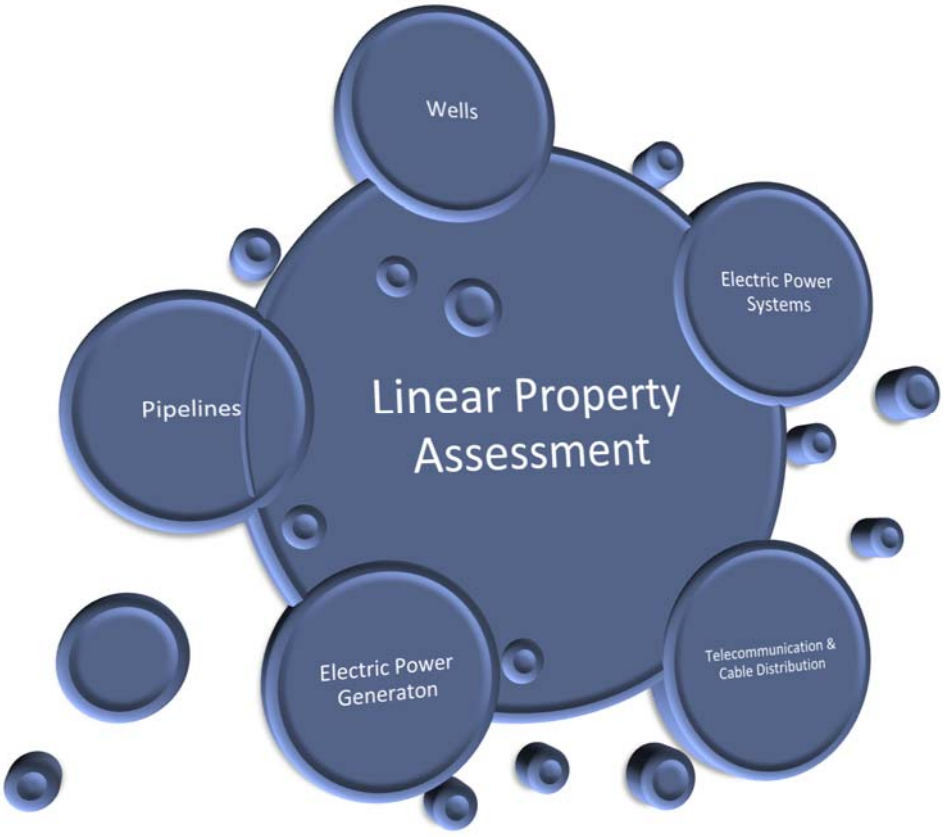
Linear Property Assessment
2018 Annual Report



Alberta Government

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

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

Executive Summary

The 2018 tax year annual linear property assessment was completed, declared and posted to the provincial assessment reporting system, Assessment Shared Services Environment (ASSET) on January 31, 2018. For more than a decade, Municipal Affairs has prepared the linear property assessment for taxpayers and municipalities by January 31 of each year to support municipal budgetary planning.

The assessment notices were mailed to all assessed persons January 31, 2018. Copies of these notices were mailed to municipalities at the same time. The linear property assessment function is a legislated requirement that must be completed by February 28 for taxation in that year. Sending these notices met the statutory obligations of the Provincial Assessor. The linear property assessment roll was mailed to municipalities on February 7, 2018.

This year, the linear property assessment increased by 1.18% to $69.3 billion up from the 2017 tax year's closing balance of $68.5 billion. The changes in the linear assessment are comprised of a 1.93% increase to inventory and a decrease of 0.75% due to a reduction in construction costs and depreciation.

For the 2018 tax year, it is expected the linear property assessment will generate an estimated $780 million in municipal tax and $277 million in education requisition revenue for the province of Alberta.

The final date to submit a complaint regarding this year's assessment to the Municipal Government Board within the legislated 60 day timeframe was April 9, 2018.

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 includes accounting, engineering, telecommunication and regulatory specialization, statistics, and business administration.

Prior to the 2018 tax year, linear property assessment was conducted on a full cost recovery basis paid for by municipalities. Changes to the *Municipal Government Act* (MGA) in the fall of 2017 altered the cost recovery system. The costs will now be recovered through a requisition levy process as part of the ratepayers' tax bill.

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 follows.

