assumed that one-fifth of the surviving members of the age group is moved up the next age category each year.

### BIRTHS

Fertility rates by age of mother were available in 5 year cohorts from 15 to 49 years of age from the Alberta Health Interactive Health Data Application Team. The fertility rates used in the analysis are based on a ten year average from 2004 to 2014 for Region 3 (R3) of the previous Alberta Health Services regions, which includes the City of Airdrie. Table A.1 in the Appendix provides the birth rates per 1,000 females for R3 from 2004 to 2014. For comparison purposes, Table A.2 in the Appendix provides the birth rates per 1,000 females for Alberta from 2004 to 2014. While there are slight variations in the age specific fertility rates, the overall births per capita are fairly similar for R3 in comparison to Alberta.

The fertility rate, per 1,000 females currently utilized in the model is shown in the following table.

### FERTILITY RATE (PER 1,000) BY AGE OF MOTHER

AGE OF MOTHER	FERTILITY RATE
15 years	0.001
16 years	0.001
17 years	0.002
18 years	0.004
19 years	0.003
20 to 24 years	0.045
25 to 29 years	0.093
30 to 34 years	0.114
35 to 39 years	0.060
40 to 44 years	0.011
45 to 49 years	0.001

## *DEATHS*

The mortality data was available by age and gender for Calgary Economic Region from Statistics Canada. Mortality rates by age and gender were calculated by dividing the total deaths by age and gender into the permanent population by Calgary Economic Region. Tables A.3 and A.4 in the Appendix show the mortality rates per 1,000 people for the Calgary Economic Region by age cohort and gender for the period 2004 to 2014. For comparison, Tables A.5 and A.6 in the appendix provide the mortality rates per 1,000 people for Alberta by age cohort and gender for the period 2004 to 2014.



## MORTALITY RATE (PER 1,000) BY AGE AND GENDER<sup>5</sup>

AGE	MALE	FEMALE
0 years	0.001	0.001
1 years	0.000	0.000
2 years	0.000	0.000
3 years	0.000	0.000
4 years	0.000	0.000
5 years	0.000	0.000
6 years	0.000	0.000
7 years	0.000	0.000
8 years	0.000	0.000
9 years	0.000	0.000
10 years	0.000	0.000
11 years	0.000	0.000
12 years	0.000	0.000
13 years	0.000	0.000
14 years	0.000	0.000
15 years	0.000	0.000
16 years	0.000	0.000
17 years	0.001	0.000
18 years	0.001	0.000
19 years	0.001	0.000
20 to 24 years	0.001	0.000
25 to 29 years	0.001	0.000
30 to 34 years	0.001	0.000
35 to 39 years	0.001	0.001
40 to 44 years	0.001	0.001
45 to 49 years	0.002	0.001
50 to 54 years	0.004	0.002
55 to 59 years	0.006	0.004
60 to 64 years	0.009	0.006
65 to 69 years	0.014	0.010
70 to 74 years	0.023	0.016
75 to 79 years	0.040	0.027
80 to 84 years	0.066	0.047
85 to 89 years	0.117	0.088
90+	0.225	0.177

<sup>5</sup> Data on deaths was gathered from Table 051-0060 Components of population growth by economic region, sex and age group for the period from July 1 to June 30, based on the Standard Geographical Classification (SGC) 2011. The mortality rates were calculated using the death data and the associated population data for the same geography from Table 051-0059 Estimates of population by economic region, sex and age group for July 1, based on the Standard Geographical Classification (SGC) 2011.

## NET MIGRATION

In a fast growing municipality, such as the City of Airdrie, most of the population growth is due to net migration. Strong net migration to a community is a result of factors including:

- Strong regional growth that is resulting in a demand for workers.
- Strong local growth that is resulting in an increase in local employment opportunities.
- Attractive housing mix that is made up of diverse affordable housing options.
- Community Amenities that support growth for families and the aging population. This includes schools, parks, recreation centers, and seniors facilities.

At the base of the net migration component is an economic projection for the provincial economy and estimated distribution of future demand for employment in the Calgary region and local Airdrie economy.

In estimating the population growth associated with net migration, there are several factors that are taken into consideration including:

- Provincial economic growth.
- The regional share of the Alberta employment that will be generated by the Calgary region.
- The local share of Calgary region employment that will be generated by the City of Airdrie.
- Household formation and additional family members associated with regional and local workers.

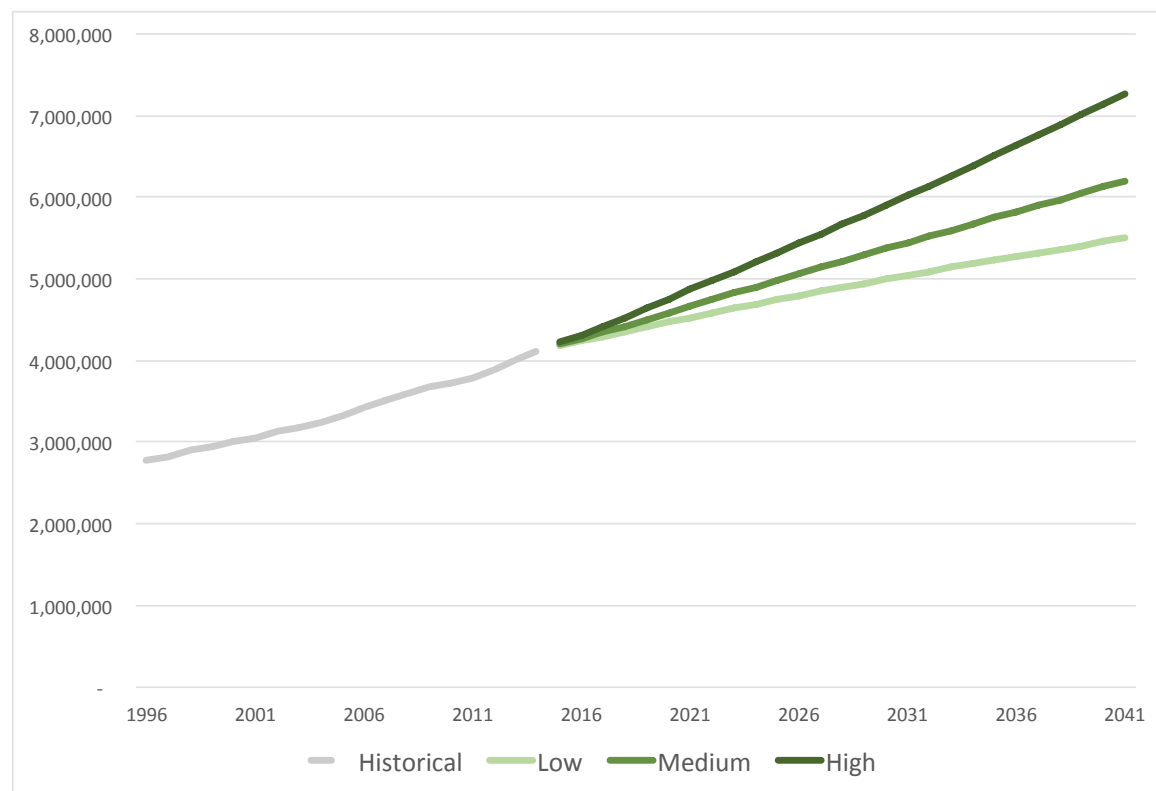
### PROVINCIAL ECONOMIC GROWTH

The most recent projection of provincial economic growth from Alberta Treasury Board and Finance indicates the Alberta economy will continue to have “solid long term growth” over the forecast period 2015-2041.<sup>6</sup> Historically, between 1996 and 2014, the province has grown at an average growth rate of 2.2% annually. For the period 2015 to 2041, under the Low Scenario population projection, the province is expected to grow at an average annual growth rate of 1.1%. During the same period, under the Medium Scenario population projection, the province is expected to grow at an average annual growth rate of 1.5%. In the High Scenario population projection, the province is expected to grow at an average annual growth rate of 2.1%.

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<sup>6</sup> 2015-2041 Treasury Board and Finance, Office of Statistics and Information - Demography.

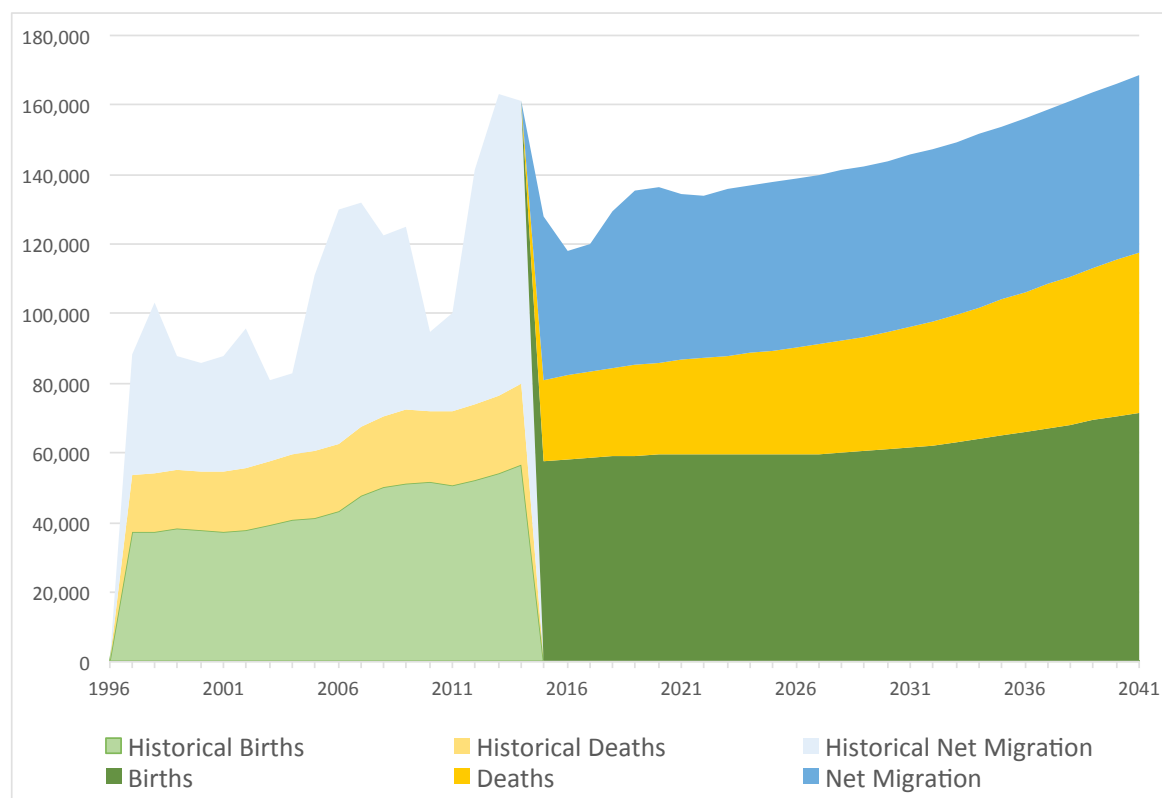
## ALBERTA POPULATION PROJECTIONS 2015-2041<sup>7</sup>



All three scenarios of population growth are primarily driven by migration, particularly international migration. In the near term, net migration is expected to slow down as a result of the economic slowdown in the province. As the economy begins to improve, it is expected that migration to the province will increase. During the period between 2014 and 2041, net migration is projected to account for about two-thirds of the population growth in Alberta under the medium scenario, with natural increase accounting for the remaining one third. It is expected that of the estimated 1.3 million net migrants to the province, about two thirds, or almost 900,000, would be international migrants.

<sup>7</sup> 2015-2041 Treasury Board and Finance, Office of Statistics and Information - Demography.

## ALBERTA POPULATION PROJECTIONS 2015-2041- COMPONENTS OF GROWTH (MEDIUM SCENARIO)<sup>8</sup>

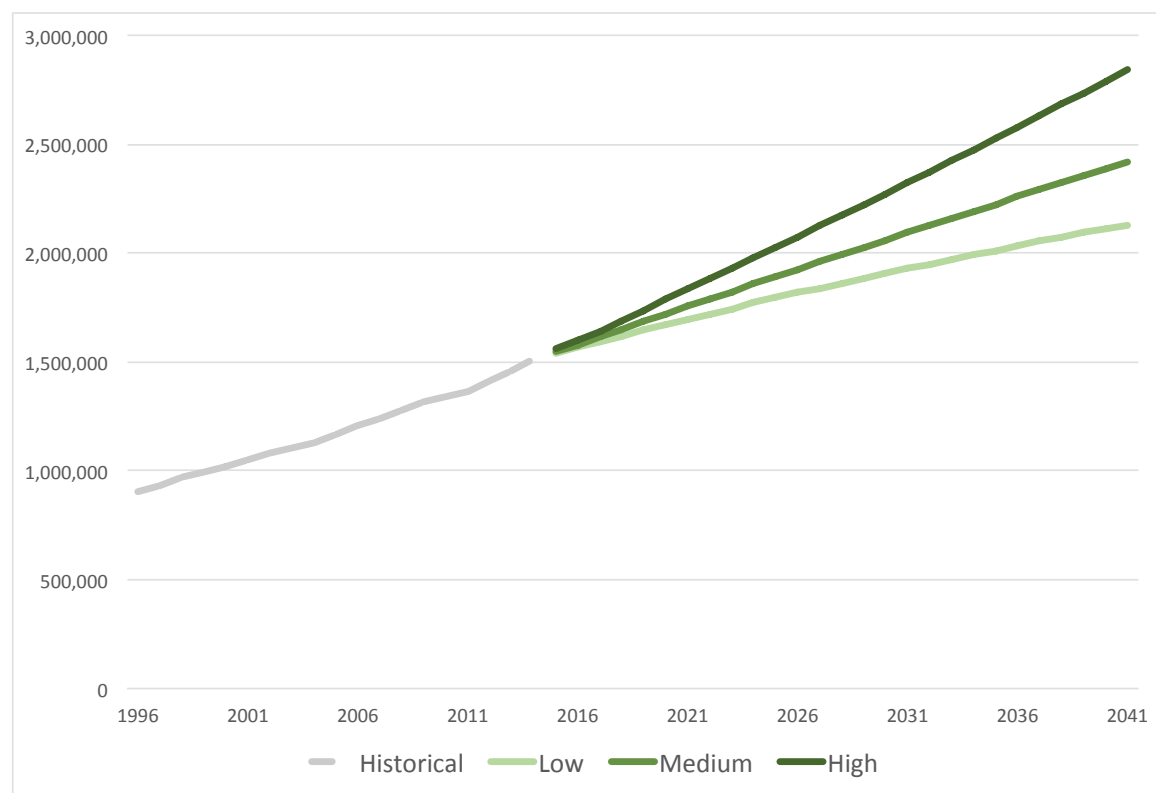


### CALGARY REGION GROWTH

Similar to the province, Census Division 6, which covers a similar geography as the Calgary region, will continue to experience growth. Historically, between 1996 and 2014, the Calgary region has grown at an average growth rate of 2.9% annually. For the period 2015 to 2041, under the Low Scenario population projection, the province is expected to grow at an average annual growth rate of 1.3%. During the same period, under the Medium Scenario population projection, the province is expected to grow at an average annual growth rate of 1.7%. In the High Scenario population projection, the province is expected to grow at an average annual growth rate of 2.3%. It is important to note that it assumed that the Calgary region will continue to experience faster growth than the rest of the province.

