



Linear Property Assessment

2017 Annual Report

Linear Property Assessment Unit
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Table of Contents

Executive Summary.....	1
Service Delivery Improvements.....	2
Linear Property Assessment Process	2
2017 Summary of Assessment by Property Type	3
Pipeline (PL).....	4
Wells (WL)	5
Utility Properties	6
Electric Power Systems (ELE)	7
Electric Power Generation (EPG)	8
Telecommunications Systems (TEL).....	8
Cable Distribution (CBL)	8
Telecommunications Systems and Cable Distribution Changes	8
Confidence and Stability in the Linear Property Assessment	9
2006 – 2017 Tax Year Linear Property Assessment Changes	10
Linear Property Annual and Year End Assessment Change	11
Quick Facts about Linear Property Assessment	11
Charts	13
2017 Tax Year Linear Property Assessment Distribution by Municipal Type	13
2017 Tax Year Linear Property Assessment Growth by Municipal Type	13
2017 Tax Year Linear Property Assessment Distribution by Property Type	14
2017 Tax year Linear Property Assessment Change from Prior Year Percentage	14
Maps.....	15
2017 Tax Year (2016 Assessment Year) Provincial Density of Assessable Wells	15
2017 Tax Year (2016 Assessment Year) Provincial Density (“Heat” Map) of Assessable Pipelines	16
Appendix 1: 2017 Tax Year Change Report - Alphabetical.....	Tab 1
Appendix 2: 2017 Tax Year Change Report - Numerical	Tab 2

Exact definitions for terms contained in this report are found in the *Municipal Government Act* and the attending regulations.

Detailed change reports of individual municipalities are attached to this report as Appendix 1 and Appendix 2.

Executive Summary

The linear property assessment function is a legislated requirement that must be completed by February 28 for taxation in that year. For more than a decade, Municipal Affairs has prepared and delivered the linear property assessment to taxpayers and municipalities by January 31 to support municipal budgetary planning.

In 2017, the linear property assessment is \$68.5 billion and is expected to generate an estimated \$1 billion in municipal tax revenue and education requisition for the province of Alberta.

The annual linear property assessment was completed on January 30, 2017 and declared and posted to the provincial assessment reporting system known as the Assessment Shared Services Environment (ASSET). The 2017 tax year linear property assessment notices were mailed to all assessed persons with copies to municipalities on January 30, 2017. Sending these notices met the statutory obligations of the Designated Linear Assessor (DLA), the Executive Director of the Assessment Services Branch, Municipal Affairs. The linear property assessment roll was mailed to municipalities on February 3, 2017.

The final date to submit a complaint regarding this year's assessment to the Municipal Government Board within the legislated 60 day time frame is March 31, 2017.

Linear property assessment is conducted on a full cost recovery basis. The preparation and defense of the linear property assessment is completed by 16 staff located in the Assessment Services Branch of the Municipal Assessment and Grants Division, Municipal Affairs. The staff complement includes accredited property assessors and experts in other disciplines assisting the process of preparing the linear property assessment that include accounting, telecommunication and regulatory specialization, statistics, and business administration.

In addition to the statutory requirements, a *Growth Inflationary Policy Report* identifying year-over-year changes in the assessment is included with the municipal linear property assessment notices. Municipalities require this information for budgetary purposes in the management of possible tax shifting between market value-assessed non-residential properties and regulated-assessed non-residential properties.

Changes in the linear property assessment are categorized into three areas: inventory change; inflationary change; and policy change. These categories are defined as:

Inventory Change This is a growth calculation indicating the impact of properties being added or removed, changes in production volumes used in the assessment calculation and changes to the base costs of property.

Inflationary Change This reflects assessment increases or decreases resulting from changes due to regulated depreciation and changes in the regulated costs for each property type as per the Assessment Year Modifiers (AYM) in the *2016 Linear Property Assessment Minister's Guidelines (Minister's Guidelines)*. The rate or base cost is adjusted by the annual AYM.

Policy Change This indicates changes in the assessment due to policy decisions and directed by the legislation.

In 2017, the linear property assessment decreased by 9.81% to \$68.5 billion down from the 2016 tax year's closing balance of \$76 billion. The change in the linear assessment is comprised of a 1.93% increase to inventory and decrease of 11.74% due to a reduction in construction costs and depreciation. There were no policy changes which impacted the 2017 assessed value of linear properties.

The graph "Tax Year Linear Property Assessment Changes" (p. 10) in this report provides greater detail on the year over year changes in linear property assessment since 2006.

Service Delivery Improvements

The business unit (unit) consistently seeks innovative and efficient ways to improve processes and services provided to our stakeholders. The following projects continued or were newly undertaken in 2016.

- The management and application of geospatial data shifted from contracted resources to in-house resources. This change offers flexibility with impact studies and boundary changes caused by annexations and dissolutions and it enables the unit to improve response times when assisting our stakeholders. The 2017 assessment was prepared using data management and processes of the internal staff.
- In 2013, the unit undertook a pilot project with Canada Post's electronic mailing product, ePost Connect, to address changing technology and provide stakeholders easier, secure access to their assessment information. Participation is voluntary, and on January 30 we delivered the assessment notices through ePost to 50% of our municipalities and 19% of our taxpayers. The unit continues to invite all stakeholders to participate and use this service. Digital delivery is not yet recognized as official and must still be accompanied by physical delivery. In 2016, CDs were replaced by USB wafers in the unit as the legal medium for delivering legislated products. Wafers are preferred to CDs since few PCs now have built-in CD readers, and the wafers have much more storage capacity, are reusable and less expensive to mail.
- The unit continued, into the second year, a project to eliminate unnecessary correspondence between the municipality, the financial auditor and the unit, as well as assist in streamlining the municipal audit process. The project provides assessment totals by property type in a letter addressed to the municipality's chief administrative officer and mailed on January 3, 2017.

Linear Property Assessment Process

In the province of Alberta, the linear property assessment is a regulated valuation process. Linear properties include pipelines (includes gas distribution systems); wells; electric power systems; electric power generation (subset of electric power systems); telecommunications systems and cable distribution undertakings (subset of telecommunications systems). These properties will be discussed in greater detail throughout this document.