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 (AYMs) in the *2017 Linear Property Assessment Minister's Guidelines* (Minister's Guidelines). The rate or base cost of assessment is adjusted by the annual AYMs.

For this assessment year, the pipeline and well AYMs have been held to the previous assessment year levels pending the advancement of the comprehensive model review.

Policy Change

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

The graph “Linear Property Assessment Change Table 2009-2018” (page 8) in this report provides greater detail on the year over year changes in linear property assessment since 2009.

Linear Property Assessment Process

In the province of Alberta, the linear property assessment is a regulated valuation process. Linear properties include pipelines (including 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.

The statute governing linear property assessment and taxation is the 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.

The Minister's Guidelines are a regulation of the MGA and direct the processes the Provincial Assessor must follow to calculate the assessment of the linear properties. Some properties are assessed using a rate per quantity, length, or number of assessable items 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 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.

Service Delivery Improvements

The business unit (unit) consistently seeks innovative and efficient ways to improve processes and services provided to our stakeholders. The practice of promoting and encouraging the use of the epost Connect™ service for secure, confidential digital messages and documents is ongoing. Assessment rolls and notices were sent to 320 program participants.

Projects undertaken in 2017 targeted preparing for and facilitating changes due to the recently proclaimed amendments to the *MGA* effective January 1, 2018. Ongoing work includes:

- Adding capacity to assess railway property as changes to legislation defines railway property as linear property.
- Adding capacity to conduct supplementary assessments as linear property now has the authority to conduct supplementary assessments for taxation in 2019.
- Assisting the Assessment Services Branch to onboard new *designated industrial properties* to a new business unit, Centralized Industrial Property Assessment (CIPA), for assessment by the Provincial Assessor.

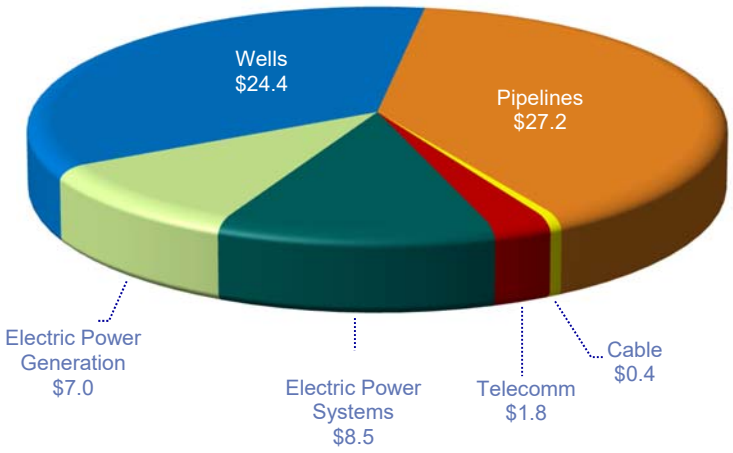
The unit staff provided significant support in the preparation of the 2018 tax year designated industrial property assessment notices and rolls. Previously the assessments of these properties were the responsibility of the municipalities where they were located.

Looking forward, linear property has been included in the *designated industrial property* definition in the MGA and the integration of the assessment processes and practices of the assessment of designated industrial property types will be finalized over the next few years.

2018 Summary of Assessment by Property Type

Changes in the taxable linear property assessment for Alberta municipalities between the 2017 and 2018 tax years are indicated in table below. Linear property types and their definitions are outlined in the following sections.

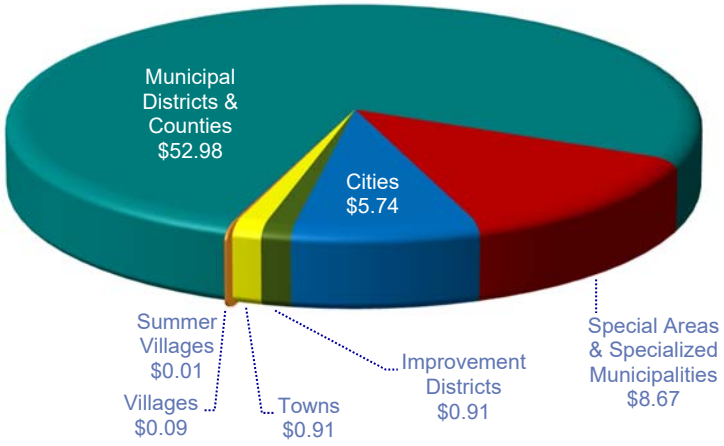
2018 Tax Year Linear Property Assessment Distribution by Property Type
($ in billions)