<sup>8</sup> 2015-2041 Treasury Board and Finance, Office of Statistics and Information - Demography.

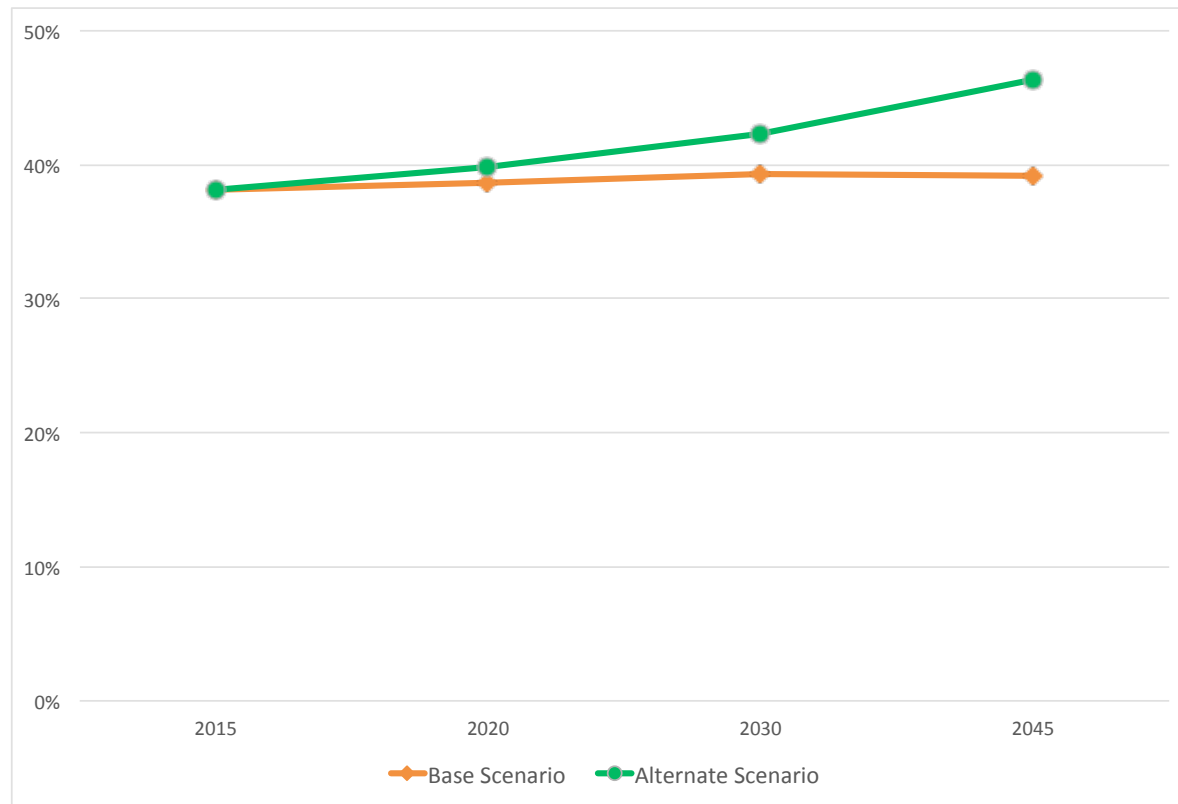
## CALGARY REGION POPULATION PROJECTIONS 2015-2041<sup>9</sup>



In 2015, it is estimated that the Calgary region has approximately 38.1 % of total employment in the province. This share of provincial employment has increased from 37.2 % in 2010, and will continue to increase over the forecast period. In the Base Scenario, between 2015 and 2045, the Calgary region share of provincial employment is expected to increase from 38.1 % to 39.1 %. In the Alternate Scenario, between 2015 and 2045, the Calgary region share of provincial employment is expected to increase from 38.1% to 46.3 %. In this analysis, the Base Scenario utilizes the Medium Scenario population projection for the Calgary region. The Alternate Scenario utilizes the High Scenario population projection for the Calgary region.

<sup>9</sup> 2015-2041 Treasury Board and Finance, Office of Statistics and Information - Demography.

## CALGARY REGION SHARE OF ALBERTA EMPLOYMENT

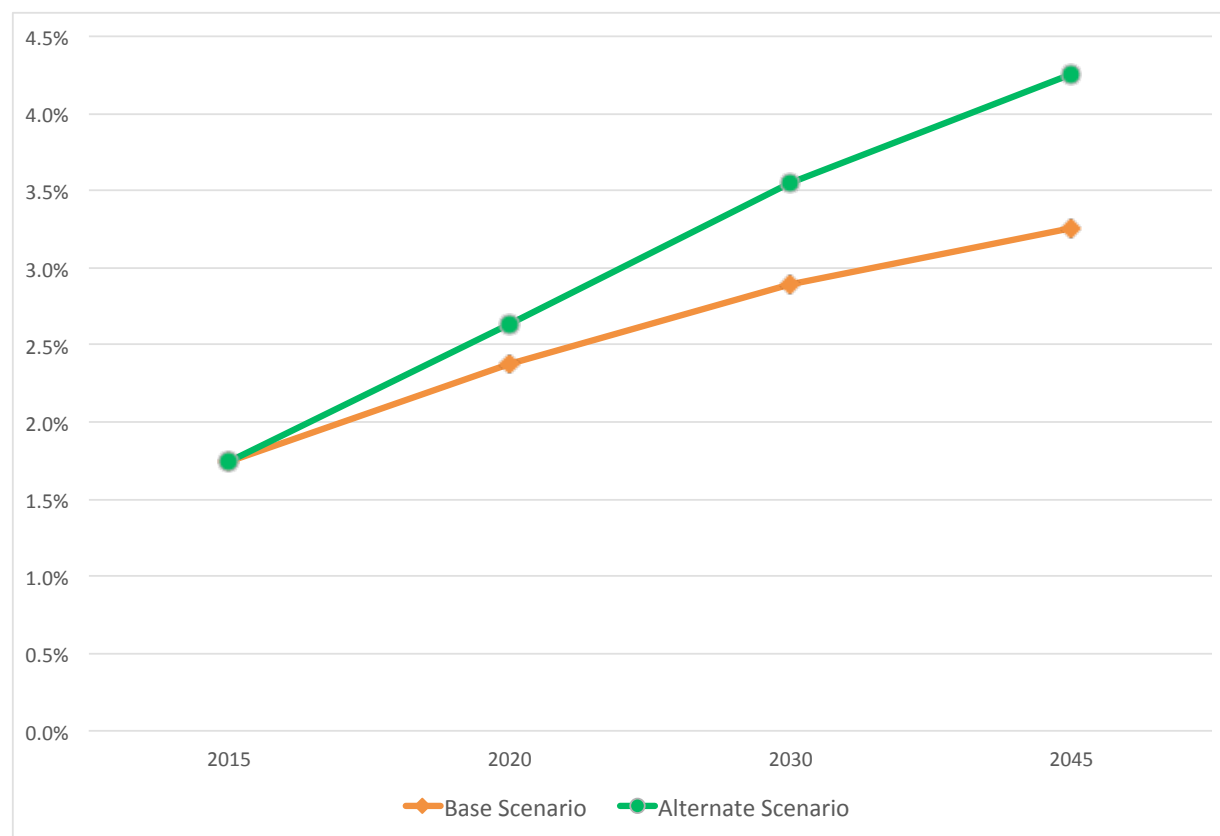


### AIRDRIE'S SHARE OF REGIONAL GROWTH

In 2015, it is estimated that the City of Airdrie has 15,261 jobs.<sup>10</sup> The City of Airdrie's share of Calgary region employment is expected to increase. In 2015, the City of Airdrie is estimated to comprise 1.7 % of Calgary region employment. In the Base Scenario, the City of Airdrie is projected to capture 3.3 % of Calgary region employment by 2045. In the Alternate Scenario, the City of Airdrie is projected to capture 4.4 % of Calgary region employment by 2045. Both scenarios reflect the City of Airdrie continuing to be a growth community in the region, capturing a larger share of regional employment opportunities.

<sup>10</sup> Appendix B: 2015 Estimate of Employment

## CITY OF AIRDRIE SHARE OF CALGARY REGION EMPLOYMENT



The City of Airdrie will continue to experience strong growth in the Calgary region. This is the result of various factors including:

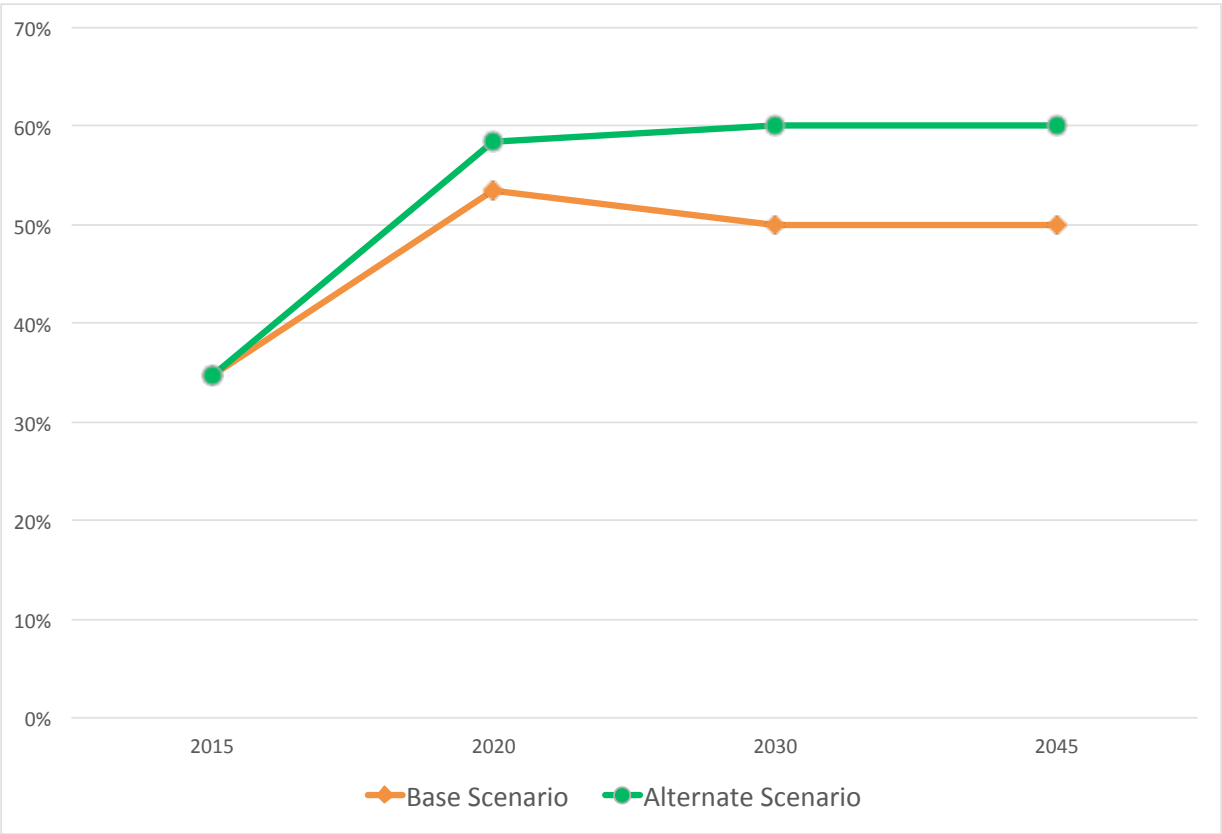
- Access to major transportation corridor, including the QEII and Calgary International Airport.
- Additional land available for industrial development within City of Airdrie.
- Strong industrial and manufacturing base.
- Expectations of continued success attracting businesses in manufacturing, transportation and logistics, professional scientific and technical services, and environmental industries.