2017 Annual Report

The statute governing linear property assessment and taxation is the *Municipal Government Act (MGA)* and its attending regulations. This legislative regime provides the definitions, the process for preparation and the calculation formulas to be used to determine the linear property assessment. This legislation can be accessed directly from the Municipal Affairs website at: http://www.municipalaffairs.alberta.ca/mc_property_assessment_and_taxation_legislation.cfm.

The *2016 Alberta Linear Property Minister's Guidelines (Minister's Guidelines)* are a regulation of the MGA and direct the processes the DLA must follow to calculate the assessment of the linear properties. Some properties are assessed using a rate per quantity (length or number of items assessable) of the property and others are assessed using the reported project construction costs. The *Minister's Guidelines* also contain:

- the annual inflationary factor known as the assessment year modifier (AYM),
- the fixed depreciation and additional regulated depreciation factors, and
- directions on which linear properties are allowed additional depreciation and under what circumstance the depreciation can be determined.

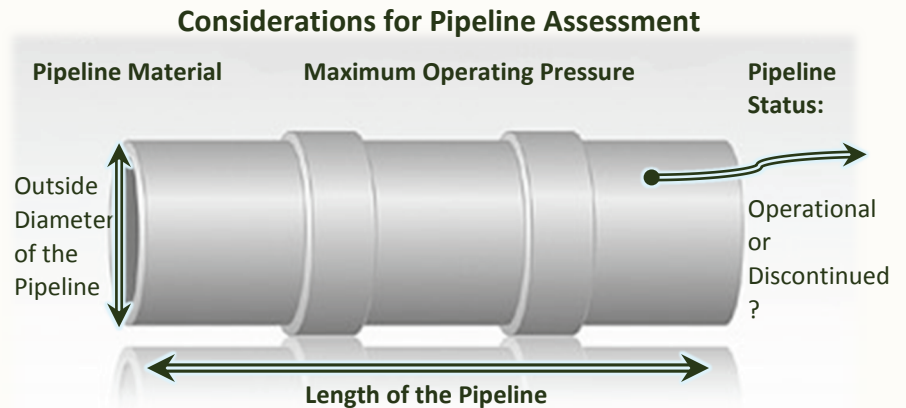
2017 Summary of Assessment by Property Type

Changes in the taxable linear property assessment for Alberta municipalities between the 2016 and 2017 tax years are indicated in table below. Property type definitions and some of the higher assessed properties added to this year's assessment roll are outlined in the following pages.

Property Type	Linear Assessment \$ (in millions)		Change				% of Prov. Base
	2016	2017	Overall \$M	Overall %	Inventory %	Inflationary %	
Cable Distribution Systems	356	350	-6	-1.78	-9.45	7.67	0.51
Electric Power Systems	7,383	8,210	827	11.2	14.46	-3.26	11.98
Electric Power Generation	7,188	7,046	-141	-1.96	1.05	-3.01	10.28
Pipelines (includes Gas Distribution)	30,025	26,879	-3,147	-10.48	0.21	-10.69	39.21
Telecommunication Systems	1,924	1,901	-23	-1.18	0.15	-1.33	2.77
Wells	29,133	24,166	-4,967	-17.05	0.99	-18.03	35.25
Total	76,008	68,552	-7,457	-9.81	1.93	-11.74	100.0

Pipeline (PL)

Pipeline is defined as a continuous string of pipe intended or used in gathering, distributing or transporting natural resource products or by-products. It does not include the pump stations and other surface components along the pipeline or within the pipeline right-of-way.



Components not defined as linear property and the land and associated buildings are assessed by the municipal assessor. Pipelines used to transport potable water for human consumption and sewer systems, as per the MGA, are not assessable.

There is a total of 414,253 kilometers (not including First Nations and Metis Settlements) of assessed pipeline from 256,901 properties. Significant pipelines added to the 2017 tax year's linear property assessment include:

- The Nova Gas Transmission Ltd. Liege Lateral Loop No. 2- Thornbury Section Project: a new 36.3km natural gas pipeline with an outside diameter (OD) of 30" (762 mm) and a total assessment of \$14 million (M).The pipeline will increase assessment for the following municipalities: Regional Municipality of Wood Buffalo - \$7.7M; Lac La Biche County - \$6.3M.
- The Nova Gas Transmission Ltd. Cutbank River Lateral Loop No. 2- Pinto Creek Section Project: a new 32 km natural gas pipeline with an OD of 24" (610 mm) and a total assessment of \$9.1M. The pipeline is located within M.D. of Greenview.
- The Pembina Pipeline Corporation Simonette Expansion Pipeline Project: a new 50.5 km High Vapour (HVP) and Low Vapour (LVP) hydrocarbon liquids pipeline from an existing tie-in point of the Simonette Pipeline to the Pembina Fox Creek pump station located within the M.D. of Greenview. This project is made up of four new pipelines with an OD of 16" (406.4 mm) and a total assessment of \$8.6M.
- The Enbridge Pipelines (Athabasca) Inc. AOC Hangingstone Lateral Project: a new 49.25 km Crude oil pipeline with an OD of 16" (406.4 mm) and a total assessment of \$8.4M. Located within the RM of Wood Buffalo and transports product from the Hangingstone Oilsands Project to the Cheecham Terminal.
- The Nova Gas Transmission Ltd. Simonette Area Expansion Project: a new 22 km natural gas pipeline with an OD of 24" (610 mm) and a total assessment of \$6.3M. The pipeline is located within M.D. of Greenview.
- Interpipeline Ltd. Project: a new 67.93 km hydrocarbon liquids (HVP) pipeline with an OD of 8" (219.1 mm) within RM of Wood Buffalo. Total assessment of \$5.3M was added.

- Keyera Energy Corp. Wilson Creek Pipeline Extension Project: 17 km pipeline with an OD of 6" (168.3 mm). This project is an extension of the Wilson Creek Pipeline located within Ponoka County adding a total assessment of \$2.1M.

