

Off-Site Levies / Development Charges - White Paper

Table of Contents

1.	Introduction	2
1.1.	What is an Off-Site Levy?	
1.2.	Land and Building Development Process	
1.3.	Development Charges Applied in Edmonton	
1.3.1.	Permanent Area Contributions	
1.3.2.	Arterial Roadway Assessments	
1.3.3.	Sanitary Servicing Strategy Fund	
1.3.4.	Industrial Infrastructure Cost Sharing Program	
1.4.	Development Charges Applied in the Edmonton Region and Canadian Cities	
1.5.	Application of Off-Site Levies in other Canadian Jurisdictions	
2.	New Legislation for Off-Site Levies	9
2.1.	The Off-Site Levies Regulation	
2.2.	City Charter	
2.3.	Principles for Formulating Development Cost Levies	
2.4.	Parties Involved in Formulating Development Cost Levies	
3.	Considerations for the Application of New Off-Site Levies	11
4.	Market Considerations	14
5.	Conclusion	15

1. Introduction

Off-site levies (also referred to as development cost charges, or development charges) are monies collected from land developers and builders by a municipality at the time of subdivision and/or development permit approval. Levies are intended to offset the cost of infrastructure required to support and service the needs of new development or redevelopment. Alberta and a number of other Canadian Provinces enable municipalities to apply levies in acknowledgement that the costs of growth are significant for municipalities, and place constraints on the use of existing revenue sources. An underlying principle in enabling charges to development is that the “user pay”, or the “benefiter pay”.

Based on long standing provisions in the *Municipal Government Act* (MGA), the City of Edmonton has considerable experience collecting development charges related to sewers and arterial roads. For example, arterial roadway assessments (ARAs) are authorized through a bylaw approved by City Council and operated and maintained by Administration.

In October 2017 the MGA was updated to enable Alberta municipalities to collect monies for a wider range of infrastructure related to development growth. Municipalities were also enabled to collect monies through inter-municipal off-site levies whereby two or more municipalities could agree to jointly collect and fund shared infrastructure for shared benefit. These changes were followed by additional enabling provisions in the City Charters for Edmonton and Calgary that expand the opportunity for the two cities to collect development charges for growth related infrastructure, and to implement an inclusionary housing program. Both the MGA and City Charters specify the parameters by which development charges must be negotiated, may be collected, and must be established through an off-site levies bylaw.

While development charges are a financial tool to collect revenues to pay for the capital costs associated with new development and redevelopment, they may also assist in reinforcing municipal policy. For example, development charges may be structured and applied to align with a municipality’s investment policies to encourage a compact built form over a dispersed built form.

To provide an understanding of off-site levies and the context for their current and future application, this white paper reviews:

- What an off-site levy is,
- How levies are currently collected through development approval process,
- What levies are currently collected in Edmonton, the Edmonton Metropolitan Region, and several Canadian cities,
- What levies can be collected through changes to the MGA and the City Charter,
- Principles and key questions to consider in the establishment and operation of levies,
- How levies may become part of a larger servicing and financing approach based on anticipated growth, and

- Considerations for the market impacts of a levy.

1.1 What is an Off-Site Levy?

An off-site levy, also known as a development cost charge, or a development charge, may be imposed by a municipality on owners/developers/builders to pay for a specific type of infrastructure required to support new development and redevelopment. Development charges are a means of funding infrastructure that would otherwise be paid for by property tax revenues, government infrastructure grants, or other revenue sources.

An underlying principle in applying a development charge is that “growth pays for growth” within a defined area, and does not impose an undue burden to existing property tax payers. There are several aspects to the cost of growth in this context; costs of initial infrastructure, costs of operating infrastructure and costs of maintaining and eventually replacing infrastructure. In Edmonton, levies pay for a portion of the initial costs of infrastructure. Property tax and grants from other orders of government pay for the rest.

Development charges may be applied to specific geographic areas (e.g., city-wide/local area, greenfield/mature/core) and to specific form of development (e.g., residential, non-residential) and may be collected by a municipality at the time of subdivision or development permit approval to pay for specific infrastructure.