Change in taxable linear property assessment between 2017 & 2018 tax years

Property Type	Linear Assessment $ (in millions)		Change				% of Prov. Base
	2017	2018	Overall $M	Overall %	Inventory %	Inflationary %	
Pipelines (includes Gas Distribution)	26,782	27,203	421	1.57	1.87	-0.29	39.25
Wells	24,098	24,417	319	1.32	2.78	-1.46	35.25
Electric Power Systems	8,289	8,495	206	2.49	2.94	-0.45	12.26
Electric Power Generation	7,050	6,986	-64	-0.90	0.31	-1.21	10.08
Telecommunication Systems	1,905	1,824	-81	-4.27	-5.80	-1.53	2.63
Cable Distribution Systems	374	382	8	2.06	-0.06	2.12	0.55
Total	**68,498**	**69,307**	**809**	**1.18**	**1.93**	**-0.75**	**100.0**

2018 Tax Year Linear Property Assessment Distribution by Municipal Type
($ in billions)



Oil and Gas Sector Properties

- **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 are 253,553 assessed pipeline properties totaling 410,959 kilometers with a total assessment of $27.2 billion (not including First Nations and Métis Settlements). This reflects a decrease of approximately 1.3% in pipeline properties; however, the assessment increased by 1.6% ($413.5 million). Significant pipelines added to the 2018 tax year's linear property assessment include the following.

Enbridge Pipelines

Norlite Pipeline Project

The Norlite Pipeline Project involves construction of a 447km, 24-inch dia. (610mm) diluent pipeline, originating at Enbridge's Stonefell Terminal in Strathcona County and terminating at Enbridge's Fort McMurray South Facility.

Athabasca Twinning Pipeline Project

The Athabasca Twinning Pipeline Project involves construction of a 344km, 36-inch dia. (914mm) crude oil pipeline, originating at Enbridge's Kirby Lake Terminal near Fort McMurray and terminating at Enbridge's Battle River Terminal near Hardisty.

JACOS Hangingstone Project

The JACOS Pipeline Project involves construction of a 52km, 12-inch dia. (305mm) crude oil pipeline, originating at the Japan Canada Oil Sands Limited (JACOS) Hangingstone Oil Sands Project and terminating at Enbridge's Cheecham Terminal.

Grand Rapids Pipeline Ltd

Grand Rapids Pipeline Project

The project is jointly owned by TransCanada and PetroChina Canada Ltd. The 460km, 20-inch dia. (508mm) crude oil pipeline plays a key role in connecting producing areas of northwest Fort McMurray to terminals in the Edmonton/Heartland region.

Northern Courier Pipeline Ltd

Northern Courier Pipeline Project

The Project is owned by TransCanada. The 90km, 12-inch and 24-inch dia. (305mm, 610mm) pipelines transport bitumen and diluent between the Fort Hills mine site and Fort McMurray.

Pembina Pipeline Corporation

Wapiti to Kakwa Project

The 70km, 16-inch dia. (406mm) is expected to have an initial capacity of approximately 95,000 bpd. This pipeline will assist with the current bottleneck and will ultimately allow product to be delivered into the Company's core segment of the Phase III Expansion between Fox Creek and Namao.

Fox Creek to Namao Pipeline Project

The core of the Phase III Expansion is a new 270km, 12-inch and 24-inch dia. (305mm, 610mm) pipeline from Fox Creek to Namao. Pembina will now have four pipelines in the Fox Creek to Edmonton corridor with an ultimate capacity of over 1,000,000 barrels per day ("bpd").

Nova Gas Transmission Ltd.

NGTL System Expansion Project

The pipeline expansion includes five new and separate pipeline section loops across northern Alberta, totaling 230km.

Groundbirch – Mainline Loop (AB portion) Project

The AB 22km, 36-inch dia. (914mm) pipeline connects the TransCanada Alberta System to a source of sweet natural gas supply from northeast British Columbia.