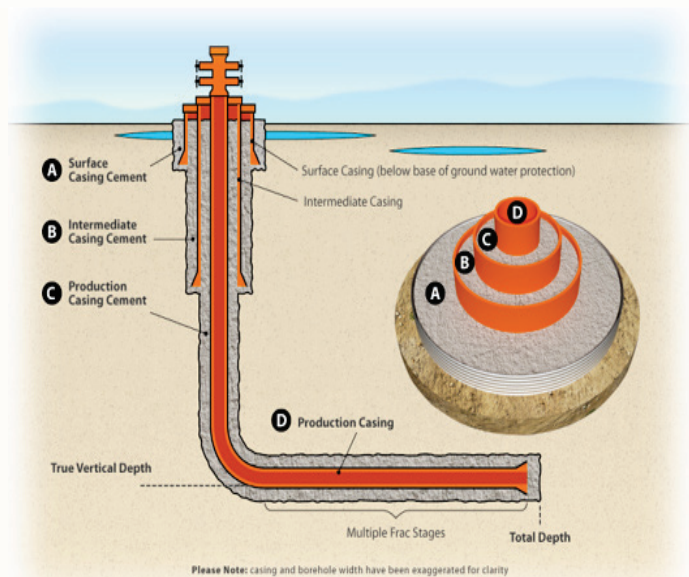
Wells (WL)

Wells are defined as any pipe in a well used to obtain natural resources; a pipe in a well used for injecting or disposing of water or products to an underground formation; or a well used to monitor or observe performance of a pool, aquifer or oil deposit.

Water wells are not assessed unless it supplies water for injection into an underground formation.

Well properties receive a fixed depreciation and may receive additional depreciation based on the amount of production from the well over the assessment year (November 1 to October 31).

Considerations for Well Assessment include: the Well Status, i.e. drilled and cased, suspended, crude oil, gas, etc.; Number of Zones the well is capable of producing from; Type and Amount of zone(s) production and Full Length of pipe in the hole (km).



Graphic from the Petroleum Services Association of Canada (www.OilandGasInfo.ca)

There are 257,367 assessed wells in the province this year, which is a 0.46% overall increase (+1,188 wells) over last year's total. Some statistical well information for 2017 includes:

- **Highest assessed well**

- Located in Yellowhead County, this is a multi-zone crude oil pumping well
- 5,092 metres total depth
- Assessed at \$843,140

- **Highest assessed Oil producing well**

- Located in Yellowhead County, this is a multi-zone crude oil pumping well
- 5,092 metres total depth
- Assessed at \$843,140

This year, the highest assessed oil producing well is the same as the province's highest assessed well.

- **Highest assessed Gas producing well**

- Located in the M.D. of Greenview
- 6,842 metres total depth
- Assessed at \$729,830

- **Deepest well**

- Located in the M.D. of Greenview
- 7,095 metres total depth
- Assessed at \$709,550

Being the deepest well does not mean it will have the highest assessment as the other factors such as status, product and/or producing zones determine its final assessed value.

- **Oldest well**

- located in Lac La Biche County
- 737 metres total depth
- Assessed at \$8,260

The well's completed drilling date, as contained in the AER records, is January 1, 1897.

Utility Properties

Utility properties are: electric power systems, electric power generation, telecommunications systems and cable distribution undertakings.

The *Minister's Guidelines* provide the rates for most of the utility properties. Where there are no rates provided, the linear property assessment is based on the actual project construction costs, less deductions allowed by the *2005 Alberta Construction Cost Reporting Guide (CCRG)* regulation.

Utility properties with both linear and non-linear components must be reviewed by the linear and municipal assessors with the company to determine what is and is not linear property. It is very important all three parties work together to ensure the total property is assessed correctly. The company may hire an agent to assist them with this. The municipal assessor is responsible for the

land, buildings and structures that do not meet the definition of linear property. This process requires assessment expertise, an understanding of how to apply the CCRG and a solid understanding of the accounting and engineering practices for the property under review.

The assessment of electric power systems and electric power generation properties utilizes tabled depreciation unlike the fixed depreciation used when assessing other linear properties. Legislation allows for additional depreciation to be granted under special circumstances.

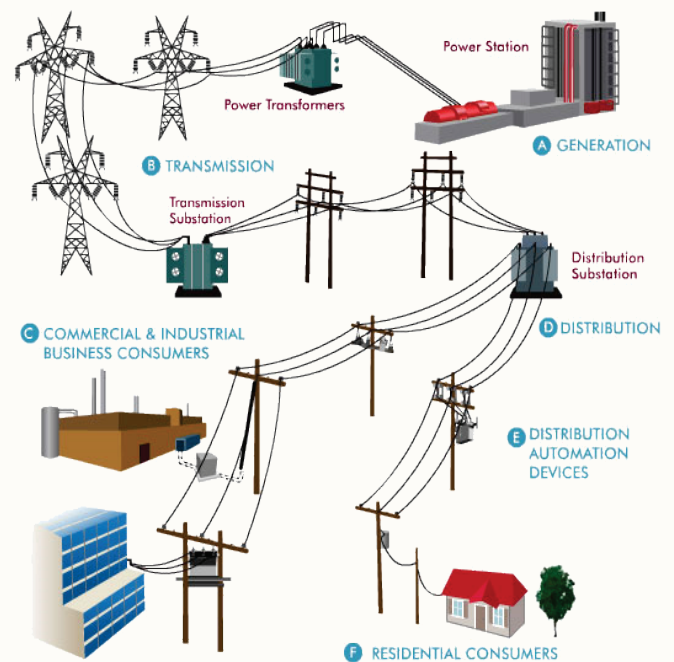
Telecommunications systems and cable distribution undertakings have fixed depreciation and additional depreciation based on the actual use of the property.

Electric Power Systems (ELE)

Electric power systems include all the generation, transmission, and distribution components necessary for electricity sales throughout the province.

The generation component of an electric power system is separately discussed in the section Electric Power Generation (EPG) below.

When a power system has been constructed and exclusively operated to provide internal electricity to a specific plant site in situations such as those that occur in the oil sands regions, the power cannot be sold to the Alberta power grid. When this is the case, their electric power system is not linear property and is assessed by the municipal assessor along with the land and buildings.