Development charges are calculated as the cost of specific infrastructure divided by:

- units of land (hectares) subdivided,
- the area of a building (square meters) constructed, and/or
- residential units developed.

Because land in different parts of the city has different attributes (e.g., size of a drainage basin, soil conditions, topography, distance from a major sanitary trunk sewer), the cost of providing infrastructure in each area may differ, and therefore different rates set to pay for that infrastructure.

1.2 Land and Building Development Process

The land and building development process provides a means to facilitate growth in the city in an orderly manner, and to assess and assign initial costs of growth.

Intensifying land use requires land to be zoned, subdivided, and serviced, and issuance of development and building permits for buildings and improvements. The figure below depicts the steps to convert raw land into occupied buildings.



To subdivide land a landowner must have a plan of subdivision approved and endorsed by the City and then registered at the Alberta Land Titles Office. Upon registration of the plan of subdivision, lots are created, each with its own title, which can then be subsequently sold and developed with the uses allowed under the zoning.

In most cases the City requires subdivided lands to be properly serviced. Consequently, subdivision approvals require that the owner enter into a Servicing Agreement with the City prior to endorsement. A Servicing Agreement is a contractual agreement that commits the owner/developer to service the subdivided lots with necessary infrastructure such as water lines, sanitary and storm sewers, roads, sidewalks, electrical power, street lighting and landscaping. A Servicing Agreement is also a means by which the City may obtain financial securities (e.g. Letter of Credit) to ensure the subdivision is serviced as per the agreement, and to collect or track various assessments and development charges owing for the subject lots.

To construct a building an owner/applicant must obtain Development and Building Permits and meet the requirements of the Zoning Bylaw and the Building Code. Like a Servicing Agreement, a Development Permit is a means to obtain securities to ensure a development is completed as approved, and to collect assessments and development charges to fund infrastructure needed to support the development.

In the case of subdivision in a greenfield setting, the allocation of costs to provide, operate and maintain infrastructure necessary to support growth is as follows;

- Owners/developers pay for the costs of all initial infrastructure within the boundary of a subdivision, and recover those costs through the sale of lots to builders or end users.
- Benefitting owners/developers share the costs of infrastructure inside and outside the boundary of a subdivision, such as arterial roads and major elements of the sewer system (detailed below), and recover costs through the sale of lots,
- EPCOR pays for all the major elements of the water supply system (transmission mains, reservoirs, treatment plants) outside the boundary of a subdivision with revenue collected through its rate base,
- Utility providers, including EPCOR, pay for the costs to operate and maintain their infrastructure through rate bases,

- The City pays the costs to provide, operate, and maintain other infrastructure, such as fire and police stations, libraries, and recreation facilities, to support a neighbourhood, and
- The City and EPCOR pay the cost to operate and maintain all of the initial infrastructure provided by developers after they have been inspected to meet the City's and EPCOR's standards and are accepted as contributed assets.

Although developers, utility providers and the City collaborate to provide roads, sidewalks, street lighting, and utilities to facilitate new development, infrastructure wholly funded by the City, such as fire stations, must be in place to allow new development to proceed by meeting fire protection response time and insurance requirements. This need for emergency protection services sometimes places constraints on both the business interests of the development industry and the City's capital and operating budgets where grant funding is not available.

1.3 Development Charges Applied in Edmonton

Prior to 2017 the Municipal Government Act (MGA) permitted municipalities to apply off-site levies for:

- water related infrastructure,
- sanitary sewers,
- storm drainage infrastructure,
- roads, and
- land required to accommodate roads, water and sewer infrastructure.

The City currently collects the following assessments and development charges:

- Permanent Area Contributions (PACs)
- Arterial Roadway Assessments (ARAs)
- Expansion Assessment (EA)
- Sanitary Sewer Trunk Charge (SSTC)
- Boundary Assessments

EA and SSTC collectively contribute to the Sanitary Servicing Strategy Fund (SSSF).

Boundary assessments are imposed as a method of cost sharing various types of infrastructure that typically fall within a road right-of-way located between two developments where the infrastructure is built by one developer, and another developer(s) benefits.