Based on the projections of employment in the Calgary region and City of Airdrie, an estimate of the number of workers filling these jobs and choosing to reside in Airdrie is required to develop a projection of the net migration to the City. In 2015, it is estimated that approximately 35% of the total number of local jobs in the City are filled by residents of Airdrie.<sup>11</sup> It is expected that this rate will increase over the forecast period as Airdrie

<sup>11</sup> Statistics Canada 2011 Census.

continues to be a more attractive location to live in the region. In the Base Scenario, it is projected that by 2045, 50% of new jobs in Airdrie will be filled by workers choosing to live in the City of Airdrie. In the Alternate Scenario, it is projected that by 2045, 60% of new jobs in Airdrie will be filled by workers choosing to live in the City of Airdrie. It is expected that workers will continue to choose Airdrie as a place to live because of the diversity of affordable housing options, proximity to transportation corridors, community amenities, and continued strong economic base.

SHARE OF MIGRANTS LIVING AND WORKING IN AIRDRIE

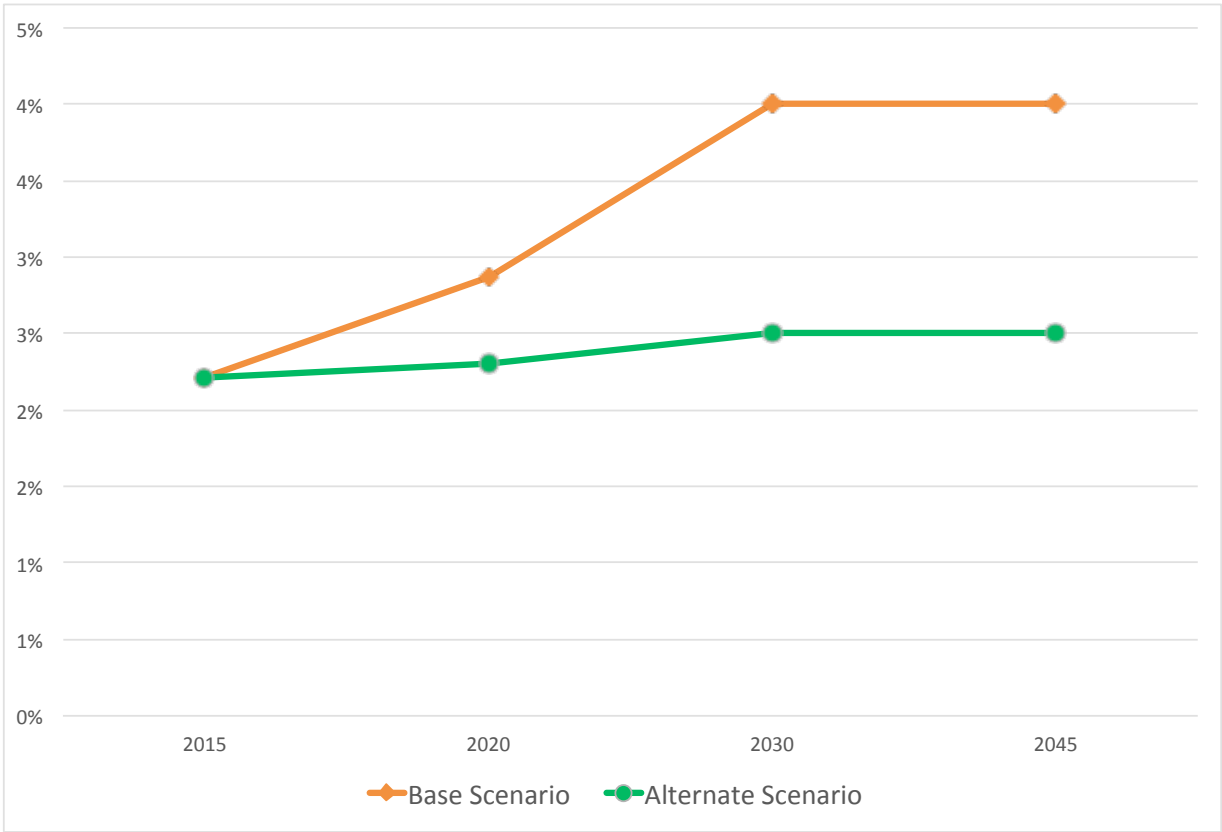


For other jobs in the Calgary region, in 2015 workers living in the City of Airdrie comprise 2.2% of the region total. It is projected that workers filling these regional jobs will continue to choose to live in Airdrie at a higher rate than at present. Over the 35 year forecast period, in the Base Scenario it is assumed that 4.0% of all new jobs in the Calgary region (outside of Airdrie) will be filled by workers choosing Airdrie as their place to live. The expectation is that more workers will choose Airdrie because of availability of affordable housing options in the Calgary region. In the Alternate Scenario, the rate of workers choosing to live in Airdrie has been more constrained as a result of the City's objective to



achieve a 25% non-residential tax assessment base.<sup>12</sup> Over the 35 year forecast period, in the Alternate Scenario it is assumed that 2.5% of all new jobs in the Calgary region (outside of Airdrie) will be filled by workers choosing Airdrie as their place to live.

SHARE OF MIGRANTS LIVING IN AIRDRIE AND WORKING ELSEWHERE IN THE REGION



HOUSEHOLD FORMATION (ADDITIONAL FAMILY MEMBERS)

Workers choosing to reside in the City of Airdrie also bring with them family members. Net migration to the City of Airdrie will include both workers and their families who choose Airdrie as their home. From the analysis presented above there is an estimate of the annual net migration to Airdrie. The next step in the analysis is to attach family members to each of these workers to generate an estimate of the total population attributed to the net migration to Airdrie.

<sup>12</sup> Airdrie City Plan: Municipal Development Plan for the City of Airdrie, 2014 (pg 33).

The Population and Employment Forecasting Model has been seeded with an age and gender distribution profile reflecting an average historical profile of net migrants to the City. This profile is applied to all net migrants to arrive at an age and gender distribution. The net migrants are added into the cohort survival component of the Population Forecasting Model that calculates births and advances the age of the population in each of the forecast years. Surviving members in each age cohort or age group proceed into successive age groups as the years advance in the forecast.

The following table shows the net migrant (additional household members along with the workers) age and gender distribution that would result with an increase of 1,000 people. The sum of the net migrants does not add exactly to 1,000 as a result of rounding.

## NET MIGRANT POPULATION AGE AND GENDER DISTRIBUTION FOR 1,000 PEOPLE

AGE	MALE	FEMALE
0 years	3	0
1 years	4	2
2 years	6	4
3 years	6	6
4 years	7	7
5 years	7	7
6 years	7	7
7 years	6	7
8 years	6	7
9 years	6	7
10 years	6	6
11 years	5	5
12 years	5	5
13 years	5	5
14 years	6	5
15 years	7	6
16 years	7	6
17 years	8	7
18 years	11	10
19 years	13	13
20 to 24 years	93	98
25 to 29 years	88	92
30 to 34 years	71	70
35 to 39 years	61	49
40 to 44 years	34	35
45 to 49 years	13	10
50 to 54 years	4	2
55 to 59 years	0	1
60 to 64 years	2	5
65 to 69 years	3	8
70 to 74 years	1	3
75 to 79 years	1	4
80 to 84 years	1	1
85 to 89 years	1	2
90+	0	1
Total	504	503

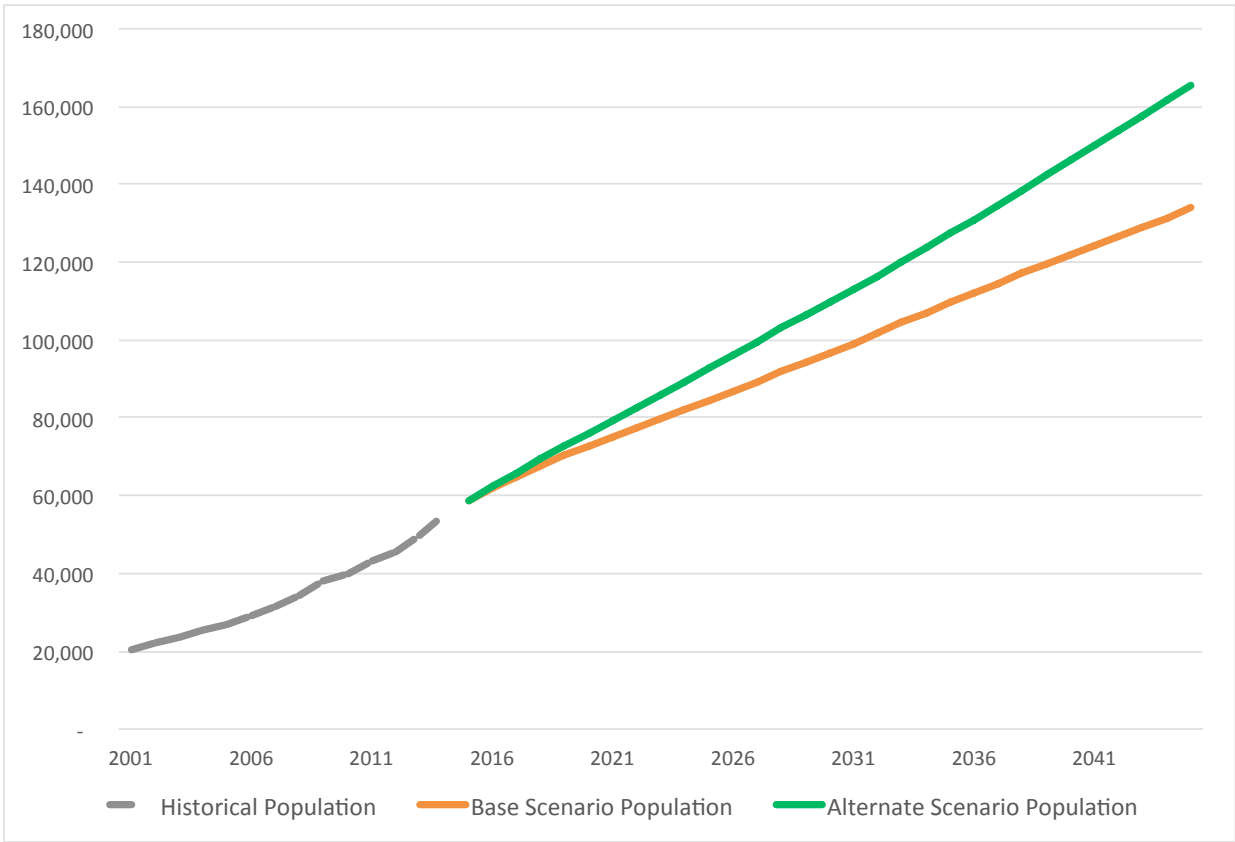
# Population and Employment Forecast Results

The following section provides a graphical summary of the population and employment for the City of Airdrie.

## POPULATION FORECASTS TO 2045

The following graph depicts the City of Airdrie population forecasts for 2015 to 2045. In the Base Scenario, the population in the City is projected to growth from 58,690 in 2015 to 134,111 in 2045. This represents an annual average growth rate of 2.8%. In the Alternate Scenario, the City of Airdrie population is projected to growth from 58,690 in 2015 to 165,534 in 2045. This represents an annual average growth rate of 3.5%. Appendix C provides a summary of the population forecast results.

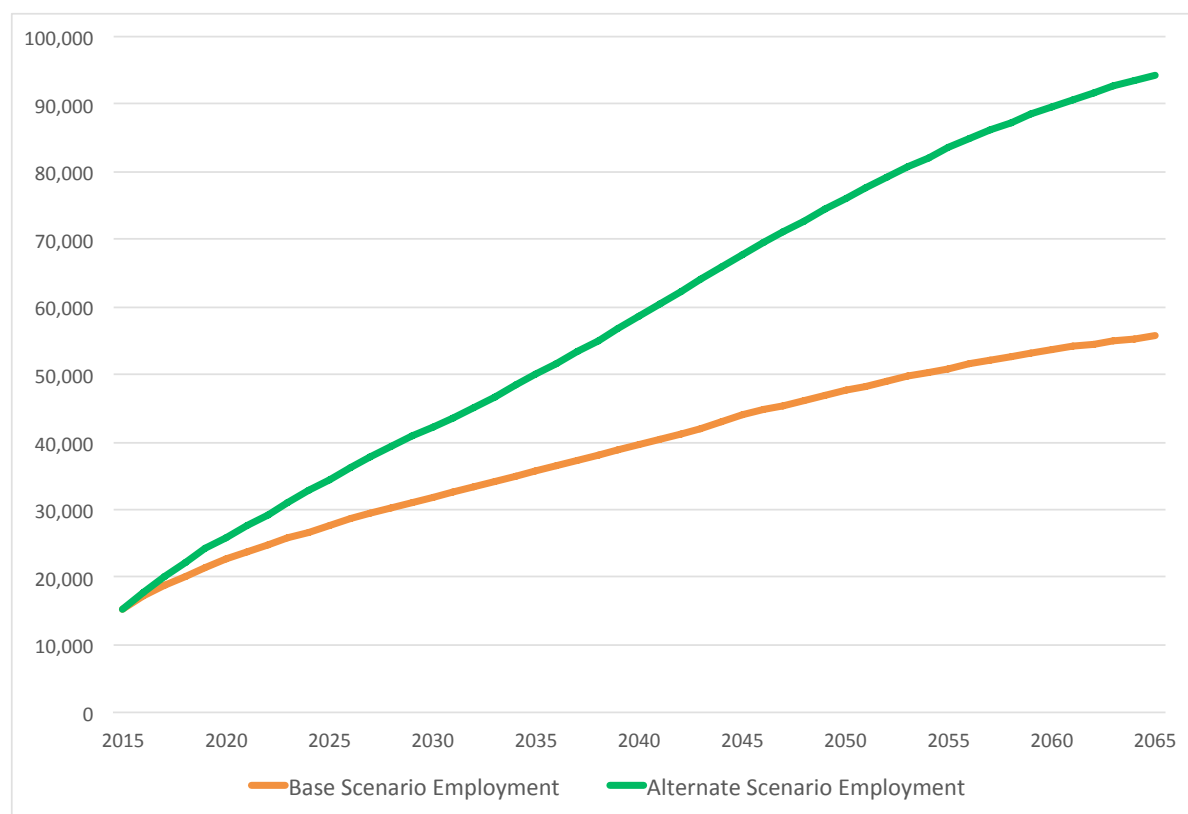
### CITY OF AIRDRIE POPULATION FORECASTS - 2015 TO 2045



## EMPLOYMENT FORECASTS TO 2045

The following graphs depict the City of Airdrie employment forecasts for 2015 to 2045. In the Base Scenario, the employment in the City is projected to grow from 15,261 in 2015 to 43,942 by 2045. This represents an annual average rate of employment growth of 3.6%. In the Alternate Scenario, the City of Airdrie employment is projected to grow from 15,261 in 2015 to 67,764 in 2045. This represents an annual average rate of employment growth of 5.1%. The Alternate Scenario includes expectations that the City of Airdrie will attract a greater number of employment opportunities and increase the non-residential tax base to align to the City's vision. Appendix D provides a summary of the employment forecast results.