Graphic from Venture Beat magazine
(<http://venturebeat.com/2010/12/08/smartgrid-europe-renewables/>)

In late 2016, the HVDC (High Voltage Direct Current) transmission systems which were owned by AltaLink and ATCO Electric became operational therefore assessable for 2017 Tax Year. The combination of transmission lines and the substations added over \$1.0 billion in linear assessment. These HVDC transmission projects contributed to the largest increases and net change in the power systems in the following municipalities:

- County of Newell: \$240M
- Sturgeon County: \$236M
- Leduc County: \$198M
- Rocky View County: \$115M

The two largest municipal decreases were in R.M. of Wood Buffalo (-\$26 Million) which had a reported substation that was actually in the M.D. of Bonnyville, and City of Calgary (-\$15.8 Million) which had retired substations.

Electric Power Generation (EPG)

Structures and equipment used to generate electricity which is then sold to the province's electric power grid are known as the electric power generation portion of an electric power system. Only the structures and equipment used to produce electricity are considered EPG linear property. This does not include land or buildings which are assessed by the municipal assessor. This means electricity generated on an oilsands site, completely consumed by the plant, is not linear property and will be assessed by the municipal assessor along with the land and buildings.

There were two new natural gas electric power generation facilities and one new wind farm assessed in 2017, which added approximately 51 MW to the provincial grid:

- Bull Creek Wind Farm in the M.D. of Provost (17 wind turbines) -- \$42.98M
- Exshaw Oil Corporation in Saddle Hills County -- \$13.10M
- Cargill Canola Crush Plant in Camrose County -- \$6.50M

In addition, the Cowley Ridge Wind Farm in the M.D. of Pincher Creek (41 wind turbines) was decommissioned and removed from the assessment for 2017.

Telecommunications Systems (TEL)

Alberta's telecommunications system includes components of the communication system including cable distribution undertakings and telecommunication carriers, but not the land or buildings as they are assessed by the municipal assessor. Telecommunications consist of the equipment, conduit, fibre optical cable, towers and copper lines necessary in a telecommunications system.

Cable Distribution (CBL)

The cable distribution undertaking portion of a telecommunications system includes the equipment and the lines necessary to provide residential and business cable services. This portion of the telecommunications systems is identified separately as it is perceived by the public as a different service. In order to provide cable distribution undertakings service a company must be regulated by the CRTC (Canadian Radio-Television and Communications). Only the equipment and lines components necessary for a cable system are considered linear property, the land or buildings will be assessed by the municipal assessor.

Telecommunications Systems and Cable Distribution Changes

Telecommunications and cable systems infrastructure and technologies have changed significantly over the past ten years. The development of cell phones, Wi-Fi devices and computing abilities has effectively decreased the amount of (home) land lines. Smaller municipalities no longer have cable TV infrastructure (coaxial lines); they have been replaced by satellite dishes. This has reduced cable linear assessment. Although the province had significant increases in population, the growth in cable and telecommunication properties has not increased in parallel.

Bell Mobility has a reciprocal agreement with Telus Mobility on the use of Telus's cell sites in Western Canada and for Telus's use of Bell Mobility cell sites in Eastern Canada. Therefore, Bell Mobility has decommissioned a number of its cell sites in Alberta during this assessment year.

Confidence and Stability in the Linear Property Assessment

The linear property assessment is subject to change within the tax year. The percentage of change in any given year is an indicator of quality and stability in the processes and data used to prepare the assessment. The linear property assessment's stability and predictability is tested by analysing the assessment over the past 12 years. When comparing the first assessment roll to the last assessment roll of the year, the change is consistently between +0.47% and -0.33%. This indicates the assessment is stable and the stakeholders can have confidence in the linear property assessment prepared by Municipal Affairs.

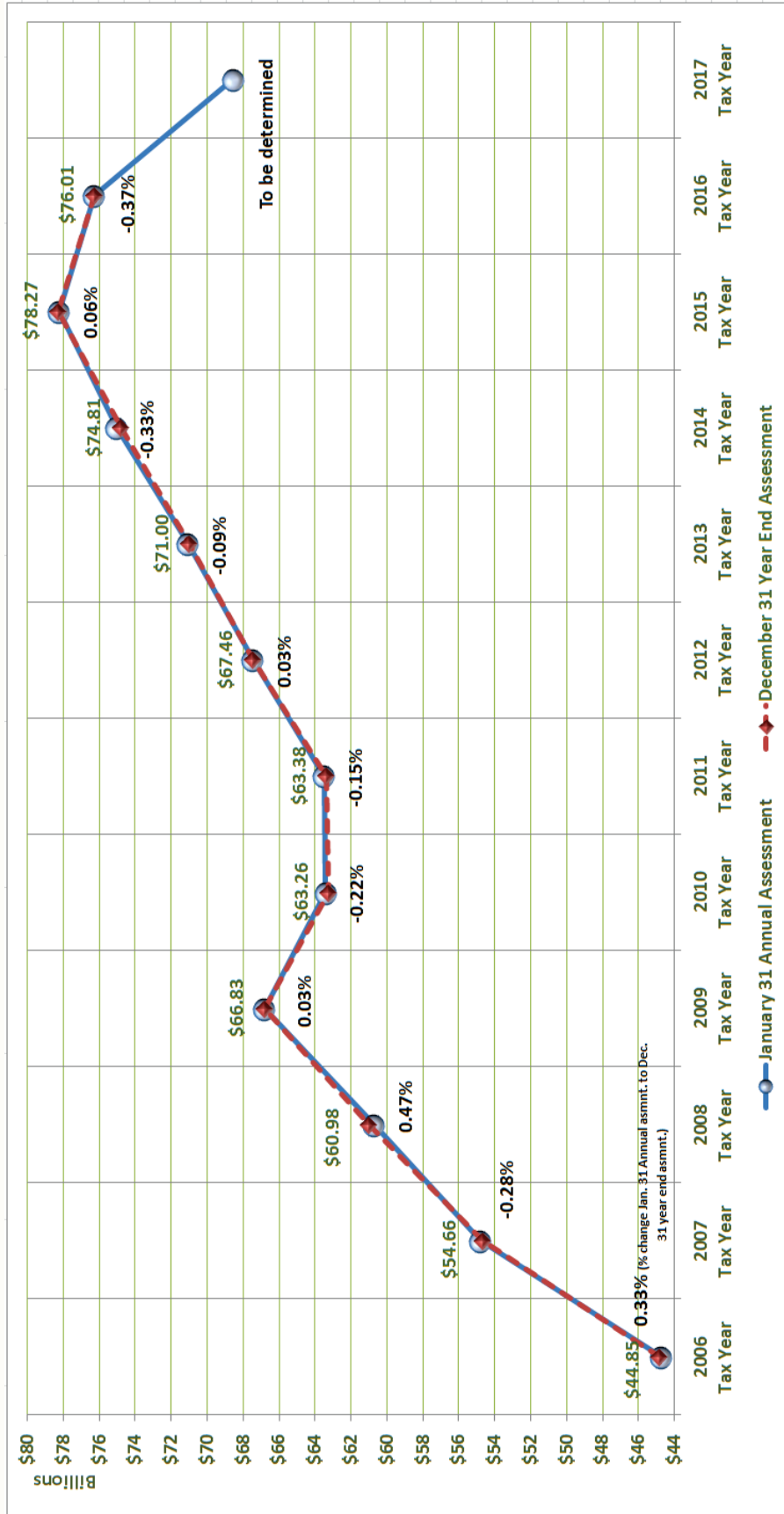
The assessment changes within a tax year are a result of new or additional information after the assessment notices are mailed. Legislation allows for an amended property assessment notice to be prepared. Typically, there are three times within a tax year when the changes are processed and amended assessment notices are mailed. Another way an assessment may change during the course of the tax year is by a decision made by either the Municipal Government Board (MGB) or a court. These types of changes do not require an amended assessment notice to be prepared, but rather a notification of the change is sent directly from the MGB or court to the affected parties.

