

Calgary



Library

2024 Off-site Levies

Bylaw Review Whitepaper

September 18, 2023



**CALGARY
PUBLIC
LIBRARY**

Introduction

The purpose of this document is to provide background information on the infrastructure, benefit methodology, and levy rate calculation being used to support the library portion of the 2024 Off-site Levies Bylaw.

The preliminary library levy rate is \$5,832 per hectare. Once approved, this levy rate is anticipated to be updated periodically through bylaw amendments to reflect changes to any inputs, including infrastructure inclusions, cost estimates, land absorption, discount rates and escalation rate.

This paper sets out:

- The library infrastructure needed to support growth.
- The benefit allocation, or degree (expressed as a percentage) to which that infrastructure will benefit different areas, and growth assumptions.
- The levy rate calculation.

Infrastructure

The costs of the following type of library infrastructure are included in the levy:

- **Libraries** are vibrant community hubs that not only provide access to resources and learning that Calgarians are seeking, but also foster connection, belonging and empowerment.

The population-based approach is used to calculate the provision of libraries required to service the population needs. Eight public libraries will be required to meet the needs of future population in greenfield communities with Area Structure Plans (ASPs). This was derived using the following calculations:

- Total greenfield ASP population forecast at full build out is 946,835 people.
- Existing capacity in the Greenfield Area is 533,003 people.
- Additional capacity needed at full buildout is for 413,832 people.
- The service level for the Greenfield Area is targeted to match the service level currently provided in the Established Area (i.e., 0.3 square feet of library space per person).

For more information on the population forecast, refer to Tabs 4, 8 and 9 of the *Libraries Levy Rate Model 2024 Off-site Levies Bylaw*.

It is assumed that infrastructure required to meet the needs of future population in greenfield communities will be built by 2055. The City takes an integrated service delivery approach when planning future facilities. The exact timing of the infrastructure construction and the location of the infrastructure will be refined based on the pace of the population growth. Library projects will review the opportunity for multi-service infrastructure as projects are developed.

Rationale for Infrastructure Inclusion

The library levy methodology includes infrastructure benefiting greenfield growth. The need for the library infrastructure is typically set in the ASPs which guide and direct the specific land use, subdivision and development decisions that collectively determine the form the plan area will take. This includes making decisions on land use, transportation systems, population and jobs, intensity, the sequence of development, and the provision of essential services and infrastructure.

The library infrastructure as described in the ASPs will continue to evolve as policies change or as new studies are completed. Any future infrastructure additions, removals, cost updates or scope changes may be reflected in periodic updates to the Off-site Levies Bylaw, with the levy rate recalculated to reflect the most current information available.

Infrastructure Costs

The library infrastructure cost estimate described in Table 1 of Attachment 1 is based on third-party Class 4¹ estimates developed for future infrastructure in the Greenfield Area. Land acquisition cost estimates are based on internal analysis provided by the Real Estate Development Services (REDS) business unit.

Library infrastructure capital costs include:

- Construction costs (these can include any materials to construct the building and develop the site, labour costs, furniture and equipment, interior fixtures, design and planning, administrative costs, insurance, and other fees).
- Project contingencies and escalation.
- Land acquisition cost.

Estimated costs assume infrastructure is delivered through design-build contracts administered by The City. Library infrastructure is required to be built in alignment with City policies and guidelines.

Infrastructure costs are included in Attachment 1 below.

Growth Assumptions and Allocation of Benefit

All libraries included in the library levy are located in the Greenfield Area and will provide it with similar reliability, quality, and levels of service provided in the Established Area, while maintaining or not affecting the current reliability, quality and level of service in the Established Area. Therefore, no benefit was allocated to the Established Area for this infrastructure.

100 per cent of the benefit is then allocated between levied lands and unlevied lands. This allocation is based on the forecast population in levied lands (where a development agreement has been executed and off-site levies have been paid), and unlevied lands (where no development agreement has been executed and no off-site levies have been paid).

It is assumed that all ASP lands within Calgary's boundary will be developed by 2055 following current growth trends (the model allows for three additional years for levy collections based on the current collection schedule). It includes all lands within Calgary's current boundary and does not assume any expansion or annexation of municipal boundaries during the forecast period. As of the end of 2022, there were 9,359 hectares of unlevied lands, forecast to be 9,069 hectares at the end of 2023 and to be developed by 2055.