1.3.1 Permanent Area Contributions (PACs)

The PAC system was developed and implemented in the early 1970s as a mechanism to fund and cost share major drainage infrastructure, such as trunk sewers, stormwater

management facilities and sanitary pumping stations (collectively referred to as “Major Drainage Infrastructure”). The costs of the various components of Major Drainage Infrastructure are equally shared amongst all owners within a benefiting area. PACs are development charges, similar to off-site levies in function, but are not imposed by bylaw.

A developer who constructs a portion of Major Drainage Infrastructure and incurs costs beyond their proportional share is entitled to recover their “over-expenditure” from subsequent developers. The City facilitates cost sharing by collecting from subsequent developers and reimbursing the initial developer their over-expenditure.

There are approximately 450 established drainage basins in the City, each with its own PAC rate. It is common for PAC basins to overlap, compounding the PAC costs for a development based on all of the Major Drainage Infrastructure from which that development benefits.

1.3.2 Arterial Roadway Assessments (ARAs)

Arterial Roadway Assessments are an off-site levy as provided for under Section 648 of the MGA and are implemented by bylaw (Arterial Roads for Development Bylaw No. 14380). Similar to PACs, ARAs are a mechanism to ensure those who benefit from infrastructure pay their share of the costs of that infrastructure. The estimated costs of arterial roads are divided by the benefitting area (in most cases an ASP) to create an ARA rate. In cases where an arterial road forms the boundary between two ASPs, the cost of the arterial road is split equally between both ASP areas.

Historically arterial roads were primarily funded through the City’s capital budget, except in cases where the first two lanes of an arterial roadway provided access to a new subdivision. In those cases the developer constructed the first two lanes, with no provisions to recover any money from others who might also benefit. When ARAs were first implemented in January 2000, they typically accommodated cost sharing of only the first two lanes; the third and fourth lanes were funded through the City’s capital budget.

In 2007, the ARA system was restructured. The new bylaw included cost sharing for the third and fourth lanes by developers of the benefitting lands. This change shifted costs previously covered by the City’s capital budget to the development industry, with some exceptions.

ARAs are collected at the time of subdivision under provisions of a Servicing Agreement.

1.3.3 Sanitary Servicing Strategy Fund (SSSF)

The Sanitary Servicing Strategy Fund (SSSF) was established in 1999 with a 75 year outlook. The primary purpose of the SSSF is to collect funds to pay for the construction of sanitary trunk sewers to provide “just in time” servicing to newly developing areas, and to reduce the impact of sending sanitary flows from greenfield areas to the existing

downstream areas of the city serviced by the combined sewer system (i.e., sewers that contain both sanitary and storm flows).

SSSF funds are collected through:

- an Expansion Assessment (EA) from land developers through the subdivision process (35 per cent),
- a Sanitary Sewer Trunk Charge (SSTC) from builders through the development permit process (55 per cent); and
- a contribution by the utility (10 per cent).

Over the course of its operation, the utility has contributed more than its share to the SSSF from time to time. However, all utility contributions are expected to come to an end by 2023.

The fund is administered and governed through a committee structure that includes representation from the development industry, EPCOR and the City, pending Council approval in 2020. Committees manage the fund, including strategic decisions about how to fund projects.

The EA applies in new developing areas and is solely based on assessable area. The SSTC is applied throughout the City including in mature areas and for multi-family residential, thereby taking density into account.

1.3.4 Industrial Infrastructure Cost Sharing Program

Edmonton facilitates servicing of most new industrial development through its private development system, which includes cost sharing mechanisms such as ARAs and PACs to spread the costs of major drainage infrastructure and arterial roads among benefiting landowners. However, due to the characteristics of industrial development, recovery of over-expenditure costs can be unpredictable, reducing the feasibility of some projects. It could take years, or even decades, before a front-end developer receives reimbursement for over-expenditures.

In addition, subsequent developers can be significantly burdened by the requirement to pay development levies and over-expenditures that they have not budgeted for, or for future infrastructure from which they may not benefit for many years. The Industrial Infrastructure Cost Sharing Program is a hybrid between development levies and tax increment financing, to help address these issues.