The following graph is based on linear property assessments between 2006 and 2017 tax years. It demonstrates:

- the year over year changes in the linear property assessment and
- the change in the assessment during each tax year (January 31 assessment versus the December 31 assessment) as indicated by the coloured lines.

2006 – 2017 Tax Year Linear Property Assessment Changes

The actual numbers to create this chart are shown in the table on the following page.



Linear Property Annual and Year End Assessment Change

Quick Facts about Linear Property Assessment

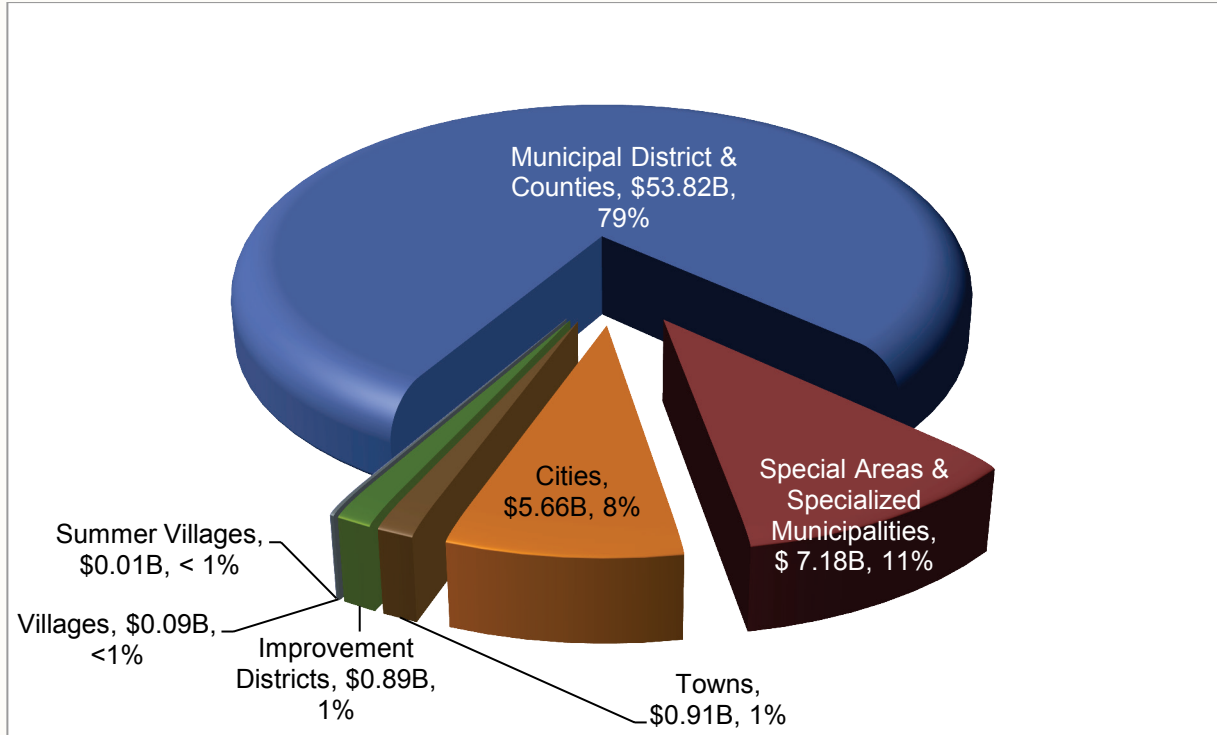
Linear Property Assessment	Tax Years (\$ in Billions)											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January 31 Annual Assessment	44.7	54.81	60.7	66.81	63.4	63.48	67.44	71.06	75.06	78.23	76.29	68.55
December 31 Year End Assessment	44.85	54.66	60.98	66.83	63.26	63.38	67.46	71.00	74.81	78.27	76.01	To be determined
Assessment Value Change	0.15	-0.15	0.28	0.02	-0.14	-0.09	0.02	-0.06	-0.25	0.05	0.28	To be determined
Assessment Percent Change	0.33%	-0.28%	0.47%	0.03%	-0.22%	-0.15%	0.03%	-0.09%	-0.33%	0.06%	-0.37%	To be determined
Assessment Year to Year Change		9.97	6.04	5.83	-3.43	0.21	4.05	3.61	4.06	3.14	-1.98	-7.74
Assessment Year to Year Change Percent		22.22%	11.05%	9.56%	-5.13%	0.34%	6.40%	5.34%	5.72%	4.56%	-2.53%	-10.15%