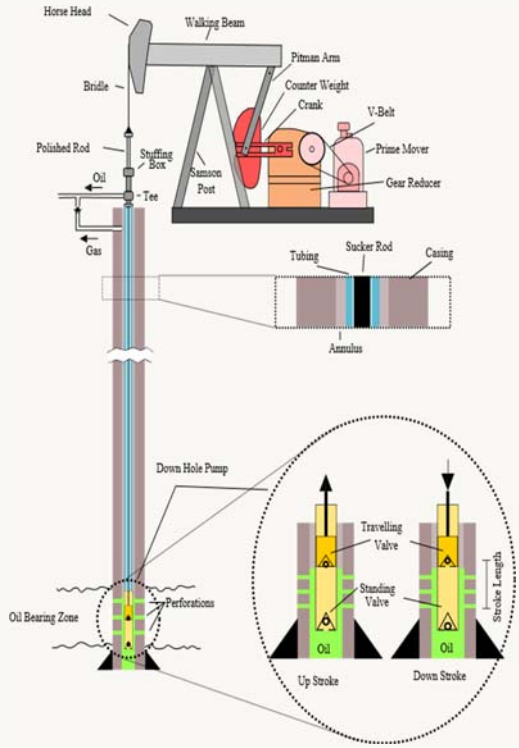
- **Wells (WL)**
  Wells are defined as any pipe in a well used to obtain natural resources; a pipe in a well used for injecting or disposing of water or products to an underground formation; or a well used to monitor or observe performance of a pool, aquifer or oil deposit.

  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).

This year there are 253,068 assessed wells in the province with an assessment increase of 1.3% ($318.8 million) for an overall total assessment of $24.4 billion. This includes a 1.7% decrease (-4,299) of assessed wells over last year's total.

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).



https://commons.wikimedia.org

Some statistical well information for 2018 tax year includes:

Highest assessed well

- Located in Yellowhead County, this is a multi-zone crude oil pumping well

- 5,097 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
- 5,097 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
- 7,292 metres total depth
- Assessed at $775,660

Deepest well

- Located in the M.D. of Greenview
- 7,292 metres total depth
- Assessed at $775,660

  Being the deepest well does not mean it will have the highest assessment as 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 municipal assessor is currently 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.

There was an overall increase in assessment for ELE of 2.49% ($206 million) for a total of $8.49 billion.

Some of the assessment increase is attributed to work completed in 2017 on the High Voltage Direct Current (HVDC) transmission systems owned by AltaLink and ATCO Electric. Another addition of note is the approximately $104 million of assessment for new substations added on to the transmission system replacing retiring substations.

The two largest municipal increases were in Red Deer County (up $32 million) and the City of Edmonton (up $25.5 million). Large decreases were seen in Rocky View County ($6 million) and Leduc County ($4.4 million)

- **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 EPG portion of an electric power system. In this situation, only the structures and equipment used to produce electricity are considered EPG linear property. As mentioned previously, the municipal assessor would assess the land or buildings at these sites.

  There was a -0.9% decrease in assessment of $63.8 million in EPG for a total assessment of $6.99 billion.

  This year, the assessment had four new natural gas electric power generation facilities added, which brought approximately 124 MW to the provincial grid:

  - Canadian Natural Resources Ltd. (CNRL) Horizon Phase 2 co-generation in the Regional Municipality of Wood Buffalo
  - NAT-1 GP Ralston in Cypress County
  - Lacombe County had two: Horseshoe Power Alix and Lacombe generators

  In addition, three power generation facilities were decommissioned, considered incapable of being used, or had their output reduced due to coal-to-gas conversion in 2017; therefore, they were removed from the assessment.

- **Telecommunications Systems (TEL)**
  Alberta's linear property telecommunications system includes components of a communication system including cable distribution undertakings and telecommunication carriers, but not the land or buildings. The land and buildings are assessed by the municipal assessor.

  Telecommunications consist of the equipment, conduit, fibre optical cable, towers, and copper lines necessary in a telecommunications system.

  As a result of the removal and decommissioning of antiquated equipment from the carriers' cellular networks, telecommunications saw an assessment decrease of -4.27% from $1.9 billion to $1.8 billion.

- **Cable Distribution (CBL)**
  The cable distribution undertaking (CBL) 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, 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.

