URBAN SYSTEMS MEMORANDUM

DATE: January 24, 2025
TO: Ross Soward, Manager of Housing, City of Victoria
Malcolm MacLean, Senior Planner, City of Victoria
CC: Lauren Klose, Manager of Community Planning, City of Victoria
FROM: Justin Barer, and Oscar Chan, Urban Systems Ltd
FILE: 1328.0099.02
SUBJECT: **Density Bonus Financial Analyses for City of Victoria**

1.0 INTRODUCTION

Urban Systems' land economics group was retained by the City of Victoria to conduct density bonus financial analysis to evaluate appropriate levels of density bonusing based on the previous pro forma financial work prepared for the technical analysis for the Official Community Plan (OCP) update in 2023. The analysis was undertaken in response to recent provincial legislative changes, causing the City to re-evaluate options for achieving various development policy outcomes. Analysis specific to density bonusing was undertaken in two parts:

1. Case studies – 5 sites across the City were selected and subject to pro forma financial testing. In each case, the pro forma calculated the 'lift' in land value created by additional density, and translated this to a density bonus amount per incremental square foot based on an assumed 75% capture of the land lift.
2. Land residuals for City-wide capacity model – a supplementary exercise was undertaken whereby per-square-foot land residual calculations were conducted for a broader array of case study sites. Those land residuals – calculated with the inclusion of a proposed density bonus rate in the Residential Urban Fabric – were then provided back to the City, and run through the City's Residential Capacity model to test the overall impact on development viability.

1.1 DISCLAIMER

This document contains estimates of the financial performance of possible future urban development projects, opinions regarding likelihood of approval of development projects, and recommendations regarding development strategy or municipal policy. All such estimates, opinions, and recommendations are based in part on assumptions regarding economic growth, policy, market conditions, development costs and other variables. The assumptions, estimates, and opinions are based on interpreting trends, gauging current conditions, and making judgements about the future. As with all judgements concerning future trends and events, there is significant uncertainty and risk that conditions change or unanticipated changes occur such that actual events turn out differently than anticipated in this document.

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2.0 APPROACH TO ANALYSIS

Two sets of analyses were undertaken, as noted in the introduction above. The first involved calculation of land lift on 5 case study sites, to determine the financial capacity of those projects to 'carry' a density bonus payment. The second involved calculation of land residuals – inclusive of a proposed density bonus rate – and using those land residuals in the City's residential capacity model to determine overall impact on development viability.

2.1 LAND LIFT ANALYSIS

Under the land lift approach, case studies were run whereby a residual land value was calculated at different density tiers, and the lift in that residual land value from tier to tier was calculated. That lift was then translated to a viable density bonus rate.

The land value supported by a development under existing or additional density is determined by the residual land value calculation, where residual land value is defined as:

Residual Land Value = Revenue
– Hard Cost
– Soft Cost
– Financing Cost
– Required Profit (Typically % of total cost)

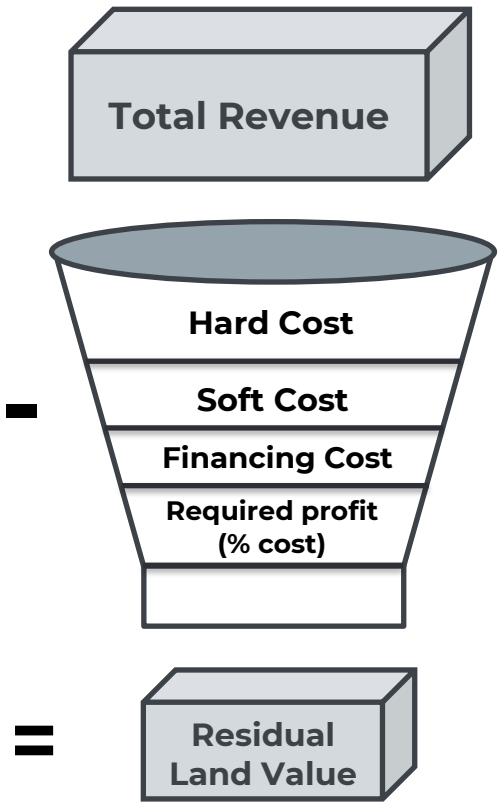
The base land value under the existing density is defined as the higher of the following:

