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18.0 SOCIO-ECONOMIC IMPACT ASSESSMENT

18.1 Introduction

The socio-economic impact assessment (SEIA) section examines the social and economic effects that could result from construction and operations of the Lewis In Situ Project (Lewis Project). The potential effects of the Lewis Project on the Province of Alberta and, more specifically, on the socio-economic study area (SESA) are analyzed. Current social and economic conditions in the SESA are described and the capacity of major services, as well as any expansion plans, are discussed. Opportunities to mitigate potential negative effects and to enhance positive effects are identified. The potential effects of the Lewis Project on regional social and economic conditions are described in the context of cumulative developments.

18.2 Study Area

The SESA selected for this assessment consists of the Regional Municipality of Wood Buffalo (RMWB) with a focus on Fort McMurray, the major urban service area within the SESA, Fort MacKay, the closest community to the proposed Lewis Project and other rural communities. The Aboriginal groups that live in the northern part of the RMWB are:

- ▶ Athabasca Chipewyan First Nation (ACFN)
- ▶ Mikisew Cree First Nation (MCFN)
- ▶ Fort Chipewyan Métis Local #125
- ▶ Fort McKay First Nation
- ▶ Fort McKay Métis Local #63
- ▶ Fort McMurray #468 First Nation (FMFN #468)
- ▶ Fort McMurray Métis Local #1935.

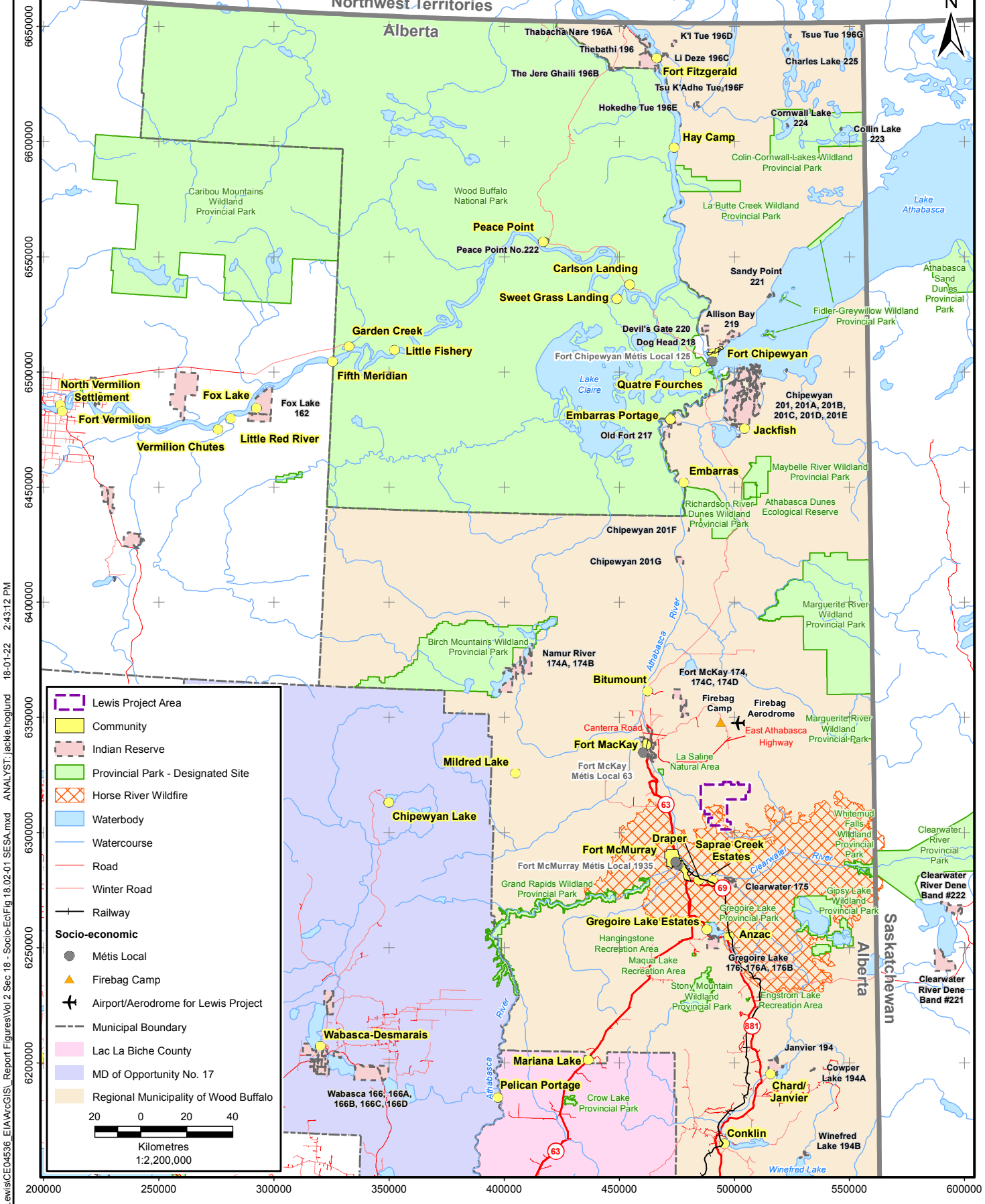
Socio-economic baseline conditions and assessment are presented for both Aboriginal and non-Aboriginal communities (the term urban and rural communities is also used) in the SESA.

18.2.1 Temporal Boundary

The SEIA assessed potential Lewis Project effects associated with construction and operations. Engineering and construction is planned to commence in 2020 with engineering design and continue for 10 years. Operations is expected to begin in 2027 for 25 to 40 years with a three years overlap.

18.2.2 Spatial Boundary

The Lewis Project is located approximately 18 km southeast of Fort MacKay and 25 km northeast of Fort McMurray in the RMWB. The Lewis Project Area is located in Townships (Twp) 91, 92 and 93, Ranges (Rge) 6, 7 and 8, west of the 4th Meridian (W4M) and covers approximately 54 sections. The SESA was selected to consider both regional interests and interests of the communities in proximity to the Lewis Project ([Figure 18.2-1](#)).



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Final Mapping: Completed by Amec Foster Wheeler
 Projection: UTM Zone 12 NAD83
 Source: K/W FT MJ
 Sources: AB TPR, AB Municipal Affairs, Canada Centre of Cadastral Management Geomatics Canada
 - Contains information licensed under the Open Government licence - Alberta, Canada.

Socio-economic Study Area



Lewis Project

January 2018

Figure 18.2-1

18.3 Assessment Approach

18.3.1 Regulatory Framework

The Lewis Project is located within the Athabasca Oil Sands Area (AOSA). It is one of three oil sands regions in Alberta (the other two are in the Cold Lake and Peace River areas). In order to provide recommendations for infrastructure development in the three oil sands regions, the Government of Alberta is preparing a series of Comprehensive Regional Infrastructure Sustainability Plans (CRISP). CRISP are based on a technical assessment of bitumen production rates and associated potential population levels within the surrounding communities. As such, the AOSA CRISP is of particular relevance to this SEIA (Government of Alberta 2011a).

18.3.2 Socio-economic Issues Identification

Socio-economic issues related to construction and operations of the Lewis Project were identified through:

- ▶ the ongoing public consultation process
- ▶ the Terms of Reference ([Volume 3, Appendix A](#))
- ▶ review of recent socio-economic assessments prepared for steam-assisted gravity drainage (SAGD) projects in the area surrounding Fort McMurray
- ▶ previous experience with similar oil sands development projects in the SESA.

The socio-economic issues were identified as:

- ▶ the extent of economic investment in the RMWB, and the extent to which local residents participate in the employment and business opportunities associated with the Lewis Project
- ▶ changes in employment, labour income and government revenues
- ▶ changes in Aboriginal community employment and business opportunities and sequences of these changes on culture and traditional land use activities
- ▶ changes in population and sequences of these changes on additional demand for community services and infrastructure including housing, health, protective and social services.

18.3.3 Valued Socio-Economic Components and Key Indicators

Valued socio-economic components (VSC) are defined based on prior experience with similar oil sands development projects in the RMWB. The VSC guided the data collection, analysis and organization of this section. [Table 18.3-1](#) presents the VSC and their indicators. The assessment is organized such that baseline conditions and assessment of potential effects are discussed in regards to each VSC.

Table 18.3-1: Valued Socio-Economic Components and Indicators

VSC	Indicator
Economy	<ul style="list-style-type: none"> ▶ Economic investment in the RMWB ▶ Labour force indicators (participation rate, employment, and unemployment) for Aboriginal and non-Aboriginal population ▶ Earnings and income (percentages of people 15 years and older with earnings and income and median earnings and income) ▶ Government revenues and carbon tax
Population	<ul style="list-style-type: none"> ▶ Population growth for Aboriginal and non-Aboriginal communities
Education and training services	<ul style="list-style-type: none"> ▶ School availability and capacity in both Aboriginal and non-Aboriginal communities ▶ Industry training ▶ Education attainment in both Aboriginal and non-Aboriginal communities
Housing	In both Aboriginal and non-Aboriginal communities: <ul style="list-style-type: none"> ▶ housing availability and affordability
Protective services	In both Aboriginal and non-Aboriginal communities: <ul style="list-style-type: none"> ▶ fire protection services availability and capacity ▶ emergency services availability and capacity ▶ police services availability and capacity ▶ crime rates
Health	In both Aboriginal and non-Aboriginal communities: <ul style="list-style-type: none"> ▶ health services availability and capacity
Recreation and leisure services	In both Aboriginal and non-Aboriginal communities: <ul style="list-style-type: none"> ▶ recreation services availability and capacity.
Social services	In both Aboriginal and non-Aboriginal communities: <ul style="list-style-type: none"> ▶ social services availability and capacity
Utilities	In both Aboriginal and non-Aboriginal communities: <ul style="list-style-type: none"> ▶ utilities capacity and availability
Traffic and transportation	See more information in the traffic impact assessment (TIA) in Volume 3, Appendix N
Wild Fire Recovery Plan	Economic and in kind support, during and after the fire, to both Aboriginal and non-Aboriginal communities

18.3.4 Assessment Cases

18.3.4.1 Baseline Case

The Baseline Case describes the existing socio-economic conditions in the SESA. The data presented throughout this document is reflective of regional trends over the past several years with recognition that the SESA has been highly affected by the economic recession and the Horse River Fire. In the context of the Lewis SEIA, these events are considered “atypical” or a variance from the norm/median.

18.3.4.2 Application Case

The Application Case considers the Lewis Project in addition to the baseline conditions. The assessment focuses on the Lewis Project effects on the RMWB; particularly on the community of Fort McMurray, the major urban centre and service provider in the RMWB, Fort McKay, the closest community to the proposed Lewis Project and the second most relevant source of labour, goods and services and on other rural communities. Provincial scale effects are limited to discussion of economic effects during the construction and operation phases of the Lewis Project.

18.3.4.3 Planned Development Case

The Planned Development Case describes the socio-economic conditions that may result from the interaction of the proposed Lewis Project with other existing and planned projects that can reasonably be expected to occur. The main drivers of cumulative effects for the Lewis Project are other oil sands developments in the RMWB and, particularly, oil sands projects located in the northern part of the RMWB near Fort MacKay.

18.3.5 Assessment Criteria

Anticipated changes in the socio-economic environment were evaluated using the criteria in [Table 18.3-2](#).

Table 18.3-2: Social and Economic Effect Attribute Definitions

Attribute	Definition
Direction	
Negative	Effect is worsening or is undesirable.
Neutral	Effect is not changing compared with baseline conditions and trends.
Positive	Effect is improving or is desirable.
Geographic Extent	
Local	Effect will be limited to specific persons or communities.
Regional	Effect is limited to the study area.
Provincial	Effect extends beyond the study area or includes effects at a provincial level (Alberta).
National	Effect extends outside Alberta to other parts of Canada.
Magnitude	
Low	Effect that occurs and might or might not be detectable, but is within the normal range of variability.
Moderate	Effect is detectable, but is unlikely to pose a serious risk to the VSC or to represent a management challenge.
High	Effect is likely to pose a serious risk to the selected VSC and is a management challenge.
Duration	
Short-term	Effect is limited to the construction period.
Long-term	Effect occurs during operations period.
Frequency	
Infrequent	Effect occurs in infrequent pattern.
Continuous	Effect is continuous during construction and/or the operations phase.
Confidence	
Poor	No clear understanding of cause and effect because of lack of relevant information base.
Moderate	Moderate understanding of cause and effect influenced by multiple non-project forces.
High	High understanding of cause and effect from existing knowledge base and/or high site-specific data available and limited potential for site and/or time-specific variability.
Residual Impact Rating	
Low	This is based upon professional judgment and takes into account the various rankings for each attribute (direction, magnitude, geographic extent, duration, likelihood, and confidence) following the application of mitigative measures.
Moderate	
High	

For assessment of each VSC, an impact rating of low, moderate or high is stated. This is based upon professional judgment that takes into account the various rankings for each attribute (direction, magnitude, geographic extent, duration, frequency, and confidence). Residual impacts are discussed at the end of each VSC assessment.

18.3.6 Constraints Planning

Constraints planning involves identifying environmental sensitivities early in the design process, assessing and mapping these and then locating project facilities away from areas of higher sensitivity and preferentially into areas of lower sensitivity, where possible. There are no environmental sensitivities with respect to socio-economics for the Lewis Project.

18.4 Methods

18.4.1 Baseline Data Collection

Both primary and secondary baseline data were collected. Primary data were collected through phone interviews/emails with various public officials and representatives of governmental service providers in the SESA.

Secondary data were collected from various governmental websites, particularly: Statistics Canada, Aboriginal and Northern Affairs Canada (INAC), Government of Alberta, RMWB, and the Petroleum HR Council. In addition, SEIA studies for oil sands development in northern Alberta were reviewed.

18.4.2 Modelling

18.4.2.1 Statistics Canada Input-Output Model

In order to calculate the economic effects of the proposed Lewis Project, the Statistics Canada Input-Output Model (IO Model) was used (Statistics Canada 2013). The IO Model developed by the Industry Accounts Division of Statistics Canada measures the detailed industrial impacts on output, gross domestic product (GDP), labour income and employment by province of a given investment in the economy.

The parameters used in the simulations were derived from the most recently published Input Output tables 2010. The IO Model analyzed the link between final demand and industrial output levels. For this assessment, the inter-provincial version was used.

18.4.2.2 Input-Output Model Assumptions and Limitations

IO Model assumptions and limitations include the following considerations:

- ▶ The IO Model is a structural model dealing primarily with resource allocation in the economy corresponding to an exogenously given demand. It does not provide an exact measure of the impact of an investment on the level of use of resources in the economy. The assessment of the impact of a shock on the level of resource utilization should be complemented by professional judgment on the part of the users, based on knowledge of major macroeconomic links in the Canadian economy and a good factual knowledge of the business cycle phase in which the economy is evolving.

- ▶ The IO Model is based on the assumption of fixed technological coefficients. It does not take into account economies of scale, constraint capacities, technological change, externalities, or price changes. This makes impact analysis less accurate for long-term and large impacts as firms adjust their production technology and the IO technological coefficients become outdated. Assuming that firms adjust their production technology over time to become more efficient, the impact of a change in final demand will tend to be overestimated.
- ▶ Impact results are separated into direct, indirect and induced effects. Direct impacts are the deliveries by domestic industries and imports necessary to satisfy final demand of expenditures on products and services. Indirect impacts cover upstream economic activities associated with supplying intermediate inputs (the current expenditures on goods and services used up in the production process) to the directly impacted industries. Induced impacts provide an estimate of the domestic production and imports associated with the spending of wages on consumption.
- ▶ The results of the IO Model run include both an Open Model and Closed Model. Total impact in the open model is equal to the sum of the direct and indirect impacts. Total impact in the closed model is equal to the sum of the direct, indirect and induced impacts.
- ▶ It is generally acknowledged that the open model underestimates economic impacts, since household activity is absent, and the closed model overestimates economic impacts, because of the rigid assumptions about labour incomes and consumer spending. Modelled impacts should be interpreted as the upper and lower bounds of impact.

18.4.3 Economic Effects Analysis

The economic analysis assessed the Lewis Project effects at the regional and provincial scale. The approach taken was as follows:

- ▶ described current economic conditions in the SESA and compared them with provincial conditions. The description included economic indicators, as well as quantitative and qualitative information on labour force indicators, occupations and incomes
- ▶ considered the potential changes that could take place in the regional economy and in Alberta as a result of the Lewis Project
- ▶ identified economic effects on the Province of Alberta and rest of Canada using the IO Model
- ▶ applied the assessment criteria to define the magnitude, geographic extent, direction, duration, and confidence level of identified effects
- ▶ identified appropriate mitigation and management measures to reduce negative effects and promote the positive effects of the Lewis Project.

18.4.4 Social Effects Analysis

The following approach was used to conduct the social effects analysis:

- ▶ described the current social conditions in the SESA, and compared them with provincial norms and averages. Descriptions included social indicators, and quantitative and qualitative information
- ▶ considered the potential changes in conditions within the SESA as a result of the Lewis Project
- ▶ identified social effects based on the potential changes in the SESA
- ▶ applied the assessment criteria to define the magnitude, duration, geographic area, direction, and confidence level of identified effects
- ▶ identified appropriate mitigation measures to reduce negative effects and promote the positive effects of the Lewis Project.

In the discussion of the Lewis Project effects on each identified VSC, and consistent with the RMWB's administrative division of the region, the assessment specified if the effect would occur in the Urban Service Area (Fort McMurray), Rural Communities (Anzac, Conklin, Draper, Fort Chipewyan, Fort MacKay, Gregoire, Lake Estates, Janvier, Saprae Creek Estates, and Fort Fitzgerald), or industry accommodations (123 camps north and south of Fort McMurray).

18.4.5 Planned Development Effects Analysis Methods

The standard practice in assessing potential effects on socio-economic conditions evaluates the Lewis Project-related effects in the context of current conditions and future trends. This requires identifying other economic development activities that may occur in the region and assessing the incremental effects that the Lewis Project may have. This assessment is inherently cumulative. However, in order to produce a focused assessment of planned development, the following approach was used:

- ▶ identified a list of approved and planned oil sands projects in close proximity to the Lewis Project Area
- ▶ discussed the sensitivity of the selected VSC to these cumulative influences, particularly with respect to temporal overlaps
- ▶ identified socio-economic effects based on the potential changes in SESA
- ▶ applied the assessment criteria to define the magnitude, duration, geographic area, direction, and confidence level of identified effects
- ▶ identified appropriate mitigation measures that are likely to reduce potential negative effects and promote the positive effects of the Lewis Project.

18.5 Baseline Case

18.5.1 Overview of Alberta Oil Sands

Canada has the third-largest oil reserves in the world, after Saudi Arabia and Venezuela. Of Canada's 173 billion barrels of oil reserves, 170 billion barrels are located in Alberta, and about 168 billion barrels are recoverable from bitumen. This is a resource that has been developed for decades but is now gaining increased global attention as conventional supplies of oil continue to be depleted. There are three major bitumen (or oil sands) deposits in Alberta. The largest is the Athabasca deposit, which is located in the RMWB. The main population centre of the Athabasca deposit is Fort McMurray. The second and third largest deposits are in the Cold Lake and Peace River regions (Government of Alberta 2015).

The in situ oil sands industry expanded significantly between 2005 and 2012. For the first time in 2012, in situ oil sands production exceeded mined oil sands production in Alberta. In 2014, 58% of the province's oil sands volumes were produced using in situ methods. Oil sands projects are highly capital intensive, therefore, despite that expansion, current and future expected oil prices are a key determinant of oil sands project economics.

Up until 2015, capital intensive oil sands projects required a West Texas Intermediate (WTI) benchmark oil price between US \$75 to \$85/barrel to make them economical. Oil sands projects produce bitumen, which sells at a discount compared to WTI. The 2015-2016 WTI prices were substantially below the US \$75 to \$85/barrel, delaying project developments and thereby delaying infrastructure needs in the RMWB.

The 2015-2016 drop in oil prices, created serious challenges on Alberta oil sands industry. The high-cost and high-carbon source industry pose investor risk in a world moving toward cleaner, more efficient, and lower-carbon sources. Reducing emissions and moving to more efficiency became the goal of the industry as Canada commits to reducing emissions. As the primary regulatory body responsible for the oil sands, the Alberta Government is responsible for shaping most of the economic, social, and environmental policies that guide oil sands development. In order to deal with those challenges, the Alberta Government issued a new Climate Leadership Plan (supporting the direction of the Federal government). The plan aims to improve energy efficiency, support green technological innovations, reduce methane and provide support to ensure that families and small businesses are protected (Government of Alberta 2015).

In October of 2016, the Government of Canada announced a Pan-Canadian Pricing on Carbon. Under the new plan, all Canadian jurisdictions will have carbon pricing in place by 2018. Pricing carbon emissions is an opportunity to build a clean-growth economy and make Canadian businesses more competitive (Government of Canada 2016). Suncor Energy Inc. (Suncor) actively participated and supported the government's direction on carbon pricing. Recently, Suncor was part of a process for building a consensus on a path forward for Alberta's climate plan. At the time it was announced, Suncor came together with four of Canada's largest oil sands producers and leading environmental advocacy groups to publicly support the Alberta Climate Leadership Plan, which is the most ambitious in North America and sets a global precedent of being the first resource producing jurisdiction to cap the total emissions from a resource basin.

In April 2017, Suncor released their own Climate Report: Resilience through Strategy, outlining how the organization is responding to the challenges and opportunities facing the industry.

As a result, energy producers started to take measures to incorporate carbon costs in the cost of doing business. In October 2016, Suncor announced an 18% reduction in operating costs (the lowest in over a decade) as a result of Suncor's cost reduction initiatives at Oil Sands operations (Suncor 2016).

Further challenges to Alberta oil sands industry are discussed in the report, *HR Trends and Insights: Shifting Priorities and a Shifting Workforce*. The report suggests that the growing technical and business complexities of Canada's oil sands industry, together with the need to remain competitive internationally, is driving demand for a more skilled and knowledgeable workforce. It examines three key business shifts that Canada's oil and gas industry has witnessed in recent years: 1) new technologies designed to access harder-to-reach reserves; 2) cost-management strategies intended to simultaneously improve returns and productivity; and 3) the need to diversify into new and expanded markets (Government of Alberta 2016).

During the last couple of years, most economic indicators demonstrate that Alberta was in a recession, mainly as a result of sharply lower crude oil prices. The recession has caused Alberta's unemployment rate to rise from 4.6% in January 2015 to 7.0% in December 2015 as companies in the manufacturing, construction, professional services and especially the oil and gas services sectors have been cutting back their labour forces. Between October 2014 and October 2015, employment in the oil and gas services sector fell by more than one-third, from 77,011 in October 2014 to 52,043 in October 2015. As of February 2017, Alberta unemployment rate was 8.3%.

Employment Insurance (EI) is used as an indicator to determine how different municipalities in Alberta are doing during the current recession. The number of EI recipients is a useful unemployment indicator as EI covers eligible individuals who lose their jobs and who are available for and able to work, but cannot find a job. At the Alberta level, the number of recipients has risen from 29,150 in September 2014 to 61,300 in November 2015 and to 102,950 in July 2016. In January 2017 there were 91,730 people receiving regular EI benefits in Alberta (Government of Alberta 2017).

The Alberta Government forecasted that the economy would expand in 2016, but at a relatively slow pace of 0.9%, reflecting the lagging effects of lower oil prices on employment, housing and consumer spending. In 2017 and 2018, growth is expected to increase to around 2.5%, supported by gradually rising oil prices, weaker cost pressures, a stronger US economy and a low Canadian dollar (Government of Alberta 2016).

In the spring of 2016, yet another challenge was added to the oil sands industry. On 1 May 2016, after a relatively dry winter and warm spring, the Horse River Fire began burning southwest of Fort McMurray. On 3 May 2016, the Alberta Government declared a provincial state of emergency for the RMWB. By this time, the wildfire was out of control and it swept through Fort McMurray and nearby rural communities causing the mass evacuation of 88,000 people.

The Horse River Fire consumed approximately 2,400 homes and buildings, completely devastating some businesses and neighbourhoods. The wildfire rapidly spread across northern Alberta and Saskatchewan, consuming over 590,000 ha of forested area, negatively impacting Athabasca oil sands operations by causing plant shutdowns, before being declared under control on 5 July 2016. The wildfire is considered the costliest natural catastrophe in Canadian history (Miller Thomson 2016).

The Catastrophe Indices and Quantification Inc. estimated insured property damage at C\$3.58 billion with 62% of the losses attributable to personal property, 33% to commercial property, and 5% auto. This figure also includes business interruption claims, which cover oil sands companies forced to shut down mining and steaming operations. The Catastrophe Indices and Quantification Inc. reported more than 27,000 personal insurance claims with an average claim value of C\$81,000, 5,000 commercial claims averaging C\$227,000, and 12,000 auto claims averaging C\$15,000 per claim (Miller Thomson 2016).

The RMWB created a Recovery Task Force and assigned a manager to oversee the rebuilding efforts after the fire. Economists, city planners and the provincial government expect hundreds of houses will be rebuilt in 2017, which requires thousands of workers and a significant coordination effort by the municipality. The Recovery Task Force issued over 350 building permits in 2016 and expects to issue between 800 and 1,000 in 2017 as residents reconstruct their houses. Rebuilding efforts include reconstructing municipal infrastructure, redeveloping parks and playgrounds and implementing fire mitigation steps to prevent similar disasters from happening in the future.

The economics of the rebuilding efforts are expected to benefit the province, the RMWB and the oil sands industry. The Alberta finance ministry expects the rebuilding effort to contribute 0.5% to Alberta's GDP increase in 2017 (expected provincial GDP growth for 2017 is 2.3%). Up to 9,000 new jobs would be created in 2017 during the rebuilding effort, including 5,100 new jobs in the Fort McMurray area, which was among the hardest hit by Alberta's recession. The Recovery Taskforce sees an opportunity in the rebuilding efforts particularly in improving the unemployment rate that increased dramatically due to recession just before the wildfire (Financial Post 2016).

18.5.2 Oil Sands Initiatives

The following paragraphs discuss government initiatives, both provincial and municipal, as well as industry initiatives to develop and expand the oil sands industry in a responsible way that balances economic growth with social and environmental costs.

18.5.2.1 Government of Alberta Oil Sands Initiatives

The community of Fort McMurray is the commercial and administrative centre for the RMWB and the AOSA. During the expansion of oil sands industry in the RMWB, Fort McMurray transformed from a small northern service centre to a modern urban community (RMWB 2003).

The rapid growth of the oil sands industry has challenged the infrastructure and social services in the RMWB, where the majority of oil sands projects are located, and in Fort McMurray, the urban center of the oil sands region. Fort McMurray became a boomtown, with the escalating

costs and quality-of-life issues that result. The issues include short supply in housing, expensive rental rates, difficulty attracting and retaining workers for occupations apart from oil sands exploration and development (including health care workers, teachers and municipal employees), and additional pressures on health services. Infrastructure has become inadequate for the growing population and is unable to meet the demands created by the growing oil sands industry (IHS CERA 2009).

Between 2008 and 2012, the Government of Alberta, at various levels, responded to the need for infrastructure expansion to meet the anticipated population growth in oil sands region through the following:

1. *Responsible Actions* – A 20 year Strategic Plan for Alberta's Oil Sands, released in 2009
2. *AOSA CRISPs*, released in 2011
3. *the Lower Athabasca Regional Plan (LARP)*, released in 2012.

Responsible Actions

The 20-year strategic plan for Alberta's oil sands aims to reduce the environmental footprint, optimize economic growth and increase the quality of life in Alberta's oil sands regions. The plan provides a platform to balance oil sands development with environmental protection, social responsibility, and economic success. The plan outlines six strategies, three of which focus on social and economic growth (Strategy 2, 3 and 4) and are therefore of specific relevance to the SESA. Below is a list of all six strategies followed by a summary of progress on the plan.