  There was an overall increase in assessment for CBL of 2.06% ($7.7 million) for a total of $382 million.

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 analyzing the assessment over the past 10 years.

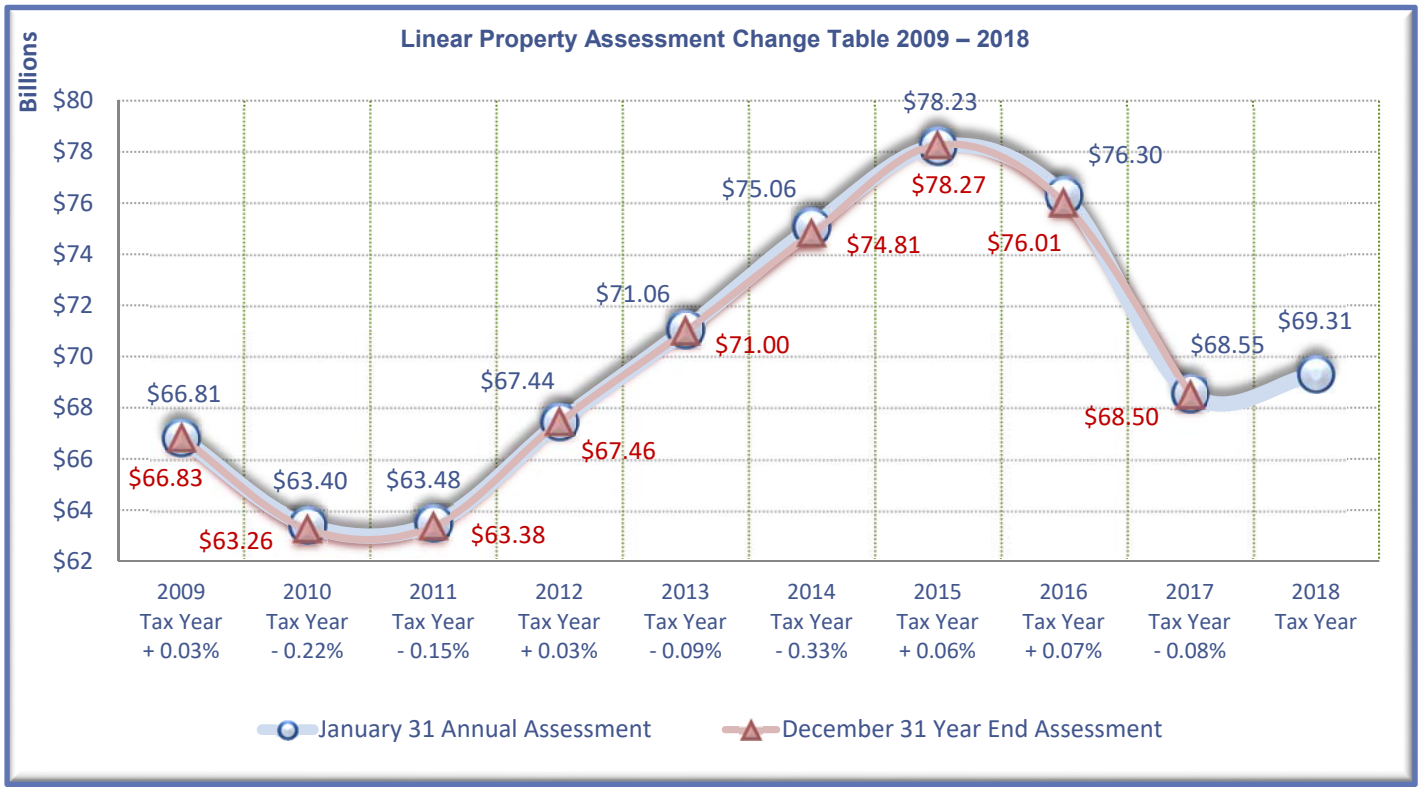
When the first assessment roll of the year is compared with the last assessment roll of the year, the change is consistently between +0.06% and -0.33%. This indicates the assessment is stable and stakeholders can have confidence in the linear property assessment prepared by Municipal Affairs.