(i) "As-is" land value (per assessment)

(ii) Land value supported by the development under base density

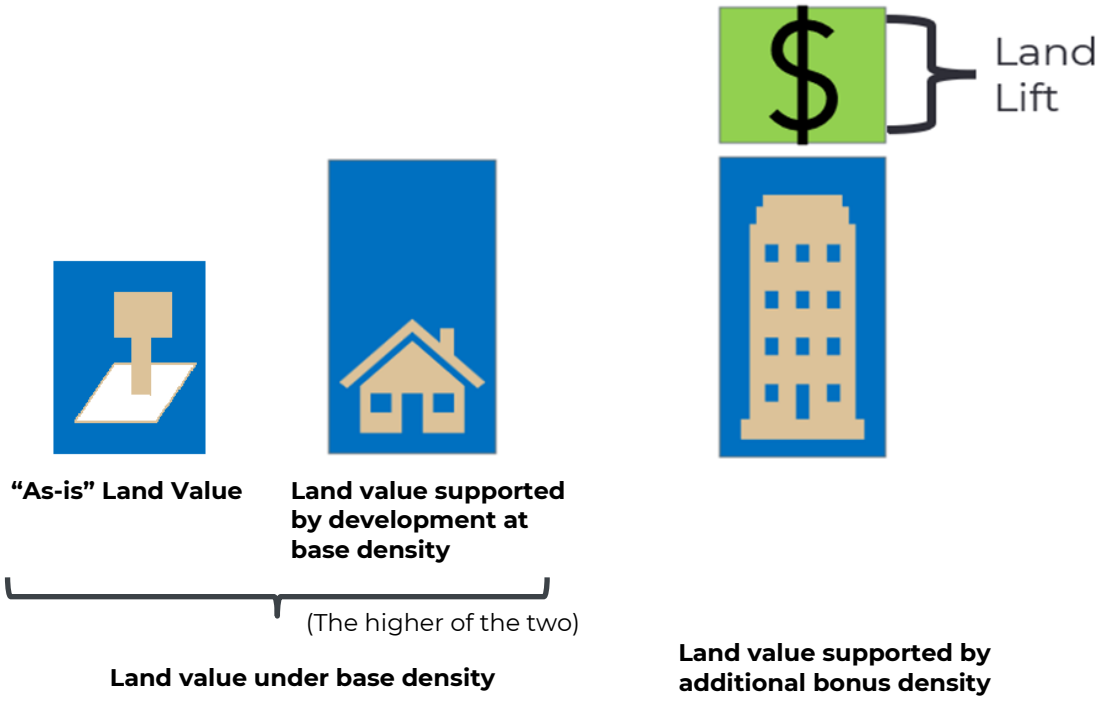
Land lift is calculated as the difference between the land value supported under development of additional bonus density and the base land value under the base density, as illustrated in Figure 2 below.

Figure 1 Illustration of Residual Land Value Calculation



(i.e. Max. value a developer is willing pay for the land to carry on development)

Figure 2 Illustration of Land Lift Analysis Approach



The density bonus rate is calculated at 75% capture rate of the land lift, and divided by the incremental gross floor area (GFA) from additional density bonus relative to the base density level.

$$Density\ bonusing\ rate = \frac{Land\ lift\ \times Targeted\ capture\ (75\%)}{Incremental\ Gross\ Floor\ Area\ (GFA)}$$

2.1.1 Overview of Case study sites and scenarios

Five (5) case study sites were selected by the City, as sites broadly representative of development opportunity sites across the City's Residential Urban Fabric. Case study sites are shown in Figure 3 below.

Figure 3 Spatial Distribution of Case Study Sites

Table 1 provides details on the nature of each case study site in terms of assumed market value 'tier', site area, extent of built space on each site currently, and most recent BC Assessment value.

Table 1 Case Study Test Site Parameters

Site Address	Value Tier	Site Area (sq. ft.)	Existing structure (sq. ft.)	Land Values per BC Assessment
1430-34 Brooke St.	High	21,538	3,300	$4,874,400
1469-1481 Hillside, Myrtle 1450-1476	Medium	47,466	8,000	$7,774,200
1505-15 Bywood Pl	High	16,699	3,359	$3,354,000
1539-1629 Davie	Medium	24,334	5,300	$4,987,200
1160-68 Oxford, 309 Chester	High	18,505	5,285	$4,884,000

Financial analysis for each case study site was prepared assuming a wood frame strata-tenured project is built. with a base density under a floor space ratio (FSR) of 1.6, and bonus densities at FSRs of 2.5 and 2.75.