- ▶ *Strategy 1:* develop Alberta's oil sands in an environmentally responsible way
- ▶ *Strategy 2:* promote healthy communities and a quality of life that attracts and retains individuals, families and businesses
- ▶ *Strategy 3:* maximize long-term value for all Albertans through economic growth, stability and resource optimization
- ▶ *Strategy 4:* strengthen our proactive approach to Aboriginal consultation with a view towards reconciling interests
- ▶ *Strategy 5:* maximize research and innovation to further support sustainable development and unlock the deposit's potential
- ▶ *Strategy 6:* increase available information, develop measurement systems, and enhance accountability in the management of the oil sands.

Two years after the release of *Responsible Actions*, over 50 projects and initiatives reflected in the strategic plan have made steady and, in some cases, significant progress. Additionally, policies and processes have been established to achieve the recommended actions, Alberta's oil sands communities are further developing, and the government's commitment to clean energy technology continues (Government of Alberta 2011b). Important achievements and activities from Year 2 of the plan at the 'strategy' level include the following:

Progress in 2010 in Support of Strategy 2:

- ▶ *Housing* – more serviced land is available for sale for developers to build homes
- ▶ *Traffic* – reduction in traffic-related deaths and injuries with the release of Alberta's Traffic Safety Plan
- ▶ *Infrastructure* – release of the CRISP for the AOSA
- ▶ *Land use* – work is continuing on the Urban Development Reserve Project
- ▶ *Infrastructure and social services* – the Social and Infrastructure Assessment Model was completed in 2010 and is currently under review
- ▶ *Health* – the Government of Alberta is committed to working with Alberta residents to better understand their health concerns
- ▶ *School education* – the release of Northern Student Teacher Bursary Program
- ▶ *Post-secondary education* – the release of Alberta Education's Career and Technology Studies program
- ▶ *Emergency services (workplace safety)* – a workplace health and safety plan was developed to support workers
- ▶ *Emergency services (crime prevention)* – the Safe Communities Innovation Fund supported two new safe communities projects in the RMWB.

Progress in 2010 in Support of Strategy 3:

- ▶ Bitumen royalty-in-kind and other value-added initiatives are intended to add value to hydrocarbon resources, diversify Alberta's economy, increase resource revenues and create jobs in the province.
- ▶ A multi-use corridor strategy for Alberta is being developed. The strategy will support regional growth for the future development of needed provincial transportation and energy infrastructure.
- ▶ A Short-Term Employment Forecasting tool was developed to better forecast labour shortages. The methods will help create a list of occupations under pressure in the short-term, from one to three years. This list will assist government, contractors and partners in making decisions and taking actions to ease labour shortages in Alberta.
- ▶ To validate future workforce trends and challenges, as well as identify actions required by industry and government to address gaps, the Government of Alberta hosted a Minister's Forum in October 2010 with 120 senior representatives from a range of industry sectors, labour and government departments. The gathered information will assist the Government and stakeholders with future labour force planning and will act as a catalyst for continued collaboration and cooperation in addressing these issues throughout the province, including in the oil sands regions.

- ▶ Through funding from the Government of Alberta, the Athabasca Tribal Council developed a Work Culture Attraction and Retention DVD targeted to Aboriginal people exploring work opportunities in the oil sands sector and employers looking to recruit. The DVD looks at the impact of living away from home, life in work camps, making informed choices regarding work in the oil sands sector, coping strategies and cultural diversity in the workplace.
- ▶ A number of First Nations and Aboriginal Training to Employment Partnership agreements have been developed between the Alberta Government, the Athabasca Tribal Council, Rupert's Land Institute (formerly the Métis Nation of Alberta Labour Market Unit) and industry. The goal of these partnerships is to address Aboriginal labour pool training needs and meet labour market demand in the region.
- ▶ Industry, government, and stakeholders have partnered to develop a Local Opportunity Centre in the community of Conklin, which is located within the RMWB. The centre provides career, employment and entrepreneurship development for local and surrounding area Aboriginal people and supports employers with attraction and retention strategies and labour market information.
- ▶ In 2010, the MLA Committee on the First Nations, Métis and Inuit Workforce Planning Initiative submitted a report and recommendations to the Ministers of Employment, Immigration and Aboriginal Relations. The overall goal of the recommendations is to increase the participation of Aboriginal people in Alberta's workforce and economy.
- ▶ The Government of Alberta continued to engage with policy makers, government agencies, investors, corporations and others in Canada, the United States and abroad. The focus is to build understanding of Alberta's ability and commitment to manage the responsible development of secure, reliable, and geopolitically important energy resources.

Progress in 2010 in Support of Strategy 4:

- ▶ the Development of a First Nations Consultation Policy on Land Management and Resource Development
- ▶ this policy was introduced in 2005. Associated guidelines for policy implementation were released in 2006 and updated in 2007 (Government of Alberta 2011b).

A revised *Policy on Consultation with First Nations on Land and Resource Management, 2013* was released by the Government of Alberta on 16 August 2013 and came into effect with the establishment of Alberta's Aboriginal Consultation Office. A draft revision to the Corporate Guidelines for First Nations Consultation Activities, 2013 was also released by the Government of Alberta for public comment (Government of Alberta 2013).

The AOSA CRISP

The CRISP is a guideline for long-term infrastructure development in the AOSA and supports Responsible Actions, the Alberta government’s strategic plan for development of its oil sands resource. The CRISP focuses on community development and identifies infrastructure needs related to transportation, water and wastewater servicing, education (K-12) and health care (Government of Alberta 2011a).

The CRISP uses oil industry information to forecast oil sands production levels, review oil sands project start and completion dates, and produce estimates for population growth. The data indicates that 6.0 million barrels per day (bpd) and a population of approximately 240,500 are expected in the AOSA by the year 2045. This information is fundamental in planning where and when infrastructure will be required.

The AOSA CRISP noted that, unlike other areas of the province, where there are numerous factors that affect population growth and the associated demands for infrastructure, oil sands development is the primary economic driver in the AOSA and population growth is clearly tied to the employment requirements of oil sands projects.

With the uncertainties surrounding the oil sands industry and the current economic recession, it is worth mentioning that the CRISP is designed to be flexible and responsive to changes in production and population rates. A Monitoring Framework was established to track indicators and provide a fact-based approach for recommending changes to the pace of infrastructure development. The CRISP Monitoring Framework tracks trends in bitumen production and population and employment growth over time so that any necessary adjustments can be made to the phasing and implementation of the CRISP (Government of Alberta 2011a).

[Table 18.5-1](#), defines the four phase of the AOSA CRISP. Each phase has an estimated bitumen production and population that corresponds to that estimate. [Tables 18.5-2 to 18.5-5](#) identify infrastructure requirements, in both Aboriginal and non-Aboriginal communities, relative to potential oil sands production rates and associated population growth increments.

**Table 18.5-1: Phases of the Athabasca Oil Sands Area
 Comprehensive Regional Infrastructure Sustainability Plans**

CRISP	Estimated Time Frame	Estimated Bitumen Production	Estimated Regional Population
Phase I	2010–2014 ¹	2.3 million bpd	129,300
Phase II	2015–2025	3.7 million bpd	165,400
Phase III	2026–2034	5.0 million bpd	199,200
Phase IV	2035–2045	6.0 million bpd	240,500

Notes:

¹ Total oil sands production (mined and in situ) reached about 2.3 million bpd in 2014.

Source: Government of Alberta 2011a.

Table 18.5-2: Phase I: Highlights of Infrastructure Improvements

Growth Centre	Fort McMurray continues as the dominant centre in the region. Siting studies completed for new urban growth north of Fort McMurray and new planned work camp community near Conklin, and population growth begins to occur in these areas.
Transportation	<ul style="list-style-type: none"> ▶ Additional lane capacity on Highway 63 south of Mariana Lake and north of Fort McMurray. ▶ Upgrades to Highway 881 south of Conklin to improve movement of over dimensional loads. ▶ Eastern by-pass route around Fort McMurray. ▶ Implementation of bus-based rapid transit north of Fort McMurray and between Lac La Biche and Project sites near Conklin. ▶ Upgrade Lac La Biche and Project sites near Conklin. ▶ Upgrade Lac La Biche and Fort McMurray airports to accommodate increased demands.
Water/wastewater	<ul style="list-style-type: none"> ▶ New water and wastewater treatment facilities at the new urban growth node and planned work camp community near Conklin. ▶ Upgrades to treatment waste facility in Lac La Biche, Wabasca and Anzac.
Education	Approximately 4,900 new spaces at elementary and secondary schools.
Health	Approximately 65 new health care services spaces.

Table 18.5-3: Phase II: Highlights of Infrastructure Improvements

Growth Centre	Fort McMurray, Anzac, Lac La Biche and the new urban growth node continue to experience high rates of growth. Siting studies are completes for a new planned work camp community north of Wabasca.
Transportation	<ul style="list-style-type: none"> ▶ Extend the eastern highway route initiated in Phase 1 northward to access Project sites east of the Athabasca River. ▶ Completion of ring road around Fort McMurray. ▶ New road corridor west from Fort McMurray to Wabasca and the Red Earth Creek Area. ▶ Extension of Highway 813 north from Wabasca. ▶ Establish an inter-provincial connection to Saskatchewan near Axe Lake. ▶ Introduce commuter rail service in conjunction with new freight rail service between Fort McMurray and the new urban growth node, servicing oil sands projects in the Surface Mineable Area. ▶ Extend bus-based rapid transit measures south and northeast of Fort McMurray. ▶ New airport servicing the new urban growth node and nearby oil sands projects.
Water/wastewater	<ul style="list-style-type: none"> ▶ Upgrades to Fort McMurray water treatment plant. ▶ New water and wastewater treatment facilities for the planned work camp community north of Wabasca.
Education	Approximately 7,700 new spaces at elementary and secondary schools.
Health	Approximately 82 new health care services spaces.

Table 18.5-4: Phase III: Highlights of Infrastructure Improvements

Growth Centre	Continue to accommodate growth in Fort McMurray, Anzac, Lac La Biche, Wabasca and the new urban growth node, as well as in the new planned work camp community north of Wabasca.
Transportation	<ul style="list-style-type: none"> ▶ Establish a western highway route north of Fort McMurray to access Project sites on the western edge of the Surface Mineable Area from both Fort McMurray and the new urban growth node. ▶ Extend Highway 63 north to establish a provincial all-season road to Fort Chipewyan. ▶ Establish an inter-provincial, all-season connection to Saskatchewan near Garson Lake. ▶ Upgrade Wabasca's airport to service increased oil sands activity in the region.
Water/wastewater	Introduce and upgrade water and wastewater facilities as required.
Education	Approximately 7,200 new spaces at elementary and secondary schools.
Health	Approximately 71 new health care services spaces.

Table 18.5-5: Phase IV: Highlights of Infrastructure Improvements

Growth Centre	Continue to accommodate growth in Fort McMurray, Anzac, Lac La Biche, Wabasca and the new planned work camp communities and urban growth node.
Transportation	Establish a north-western highway route to connect the new urban growth node and planned work camp community to Project sites related to carbonate development in the northwest of the AOSA.
Water/wastewater	Introduce and upgrade water and wastewater facilities as required.
Education	Approximately 9,200 new spaces at elementary and secondary schools.
Health	Approximately 92 new health care services spaces.

The Lower Athabasca Regional Plan 2012-2022

The LARP 2012 to 2022 was released in August 2012 and took effect in September 2012. It sets the stage for the next 50 years, concentrating on environmental, economic and social actions. Relevant social and economic actions to this study include:

- ▶ addressing infrastructure challenges and new strategies to plan for urban development around Fort McMurray
- ▶ providing year-round tourism and recreational opportunities through the creation of nine new provincial recreational areas, which will have access to campsites, trails and boat docks
- ▶ providing certainty for industry in development of the oil sands
- ▶ supporting diversification of the regional economy – recognizes tourism and recreational opportunities, the potential for further responsible development of energy, minerals, coal, surface materials, forestry and agriculture.

In order to achieve its purpose, the LARP:

- ▶ establishes a long-term vision for the region
- ▶ aligns provincial policies at the regional level to balance Alberta's economic, environmental and social goals

- ▶ reflects ongoing commitment to engage Albertans, including Aboriginal peoples, in land use planning
- ▶ uses a cumulative effects management approach to balance economic development opportunities and social and environmental considerations
- ▶ sets desired economic, environmental and social outcomes and objectives for the region
- ▶ describes the strategies, actions, approaches and tools required to achieve the desired outcomes and objectives
- ▶ establishes monitoring, evaluation and reporting commitments to assess progress
- ▶ provides guidance to provincial and local decision-makers regarding land use management for the region.

The LARP has four key components: introduction, strategic plan, implementation plan, and regulatory details plan. The strategic plan focuses on:

- ▶ improving integration of industrial activities
- ▶ encouraging timely and progressive reclamation
- ▶ managing air, water and biodiversity, and minimizing land disturbance
- ▶ creating new conservation areas
- ▶ strengthening infrastructure planning
- ▶ providing new recreation and tourism opportunities
- ▶ inclusion of Aboriginal peoples in land use planning (Government of Alberta 2012).

Through the above three Governmental actions and/initiatives, the RMWB has seen a remarkable expansion from the 2004 conditions. However, work on the above initiatives slowed during the 2015-2016 economic downturn and priorities slightly changed after the wildfire. To date no further updates to these initiatives have been released.

Parallel to the above governmental initiatives, the RMWB, oil sands industry and Suncor have their own community development initiatives. These initiatives are summarized in the following paragraphs.

18.5.2.2 Regional Municipality of Wood Buffalo Oil Sands Initiatives

On May 2015, the 2013-2017 Council of the RMWB approved its Strategic Plan that aims to continually improve the quality of life within its communities by providing valued services. There are seven goals for the plan; each of which has its own objective and a list of Projects/Actions (RMWB 2016a). [Table 18.5-6](#) includes a list of the RWMB oil sands initiatives and actions in both Aboriginal and non-Aboriginal communities. As a result of the wildfire and the priorities of the Recovery Task Force, the timing of some of the project/actions may be delayed. To date, there are no further updates available from the RMWB on the current status of the Strategic Plan and its proposed projects/actions.

**Table 18.5-6: Regional Municipality of Wood Buffalo
 Oil Sands Initiatives, Objectives and Projects/Actions**

Goal	Objective	Projects/Actions
Building responsible Government	To ensure that the Municipality operates effectively and efficiently, by demonstrating accountability, integrity and transparency in all that it does.	<ul style="list-style-type: none"> ▶ Policy framework and policies approved and in place. ▶ Governance structure established and functioning well. ▶ Recommendations for audit implemented.
Building balanced regional services	To deliver high quality and well-planned services to our residents.	<p>Projects to be completed by 2017:</p> <ul style="list-style-type: none"> ▶ updated Master plans for water and wastewater ▶ key performance indicators established, measured and publicly reported ▶ long-term plan for developing and maintaining infrastructure for core services ▶ the following infrastructure projects will be completed: <ul style="list-style-type: none"> ○ Fort Chipewyan Water Treatment Plant Upgrade ○ Parsons Creek water supply from Water Treatment Plant to Parsons Creek reservoir ○ flood mitigation plan ○ Saline Creek water main from Hardin Street to King Street booster station ○ Janvier sewage lagoon upgrade ○ Anzac Fire Hall built ○ Anzac waste water treatment plant and effluent pipeline construction ○ Confederation Way sanitary sewer bypass ○ Beacon Hill outfall, water supply and pipeline upgrades ○ Southwest Water line ○ Fort McKay Fire Hall.
Building a vibrant economy together	To systematically collaborate with local businesses, residents and industry to encourage creation of a viable and sustainable marketplace.	<p>Projects to be completed by 2017:</p> <ul style="list-style-type: none"> ▶ municipality-wide Entrepreneurship Program ▶ facilitation of commercial development including: <ul style="list-style-type: none"> ○ approved design, development and build-out of the Athabasca ○ Power Centre site ○ initial development of Prairie Creek Business Park ○ initial development of Parson Creek town centre site ○ initial development of Saline Creek commercial development site ○ south side Highway 69 industrial.
Building an effective land strategy	To have an integrated and planned approach to the effective and efficient release and development of land.	<p>Projects to be completed by 2017:</p> <ul style="list-style-type: none"> ▶ a master agreement between the Municipality, Alberta Infrastructure and Alberta Transportation will be implemented including: <ul style="list-style-type: none"> ○ sale of Parsons Creek Town Centre lands ○ sale of lot 1, 6, 7, & 8 at Saline Creek ○ land policies and procedures updated.

Goal	Objective	Projects/Actions
Building an effective land strategy <i>(cont'd)</i>		<ul style="list-style-type: none"> ▶ master planning documents to be updated including: <ul style="list-style-type: none"> ○ census ○ Municipal Development Plan ○ fringe area study ○ RMWB Structure Plan ○ downtown Area Redevelopment Plan.
Building a reliable transportation system	To provide sustainable and reliable transportation and so improve the quality of life throughout the Region.	Projects to be completed by 2017: <ul style="list-style-type: none"> ▶ creation of a Transportation Authority ▶ creation of a transit master plan and improved business model ▶ improvements to the transportation infrastructure including: <ul style="list-style-type: none"> ○ twin Highway 69 from west of Saline Creek to Range Road 85 (West Airport Boundary Road) ○ Highway 63 – Intersection improvements at Highway 69 and Mackenzie Blvd. ○ Fort Chipewyan Firebag Bridge replacement ○ Highway 63 – Six lane highway from Hospital Street to Main Street interchange.
Building a sustainable region	To value our environment as our natural, community and economic foundation.	Projects to be completed by 2017: <ul style="list-style-type: none"> ▶ implement sustainability programs for homeowners including: <ul style="list-style-type: none"> ○ retrofit rebates for home-based water conservation ▶ improve infrastructure including: <ul style="list-style-type: none"> ○ commissioning and operating an industrial-scale compost facility at the landfill ○ enhancements to and optimization of material recovery facility ○ an enhanced landfill gas management system on the old landfill site ○ Phase 1 of Zero Waste Initiative ○ implemented effluent re-use in industrial applications ○ Utility Corporation will be operational.
Building for a healthy and active lifestyle	To connect people and communities through accessible, regional-based leisure and wellness activities, programmes, and public gathering places.	Projects to be completed by 2017: <ul style="list-style-type: none"> ▶ regional indoor recreation and community facility master plan ▶ host major sports tourism events including: <ul style="list-style-type: none"> ○ Western Canada Summer Games ○ Northern Kick off presented by Shell ○ FC Edmonton regular season soccer game ○ Tim Horton's Canadian Ringette championships ○ Grand Slam of Curling Elite 10 ○ Crescent Point Energy Western Canada Cup (hockey) ○ 2016 Baseball Canada Cup. ▶ construct new recreation, wellness and leisure facilities throughout the region including: <ul style="list-style-type: none"> ○ Conklin Multiplex Centre ○ Northside Multi-Use Facility - Phase 1 (Twin Arenas) ○ Fort Chipewyan Aquatic Centre ○ SEC development is underway.

Source: RMWB (2016a).

18.5.2.3 Industry's Oil Sands Initiatives

Industry recognizes that in the current economic environment, future growth in surrounding communities also changes. The Oil Sands Community Alliance (OSCA) (previously known as the Oil Sands Development Group) has 25 industry members that work collectively with stakeholders to determine the growth patterns and to plan appropriately. Its four focus areas include:

- ▶ *Aboriginal Community Relations:* OSCA is committed to partnering with Aboriginal communities to ensure shared benefits of economic growth
- ▶ *Community Well-Being:* OSCA is committed to continuous improvement to develop innovative strategies, mitigate risks, and promote sustainable development
- ▶ *Infrastructure:* OSCA is committed to the efficient and effective flow of people, materials and products
- ▶ *Workforce:* OSCA through timely dialogue and the collection of workforce data, will gain a clearer picture of arising workforce issues and identifying realistic growth targets for the future (OSCA 2016).

The Sustainable Community Initiative (SCI) is a collaborative program between oil sands companies, two communities in northern Alberta and various partner organizations. SCI started as an exploration into how communities and companies could work together to create shared benefit and value in the region. SCI seeks to:

- ▶ grow, strengthen and deepen relationships between community and industry, as well as other organizations working in the region
- ▶ realize solutions that create shared benefits and value, by focusing on common interests between community and industry
- ▶ share learning and influence others to develop collaborative practices.

18.5.2.4 Suncor Oil Sands Initiatives in the Regional Municipality of Wood Buffalo

Suncor is one of the founding commercial oil sands developers and has a history of building long-term, mutually beneficial relationships in the area. During its decades of operations in the RMWB, Suncor has established mechanisms to enhance socio-economic benefits and reduce adverse effects of project activities in the region. Suncor is committed to working in collaboration with local and Aboriginal communities in the RMWB to develop a thriving energy industry that allows non-Aboriginal and Aboriginal communities alike to be vibrant, diversified and sustainable. Suncor activities and initiatives include:

- ▶ Suncor Energy Foundation and Suncor Community Investment.
- ▶ Dedicated Stakeholder Relations practitioners and Community Development resources on site, in key operating areas. These employees are active members of the community that listen and actively engage with community members so that they are informed of issues and opportunities affecting them. Engagement is also supported through:
 - Stakeholder Relations Policy
 - Canadian Aboriginal Relations Policy

- Aboriginal Awareness Training
- Aboriginal Employee Network.
- ▶ Long-term sustainability goals announced in 2016 focused on greenhouse gas (GHG) emissions reduction and strengthening our relationships with Aboriginal Peoples:
 - Suncor's new GHG goal will harness technology and innovation to reduce our emissions intensity 30% by 2030
 - Suncor's first long-term social goal recognizes the value of relationships, and focuses on changing the way we think and act so we can strengthen our relationships and increase the participation of Aboriginal Peoples in energy development.
- ▶ Progressive Aboriginal Relations (PAR) Certification.
- ▶ Partnerships, agreements and other formal arrangements.
- ▶ Suncor is signatory to Carbon Pricing Leadership Coalition, a voluntary initiative that aspires to catalyze action towards the successful implementation of global carbon pricing.
- ▶ Aboriginal Relations VP Steering Committee and governance framework to steward Aboriginal Relations across the company.
- ▶ Economic and business development with Aboriginal vendors, business, suppliers and entrepreneurs. Since 1995, Suncor has had a team dedicated to advancing Aboriginal business development in Wood Buffalo:
 - in 2016, Suncor purchased over \$455 million goods and services from Aboriginal businesses, 3.7% of Suncor total spend for materials and services
 - Suncor is a patron sponsor of the Canadian Council of Aboriginal Business and actively collaborates with Northeastern Alberta Aboriginal Business Association (NAABA) on business and employment opportunities
 - in 2015 and 2016 Aboriginal Supplier Engagement, a department with Supply Chain developed Joint Business Development Plans with key communities. Joint Business Development Plans provide structure on how we work together and collectively focus on key objectives. These plans often include annual work plans that enable Aboriginal communities to direct efforts where there is a possibility to increase business and enables Suncor to track supplier's with capabilities
 - Suncor is engaged with 197 Aboriginal suppliers contracted for materials and services.
- ▶ Suncor's Diversity & Inclusion and Talent Acquisition teams are working to build relationships with Aboriginal Skills and Employment Training holder organizations in the RMWB and Edmonton areas.
- ▶ Suncor is signatory to a number of emergency response mutual aid agreements with other industry and the RMWB.

- ▶ In 2014, Suncor's reclamation and stakeholder and Aboriginal relations teams worked together with five First Nations in the RMWB to better understand what wetland plant species are important to these communities. Suncor invited five Elders from each of the First Nations to jointly develop the Wetland Plant Species Project. In 2016, at the request of one of the local Métis groups, Elders from that community joined the team. The study is a collaborative approach between Suncor and Aboriginal communities to identify wetland plants that reflect and respect the traditional knowledge of communities and enhance Suncor's reclamation approach.
- ▶ Leaders of our Wood Buffalo operations participate in local treaty days, traditional and cultural camps, feasts, and traditional plant survey projects. Senior management also meet annually with leaders of the local Aboriginal communities as a way to deepen relationships. Suncor senior leaders are also engaged through the Suncor Energy Foundation partners.
- ▶ Over the past 15 years, Suncor and the Suncor Energy Foundation have contributed more than \$249 million to charitable and non-profits organizations in Canada and internationally. Suncor is currently supporting a variety of regional initiatives and collaborations through funding and volunteer commitments, including:
 - the United Way
 - Suncor Community Leisure Centre
 - Suncor Centre for the Performing Arts
 - Keyano College
 - Northern Lights Health Foundation
 - Society for the Prevention of Cruelty to Animals
 - Wood Buffalo Food Bank
 - Social Prosperity Wood Buffalo
 - Fuse Social
 - Wood Buffalo Strategy Roadmap
 - Redpoll Shared Space Centre, managed by United Way.

18.5.2.5 Suncor Horse River Fire Response

Within days of the community evacuations due to the Horse River Fire, the SunCares Humanitarian Grant was launched. The result was an astounding 1,700 donations totalling more than \$547,000 contributed by employees, leaders, contractors, retirees, and Suncor's Board of Directors to the Canadian Red Cross and the United Way of Fort McMurray. Additionally, the Suncor Energy Foundation matched the donations for a total contribution of \$1.094 million.

Through Petro-Canada and its loyalty program Petro-Points, members donated over 2 million points, and gas cards were provided to various non-profits assisting with relief efforts. Petro-Canada retail stations in Alberta accepted Red Cross fuel vouchers from evacuees.

In addition, the Suncor Energy Foundation and Suncor provided approximately \$1 million in grants to charities and non-profit organizations in Wood Buffalo to support their recovery efforts.

Overall, including Suncor employee donations, Suncor and the Suncor Energy Foundation provided over \$3 million in cash and in-kind support to the community through the Horse River Fire.

18.5.3 Alberta Oil Sands Projected Investment 2015 to 2035

Each year the Canadian Energy Research Institute (CERI) publishes its long-term outlook for Canadian oil sands production and supply in conjunction with an examination of oil sands supply costs. Supply cost is the constant dollar price needed to recover all capital expenditures, operating costs, royalties and taxes and earn a specified return on investment. The supply costs of crude bitumen using SAGD and surface mining and extraction have been calculated for a hypothetical project. According to the study, and as of August 2015, the supply costs, which exclude transportation and blending costs, are C\$58.65/bpd for a SAGD project. Over the 20-year projection period from 2015 to 2035 inclusive, the total initial and sustaining capital required for all projects is projected to be C\$329 billion. Capital investment into in situ projects surpasses the capital spent for mining projects, which is consistent with the ongoing trend to invest more into in situ projects rather than mining.

From 2015 to 2035, the following investments are projected:

- ▶ C\$116 billion (initial and sustaining) will be invested into mining projects and C\$194 billion into in situ thermal and solvent, as well as primary and cold bitumen projects. Upgrading projects see the least amount of capital spent, amounting to C\$19 billion
- ▶ while total spending increased from 2007 to 2013, reaching an all-time high of C\$55 billion in 2013, investment then started to fall with declining oil prices in the near term, and slowly expected to recover to a forecast's peak of C\$56 billion in 2022, and then flattens out, averaging C\$50 billion per year (CERI 2015, 2017).

Alberta Oil Sands Royalty Revenues

As a result of capital spending cuts and low prices, royalties decreased in 2015 to 2009 levels, barely reaching C\$2 billion. Over the next five years from 2015 to 2020, royalty revenues will add up to just under \$32 billion (CERI 2015).

Royalties are expected to continue to decrease (after an all-time high in 2013) throughout 2015 and 2016. Over the next five years, from 2016 to 2021, as oil prices are expected to recover, royalty revenues will add up to \$55 billion (cumulatively) (CERI 2017).