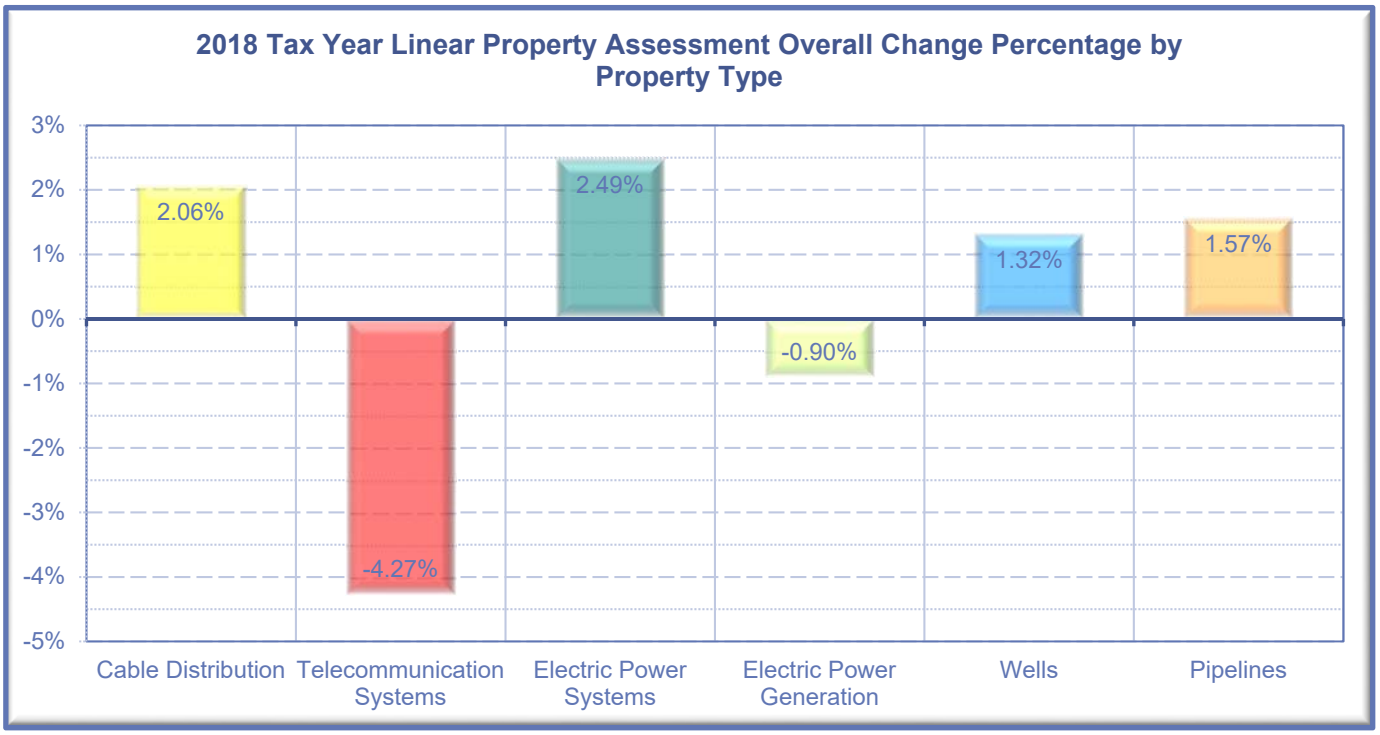
The assessment changes within a tax year are a result of new or additional information received after the assessment notices are mailed. Legislation allows for an amended property assessment notice to be prepared.