The forecast population on the levied and unlevied lands at full buildout is 946,835 people; 529,843 people on the levied land and 416,991 people on the unlevied land.

The benefit allocated to unlevied lands in ASPs is calculated as follows:

$$\text{Benefit \%} = \frac{\text{Sum of forecast population in all unlevied lands in greenfield area}}{\text{Sum of total forecast population in greenfield area}}$$

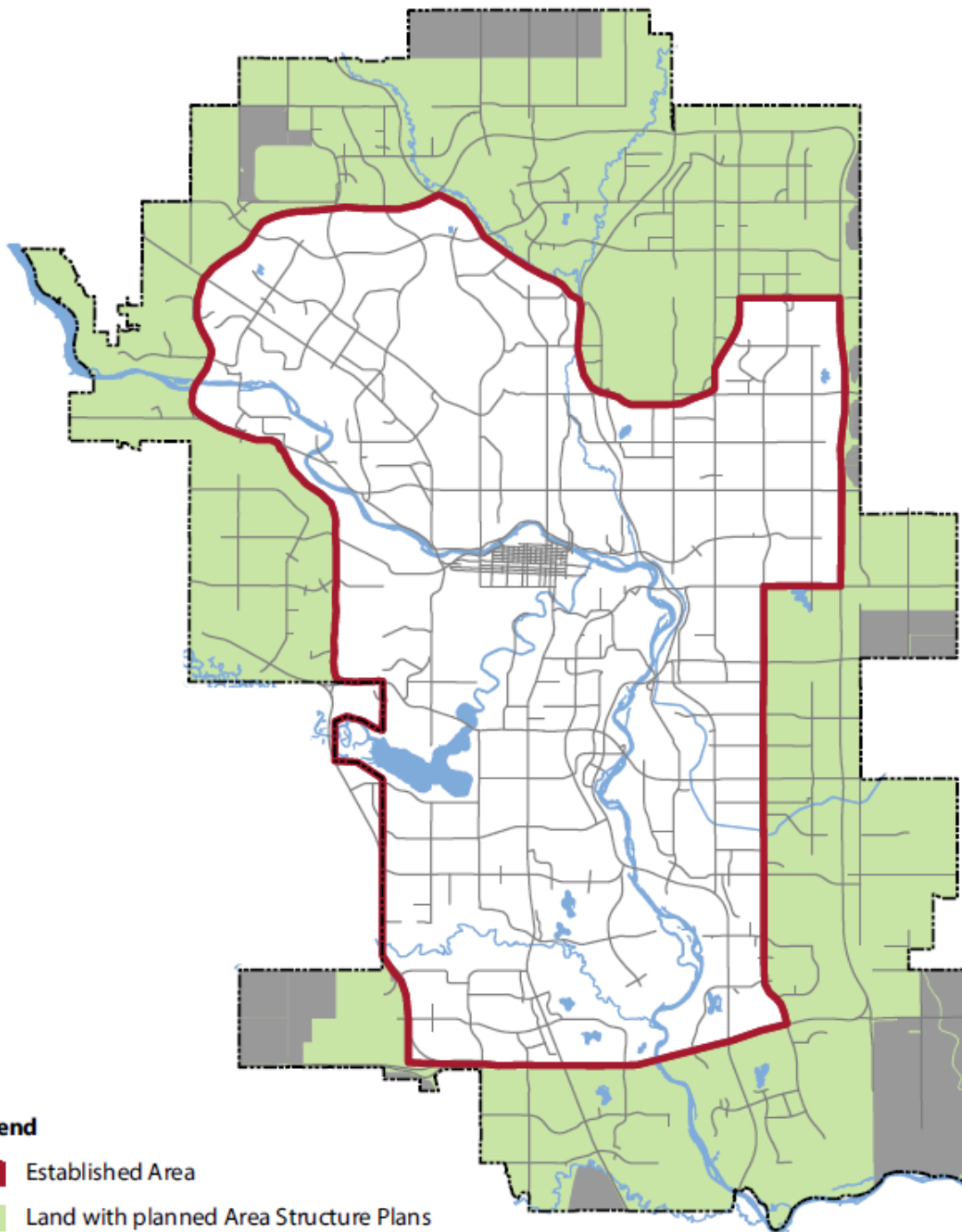
56 per cent of benefit is allocated to levied lands and 44 per cent of benefit is allocated to unlevied lands. The benefit percentage allocated to unlevied lands is then used to calculate the levy rate for the library infrastructure determined in section 2.