Table 2 Density Tiers

Base Density	Bonus Density	
	Bonus Density 1	Bonus Density 2
1.6	**2.5**	**2.75**

2.2 RESIDUAL LAND VALUE ANALYSIS UNDER CAPACITY MODEL TESTING

Supplementary analysis was undertaken to further test the impact on development capacity of different tiers of density bonusing. Given the City's unique capacity for parcel-level development capacity modelling, whereby land value residuals can be used as model inputs to identify – at scale – the broad-based impacts on unit delivery of changes to development pro forma cost or revenue elements, Urban Systems prepared supplementary analysis to test the impact on case study land residuals under updated density bonus parameters. Those updated land residuals were prepared and sent to the City, for input into the residential capacity model. The City then reported back results, versus the baseline conditions.

Analysis was prepared as follows:

- Testing sites with $0/sf density bonus rate
- Testing sites with $10/sf density bonus rate

Each was tested under the following designations:

- Urban residential, with $10 per incremental square foot above 1.6 FSR
- Large Urban Village, with $10 per incremental square foot above 1.5 FSR
- Small Urban Village, with $10 per incremental square foot above 1.2 FSR

The residual land value per square foot buildable (PSFB) was then used by the City in the residential capacity model.

3.0 KEY ASSUMPTIONS

This section outlines the key assumptions used across all the case study sites and scenarios.

3.1 REVENUE ASSUMPTIONS

Table 3 below outlines revenue assumptions, across three market value areas, under current market conditions.

Table 3: Revenue Assumptions (Condo) by Value Area, Typology

	High Value Area	Medium Value Area	Low Value Area
Wood Frame strata apartment	$1,000 / sq.ft.	$970/ sq.ft.	$940 / sq.ft.

3.2 COST ASSUMPTIONS

Table 4 below outlines cost assumptions under current market conditions.

Table 4: Cost Assumptions – Current Market Conditions

Variable	Cost Assumptions – Wood Frame Apartment	Sources
Building efficiency factor	82% wood	Per developer interviews
Demolition costs	$20 / sq.ft. of existing structure	USL estimate
On-site servicing	$4,000 per linear metre of frontage ($5,710 per linear metre for arterials)	City of Victoria
Off-site costs	Varies by case study site	City of Victoria
Development permit fees	Per City schedule	City of Victoria
Hard Costs (above grade, below grade, landscaping, demolition, site works, servicing, contingency)	Wood frame: $396-$417 / sq.ft. • Underground parking, with parking ratio of 0.4 per unit • Includes Power Transformation Costs for $250,000 • Includes Engineer Connection Fees of $15,000	Developer interviews Interview with structural engineer
Soft costs related to rezoning	$100,000-$200,000	USL estimate
Development management, professional fees and other soft costs (engineering, design, legal, survey, appraisal, accounting, warranties, insurance, permits, other	~17-19% of hard costs	USL estimate w/development industry input

professional fees + contingency)		
Tenant Assistance Plan	Varies by case study site, ranging from $7,000 to $30,000	
Development Cost Charge(s) (DCCs)	• Municipal DCCs: $10,207.18 / apartment unit • Regional District DCCs[1]: $5,087 / apartment unit	Per City of Victoria policies and Capital Regional District (CRD) proposal
Amenity Contribution Charges (ACCs)	$1,394.4 / apartment unit	City of Victoria
Property tax	Per City Schedule. Applicable for time throughout development process from land holding to construction completion.	City of Victoria
Financing (75% on construction 50% on land)	• **Land loan:** 6.0% per year, • **Construction loan:** 5.5% per year**,** • **Plus** financing fee at 1% of financed construction cost	Developer interviews
Property transfer taxes	Based on existing site value and tax rate	
Sales commissions (strata residential)	3% of gross residential sales revenue	Broker interview
Marketing on strata residential	2.5% of gross residential sales revenue	USL research
Land Costs	Varies by case study site, ranging from $3.35M to $7.78M Assumed closing costs of 0.25%	

4.0 FINANCIAL ANALYSIS RESULTS

This section summarizes the results for the financial testing under the land lift analysis on five selected case study sites and the residual analysis under capacity modelling.