2017 Annual Report

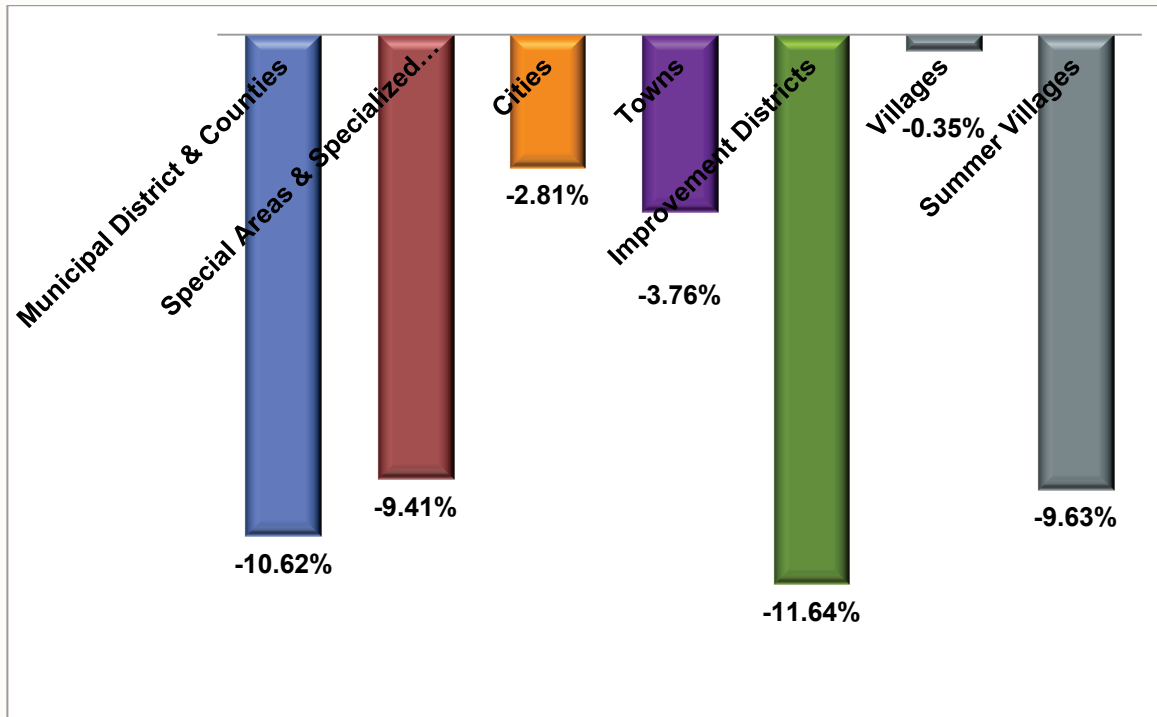
Property Type	
Pipeline	
Kilometers assessed = 414,253	
Average assessment per kilometre of operational steel pipeline pressure greater than 1900 kPa	
6" (168.3 mm) <i>steel pipe rate/km</i> high pressure	\$ 54,000
12" (323.9 mm) <i>steel pipe rate/km</i>	\$ 130,000
20" (508 mm) <i>steel pipe rate/km</i>	\$ 224,000
30" (762 mm) <i>steel pipe rate/km</i>	\$ 385,000
See page 4 for more information on what is included when calculating a pipeline assessment	
Wells	
Total number assessed = 257,367	
Average assessment for all wells vs. in full production	
Single zone gas well (WL30)	\$57,000 \$226,000
Single zone oil flowing (WL10)	\$111,000 \$303,000
Single zone oil pumping (WL20)	\$188,000 \$280,000
Multi zone gas well (WL100)	\$76,000 \$232,000
Multi zone oil flowing (WL80)	\$144,000 \$272,000
Multi zone oil pumping (WL90)	\$215,000 \$298,000
Crude bitumen (WL50/60)	\$133,000 \$239,000
Single zone Injection/disposal (WL40)	\$149,000 \$192,000
Multi zone Injection/disposal (WL110)	\$263,000 \$316,000
See page 5 for more information on what is included when calculating a well assessment	
Electric Power Generation	
Size of Wind Turbines: 150 kilowatts to 3.0 megawatts	
Electric Power Systems	
Total kilometers of transmission lines	22,000
Telecommunications	
Total number of towers	1,785
Total number of cell sites	1,673
Cable Distribution	
Total kilometers of coax and fibre cable	27,400