### CITY OF AIRDRIE EMPLOYMENT FORECASTS - 2015 TO 2045



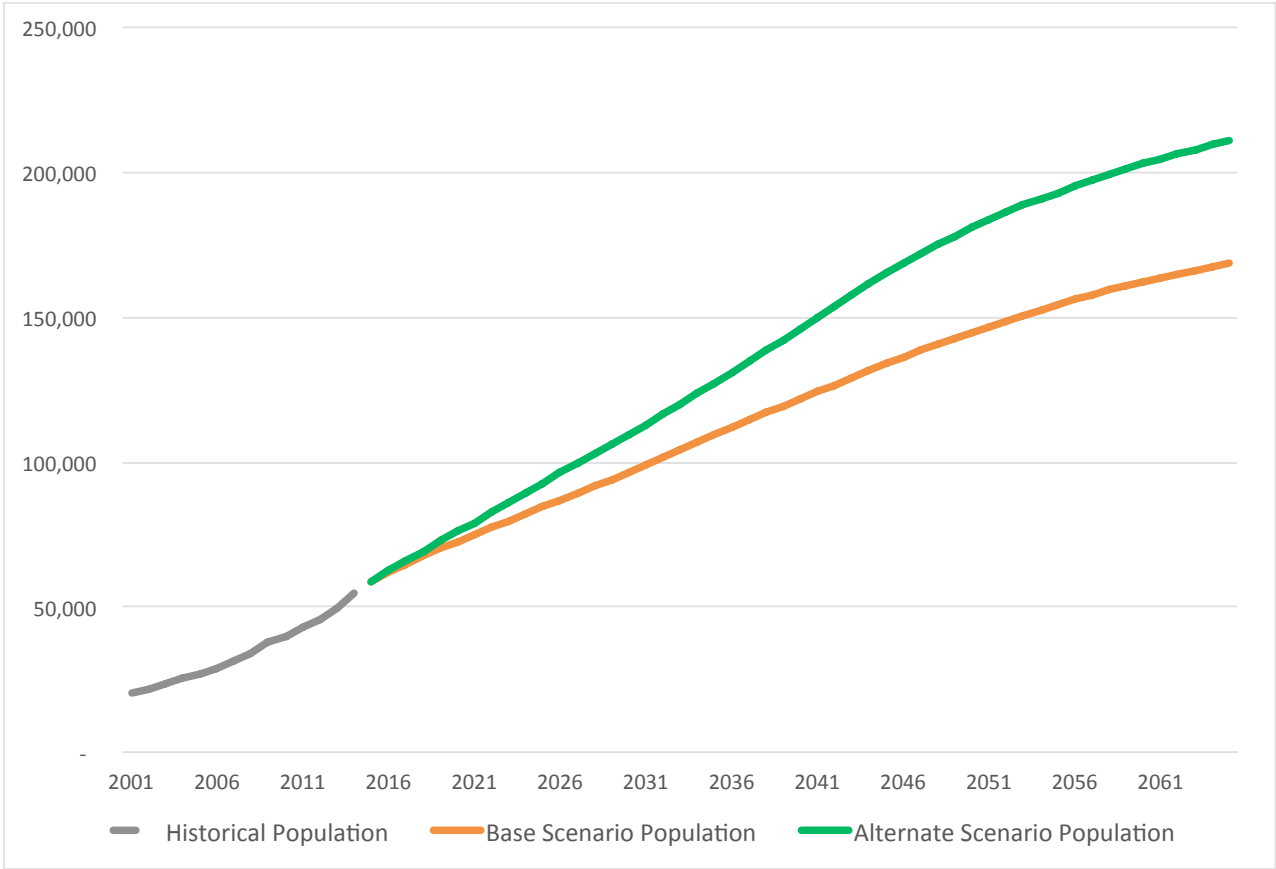
## Extending Forecasts to 2065

The population and employment forecasts for the City of Airdrie were extended to 2065 by trending the population and employment annual growth rates in the latter half of the 2015 to 2045 forecast period. The annual growth rate generated by this trend was then applied to the population and employment totals in the previous year to generate the forecasts extending out to 2065.

# POPULATION FORECASTS

In the Base Scenario, the population is projected to grow from 58,590 in 2015 to 168,468 by 2065. This represents an annual average growth rate of 2.1%. In the Alternate Scenario, the population is projected to grow from 58,590 in 2015 to 211,112 by 2065. This represents an annual average growth rate of 2.6%.

## CITY OF AIRDRIE POPULATION FORECASTS - 2015 TO 2065

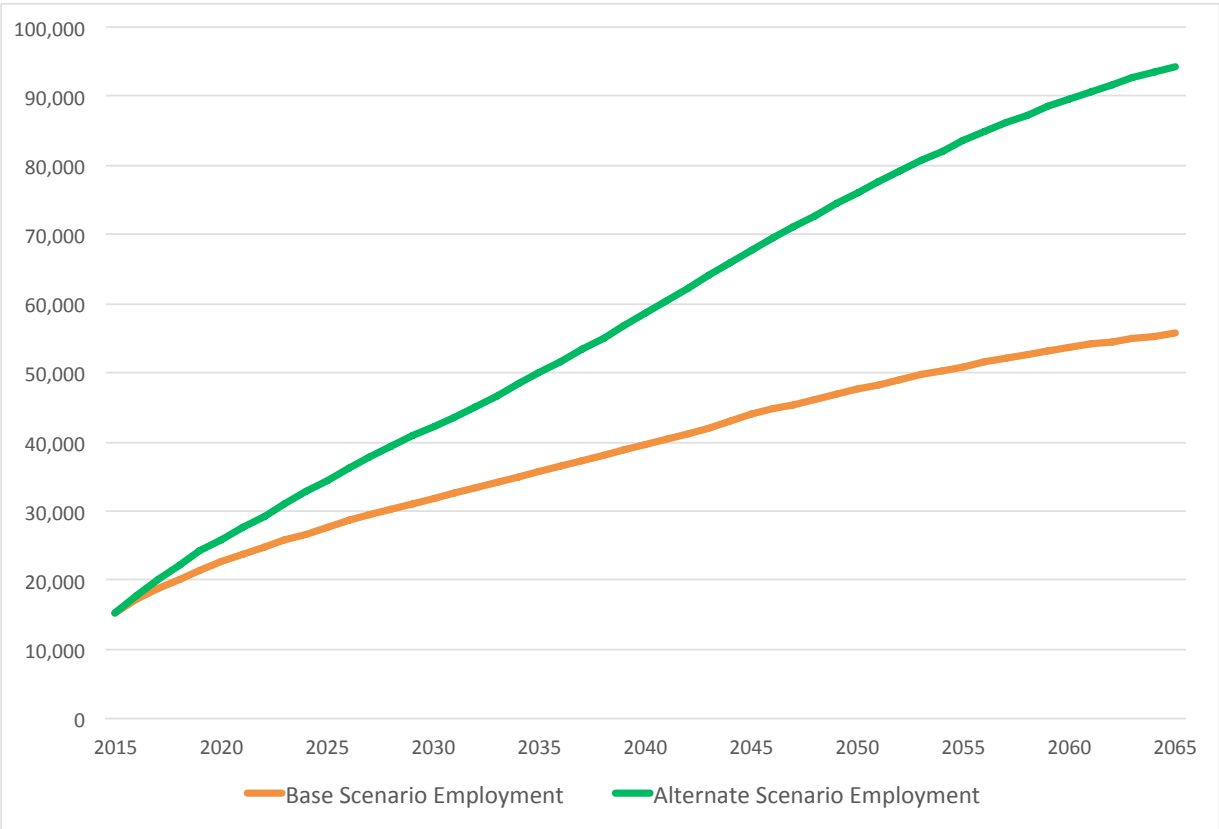


## EMPLOYMENT FORECASTS

In the Base Scenario, the employment is projected to grow from 15,261 in 2015 to 55,689 by 2065. This represents an annual average growth rate of 2.6%. In the Alternate Scenario, the employment is projected to grow from 15,261 in 2015 to 94,175 by 2065. This represents an annual average growth rate of 3.7%.

In the Alternate Scenario population forecast, the City of Airdrie is assumed to be achieving its vision of a 25% non-residential tax assessment, by taking on a larger role hosting non-residential.

### CITY OF AIRDRIE EMPLOYMENT FORECASTS - 2015 TO 2065





# Tax Assessment Base

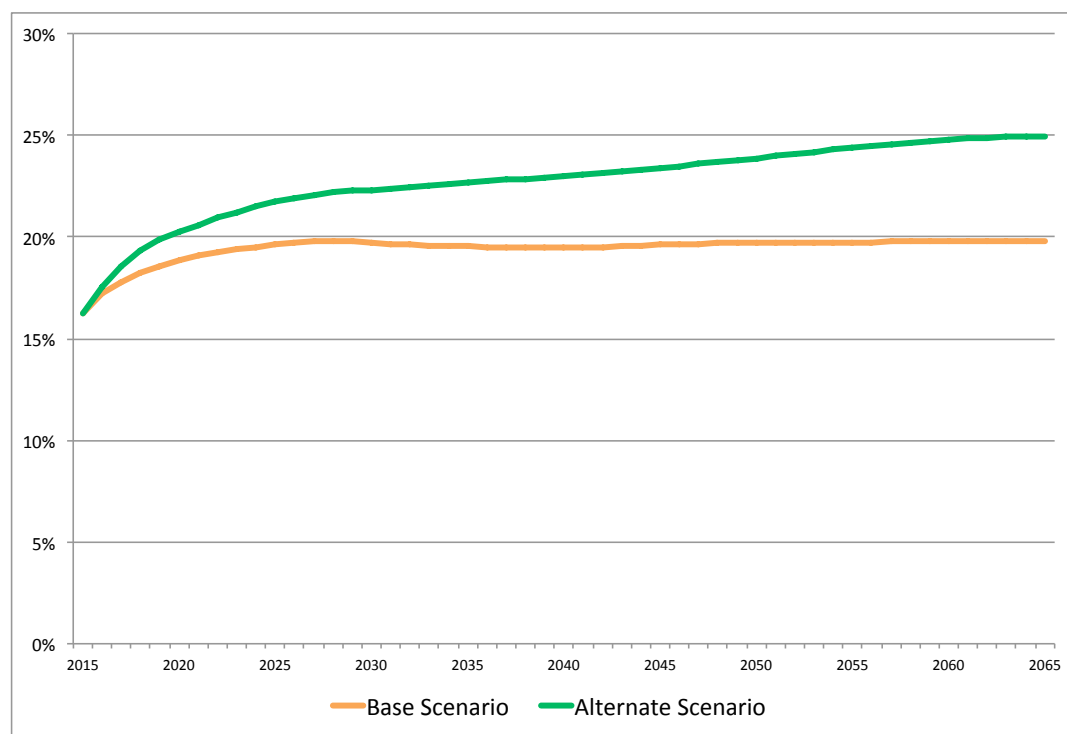
Currently, the City of Airdrie has a tax base that is comprised of 84% of residential assessment and 16% of non-residential assessment. Assuming that the amount of assessment per resident (residential assessment) and worker (non-residential assessment) does not change over the forecast period, the current balance of residential/non-residential assessment is expected to improve by 2065.

In the Base Scenario, by 2065 the tax base is expected to comprise of 80% residential assessment and 20% non-residential assessment. In the City's Municipal Development Plan they have identified a vision for the tax assessment split as follows:

*"Non-residential and residential lands in the city shall be developed in a manner that works toward an assessment split of 75% residential and 25% non-residential".<sup>13</sup>*

In this analysis, the Alternate Scenario represents a higher level of growth in the City and the surrounding Calgary region. This scenario demonstrates growth that could be achieved if the City could reach its vision of 25% non-residential tax base.

## CITY OF AIRDRIE NON-RESIDENTIAL ASSESSMENT - 2015 TO 2065



<sup>13</sup> Airdrie City Plan: Municipal Development Plan for the City of Airdrie 2014.