When a front-end developer constructs oversized infrastructure, they are entitled to recover their over-expenditure costs from 50 per cent of the City's new tax revenue that directly results from the construction (tax uplift). This provides predictable cost recovery for the developer. This program encourages land to be developed to its highest possible value, as

higher growth in property assessment and tax revenue will result in faster payback for the developer.

The City will contribute (through tax uplift contributions) towards 25 per cent of the developer's over-expenditure. Any funds that the City contributes to a developer's over-expenditure above 25 percent of the construction cost is recovered by the City through future development levies, which limits the City's risk. Where the City contributes a portion of its new tax revenue toward oversized infrastructure, the development levies for the area can be reduced by 25 per cent due to the City's contribution. This program reduces the financial burden on subsequent developers who must pay the levies back to front-end developers.

1.4 Development Charges Applied in the Edmonton Region

Development charges in the region are applied differently than in Edmonton. For example, many regional municipalities charge off site levies for water, sanitary, and storm drainage infrastructure and roads. Current development charges in Edmonton are in a similar range to those in the City of St. Albert, but are generally higher than the other municipalities in the Edmonton Region.

While other municipalities in the Edmonton Region have an interest in adopting new off-site levy bylaws within their jurisdiction, none have yet implemented any intermunicipal off-site levies or applied the new categories enabled under the MGA.

1.5. Application of Off-Site Levies in other Canadian Jurisdictions

A scan of other Canadian jurisdictions reveals that municipalities apply levies based on their particular operating legislation and their own needs and choices.

The most common infrastructure and facilities funded through off-site levies are water, sanitary, storm drainage and roads, which are included in off-site levy bylaws in cities including Toronto, Vancouver, Surrey, Halifax, Regina, and Calgary. All of these municipalities have off-site levies for a mix of other purposes, including recreation and/or parks, transit, police and fire protection, libraries, child care, housing and solid waste.

Many municipalities in other provinces impose off-site levies as a condition of building permits, which the legislation in Alberta does not authorize.

Different methodologies are used for calculating off-site levy rates:

- Dollars per hectare/acre (e.g. Regina, Halifax, Calgary)
- Dollars per square foot/metre (e.g. Vancouver, Surrey)
- Dollars per residential unit (e.g. most Ontario municipalities)
- Dollars per lot (e.g. rural municipalities in Manitoba)

Given the flexibilities enabled in the City Charter explored below, all of the above options are available for consideration by Edmonton.

2. New Legislation for Off-Site Levies

The October 2017 update to the MGA retained the prior opportunities for off-site levies (noted above), and added the following opportunities for new levies as approved by Council by bylaw:

- new or expanded transportation infrastructure required to connect, or to improve the connection of, municipal roads to provincial highways resulting from a subdivision or development (understood as interchanges)
- new or expanded community recreation facilities
- new or expanded fire hall facilities
- new or expanded police station facilities
- new or expanded libraries

Levies may be collected as a condition of subdivision and/or development permit approval, via a servicing or development agreement. Agreements can be structured for a one-time payment or by installments. Off-site levies may only be collected once for each property for each type of facility or infrastructure.

In establishing intermunicipal off-site levies participating municipalities must agree on the specific infrastructure included in the off-site levy bylaws, the benefitting area, and the methodology for calculating the off-site levy rate. Further, off-site levy bylaws must demonstrate consistency.

2.1 The Off-Site Levies Regulation

The Off-Site Levies Regulation provides general principles and guidelines for:

- allocating benefit
- methodology
- supporting documentation
- stakeholder engagement
- transparency, updating, and reporting
- appeals
- intermunicipal levies.

2.2 City Charter

Notwithstanding changes to the MGA, the City Charter allows City Council to define the infrastructure for which an off-site levy may be imposed. This flexibility provides legislative authority for the City to set up off-site levies for a range of capital infrastructure and/or facilities. Part of the intent in enabling more flexibility is to also create better predictability in

funding. In this context, it is assumed that Edmonton and Calgary will maintain steady growth for the ongoing generation of levy revenue.