Charts

2017 Tax Year Linear Property Assessment Distribution by Municipal Type

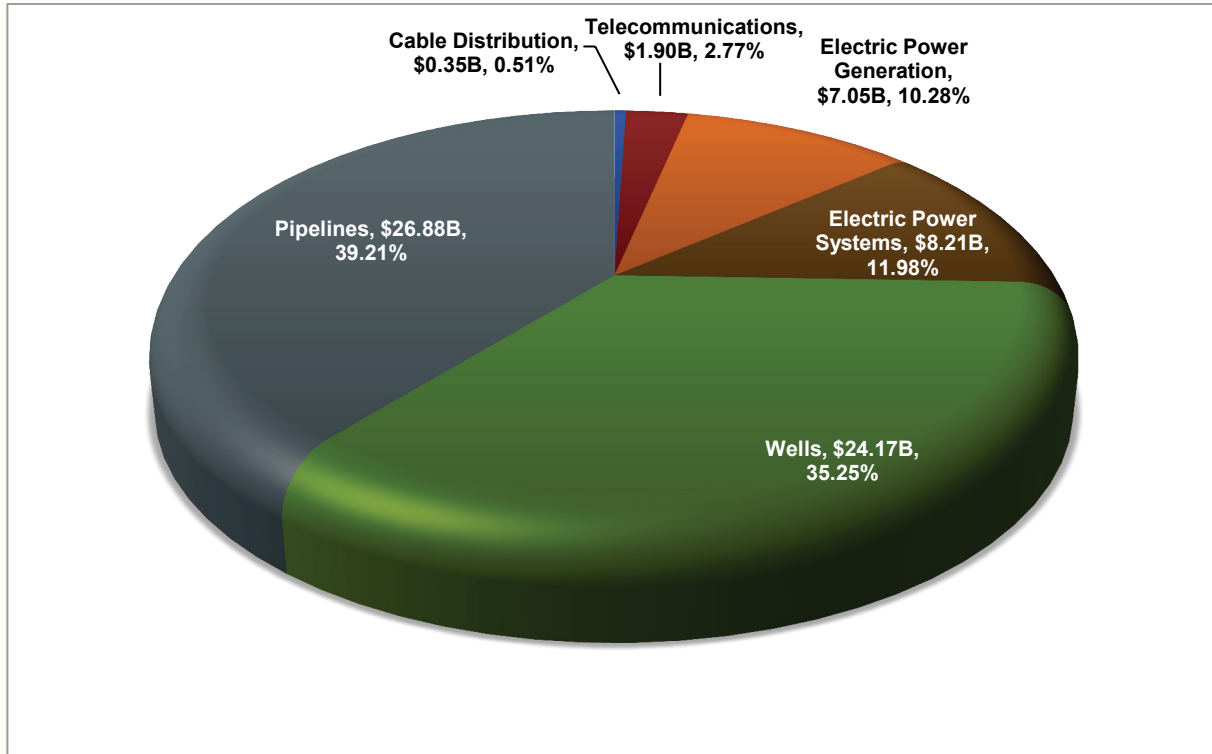


2017 Tax Year Linear Property Assessment Growth by Municipal Type



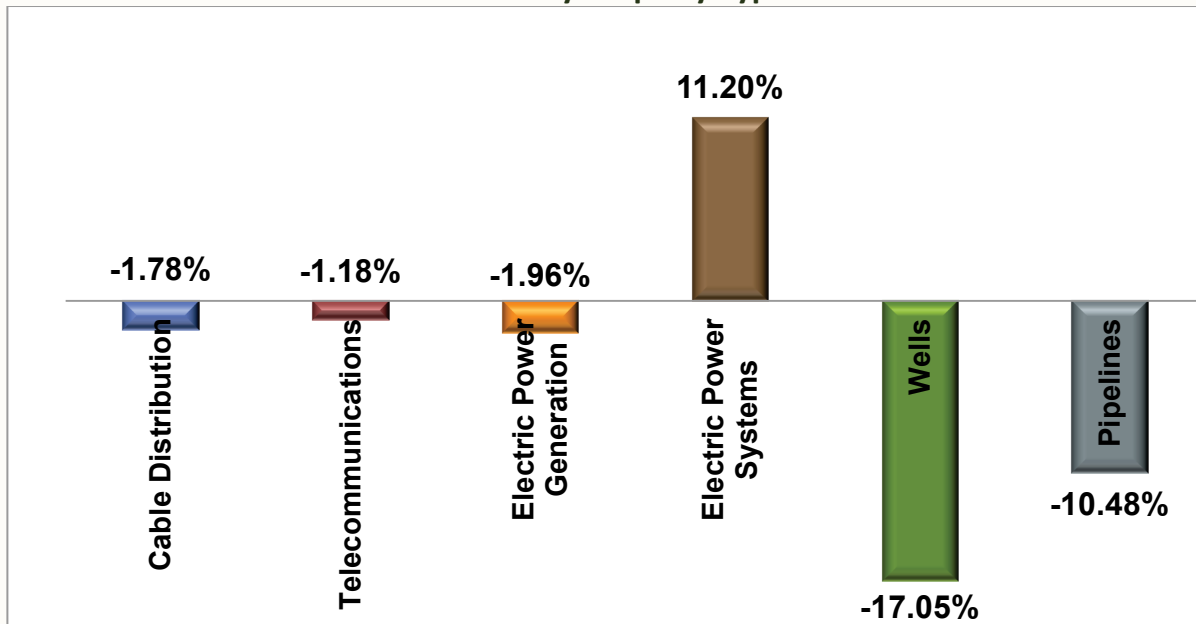
2017 Tax Year Linear Property Assessment Distribution by Property Type

(\$68.55 Billion)