# Appendixes

## APPENDIX A: FERTILITY / MORTALITY RATES

**TABLE A.1: HISTORICAL AGE SPECIFIC FERTILITY RATES FOR CALGARY REGION(R3)<sup>14</sup>**

Mother's Age	Fertility Rate/1,000 Population										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
15to19	1.1%	1.1%	1.1%	1.3%	1.3%	1.2%	1.1%	1.0%	0.9%	0.8%	0.7%
20to24	5.0%	4.8%	4.9%	5.1%	5.0%	4.7%	4.4%	4.1%	3.9%	3.7%	3.5%
25to29	9.5%	9.5%	9.7%	10.0%	9.9%	9.6%	9.2%	8.9%	8.8%	8.4%	8.5%
30to34	10.8%	11.2%	11.4%	11.9%	12.3%	11.9%	11.3%	11.4%	11.2%	11.2%	11.3%
35to39	4.9%	5.4%	5.6%	6.0%	6.3%	6.3%	6.3%	6.1%	6.2%	6.1%	6.5%
40to44	0.8%	0.9%	0.9%	1.0%	1.1%	1.2%	1.4%	1.4%	1.3%	1.3%	1.3%
45to49	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

**TABLE A.2: HISTORICAL AGE SPECIFIC FERTILITY RATES FOR ALBERTA<sup>15</sup>**

Mother's Age	Fertility Rate/1,000 Population										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
15to19	1.8%	1.8%	1.9%	2.0%	2.0%	1.9%	1.8%	1.7%	1.6%	1.5%	1.4%
20to24	6.6%	6.5%	6.7%	6.8%	6.7%	6.4%	6.0%	5.8%	5.7%	5.5%	5.3%
25to29	11.0%	10.9%	11.2%	11.7%	11.5%	11.2%	10.7%	10.5%	10.4%	10.1%	10.2%
30to34	10.2%	10.3%	10.7%	11.2%	11.5%	11.3%	10.9%	11.0%	10.9%	10.8%	11.0%
35to39	4.2%	4.4%	4.7%	5.1%	5.2%	5.3%	5.4%	5.3%	5.5%	5.4%	5.7%
40to44	0.7%	0.7%	0.7%	0.9%	0.9%	1.0%	1.1%	1.1%	1.1%	1.1%	1.1%
45to49	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%

<sup>14</sup> Alberta Health Interactive Health Data Application Team, Demographic Indicator - Age-Specific Fertility Rates - Sub-Provincial. 2015<sup>15</sup> Alberta Health Interactive Health Data Application Team, Demographic Indicator - Age-Specific Fertility Rates - Provincial. 2015

**TABLE A.3: MALE AGE SPECIFIC MORTALITY RATES FOR CALGARY ECONOMIC REGION<sup>16</sup>**

Age	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0 to 4 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5 to 9 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10 to 14 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15 to 19 years	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
20 to 24 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
25 to 29 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
30 to 34 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
35 to 39 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
40 to 44 years	0.2%	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
45 to 49 years	0.2%	0.2%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
50 to 54 years	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%	0.4%	0.4%	0.4%	0.4%
55 to 59 years	0.6%	0.6%	0.6%	0.6%	0.5%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%
60 to 64 years	0.9%	0.9%	0.8%	0.8%	0.9%	0.9%	0.9%	0.8%	0.8%	0.8%	0.9%
65 to 69 years	1.6%	1.6%	1.6%	1.5%	1.4%	1.4%	1.3%	1.3%	1.3%	1.2%	1.6%
70 to 74 years	2.5%	2.5%	2.5%	2.2%	2.3%	2.4%	2.1%	2.1%	2.1%	2.0%	2.5%
75 to 79 years	4.3%	4.0%	4.3%	3.9%	4.1%	3.7%	3.8%	3.7%	3.7%	3.7%	4.3%
80 to 84 years	7.4%	6.9%	6.8%	7.2%	6.3%	6.6%	6.2%	6.1%	6.0%	6.0%	7.4%
85+	34.5%	32.2%	36.6%	36.5%	34.9%	33.9%	34.4%	31.4%	31.6%	31.6%	34.5%

<sup>16</sup> Data on deaths was gathered from Table 051-0060 Components of population growth by economic region, sex and age group for the period from July 1 to June 30, based on the Standard Geographical Classification (SGC) 2011. The mortality rates were calculated using the death data and the associated population data for the same geography from Table 051-0059 Estimates of population by economic region, sex and age group for July 1, based on the Standard Geographical Classification (SGC) 2011.

**TABLE A.4: FEMALE AGE SPECIFIC MORTALITY RATES FOR CALGARY ECONOMIC REGION<sup>17</sup>**

Age	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0 to 4 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5 to 9 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10 to 14 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15 to 19 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
20 to 24 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
25 to 29 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
30 to 34 years	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
35 to 39 years	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%
40 to 44 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
45 to 49 years	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
50 to 54 years	0.3%	0.3%	0.3%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%
55 to 59 years	0.3%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
60 to 64 years	0.7%	0.7%	0.7%	0.5%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.7%
65 to 69 years	1.0%	1.1%	1.0%	0.9%	1.0%	0.9%	1.0%	0.9%	0.9%	0.9%	1.0%
70 to 74 years	1.7%	1.8%	1.8%	1.6%	1.5%	1.4%	1.5%	1.4%	1.4%	1.4%	1.7%
75 to 79 years	2.7%	2.7%	2.9%	2.7%	2.6%	2.8%	2.5%	2.5%	2.5%	2.5%	2.7%
80 to 84 years	4.9%	4.7%	5.1%	5.0%	5.0%	4.3%	4.7%	4.5%	4.5%	4.5%	4.9%
85+	27.9%	26.1%	26.7%	27.5%	26.3%	26.9%	25.8%	24.9%	24.8%	24.9%	27.9%

<sup>17</sup> Data on deaths was gathered from Table 051-0060 Components of population growth by economic region, sex and age group for the period from July 1 to June 30, based on the Standard Geographical Classification (SGC) 2011. The mortality rates were calculated using the death data and the associated population data for the same geography from Table 051-0059 Estimates of population by economic region, sex and age group for July 1, based on the Standard Geographical Classification (SGC) 2011.

TABLE A.5: MALE AGE SPECIFIC MORTALITY RATES FOR ALBERTA<sup>18</sup>

Age	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0 to 4 years	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%
5 to 9 years	0.1%	0.1%	0.1%	0.1%	0%	0.1%	0%	0%	0%	0%	0%
10 to 14 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
15 to 19 years	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
20 to 24 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
25 to 29 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
30 to 34 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
35 to 39 years	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
40 to 44 years	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
45 to 49 years	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%	0.3%	0.3%
50 to 54 years	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
55 to 59 years	0.7%	0.7%	0.6%	0.6%	0.7%	0.6%	0.6%	0.7%	0.6%	0.6%	0.6%
60 to 64 years	1%	1%	1%	0.9%	0.9%	1%	0.9%	1%	1%	0.9%	0.9%
65 to 69 years	1.8%	1.7%	1.7%	1.7%	1.6%	1.5%	1.6%	1.4%	1.4%	1.4%	1.4%
70 to 74 years	2.8%	2.8%	2.7%	2.7%	2.6%	2.7%	2.5%	2.5%	2.4%	2.4%	2.4%
75 to 79 years	4.3%	4.5%	4.4%	4.2%	4.3%	4.3%	4.2%	3.9%	3.9%	3.9%	3.9%
80 to 84 years	7.2%	7.7%	7.3%	7%	7%	6.9%	6.8%	6.7%	6.6%	6.7%	6.8%
85+	15.7%	15.1%	14.5%	14.2%	14.5%	14.5%	13.8%	14.2%	12.9%	12.9%	13.1%

<sup>18</sup> Data on deaths was gathered from Table 051-0060 Components of population growth by economic region, sex and age group for the period from July 1 to June 30, based on the Standard Geographical Classification (SGC) 2011. The mortality rates were calculated using the death data and the associated population data for the same geography from Table 051-0059 Estimates of population by economic region, sex and age group for July 1, based on the Standard Geographical Classification (SGC) 2011.

TABLE A.6: FEMALE AGE SPECIFIC MORTALITY RATES FOR ALBERTA<sup>19</sup>

Age	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0 to 4 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%
5 to 9 years	0%	0.1%	0.1%	0%	0.1%	0%	0.1%	0.1%	0.1%	0.1%	0.1%
10 to 14 years	0%	0.1%	0.1%	0.1%	0.1%	0.1%	0%	0.1%	0.1%	0.1%	0.1%
15 to 19 years	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
20 to 24 years	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
25 to 29 years	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30 to 34 years	0.1%	0.1%	0.1%	0%	0.1%	0.1%	0%	0.1%	0%	0%	0%
35 to 39 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
40 to 44 years	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
45 to 49 years	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
50 to 54 years	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%
55 to 59 years	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%
60 to 64 years	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
65 to 69 years	1.1%	1.1%	1.1%	1%	1%	1%	1%	1%	0.9%	0.9%	0.9%
70 to 74 years	1.8%	1.7%	1.8%	1.7%	1.7%	1.6%	1.6%	1.7%	1.6%	1.6%	1.6%
75 to 79 years	3%	2.8%	2.8%	2.7%	2.8%	2.8%	2.7%	2.5%	2.5%	2.5%	2.5%
80 to 84 years	5.1%	4.9%	4.8%	4.8%	4.8%	4.7%	4.5%	4.6%	4.5%	4.5%	4.6%
85+	12.8%	11.8%	11.6%	11.7%	11.9%	11.7%	11.6%	11.3%	11.3%	11.3%	11.5%

<sup>19</sup> Data on deaths was gathered from Table 051-0060 Components of population growth by economic region, sex and age group for the period from July 1 to June 30, based on the Standard Geographical Classification (SGC) 2011. The mortality rates were calculated using the death data and the associated population data for the same geography from Table 051-0059 Estimates of population by economic region, sex and age group for July 1, based on the Standard Geographical Classification (SGC) 2011.



## APPENDIX B: 2015 EMPLOYMENT ESTIMATE

Base year employment for the City of Airdrie was estimated based on 2012 employment from the Master Transportation Plan Update. In 2012, the City of Airdrie was assumed to have 13,997 jobs.<sup>20</sup> The jobs within Airdrie comprise 1.7 % of total employment in the Calgary region (CD6).<sup>21</sup>

In 2015, the Calgary region was projected to have 876,618 jobs. It has been assumed that the City of Airdrie would continue to comprise 1.7 % of the total employment in the Calgary Region. In 2015, it has been estimated that the City of Airdrie has 15,261 jobs.

### 2015 ESTIMATE OF EMPLOYMENT IN THE CITY OF AIRDRIE

	2012	2015
Calgary Region Employment	804,033	876,618
Airdrie Share of Calgary Region Employment	1.7%	1.7%
Airdrie Employment	13,997	15,261

<sup>20</sup> 2012 City of Airdrie Master Transportation Plan Update.

<sup>21</sup> 2015-2041 Treasury Board and Finance, Office of Statistics and Information - Demography.

## APPENDIX C: POPULATION FORECAST SUMMARY

Year	Population Forecast		Average Annual Population Growth	
	Base Scenario	Alternate Scenario	Base Scenario	Alternate Scenario
2010	39,822	39,822	4.5%	4.5%
2011	43,155	43,155	8.4%	8.4%
2012	45,711	45,711	5.9%	5.9%
2013	49,560	49,560	8.4%	8.4%
2014	54,891	54,891	10.8%	10.8%
2015	58,690	58,690	6.9%	6.9%
2016	61,967	62,328	5.6%	6.2%
2017	64,921	65,911	4.8%	5.7%
2018	67,649	69,421	4.2%	5.3%
2019	70,233	72,793	3.8%	4.9%
2020	72,646	76,014	3.4%	4.4%
2021	75,036	79,231	3.3%	4.2%
2022	77,381	82,530	3.1%	4.2%
2023	79,736	85,881	3.0%	4.1%
2024	82,104	89,343	3.0%	4.0%
2025	84,528	92,769	3.0%	3.8%
2026	86,899	96,201	2.8%	3.7%
2027	89,300	99,671	2.8%	3.6%
2028	91,730	103,013	2.7%	3.4%
2029	94,160	106,341	2.6%	3.2%
2030	96,626	109,622	2.6%	3.1%
2031	99,176	112,978	2.6%	3.1%
2032	101,770	116,452	2.6%	3.1%
2033	104,385	119,998	2.6%	3.0%
2034	106,983	123,639	2.5%	3.0%
2035	109,574	127,307	2.4%	3.0%
2036	112,112	130,978	2.3%	2.9%
2037	114,593	134,721	2.2%	2.9%
2038	117,054	138,505	2.1%	2.8%
2039	119,493	142,316	2.1%	2.8%
2040	121,879	146,130	2.0%	2.7%
2041	124,223	149,937	1.9%	2.6%
2042	126,574	153,804	1.9%	2.6%
2043	129,000	157,687	1.9%	2.5%
2044	131,521	161,594	2.0%	2.5%
2045	134,111	165,534	2.0%	2.4%