Alberta Oil and Gas Labour Shortages

According to the Calgary-based Petroleum Labour Market Information up to 28,000 jobs were lost between 2014-2015 due to cost cutting, mergers and acquisitions as well as bankruptcies in the oil and gas sector. As of December 2016, about 198,300 people are directly employed in oil and gas across Canada, down from a record 226,000 in 2014.

Despite the current depressed market, Petroleum Labour Market Information says there is some hiring occurring for select roles. Additionally, moderate increases to oil prices anticipated through 2020 are expected to also moderately increase available jobs. Age-related attrition will also contribute to a tighter market going forward. The greatest hiring needs between January 2017 and 2020 are:

- ▶ oil and gas well drillers, servicers, testers and related workers
- ▶ supervisors and contractors, oil and gas drilling and service
- ▶ managers in natural resources production
- ▶ heavy equipment operators—except crane
- ▶ power engineers and power systems operators (steam ticket required)
- ▶ purchasing agents and officers
- ▶ oil and gas drilling, servicing and related labourers
- ▶ geologists and geophysicists
- ▶ petroleum, gas and chemical process operators (no steam ticket required)
- ▶ oil and gas well drilling workers and service operators (Alberta Oil Sands Industry 2016).

Examples of occupations that could have labour shortages by 2025:

- ▶ managers in construction and transportation (shortage of 1,386 workers)
- ▶ computer and information systems professionals (shortage of 1,426 workers)
- ▶ nurse supervisors and registered nurses (shortage of 5,434 workers)
- ▶ medical technologists and technicians (shortage of 2,322 workers)
- ▶ sales and service supervisors (shortage of 1,145 workers) (Alberta Oil Sands Industry 2016).

Over the next four years (2016 to 2020), employment is forecast to grow by approximately 6%, or about 3,400 jobs, from an estimated 63,800 in 2016 to 67,200 in 2020. Jobs in onsite construction and module fabrication are expected to decline by 6,500, but the decline will be offset by an increased requirement for 9,900 workers to support ongoing operations, maintenance and turnaround activities (CERI 2017).

18.5.4 Economic Conditions

18.5.4.1 Overview of Socio-economic Settings in the Socio-economic Study Area

Table 18.5-7 includes the latest available socio-economic profile statistics for the RMWB, Fort McMurray and Fort McKay. It includes population, education attainment, labour force indicators, employment by industry, composition of income and dwelling counts. These statistics are referenced in the following sections.

Table 18.5-7: Socio-economic Profile of the Socio-economic Study Area

	Wood Buffalo (Census Agglomeration)	Fort McMurray	Fort McKay – Indian Settlement (Census Subdivision)
Characteristics	Total	Total	Total
Total population aged 15 years and over by highest certificate; diploma or degree	54,230	90,480	405
No certificate; diploma or degree (%)	16.24	23.36	53.09
High school diploma or equivalent (%)	26.31	25.80	27.16
Postsecondary certificate; diploma or degree (%)	57.43	50.83	18.52
Total population aged 15 years and over by labour force status	54,230	90,480	405
In the labour force	44,880	69,850	240
Employed	95.29	94.17	93.75
Unemployed	4.71	5.82	6.25
Not in the labour force	9,345	20,635	170
Participation rate (%)	82.8	77.2	59.3
Employment rate (%)	78.9	72.7	55.6
Unemployment rate (%)	4.7	5.8	6.2
Total labour force aged 15 years and over by class of worker	44,880	69,845	235
Total labour force population aged 15 years and over by industry - North American Industry Classification System (NAICS)	44,885	69,850	235
Industry - not applicable	430	870	10
All industries	44,455	68,975	230
11 Agriculture; forestry; fishing and hunting	0.11	2.79	0.00
21 Mining; quarrying; and oil and gas extraction	29.36	22.38	15.22
22 Utilities	0.79	0.85	0.00
23 Construction	10.62	10.16	21.74
31-33 Manufacturing	4.38	4.72	0.00
41 Wholesale trade	4.22	3.93	0.00
44-45 Retail trade	8.33	8.89	4.35
48-49 Transportation and warehousing	4.59	4.80	6.52
51 Information and cultural industries	0.67	0.65	0.00
52 Finance and insurance	1.33	1.32	0.00
53 Real estate and rental and leasing	2.24	1.77	0.00
54 Professional; scientific and technical services	4.02	3.53	0.00
55 Management of companies and enterprises	0.07	0.04	0.00
56 Administrative and support; waste management and remediation services	4.85	4.09	0.00
61 Educational services	4.60	6.98	6.52
62 Health care and social assistance	5.03	6.20	8.70
71 Arts; entertainment and recreation	1.71	1.49	0.00
72 Accommodation and food services	4.80	5.15	0.00

	Wood Buffalo (Census Agglomeration)	Fort McMurray	Fort McKay – Indian Settlement (Census Subdivision)
81 Other services (except public administration)	3.70	3.88	4.35
91 Public administration	4.59	6.38	26.09
Total income in 2010 of population aged 15 years and over	54,230	90,480	405
Without income (%)	5.02	5.47	8.64
With income (%)	94.98	94.53	91.36
Median income (\$)	68,644	47,348	24,959
Average income (\$)	87,878	69,502	64,344
Composition of total income in 2010 of population 15 years and over (%)	100	100	101.4
Market income (%)	97.9	95.8	91.7
Government transfer payments (%)	2.1	4.2	6.7
Total number of occupied private dwellings by condition of dwelling	23,630	40,595	205
Only regular maintenance or minor repairs needed	94.14	89.56	85.37
Major repairs needed	5.88	10.44	14.63
Total number of private households by tenure	23,630	40,595	200
Owner	68.45	69.82	15.00
Renter	29.77	25.71	17.50
Band housing	1.78	4.48	70.00

Source: Statistics Canada (2013).

18.5.4.2 Investment in the Socio-economic Study Area

As of January 2017, the value of major projects in the SESA is estimated at 78.3 billion of a 232.3 billion total budget in Alberta. The oil and gas sector has the biggest share of that value accounting for 90% followed by pipelines for nearly 9% and the power sector at less than 2% (Tables 18.5-8 and 18.5-9).

Table 18.5-8: Value of Major Projects by Sector in the Socio-economic Study Area (Regional Municipality of Wood Buffalo) as of April 2017

Sector	Costs in Million
Infrastructure	\$413.00
Institutional	\$228.00
Oil and gas	\$70,600.00
Pipelines	\$6,700.00
Residential	\$20.00
Tourism/recreation	\$251.00
Total	\$78,300.00

Source: Alberta Government (2017).

**Table 18.5-9: Inventory of Major Oil and Gas and Pipeline Projects
 in the Socio-economic Study Area (Regional Municipality
 of Wood Buffalo) as of April 2017**

Name	Estimated Costs (\$ millions)	Schedule	Sector	Stage
Algar Lake Oil Sands Project Phase 2	185	Commencing 2018	Oil and gas	Proposed
Ells North Oil Sands Facility Phases 1 and 2	100	Commencing 2019	Oil and gas	Proposed
Silvertip Oil Sands Facility Phases 1 and 2	100	n/a	Oil and gas	Proposed
Frontier Oil Sands Mine	20,600	2019-2026	Oil and gas	Proposed
Fort Hills Oil Sands Mine	17,000	2013-2017	Oil and gas	Under construction
Aspen Oil Sands Project	7,000	2016-2020	Oil and gas	Proposed
Equinox Oil Sands Mine	5,750	Commencing 2019	Oil and gas	Proposed
Voyageur South Mine	4,400	Commencing 2018	Oil and gas	Proposed
Christina Lake Thermal Expansion Project	2,700	2012-2019	Oil and gas	Under construction
Dover Commercial Project Phase 1	2,500	2018-2026	Oil and gas	Proposed
Narrows Lake In Situ Oil Sands Project	1,600	2013-2017	Oil and gas	Under construction
Telephone Lake SAGD Project Phase 1	1,000	2014-2018	Oil and gas	Under construction
Hangingstone SAGD Commercial Production Project	1,500	2013-2017	Oil and gas	Under construction
Great Divide SAGD Expansion Phase 1	600	n/a	Oil and gas	Proposed
BlackGold Oil Sands Project Phase 2	540	n/a	Oil and gas	Proposed
Thickwood SAGD Oil Sands Project	420	n/a	Oil and gas	Proposed
Rigel Oil Sands Project	390	2015-2017	Oil and gas	Proposed
May River Bitumen Project Phase 1	250	n/a	Oil and gas	Proposed
Oak Point Lewis SAGD Oil Sands Project ¹	65	n/a	Oil and gas	Proposed
Grand Rapids Pipeline Project	3,200	2014-2017	Pipelines	Under construction
Wood Buffalo Crude Oil Pipeline Extension	1,300	2015-2017	Pipelines	Under construction
Northern Courier Pipeline Project	660	2014-2017	Pipelines	Under construction
Northern Courier Tank Terminal	50	2015-2017	Oil and gas	Under construction
Norlite Pipeline	1,400	2015-2017	Pipelines	Under construction
Saleski Oil Sands Pilot Project Expansion	520	2015-2017	Oil and gas	Proposed
Total	73,830			

Notes:

¹ Suncor acquired Oak Point Energy in Q1 2018.

n/a = Not applicable.

Source: Alberta Government (2017).

18.5.4.3 Labour Force Indicators for Non-Aboriginal Population

The Statistics Canada 2011 census shows that the RMWB has higher labour force participation (83.3%) and employment rates (79.5%), and a lower unemployment rate (4.7%), compared to both provincial and national rates [Table 18.5-10](#) (Statistics Canada 2013).

Table 18.5-10: Labour Force Indicators in the Regional Municipality of Wood Buffalo, Alberta and Canada (2011)

Area	Labour Force Participation Rate ¹ (%)	Unemployment Rate ² (%)	Employment Rate ³ (%)
RMWB	83.3	4.7	79.5
Fort McMurray	77.2	5.8	72.7
Fort MacKay (Fort McKay First Nation)	59.3	6.2	55.6
Alberta	73.2	5.8	69.0
Canada	66.0	7.8	60.9

Notes:

¹ Labour force participation rate: labour force in the week prior to Census Day, expressed as a percentage of the population 15 years of age and over.

² Unemployment rate: number of unemployed persons expressed as a percentage of the labour force in the week prior to Census Day.

³ Employment rate: number of persons employed in the week prior to Census Day, expressed as a percentage of the total population 15 years of age and over.

Source: Statistics Canada (2013).

The 2011 census also shows that Fort McMurray, the major urban center in the municipality, has a higher participation rate (77.2%) than the Fort McKay Indian Settlement (Fort McKay First Nation) rate (59.3%) and is slightly lower than the RMWB rate (83.3%).

The 2011 census shows that the total experienced labour force 15 years and over is 44,360 people. Thirty percent of the labour force works in mining, quarrying, and oil and gas extraction, 10% works in construction, 8% works in retail trade, 5% in health care and social assistance, and 5% in administrative and support, waste management and remediation services. These industries are the five largest employers in the RMWB (Statistics Canada 2013).

Earnings statistics show that 48.7% of people 15 years and over in the RMWB have employment income, compared to 39.2% in Alberta. Median employment income is \$104,613 and \$55,507 in the RMWB and Alberta, respectively. Income statistics suggest that the percentage of people 15 years and over with any income in the RMWB is 95.1%, compared to 95.2% in Alberta. The median total income is considerably different; however, with \$69,916 in the RMWB and \$36,306 in Alberta as a whole. Employment income as a percentage of total income is 95.1% in the RMWB, compared to 81.3% in Alberta. [Table 18.5-11](#) provides a comparison between labour force indicators in the RMWB, Fort MacKay and Alberta as a whole in 2011.

Table 18.5-11: Labour Force by Industry in the Regional Municipality of Wood Buffalo Fort McKay and Alberta (2011)

Industry	RMWB	Fort MacKay	Alberta
Agriculture, forestry, fishing and hunting (%)	<1%	0%	3%
Mining, quarrying, and oil and gas extraction (%)	30%	15%	7%
Utilities (%)	<1%	0%	1%
Construction (%)	10%	22%	9%
Manufacturing (%)	4%	0%	6%
Wholesale trade (%)	4%	0%	4%
Retail trade (%)	8%	4%	11%
Transportation and warehousing (%)	5%	7%	5%
Information and cultural industries (%)	<1%	0%	2%
Finance and insurance (%)	1%	0%	3%
Real estate, rental, and leasing (%)	2%	0%	2%
Professional, scientific and technical services (%)	4%	0%	8%
Management of companies and enterprises (%)	<1%	0%	0%
Administrative and support, waste management and remediation services (%)	5%	0%	3%
Educational services (%)	5%	7%	7%
Health care and social assistance (%)	5%	9%	10%
Arts, entertainment, and recreation (%)	2%	0%	2%
Accommodation and food services (%)	5%	0%	6%
Other services (except public administration) (%)	4%	4%	5%
Public administration (%)	4%	26%	6%
Earnings and Income			
Persons 15 years and older with employment income (%)	48.7	43.2	39.2
Median employment income persons 15 years and older (\$)	104,613	49,960	55,507
Persons 15 years and older with income (%)	95.1	91.4	95.2
Median income persons 15 years and older (\$)	69,916	24,959	36,306
Composition of Total Income			
Employment Income as % of total income	95.1	69.4	81.3
Government transfer as % of total income	2.1	6.7	7.3
Other money as a % of total income	0.6	20.3	1.6

Notes:

Experienced labour force: persons 15 years and over, excluding institutional residents, who were employed or unemployed during the week prior to Census Day, and who had last worked for pay or in self-employment in either that year or the previous year.

Source: Statistics Canada (2013).

Fort McMurray's economy is heavily dependent on oil sands exploration and development. However, the Fort McMurray economy also relies on natural gas and oil distribution, forestry, and tourism. Due to the Horse River Fire and recession, the profile of business within the community has changed. Fort McMurray's growth is characteristic of a resource-based community and urban service centre that supplies goods and services to oil sands development, workers and residents in the area.

18.5.4.4 Economic Indicators for the Aboriginal Population

The 2011 census shows that the total experienced Aboriginal identity labour force 15 years and over in the RMWB is 3,405 people employed in the following sectors: 33% in mining, quarrying, and oil and gas extraction, 11% in construction, 8% in retail trade, 8% in public administration, and 5% in administrative and support, waste management and remediation services (Statistics Canada 2013).

In 2011, 43.8% of Aboriginal people in the RMWB earned employment income, meaning they were employed full-time for the entire previous year. This is compared with 30.9% of the total Albertan Aboriginal population. The percentage of Aboriginal people 15 years and over with income in the RMWB is 91.2%, compared to 90.6% in Alberta as a whole. The median income is very different: \$45,378 in the RMWB and \$21,013 in Alberta. Employment Income as a percentage of total income is 93.9% in the RMWB, compared to 81.8% in Alberta. [Table 18.5-12](#) provides a comparison between labour force indicators for Aboriginal people in the RMWB and Alberta as a whole in 2011 (Statistics Canada 2013).

Table 18.5-12: Economic Indicators for the Aboriginal Population in the Regional Municipality of Wood Buffalo and Alberta (2011)

Economic Indicator	RMWB Aboriginal Population	Alberta Aboriginal Population
Labour Force		
Labour force participation rate (%)	73.9	64.9
Employment rate (%)	67.5	56.8
Unemployment rate (%)	8.6	12.6
Industry		
Agriculture, forestry, fishing and hunting (%)	0.4%	2%
Mining, quarrying, and oil and gas extraction (%)	33%	7%
Utilities (%)	1%	1%
Construction (%)	11%	13%
Manufacturing (%)	4%	5%
Wholesale trade (%)	3%	3%
Retail trade (%)	8%	11%
Transportation and warehousing (%)	4%	5%
Information and cultural industries (%)	1%	1%
Finance and insurance (%)	0%	2%
Real estate and rental and leasing (%)	2%	1%
Professional, scientific and technical services (%)	1%	4%
Management of companies and enterprises (%)	0%	0%
Administrative and support, waste management and remediation services (%)	5%	4%
Educational services (%)	4%	6%
Health care and social assistance (%)	4%	10%
Arts, entertainment and recreation (%)	2%	2%

Economic Indicator	RMWB Aboriginal Population	Alberta Aboriginal Population
Accommodation and food services (%)	4%	7%
Other services (except public administration) (%)	4%	5%
Public administration (%)	8%	11%
Earnings and Income		
Persons 15 years and older with employment income (%)	43.8	30.9
Median employment income persons 15 years and older (\$)	80,862	46,735
Persons 15 years and older with income (%)	91.2	90.6
Median income persons 15 years and older (\$)	45,378	23,013
Composition of Total Income (100)%		
Employment Income as % of total income	93.9	81.8
Government transfer as % of total income	4.4	12.9
Other money as a % of total income	0.4	1.2

Notes:

Rates are for experienced labour forced aged 15 years and older.
 Source: Statistics Canada (2013).

18.5.4.5 Labour Supply (Shocks)

According to Alberta Finance, the steep drop oil prices caused a sharp deterioration in the Alberta labour market in 2015. Through the year, employment declined by 1.2%, and the unemployment rate rose by 56%. Due to the energy industry's larger presence in Calgary, Calgary's labour market experienced greater deterioration compared to Edmonton. As of January 2016, the Alberta labour market experienced the following:

- ▶ *Employment falls for third straight month.* Alberta employment declined by 3,900 in December, adding to the 25,700 losses in the previous two months
- ▶ *Continued losses in private sector.* Employment was pulled down by losses in the private sector (-13,800) and public sector (-6,700). Self-employment increased by 16,700, the largest monthly gain on record. Full-time employment fell by 23,200, while part-time employment (+19,400) was up in December 2015
- ▶ *Goods sector employment tumbles.* December employment losses were concentrated in the goods sector (-10,200), while the service sector gained 6,300 jobs. The largest industry loss was in accommodation and food services (-11,500), followed by construction (-5,200). Since December 2014, the service sector has added 24,900 jobs, while jobs in the goods sector have fallen by 39,500
- ▶ *Earnings weakness persists.* Average weekly earnings increased 0.6% from the previous month to \$1,145 in October. Despite the monthly improvement, earnings growth was down 1.8% year-over-year (y/y). Growth in the goods sector was down 2.6% y/y in October, while growth in service sector earnings was a weak (+0.5% y/y). Year-to-date, Alberta earnings are up only 0.2%

- ▶ *Edmonton added jobs, while Calgary lost.* Over the year, employment in Edmonton increased; particularly towards the last few months of the year. In December, it rose 3.7% y/y. Calgary's employment, however, declined
- ▶ *Employment in the majority of industries in Calgary was hit harder than Edmonton.* In Calgary, employment fell by 9,000 y/y in December, with just under half of the industries posting losses. Employment in the construction industry fell by 8,400 y/y in December, and the natural resources (including energy) industry lost 8,200 y/y. In Edmonton, employment increased by 28,400 y/y in December, with just over half of the industries posting gains. In particular, construction and public administration (which includes federal, provincial and municipal government employment) together added 30,600 jobs y/y (Alberta Finance 2016).

According to Construction Forecasts, Alberta Oil sands job losses, an aging workforce (the loss of as many as 36,000 skilled workers retiring this decade), the departure of out-of-province workers and the ongoing demand for workers to sustain and maintain projects are all behind complex shifts in Alberta's construction workforce.

BuildForce Canada's 2016–2025 Construction and Maintenance Looking Forward forecast shows that declining oil prices are driving employment lower across all construction sectors, with the projected loss of 31,000 jobs from the peak in 2014 to 2019.

Even as Alberta's economy weakens, however, there is work in sustaining capital, maintenance, shutdowns/turnarounds and outages for skilled trades such as boilermakers, pipefitters and specialty welders. For each type of construction, BuildForce shows the following:

Oil sands construction:

- ▶ Labour requirements decline by 28% from the peak in 2014 to 2020. A gradual increase in oil prices restores confidence with new investment in the oil sands projected in 2020.
- ▶ Employment follows, with gains of 4,000 jobs from 2020 to 2025, primarily in sustaining capital and maintenance.

Non-residential construction:

- ▶ Investment and employment mirror the oil sands cycle with job losses that total 16,500 by 2019 compared to the 2014 peak. As markets improve after 2020, employment rises by 12,000 by the end of the scenario period in 2025. Low oil prices that prompted a decline in engineering, institutional and industrial construction in 2015 carry through to 2019.
- ▶ Commercial building is the exception, with current Project activity continuing into 2016, before slowing in 2017, and growing in steady increments over the long-term (Construction Forecast 2016).

Residential construction:

- ▶ Total residential construction falls by 9,000 jobs from 2016 to 2019, followed by a partial recovery that raises employment by 7,000 jobs to 2025.
- ▶ Home renovation work is stable, growing by 1,900 jobs across the forecast period.

Alberta's seasonally adjusted unemployment rate was 7.9% in February 2016, the highest since December 1995. This rate is the sixth lowest in Canada and is higher than the national rate of 7.3%. Between February 2015 and February 2016, the labour force increased by 41,500 and employment decreased by 21,200. The number of unemployed people increased by 62,600 over the same period. [Figure 18.5-1](#) show unemployment rate in Alberta Regions in February 2015 and February 2016 (Alberta Labour 2016).

Unlike the findings of the *Construction Looking Forward 2012 to 2020 in Alberta*, which suggests that a higher demand for workers associated with challenges in attracting and retaining workers due to high competitions are expected in that period (CSC 2012), labour requirements are expected to decline by 28% from the peak in 2014 to 2020; with expected market improvements after 2020.

18.5.4.6 Revenues in the Socio-economic Study Area

The RMWB has six major sources of revenue: taxes, sales to Governments, sales of goods and services, other revenue from own services, grants, and other transfers. The 2016 approved operating budget total revenue is \$830,708,200.

The projected 2016 tax revenue is \$720,660,800 which accounts for 86.8% of total revenue and represents a 4% increase from the 2015 budget. The projected increase in taxes is a result of new assessment growth as projected in the 2015-2017 Fiscal Management Strategy. No property tax rate increases in 2016 are assumed in this budget. Property tax revenue was reduced by 4% during the budget deliberations on 8 December 2015; this represents a deviation from revenue neutral plus new construction growth methodology (RMWB 2016b).

18.5.5 Population

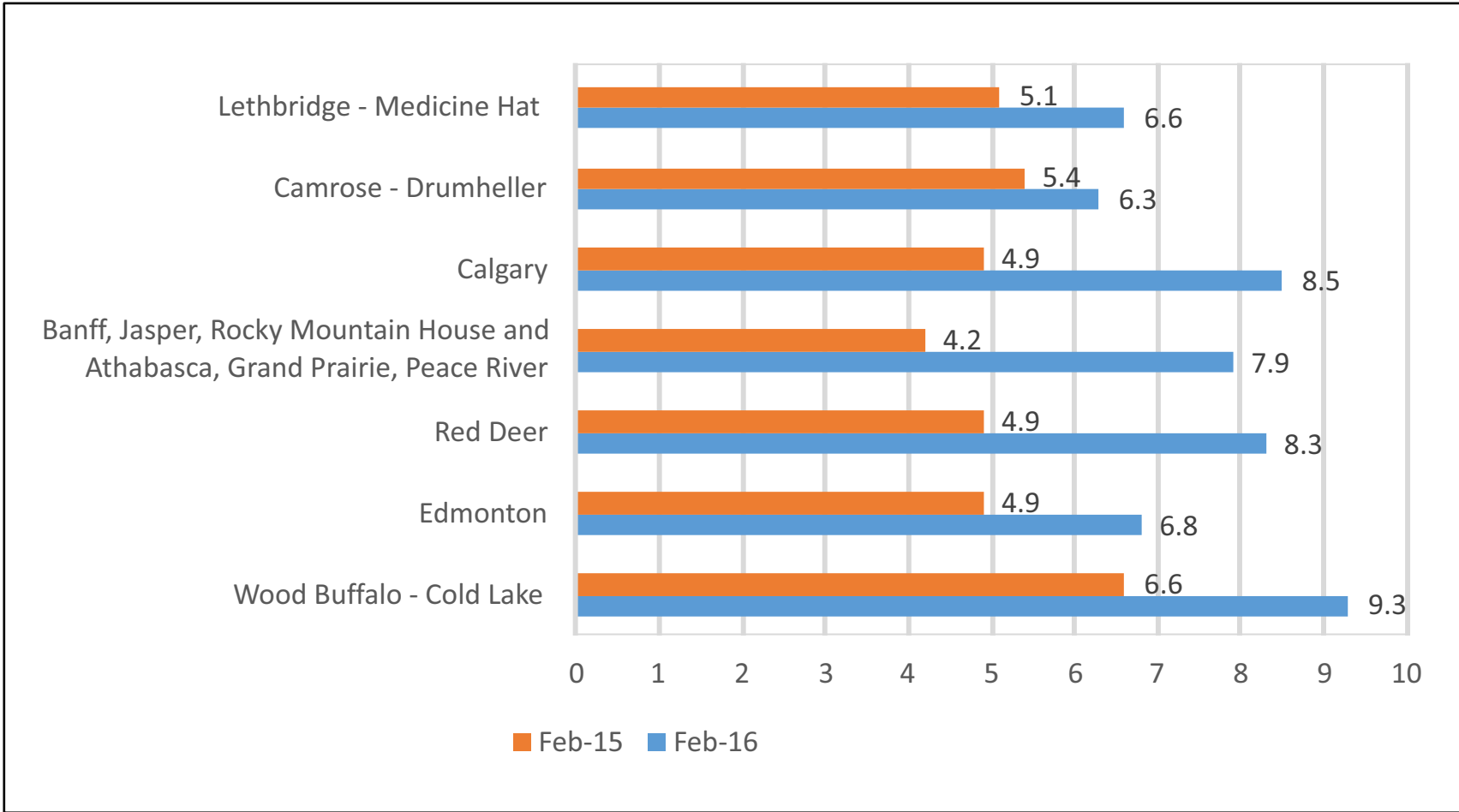
18.5.5.1 Population Growth

There are two types of population in the RMWB: permanent population and shadow population. The permanent population refers to people whose usual place of residence is within the RMWB and the shadow population refers to temporary residents who work in the RMWB for a minimum of 30 days a year.

The RMWB permanent population increased by 82% from 2000 to 2015, while the shadow population increased by 580%. On an annual basis, the permanent population experienced more stable growth while the growth of the shadow population was periodic and irregular.

The majority of the increase in the shadow population occurred in industry accommodations, which are located outside of the Urban Service Area of Fort McMurray, and rural communities.

The permanent population accounts for 65.5% of the total population, which is a slightly higher share than in Municipal Census 2012 (64.3%). [Table 18.5-13](#) shows total permanent population in urban and rural areas and total shadow population in urban, rural and industry accommodations.



NOTES:
- Source: Amec Foster Wheeler.

**Unemployment Rate,
Alberta Regions (%)
in 2015 and 2016**



**Lewis
Project**

January
2018

Figure 18.5-1

**Table 18.5-13: Permanent and Shadow Population Counts
 in the Regional Municipality of Wood Buffalo 2015**

Total permanent (usual) population	81,948
Urban service area (Fort McMurray)	78,382
Nine rural communities	3,566
Total shadow population	43,084
Urban service area (Fort McMurray)	4,342
Nine rural communities	478
123 industry accommodations	38,264
Total population	125,032

Notes:

- ▶ The Urban Service Area is composed of nine areas including Abasand Heights, Beacon Hill, Gregoire, the Lower Townsite, Parsons Creek, Thickwood Heights, Timberlea, Waterways and Saline Creek.
- ▶ Nine Rural Municipalities include: Anzac, Conklin, Draper, Fort Chipewyan, Fort MacKay, Gregoire, Lake Estates, Janvier, Saprae Creek Estates and Fort Fitzgerald.
- ▶ 123 industry accommodations include camps north and south of Fort McMurray.

Source: RMWB (2015).