4.1 LAND LIFT ANALYSIS FOR SELECTED CASE SITES

For each test site, the land residual under the base density of floor space ratio (FSR) 1.6 (i.e. land value that could be supported) is calculated and compared against the 'as-is' land value to establish the base land value. Then, the land lift based on the difference between the land value supported under two tiers of bonus density (at FSR

[1] Based on Capital Regional District (CRD) proposed Regional Water Supply Development Cost Charge Program

2.5 and 2.75) and the base land value is calculated, and then used to derive the density bonusing rate at an assumption of 75% capture rate of the land lift

Table 5 Summary of Financial Analysis for 1430-34 Brooke St.

Concept	FSR 1.6 (Base Density)	FSR 2.5	FSR 2.75
Area Value Tier		High	
Gross Site Area (sq. ft.)		21,538	
Gross Floor Area (sq. ft.)	34,461	53,845	59,230
Net Floor Area (sq. ft.)	28,258	44,153	48,568
Unit Count	44	68	75
Residual Land Value and Land Lift Analysis			
Residual Land Value	$3,922,467	$7,487,581	$8,477,183
'As-is' Land Value	$4,874,400	$4,874,400	$4,874,400
Base Land Value at Base Density	'As-is' Land Value	'As-is' Land Value	'As-is' Land Value
Land Lift Under Bonus Density		$2,613,181	$3,602,783
Land Lift Under Bonus Density, per Incremental Square Foot (sq. ft.) of Gross Floor Area (GFA)		$134.8	$145.5
Density Bonus per Incremental Square Foot (Assume 75% Capture of Land Lift)		$101.1	$109.1

Table 6 Summary of Financial Analysis for 1469-1481 Hillside, Myrtle 1450-1476

Concept	FSR 1.6 (Base Density)	FSR 2.5	FSR 2.75
Area Value Tier		Medium	
Gross Site Area (sq. ft.)		47,466	
Gross Floor Area (sq. ft.)	75,946	118,665	130,532
Net Floor Area (sq. ft.)	62,275	97,305	107,036
Unit Count	97	151	166
Residual Land Value and Land Lift Analysis			
Residual Land Value	$8,295,264	$15,172,289	$17,080,485
'As-is' Land Value	$7,774,200	$7,774,200	$7,774,200
Base Land Value at Base Density	Residual Land Value at Base Density	Residual Land Value at Base Density	Residual Land Value at Base Density
Land Lift Under Bonus Density		$6,877,025	$8,785,221
Land Lift Under Bonus Density, per Incremental Square Foot (sq. ft.) of Gross Floor Area (GFA)		$161.0	$160.9
Density Bonus per Incremental Square Foot (Assume 75% Capture of Land Lift)		$120.7	$120.7

Table 7 Summary of Financial Analysis for 1505-15 Bywood Pl

Concept	FSR 1.6 (Base Density)	FSR 2.5	FSR 2.75
Area Value Tier		High	
Gross Site Area (sq. ft.)		16,699	
Gross Floor Area (sq. ft.)	26,718	41,748	45,922
Net Floor Area (sq. ft.)	21,909	34,233	37,656
Unit Count	34	53	58
Residual Land Value and Land Lift Analysis			
Residual Land Value	$2,943,079	$5,705,717	$6,472,983
'As-is' Land Value	$3,354,000	$3,354,000	$3,354,000
Base Land Value at Base Density	Residual Land Value at Base Density	Residual Land Value at Base Density	Residual Land Value at Base Density
Land Lift Under Bonus Density		$2,351,717	$3,118,983
Land Lift Under Bonus Density, per Incremental Square Foot (sq. ft.) of Gross Floor Area (GFA)		$156.5	$162.4
Density Bonus per Incremental Square Foot (Assume 75% Capture of Land Lift)		$117.4	$121.8