## APPENDIX D: EMPLOYMENT FORECAST SUMMARY<sup>22</sup>

Year	Alberta Employment	Calgary Region Share of AB Emp		Calgary Region Employment		Airdrie Share of Calgary Region		City of Airdrie Jobs	
		Base	Alternate	Base	Alternate	Base	Alternate	Base	Alternate
2010	2,065,807	37.2%	37.2%	767,581	767,581				
2011	2,094,621	37.2%	37.2%	779,805	779,805				
2012	2,145,660	37.5%	37.5%	804,033	804,033				
2013	2,208,463	37.7%	37.7%	832,190	832,190				
2014	2,268,654	37.9%	37.9%	859,718	859,718				
2015	2,303,550	38.1%	38.3%	876,618	882,596	1.7%	1.7%	15,261	15,261
2016	2,330,786	38.2%	38.6%	890,322	899,970	1.9%	2.0%	17,272	17,819
2017	2,357,750	38.3%	38.9%	903,521	917,055	2.1%	2.2%	18,793	20,175
2018	2,388,831	38.4%	39.2%	918,495	936,866	2.2%	2.4%	20,207	22,297
2019	2,422,361	38.6%	39.6%	934,543	958,578	2.3%	2.5%	21,494	24,156
2020	2,455,013	38.7%	39.9%	949,796	979,389	2.4%	2.6%	22,605	25,856
2021	2,486,434	38.8%	40.2%	964,043	998,790	2.5%	2.8%	23,715	27,567
2022	2,518,612	38.8%	40.4%	978,303	1,018,095	2.5%	2.9%	24,751	29,321
2023	2,552,308	38.9%	40.7%	993,316	1,038,363	2.6%	3.0%	25,727	31,047
2024	2,586,591	39.0%	40.9%	1,008,548	1,058,950	2.6%	3.1%	26,676	32,827
2025	2,620,623	39.1%	41.2%	1,023,444	1,079,336	2.7%	3.2%	27,684	34,539
2026	2,654,324	39.1%	41.4%	1,038,250	1,099,776	2.8%	3.3%	28,604	36,183
2027	2,689,438	39.2%	41.7%	1,053,450	1,120,730	2.8%	3.4%	29,497	37,881
2028	2,725,590	39.2%	41.9%	1,068,946	1,142,159	2.8%	3.4%	30,358	39,404
2029	2,763,613	39.3%	42.1%	1,084,909	1,164,203	2.9%	3.5%	31,137	40,864
2030	2,804,215	39.3%	42.4%	1,101,749	1,188,041	2.9%	3.5%	31,841	42,175
2031	2,847,066	39.3%	42.6%	1,119,347	1,213,392	2.9%	3.6%	32,573	43,642
2032	2,891,174	39.3%	42.9%	1,137,251	1,239,810	2.9%	3.6%	33,321	45,170
2033	2,935,236	39.3%	43.2%	1,154,858	1,266,685	3.0%	3.7%	34,109	46,741
2034	2,978,662	39.4%	43.5%	1,172,126	1,294,302	3.0%	3.7%	34,894	48,364
2035	3,021,368	39.4%	43.7%	1,189,099	1,321,662	3.0%	3.8%	35,679	50,003
2036	3,062,877	39.4%	44.0%	1,205,397	1,348,598	3.0%	3.8%	36,451	51,651
2037	3,104,971	39.4%	44.3%	1,221,938	1,376,043	3.0%	3.9%	37,239	53,345
2038	3,146,701	39.4%	44.6%	1,238,402	1,403,631	3.1%	3.9%	38,031	55,069
2039	3,187,820	39.4%	44.9%	1,254,638	1,431,174	3.1%	4.0%	38,825	56,818
2040	3,227,801	39.4%	45.2%	1,270,319	1,458,414	3.1%	4.0%	39,609	58,580
2041	3,266,379	39.4%	45.5%	1,285,474	1,485,235	3.1%	4.1%	40,383	60,350
2042	3,309,844	39.3%	45.7%	1,300,811	1,512,550	3.2%	4.1%	41,171	62,166
2043	3,353,886	39.2%	45.9%	1,316,330	1,539,776	3.2%	4.2%	42,057	64,003
2044	3,398,513	39.2%	46.1%	1,332,034	1,567,030	3.2%	4.2%	42,958	65,867
2045	3,443,732	39.1%	46.3%	1,347,926	1,594,453	3.3%	4.2%	43,942	67,764

<sup>22</sup> Alberta and CD6 employment projections are derived from population projections based on Statistics Canada and Alberta Treasury Board and Finance 2015-2041 medium and high scenario projections.

## Appendix B

### *Population Projections (2015-2065)*

Appendix B - Population Projections (2015 - 2065)

	BASE SCENARIO POPULATION PROJECTION						ALTERNATE SCENARIO POPULATION PROJECTION					
	Population	Annual Growth	Annual Growth %	Average Growth % (10 year)	Avg Annual Growth Rate 2015 - 2045; and 2015 - 2065	Cumulative Growth	Population	Annual Growth	Annual Growth %	Annual Growth Average % (10 year)	Avg Annual Growth Rate 2015 - 2045; and 2046 - 2065	Cumulative Growth
2015	58,690						58,690					
2016	61,967	3,277	5.6%			3,277	62,328	3,638	6.2%			3,638
2017	64,921	2,954	4.8%			6,231	65,911	3,583	5.7%			7,221
2018	67,649	2,728	4.2%			8,959	69,421	3,510	5.3%			10,731
2019	70,233	2,584	3.8%			11,543	72,793	3,372	4.9%			14,103
2020	72,646	2,413	3.4%			13,956	76,014	3,221	4.4%			17,324
2021	75,036	2,390	3.3%			16,346	79,231	3,218	4.2%			20,541
2022	77,381	2,345	3.1%			18,691	82,530	3,299	4.2%			23,840
2023	79,736	2,355	3.0%			21,046	85,881	3,351	4.1%			27,191
2024	82,104	2,368	3.0%			23,414	89,343	3,462	4.0%			30,653
2025	84,528	2,424	3.0%	3.7%		25,838	92,769	3,426	3.8%	4.7%		34,079
2026	86,899	2,371	2.8%			28,209	96,201	3,432	3.7%			37,511
2027	89,300	2,401	2.8%			30,610	99,671	3,469	3.6%			40,981
2028	91,730	2,431	2.7%			33,040	103,013	3,342	3.4%			44,323
2029	94,160	2,430	2.6%			35,470	106,341	3,329	3.2%			47,651
2030	96,626	2,465	2.6%			37,936	109,622	3,280	3.1%			50,932
2031	99,176	2,550	2.6%			40,486	112,978	3,356	3.1%			54,288
2032	101,770	2,594	2.6%			43,080	116,452	3,473	3.1%			57,762
2033	104,385	2,615	2.6%			45,695	119,998	3,546	3.0%			61,308
2034	106,983	2,598	2.5%			48,293	123,639	3,641	3.0%			64,949
2035	109,574	2,591	2.4%	2.6%		50,884	127,307	3,668	3.0%	3.2%		68,617
2036	112,112	2,537	2.3%			53,422	130,978	3,671	2.9%			72,288
2037	114,593	2,481	2.2%			55,903	134,721	3,742	2.9%			76,031
2038	117,054	2,461	2.1%			58,364	138,505	3,785	2.8%			79,815
2039	119,493	2,439	2.1%			60,803	142,316	3,811	2.8%			83,626
2040	121,879	2,385	2.0%			63,189	146,130	3,814	2.7%			87,440
2041	124,223	2,344	1.9%			65,533	149,937	3,806	2.6%			91,247
2042	126,574	2,351	1.9%			67,884	153,804	3,868	2.6%			95,114
2043	129,000	2,426	1.9%			70,310	157,687	3,883	2.5%			98,997
2044	131,521	2,521	2.0%			72,831	161,594	3,906	2.5%			102,904
2045	134,111	2,590	2.0%	2.0%	2.8%	75,421	165,534	3,941	2.4%	2.7%	3.5%	106,844
2046	136,321	2,209	1.6%			77,631	168,736	3,202	1.9%			110,046
2047	138,495	2,174	1.6%			79,805	171,942	3,206	1.9%			113,252
2048	140,630	2,136	1.5%			81,940	175,037	3,095	1.8%			116,347
2049	142,725	2,095	1.5%			84,035	178,013	2,976	1.7%			119,323
2050	144,776	2,051	1.4%			86,086	180,861	2,848	1.6%			122,171
2051	146,780	2,004	1.4%			88,090	183,574	2,713	1.5%			124,884
2052	148,734	1,954	1.3%			90,044	186,144	2,570	1.4%			127,454
2053	150,636	1,902	1.3%			91,946	188,564	2,420	1.3%			129,874
2054	152,484	1,847	1.2%			93,794	190,826	2,263	1.2%			132,136
2055	154,273	1,790	1.2%	1.4%		95,583	193,021	2,195	1.2%	1.5%		134,331
2056	156,003	1,729	1.1%			97,313	195,144	2,123	1.1%			136,454
2057	157,670	1,667	1.1%			98,980	197,193	2,049	1.0%			138,503
2058	159,271	1,602	1.0%			100,581	199,165	1,972	1.0%			140,475
2059	160,805	1,534	1.0%			102,115	201,057	1,892	1.0%			142,367
2060	162,269	1,464	0.9%			103,579	202,867	1,810	0.9%			144,177
2061	163,662	1,392	0.9%			104,972	204,591	1,724	0.8%			145,901
2062	164,979	1,318	0.8%			106,289	206,279	1,688	0.8%			147,589
2063	166,221	1,242	0.8%			107,531	207,929	1,650	0.8%			149,239
2064	167,385	1,164	0.7%			108,695	209,541	1,611	0.8%			150,851
2065	168,468	1,084	0.6%	0.9%	2.1%	109,778	211,112	1,572	0.8%	0.9%	2.6%	152,422

## Appendix C

### *Employment Projections (2015-2065)*

# Appendix C - Employment Projections (2015 - 2065)

	BASE SCENARIO EMPLOYMENT PROJECTIONS						ALTERNATE SCENARIO EMPLOYMENT PROJECTIONS					
	Jobs	Annual Job Growth	Annual Growth %	Average Growth % (10 year)	Avg Annual Growth Rate 2015 - 2045; and 2046 - 2065	Cumulative Jobs Growth	Jobs	Annual Job Growth	Annual Growth %	Average Growth % (10 year)	Avg Annual Growth Rate 2015 - 2045; and 2046 - 2065	Cumulative Jobs Growth
2015	15,261						15,261					
2016	17,272	2,012	13.2%			2,012	17,819	2,559	16.8%			2,559
2017	18,793	1,521	8.8%			3,533	20,175	2,356	13.2%			4,915
2018	20,207	1,414	7.5%			4,946	22,297	2,122	10.5%			7,037
2019	21,494	1,288	6.4%			6,234	24,156	1,859	8.3%			8,896
2020	22,605	1,111	5.2%			7,345	25,856	1,700	7.0%			10,595
2021	23,715	1,110	4.9%			8,455	27,567	1,711	6.6%			12,306
2022	24,751	1,036	4.4%			9,490	29,321	1,755	6.4%			14,061
2023	25,727	976	3.9%			10,466	31,047	1,726	5.9%			15,786
2024	26,676	949	3.7%			11,415	32,827	1,780	5.7%			17,567
2025	27,684	1,008	3.8%	6.2%		12,424	34,539	1,711	5.2%	8.6%		19,278
2026	28,604	920	3.3%			13,343	36,183	1,644	4.8%			20,922
2027	29,497	893	3.1%			14,236	37,881	1,698	4.7%			22,620
2028	30,358	861	2.9%			15,097	39,404	1,524	4.0%			24,144
2029	31,137	779	2.6%			15,876	40,864	1,459	3.7%			25,603
2030	31,841	704	2.3%			16,580	42,175	1,312	3.2%			26,915
2031	32,573	732	2.3%			17,312	43,642	1,466	3.5%			28,381
2032	33,321	748	2.3%			18,061	45,170	1,529	3.5%			29,910
2033	34,109	787	2.4%			18,848	46,741	1,570	3.5%			31,480
2034	34,894	785	2.3%			19,634	48,364	1,623	3.5%			33,103
2035	35,679	785	2.2%	2.6%		20,418	50,003	1,639	3.4%	3.8%		34,742
2036	36,451	772	2.2%			21,191	51,651	1,648	3.3%			36,391
2037	37,239	787	2.2%			21,978	53,345	1,693	3.3%			38,084
2038	38,031	793	2.1%			22,771	55,069	1,725	3.2%			39,809
2039	38,825	793	2.1%			23,564	56,818	1,748	3.2%			41,557
2040	39,609	784	2.0%			24,348	58,580	1,762	3.1%			43,319
2041	40,383	775	2.0%			25,123	60,350	1,770	3.0%			45,089
2042	41,171	787	2.0%			25,910	62,166	1,816	3.0%			46,905
2043	42,057	886	2.2%			26,796	64,003	1,838	3.0%			48,743
2044	42,958	901	2.1%			27,698	65,867	1,864	2.9%			50,607
2045	43,942	984	2.3%	2.1%	3.6%	28,682	67,764	1,897	2.9%	3.1%	5.1%	52,504
2046	44,708	766	1.7%			29,447	69,465	1,701	2.5%			54,205
2047	45,461	753	1.7%			30,200	71,147	1,682	2.4%			55,887
2048	46,200	739	1.6%			30,940	72,806	1,659	2.3%			57,546
2049	46,925	725	1.6%			31,664	74,439	1,632	2.2%			59,178
2050	47,634	709	1.5%			32,373	76,041	1,602	2.2%			60,780
2051	48,326	692	1.5%			33,065	77,610	1,569	2.1%			62,349
2052	49,000	674	1.4%			33,739	79,142	1,532	2.0%			63,881
2053	49,655	655	1.3%			34,394	80,633	1,491	1.9%			65,372
2054	50,290	635	1.3%			35,029	82,080	1,447	1.8%			66,819
2055	50,904	614	1.2%	1.5%		35,643	83,480	1,400	1.7%	2.1%		68,219
2056	51,496	592	1.2%			36,235	84,828	1,349	1.6%			69,568
2057	52,065	569	1.1%			36,804	86,123	1,295	1.5%			70,863
2058	52,610	545	1.0%			37,350	87,361	1,237	1.4%			72,100
2059	53,131	521	1.0%			37,870	88,538	1,177	1.3%			73,277
2060	53,626	495	0.9%			38,365	89,651	1,114	1.3%			74,391
2061	54,094	469	0.9%			38,834	90,699	1,048	1.2%			75,438
2062	54,536	441	0.8%			39,275	91,677	979	1.1%			76,417
2063	54,949	413	0.8%			39,688	92,585	907	1.0%			77,324
2064	55,334	385	0.7%			40,073	93,418	833	0.9%			78,157
2065	55,689	355	0.6%	0.9%	2.6%	40,428	94,175	757	0.8%	1.2%	3.7%	78,914