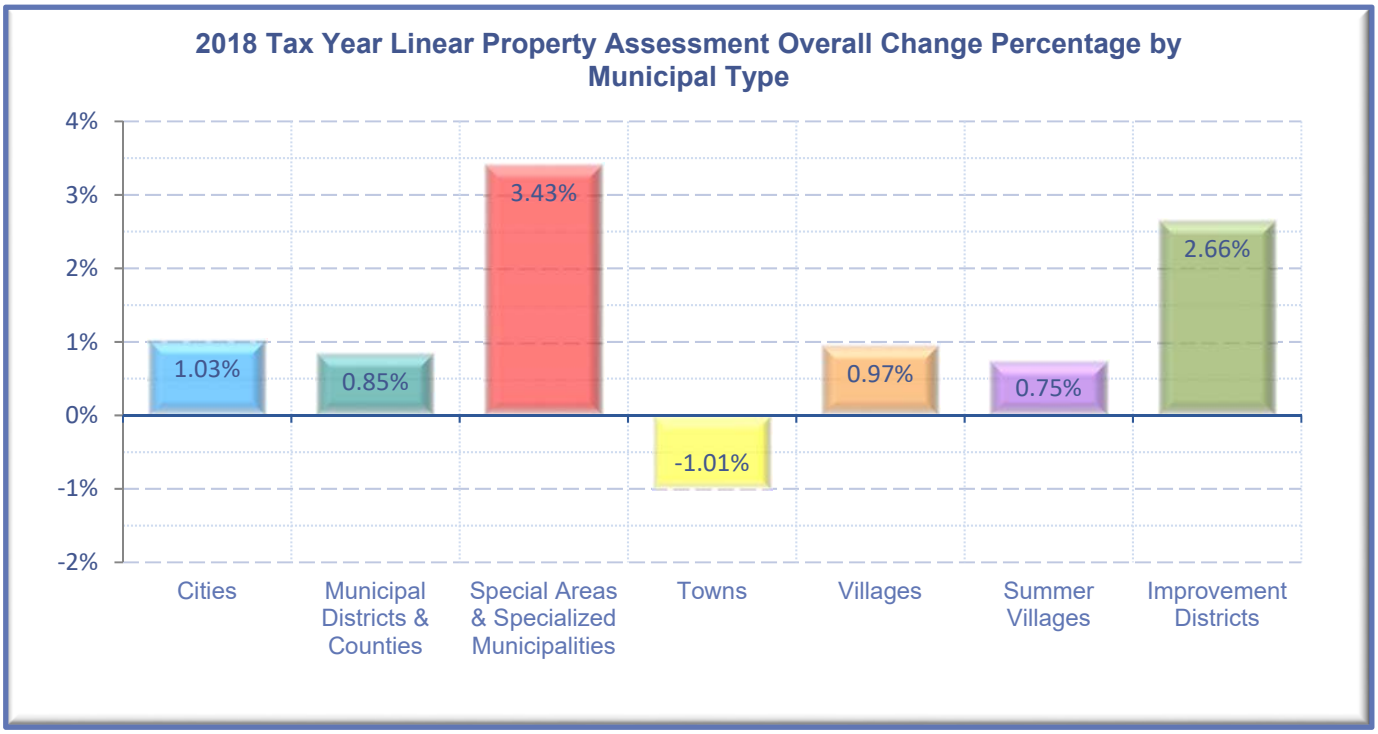
Typically, there are three times within a tax year when the changes are processed and amended assessment notices are mailed. Another way an assessment may change during the course of the tax year is by a decision made by either the Municipal Government Board (MGB) or a court. These types of changes do 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 graph below is based on linear property assessments between 2009 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.

The two charts on the following page indicate the year over year change percentages by property type and municipal type.




2018 Tax Year Linear Property Assessment Overall Change Percentage by Property Type
3%
2%
1%
0%
-1%
-2%
-3%
-4%
-5%
2.06%
-4.27%
2.49%
-0.90%
1.32%
1.57%
Cable Distribution
Telecommunication Systems
Electric Power Systems
Electric Power Generation
Wells
Pipelines


2018 Tax Year Linear Property Assessment Overall Change Percentage by Municipal Type
4%
3%
2%
1%
0%
-1%
-2%
1.03%
0.85%
3.43%
-1.01%
0.97%
0.75%
2.66%
Cities
Municipal Districts & Counties
Special Areas & Specialized Municipalities
Towns
Villages
Summer Villages
Improvement Districts

Quick Facts

Property Type	
Pipeline	
Kilometers assessed = 410,959	
Average assessment per kilometre of operational steel pipeline pressure greater than 1900 kPa	
6” (168.3 mm) *steel pipe rate*/km high pressure	$ 54,000
12” (323.9 mm) *steel pipe rate*/km	$ 130,000
20” (508 mm) *steel pipe rate*/km	$ 224,000
30” (762 mm) *steel pipe rate*/km	$ 385,000
See page 4 for more information on what is included when calculating a pipeline assessment	
Wells	
Total number assessed = 253,068	
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	1,823
Total number of cell sites	1,019
Cable Distribution	
Total kilometers of coax and fibre cable	27,600

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