It has been assumed that the primary users of the libraries are residents of Calgary, so no regional benefit has been assigned.

The following map illustrates The City's Established Area, and Greenfield Area with and without ASPs.

¹ A Class 4 estimate is considered a feasibility study estimate prepared based on limited information and some engineering work, with an expected accuracy range of -30% to +50% or 60%.

Established Area and Greenfield Area as of December 31, 2022



Legend

-  Established Area
-  Land with planned Area Structure Plans
-  Land without Area Structure Plans

Levy Rate Calculation

The levy rate calculations and supporting data are available in the *Libraries Levy Rate Model 2024 Off-site Levies Bylaw*. The calculation balances levy revenues with levy spending to ensure the levy fund has a balance of zero dollars at the end of the forecast period. This calculation:

- Accounts for the timing of both spending and developer contributions.
- Includes estimated annual income returned from investments made using the off-site levy balance.
- Incorporates a discount rate to reflect the time value of money.
- Incorporates an escalation rate to reflect inflation with respect to the cost of construction.
- Uses Excel's Goal Seek function to generate the levy rate value that, when inserted into the model's calculations, will result in an off-site levy fund balance of zero dollars at the end of the model period. This ensures that levy revenues (developer contributions plus investment income) match levy expenditures when all land has been levied and all expenditures have been completed.

<i>Iterative Annual Calculation</i> <i>applies escalation and discount rates</i>			Final Model Year
Year	y1... y2... y3... etc...		yN
Starting Levy Fund Balance	\$		
Capital Expenditures	Minus \$		
Developer Contributions (levy rate x ha)	Plus \$		
Investment Income	Plus \$		
Ending Levy Fund Balance	= \$		= \$0

Figure 1. Conceptual levy rate calculation

The steps for calculating the levy rate include:

1. Determining the number of hectares of unlevied land (9,069 hectares) and estimating annual land absorption through the model period.
2. Identifying the capital costs for infrastructure that benefits unlevied lands.
3. Determining the benefit allocations that apply to the infrastructure benefiting unlevied lands.
4. Determining the unlevied capital cost, as the sum of capital costs multiplied by benefit allocations.
5. Setting annual spending for each year in the model period. The escalation rate is applied to determine infrastructure costs in future dollars, and the discount rate is applied to determine the amount needed in today's dollars.
6. Using Excel's Goal Seek function to calculate the library off-site levy rate. This is the final input to the calculation that allows for the determination of revenues needed to offset project expenditures and result in a levy fund balance of zero dollars at the end of the model period:
 - a. The levy rate is multiplied by the annual land absorption to determine developer contributions.
 - b. The discount factor, or investment rate of return, is applied to each year's closing levy fund balance to estimate annual investment revenue.

The escalation factor used for levy rate calculation (3.58%) is a five-year smoothed average, determined using Non-Residential Building Construction Price Index (CPI) for Calgary. The discount rate of 4.29% is based on the asset mix of investments held in The City's capital deposits, and the Long-term Capital Market assumptions that The City uses in projecting returns from investment portfolios.

The levy will be updated periodically using a historic five-year smoothed average of the Non-Residential Building Construction Price

Index for Calgary and through future bylaw amendments to reflect changes to any inputs, including infrastructure inclusions, cost estimates, land absorption, discount rates and escalation rates, policy amendments, and findings/needs research analysis to address service provision gaps.

Attachment 1: Levy Infrastructure

Table 1. Cost estimate for a library²

Category	Value
Facility size (sq. ft.) [A]	15,519
Project cost (\$/sq. ft.) [B]	826
Project cost per facility (\$) [A] x [B] = [C]	12,818,450
Land required for each project (acre) [D]	1.55 (10,000 sq. ft. require 1 acre of land)
Land acquisition cost (\$/acre) [E]	1,200,000
Land cost per project (\$) [D] x [E] = [F]	1,862,245
Total cost (\$) [C] + [F]	14,680,695

² Numbers might not add up due to rounding.