## Appendix D

### *Residential Land Supply and Demand Projections (2015-2065)*



# Appendix D - Residential Land Supply and Demand (2015 - 2065)

BASE SCENARIO RESIDENTIAL LAND USE SUPPLY AND DEMAND									
	Population	Annual Population Growth	Cummulative Population Growth	People per Household	Residential units per gross acre	Annual Land Demand (gross acres)	Cummulative Land Demand (gross acres)	Residential Land Supply within Current Growth Area (gross acres)	Residential Land Supply within Anticipated Growth Area (gross acres)
2015	58,690			2.66	6.50				
2016	61,967	3,277	3,277	2.66	6.50			1,410	1,460
2017	64,921	2,954	6,231	2.66	6.50	171	171	1,239	1,460
2018	67,649	2,728	8,959	2.66	6.50	158	329	1,081	1,460
2019	70,233	2,584	11,543	2.66	6.50	149	478	932	1,460
2020	72,646	2,413	13,956	2.66	6.50	140	618	792	1,460
2021	75,036	2,390	16,346	2.66	6.50	138	756	654	1,460
2022	77,381	2,345	18,691	2.66	6.50	136	892	518	1,460
2023	79,736	2,355	21,046	2.66	6.50	136	1,028	382	1,460
2024	82,104	2,368	23,414	2.66	6.50	137	1,165	245	1,460
2025	84,528	2,424	25,838	2.66	6.50	140	1,305	105	1,460
2026	86,899	2,371	28,209	2.66	7.00	127	1,432	-22	1,438
2027	89,300	2,401	30,610	2.66	7.00	129	1,561	-151	1,309
2028	91,730	2,431	33,040	2.66	7.00	131	1,692	-282	1,178
2029	94,160	2,430	35,470	2.66	7.00	131	1,822	-412	1,048
2030	96,626	2,465	37,936	2.66	7.50	124	1,946	-536	924
2031	99,176	2,550	40,486	2.66	7.50	128	2,074	-664	796
2032	101,770	2,594	43,080	2.66	7.50	130	2,204	-794	666
2033	104,385	2,615	45,695	2.66	7.50	131	2,335	-925	535
2034	106,983	2,598	48,293	2.66	7.50	130	2,465	-1,055	405
2035	109,574	2,591	50,884	2.66	7.50	130	2,595	-1,185	275
2036	112,112	2,537	53,422	2.66	8.00	119	2,714	-1,304	156
2037	114,593	2,481	55,903	2.66	8.00	117	2,831	-1,421	39
2038	117,054	2,461	58,364	2.66	8.00	116	2,946	-1,536	-76
2039	119,493	2,439	60,803	2.66	8.00	115	3,061	-1,651	-191
2040	121,879	2,385	63,189	2.66	8.00	112	3,173	-1,763	-303
2041	124,223	2,344	65,533	2.66	8.00	110	3,283	-1,873	-413
2042	126,574	2,351	67,884	2.66	8.00	110	3,394	-1,984	-524
2043	129,000	2,426	70,310	2.66	8.00	114	3,508	-2,098	-638
2044	131,521	2,521	72,831	2.66	8.00	118	3,626	-2,216	-756
2045	134,111	2,590	75,421	2.66	8.00	122	3,748	-2,338	-878
2046	136,321	2,209	77,631	2.66	9.00	92	3,840	-2,430	-970
2047	138,495	2,174	79,805	2.66	9.00	91	3,931	-2,521	-1,061
2048	140,630	2,136	81,940	2.66	9.00	89	4,020	-2,610	-1,150
2049	142,725	2,095	84,035	2.66	9.00	87	4,108	-2,698	-1,238
2050	144,776	2,051	86,086	2.66	9.00	86	4,193	-2,783	-1,323
2051	146,780	2,004	88,090	2.66	9.00	84	4,277	-2,867	-1,407
2052	148,734	1,954	90,044	2.66	9.00	82	4,359	-2,949	-1,489
2053	150,636	1,902	91,946	2.66	9.00	79	4,438	-3,028	-1,568
2054	152,484	1,847	93,794	2.66	9.00	77	4,515	-3,105	-1,645
2055	154,273	1,790	95,583	2.66	9.00	75	4,590	-3,180	-1,720
2056	156,003	1,729	97,313	2.66	9.00	72	4,662	-3,252	-1,792
2057	157,670	1,667	98,980	2.66	9.00	70	4,732	-3,322	-1,862
2058	159,271	1,602	100,581	2.66	9.00	67	4,799	-3,389	-1,929
2059	160,805	1,534	102,115	2.66	9.00	64	4,863	-3,453	-1,993
2060	162,269	1,464	103,579	2.66	9.00	61	4,924	-3,514	-2,054
2061	163,662	1,392	104,972	2.66	9.00	58	4,982	-3,572	-2,112
2062	164,979	1,318	106,289	2.66	9.00	55	5,037	-3,627	-2,167
2063	166,221	1,242	107,531	2.66	9.00	52	5,089	-3,679	-2,219
2064	167,385	1,164	108,695	2.66	9.00	49	5,138	-3,728	-2,268
2065	168,468	1,084	109,778	2.66	9.00	45	5,183	-3,773	-2,313

# Appendix D - Residential Land Supply and Demand (2015 - 2065)

ALTERNATE SCENARIO RESIDENTIAL LAND USE SUPPLY AND DEMAND									
	Population	Annual Population Growth	Cummulative Population Growth	People Per Household	Residential units per gross acre	Annual Residential Land Demand (gross acres)	Cummulative Residential Land Demand (gross acres)	Residential Land Supply within Current Growth Area (gross acres)	Residential Land Supply within Anticipated Growth Area (gross acres)
2015	58,690			2.66	6.50				
2016	62,328	3,638	3,638	2.66	6.50			1,410	1,460
2017	65,911	3,583	7,221	2.66	6.50	207	207	1,203	1,460
2018	69,421	3,510	10,731	2.66	6.50	203	410	1,000	1,460
2019	72,793	3,372	14,103	2.66	6.50	195	605	805	1,460
2020	76,014	3,221	17,324	2.66	6.50	186	792	618	1,460
2021	79,231	3,218	20,541	2.66	6.50	186	978	432	1,460
2022	82,530	3,299	23,840	2.66	6.50	191	1,168	242	1,460
2023	85,881	3,351	27,191	2.66	6.50	194	1,362	48	1,460
2024	89,343	3,462	30,653	2.66	6.50	200	1,562	-152	1,308
2025	92,769	3,426	34,079	2.66	6.50	198	1,761	-351	1,109
2026	96,201	3,432	37,511	2.66	7.00	184	1,945	-535	925
2027	99,671	3,469	40,981	2.66	7.00	186	2,131	-721	739
2028	103,013	3,342	44,323	2.66	7.00	179	2,311	-901	559
2029	106,341	3,329	47,651	2.66	7.00	179	2,490	-1,080	380
2030	109,622	3,280	50,932	2.66	7.50	164	2,654	-1,244	216
2031	112,978	3,356	54,288	2.66	7.50	168	2,822	-1,412	48
2032	116,452	3,473	57,762	2.66	7.50	174	2,996	-1,586	-126
2033	119,998	3,546	61,308	2.66	7.50	178	3,174	-1,764	-304
2034	123,639	3,641	64,949	2.66	7.50	182	3,357	-1,947	-487
2035	127,307	3,668	68,617	2.66	7.50	184	3,540	-2,130	-670
2036	130,978	3,671	72,288	2.66	8.00	173	3,713	-2,303	-843
2037	134,721	3,742	76,031	2.66	8.00	176	3,889	-2,479	-1,019
2038	138,505	3,785	79,815	2.66	8.00	178	4,067	-2,657	-1,197
2039	142,316	3,811	83,626	2.66	8.00	179	4,246	-2,836	-1,376
2040	146,130	3,814	87,440	2.66	8.00	179	4,425	-3,015	-1,555
2041	149,937	3,806	91,247	2.66	8.00	179	4,604	-3,194	-1,734
2042	153,804	3,868	95,114	2.66	8.00	182	4,786	-3,376	-1,916
2043	157,687	3,883	98,997	2.66	8.00	182	4,968	-3,558	-2,098
2044	161,594	3,906	102,904	2.66	8.00	184	5,152	-3,742	-2,282
2045	165,534	3,941	106,844	2.66	8.00	185	5,337	-3,927	-2,467
2046	168,736	3,202	110,046	2.66	9.00	134	5,471	-4,061	-2,601
2047	171,942	3,206	113,252	2.66	9.00	134	5,604	-4,194	-2,734
2048	175,037	3,095	116,347	2.66	9.00	129	5,734	-4,324	-2,864
2049	178,013	2,976	119,323	2.66	9.00	124	5,858	-4,448	-2,988
2050	180,861	2,848	122,171	2.66	9.00	119	5,977	-4,567	-3,107
2051	183,574	2,713	124,884	2.66	9.00	113	6,090	-4,680	-3,220
2052	186,144	2,570	127,454	2.66	9.00	107	6,198	-4,788	-3,328
2053	188,564	2,420	129,874	2.66	9.00	101	6,299	-4,889	-3,429
2054	190,826	2,263	132,136	2.66	9.00	95	6,393	-4,983	-3,523
2055	193,021	2,195	134,331	2.66	9.00	92	6,485	-5,075	-3,615
2056	195,144	2,123	136,454	2.66	9.00	89	6,574	-5,164	-3,704
2057	197,193	2,049	138,503	2.66	9.00	86	6,659	-5,249	-3,789
2058	199,165	1,972	140,475	2.66	9.00	82	6,742	-5,332	-3,872
2059	201,057	1,892	142,367	2.66	9.00	79	6,821	-5,411	-3,951
2060	202,867	1,810	144,177	2.66	9.00	76	6,896	-5,486	-4,026
2061	204,591	1,724	145,901	2.66	9.00	72	6,968	-5,558	-4,098
2062	206,279	1,688	147,589	2.66	9.00	71	7,039	-5,629	-4,169
2063	207,929	1,650	149,239	2.66	9.00	69	7,108	-5,698	-4,238
2064	209,541	1,611	150,851	2.66	9.00	67	7,175	-5,765	-4,305
2065	211,112	1,572	152,422	2.66	9.00	66	7,241	-5,831	-4,371

## Appendix E

### *Industrial/Employment Land Supply and Demand Projections (2015-2065)*

Appendix E - Industrial/Employment Land Supply and Demand (2015 - 2065)

	BASE SCENARIO POPUALTION			BASE SCENARIO INDUSTRIAL LAND SUPPLY AND DEMAND				
	Population	Annual Growth	Cumulative Growth	Demand per 1,000 residents (gross acres)	Annual Demand (gross acres)	Cummulative Demand (gross acres)	Industrial Land Supply within Current Growth Area (gross acres)	Industrial Land Supply within Anticipated Growth Area (gross acres)
2015	58,690							
2016	61,967	3,277	3,277	19	62	62	560	1,157
2017	64,921	2,954	6,231	19	57	119	441	1,157
2018	67,649	2,728	8,959	19	53	172	388	1,157
2019	70,233	2,584	11,543	20	51	223	337	1,157
2020	72,646	2,413	13,956	20	48	271	289	1,157
2021	75,036	2,390	16,346	20	48	319	241	1,157
2022	77,381	2,345	18,691	20	48	367	193	1,157
2023	79,736	2,355	21,046	21	48	415	145	1,157
2024	82,104	2,368	23,414	21	49	464	96	1,157
2025	84,528	2,424	25,838	21	51	515	45	1,157
2026	86,899	2,371	28,209	21	50	565	-5	1,152
2027	89,300	2,401	30,610	21	51	617	-57	1,100
2028	91,730	2,431	33,040	22	53	669	-109	1,048
2029	94,160	2,430	35,470	22	53	722	-162	995
2030	96,626	2,465	37,936	22	54	777	-217	940
2031	99,176	2,550	40,486	22	57	834	-274	883
2032	101,770	2,594	43,080	23	58	892	-332	825
2033	104,385	2,615	45,695	23	59	952	-392	765
2034	106,983	2,598	48,293	23	60	1,011	-451	706
2035	109,574	2,591	50,884	23	60	1,071	-511	646
2036	112,112	2,537	53,422	23	59	1,131	-571	586
2037	114,593	2,481	55,903	24	59	1,189	-629	528
2038	117,054	2,461	58,364	24	59	1,248	-688	469
2039	119,493	2,439	60,803	24	59	1,307	-747	410
2040	121,879	2,385	63,189	24	58	1,364	-804	353
2041	124,223	2,344	65,533	25	57	1,422	-862	295
2042	126,574	2,351	67,884	25	58	1,480	-920	237
2043	129,000	2,426	70,310	25	61	1,541	-981	176
2044	131,521	2,521	72,831	25	63	1,604	-1,044	113
2045	134,111	2,590	75,421	25	66	1,670	-1,110	47
2046	136,321	2,209	77,631	26	57	1,726	-1,166	-9
2047	138,495	2,174	79,805	26	56	1,782	-1,222	-65
2048	140,630	2,136	81,940	26	56	1,838	-1,278	-121
2049	142,725	2,095	84,035	26	55	1,893	-1,333	-176
2050	144,776	2,051	86,086	26	54	1,947	-1,387	-230
2051	146,780	2,004	88,090	27	54	2,001	-1,441	-284
2052	148,734	1,954	90,044	27	53	2,053	-1,493	-336
2053	150,636	1,902	91,946	27	52	2,105	-1,545	-388
2054	152,484	1,847	93,794	27	51	2,156	-1,596	-439
2055	154,273	1,790	95,583	28	49	2,205	-1,645	-488
2056	156,003	1,729	97,313	28	48	2,253	-1,693	-536
2057	157,670	1,667	98,980	28	47	2,300	-1,740	-583
2058	159,271	1,602	100,581	28	45	2,345	-1,785	-628
2059	160,805	1,534	102,115	28	44	2,389	-1,829	-672
2060	162,269	1,464	103,579	29	42	2,431	-1,871	-714
2061	163,662	1,392	104,972	29	40	2,471	-1,911	-754
2062	164,979	1,318	106,289	29	38	2,509	-1,949	-792
2063	166,221	1,242	107,531	29	36	2,546	-1,986	-829
2064	167,385	1,164	108,695	30	34	2,580	-2,020	-863
2065	168,468	1,084	109,778	30	32	2,612	-2,052	-895