18.5.5.2 Population Change

Fort McMurray

The 2012-2015 population change was 7.4%. Fort McMurray contains 66.2% of the population, compared to 30.6% who live in industry accommodations and 3.2% who live in rural communities in the SESA (RMWB). From 2012 to 2015, the population in Fort McMurray increased from 62.7% to 66.2%, while the population in industry accommodations decreased from 33.7% to 30.6%. The share of the population living in the rural communities declined slightly from 3.6% to 3.2% over this three year timeframe (Table 18.5-14).

**Table 18.5-14: Population Count in the Regional Municipality
 of Wood Buffalo (Municipal Census 2015)**

	Population	
	2012 Municipal Census	2015 Municipal Census
Urban service area (Fort McMurray)	72,944 (62.7%)	82,724 (66.2%)
Rural communities	4,192 (3.6%)	4,044 (3.2%)
Industry accommodations	39,271 (33.7%)	38,264 (30.6%)
Total	116,407	125,031

Source: RMWB (2015).

Population change by age group can be summarized by the following:

- ▶ children and youth (0 to 24 years old) increased from 23% of the total population in 2012 to 24% in 2015
- ▶ workforce (25 to 64 years old) decreased from 75.2% in 2012 to 73.8% in 2015
- ▶ seniors (65+ years old) increased from 1.8% in 2012 to 2.1% in 2015.

Rural Communities

The communities of Conklin, Draper and Anzac grew the most over the past three years. Conklin experienced the highest growth rate at 18.2%, but Anzac had the highest nominal growth at 49 people, about 6.9%. In contrast, Gregoire Lake Estates experienced the largest decrease in population at -15.6%, followed by Fort MacKay at -13.6% and Janvier at -9.4% (Table 18.5-15).

Table 18.5-15: Permanent and Shadow Population by Rural Community 2012 and 2015

Rural Community	2012 Total	2015			% Increase/Decrease
		Permanent Population	Residential Shadow Population	Total Population	
Anzac	714	606	175	763	6.9%
Conklin	318	333	43	376	18.2%
Draper	197	203	12	215	9.1%
Fort Chipewyan	1,008	1,014	0	1,014	0.6%
Fort Fitzgerald	N/A	9	0	9	n/a
Fort MacKay	59	51	0	51	-13.6%
Gregoire Lake Estates	275	226	6	232	-15.6%
Janvier	171	155	0	155	-9.4%
Saprae Creek Estates	925	969	8	977	5.6%
Sub-Total	3,667	3,566	226	3,792	3.4%
Non-Residential Shadow	525	–	–	252	-52.0%
Total Population	4,192	–	–	4,044	-3.5%

Notes:

n/a = Not applicable.
 – = Not available.
 Source: RMWB (2015).

Shadow Population

The total shadow population in the municipality can be divided into three main components:

- ▶ *Industry accommodations:* includes transient workers in accommodation facilities throughout the region and it includes all accommodation facilities outside the urban centre or rural communities. The 2015 Municipal Census enumerated a total of 123 Project accommodation sites. The Project accommodation north of Fort McMurray accounted for up to 67.3% of total industry accommodations while the industry accommodation south of Fort McMurray accounted for 21.5%.
- ▶ *Urban shadow population:* includes transient residents in Fort McMurray. This includes a non-residential component that consists of hotels, motels, campgrounds, homeless shelters and public facilities, such as the hospital and a custodial facility. This also includes the population living in residential areas of the urban services area that self-identified as shadow population. The urban shadow population included up to 10.1% of total shadow population.

- ▶ **Rural shadow population:** includes transient residents in the rural communities. This includes a non-residential component that consists of hotels, motels, and campgrounds. Similar to the urban shadow population, this also includes a residential population component for those living in residential areas of rural communities in company houses or rental units for temporary residency. The rural shadow population included up to 1.1% of total shadow population.

The total shadow population count as of 1 April 2015 was 43,084, which represents an increase of 580% since 2000. An unofficial internal count of the shadow population was undertaken in 2014 which recorded 51,101 temporary residents or 22% above 2012 (10.6% of the annual growth rate). The Municipal Census 2015 counted 43,084, which is a more moderate increase of 3.1% over 2012. As a share of the total population, the shadow population has decreased from 36% in 2012 to 34.5% in 2015 (RMWB 2015).

18.5.5.3 First Nations in the Socio-economic Study Area

There are five First Nation communities in the SESA. [Table 18.5-16](#) provides the locations and the populations in 2017 according to INAC (2017).

Table 18.5-16: Profile of First Nations Communities in the Socio-economic Study Area

First Nation	Location	On Reserve Population	On Crown Land Population	Off Reserve Population
FMFN #468	35 km southeast of Fort McMurray	287	3	492
Fort McKay First Nation	50 km northwest of Fort McMurray (Indian Reserve 174) 105 km northwest of Fort McMurray (Indian Reserve 174A, 174B)	420	6	437
ACFN	200 km north of Fort McMurray	34	219	974
MCFN	Reserves are located adjacent to and north of Fort Chipewyan (200 km north)	241	566	2,314
CPDFN	120 km southeast of Fort McMurray	399	0	544

Source: INAC (2017).

Fort McMurray First Nation #468 Population

The FMFN #468 consists of four reserves: three are located near Anzac on Gregoire Lake and the fourth is located about 20 km east of Fort McMurray. These reserves include Clearwater 175, Gregoire Lake 176, Gregoire Lake 176A, and Gregoire Lake 176B. As of February 2017, the FMFN #468 had a total population of 773; of that total 285 lived on reserve, 485 lived off reserve and three on crown lands. [Table 18.5-17](#) provides a list of the FMFN #468 reserves (both populated and unpopulated), their locations and total area (INAC 2017).

Table 18.5-17: Fort McMurray First Nation #468 Reserves

No.	Name	Location	Total Area (ha)
06721	Clearwater 175	On Clearwater River, 7 miles southeast of Fort McMurray; Twp 88, Rge 7 W4M	915
06722	Gregoire Lake 176	35 km southeast of Fort McMurray	2,232
06723	Gregoire Lake 176A	Twp 86, Rge 8 W4M, Frac Sec 10 and portion of SW1/4 Sec 15	67
06724	Gregoire Lake 176B	Twp 86, Rge 8 W4M	17

Source: INAC (2017).

Fort McKay First Nation

The Fort McKay First Nation has reserves at Fort MacKay, Namur Lake and Gardiner Lake: Fort McKay 174, Namur River 174a, Namur Lake 174b, and Fort McKay 174c. As of February 2017, Fort McKay had a total population of 858; of that total 418 lived on reserve, 434 lived off reserve and six on crown lands. [Table 18.5-18](#) provides a list of the Fort McKay First Nation reserves (both populated and unpopulated), their locations and total areas (INAC 2017).

Table 18.5-18: Fort McKay First Nation Reserves

No.	Name	Location	Total Area (ha)
06718	Fort McKay 174	Sec 13 (E 1/2 Ptn) and Sec 24 (SE 1/4 Ptn) Twp 94, Rge 11 W4M	3,106
09678	Fort McKay 174c	Twp 96 and 97, Rge 9 W4M	3,381
09779	Fort McKay 174d	Twp 94 and 95, Rges 10 and 11, W4M	660
06720	Namur Lake 174b	105 km NW of Fort McMurray	3,122
06719	Namur River 174a	On east bank of Namur River, 65 miles northwest of Fort McMurray Twp 97 and 98, Rge 16 W4M	4,614

Source: INAC (2017).

Athabasca Chipewyan First Nation

The ACFN has eight reserves. As of February, the ACFN had a total population of 1,230; of that total 34 lived on reserve, 977 lived off reserve and 219 on crown lands. [Table 18.5-19](#) provides a list of the ACFN reserves (both populated and unpopulated), their locations and total areas (INAC 2017).

Table 18.5-19: Athabasca Chipewyan First Nation

No.	Name	Location	Total Area (ha)
06704	Chipewyan 201	At southeast end of Lake Athabasca, Twp 108 to 111, Rge 5 to 7 W4M	20,072
06705	Chipewyan 201a	At southeast end of Lake Athabasca, Twp 111, Rge 4 W4M	9,515
06706	Chipewyan 201b	16 miles southeast of Fort Chipewyan, Twp 110, Rge 5 W4M	19
06707	Chipewyan 201c	On east side of Richardson Lake, about 7 miles south of Lake Athabasca, Twp 108, Rge 6 W4M	18

No.	Name	Location	Total Area (ha)
06708	Chipewyan 201d	On east side of Richardson Lake, about 7 miles south of Lake Athabasca, Twp 108, Rge 6 W4M	4
06709	Chipewyan 201e	On east side of Richardson Lake, about 7 miles south of Lake Athabasca, Twp 108, Rge 6 W4M	4,165
06710	Chipewyan 201f	On east bank of Athabasca River, 30 miles south of Embarrass portage, Twp 104, Rge 9 W4M	66
06711	Chipewyan 201g	On east bank of Athabasca River 37 miles south of Embarrass portage, Twp 102 to 103, Rge 9 W4M	905

Source: INAC (2017).

Mikisew Cree First Nation

The MCFN has nine reserves. As of February, the MCFN had a total population of 3,108; of that total 238 lived on reserve, 2,307 lived off reserve and 563 on crown lands. [Table 18.5-20](#) provides a list of the MCFN reserves (both populated and unpopulated), their locations and total areas (INAC 2017).

Table 18.5-20: Mikisew Cree First Nation

No.	Name	Location	Total Area (ha)
06734	Allison Bay 219	3 miles northeast of Fort Chipewyan, Alberta, on the shores of Lake Athabasca	1,861
06747	Charles Lake 225	Island on Charles Lake, in northeast corner of Alberta, includes parts of Sec 26, 27, 34, and 35, Twp 125, Rge 4 W4M	64
06745	Collin Lake 223	On north shore of Colin Lake in northeast corner of Alberta, in part of Sec 7, Twp 122, Rge 1 and part of Sec 12, Twp 122, Rge 2	36
06746	Cornwall Lake 224	Part of unnamed island in Cornwall Lake, in northeast corner of Alberta, in parts of Sec 15 and 22, Twp 122, Rge 4 W4M	69
06729	Devil's Gate 220	10 km north of Fort Chipewyan	819
08495	Dog Head 218	Located within the Fort Chipewyan settlement	34
06733	Old Fort 217	Near the southeast corner of Wood Buffalo National Park on east bank of Athabasca River in Twp 108, Rge 9 and 10, and Twp 109, Rge 9 W4M	1,509
09136	Peace Point 222	Within Wood Buffalo National Park at Peace Point, Alberta	518
06735	Sandy Point 221	On north shore of Lake Athabasca in part of Twp 114, Rge 5 W4M 17 miles east of Wood Buffalo National Park	204

Source: INAC (2017).

Chipewyan Prairie Dené First Nation

The Chipewyan Prairie Dené First Nation (CPDFN) has three reserves. As of February 2017, the CPDFN had a total population of 935; of that total 396 lived on reserve, 539 lived off reserve and no one lived on crown lands. [Table 18.5-21](#) provides a list of the CPDFN reserves (both populated and unpopulated), their locations and total areas (INAC 2017).

Table 18.5-21: Chipewyan Prairie Dené First Nation

No.	Name	Location	Total Area (ha)
09204	Cowper Lake 194a	North shore of Cowper Lake in Twp 80, Rge 3	143
06726	Janvier 194	97 km southwest of Fort McMurray	2,486
09205	Winefred Lake 194b	North end of Winefred Lake Twp 76, Rge 4	450

Source: INAC (2017).

18.5.5.4 Métis in the Socio-economic Study Area

According to the RMWB 2015 Census, Métis peoples in the RMWB are represented by five Métis Locals. They include:

- ▶ Conklin Métis Local 193
- ▶ Willow Lake Métis Local 780
- ▶ Fort McMurray Métis Local 1935
- ▶ Fort McKay Métis Local 63
- ▶ Fort Chipewyan Métis Local 125.

As of 2011, Alberta’s Métis population was estimated at 85,495, the largest Métis population in Canada. The majority of Alberta’s Métis population live outside of settlements and in major urban centers. Within the RMWB, members of the five Métis locals live in Fort Chipewyan, Fort McKay, Fort McMurray, Anzac, Janvier and Conklin.

18.5.6 Housing

Housing Overview

The Municipal Census 2015 identified a total inventory of 31,511 dwellings in the RMWB including vacant lots and lots under construction (Table 18.5-22). This is 8.6% higher than in 2012. The total dwelling count was composed of 30,882 residential dwellings that were enumerated during the Municipal Census 2015, including occupied and vacant dwellings. In addition, 432 vacant lots and 197 dwellings under construction were identified and corrected in the census inventory.

Table 18.5-22: Dwelling Counts in the Regional Municipality of Wood Buffalo (2015)

	Urban Service Area (Fort McMurray)	Rural Communities	Total
Occupied Dwellings	27,371	1,220	28,591
Vacant Dwellings	2,196	95	2,291
Total Count of Dwellings	29,567	1,315	30,882
Under-construction	188	9	197
Vacant lots	360	72	432,
Total Inventory	30,115	1,396	31,511
Total Non-contacted Dwellings	2,254	54	2,308

Source: RMWB (2015).

The average number of people per dwelling unit in the RMWB is 2.95, which is a slight decrease from 2012 when it was 2.98. This number is higher than the national average, which was 2.46 in 2011, and the provincial average, which was 2.56 in 2011.

In terms of dwelling types, 47.2% of the total population lives in single-detached houses, and 15.6% of the total population lives in apartments and condominiums in the Municipality. In the Urban Service Area, 46.4% of the population live in single-detached houses and 16.2% live in apartments or condominiums. In the rural communities, 65.9% of population live in single-detached houses, and 12.9% live in manufactured housing. The percentage of the total population that live in basements and secondary suites is 3.1%.

In terms of ownership, up to 61.2% of residents own their dwelling, and 38.8% of the population are renters. Single-detached housing is the most prevalent dwelling type found in the Urban Service Area (at 45.0%) and rural communities (at 69.5%). The second most common dwelling type in the Urban Service Area is apartments. In contrast, manufactured/mobile housing is the second most common type of housing in the rural communities. The total number of vacant dwellings in the Urban Service Area is 2,196, which represents an overall vacancy rate of 7.4%.

Rural Communities Housing

The total number of dwellings in the rural communities is 1,315. The rural community with the largest housing stock is Fort Chipewyan with 30% of the dwellings, followed by Sapræe Creek Estates and Anzac, each one containing approximately 22% of the dwellings. Combined, 73% of the rural dwellings are located in these three communities.

A comparison of the dwelling count in 2015 to 2012 shows that the rural communities increased their overall housing stock by 76 units or 6.1% over the three year time period. Anzac grew by 57 units (or 25%) followed by Fort Chipewyan which grew by 26 units (or 7%). The number of dwellings in Conklin decreased by 17 units (or 12%), followed by Gregoire Lake Estates which lost 14 units or (14%). In Fort MacKay, the 2015 dwelling counts was 21 (17 occupied and four vacant) compared to 22 in 2012.

The majority of households in the rural communities are homeowners (68% compared to 32% renters). Rural communities with above average homeownership shares include Conklin, Draper, Fort MacKay, Gregoire Lake Estates, Conklin and Sapræe Creek Estates. Communities with a higher renter household share include Anzac and Fort Chipewyan.

In total, in rural communities, the number of vacant dwellings counted is 95, resulting in an overall vacancy rate of 7.2%. The number of vacant dwellings is relatively high in some of the rural communities. Fort Chipewyan had the highest number of vacant dwellings at 45%, resulting in an 11.5% vacancy rate. Fort MacKay recorded the highest vacancy rate at 19% (RMWB 2015).

Industry Accommodation

Industry accommodations are the dominant form of housing for the shadow population, which accounts for 89% of the shadow population in 2015. The urban shadow population accounts for 10% and the rural communities accounts for 1% of the total shadow population in 2015. The

urban and rural residential shadow populations add up to a share of 5.3% of the total population. In 2015, a total of 123 industry accommodation facilities were available in the region which includes all work camp facilities (Table 18.5-23).

Table 18.5-23: Industry Accommodation in the Regional Municipality of Wood Buffalo

Location	Number of Industry Accommodations		Population Count		Capacity (Beds)	
	Count	Percentage	Count	Percentage	Count	Percentage
North of Fort McMurray	57	46.3%	29,016	75.8%	50,387	70.2%
South of Fort McMurray	66	53.7%	9,248	24.2%	21,401	29.8%
Total	123	100%	38,264	100%	71,788	100%

Source: RMWB (2015).

While the majority of the facilities are located south of Fort McMurray (53.7%), they only accommodate 24.2% of the population. Most oil sands projects north of Fort McMurray use conventional oil production (mining), which require more workers. By contrast, most oil sands projects south of Fort McMurray use in situ production, which require a smaller workforce.

Total occupancy in the 123 facilities is 38,264 while the actual accommodating capacity is 71,788. Up to 33,524 beds are vacant. Vacancy rate in industry accommodation, as of June 2015, is 46.7% (RMWB 2015).

18.5.7 Utilities

The Services and Utilities department of the RMWB delivers and administers waste collection and water services to residents. Electric power is supplied by ATCO Electric; natural gas is supplied by ATCO Gas; residential, commercial and industrial telephone services are provided by Telus.

In 2010, the RMWB announced its municipal infrastructure expansion plans in accordance with anticipated population growth. The expansion plans included the following:

- ▶ expansion plans to the water supply system to provide a capacity for a population of 106,000
- ▶ expansion plans to increase the capacity of the existing water treatment plant was completed between 2006-2011 and resulted in a water treatment plant with a capacity of 133,000 people
- ▶ expansion plans to increase the capacity of the existing wastewater treatment plant was completed in 2010 and raised the capacity of the plant to 113,000 people
- ▶ expansion plans to the solid waste facility was completed in 2010 and expanded the capacity of the facility to 100,000 residents. The facility accepts commercial waste from industrial development.

The expansion plans also included improvements such as the introduction of new, more environmentally friendly technologies as well as ongoing system enhancements (RMWB 2012). Main upgrades are described below:

- ▶ *Stormwater Management System:* a program of upgrades is being introduced to the City’s existing stormwater standards, and a Stormwater Management Plan for the City centre area is being developed. New development will be required to adhere to principles of low impact development to reduce stormwater runoff
- ▶ *Solid Waste Management System and Recycling:* there is an active solid waste management program in the City centre. This constitutes weekly pickup that is transported to the regional landfill located south of Fort McMurray and recycling at depots
- ▶ *Moderate Carbon Electricity:* electricity is currently provided from industrial plants and has a moderate carbon emission rate due to the combined heat and power generation at the industrial plants
- ▶ *Natural Gas:* natural gas is readily available to meet current and future development needs (RMWB 2012).

Fort MacKay

Fort MacKay is currently serviced by a water treatment plant and a sewage lagoon. The Municipal Development Plan indicates that the RMWB will work with AANDC and the Fort McKay First Nation to secure the provision of a new water treatment plant for the community. The water treatment plant and the sewage lagoon support a capacity of 600 individuals. As the population continues to grow, an expansion of the municipal infrastructure will need to be examined.

Utility services approved and ongoing construction plans in the RMWB (both urban and rural communities) are summarized in [Table 8.5-24](#).

**Table 18.5-24: Approved and Ongoing Utility Expansion Projects
 in the Regional Municipality of Wood Buffalo**

Project Name	Description and Timeframe	Benefits
Thickwood Reservoir Replacement	Replacing the potable water reservoir in Thickwood because the current structure is at the end of its life cycle. Construction to begin in May 2017 and substantially finish later in the year with smaller items like landscaping wrapping up in 2018.	This project will improve the reliability of the water distribution system and service the future needs of the community.
Confederation Way Sanitary Sewer Bypass – Phase 2	Phase 2 of the Confederation Way Sanitary Sewer Bypass Project. Phase 1 was undertaken in the Timberlea area; that phase is complete. Phase 2 is an extension of Phase 1 and parallels Confederation Way between Prospect Drive and the wastewater treatment plant at 820 Memorial Drive. Construction is scheduled from April through November in 2017.	This project will improve the sanitary sewer network.
Fort Chipewyan Water Treatment Plant	Upgrading Fort Chipewyan’s water treatment plant and water infrastructure. Work will begin in late April 2016, with completion expected in April 2018. The project has multiple pieces which will combine to give residents a more effective water treatment system.	Building a new, larger water treatment plant, increasing the size of the current water reservoir that holds fresh water, and upgrading the pump houses that bring water into the plant and then distribute it to homes.

Project Name	Description and Timeframe	Benefits
Grayling Terrace Lift Station Upgrades	<p>A lift station pumps wastewater or sewage from a lower elevation to a higher one. The new Grayling Terrace lift station will increase reliability of operations and raise the facility to current environmental and safety standards. The new lift station is about four times the size of the current one.</p> <p>Construction started in December 2016, stopped in the winter and is tentatively scheduled to resume in March 2017, with the project finishing up in July 2017.</p>	<p>The project will:</p> <ul style="list-style-type: none"> ▶ increase safety for operators ▶ increase equipment efficiency ▶ increase remote monitoring capabilities ▶ increase cost effectiveness ▶ decrease routine daily maintenance requirements.
MacKenzie Lift Station & Sewer Upgrade	<p>The RMWB will be installing a new sanitary sewer line from MacKenzie Boulevard to MacLennan Crescent, which will continue north to the east of the Gregoire neighborhood.</p> <p>Work in 2016 and 2017 will focus on the installation of sanitary sewer lines paralleling the tree line to the east of the Gregoire neighborhood.</p>	<p>This sewer is being installed to improve the capacity of the sewer lines in Gregoire and Mackenzie neighborhood preventing overflow issues and accommodating for a growing population. In addition, the water main in Mackay Crescent will be replaced as the existing main has been broken in many occasions due its age.</p>
Rural Water and Sewer Servicing	<p>Rural Water and Sewer Servicing will upgrade the water, sewer and road infrastructure in the communities of Anzac, Conklin, Draper, Janvier, Gregoire Lake Estates and Sapræ Creek.</p> <p>Anzac: Detailed design is ongoing. All remaining construction work is scheduled for completion between May 2017 (or earlier if weather permits) and November 2018 with service connections beginning in 2019.</p> <p>Conklin: Construction continues in Conklin in 2016. All remaining construction is scheduled for completion by November 2018 with service connections starting in 2018-2019.</p> <p>Draper: Detailed design is ongoing. All remaining construction work is scheduled for completion between May 2017 and November 2018 with service connections starting in 2019.</p> <p>Gregoire Lake Estates: Clearing of municipally owned trees was finished in 2016. All remaining work is scheduled for completion between May 2017 and November 2018 with service connections starting in 2019.</p> <p>Janvier: Detailed design is ongoing. All remaining construction work is scheduled for completion between January 2017 and November 2018 with service connections starting in 2018-2019.</p> <p>Sapræ Creek: Detailed design is ongoing. All remaining construction work is scheduled for completion between May 2017 and November 2018 with service connections starting in 2019.</p>	<p>Upgrade and improve the water, sewer and road infrastructure in the communities of Anzac, Conklin, Draper, Janvier, Gregoire Lake Estates and Sapræ Creek.</p>
Southwest Water Supply Line (Abasand)	<p>Building a water main from the water treatment plant to Abasand. Work started in mid-August 2016. Completion date is not announced.</p>	<p>The work is necessary to meet the changing demands of the water supply system.</p>

18.5.8 Education

18.5.8.1 Education Profile in the Regional Municipality of Wood Buffalo

The most recent statistics on education attainment in the SESA are those collected during the 2011 National Household Survey. In 2011, the RMWB had a higher percentage of persons with trades certification than Alberta as a whole (16.7% for the RMWB and 11% for Alberta) and a lower percentage of persons with university credentials (17.7% for the RMWB and 20.9% in Alberta). This is consistent with the demand for oil sands industry jobs that call for technical and highly trained, skilled (trades) workers. Fort MacKay data shows that the percent of people with no certificate, diploma or degree is significantly higher than both the RMWB and Alberta (53.1% in Fort MacKay compared to 15.4% and 19.1% in the RMWB and Alberta, respectively). Education attainments data for rural communities in the RMWB are unavailable; rural communities are unincorporated and the corresponding census subdivision is RMWB. Detailed information from Statistics Canada on the education profile of the RMWB is shown in [Table 18.5-25](#).

Table 18.5-25: Education Profile in the RMWB and Alberta (2011)

Education Profile	RMWB ¹	Fort MacKay	Alberta
The total population 15 years and over (number)	53,230	405	2,888,735
No certificate, diploma or degree (%)	15.4	53.1	19.1
High school certificate or equivalent (%)	26.4	27.2	26.5
Apprenticeship or trades certificate or diploma (%)	16.7	7.4	11
College, CEGEP or other non-university certificate or diploma (%)	20.2	7.4	18.4
University certificate or diploma below the bachelor level (%)	3.7	0	4.2
University certificate or degree (%)	17.7	4.9	20.9

Notes:

¹ RMWB Census Agglomeration Wood Buffalo (Census agglomeration) include: Allison Bay 219 (Indian reserve), Charles Lake 225 (Indian reserve), Chipewyan 201A (Indian reserve), Dog Head 218 (Indian reserve), Fort MacKay (Indian settlement), Fort McKay 174 (Indian reserve), Gregoire Lake 176 (Indian reserve), Gregoire Lake 176A (Indian reserve), Janvier 194 (Indian reserve), Namur Lake 174B (Indian reserve), Namur River 174A (Indian reserve), Old Fort 217 (Indian reserve), Thabacha Nâre 196A (Indian reserve), and Wood Buffalo (Specialized municipality).

Source: Statistics Canada (2013).

More recent data on population attainment is available from the RMWB Census 2012. In the urban service area, 27.4% of the population had high school diplomas/certificates compared to 30% in the rural service area. The percentages of the population with university bachelor degree in both the urban and rural service area are comparable (almost 19%). The percentages of the population with college or other non-university degree in the urban service area is higher than the rural services are (26% compared to 19%) (RMWB 2012).

18.5.8.2 Education Profile for Aboriginal Population

In the RMWB, of the total Aboriginal population 15 years and over (4,705 people in 2011), 34% had no certificate, diploma or degree, which is lower than the provincial average for Aboriginal people of 40% ([Table 18.5-26](#)). Almost 26% had a high school graduation certificate, which is

higher than the provincial average of 24%. The percentage of people with a trade, college or other non-university diploma is 33%, which is higher than the provincial average of 28%. Finally, the percentage of people with a university certificate or diploma below the bachelor level is 7% in the RMWB, which is close to the provincial average of 9% (Statistics Canada 2013).

Table 18.5-26: Education Profile for the Aboriginal Population in the Regional Municipality of Wood Buffalo and Alberta (2011)

Education Profile	RMWB	Alberta Aboriginal
The total Aboriginal population 15 years and over	4,705	154,130
No certificate, diploma or degree (%)	34%	40%
High school certificate or equivalent (%)	26%	24%
Apprenticeship or trades certificate or diploma (%)	16%	12%
College, CEGEP or other non-university certificate or diploma (%)	17%	16%
University certificate or diploma below the bachelor level (%)	2%	3%
University certificate or degree (%)	5%	6%

Source: Statistics Canada (2013).

18.5.8.3 School Enrollment and Vocational Training

In response to anticipated population growth in the region, and as a result of governmental initiatives and plans discussed in [Section 18.5.2](#), new schools are under construction to meet the anticipated demand. Currently, there are four public school districts in the Municipality with a total of 24 elementary and secondary schools in Fort McMurray, and six in the rural areas of Wood Buffalo.