The City Charter enhances the City's flexibility in applying levies by exempting Edmonton from most of the requirements of the Off-Site Levies Regulation, except for some specific provisions relating to provincial highway interchanges and intermunicipal levies.

While the City Charter provides flexibility, it specifies a number of requirements. The levy rate as applied to land area, floor area and dwelling units must be proportional to the degree of benefit derived from the infrastructure or facility for which it is being collected. Further, off-site levies can only be collected to pay capital costs of infrastructure and facilities, and cannot include operation and maintenance costs. Capital costs include land and "appurtenances", which are not defined in the MGA, but might be interpreted to include such things as utility servicing for a site, parking lots, furniture, fixtures and equipment.

2.3 Principles for Formulating Development Cost Levies

In exempting the City from the Off-Site Levies Regulation through the Charter provision, Edmonton is not required to establish levies according to a number of principles. However, the use of principles to formulate levies is best practice and is incorporated by other municipalities in their approach to levies. Commonly adopted principles for this purpose include:

- Benefiter pays - the cost of infrastructure is paid by those who benefit from the infrastructure, including those who occupy new and existing development
- Fairness and Equity - while the benefiter should pay, costs should also be distributed fairly and equitably among different users in different contexts
- Economic Efficiency - the cost to build infrastructure funded through levies must consider impacts on housing affordability
- Consistency with Municipal Policy - levies should be aligned with specific aspects of a municipality's policy goals
- Accountable, Transparent and Evidence based - information on levies should be accessible, and a levy bylaw should be straightforward to administer, transparent, understandable, and empirical with regular monitoring and reporting of its performance
- Certainty - the application and use of levies should be stable in terms of rates and therefore predictable to those who pay; infrastructure should be delivered in a timely manner to meet the expectations of those who pay and those who benefit
- Collaborative and Consultative - in support of being fair and equitable, the establishment and operation of levies should be collaborative and consultative between those who pay, benefit and collect.

2.4 Parties Involved in Formulating Development Cost Levies

A municipality's Council, Administration, and stakeholders all have important roles to play in creating a development cost bylaw.

Council should agree with the overall approach to creating a development levy bylaw, weigh in on the principles, approve key policy decisions, and approve the bylaw.

Administration has a number of roles in establishing the bylaw, including to:

- manage the overall approach and process to establish levies, and deliver a draft bylaw,
- conduct research and analysis to inform key technical and policy questions,
- rationalize, negotiate, and recommend key policy decisions and the application of levies, and
- implement the bylaw, monitor its performance, address implementation issues, and report accordingly to City Council.

Stakeholders have a key role in the process through providing input to City Council and Administration on key technical and policy questions, the rates, content of the bylaw, and ongoing implementation of the bylaw. Stakeholders include those directly impacted (e.g., a developer or builder who incurs the cost as part of an approval process), those indirectly impacted (e.g., property tax payers who share the costs of growth), and those that share the benefits of growth related infrastructure. The Municipal Government Act defines stakeholders as *“any person that will be required to pay the levy when the bylaw is passed, or any other person the municipality considers is affected.”* Further, the legislation requires consultation be conducted in *“good faith”*.

3. Considerations for Application of New Off-Site Levies

Creating new development cost charges requires consideration of many interrelated factors, each with policy implications. Factors include alignment of collection with planning objectives, breadth of scope, impact on the market, approach to application, and ease of administration.

Some key considerations in determining an off-site levy are:

- How should levies be applied geographically - city wide or area specific?

The application of a levy is dependent upon the area receiving a benefit provided by the infrastructure. There must be a correlation between the service area of capital infrastructure and the area to which a levy is applied. This correlation depends on the type of capital infrastructure being funded by levies. A police training facility may have a city-wide benefitting area whereas a branch library has a smaller benefitting area.

Levy rates may be set city-wide in a uniform manner, or set based on an area of the city for specific elements of infrastructure. A uniform rate across the city, has an advantage in consistency and predictability for those who pay, and is relatively easy to administer

compared to separate rates for separate infrastructure benefitting smaller areas. A disadvantage of a uniform rate is a less direct correlation between the benefit derived and the infrastructure being funded, particularly for large municipalities.