Appendix E - Industrial/Employment Land Supply and Demand (2015 - 2065)

	ALTERNATE SCENARIO POPULATION			ALTERNATE SCENARIO INDUSTRIAL LAND SUPPLY AND DEMAND				
	Population	Annual Growth	Cumulative Growth	Demand per 1,000 new residents (gross acres)	Annual Demand (gross acres)	Cummulative Demand (gross acres)	Industrial Land Supply within Current Growth Area (gross acres)	Industrial Land Supply within Anticipated Growth Area (gross acres)
2015	58,690							
2016	62,328	3,638	3,638	19	69	69	560	1,157
2017	65,911	3,583	7,221	19	69	138	422	1,157
2018	69,421	3,510	10,731	19	68	206	354	1,157
2019	72,793	3,372	14,103	20	66	273	287	1,157
2020	76,014	3,221	17,324	20	64	337	223	1,157
2021	79,231	3,218	20,541	20	65	401	159	1,157
2022	82,530	3,299	23,840	20	67	468	92	1,157
2023	85,881	3,351	27,191	21	69	537	23	1,157
2024	89,343	3,462	30,653	21	72	609	-49	1,108
2025	92,769	3,426	34,079	21	72	681	-121	1,036
2026	96,201	3,432	37,511	21	73	754	-194	963
2027	99,671	3,469	40,981	21	74	828	-268	889
2028	103,013	3,342	44,323	22	72	900	-340	817
2029	106,341	3,329	47,651	22	73	973	-413	744
2030	109,622	3,280	50,932	22	72	1,045	-485	672
2031	112,978	3,356	54,288	22	75	1,120	-560	597
2032	116,452	3,473	57,762	23	78	1,198	-638	519
2033	119,998	3,546	61,308	23	81	1,279	-719	438
2034	123,639	3,641	64,949	23	84	1,363	-803	354
2035	127,307	3,668	68,617	23	85	1,448	-888	269
2036	130,978	3,671	72,288	23	86	1,534	-974	183
2037	134,721	3,742	76,031	24	88	1,622	-1,062	95
2038	138,505	3,785	79,815	24	90	1,712	-1,152	5
2039	142,316	3,811	83,626	24	92	1,804	-1,244	-87
2040	146,130	3,814	87,440	24	93	1,897	-1,337	-180
2041	149,937	3,806	91,247	25	93	1,990	-1,430	-273
2042	153,804	3,868	95,114	25	96	2,085	-1,525	-368
2043	157,687	3,883	98,997	25	97	2,182	-1,622	-465
2044	161,594	3,906	102,904	25	98	2,281	-1,721	-564
2045	165,534	3,941	106,844	25	100	2,381	-1,821	-664
2046	168,736	3,202	110,046	26	82	2,463	-1,903	-746
2047	171,942	3,206	113,252	26	83	2,545	-1,985	-828
2048	175,037	3,095	116,347	26	81	2,626	-2,066	-909
2049	178,013	2,976	119,323	26	78	2,704	-2,144	-987
2050	180,861	2,848	122,171	26	75	2,779	-2,219	-1,062
2051	183,574	2,713	124,884	27	72	2,852	-2,292	-1,135
2052	186,144	2,570	127,454	27	69	2,921	-2,361	-1,204
2053	188,564	2,420	129,874	27	66	2,987	-2,427	-1,270
2054	190,826	2,263	132,136	27	62	3,049	-2,489	-1,332
2055	193,021	2,195	134,331	28	61	3,109	-2,549	-1,392
2056	195,144	2,123	136,454	28	59	3,168	-2,608	-1,451
2057	197,193	2,049	138,503	28	57	3,226	-2,666	-1,509
2058	199,165	1,972	140,475	28	56	3,281	-2,721	-1,564
2059	201,057	1,892	142,367	28	54	3,335	-2,775	-1,618
2060	202,867	1,810	144,177	29	52	3,387	-2,827	-1,670
2061	204,591	1,724	145,901	29	50	3,437	-2,877	-1,720
2062	206,279	1,688	147,589	29	49	3,486	-2,926	-1,769
2063	207,929	1,650	149,239	29	48	3,534	-2,974	-1,817
2064	209,541	1,611	150,851	30	48	3,582	-3,022	-1,865
2065	211,112	1,572	152,422	30	47	3,629	-3,069	-1,912

## Appendix F

### *Commercial Land Supply and Demand Projections (2015-2065)*

Appendix F - Commercial Land Supply and Demand (2015 - 2065)

	ALTERNATE POPULATION			ALTERNATE SCENARIO COMMERCIAL LAND DEMAND AND SUPPLY				
	Population	Annual Growth	Cumulative Growth	Demand per 1,000 new residents (gross acres)	Annual Demand (gross acres)	Cummulative Demand (gross acres)	Commercial Land Supply within Current Growth Area (gross acres)	Commercial Land Supply within Anticipated Growth Area (gross acres)
2015	58,690							
2016	62,328	3,638	3,638	5	18	18	147	0
2017	65,911	3,583	7,221	5	18	36	111	0
2018	69,421	3,510	10,731	5	18	54	93	0
2019	72,793	3,372	14,103	5	19	73	74	0
2020	76,014	3,221	17,324	5	19	92	55	0
2021	79,231	3,218	20,541	5	19	111	36	0
2022	82,530	3,299	23,840	5	19	131	16	0
2023	85,881	3,351	27,191	5	20	150	-3	-3
2024	89,343	3,462	30,653	6	20	170	-23	-23
2025	92,769	3,426	34,079	6	20	190	-43	-43
2026	96,201	3,432	37,511	6	20	211	-64	-64
2027	99,671	3,469	40,981	6	21	232	-85	-85
2028	103,013	3,342	44,323	6	21	252	-105	-105
2029	106,341	3,329	47,651	6	21	274	-127	-127
2030	109,622	3,280	50,932	6	21	295	-148	-148
2031	112,978	3,356	54,288	6	22	317	-170	-170
2032	116,452	3,473	57,762	6	22	339	-192	-192
2033	119,998	3,546	61,308	6	22	361	-214	-214
2034	123,639	3,641	64,949	6	22	383	-236	-236
2035	127,307	3,668	68,617	6	23	406	-259	-259
2036	130,978	3,671	72,288	6	23	429	-282	-282
2037	134,721	3,742	76,031	6	23	452	-305	-305
2038	138,505	3,785	79,815	7	23	475	-328	-328
2039	142,316	3,811	83,626	7	24	499	-352	-352
2040	146,130	3,814	87,440	7	24	523	-376	-376
2041	149,937	3,806	91,247	7	24	547	-400	-400
2042	153,804	3,868	95,114	7	24	572	-425	-425
2043	157,687	3,883	98,997	7	25	596	-449	-449
2044	161,594	3,906	102,904	7	25	621	-474	-474
2045	165,534	3,941	106,844	7	25	647	-500	-500
2046	168,736	3,202	110,046	7	25	672	-525	-525
2047	171,942	3,206	113,252	7	26	698	-551	-551
2048	175,037	3,095	116,347	7	26	724	-577	-577
2049	178,013	2,976	119,323	7	26	750	-603	-603
2050	180,861	2,848	122,171	7	26	776	-629	-629
2051	183,574	2,713	124,884	7	27	803	-656	-656
2052	186,144	2,570	127,454	8	27	830	-683	-683
2053	188,564	2,420	129,874	8	27	857	-710	-710
2054	190,826	2,263	132,136	8	27	884	-737	-737
2055	193,021	2,195	134,331	8	28	912	-765	-765
2056	195,144	2,123	136,454	8	28	940	-793	-793
2057	197,193	2,049	138,503	8	28	968	-821	-821
2058	199,165	1,972	140,475	8	28	997	-850	-850
2059	201,057	1,892	142,367	8	29	1,025	-878	-878
2060	202,867	1,810	144,177	8	29	1,054	-907	-907
2061	204,591	1,724	145,901	8	29	1,084	-937	-937
2062	206,279	1,688	147,589	8	29	1,113	-966	-966
2063	207,929	1,650	149,239	8	30	1,143	-996	-996
2064	209,541	1,611	150,851	8	30	1,173	-1,026	-1,026
2065	211,112	1,572	152,422	8	30	1,203	-1,056	-1,056

# Appendix F - Commercial Land Supply and Demand (2015 - 2065)

	BASE POPULATION			BASE SCENARIO COMMERCIAL LAND DEMAND AND SUPPLY				
	Population	Annual Growth	Cumulative Growth	Demand per 1,000 new residents (gross acres)	Annual Demand (gross acres)	Cummulative Demand (gross acres)	Commercial Land Supply within Current Growth Area (gross acres)	Commercial Land Supply within Anticipated Growth Area (gross acres)
2015	58,690							
2016	61,967	3,277	3,277	5	13	13	147	0
2017	64,921	2,954	6,231	5	13	27	120	0
2018	67,649	2,728	8,959	5	14	40	107	0
2019	70,233	2,584	11,543	5	14	54	93	0
2020	72,646	2,413	13,956	5	14	69	78	0
2021	75,036	2,390	16,346	5	14	83	64	0
2022	77,381	2,345	18,691	5	15	97	50	0
2023	79,736	2,355	21,046	5	15	112	35	0
2024	82,104	2,368	23,414	5	15	127	20	0
2025	84,528	2,424	25,838	5	15	142	5	0
2026	86,899	2,371	28,209	5	15	158	-11	-11
2027	89,300	2,401	30,610	5	16	173	-26	-26
2028	91,730	2,431	33,040	5	16	189	-42	-42
2029	94,160	2,430	35,470	5	16	205	-58	-58
2030	96,626	2,465	37,936	5	16	221	-74	-74
2031	99,176	2,550	40,486	6	16	237	-90	-90
2032	101,770	2,594	43,080	6	17	254	-107	-107
2033	104,385	2,615	45,695	6	17	271	-124	-124
2034	106,983	2,598	48,293	6	17	288	-141	-141
2035	109,574	2,591	50,884	6	17	305	-158	-158
2036	112,112	2,537	53,422	6	17	323	-176	-176
2037	114,593	2,481	55,903	6	18	340	-193	-193
2038	117,054	2,461	58,364	6	18	358	-211	-211
2039	119,493	2,439	60,803	6	18	376	-229	-229
2040	121,879	2,385	63,189	6	18	394	-247	-247
2041	124,223	2,344	65,533	6	18	413	-266	-266
2042	126,574	2,351	67,884	6	19	431	-284	-284
2043	129,000	2,426	70,310	6	19	450	-303	-303
2044	131,521	2,521	72,831	6	19	469	-322	-322
2045	134,111	2,590	75,421	7	19	489	-342	-342
2046	136,321	2,209	77,631	7	19	508	-361	-361
2047	138,495	2,174	79,805	7	20	528	-381	-381
2048	140,630	2,136	81,940	7	20	548	-401	-401
2049	142,725	2,095	84,035	7	20	568	-421	-421
2050	144,776	2,051	86,086	7	20	588	-441	-441
2051	146,780	2,004	88,090	7	21	609	-462	-462
2052	148,734	1,954	90,044	7	21	630	-483	-483
2053	150,636	1,902	91,946	7	21	650	-503	-503
2054	152,484	1,847	93,794	7	21	672	-525	-525
2055	154,273	1,790	95,583	7	21	693	-546	-546
2056	156,003	1,729	97,313	7	22	715	-568	-568
2057	157,670	1,667	98,980	7	22	736	-589	-589
2058	159,271	1,602	100,581	7	22	758	-611	-611
2059	160,805	1,534	102,115	8	22	780	-633	-633
2060	162,269	1,464	103,579	8	22	803	-656	-656
2061	163,662	1,392	104,972	8	23	825	-678	-678
2062	164,979	1,318	106,289	8	23	848	-701	-701
2063	166,221	1,242	107,531	8	23	871	-724	-724
2064	167,385	1,164	108,695	8	23	894	-747	-747
2065	168,468	1,084	109,778	8	23	918	-771	-771