- ▶ The Fort McMurray Public School District currently has 15 schools and plans to open one more in 2017. Alternative programs include alternative assisted self-paced studies, French immersion, Fort McMurray Christian School and Fort McMurray Islamic School, the Edge Athletic Academy, multicultural language training, and First Nation, Métis, and Inuit initiated educational projects (Fort McMurray Public School District 2017).
- ▶ The Fort McMurray Catholic School District is the Catholic school district for students in Fort McMurray. It serves approximately 6,200 students in 11 schools. In addition to a faith-based learning environment, this school district offers French immersion and First Nations, Métis and Inuit language programs (Fort McMurray Catholic School District 2017).
- ▶ The Northland School Division jurisdiction covers 288,347 km², and provides learning opportunities to primarily First Nation and Métis students located in the northern half of Alberta. The division serves approximately 2,700 students and employs 500 staff in 24 schools including the Anzac Community School (Bill Woodward), Athabasca Delta Community School in Fort Chipewyan, Conklin Community School in Conklin, Father R. Perin School in Janvier, Alberta and Fort McKay School in Fort McKay. (Northland School Division No. 61 2017).

- ▶ The Greater North Central Francophone Education Region is the Northern Alberta School District for French first language education. It runs 19 schools including École Boréal in Fort McMurray (Greater North Central Francophone Education Region 2017).

Post-secondary education is also available in the SESA and includes technical/vocational training and university transfer programs. Keyano College is a comprehensive community college that offers educational and training programs, courses and services at three campuses in Fort McMurray. The College provides degree completion programs, as well as one and two-year university transfer programs in disciplines that range from General Science to Fine Arts. Certificate and diploma programs are also available, in addition to adult upgrading, trades preparation and apprenticeship programs. In response to industry's local demand, the College offers a variety of industrial programs that help provide a skilled workforce for the oil sands.

Through two campuses in Fort McMurray and Fort Chipewyan and four learning centres, in Fort McKay, Conklin, Janvier, and Gregoire Lake, Keyano College provides a variety of learning opportunities through classroom, online and blended delivery models (Keyano College 2017).

18.5.9 Health

Health care in the SESA is coordinated and delivered through the Alberta Health Services, Area 10, North Zone, part of the Province's health care system. The Northern Lights Regional Health Centre (NLRHC) in Fort McMurray is the main regional health centre and hospital within Area 10, which encompasses the Wood Buffalo Region. It offers acute and continuing health care, including 24-hour emergency services, laboratory and x-ray services, mental health services, general surgery, ambulatory care, rehabilitation, home care, and community health to both Aboriginal and non-Aboriginal communities in the SESA.

Similar to the expansion in Housing and Protective Services that took place during the last five years, as a result of governmental initiatives and plans, health services in the SESA improved substantially. Over the past five years, nearly 20 new specialized doctors have come to Fort McMurray. The Fort McMurray Public Health Building opened recently. Plans are underway to build a new Continuing Care facility, for which the funding has been approved. The community also wants to work to improve health centers across the region to improve access for people who do not live in Fort McMurray. After expansion plans in 2012, the emergency department at the NLRHC showed some of the shortest wait times in the province (RMWB 2016c).

In Fort MacKay, and in addition to the health services provided out of Fort McMurray, the Health & Human Services department of Fort McKay First Nation manages a full spectrum of programs and services supporting community members' well-being with respect to healthcare, mental health, elder care and support as well as support for youth in terms of activities, programs and skill building. Current services at Fort MacKay Health Centre include primary care (e.g., family physician), public health (e.g., immunizations, vaccinations, STI screening, baby check-ups), prenatal and well-woman visits, mental health therapist, physiotherapy, geriatric/palliative care specialist services, lab testing (e.g., blood work), and telehealth consults. The Health Centre will have the following additional services in the near future: internal medicine specialist visits, dentist clinics, pharmacy services, and optometrist clinics (RMWB 2016c).

In addition to the health services provided by the NLRHC, limited local health services are delivered in rural communities through local community centres. This includes the Conklin community centre, Anzac Community Health Centre, Janvier Health Centre, Gregoire Lake Health Centre, and Nunee Health Board Society in Fort Chipewyan (RMWB 2017).

18.5.10 Recreation and Leisure Facilities

The Community Services Department of the RMWB consists of three branches that work to enhance the quality of life of the residents. Recreation and leisure facilities and services are provided and administered out of the Community Strategies Branch. The Facilities work unit in this Branch plays a vital role in the initial needs assessment and feasibility of all future recreation facility projects, continuing in a liaison role for the remainder of the projects. The Recreation team works with community members to develop partnerships, programs and services to encourage and support self-sufficiency with a focus in recreation and sport and leisure.

Municipal recreation facilities in the RMWB include: Archie Simpson Arena, Casman Centre, Doug Barnes Cabin, Frank Lacroix Minor Hockey Arena, Haxton Centre at Borealis Park, Fort McMurray Public Library, MacDonald Island Park, Suncor Community Leisure Centre, Outdoor Green Gym, Outdoor Rinks, Syncrude Timberlea Athletic Park, and Vista Ridge All Seasons Park. Other recreation and sport facilities include the Syncrude Sport and Wellness Centre, YMCA, campgrounds and golf clubs (RMWB 2016d).

To deal with the additional demand, the Community Services Department in the RMWB decided to expand the recreation facilities in rural communities to reduce the pressure on Fort McMurray's facilities. In 2015, new recreation facilities were opened in Fort Chipewyan, Anzac and Conklin. In addition, an expansion to the Suncor Community Leisure Centre was undertaken in 2015 and a new North Side Recreation Centre will open in 2017.

Fort MacKay has a variety of recreation facilities, including playgrounds and parks, two baseball diamonds, and an outdoor hockey rink. In addition, the Fort MacKay Parks and Recreational Society initiates and manages recreational programs, playgrounds and other recreational facilities in Fort MacKay. Activities offered by the Parks and Recreational Society include the Fort MacKay Fitness Centre, sports teams and athletes, physical education program, special events, and the North Wind Dancers. Further, Fort MacKay administers and manages the following centres:

- ▶ *The Elders Centre*: provides a space for Elders to meet, socialize, and to celebrate special events. Lunch is provided for Elders at the Centre twice a week
- ▶ *The Youth Centre*: provides a diverse array of activities and programs for youth in Fort MacKay ages 12 to 18 years old. Along with a daily drop-in, the Youth Centre also offers a supper program every night from 5:00 p.m. until 6:00 p.m.
- ▶ *Fort MacKay's Community Arena*: a fully equipped complex with an NHL ice surface rink. Skates and hockey equipment are available free of charge for community members to use during skating times

- ▶ *The Wellness Centre:* aims to provide a safe and nurturing environment where all children and youth have every opportunity to reach their full potential. The facility promotes skill building, self-reliance, personal development, recreation, cultural education and activities, and environmental and community awareness to children ages 6 to 17 years. Services include a children's after school program, youth drop-in activities, youth leadership programs, a supper program, and summer day camp programs (RMWB 2016d).

A multiplex recreation centre is proposed in Conklin. The facility will tentatively open to the community in mid-2018. The Conklin Multiplex will provide a variety of recreation and community services to the community (RMWB 2017) including: a fitness area, arena, a banquet hall/gym and spaces for elders/ seniors, children play area, foodservice, offices and administration. Outdoor amenities will include a football/soccer field with lighting and seating, horseshoe pits, walking trails, picnic areas and parking.

18.5.11 Social Services

Social Support Services in the RMWB are delivered and administered through the Family and Community Support Services (FCSS) department. FCSS is a partnership between the Province, municipalities and Métis settlements developed locally-driven preventative social initiatives to enhance the well-being of individuals, families and communities. These services include counselling services and homelessness services. Counselling services include confidential and professional counselling to individuals, children, couples and families in both Aboriginal and non-Aboriginal communities in the RMWB. The RMWB in partnership with municipal, provincial and federal governments issued a Community Plan on Homelessness to increase services to the homeless and near homeless individuals in both Aboriginal and non-Aboriginal communities.

The most recent data on homelessness is available through the 2014 Point in Time Homeless Count Survey. According to this survey, in 2014, there were 294 individuals that identified themselves as being without permanent residence, a 10% increase from the 2012 level. Of that total, 207 individuals are in the Street Count, 87 individuals are in the Facilities Count, and 71% are male. The majority of individuals are in the age group of 31 to 54 years and up to 37% are Aboriginal/Métis (RMWB 2017).

In addition, the Municipality provides social support services that offer a variety of preventative programs designed to enhance the well-being of individuals, families and communities. All programs support and enhance the lives of Aboriginal and non-Aboriginal residents. Programs are available in both the urban and rural communities.

Despite the 2012 expansion, social services providers are still experiencing capacity issues. Users of social services include residents in Fort McMurray, rural residents in the RMWB, job seekers from outside the RMWB, and construction workers during their off days.

The trend during the oil sands development showed that the demand for social support services is mainly from the residents in Aboriginal and non-Aboriginal communities in the RMWB, while the demand for homeless shelters is primarily from job seekers from outside the RMWB and construction workers during their days off.

Social services in Fort MacKay are provided by FCSS, the Wellness Centre, and the Fort MacKay Parks and Recreational Society. A Roots of Empathy program is located at the Fort MacKay School. In addition, the Wellness Centre operates a Children's After School Program, a Supper Program, Drop-In Supervised Youth Nights, a Youth Leadership Program, Cultural Programs, Summer Day Camp programs, YMCA Pre-Teen and Teen Nights, and a tutoring program. The Family Support Centre provides a wide range of programs and services to Fort McKay community members promoting personal well-being and mental health. Services include counselling for school children, individual counselling, ATC Child and Family Services, probation services, NA and AA meetings, and visits from Fort McMurray Victim Services (providing support, information, and referrals) (Fort McKay First Nation 2016).

18.5.12 Protective Services

18.5.12.1 Emergency Services

Emergency Medical Services are provided and administered out of the Alberta Health Services. The Regional Emergency Services (RES) department of the RMWB provides emergency services to respond to and mitigate emergencies that threaten life, property, and the environment. The Department provides a coordinated response to emergencies and provides emergency medical pre-hospital care, training, fire prevention and life safety education.

The RES in the RMWB responds to both Aboriginal and non-Aboriginal communities in the Municipality. Facilities in the urban center of Fort McMurray include four full-time fire halls and five rural fire halls supported by volunteer staff. The Regional Emergency Operations Center is part of the RES and is activated when required and the Municipal staff are prepared to meet the challenges of an emergency or disaster. The centre has four core services prevention, preparedness, response and recovery.

- ▶ *Fire and Medical Operations Branch:* provides integrated emergency response service. All operations staff are cross trained and qualified in firefighting/rescue and emergency medical response allowing crews to respond to all incidents in the Municipality.
- ▶ *The Operations Branch:* works closely with Alberta Agriculture and Forestry to mitigate wildfire risk. In addition, RES maintains specialty teams in Technical (high angle, confined space and collapsed structures), Water Rescue and Dangerous Goods Response.
- ▶ *Training and Recruitment Branch:* supports the Fire and EMS Operations Branch through the provision or development of training related to the public services offered. These services include emergency medical response, fire prevention, fire, rescue and special team response. The branch is also responsible for a series of initiatives supporting recruitment and retention for RES.
- ▶ *Fire Prevention Branch:* implements initiatives which will result in an overall decrease of fires within the Municipality. The branch's services include proactive fire safety education, pre-planning, inspections and investigations.

- ▶ **Rural and Fleet Branch:** The rural fire departments are composed of Fort Chipewyan, Fort McKay, Anzac, Saprae Creek and Conklin. They are staffed in total with approximately 90 paid on-call members. These firefighters are trained fire suppression, extrication and medical first response. Fleet provides care and maintenance for the RES fleet, which includes light and heavy vehicles. Fleet is also responsible for the life cycling of vehicles, safety inspections and the scheduling of preventative maintenance (RMWB 2016e).

In terms of capacity, the RES has 132 full-time firefighters and 90 volunteer firefighters that staff the five rural fire departments. There are five training officers, eight safety code officers and three mechanics in Fort McMurray. Current staff resources are adequate to meet demand, propose expansion plans correspond to anticipated population growth.

Fort MacKay includes a volunteer fire department, but has limited equipment to deal with industrial fire issues. The Fort MacKay Fire Department is a non-profit organization consisting of over 16 members dedicated to ensuring the safety of the Fort MacKay community and its surrounding areas (Fort McKay First Nation 2015).

Ongoing expansion for the RMWB fire capacity includes the construction of Anzac Fire Hall. The Anzac Fire Department is one of five rural fire departments within the RMWB and has been operating out of the existing fire station for 30 years. The Anzac Fire Department has grown in both membership and equipment to meet the required response needs; this has resulted in out-growing the current facility. Substantial completion of the fire hall is expected by October 2017. In addition to meeting the expanded Fire Department, the aim of the new fire hall is to create a new civic building that will instill pride in the community, and serve to attract and retain volunteers (RMWB 2017).

18.5.12.2 Policing Services

The Wood Buffalo RCMP Detachment is responsible for the entire RMWB and covers approximately 66,361 km². This area spans from south of Conklin to the Northwest Territories border, and includes the communities of Fort Fitzgerald, Fort Chipewyan, Fort MacKay, Fort McMurray, Saprae Creek Estates, Draper, Gregoire Lake Estates, Anzac, Janvier, and Conklin. Within its jurisdiction, there are several satellite detachments to make timely responses to calls. The headquarters building is located in the Timberlea area of Fort McMurray.

In terms of capacity, the Wood Buffalo RCMP Detachment has 216 members and 127 municipal support staff serving the jurisdiction. There are nine members devoted to First Nations policing who work in both the Aboriginal Community Program and the Enhanced Policing Program; those nine staff are assigned to various rural communities in the municipality.

A comprehensive study of crime data for Fort McMurray and the surrounding region shows crime rates that are well below Alberta and Canadian averages. The analysis also reveals, specifically, that the region has experienced considerable declines across many categories of crimes. The key findings of the study include:

- ▶ the rate of break-entry-theft in the region is substantially below provincial and national rates. It is approximately one-third of the Albertan and Canadian rates, with 172 incidents per 100,000 population, while Alberta had 513 and Canada had 504
- ▶ the rate of robbery is well below provincial and national averages: Wood Buffalo had 55 incidents per 100,000 population, while Alberta had 71 and Canada had 79
- ▶ the rate of sexual assault is well below provincial and national averages: Wood Buffalo had 44 incidents per 100,000 population, while Alberta had 75 and Canada had 63
- ▶ the rate of cannabis distribution is substantially below provincial and national averages: Wood Buffalo had 12 incidents per 100,000 population, while Alberta had 33 and Canada had 45
- ▶ the rate of prostitution is nearly identical to provincial and national averages: Wood Buffalo had seven incidents per 100,000 population, while Alberta had eight and Canada had six.

During the last 10 years the region has seen a 47% decline in overall crime incidents, the most significant drop compared to other jurisdictions canvassed by the study. Some notable categories include: break-entry-theft incidents declined 68%, prostitution incidents declined 78%, and cannabis distribution incidents declined 80%.

The Fort McMurray Rural Unit provides policing services to the Fort MacKay community. The highest number of incidents recorded are property crime offences, followed by person's crime offences and other criminal code offences. Improvements in traffic safety in the RMWB are reflected in the change in total motor vehicle collisions. In rural areas, collisions decreased by 10% from 2010 to 2011, while for the urban centre the decrease was 24% during the same period. In Fort MacKay, there was no change in motor vehicle collisions compared to the previous year (RMWB 2017).

18.5.13 Traffic and Transportation

The RMWB through its Road Department provides road maintenance and services including snow clearing throughout the winter season and street cleaning throughout the year for all roads within Fort McMurray. It is also responsible for maintaining the Fort Chipewyan Winter Road, La Loche Winter Trail, and Highway 69 (renamed Sapræe Creek Trail) as well as airstrips, bridges, public sidewalks, traffic lights and rights of way within the RMWB. Primary Highway 63 and Secondary Highway 881, are under the jurisdiction of Alberta Transportation which maintains responsibility of their maintenance.

Fort McMurray is accessible by air, road and rail. Several direct flight and bus services are available daily to Edmonton and Calgary. Rail transportation is provided as a freight corridor to southern Alberta. Vehicular traffic, including heavy-load vehicles, is accommodated primarily through Highway 63. Below is a brief description of transportation capacity by road, air and rail in the RMWB.

Transportation by Road

The public transit system in Fort McMurray is provided by Wood Buffalo's "WOOSH" transportation; it serves neighbourhoods in Fort McMurray as well as some rural communities. Most routes run every 15 or 30 minutes on week days. Evenings, weekends and holidays run on less frequent schedules, and some statutory holidays have no service. School buses bring children to and from elementary and secondary schools. Other bus companies provide service to rural communities in the RMWB, and to Edmonton and Calgary. Private bus services move workers to and from mining and construction job sites; these include Greyhound Bus Service and Red Arrow Motor Coach.

Highway 63 is the main road connecting Fort McMurray to the oil sands and to other main centres across the province. Most of Highway 63 south of Fort McMurray is one lane each way, Alberta Transportation is currently in the process of twinning it. Flow of traffic from downtown Fort McMurray to the neighbourhoods of Thickwood and Timberlea, and the oil sands mining sites further north improved recently with the construction of bridges across the Athabasca River.

Current road projects include Highway 63/Saprae Creek Trail Improvements. The construction work is ongoing and is expected to be completed by July 2017. This construction is as a result of the 2014 Wood Buffalo Land Exchange Agreement, whereby the municipality agreed to provide transportation infrastructure and ongoing maintenance of Saprae Creek Trail (Highway 69) and additional improvements on Highway 63 within Wood Buffalo. In return, the municipality received a land transfer from the provincial government. Upgrades will include the widening of Highway 63 at the intersection to three lanes, both northbound and southbound, and installing new traffic signals and signage (RMWB 2017).

Travel by Air

The Fort McMurray International Airport is the 15th busiest airport in Canada, with a record 1.3 million passengers in 2014. It offers both domestic and international flights. Direct flights to domestic destinations include Edmonton, Calgary, Vancouver, Toronto and Kelowna. Fort Chipewyan also has a regional airport with flights to and from Fort McMurray.

Travel by Rail

The current rail freight terminal is located south of the City Centre's lower townsite area. Canadian National Railway upgraded the line that, although remote from the oil sands developments, is used for shipments of construction materials and machinery and provides an alternative to Highway 63 for transporting heavy goods.

More information and data on traffic and transportation in the SESA is available in the traffic impact assessment (TIA) section of this study ([Volume 3, Appendix N](#)).

18.5.14 The Horse River Fire and Socio-economic Conditions

During the Horse River Fire in Fort McMurray, the RES were in the field supporting the fire response efforts. The fire destroyed nearly 2,000 structures and damaged many more. Critical public infrastructure was protected; including schools, the water treatment and wastewater treatment plant, and most cellular service towers. Almost 88,000 people were evacuated from Fort McMurray, marking one of the largest and most successful evacuations in Alberta's history.

In response to rebuilding efforts, the RMWB announced a Wildfire Recovery Plan. The Plan is intended to guide the recovery of the entire region from a post-disaster state, coordinate rebuilding efforts using a build back better philosophy and enhance community-level resiliency.

The Wildfire Recovery Plan aims to position the RMWB for future growth following the rehabilitation of damaged areas and enable the region to support its own recovery. In terms of execution timeframe, full recovery is expected to take years.

The Wildfire Recovery Plan, through one of its five Action Areas, People, announced a series of activities that focus on enhancing the well-being of all RMWB residents. It considers education, recreation, leisure, arts, culture and spiritual needs, psychosocial and physical supports, as well as ensuring residents are engaged and informed throughout recovery. The Wildfire Recovery Plan also announced a series of activities that focus on re-invigorating the economy through focusing on local/regional business, supporting the workforce and embracing viable diversification opportunities. The Wildfire Recovery Plan includes the following action items under the other four Action Areas:

Economy Action Items:

- ▶ implement an Economic Strategy based on revised economic, resource and population factors
- ▶ establish a business support task force, comprised of RMWB, Government of Alberta, Aboriginal, community and industry stakeholders to facilitate and enable recovery success and to strengthen relationships
- ▶ revise the Municipal Development Plan, Fringe Study and Population Growth Survey
- ▶ enable small business (urban, rural, Aboriginal) recovery through emergency relief and support programs, "Buy Local" initiatives, YMM Home Show and frequent analysis of business inventory activities
- ▶ implement Residential Tax Relief Program
- ▶ support oil and gas production attraction and retention programs of a competent workforce that resides within the RMWB and not categorized as fly-in/fly-out
- ▶ ensure taxation certainty for residential, commercial and industry stakeholders
- ▶ continue with industry/commercial/regional trade shows to attract commercial opportunities.

Re-build Action Items:

- ▶ identify, assess and prioritize all damaged RMWB residential, commercial, industrial and public infrastructure, roads and parks
- ▶ implement Rebuild Plan, including Safety Management Guidance
- ▶ advocate for residents to ensure insurance and banking industries, Canadian Red Cross and other agencies fulfill their roles
- ▶ engage and adhere to the required processes to recover funds through the Alberta Disaster Recovery Program
- ▶ implement guidance to strengthen “Buy Local” model when rebuilding
- ▶ execute clean-up and debris removal
- ▶ expedite Green Home Re-Entry
- ▶ implement construction control measures to provide synergistic construction while ensuring safety of all stakeholders during extensive construction activities
- ▶ streamline permitting processes to reduce rebuild costs attributed to construction delays
- ▶ enable sufficient supply of competent and available workforce to support residential, commercial and public structures (job fairs and assess cross-training opportunities and engage external builders to source local builders/trades)
- ▶ facilitate condominium rebuild decision-points.

Mitigation Action Items:

- ▶ pursue the development of the East Clearwater Highway as an alternate regional evacuation route for the Municipality
- ▶ develop secondary and egress routes from the communities of Abasand, Waterways, Beacon Hill, and Wood Buffalo
- ▶ continue with and enhance FireSmart initiatives throughout the Municipality
- ▶ develop and implement a plan to protect rural hamlets and the western flank of the Urban Service Area from a Wildland/Urban interface fire
- ▶ investigate the option of a Wildland Urban Interface Fire Crew capability
- ▶ review and enhance the Municipal Emergency Management Plan to include the incorporation of a recovery plan
- ▶ conduct forensic Lessons Learned analysis (RMWB 2016f).

The RMWB Wildfire Recovery Team provided an update on the implementation schedule of the Recovery Plan and current socio-economic conditions in the RWMB ([Table 18.5-27](#)).

Table 18.5-27: Update on the Implementation Schedule of the Recovery Plan

Subject	Update/Current Status
Rebuilding efforts for the damaged 2000 homes	<ul style="list-style-type: none"> ▶ Rebuilding efforts for the damaged 2000 homes are on schedule. ▶ The demolition of all damaged buildings was completed in November 2016 and the rebuilding of those buildings is now underway. ▶ Of the 1,595 destroyed structures, development permits for 645 structures had been issued as of 7 April 2017. ▶ To date, 424 foundation inspections have occurred.
Functionality of public infrastructure, and major challenges	<ul style="list-style-type: none"> ▶ Not all schools are fully functional at this time. ▶ Students from affected area schools were relocated to other schools in the region. <p>Challenges: Great efforts have been made to move children back to their own schools but the following challenges have hindered these efforts:</p> <ul style="list-style-type: none"> ▶ post-fire restoration to the schools have been time consuming ▶ there is a poor registration of students, as students who have not yet returned to the region are unable to be reached by the schools ▶ there is a decline in teaching staff as many have not returned to the community ▶ there are increased stress levels in the existing teaching staff ▶ there have been concerns about housing rebuild within the neighbourhoods have been mitigated by a fulsome education and awareness campaigns. <p>Francophone Schools:</p> <ul style="list-style-type: none"> ▶ The Francophone School in Beacon Hill opened its door on 18 April 2017, providing relief to both staff and students who have reported that their return aided in their healing process. ▶ Increased wellness supports within the school are helping staff and students with the adjustment. <p>Community Associations: Community associations are struggling to return to pre-fire conditions. Difficulties have been reported in the areas of:</p> <ul style="list-style-type: none"> ▶ filling staffing vacancies with qualified employees ▶ losing board members ▶ increased demand for services ▶ inability to complete the necessary grant applications for financial support ▶ staff facing burnout and self-care challenges from demand on services ▶ loss of physical space.

Subject	Update/Current Status
Update to the current population	<ul style="list-style-type: none"> ▶ The 2015 Census counted a little over 82,000 people in Fort McMurray. However, due to economic downturn it is estimated that by the time the wildfire occurred the population was less than 82,000. ▶ The Alberta Health, Surveillance, and Assessment Branch’s annual population estimate determined the population of Fort McMurray in 2016 to be slightly over 79,000 people. <p>The Challenge of Estimating Population:</p> <ul style="list-style-type: none"> ▶ It is challenging at this time to say whether all the residents of Fort McMurray have returned. ▶ At this moment, the municipality can only rely on proxy information to estimate how many people currently reside in Fort McMurray. ▶ For this, the Municipality rely on utility utilization information such as water consumption. <p>Population Estimated by Water Consumption:</p> <ul style="list-style-type: none"> ▶ Water consumption between two comparable points in time can be used as a crude indicator of population level. However, it is not the only factor considered in a population estimate based on water consumption. ▶ For the most accurate estimate, many factors need to be considered including historical per capita consumption trends to determine average per capita consumption behaviour. ▶ The Municipality is in the process of conducting an analysis to separate commercial utilization from residential utilization in some areas. A final estimate to suggest the population totals for Fort McMurray will likely be available in the next four to six weeks (by June 2017). ▶ The water consumption comparison being analysed does suggest that the number of people currently living in the region is close to the number of people that were living in here before the fire. <p>Alberta Health’s Service Utilization Rate:</p> <ul style="list-style-type: none"> ▶ Alberta Health’s service utilization rate (physician services), shows a similar trend in physician services provided to residents in Fort McMurray both before and after the fire: <ul style="list-style-type: none"> ○ in March 2015 (before the fire): 71% were provided in Fort McMurray ○ in March 2016 (before the fire): 79% were provided in Fort McMurray ○ in December 2016 (after the fire): 64% were provided in Fort McMurray ▶ While more information is needed for the analysis of the health services utilization, this data further corroborates the conclusion that the current population is less than the population before the wildfire, but not substantially less.
Recovery to before the wildfire stage and effects of current economic downturn on the implementation of the Plan	<p>Recovery Team accepts that the region as a whole will not necessarily recover to exactly the pre-fire state, given the economic downturn prior to the fire, and that recovery – to some extent – is an individual path. However, in some aspects, recovery will exceed pre-fire state, particularly in the area of Mitigation. This is best explained by reviewing pillars of recovery as outlined in the campaign plan:</p> <p>People:</p> <ul style="list-style-type: none"> ▶ People have some control over how they recover. The Municipality can establish a framework and remove barriers to recovery through policy development and regulatory control. Each individual then has some control over how quickly they recover individually from the impact of the wildfire. There are also individual circumstances outside of the control of the Municipality and outside of the control of the individual which may change the speed of a person’s recovery.