Table 8 Summary of Financial Analysis for 1539-1629 Davie

Concept	FSR 1.6 (Base Density)	FSR 2.5	FSR 2.75
Area Value Tier		Medium	
Gross Site Area (sq. ft.)		24,334	
Gross Floor Area (sq. ft.)	38,934	60,835	66,919
Net Floor Area (sq. ft.)	31,926	49,885	54,873
Unit Count	50	77	85
Residual Land Value and Land Lift Analysis			
Residual Land Value	$3,749,114	$7,276,344	$8,255,776
'As-is' Land Value	$4,987,200	$4,987,200	$4,987,200
Base Land Value at Base Density	'As-is' Land Value	'As-is' Land Value	'As-is' Land Value
Land Lift Under Bonus Density		$2,289,144	$3,268,576
Land Lift Under Bonus Density, per Incremental Square Foot (sq. ft.) of Gross Floor Area (GFA)		$104.5	$116.8
Density Bonus per Incremental Square Foot (Assume 75% Capture of Land Lift)		$78.4	$87.6

Table 9 Summary of Financial Analysis for 1160-68 Oxford, 309 Chester

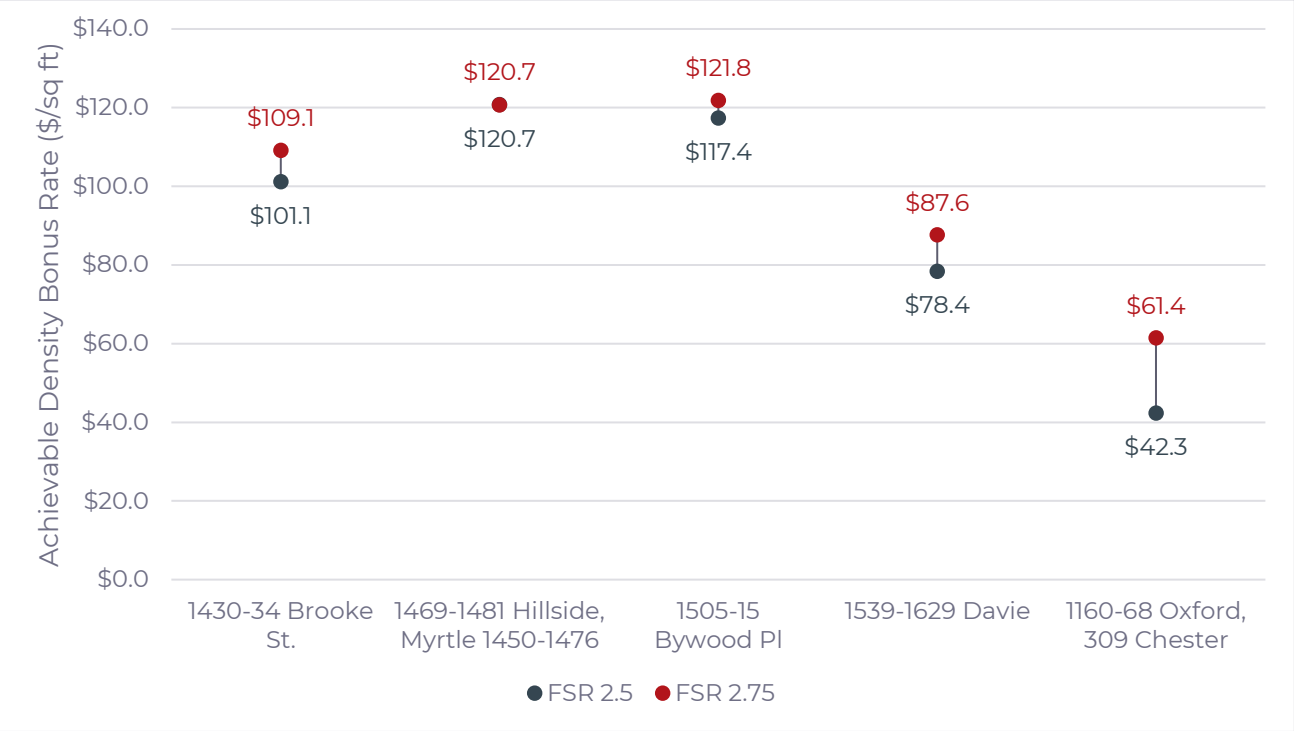
Concept	FSR 1.6 (Base Density)	FSR 2.5	FSR 2.75
Area Value Tier		High	
Gross Site Area (sq. ft.)		18,505	
Gross Floor Area (sq. ft.)	27,758	46,263	50,889
Net Floor Area (sq. ft.)	22,761	37,935	41,729
Unit Count	35	59	65
Residual Land Value and Land Lift Analysis			
Residual Land Value	$2,521,822	$5,928,867	$6,779,112
'As-is' Land Value	$4,884,000	$4,884,000	$4,884,000
Base Land Value at Base Density	Base Land Value	Base Land Value	Base Land Value
Land Lift Under Bonus Density		$1,044,867	$1,895,112
Land Lift Under Bonus Density, per Incremental Square Foot (sq. ft.) of Gross Floor Area (GFA)		$56.5	$81.9
Density Bonus per Incremental Square Foot (Assume 75% Capture of Land Lift)		$42.3	$61.4