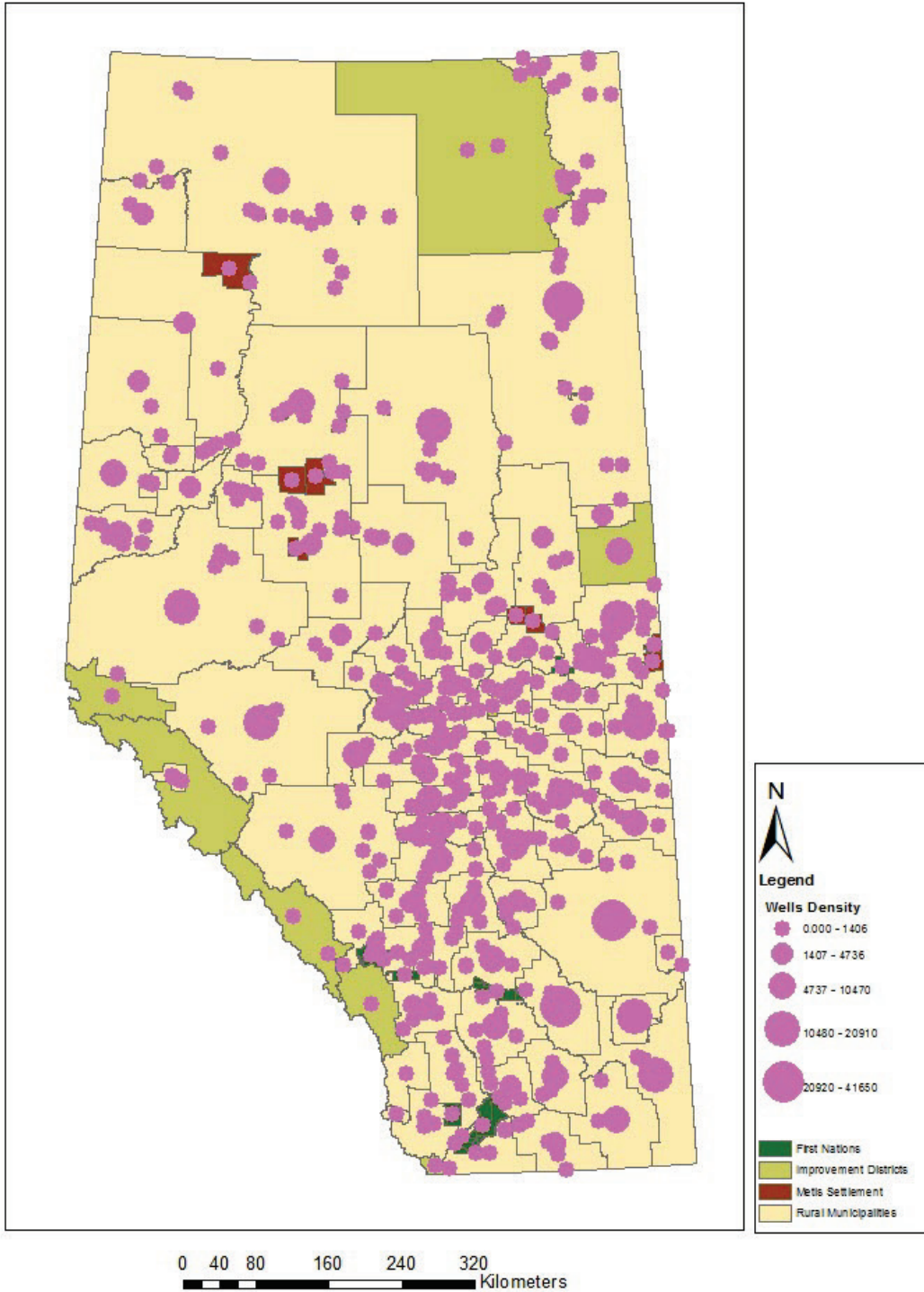
2017 Tax year Linear Property Assessment Change from Prior Year Percentage

by Property Type

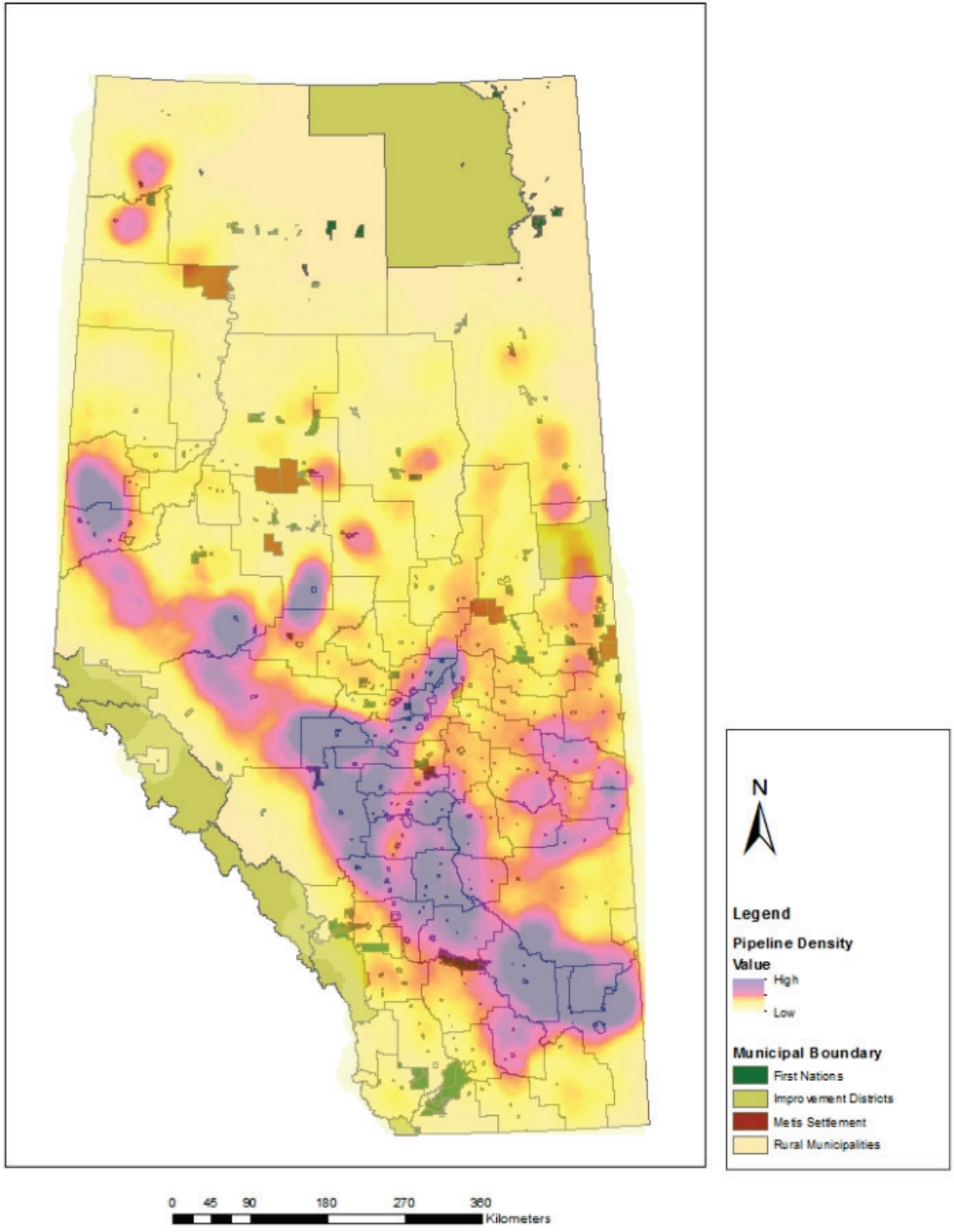


Maps

2017 Tax Year (2016 Assessment Year) Provincial Density of Assessable Wells



2017 Tax Year (2016 Assessment Year) Provincial Density (“Heat” Map) of Assessable Pipelines



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