Subject	Update/Current Status
<p>Recovery to before the wildfire stage and effects of current economic downturn on the implementation of the Plan (cont'd)</p>	<ul style="list-style-type: none"> ▶ The Recovery Task Force has worked closely with other agencies to create a psychosocial framework for recovery and ensure that resources are being provided through other agencies to support individual healing. The stakeholder engagement for the 3 May event is an example of this. <ul style="list-style-type: none"> ○ some stakeholders indicated they did not want an event as they had already recovered and wished to move on ○ others advised they needed some form of recognition of the event to have the opportunity to recognize and reflect on what has occurred ○ the month of May and the days within this month mean different things to different people in the region, as evacuations of communities within the RMWB occurred at different times ○ some people have chosen to leave the community and may never fully recover from the event. Others may need time, while some may have already fully recovered. <p>Environment:</p> <ul style="list-style-type: none"> ▶ Substantial testing has been done within the region to ensure that residents could safely return to the region and their homes. ▶ The landscape of the region has changed dramatically as a result of the wildfire. ▶ It will take many years for the environment to fully recover from the fire. ▶ Fire is a naturally occurring event and while the forest will rejuvenate naturally, it is fair to say that the environment will never be exactly the same as it was pre-fire. <p>Economy:</p> <ul style="list-style-type: none"> ▶ The region was already in a state of economic downturn when the fire impacted the community. ▶ It is not reasonable to say that recovery efforts will return the economy of the community to a pre-fire state. ▶ The region's economy is principally influenced from oil, particularly the ebb and flow of the supply and demand related to that product. ▶ Every business will follow its own path towards recovery. In some cases, businesses may thrive as a result of the disaster, being able to offer support to rebuilding efforts. ▶ Other businesses will struggle to find employees or will have challenges with cash flow as a result of the economic downturn and the stresses placed on them from the wildfire. ▶ The Recovery Task Force, in collaboration with RMWB Economic Development as well as other agencies such as Red Cross, Community Futures Wood Buffalo, the Chamber of Commerce, the Fort McMurray Construction Association and NAABA, have created programs to assist businesses on their journey towards recovery. <p>Rebuild:</p> <ul style="list-style-type: none"> ▶ The landscape of entire communities have changed forever. How residents work with insurance, the Canadian Red Cross and financial institutions will determine the time it takes for residents to complete their rebuild. ▶ In some cases, individuals have left the community and have chosen not to rebuild. ▶ Some residents will say that communities are changing for the better as a result of new construction while others will say that communities have lost their historical significance. ▶ Residents have choices as to how they rebuild their homes – they can utilize a build back better philosophy, or choose to replace their home exactly as it was pre-fire.

Subject	Update/Current Status
Recovery to before the wildfire stage and effects of current economic downturn on the implementation of the Plan <i>(cont'd)</i>	<ul style="list-style-type: none"> ▶ This will depend on a variety of factors including cost, intention to remain in the community and the potential to receive incentives. ▶ What the Municipality can do to facilitate the rebuild is remove barriers to construction, develop policies to assist residents, track progress by measuring issuance of permits and inspections, and create a level playing field where all residents have the opportunity to make their own choice to rebuild efficiently and effectively. <p>Mitigation:</p> <ul style="list-style-type: none"> ▶ Mitigation is designed to improve resiliency. ▶ This is one category that should result in a better-than-pre-fire condition. ▶ This pillar should result in learnings from the event and ways to reduce risk from all identified hazards. ▶ This includes FireSmart and the Wildland Urban Interface Fire crew training and funding, access and egress such as the identified priority of the East Clearwater Highway, land use decisions and a build-back-better philosophy. ▶ If these mitigation opportunities are implemented, the region will benefit by becoming more resilient for the future. ▶ The East Clearwater Highway will also help to provide better community access to support oil sands development and workforce, develop alternative routes for hazardous goods and better highway access to rural communities.
Schedule and major challenges	<ul style="list-style-type: none"> ▶ The Recovery Plan was always meant to be a flexible framework that could be adjusted and modified as new opportunities and challenges arise. Some initiatives were delayed or even cancelled while others were accelerated. It is reasonable to say that recovery is on schedule. ▶ Many recovery initiatives are complete and it is still anticipated that the bulk of the rebuild will be complete by the end of the 2018 summer building season. At the same time, it is expected that mitigation projects like FireSmart will carry on well into the future. ▶ Another indication that recovery is on schedule is that a plan is currently being developed to transition the Recovery Task Force into a smaller Recovery Team in the September time-frame. ▶ Much of the region's recovery is at the individual business or resident-level – all of whom have their own recovery journey. This applies as much in the physical domain as it does in the psychological. Many individuals feel they have recovered already while others feel they will not recover for years.
Summary of the current capacity and utilization of community services and operational challenges	<ul style="list-style-type: none"> ▶ Recovery Task Force have been enabling access to safe and effective education services including home-schooling and expanding community development opportunities to enable participation for all ages in local sports, recreational activities, as well as participation in arts, culture and spiritual activities. ▶ It is also ensuring meaningful stakeholder engagement and needs-based analysis of residents and communities, and aiming to provide emotional support in the implementation of a community-based psychological recovery plan. <p>Operational Challenges: The areas of education, recreation and social services, have experienced similar operational challenges, including:</p> <ul style="list-style-type: none"> ▶ loss of staff ▶ inability to fill vacant positions with qualified staff ▶ loss of physical space ▶ loss of equipment and supplies ▶ staff fatigue from increased demands ▶ inability to apply for available funding.

Subject	Update/Current Status
<p>Summary of the current capacity and utilization of community services and operational challenges (cont'd)</p>	<p>Economic Strategy:</p> <ul style="list-style-type: none"> ▶ The Wildfire Recovery Plan aims to implement an economic strategy based on revised economic, resource and population factors. ▶ Economic Development owned this task and were recently advised not to develop a new economic strategy. <p>Business Support Task Force:</p> <p>Another action item on the Wildfire Recovery Plan includes establishing a business support task force comprised of RMWB, Government of Alberta, Aboriginal, community and industry stakeholders to facilitate and enable recovery success and strengthen relationships. Other action items include:</p> <ul style="list-style-type: none"> ▶ Monthly stakeholder meetings have been established through Economic Development. The meetings include representatives from: <ul style="list-style-type: none"> ○ Fort McMurray Chamber of Commerce ○ Fort McMurray Construction Association ○ Government of Alberta ○ NAABA ○ Community Futures Wood Buffalo ○ Keyano ○ Fort McMurray Real Estate Board ○ Fort McMurray Airport Authority ○ RMWB Planning and Development ○ OSCA ○ Fort McMurray Tourism ○ United Way Fort McMurray ○ Recovery Task Force. ▶ The meetings were initiated by the Chamber of Commerce in May to facilitate round table discussions as the support groups worked to provide business resources as required for recovery. ▶ The meetings transitioned into an opportunity to connect, identify opportunities to collaborate and to strengthen business support relationships in general. <p>Municipal Development Plan, Fringe Study & Population Growth Survey:</p> <ul style="list-style-type: none"> ▶ The role of the Economy Pillar was to serve as a liaison and support of the activities completed through Economic Development. <p>Small Business Recovery:</p> <ul style="list-style-type: none"> ▶ The Wildfire Recovery Plan aims to enable small business (urban, rural, Aboriginal) recovery through emergency relief and support programs, “Buy Local” initiatives, YMM Home Shows and frequent analysis of business inventory activities.

Subject	Update/Current Status
<p>Summary of the current capacity and utilization of community services and operational challenges <i>(cont'd)</i></p>	<p>Emergency Relief:</p> <ul style="list-style-type: none"> ▶ Canadian Red Cross support to small business. ▶ Program Phase 1: <ul style="list-style-type: none"> ○ emergency financial assistance of \$1,000 was provided to each eligible business owner who registered through the Wood Buffalo Business Recovery Hotline ○ this phase concluded on 12 August 2016 ○ a total of \$3.296 million was distributed to businesses during this phase. ▶ Program Phase 2: <ul style="list-style-type: none"> ○ the purpose of this second phase of assistance was to provide financial assistance of up to \$8,000 for each eligible business to support fixed and new expenses resulting from interrupted business operations caused by the wildfire ○ the amount of financial assistance was based on need, as determined through the application process ○ the application period for this phase concluded on 31 January 2017 ○ total disbursements to date: \$13,889,330 ○ total eligible applicants paid out: 2,018 ○ average disbursement per eligible applicant: \$6,883. ▶ Program Phase 3: <ul style="list-style-type: none"> ○ Phase 3 is open to all small businesses that applied for, and received, assistance in Phase 2. As such, organizations will automatically be assessed for third phase funding ○ eligible businesses may receive up to \$11,000 in financial assistance for Phase 3 ○ the amount of financial assistance provided will be determined by the information submitted through the Phase 2 application process ○ the application for Phase 3 closed on 31 January 2017. <p>RMWB Small Business Workforce Support Program:</p> <ul style="list-style-type: none"> ▶ Total number of applicants: 1,555 businesses ▶ Total eligible applicants: 692 small businesses ▶ Total disbursement amount: \$4,636,808 ▶ Public engagement info sessions: 14 ▶ Funding range per business: \$5,386 to \$7,916. <p>Support Programs:</p> <ul style="list-style-type: none"> ▶ Back to Business Resource Centre (BBRC) was established to connect businesses to resources such as Red Cross Services, IBS Services, RMWB Small Business Work Force Support Program Administrator, learning events, ask and expert, Certified Management coaches, office supplies and operational space if needed. ▶ The BBRC was taken to our rural communities as a mobile support resource.

Subject	Update/Current Status
<p>Summary of the current capacity and utilization of community services and operational challenges (cont'd)</p>	<p>RMWB Expos:</p> <ul style="list-style-type: none"> ▶ YMM Home Show: <ul style="list-style-type: none"> ○ 167 booths ○ 2,000 attendees ○ learning events: 8 ○ 96% of vendors secured work/contracts with new clients during the YMM Home Show. ▶ YMM Builder Expo (partnered with Christmas Market and Show): <ul style="list-style-type: none"> ○ 65 booths ○ 8,534 attendees ○ learning events: 0. ▶ YMM Home Show & Career Fair: <ul style="list-style-type: none"> ○ 109 booths ○ 5,000 attendees ○ learning events: 10 ○ 87% of vendors secured work/contracts with new clients during the YMM Home Show & Career Fair. <p>Analysis of Business:</p> <ul style="list-style-type: none"> ▶ An analysis of business was completed and is ongoing through a number of outreach events. <p>Business Recovery Hotline:</p> <ul style="list-style-type: none"> ▶ The Business Recovery Hotline was established while the community was in evacuation. ▶ It provided the businesses of Wood Buffalo information on resources available to them, registered businesses by administering the Business Recovery Survey which allowed RMWB to better understand the needs of the business community. ▶ It also handled disbursement of the Red Cross Emergency Relief for small businesses ▶ The hotline remained in place and has evolved throughout the recovery process. ▶ It continues to be in operation today for inquiries to support business recovery efforts. <p>Recovery Business Needs Assessment:</p> <ul style="list-style-type: none"> ▶ This assessment involved one-on-one meetings with business owners to gain an understanding of their current operations and identify areas in which they require support. ▶ The needs assessment identified five primary areas of support required: marketing assistance, attraction of skilled workforce, business planning, insurance claims assistance and access to funding. <p>Economic Opportunity Assessment:</p> <ul style="list-style-type: none"> ▶ This assessment also involved a series of one-on-one meetings, stakeholder conversations and networking events aimed at studying the current challenges and opportunities within Wood Buffalo. ▶ The report is not yet available.

Subject	Update/Current Status
<p>Summary of the current capacity and utilization of community services and operational challenges <i>(cont'd)</i></p>	<p>The RMWB's Economic Development Branch:</p> <ul style="list-style-type: none"> ▶ The RMWB's Economic Development branch completed Welcome Walks as a way to welcome businesses back to the community, connect them with post-wildfire event resources and share information about the Small Business Financial Support Program. ▶ A total of 420 businesses were visited during the summer 2016 walk and 100 businesses were visited during the December 2016 walk. <p>Oil and Gas Production Attraction:</p> <ul style="list-style-type: none"> ▶ Aim to support oil and gas production, attraction and retention programs for a competent workforce that resides within the RMWB and not categorized as Fly-In/Fly-Out. ▶ There has been work completed for general workforce support, labour market studies and attraction to the region. <p>Industry/Commercial/Regional Trade Shows:</p> <ul style="list-style-type: none"> ▶ Continue these trade shows to attract commercial opportunities. ▶ Trade show was attended in Calgary during the early response period.
<p>Current challenges that local businesses are facing after the fire and during the economic downturn</p>	<p>A Recovery Needs Assessment was distributed and the findings showed that the top five identified needs are marketing assistance, access to financing, attraction of skilled workforce, business planning and insurance claims assistance.</p> <ol style="list-style-type: none"> 1. Marketing Assistance: <ol style="list-style-type: none"> a. Learning events have been offered through the BBRC and other community business partners to support businesses. 2. Access to Financing: <ol style="list-style-type: none"> a. Financial support was available through the Red Cross and the RMWB Small Business Workforce Support Program. b. Work is currently underway to explore options to provide additional supports to businesses. 3. Attraction of Skilled Workforce: <ol style="list-style-type: none"> a. Job Fair in partnership with the Government of Alberta was held on March 3 and 4 2017 b. Labour Market report was completed in partnership with Chamber of Commerce, Government of Alberta and RMWB which was publically presented on April 20, 2017 c. Phase two labour study reports are scheduled to begin next month. 4. Business Planning: <ol style="list-style-type: none"> a. Certified Management Consultant (CMC) program currently available allowing for up to 14 hours of one-on-one coaching b. Additional programs regarding business planning available through business stakeholder organizations such as Keyano College and Community Futures. 5. Insurance Claims Assistance: <ol style="list-style-type: none"> a. Insurance. Recovery. Support. Program was established to provide one-on-one support to residents and business owners <p>Damage:</p> <p>An assessment of damage to all infrastructure was completed following the fire. While infrastructure damages occurred as a result of the demolition and continue to occur during the rebuild, the Construction Management Teams are working to monitor and prevent damage to municipal infrastructure. The Recovery Task Force is also working closely with the Government of Alberta, Disaster Recovery Program (DRP) Engineers to repair these damages. The Rebuild Guidance Document was completed in January 2017 and will be reviewed at the end of Quarter 3 to confirm whether any updates are required for the 2018 rebuild season.</p>

Subject	Update/Current Status
Current challenges that local businesses are facing after the fire and during the economic downturn <i>(cont'd)</i>	<p>Implement Construction Control Measures:</p> <p>Creation of the Construction Management Teams in April 2017 will assist in the coordination of the rebuild and ensure safety of all the stakeholders. Based on lessons learned from the Town of Slave Lake, the Municipality implemented Construction Management Teams to coordinate the rebuild. Construction of access routes in Abasand and Beacon Hill was completed in December 2016 to separate the residential traffic from construction traffic. The Beacon Hill construction route will open in April 2017 and the Abasand construction route will open near the end of May 2017.</p>
Implementation schedule and Priorities	<ul style="list-style-type: none"> ▶ The Wildfire Recovery Plan will focus on a number of Mitigation Action Items, like pursuing the development of the East Clearwater Highway as an alternate regional evacuation route for the Municipality. ▶ On 25 October 2016, Council approved the East Clearwater Highway as the highest mitigation priority for recovery. ▶ The design and construction of secondary egress routes from the communities of Abasand, Waterways, Beacon Hill, and Wood Buffalo are underway in 2017. ▶ The Municipality has recently received \$10.5 million in funding over three years from the Government of Alberta for a FireSmart program ▶ The office of the Fire Commissioner, Wildlife Management Branch, from the Government of Alberta has started work on a wildland urban interface fire response strategy for the province. ▶ A nominee from the RMWB will participate in this group. ▶ Other Mitigation Action Items include reviewing and enhancing the Municipality's Emergency Management Plan to include the incorporation of a recovery plan and conducting a forensic Lessons Learned analysis. ▶ The Wildfire Mitigation Strategy will be conducted starting this spring and the final report is due September/October of 2017.

Source: RMWB Recovery Team (2017 pers. comm.).

18.6 Application Case

18.6.1 Lewis Project Description

The duration of the engineering and construction phase will be approximately 10 years, from 2020 to 2030. The average size of the construction workforce will be 580 and will peak at 1,000 in years 2027 to 2028. It is estimated that 5% of the construction workforce will be recruited from within the SESA, 75% from other parts in Alberta and 20% from outside of Alberta. The capital expenditure of the construction phase is estimated at \$6.2 billion. Almost 66.55% of capital expenditures will be spent in Alberta. Suncor evaluated workforce composition and socio-economic data based on previous undertakings in the region with different economic and social conditions than are currently present.

The duration of the operations phase will be 40 years beginning in 2027 (three years overlap with the engineering and construction phase). The average annual size of the operations workforce will be about 288. Depending on workforce availability, it is estimated that 5% of the operations workforce will be recruited from within the SESA, 75% from other parts in Alberta and 20% from outside Alberta. The annual operations expenditure is estimated at \$642 million. Up to 55.64% of the operations expenditures will be spent in Alberta.

Tables 18.6-1 and 18.6-2 provide a breakdown, per phase, of the Lewis Project costs for different categories: engineering and project management, equipment and materials, and labour costs including benefits. They also include the percentage of expenditures expected to occur in the SESA, elsewhere in Alberta, elsewhere in Canada, and outside of Canada. Table 18.6-3 provides estimates of royalties and taxes.

Table 18.6-1: Project Construction Costs in Million (2016 Constant Dollars)

Cost Categories	\$\$ CDN Value	% Spent in the Study Region (RMWB)		% Spent Elsewhere in Alberta		% Spent Elsewhere in Canada		% Spent Outside of Canada	
		\$	%	\$	%	\$	%	\$	%
Engineering & Project Mgmt	\$564.00	\$0.00	0%	\$282.00	50%	\$141.00	25%	\$141.00	25%
Equipment & materials	\$4,192.00	\$0.00	0%	\$2,389.44	57%	\$838.40	20%	\$964.16	23%
Labour costs incl. benefits	\$880.00	\$765.60	87%	\$114.40	13%	\$0.00	0%	\$0.00	0%
Other	\$596.00	\$232.44	39%	\$363.56	61%	\$0.00	0%	\$0.00	0%
Total CAPEX	\$6,232.00	\$998.04		\$3,149.40		\$979.40		\$1,105.16	
CAPEX in Alberta	\$4,147.44								
Percent of CAPEX in Alberta	66.55%								

Table 18.6-2: Project Annual Operations Costs in Million (2016 Constant Dollars)

Cost Categories	\$\$ CDN Value	% Spent in the Study Region (RMWB)		% Spent Elsewhere in Alberta		% Spent Elsewhere in Canada		% Spent Outside of Canada	
Engineering & Project Mgmt	\$12.00	\$0.00	0%	\$9.00	75%	\$3.00	25%	\$0.00	0%
Equipment & Materials	\$566.00	\$33.96	6%	\$254.70	45%	\$113.20	20%	\$164.14	29%
Labour costs incl. benefits	\$64.00	\$47.36	74%	\$12.16	19%	\$3.20	5%	\$1.28	2%
Other	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00	0%
Total OPEX	\$642.00	\$81.32		\$275.86		\$119.40		\$165.42	
OPEX in Alberta	\$357.18								
Percent of OPEX in Alberta	55.64%								

Table 18.6-3: Suncor Estimates of Royalties and Taxes during the Operations Phase in Millions

Type	Royalties Payable	Federal Taxes Payables	Provincial Taxes Payables
NPV0 Absolute*	\$37,464	\$10,589	\$8,478
NPV11 to 2017**	\$1,775	\$450	\$361

Notes:

* NPV0: absolute (not discounted dollars).

** NPV11: includes an 11% cost of borrowing discounted to 2017 dollars.

The costs included in this application have been developed from conceptual engineering work to support the SEIA requirements of the regulatory application. This preliminary cost estimate is subject to a number of uncertainties, and will likely be changed due to future, as yet unknown, events. In addition, the cost estimate will be subject to refinement as engineering definition is progressed.

18.6.1.1 Workforce Accommodation Plan

Procedures and dedicated people will be in place to verify that the construction and operations workforce accommodation plan meets or exceeds regulatory requirements and follows best industry practices. For the purposes of this assessment, it is assumed that the Lewis Project will use the Suncor Firebag Lodge to accommodate construction and operations workforce.

During the construction and operations, the Lewis Project will operate a fly in/fly out camp scenario and will utilize the Firebag Aerodrome as its major airstrip. The Lewis Project will utilize buses between the airstrip and the camp with minimal private vehicles, trucks or vans permitted on site.

Firebag Lodge is located approximately 60 km east of Highway 63 on the East Athabasca Highway (EAH). The 600-room management-style lodge is situated within Suncor's Firebag village and operates exclusively for Suncor. Private and executive rooms are available. The Firebag Lodge meets or exceeds regulatory requirements and follows best industry practices. Some of the amenities include: chef prepared meals, fitness centre and women's only fitness facilities including intramural sports, fitness classes, convenience store, complimentary laundry facilities, and housekeeping services.

During the peak construction phase for the Lewis Project, when workforce will reach 1,000 workers, Suncor will handle any overflow through third party camps as required. Internal policies at Firebag Lodge will comply with Suncor policies. Firebag Lodge amenities will include 24-hour kitchen access, fitness centre, games room and TV-Internet room.

An alternative accommodation plan includes the use of one of the existing accommodation camps north of Fort McMurray. Vacancy rates in industry accommodation, as of June 2015, was 46.7% (RMWB 2015). Given the anticipated economic growth in the RMWB, vacancy rates are not expected to increase dramatically during the construction and operations phase of the Lewis Project.

18.6.1.2 Work Rotations

- ▶ *Construction Phase:* three continuous shifts – 14 days on, 7 days off. 10 hour work days. Shift to be 10 hours daily plus breaks; shift window is 6:00 a.m. to 5:00 p.m. daily; the proposed rotations are back-to-back and does not overlapped.
- ▶ *Operation Phase:* 7 days on 7 days off: Shift to be 12 hrs daily; day shift is 6:00 a.m. to 6:00 p.m.; night shift is 6:00 p.m. to 6:00 a.m.

18.6.1.3 Worker Safety at the Work Site

During the construction and operations phases of the Lewis Project, and in order to support the wellness of the workforce, onsite emergency response facilities and services in keeping with Alberta's Occupational Health and Safety requirements will be available onsite. The Lewis Project will be registered with STARS Air Ambulance. The major health center used for treating sick workers – who require emergency attention or other services beyond the onsite facility's capacity – will be the NLRHC.

The Emergency Response Plan and an Environmental, Health and Safety Management Plan ([Volume 1, Section 4.5.1](#)) will provide guidance and system development necessary to protect people, the environment and Lewis Project assets, before, during, and after an emergency situation.

18.6.2 Mitigation

The following sections describe Lewis Project-related mitigation for each VSC. In general, socio-economic effects and opportunities will be managed through the ongoing implementation of Suncor's policies, practices and strategies, including but not limited to:

- ▶ Stakeholder and Aboriginal Relations Framework
- ▶ Suncor's Social Sustainability Goal (Suncor 2016) with metrics focused on Aboriginal youth, Aboriginal workforce development (retention, progression), and Aboriginal business development and relationship building
- ▶ Aboriginal Employee Network
- ▶ Live and Work Policy

- ▶ Progressive Aboriginal Relations Certification which focuses on demonstrated performance and improvement in Aboriginal employment, Aboriginal business, Community Investment and Community Engagement. Suncor is currently certified at the Silver level and is striving to achieve Gold certification
- ▶ Employee and Family Assistance Program
- ▶ involvement in NAABA
- ▶ supply Chain and Category Management procurement practices
- ▶ interim and long-term benefit agreements
- ▶ Aboriginal Youth Engagement Strategy
- ▶ traditional land use studies
- ▶ communications strategy and plans
- ▶ working groups and/or advisory committees
- ▶ transportation impact assessments as required
- ▶ Emergency Response Plan as required
- ▶ environmental health and safety plans, policies and practices
- ▶ Transportation and Logistics Plan (bussing plans, lodging).

18.6.3 Effects on the Economy

18.6.3.1 Provincial Economic Effects

Engineering and Construction Phase

Key findings of the IO Model run show that, for the entire construction period, approximate expenditures of \$4,147 million (66.5% of \$6,232 million) would directly increase Alberta GDP by approximately \$939.1 million, labour income would directly increase by \$880 million and 13,389 person-years of direct employment would be created. This would result in an additional 12,869 person-years of indirect employment and up to 5,359 person-years of induced employment. The total economic impact (direct, indirect and induced) on Alberta would be an estimated \$3,367 million in GDP, \$2,170 million in labour income and 31,617 person-years of employment ([Table 18.6-4](#)).

The Lewis Project estimates that the average annual size of the construction workforce will be 580 people and will peak at 1,000 in years 2027 and 2028. Results of the IO Model run show that up to 1,339 direct person-years of employment would be created annually; this suggests that 580 jobs would be created onsite and the remaining jobs would be created offsite ([Table 18.6-4](#)).

Table 18.6-4: Potential Economic Effects during the Construction Phase

(Thousands \$)	Alberta		Rest of Canada		Canada	
	Annual	Total	Annual	Total	Annual	Total
Output						
Direct impact	414,744	4,147,440	97,940	979,400	512,684	5,126,840
Indirect	299,268	2,992,676	177,311	1,773,111	476,579	4,765,788
Induced	114,357	1,143,569	88,694	886,936	203,051	2,030,506
Total	828,369	8,283,686	363,945	3,639,448	1,192,313	11,923,133
GDP						
Direct impact	93,918	939,176	1,662	16,618	95,579	955,794
Indirect	170,958	1,709,584	88,732	887,319	259,690	2,596,903
Induced	71,867	718,665	47,528	475,276	119,394	1,193,941
Total	336,743	3,367,425	137,921	1,379,213	474,664	4,746,638
Labour income						
Direct impact	88,000	880,000	0	0	88,000	880,000
Indirect	98,441	984,406	54,677	546,766	153,117	1,531,172
Induced	30,580	305,798	24,817	248,168	55,397	553,966
Total	217,020	2,170,204	79,493	794,934	296,514	2,965,138
Jobs - full-time equivalent (FTE)						
Direct impact	1,339	13,389	0	0	1,339	13,389
Indirect	1,287	12,869	876	8,760	2,163	21,629
Induced	536	5,359	484	4,841	1,020	10,200
Total	3,162	31,617	1,360	13,601	4,522	45,218

Notes:

Values may not sum to totals shown due to rounding.

- ▶ Project effects on GDP, income and employment during the construction phase was calculated using the Statistics Canada 2010 Input Structure for IO Industry BS23C200 - Oil and gas engineering construction.
- ▶ Direct impact measures the initial requirements for an extra dollar's worth of output of a given industry. The direct impact on the output of an industry is a one dollar change in output to meet the change of one dollar in final demand. Associated with this change, there will also be direct impacts on GDP, jobs, and imports.
- ▶ Indirect impact measures the changes due to inter-industry purchases as they respond to the new demands of the directly affected industries. This includes all the chain reaction of output up the production stream since each of the products purchased will require, in turn, the production of various inputs.
- ▶ Induced impact measures the changes in the production of goods and services in response to consumer expenditures induced by households' incomes (i.e., wages) generated by the production of the direct and indirect requirements.
- ▶ Full-time-equivalent (FTE): Two types of jobs impacts and multipliers are available: one for the total number of jobs and another which transforms the former into a FTE number of jobs. The estimate of the total number of jobs covers two main categories: employee jobs and self-employed jobs (including persons working in a family business without pay). The total number of jobs includes full-time, part-time, and temporary jobs. It does not take into account the number of hours worked per employee. FTE jobs include both the employee and self-employed jobs but the FTE transformation only applies to employee jobs. The transformation is based on the overall average full-time hours worked in the business and government sectors.

Operations Phase

Key findings of the IO Model run show that estimated direct annual operation expenditures of \$357 million per year (55.6% of \$642 million) would increase Alberta GDP by approximately \$64.5 million per year for a minimum of 40 years, direct labour income would increase by \$59.5 million annually and 312 direct long-term jobs would be created. This would result in an additional 1,163 indirect jobs and up to 436 induced jobs annually. The total annual economic effect (direct, indirect and induced) would amount to \$282.3 million in GDP, \$178.6 million in labour income and 1,911 jobs.

Through an operations period of a minimum of 40 years, the total estimated economic effect (direct, indirect and induced) would be \$11.3 billion in GDP, \$7.1 billion in labour income and 76,431 person-years of employment. Provincial effects are summarized in [Table 18.6-5](#).