The City of Calgary and many other municipalities use uniform rates for most types of facilities and infrastructure (but not all) being funded by off-site levies. This approach is supported by the assumption that all of the facilities, or infrastructure of a specific type benefit the entire municipality. However, transparency and equity concerns related to collection and investment of money has been an issue and some cities are now re-examining this approach.

Levies applied on the basis of geographic area will impact the levy rate, and potentially equity, since some growth areas will have higher charges than others. This could influence more growth to occur in an area with lower rates.

- To which types of development should levies be applied and how should rates for different development be set?

A levy might be applied to low density residential development, but not to multi-unit residential to encourage density, or not to new industrial development to promote non-residential assessment. The levy rate might also be different for different forms of development based on their benefit derived from supporting infrastructure. For example, the rate set for libraries for dwelling units in a new high rise residential complex might be relatively higher than the rate set for the floor area of a warehouse in an industrial park because the tower residents are more likely to derive a benefit from a branch library than warehouse employees who use the library near their home, not their workplace.

- What is the scope of the infrastructure for which levies will be collected/applied?

Although the City Charter provides broad powers to create multiple off-site levies for a range of capital infrastructure, the scope and application of levies needs to be considered against the impact on the market. This is detailed further below.

- Should levies be collected for new infrastructure and the rehabilitation or expansion of existing infrastructure?

The City Charter enables this choice. However, because benefit (including certainty of delivery) must be demonstrated for the infrastructure being funded by levies, it may take some time to collect monies in those areas of the city where infrastructure needing rehabilitation or expansion exists, due to much smaller subdivision opportunities and slower rates of growth than in greenfield areas. It may also be a deliberate choice not to collect levies in areas where infill and redevelopment is encouraged.

- What portion of the cost of growth infrastructure should be covered by levies - all of it, or some of it?

Although new capital infrastructure is triggered by the need to support growth, new capital infrastructure often benefits existing development for which no levies were collected. Allocating some of the costs and benefits to existing development in a geographic benefitting area points to the City assuming those costs and benefits. The

portion of costs and benefits between new and existing development will have an impact on the levy rate for developers and builders, and eventual property owners, and the City's contribution on behalf of existing development.

- How should growth infrastructure be financed?

Growth infrastructure is often required before a benefitting area is completely developed and all possible levies are collected. Therefore, off-site levies are a good mechanism for recovering money, but not a good mechanism for front ending capital projects. This means the City must step in and find other sources of funding. If debt financing is considered, then interest costs can be included in off-site levy rates.

Previously, capital infrastructure was often funded by grants from other orders of government. The opportunity to do so still exists; however collection of levies and the principles of transparency around setting the rates lessens the ability to apply grant funds in instances where developer contributions are collected. The application of both grants and levies to funding infrastructure would constitute double dipping.

Where some off-site levies are collected in advance of the need for a facility, they can accumulate in an interest bearing trust account and be used to help front end the construction of the facility. The legislation also allows the levies for each type of facility, or infrastructure to be pooled and then used for construction of those facilities as required. For example, if off-site levies for several different fire stations are being collected, they can be pooled and then used to fund the next required fire station, providing every contributing area eventually receives a fire station. Funds for different types of facilities (for example, fire halls and libraries) cannot be mixed.

- What cost elements of new infrastructure should be included in a levy?

Costs are generally broken down to the following categories: land, design, construction, and furniture, fixtures, and equipment (FF&E). The City has policies and processes that provide direction and influence building construction and facility programming. This includes public art contributions, green building standards, urban design and place making standards, and public input on programming. This leads to the question of what level of service a levy should fund and whether costs are based on the basic infrastructure, or also include enhancements, aesthetics and other city policy.

- How should levies be collected - at the subdivision stage, or at the development permitting stage, or both?

Collecting levies at the subdivision stage is straightforward to administer through a servicing agreement that applies to multiple lots. However, the application of a levy at subdivision cannot account for the floor area or number of dwelling units that may occupy a lot in the future, and this places the burden of the levy solely on the developer.