Table 18.6-5: Potential Economic Effects during the Operations Phase

(Thousands \$)	Alberta		Rest of Canada		Canada	
	Annual	Total	Annual	Total	Annual	Total
Output						
Direct impact	357,180	14,287,200	119,400	4,776,000	476,580	19,063,200
Indirect	276,664	11,066,551	235,857	9,434,279	512,521	20,500,830
Induced	93,432	3,737,270	96,169	3,846,753	189,601	7,584,023
Total	727,276	29,091,021	451,426	18,057,032	1,178,701	47,148,053
GDP						
Direct impact	64,570	2,582,818	3,321	132,857	67,892	2,715,675
Indirect	159,240	6,369,604	115,563	4,622,538	274,804	10,992,142
Induced	58,574	2,342,942	52,739	2,109,569	111,313	4,452,510
Total	282,384	11,295,364	171,624	6,864,963	454,008	18,160,327
Labour income						
Direct impact	59,520	2,380,800	3,200	128,000	62,720	2,508,800
Indirect	94,195	3,767,784	72,182	2,887,285	166,377	6,655,069
Induced	24,946	997,832	26,933	1,077,331	51,879	2,075,163
Total	178,660	7,146,416	102,315	4,092,616	280,976	11,239,031
Jobs - full-time equivalent (FTE)						
Direct impact	312	12,461	35	1,386	346	13,847
Indirect	1,163	46,517	1,128	45,132	2,291	91,649
Induced	436	17,453	529	21,164	965	38,617
Total	1,911	76,431	1,692	67,682	3,603	144,112

Notes:

Values may not sum to totals shown due to rounding.

- ▶ Project effects on GDP, income and labour during the operations phase is calculated using the Statistics Canada 2010 Input Structure for IO Industry BS211114 – Non-conventional Oil Extraction.
- ▶ See Definitions of Direct, Indirect, Induced and FTE in the notes from [Table 18.6-4](#).

Lewis Project effects on the provincial economy (including GDP, labour income, and employment) will be provincial in extent, and positive in direction. Lewis Project effects will be moderate in magnitude, short-term in duration and continuous during the engineering and construction phase and low in magnitude, long-term in duration and continuous during the operation phase. These predictions are offered with a high level of confidence. The residual impact will be low during operations phase and moderate during construction.

18.6.3.2 Regional/Local Economic Effects

Direct Expenditures

During the engineering and construction phase, approximately 24% (\$998 million) of the expenditure (see [Table 18.6-1](#)) is anticipated to be spent within the SESA (87% of total labour cost will be spent in the SESA and 39% of other costs will be spent in the SESA).

Direct effects on the SESA from these expenditures include local taxes, additional labour income, electricity, natural gas, and other operating expenses.

During operations, approximately 13% of the annual operating expenditures (see [Table 18.6-2](#)) associated with the operation and maintenance of the central plant (\$81.32 million) is anticipated to be spent within the SESA (6% of the total equipment and materials costs will be spent in the SESA and 74% of the total labour costs including benefits will be spent in the SESA).

Direct effects on the SESA from these expenditures include local taxes, additional labour, electricity, natural gas, and other operating expenses. These effects will occur in the Urban Service Area, Rural Communities and Industry Accommodation.

Employment

During the engineering and construction phase, the average size of the construction workforce will be 580 and will peak at 1,000. The expected distribution of employment by type of jobs per skills categories in the construction workforce is shown in [Table 18.6-6](#). Skilled trades are available throughout Alberta and the SESA. Suncor believes in hiring in the communities where we operate but not all of our recruitment needs can be filled locally. Where we have remote camp-based operations we recruit both locally and from outside of Alberta. Employees and contractors travel to and from these work sites from our Calgary, Edmonton or Fort McMurray transportation hubs, either by bus or plane. For all of our operations, we look for qualified candidates within Canada first and then may look internationally to create the robust workforce that is required.

Table 18.6-6: Suncor Construction Employment by Type

Occupation	Percent	Approximate Number Peak	Approximate Number Average
Labourers	16%	160	93
Equipment operators	12%	120	70
Pipefitters	14%	140	81
Welders	4%	40	23
Ironworkers	9%	90	52
Electricians	22%	220	128
Instrument technicians	3%	30	17
Carpenters	3%	30	17
Millwrights	4%	40	23
Boilermakers	4%	40	23
Concrete finishers	3%	30	17
Insulators	4%	40	23
Sheet metal workers	2%	20	12
Total Staff On and Offsite	100%	1,000	580

Given the current economic downturn, unemployment rates, and projected economic growth in the RMWB, meeting the hiring target of 5% from within the SESA and 75% from within Alberta will not be a challenge.

Occupations that could have labour shortages in the RMWB by 2025 include:

- ▶ managers in construction and transportation (shortage of 1,386 workers)
- ▶ computer and information systems professionals (shortage of 1,426 workers)
- ▶ nurse supervisors and registered nurses (shortage of 5,434 workers)
- ▶ medical technologists and technicians (shortage of 2,322 workers)
- ▶ sales and service supervisors (shortage of 1,145 workers) (Alberta Oil Sands Industry 2016).

Suncor’s construction employment by type (numbers and percent) are presented in [Table 18.6-6](#). None of the listed occupations are in the above labour shortages list. Hiring the required construction workforce will not pose a management challenge for Suncor.

During operations, the average size of the operations workforce will be 288 annually for 40 years. The expected distribution of employment by type of jobs per skills categories in the operations workforce is shown in [Table 18.6-7](#). Skilled trades are available throughout Alberta and the SESA. Given the current economic downturn, unemployment rates, and projected economic growth in the RMWB, meeting the hiring target of 5% from within the SESA and 75% from within Alberta will not be a challenge.

Table 18.6-7: Operations Employment by Type

Positions	Onsite and Fort McMurray	Calgary
Operations and Maintenance		
General Manager	0	1
Plant Area Manager/ Chief Stm	4	
Plant Ops Co-ordinator	2	
Pads Ops Co-ordinator	2	
Plant Ops Supervisors	12	
Inlet Sep/Oil/PG/De-oiling	16	
Water Treatment	16	
Steam/Fuel Gas	16	
"Utility" Operator	16	
Board Operator	0	8
Miscellaneous (to cover training, vacation)	22	2
Pads Operations	20	
Pads Miscellaneous	12	
Maintenance Planning Manager	0	2
Maintenance Execution Manager	0	2
Maintenance Supervisor	4	
Maintenance Support Lead	4	
Maintenance Co-ordinator	8	
Maintenance Planner	0	8
Maintenance Technicians - E&I	30	
Maintenance Technicians - Mechanics	24	
Warehouse Tech (included in SCM)	12	
Business Unit Support (Engineering)	4	41
<i>Cumulative Totals for Four Phases</i>	224	64
Total	288	128

Suncor recognizes the importance of diversity within the workforce, and as a result have key focus areas on increasing inclusion within the attraction, retention, and advancement of Aboriginal peoples. As in its current operations, Suncor will continue to prioritize qualified local candidates over candidates who reside outside the SESA. To Increase participation of regional (especially Aboriginal) workers in Lewis Project construction and operations, Suncor will:

- ▶ identify and communicate detailed employment and contract work requirements (schedules, occupations, skills, experience) on a timely basis
- ▶ communicate opportunities early so regional residents are able to apply to opportunities
- ▶ assess the availability of regional skills and labour resources (social goal, HR strategy)

- ▶ continue to work with regional educational organizations (Keyano College) and local groups to promote appropriate training programs
- ▶ hire eligible qualified local residents and seek to hire or contract qualified regional and local Aboriginal residents for employment opportunities
- ▶ provide cross-cultural awareness to supervisors who will be working with both Aboriginal and non-Aboriginal employees to increase cross-cultural understanding
- ▶ train and mentor local hires while they are on the job
- ▶ encourage contractors also to apply Suncor's regional employment policies.

Direct effects on the SESA from employment include income taxes, additional labour income, and lower unemployment rate. These effects will occur in the Urban Service Area, Rural Communities and Industry Accommodation.

Business Opportunities

Opportunities exist for local businesses to provide services during both the engineering and construction and operations phases. Examples include:

Civil works:

- ▶ road and lease construction and maintenance
- ▶ earthworks
- ▶ construction survey and detailed design
- ▶ drilling sump treatment.

Mechanical construction services:

- ▶ instrumentation and electrical installation
- ▶ pipeline and pump installation
- ▶ offsite fabrication
- ▶ materials management
- ▶ construction surveys.

Fluid hauling:

- ▶ tank, pressure, vacuum and steamer truck services
- ▶ fluid transfer services
- ▶ tank and vessel cleaning
- ▶ oil spill remediation.

Building services:

- ▶ janitorial and custodial services
- ▶ building renovations
- ▶ HVAC, fire alarm, sprinkler system and potable water maintenance
- ▶ lawn and grounds, pest control.

Suncor is committed to the participation of local businesses in the construction and subsequent operations of the Lewis Project and recognizes that the local communities are interested in maximizing the economic benefits of the Lewis Project. Suncor will build upon successful oil sands business development practices that encourage local and Aboriginal business participation. To increase participation of local and Aboriginal businesses in Lewis Project construction and operation. Suncor will:

- ▶ provide information and training on Suncor's procurement processes, safety standards and expectations of business conduct to facilitate local participation
- ▶ apply a tendering and bid system (for prequalification, evaluation, selection and award) that treats regional contractors equitably
- ▶ facilitate opportunities for participation in the bid process by qualified regional, local and Aboriginal suppliers of goods and services that are competitive and meet Suncor's safety, technical and quality standards as well as timing needs
- ▶ communicate regional procurement policies to its contractors
- ▶ encourage contractors to breakdown the scope of their work packages such that local and Aboriginal businesses could bid for a portion of the work package
- ▶ participate in capacity building initiatives (e.g., supporting local business development, participating in local business associations, etc.)
- ▶ offer timely and honest debriefing of unsuccessful local goods/services providers when requested.
- ▶ work closely with CCAB and NAABA to advertise job opportunities with Aboriginal businesses, suppliers and vendors.

Direct effects on the SESA from business opportunities include economic growth, local businesses development, and government revenues. These effects will occur in the Urban Service Area, Rural Communities and Project Accommodation.

Collectively, Lewis Project effects on the regional economy (including expenditures, employment, and business) will be regional in extent, and positive in direction. Lewis Project effects will be moderate in magnitude, short-term in duration and continuous during the engineering and construction phase and low in magnitude, long-term in duration and continuous during the operation phase. These predictions are offered with a high level of confidence. The residual impact will be low during operations phase and moderate during construction.

18.6.3.3 Government Revenues

Key findings of the Inter-provincial IO Model run show that, for the entire construction period, the Project will generate up to \$22.9 million in Federal taxes, \$71.3 million Provincial taxes and \$85.7 million Municipal taxes. Generated government revenues at the three levels of government can be used to improve infrastructure and community services, support businesses and improve the economy. See [Table 18.6-8](#) for additional details on taxes distribution.

Table 18.6-8: Government Revenues (Direct and Indirect) during Engineering and Construction Phase

Taxes by Type (Million \$)	Alberta	Rest of Canada	Total
<i>Total Federal</i>	15.7	7.2	22.9
Taxes on products	15.3	6.9	22.2
Taxes on production	0.433	0.3	0.7
<i>Total Provincial</i>	37.7	33.6	71.3
Taxes on products	9.1	23.5	32.7
Taxes on production	28.6	10.0	38.6
<i>Total Municipal</i>	55.7	29.9	85.7
Taxes on products	0.0	0.6	0.6
Taxes on production	55.7	29.8	85.6
Total	109.2	70.7	180.0

Key findings of the Inter-provincial IO Model run show that, annually during each operations year, the Project will generate up to \$3.1 million in Federal taxes, \$8.6 million Provincial taxes and \$8.1 million Municipal taxes ([Table 18.6-9](#)). Generated government revenues can be used to improve infrastructure and community services, support businesses and improve the economy.

Table 18.6-9: Annual Government Revenues (Direct and Indirect) during Operations Phase

Taxes by Type (Million \$)	Alberta	Rest of Canada	Total
Taxes on products	1.7	1.3	3.1
Taxes on production	0.4	0.2	0.6
<i>Total Federal</i>	1.8	1.3	3.1
Taxes on products	0.9	3.9	4.8
Taxes on production	2.7	1.0	3.7
<i>Total Provincial</i>	3.6	4.9	8.6
Taxes on products	0.0	0.7	0.7
Taxes on production	5.3	2.7	8.1
<i>Total Municipal</i>	5.3	2.7	8.1
Total	10.8	9.1	19.9

Lewis Project effects on the government revenues will be national, provincial and regional in extent, and positive in direction. Lewis Project effects will be moderate in magnitude, short-term in duration and continuous during the engineering and construction phase and moderate in magnitude, long-term in duration and continuous during the operation phase. These predictions are offered with a high level of confidence. The residual impact will be low during operations phase and moderate during construction.

18.6.3.4 Carbon Tax

The approach used to estimate the potential carbon tax contributions from the Lewis Project is highlighted below:

- ▶ estimates of the Lewis Project GHG emissions were calculated and provided by Suncor
- ▶ pricing of the GHG emissions for the oil sands industry were provided by the Government of Canada
- ▶ the estimates of the Lewis Project GHG emissions and pricing were used by Suncor GHG emissions specialists and economists to estimate the Lewis Project's overall contribution to carbon tax.

During the operations phase, the first three years of operations are exempt from carbon tax payment (2027-2029). In the following 37 years of operations, from 2030-2067, the Lewis Project is estimated to produce, approximately an average annual CO_{2e} is 3,830 kt/a. Total carbon tax payment for the 37 years of operations is estimated at \$7,145.55 million and the average annual carbon tax payment is \$193 million.

Given that revenues from carbon pricing will remain with provinces and territories of origin, Alberta will use the revenues from the carbon tax as deemed appropriate by the provincial government.

Lewis Project effects on the carbon tax will be provincial and regional in extent, and positive in direction. Lewis Project effects will be moderate in magnitude, long-term in duration and continuous during the operation phase. These predictions are offered with a high level of confidence. The residual impact will be moderate during operations phase.

18.6.4 Population Effects

18.6.4.1 Engineering and Construction Phase

There will be an average 580 and a peak of 1,000 workers during the construction phase. Based on previous experience in the SESA, Suncor anticipates hiring up to 5% of the construction workforce from the SESA, 75% from elsewhere in Alberta and 20% from outside Alberta.

Lewis Project effects on the population within the SESA include the following:

- ▶ up to 5% (29 workers in average or 50 during the peak) of the construction workforce will be local residents and will have no additional effects on the population of the SESA

- ▶ based on the short duration and the phased approach of the engineering and construction phase (four phases in approximately 10 years) and the rotation schedule (14 days on and seven days off), workers from outside the SESA are expected to neither establish residence themselves nor relocate their families to the SESA during the construction phase. As a result, there will be no appreciable population effect on the communities of the SESA
- ▶ the population increase during the engineering and construction phase is expected to be temporary, occur in phases, and limited to the arrival of up to 551 workers on average or 950 workers during the peak from outside the SESA and for a total duration of 10 years
- ▶ for a portion of the employees the Lewis Project will operate a fly in/fly out camp and will utilize the Firebag Aerodrome as its major airstrip. Firebag Lodge is a 600-room management-style lodge situated within Suncor's Firebag village and operates exclusively for Suncor. During the peak construction years, Suncor may draw from one of the already existing camps in north of Fort McMurray which have a high vacancy rates.

The Lewis Project effect on population will be regional in extent, neutral in direction, low in magnitude, short-term in duration, and continuous with a moderate confidence level. The residual impact will be low during the engineering construction phase and no additional mitigation is required. Lewis Project effects on population during engineering and construction will occur in Industry Accommodation.

18.6.4.2 Operations Phase

The average annual number of operations workers is estimated at 288. Depending on workforce availability, Suncor forecasts that 5% (14 workers) of the operations workforce will come from the SESA, 75% (216 workers) from the rest of Alberta and 20% (58 workers) from outside Alberta.

Operations workers hired from within the SESA (14 workers) will be local residents and will have no effects on the demography of the SESA. Operations workers that choose to relocate to the SESA will have effects on the population because of the employment multiplier effect. In order to estimate this effect, the following assumptions are made:

- ▶ the use of the camp and the fly in/fly out operations will see the majority of the workers maintain their residence elsewhere and live in the camp during the rotation schedule
- ▶ consistent with assumptions made for other oil sands projects in the RMWB, and consistent with Suncor's experience in the RMWB, only 5% of the non-local operations workforce will choose to relocate to the SESA and 95% will maintain their residence elsewhere and commute per the rotation schedule
- ▶ the average family size in the SESA, Alberta and Canada is three persons (Statistics Canada 2017)
- ▶ according to the RMWB (RMWB 2011), for every one operations job, three jobs are created in the local region (indirect and induced)
- ▶ there are 2.3 employed persons per family in the SESA (Statistics Canada 2012).

Based on the above, the Lewis Project will directly add 14 workers to the local population and an additional 42 workers due to the indirect and induced multiplier effect (i.e., 14×3) for a total of 56 workers. Assuming that there are 2.3 employed persons per family moving into the region, this would result in 25 families or a total of 75 people (3 persons/family) as the Lewis Project potential permanent contribution to the population of the SESA.

The Lewis Project effect on population will be regional in extent, positive in direction, low in magnitude, long-term in duration and continuous with a moderate level of confidence. The residual impact will be low during the operations phase, and no additional mitigation is required. Lewis Project effects on population during operations will occur in the Urban Services Area and Industry Accommodation.

18.6.5 Effects on Housing Services

18.6.5.1 Engineering and Construction Phase

The onsite engineering and construction workforce from outside the SESA will be housed in the Suncor Firebag Lodge. During the peak construction years, Suncor may use third party camps as required for overflow. The workforce within the SESA will maintain their residence in the SESA and commute to work using the Suncor bussing plan. Therefore, the Lewis Project effect on housing services will be local in extent (limited to Industry Accommodation), neutral in direction, low in magnitude, short-term in duration and continuous with a moderate confidence level. The residual effect will be low during the construction phase, and no additional mitigation is required. Lewis Project effects on housing during engineering and construction will occur in Industry Accommodation.

18.6.5.2 Operations Phase

The Lewis Project anticipates hiring 5% of the operations workforce from within the SESA, 75% from the rest of Alberta and 20% from outside Alberta. Based on predicted population effects, arrival of up to 25 families or 75 people in the SESA will require about 25 accommodation units (the average household size in the SESA is 2.8). Housing capacity in the SESA shows that, as of 2015, the total number of vacant dwellings in the Urban Service Area is 2,196, which represents an overall vacancy rate of 7.4%. However, in 2016 the wildfire destroyed nearly 2,000 structures. Re-build efforts in the RMWB shows the bulk of residential recovery being complete by the end of 2018. Accordingly, by the time operations starts, the housing capacity and growth in the region will be back to the level before the wildfire. The Lewis Project need for up to 25 accommodation units can be met within the Urban Service Area and will not be a challenge. The Lewis Project will not create additional pressure on rural communities' housing.

The Lewis Project effect on housing will be local and regional in extent, positive in direction, low in magnitude, long-term in duration and continuous with a moderate confidence level. The residual impact will be low during the operations phase and no additional mitigation is required. Lewis Project effects on housing during operations will occur in the Urban Service Area and Industry Accommodation.

18.6.6 Effects on Utility Services

18.6.6.1 Engineering and Construction Phase

The onsite utility plan includes:

- ▶ obtain domestic and utility water for the central processing facility from offsite
- ▶ send all sanitary sewage for treatment at an appropriate offsite facility
- ▶ sewage sludge will be disposed of at an appropriate offsite facility
- ▶ keep solid waste in appropriate containers and truck for disposal or recycling to an appropriate facility
- ▶ implement a recycling program that includes using energy efficient lighting and recycling, where possible, batteries, light bulbs; paper and cardboard, non-contaminated plastics, non-contaminated food wastes, non-contaminated wood waste, scrap metal, and oil filters. More information is available about the Lewis Project plans for water and waste management in [Volume 1, Section 4.3](#).

During the construction phase, the Firebag Lodge will truck potable water in from an offsite source and truck wastewater out to an approved waste transfer, disposal or treatment facility.

With Lewis Project plans and the current capacity and proposed expansion plans for utility services in the RMWB ([Table 18.5-24](#)) the Lewis Project effect will be local in extent, neutral in direction, low in magnitude, short-term in duration and continuous with a moderate confidence level. The residual impact will be low during the construction phase and no additional mitigation is required. Lewis Project effects on utility services during engineering and construction will occur in Project Accommodation and Urban Service Area.

18.6.6.2 Operations

The Lewis Project's utility use during operations will be the same for potable water, domestic wastewater, solid waste and recycling similar to that of the construction phase. An increase of up to 75 people to the SESA population will not create substantial additional pressure on utility services. The additional demand for utility services will be limited to the Urban Service Area and no anticipated effects on Rural Communities. See [Table 18.5-24](#) for ongoing expansion plans for utility services in the SESA.

The Lewis Project effect on utility services will be local and regional in extent, positive in direction, low in magnitude, long-term in duration and continuous with a moderate confidence level. The residual impact will be low during the operations phase, and no additional mitigation is required. Lewis Project effects on utility services during operations will occur in the Urban Service Area and Industry Accommodation.

18.6.7 Effects on Education Services

18.6.7.1 Engineering and Construction Phase

During the engineering and construction phase of the Lewis Project, the potential effects on education services will be limited to labour force demand for industry related training courses offered by Keyano College in Fort McMurray. With the use of the construction camp, there will be no additional demand on regional schools as construction workers from outside the SESA are not expected to bring their families.

Given the current capacity of Keyano College and its ability to offer these training courses for industry, the Lewis Project effect on education services will be local and regional in extent, positive in direction, low in magnitude, short-term in duration and continuous with a moderate confidence level. The residual impact will be low during the construction phase, and no additional mitigation is required. Lewis Project effects on education services during engineering and construction will occur in the Urban Service Area.

18.6.7.2 Operations Phase

During the operations phase of the Lewis Project, potential regional effects on education services could include the labour force demand for industry related training courses offered by Keyano College and the demand for primary and secondary schooling for dependents. The Lewis Project contribution to the population of the SESA is approximately 25 families or a total of 75 people (3 persons/family). Given that the average number of persons in all census families in Alberta is 3.0, and an assumption that there is one child of school age for each family, there could be approximately 25 dependents who require schooling. Taking into account current enrolment and capacity of schools in SESA as well as rebuilding efforts by the RMWB Recovery Task Force, the arrival of 25 additional students could be accommodated. Given the current capacity of Keyano College and its ability to offer training and education services for the industry in a growing community, the effect on adult education would be positive.

Suncor supports a number of educational institutions and programs in the RMWB. In addition, Suncor provides post-secondary students opportunities to gain employment and experience, through programs such as Co-op, Summer Relief, and Aboriginal Summer Student Program. Suncor is currently supporting local programs through Keyano College to help increase the employability of local individuals that are interested in certain careers (i.e., Power Engineering, process engineering, and Careers Next Generation).

The Lewis Project effect on education will be local and regional in extent, positive in direction, low in magnitude, long-term in duration and continuous with a moderate confidence level. The residual impact will be low during the operations phase, and no additional mitigation is required. Lewis Project effects on education during operations will occur in the Urban Service Area.

18.6.8 Effects on Health Services

18.6.8.1 Engineering and Construction Phase

The following Suncor policies and practices will reduce the Lewis Project effects on regional health services:

- ▶ an Emergency Response Plan and an Environmental, Health and Safety Management Plan will be developed for the Lewis Project ([Volume 1, Section 4.5.1](#))
- ▶ the Lewis Project will have the necessary onsite emergency response facilities and services in keeping with Alberta's Occupational Health and Safety requirements. Company and contractor personnel will have appropriate health and safety training
- ▶ Suncor will provide fire and emergency services as required to adhere to Alberta's Occupational Health and Safety Guidelines for isolated worksites
- ▶ safety programs at the construction site that address the unique functions and hazards of a major construction site and operations facility
- ▶ camp policies that will promote a healthy diet and good hygiene.

Further, the capacity of the NLRHC has seen a remarkable expansion during the five years. Taking into consideration the Lewis Project mitigations, incremental demand for health care services in the RMWB during construction is expected to be low and within the expanded capacity of NLRHC.

The above policies and initiatives along with Suncor's plan to refer patients to NLRHC in Fort McMurray, ensure that the Lewis Project will not create additional pressure on rural communities' limited health services.

The Lewis Project effect on health services will be local in extent, negative in direction, low in magnitude, short-term in duration and continuous with a moderate confidence level. The residual impact will be low during the construction phase and no additional mitigation is required. Lewis Project effects on health services during engineering and construction will occur in the Urban Service Area and Industry Accommodation.

18.6.8.2 Operations Phase

The same mitigations will apply during the operations phase as for the construction phase, but the workforce will be much smaller for operations. Further, an assumption is made that similar to other oil sands projects in the area, only 5% of the non-local operations workforce will choose to move to the SESA and 95% will maintain their residence elsewhere. The additional demand for health services will be limited to the Urban Service Area and no anticipated effects on Rural Communities. With the ongoing rebuilding efforts by the RMWB Recovery Task Force, meeting this demand will not be an issue.

With in-migration of up to 75 people from outside the SESA, the Lewis Project effect on health services will be local in extent, negative in direction, low in magnitude, long-term in duration and continuous with a moderate confidence level. The residual impact will be low during the operations phase and no additional mitigation is required. Lewis Project effects on health services during operations will occur in the Urban Service Area and Project Accommodation.

18.6.9 Effects on Recreation and Leisure Services

18.6.9.1 Engineering and Construction Phase

For the construction workforce that will be housed in the Suncor Firebag Lodge or third party lodges if required, the lodges will offer a variety of amenities, including chef prepared meals, fitness centre and women's only fitness facilities including intramural sports, fitness classes, convenience store, complimentary laundry facilities, and housekeeping services. Availability of indoor and outdoor recreation equipment and activities at the camp should greatly reduce the demand by Lewis Project workers to use other recreation facilities in the RMWB.

The Lewis Project effect on recreation and leisure services will be local in extent, neutral in direction, low in magnitude, short-term in duration and continuous with a moderate confidence level. The residual impact will be low during the construction phase and no additional mitigation is required. Lewis Project effects on recreation services during engineering and construction will occur in the Industry Accommodation.

18.6.9.2 Operations

Operations workers hired from within the SESA will have no additional effect on the existing recreation facilities. Operations workforce accommodated in Suncor Firebag Lodge will use indoor and outdoor recreation equipment and activities at the camp; similar to the construction phase, this should greatly reduce the demand by Lewis Project workers to use other recreation facilities in the RMWB. The Lewis Project in-migration of up to 75 people to the RMWB will have a low effect on recreation and leisure facilities. With the ongoing rebuilding efforts by the RMWB Recovery Task Force, meeting this demand will not be an issue.

The Lewis Project effect on recreation and leisure services will be local in extent, negative to neutral in direction, low in magnitude, long-term in duration and continuous with a moderate confidence level. The residual impact will be low during the operations phase and no additional mitigation is required. Lewis Project effects on recreation services during operations will occur in the Urban Service Area and Industry Accommodation.

18.6.10 Effects on Social Services

18.6.10.1 Engineering and Construction

The Lewis Project construction workforce will mainly be temporary residents in the region without their families. Demands for social services are expected to be minimal as family violence, marriage and parental conflicts should be minimal among workers in the camp. Nevertheless, counselling services will be provided onsite as required. The Lewis Project will run a rotation schedule and provide transportation services for workers within and outside the SESA during the work rotation. As such, workers are not expected to remain in the SESA when not on shift.

The Lewis Project effect on social services will be local in extent, neutral in direction, low in magnitude, short-term in duration and continuous with a moderate confidence level. The residual impact will be low during the construction phase and no additional mitigation is required. Lewis Project effects on health services during engineering and construction will occur in the Industry Accommodation.

18.6.10.2 Operations

The operations workforce recruited from within the SESA will create no additional pressure on the social services in the SESA as they are already included in current demands on social services. The in-migration of up to 75 people from outside the SESA will not create additional pressure on the SESA's social services as the RMWB has capacity to accommodate moderate population growth; with the ongoing rebuilding efforts by the RMWB Recovery Task Force, meeting this demand will not be an issue. In addition:

- ▶ Suncor is signatory to a number of emergency response mutual aid agreements with other industry and the RMWB
- ▶ Suncor has written and enforced policies on the use of alcohol, drugs, and illegal activities in the lodge, workplace and on flights
- ▶ Suncor will provide counselling services that will be available to onsite personnel.

In February 2017, Suncor launched the new SunCares program, a community engagement program to inspire Suncor employees and retirees to contribute to social well-being, support the causes that are important to them, and strengthen the communities and create energy for a better world. Through SunCares, employees can create a personal portfolio of causes, give money and/or time to charities of choice, learn new skills, and share their knowledge with community organizations.

The Lewis Project effect on social services will be local in extent, negative in direction, low in magnitude, long-term in duration and continuous with a moderate confidence level. The residual impact rating will be low during the operations phase and no additional mitigation is required. Lewis Project effects on recreation services during operations will occur in the Urban Service Area and Project Accommodation.

18.6.11 Effects on Protective Services

18.6.11.1 Engineering and Construction Phase

- ▶ Suncor is signatory to a number of emergency response mutual aid agreements with other industry and the RMWB.
- ▶ Suncor has written and enforced policies on the use of alcohol, drugs, and illegal activities in the lodge, workplace and on flights.
- ▶ Suncor will provide onsite security services.
- ▶ An Emergency Response Plan and an Environmental, Health and Safety Management Plan will be developed for the Project.

- ▶ The Lewis Project will have the necessary onsite emergency response facilities and services in keeping with Alberta's Occupational Health and Safety requirements. Suncor will require company and contractor personnel to have appropriate health and safety training.

The Firebag Lodge fire and emergency services meets all Alberta's Occupational Health and Safety requirements.

The Lewis Project effect on fire and emergency services will be local in extent, negative in direction, low in magnitude, short-term in duration and continuous with a moderate confidence level. The residual impact will be low during the construction phase and no additional mitigation is required.

The Firebag Lodge has a well-established security plan and security personnel.

With mitigations and the recent increase in police numbers in the region coupled with the associated improvements in policing services, the Lewis Project residual impact on SESA policing services will be local in extent, negative in direction, low in magnitude, short-term in duration and continuous with a moderate confidence level. The residual impact will be low during the construction phase and no additional mitigation is required. Lewis Project effects on protective services during engineering and construction will occur in the Industry Accommodation.

18.6.11.2 Operations

The Lewis Project will minimize additional demand on fire and emergency services in the SESA during the operations phase by adopting the same mitigation measures discussed during construction.

The Lewis Project effect on protective services will be local in extent, negative in direction, low in magnitude, long-term in duration and continuous with a moderate confidence level. The residual impact will be low during the operations phase and no additional mitigation is required.

For Lewis Project demands on policing services, the same mitigations will apply during the operations phase as in the construction phase, but the workforce will be much smaller. The arrival of up to 75 people from outside the SESA is expected to have a low effect on RCMP policing services in the SESA. With the ongoing rebuilding efforts by the RMWB Recovery Task Force, meeting this demand will not be an issue.

The Project residual impact on SESA policing services will be local in extent, negative in direction, low in magnitude, long-term in duration and continuous with a moderate confidence level. The residual impact will be low during the operations phase and no additional mitigation is required. Lewis Project effects on protective services during operations will occur in the Urban Service Area and Industry Accommodation.

18.6.12 Effects on Traffic and Transportation

The results of the TIA include the following conclusions and recommendations:

- ▶ for all analysis scenarios, the four study intersections exhibited no operational concerns or warrants for improvements
- ▶ the geometric review of the study intersections are provided for the 2016, 2024, 2027, 2029, and 2036 conditions using the standards provided in Alberta Transportation's Highway Geometric Design Guide (Updated 1999) and indicated that:
 - at the MRM Access Road / Canterra Road intersection, by the 2036 horizon, a modified Type IIa intersection is warranted with an exclusive northbound right turn lane. Since the existing geometry and lane configuration already support these requirements, no improvement is recommended
 - at the Canterra Road / EAH intersection, by the 2024 horizon, a modified Type IIa treatment with an exclusive eastbound right turn lane is warranted for the background traffic conditions
 - because the capacity analysis indicated no operational concerns at this intersection based on the proposed Lewis Project for the existing lane configuration through to the 2036 post-development horizon, it is recommended that the responsible road authority for the intersection confirm the need and timing of potential improvements based on the background traffic conditions in the future
 - a standard Type IIIa intersection type is warranted to accommodate 2024 to 2036 post-development traffic volumes at the EAH / Proposed Local Road (Lewis Project Site Access Road) intersection
 - it is recommended that the intersection be constructed as such at the time of road / site access construction
 - signal warrant analyses, illumination warrant analysis, and pedestrian facilities analysis indicate no requirements for these items by the 2036 post-development horizon.

In addition to fulfilling the above, Suncor will endeavor to work with appropriate planning authorities and area community groups (e.g., RMWB, Alberta Transportation, Willow Lake Traffic Working Group) on areas of concern and interest. Further, where possible:

- ▶ materials deliveries will be scheduled at off-peak hours and movements of large loads will be co-ordinated
- ▶ employees will be provided with bussing services to minimize Project-related traffic and for increased safety
- ▶ use of area lodging reduces travel distances of Lewis Project-related traffic on area Highways.

The Lewis Project residual impact on SESA traffic and transportation will be local in extent, negative in direction, low in magnitude, short-term in duration during construction and engineering phase and long term during operations, and continuous with a moderate confidence level. The residual impact will be low and no additional mitigation is required. Lewis Project effects on the RMWB traffic and transportation, during engineering and construction and operations, will occur in the Urban Service Area, Rural Communities and Industry Accommodation.

18.6.13 Effects on the Regional Municipality of Wood Buffalo Wildfire Recovery Plan

During the Horse River Fire, Suncor extended support in the region in numerous ways including funding ([Section 18.5.2.5](#)). After the wildfire, Suncor community investment and Suncor Energy Foundation continue to engage and monitor in wild fire recovery efforts and have earmarked additional funds in 2017 for ongoing support.

Suncor is currently exploring how the Social Prosperity Wood Buffalo initiative helped to prepare the social profit sector to work together through evacuation, re-entry, recovery and rebuild and how it may continue to be used as a framework to enable collaboration within the sector and with other sectors.

Through the above during and after the wild fire initiatives and ongoing support to the SESA recovery plan, the Lewis Project's effects on the SESA wildfire recovery plan will be local in extent, positive in direction, low in magnitude, short-term in duration during the construction phase and long-term during operations and continuous with a moderate confidence level. The residual impact will be low during both phases and no additional mitigation is required. Lewis Project effects on the RMWB Wildfire Recovery Plan, during engineering and construction and operations, will occur in the Urban Service Area, Rural Communities and Industry Accommodation.

18.7 Planned Development Case

Although a wide range of capital projects have been identified in the SESA, the main drivers of cumulative effects for the Lewis Project are other oil sands developments located within the RMWB ([Tables 18.5-8](#) and [18.5-9](#)). Cumulative effects are already considered in the SEIA for the Lewis Project and local oil sands projects are given more attention due to their proximity to the Project (spatial overlap) and their potential to more directly affect local VSC.

Cumulative socio-economic benefits are sensitive to the capacity of the local economy to absorb incremental opportunities; there may be competition for human and business resources. Cumulative negative socio-economic effects are sensitive to the ability of service providers, usually local, regional and the provincial governments, to adjust to increased demands for infrastructure and public services. Although there is usually a time-lag between increases in this, demand first occurs and when government revenues from increased economic activity are received, adjustments do occur over time. Overlapping construction periods with other similar projects in the area represent the highest risk for a demand-capacity gap and could represent a management challenge see [Table 18.7-1](#).

Table 18.7-1: Projects Encompassed in the Socio-economic Study Area

Project	Baseline Case	Application Case	PDC ¹
Canadian Natural Resources Ltd. (CNRL) - Horizon Phases 1-3	Yes	Yes	Yes
Hammerstone Corp. - Hammerstone Project	Yes	Yes	Yes
Hammerstone Corp. - Muskeg Valley Quarry	Yes	Yes	Yes
Husky Energy Inc./BP PLC - Sunrise Thermal Project	Yes	Yes	Yes
Imperial Oil Ltd./ExxonMobil Canada Ltd. - Kearl Oil Sands Project	Yes	Yes	Yes
Imperial Oil Resources - Aspen Project	No	No	Yes
Ledcor CMI Ltd. - Clearwater Multi-User Access Road	No	No	No
Oak Point Energy - Lewis Steepbank SAGD Pilot Project ²	Yes	Yes	Yes
Parsons Creek Aggregates - Limestone Quarry	No	No	Yes
Shell Canada Ltd. (AOSP) - Jackpine Mine Phase 1	Yes	Yes	Yes
Shell Canada Ltd. (AOSP) - Jackpine Mine Phase 2	Yes	Yes	Yes
Shell Canada Ltd. (AOSP) - Muskeg River Mine	Yes	Yes	Yes
Shell Canada Ltd. (AOSP) - Muskeg River Mine Expansion	Yes	Yes	Yes
Suncor Energy Inc. - Base (U1, U2) & Millennium (MVU, MCU) Upgraders	Yes	Yes	Yes
Suncor Energy Inc. - East Athabasca Highway Project	Yes	Yes	Yes
Suncor Energy Inc. - Firebag Project	Yes	Yes	Yes
Suncor Energy Inc. - Fort Hills Oil Sands Project	Yes	Yes	Yes
Suncor Energy Inc. - Lewis	No	Yes	Yes
Suncor Energy Inc. - Meadow Creek	No	No	Yes
Suncor Energy Inc. - Millennium Mine & Debottleneck	Yes	Yes	Yes
Suncor Energy Inc. - North Steepbank Extension	Yes	Yes	Yes
Suncor Energy Inc. - South Tailings Pond	Yes	Yes	Yes
Suncor Energy Inc. - Steepbank Mine & Debottleneck	Yes	Yes	Yes
Suncor Energy Inc. - Voyageur South Mine Project	No	No	Yes
Syncrude Canada Ltd. - Aurora North Mine	Yes	Yes	Yes
Syncrude Canada Ltd. - Aurora South Mine	Yes	Yes	Yes
Syncrude Canada Ltd. - Mildred Lake	Yes	Yes	Yes
Syncrude Canada Ltd. - Mildred Lake Mine Extension (MLX)	No	No	Yes
Total E&P Joslyn Ltd. - Joslyn North Mine ³	Yes	Yes	Yes
Value Creation Inc. - Advanced TriStar Project	No	No	Yes

Notes:

¹ PDC = Planned Development Case.

² Suncor acquired Oak Point Energy in Q1 2018.

³ Total E&P has indicated that the applications will be withdrawn to amend the approvals granted in 2011.

18.7.1 Effects on Economy

Other oil sands projects in proximity to the Lewis Project are in various stages of development. The overlap of the construction phase with other identified oil sands projects should not affect the Lewis Project's ability to hire 5% of the construction workforce from the local labour pool. The Lewis Project will achieve its socio-economic objectives by the use of local contractors and

providing Aboriginal business opportunities. In addition, major contractors are incentivized to provide opportunities to local and regional Aboriginal and non-Aboriginal businesses on the basis of best total value criteria. This will be a requirement of the bid process for potential engineering, procurement and construction contractors and its subcontractors.

During the operations phase, the overlap of the Lewis Project with other projects will create competition for local and regional suppliers and labour. The Lewis Project expects to meet the objective of hiring 5% from the SESA through contracting work during the operations phase. This may include camp operations/maintenance, road maintenance and snow removal, water supply or solid waste transportation.

The competition for skilled labour during construction and operations will be a management challenge for Suncor and the other oil sands developers in the region. However, given Suncor's ongoing experience in SESA, Suncor is confident of being able to effectively compete for the skilled labour needed during construction and operations phases of the Lewis Project through the following:

- ▶ provision of competitive wages and benefits
- ▶ application of best practices for attracting and retaining workers
- ▶ implementation of the management measures discussed previously in relation to Project-specific effects.

The Lewis Project contribution to cumulative effects should be low and no specific additional mitigation is suggested.

18.7.2 Effects on Traffic and Transportation

The TIA study ([Volume 3, Appendix N](#)) assesses cumulative effects on traffic volumes and transportation infrastructure. With the proposed mitigations, cumulative effects from the Lewis Project during construction and operations are not expected.

18.7.3 Effects on Health Services

Construction phase activities typically represent a higher risk of incidents and injury than do routine operations. Mitigations should attenuate direct effects as discussed above and the Lewis Project contribution to cumulative effects should be minor. No specific additional mitigation is suggested.

18.8 Monitoring

Lewis Project-specific monitoring programs are not proposed within the context of the regulatory approval process. However, through its long-term stakeholder engagement plan for the Lewis Project, Suncor is committed to identifying Lewis Project-related stakeholder concerns, interests and opportunities at regular intervals. The plan identifies the type of information to report to stakeholders and the frequency of communication.

Suncor's Stakeholder and Aboriginal Relations Framework uses the following mechanisms to assess stakeholder engagement:

- ▶ annual review and update of stakeholder engagement plans, including key performance indicators
- ▶ ongoing engagement with stakeholders, tracking of concerns, and efforts to receive feedback on any new concerns and opportunities
- ▶ social impact and risk assessment process and tools, which assist in analyzing community concerns and interests and defining appropriate levels of response
- ▶ annual performance assessment, which includes feedback from operating areas, and stakeholder and Aboriginal relations practitioners
- ▶ a process for receiving and responding to grievances or complaints from stakeholders
- ▶ additionally, to promote the safety of employees, contractors and communities where Suncor operates, policies and procedures are in place to:
 - reinforce, verify and improve emergency preparedness and response capabilities through regular employee and contractor training, emergency drills and tabletop exercises
 - emphasize learning and increase effectiveness across all operating areas through debriefs to learn and share lessons from drills, exercises and real events
- ▶ based on experience at other Suncor operations, Suncor has developed a stakeholder engagement process that includes a process of identifying, investigating and resolving interests or complaints. Concerns are documented and follow-up action is taken, as required, and engagement plans are modified based on feedback received
- ▶ information gathered relating to Project-specific activities as well as Suncor's overall operations in the region is disseminated to the public, Aboriginal communities and other affected stakeholders through a number of ongoing consultation activities (e.g. meetings, open houses, working committees, NAABA).

As a public company, Suncor publicizes its annual and quarterly financial and operating reports, its annual sustainability report and other periodic information releases as required. The company maintains a corporate website that provides information about the company, its technology, projects and initiatives and progress.

Suncor intends to remain an active leader in collaborative initiatives addressing socio-economic issues and opportunities in the region. Examples of ongoing work the company supports through OSCA working committees, in consultation with the RMWB and Government of Alberta and other groups include:

- ▶ monitoring of socio-economic conditions through the quality of life indicators initiative
- ▶ population projections and related longer-term municipal infrastructure requirements
- ▶ infrastructure system requirement forecasts, including new road developments, over-dimensional goods movements projections and mobile workforce studies.

As noted in its 2016 sustainability report, a new long-term social goal of the company focuses on building greater mutual trust and respect with the Aboriginal Peoples of Canada (Suncor 2016). Progress along key elements related to this goal will be stewarded, monitored and reported annually by Suncor.

Adaptive management will be used throughout the life of the Lewis Project to incorporate research and development findings (from organizations such as OSCA), input from affected stakeholders including Aboriginal communities and recommendations from the operation of Suncor’s other facilities towards planning and operational decisions for the Lewis Project.

18.9 Summary

Table 18.9-1 includes the residual impacts in the Application Case for each VSC. Suncor’s proposed mitigation measures along with the capacity of the SEIA to provide community services and infrastructures will result in low residual impacts on all identified VCs except for provincial and regional economy where residual effect will be positive and moderate during construction. The Planned Development Case will result in low residual impacts on economy, minor effects on health services and no effects on traffic and transportation.

Table 18.9-1: Application Case Effects Summary

VSC	Direction	Geographic Extent	Magnitude	Duration	Frequency	Confidence	Residual Impact
Construction Phase							
Provincial economy	Positive	Provincial	Moderate	Short-term	Continuous	High	Moderate
Regional economy	Positive	Regional	Moderate	Short-term	Continuous	High	Moderate
Population	Neutral	Regional	Low	Short-term	Continuous	Moderate	Low
Housing	Neutral	Local	Low	Short-term	Continuous	Moderate	Low
Utilities	Neutral	Local	Low	Short-term	Continuous	Moderate	Low
Education and training services	Positive	Local and Regional	Low	Short-term	Continuous	Moderate	Low
Health	Negative	Local	Low	Short-term	Continuous	Moderate	Low
Recreation and leisure services	Neutral	Local	Low	Short-term	Continuous	Moderate	Low
Social services	Neutral	Local	Low	Short-term	Continuous	Moderate	Low
Protective services	Negative	Local	Low	Short-term	Continuous	Moderate	Low
Traffic and transportation	Negative	Local	Low	Short-term	Continuous	Moderate	Low
Wildfire Recovery Plan	Positive	Local	Low	Short-term	Continuous	Moderate	Low
Operations Phase							
Provincial economy	Positive	Provincial	Moderate	Long-term	Continuous	High	Low
Regional economy	Positive	Regional	Moderate	Long-term	Continuous	High	Low
Population	Neutral	Regional	Low	Long-term	Continuous	Moderate	Low
Housing	Neutral	Local	Low	Long-term	Continuous	Moderate	Low
Utilities	Neutral	Local and Regional	Low	Long-term	Continuous	Moderate	Low
Education and training services	Positive	Local and Regional	Low	Long-term	Continuous	Moderate	Low

VSC	Direction	Geographic Extent	Magnitude	Duration	Frequency	Confidence	Residual Impact
Health	Negative	Local	Low	Long-term	Continuous	Moderate	Low
Recreation and leisure services	Negative-Neutral	Local	Low	Long-term	Continuous	Moderate	Low
Social services	Negative	Local	Low	Long-term	Continuous	Moderate	Low
Protective services	Negative	Local	Low	Long-term	Continuous	Moderate	Low
Traffic and transportation	Negative	Local	Low	Long-term	Continuous	Moderate	Low
Wildfire Recovery Plan	Positive	Local	Low	Long-term	Continuous	Moderate	Low

18.10 References

Indigenous and Northern Affairs Canada (INAC). 2016. *First Nations Profiles*. Available at: fnp-ppn.aandc-aadnc.gc.ca/fnp/Main/index.aspx?lang=eng. Accessed May 2017.

Indigenous and Northern Affairs Canada (INAC). 2017. *First Nations Registered Population*. Available at: fnp-ppn.aandc-aadnc.gc.ca/fnp/Main/index.aspx?lang=eng. Accessed March 2017.

Alberta Labour. 2016. *Labour Force Statistics: Alberta Highlights*. Available at: work.alberta.ca/labour/2016-monthly-labour-force-statistics.html. Accessed April 2016.

Alberta Oil Sands Industry. 2016. *Quarterly Update: Winter*. Available at: albertacanada.com/files/albertacanada/OilGas_QuarterlyUpdate_Winter2017.pdf. Accessed February 2017.

Alberta Government. 2017. *Alberta Major Projects*. Available at: majorprojects.alberta.ca/#list/. Accessed June 2017

Canadian Energy Research Institute (CERI). 2015. *Canadian Oil Sands Supply Costs and Development Projects (2015-2035)*. Available at: static1.squarespace.com/static/557705f1e4b0c73f726133e1/t/55f9c9e1e4b0c00ab5cf2d3e/1442433505501/CERI+Study+152+-+Final+Report.pdf. Accessed February 2016.

Canadian Energy Research Institute (CERI). 2017. *Canadian Oil Sands Supply Costs and Development Projects (2016-2036)*. Available at: [://resources.ceri.ca/PDF/Pubs/Studies/Study_163_Full_Report.pdf](http://resources.ceri.ca/PDF/Pubs/Studies/Study_163_Full_Report.pdf). Accessed March 2017.

Construction Forecasts. 2016. *Construction Workforce Challenges Take On New Focus*. Available at: constructionforecasts.ca/en/content/construction-workforce-challenges-take-new-focus. Accessed April 2016.

Construction Sector Council (CSC). 2012. *Market Intelligence Construction Forecast Reports: Construction Looking Forward 2012–2020, Key Highlights in Alberta*. Available at: constructionforecasts.ca. Accessed: May 2012.

- Financial Post. 2016. *Challenge 2017: Fort McMurray Faces Massive Rebuild After Most Expensive Natural Disaster in Canadian History*. Available at: business.financialpost.com/news/challenge-2017-fort-mcmurray-faces-massive-rebuild-after-most-expensive-natural-disaster-in-canadian-history. Accessed January 2017.
- Fort McKay First Nation. 2015. First Nation Webpage. Available at: fortmckay.com/residents.html. Accessed August 2016.
- Fort McKay First Nation. 2016. *Local Services: Housing, Health and Human Services*. Available at: fortmckay.com/residents_admin_housing.html. Accessed April 2016.
- Fort McMurray Catholic School District. 2017. *About Us*. Available at: fmcschools.ca/about. Accessed March 2017.
- Fort McMurray Online. 2015. *Fort McMurray Business Directory*. Available at: fortmcmurrayonline.com/directory/welcome.aspx. Accessed August 2016.
- Fort McMurray Public School District. 2017. *About Us*. Available at: fmpsdschools.ca/School%20Reviews.php. Accessed March 2017.
- Government of Alberta. 2011a. *Comprehensive Regional Infrastructure Sustainability Plan for the Athabasca Oil Sands Area (AOSA)*. Available at: energy.alberta.ca/pdf/ossAOSA_CRISPintro.pdf. Accessed March 2016.
- Government of Alberta. 2011b. *Responsible Actions: A Plan for Alberta's Oil Sands, Annual Progress Report 2010*. Available at: energy.alberta.ca/pdf/OSSResponsibleActionsProgressReport2011.pdf.
- Government of Alberta. 2012. *Lower Athabasca Regional Plan 2012 - 2022*. Available at: ceaa-acee.gc.ca/050/documents_staticpost/59540/82080/Appendix_H.pdf.
- Government of Alberta. 2013. *Policy on Consultation with First Nations on Land and Natural Resource Management, 2013*. Available at: aboriginal.alberta.ca/1.cfm Accessed August 2016.
- Government of Alberta. 2015. *Facts and Statistics*. Available at: energy.alberta.ca/oilsands/791.asp Accessed August 2016.
- Government of Alberta. 2016. *Alberta Oil Sands Industry Quarterly Update*. Winter 2016 Reporting on the period: September 16, 2015 to December 10, 2015. Available at: albertacanada.com/files/albertacanada/AOSID_QuarterlyUpdate_Winter2016.pdf. Accessed March 2016.
- Government of Alberta. 2017. *Employment Insurance*. Available at: economicdashboard.alberta.ca/EmploymentInsurance. Accessed April 2017.
- Government of Canada. 2016. *Pricing of Carbon Pollution*. Available at: news.gc.ca/web/article-en.do?nid=1132149. Accessed April 2017.

Greater North Central Francophone Education Region. 2017. *About Us*. Available at: centrenord.ab.ca/. Accessed March 2017.

IHS Cambridge Energy Research Associates (IHS CERA). 2009. *Growth in the Canadian Oil Sands: Finding the New Balance*. Available at: cera.com/Oil_Sands_Full_Report.pdf. Accessed August 2016.

Keyano College. 2017. *About Us*. Available at: keyano.ca/AboutUs. Accessed March 2017.

Miller Thomson. 2016. *Fort McMurray Fire Loss Update*. Available at: millerthomson.com/en/publications/communiqués-et-mises-à-jour/lloyd-s-brief-canadien-perspectives/july-19-2016-special-bulletin/fort-mcmurray-fire-loss-update-the-beast/. Accessed January 2017.

Northland School Division No. 61. 2017. *About Us*. Available at: nsd61.ca/schools. Accessed March 2017.

Oil Sands Community Alliance (OSCA). 2016. *Community Connection January 2016*. Available at: oscaalberta.ca/publications/. Accessed April 2016.

Regional Municipality of Wood Buffalo (RMWB) Recovery Task Force. 2017. Personal Communication.

Regional Municipality of Wood Buffalo (RMWB). 2003. *Regional Profile*. Available at: woodbuffalo.ab.ca/residents/regional_profile/RegionalProfile.pdf. Accessed August 2016.

Regional Municipality of Wood Buffalo (RMWB). 2011. *The Regional Municipality of Wood Buffalo: Economic Profile*. Available at: rmwb.ca/Assets/Departments/Stakeholder+Relations/Economic+Development/pdf/EP+FINAL_07222011.pdf. Accessed September 2015.

Regional Municipality of Wood Buffalo (RMWB). 2012. *Our Sustainable Future: City Centre Area Redevelopment Plan*. Available at: woodbuffalo.ab.ca/Assets/Departments/Planning+and+Development/CCAP/Final+Draft+of+CCARP.pdf. Accessed August 2016.

Regional Municipality of Wood Buffalo (RMWB). 2015. *2015 Municipal Census*. Available at: rmwb.ca/Municipal-Government/Census-2015.htm.

Regional Municipality of Wood Buffalo (RMWB). 2016a. *Strategic Plan 2015-2017: Building a Strong and Resilient Community*. Available at: rmwb.ca/Assets/Departments/Legislative+and+Legal+Services/Mayor+and+Council/2015-2017_StrategicPlan-Summary.pdf. Accessed March 2016.

Regional Municipality of Wood Buffalo (RMWB). 2016b. *2016 Approved Budget and Financial Plan*. Available at: rmwb.ca/Assets/Departments/Financial+Services/2016+Approved+Operating+Budget+and+Financial+Plan.pdf. Accessed April 2016.

Regional Municipality of Wood Buffalo (RMWB). 2016c. *Health Care*. Available at: woodbuffalo.ab.ca/living/Newcomers/Getting-Help-in-Wood-Buffalo/Health-Care.htm. Accessed April 2016.

Regional Municipality of Wood Buffalo (RMWB). 2016d. *Community Services Department: Recreation and Leisure Facilities*. Available at: woodbuffalo.ab.ca/Municipal-Government/municipal_departments/Community-Services-Department/Recreation-Facilities.htm. Accessed April 2016.

Regional Municipality of Wood Buffalo (RMWB). 2016e. *Regional Emergency Services*. Available at: rmwb.ca/Municipal-Government/municipal_departments/Emergency-Services---Law-Enforcement/RES.htm. Accessed April 2016.

Regional Municipality of Wood Buffalo (RMWB). 2016f. *2016 Wildfire Recovery Plan*. Available at: asset.rmwb.ca/files/RMWB-2016-Wildfire-Recovery-Plan.pdf?v2. Accessed January 2017.

Regional Municipality of Wood Buffalo (RMWB). 2017. *Construction Update*. Available at: rmwb.ca/Municipal-Government/municipal_departments/Public-Operations/Roads/Construction-Updates.htm. Accessed January 2017.

Statistics Canada. 2012. *2011 Census, Community Profiles*. Available at: www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E.

Statistics Canada. 2013. *2011 National Household Survey, Aboriginal Population Profiles*. Available at: www12.statcan.gc.ca/nhs-enm/2011/dp-pd/aprof/index.cfm?Lang=E.

Statistics Canada. 2017. *Census Profile. 2016 Census*. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released February 8, 2017. Available at: www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E. Accessed 24 April 2017.

Suncor Energy Inc. (Suncor). 2016. *Report to Shareholders for the Third Quarter of 2016*. Available at: suncor.com/en-CA/newsroom/news-releases/2098361. Accessed February 2017.