Collecting levies at the development permit stage is more complex to administer as a separate servicing agreement would be required for each development permit and each lot. This could have resource implications on the City and places the burden of the levy solely on the builder. However, application of a levy at this stage creates more certainty

of the impacts of new development and creates a better opportunity to allocate costs and benefits based on that impact.

Collecting a portion of off-site levies at both the subdivision stage and the development permit stage would split the burden of the costs between developers and builders, rather than putting the burden solely on one group. Another consideration is to collect levies through staged payments timed with a developer's or builder's cash flows.

- Given the complexity of their application, should levies be applied on a staged basis to understand how they operate and make subsequent adjustments?

Adopting an initial basic off-site levy bylaw allows a city to begin collecting monies from active growth areas as soon as possible, but also to monitor performance as a recovery and financing tool, impact on the market, and alignment with principles developed for adoption and operation.

The above questions point to the complexity in applying levies, requiring further exploration, particularly in terms of tying developer contributions to the realization of Edmonton's policy goals. In the medium to long term, understanding the impact of financial contributions on city building must be a priority in order to ensure that policy direction and implementation tools (including levies) move the City toward its desired state.

4. Market Considerations

The application of off-site levies has the potential to influence land development and housing markets within Edmonton and across the metropolitan region. Off-site levies function similar to a tax on housing production by shifting the cost of specific public facilities, historically borne by the broader municipal tax base, onto the land development and/or building construction process. These impacts can influence the supply and demand of residential and non-residential development in Edmonton's greenfield and infill areas, as well as across the regional market.

Two competing theories as to how off-site levies impact greenfield housing in the short run are:

1. Off-site levies on new development flow through to the final market price of newly constructed housing units, negatively impacting affordability for end consumers;
2. Producers of greenfield housing assess that consumers are highly price sensitive and absorb the entire cost of off-site levies, yielding no impact to the final price of their housing product, but negatively impacting the financial performance of their development project.

In the long run, new housing supply is price elastic, and housing developers can respond to cost increases, such as off-site levies, by shifting where and what they produce throughout the Edmonton Region. In the long run, price elastic home buyers can shift their demand for

greenfield housing into neighbouring municipalities, where their price sensitive preferences are better met. Thus, in the long run, the price effects of off-site levies could push housing absorption into neighbouring municipalities.

If off-site levies are applied to infill housing, similar short-run and long-run market impacts can occur, with the added long-run effect of pushing housing development to both Edmonton's and the Region's greenfield.

If off-site levies are applied to non-residential development, there may be similar short- and long-run market impacts. However, given the region's land-intensive composition of commercial and industrial development, off-site levies applied in Edmonton alone could have the long-term effect of non-residential development locating in neighbouring municipalities, impacting growth in the City's non-residential tax base.

In addition to the potential impact of off-site levies, the land development and building industry may be, or will be subject to other cost impacts in the form of:

- the building and energy code
- drywall tariffs
- mortgage rules
- minimum wage
- carbon tax
- inclusionary housing, and
- higher taxes on holding land as it loses its agricultural status in preparation for urban development.

5. Conclusion

A growing city presents great opportunities for a desired urban form and quality of life for its people. Growth also presents challenges to a city's ability to provide the infrastructure, facilities, and services needed to support buildings and people in a timely manner and at a reasonable cost. A city's planned long term sustainability requires management of costs of growth through understanding those costs, understanding how it shares those costs with other orders of government, and how it further shares costs with those that benefit from the infrastructure that a city provides.

Developing a comprehensive, fair, equitable, understandable, and straightforward system of levies to administer can be a complicated process requiring time to collaborate with stakeholders, to review, inform, and answer the questions outlined above. The process must be mindful of the economy, legal framework, and culture of the environment in which the resulting bylaw will operate.

Adopting an off-site levy bylaw is not the end of a process. Rather, the bylaw represents the start of an ongoing program with potential to provide benefits. An effective bylaw requires ongoing monitoring, research, and continuous improvement. The ongoing nature of the work

should provide for a resilient tool that withstands modern uncertainties, such as changing political landscapes, a dynamic world economy, climate change, and other emerging issues.