In summary,

- Under FSR 2.5,
    - Potential achievable land lifts range from $56.5 to $161.0 per incremental square foot (sq. ft.) of Gross Floor Area (GFA).
    - Potential achievable density bonus rates per incremental square foot across test sites range from $42.3 to $120.7.
- Under FSR 2.75,
    - Potential achievable land lifts range from $81.9 to $162.4 per incremental square foot (sq. ft.) of Gross Floor Area (GFA).
    - Potential achievable density bonus rates per incremental square foot across test sites range from $61.4 to $121.8.

Figure 4 summarises the ranges of potential achievable density bonus rates on a dollar per incremental square foot (sq. ft.) basis across case study sites.

Figure 4 Potential Achievable Density Bonus Rates ($/sq ft) across Case Study Sites



Overall, there is a considerable variation in land lift (and thus achievable density bonus rates) across case study sites. This is mainly due to a combination of variation in the land price on a per square foot basis and the difference in lot sizes across case study sites. To conduct a more comprehensive evaluation, the residual land value analysis is conducted to evaluate the impact of imposition of density bonus rates on development under capacity modelling.

It should be noted that the selected case study sites represent sites under medium or high value tiers based on standard soil / seismic conditions that reflects relatively high potential development viability. However, this does not necessarily illustrate the variation of development potentials for sites with marginal development viability due to less favourable development conditions, such as sites located in areas under relatively low value tier with lower revenue potentials, or sites with challenging soil / seismic conditions (i.e. higher amplification and liquefaction risk) that results in higher development cost. The development viability for these sites with marginal potential development viability would be subject to even modest density bonus rates. Thus, it is advisable to maintain modest density bonus rates to account for sites with marginal development viability and lower potential room for density bonus contributions across the City.

4.2 RESIDUAL LAND VALUE ANALYSIS UNDER CAPACITY MODEL TESTING

Using the City-wide residential capacity and development model, the difference in projected City-wide buildout between (1) no density bonusing and (2) with proposed density bonus rates of $10 per incremental square foot, is negligible (<0.5% difference per City model results).

5.0 KEY CURRENT AND FUTURE FACTORS ON DEVELOPMENT FEASIBILITY

The financial analysis presented in this report is based on the most recent market inputs and market knowledge. However, there are other current and future factors that could significantly impact development feasibility of individual sites, where the key factors are listed as follows.

- In general, the value and revenue generated from development are greatly influenced by locations of development, including desirability of the neighbourhood, proximity to amenities and transit services.
- Strata ownership residential development generally generates higher revenue than rental unit development, thus having higher development feasibility.
- The process of land assembly for development could involve complex and time-consuming negotiation process, and high expenses on legal fees, due diligence, resulting in inflated land acquisition prices and hinders development feasibility.
- The BC Building Code updates in the upcoming years with more stringent seismic code requirements has introduced uncertainty in development cost implications. The adjustment in building design and strength to accommodate the Building Code updates could potentially result in a significant increase in construction and development costs. This would lead to challenges to development, especially for sites with marginal potential viability, and the sensitivity of development viability of these sites on development costs should carefully considered for realizing housing capacity.
- As interest rate has shifted towards a declining trend and is expected to decrease further in the near future, the cost for land and construction loan is expected to decrease, which improves development feasibility.
- Provincial-wide shortage of construction labour hinders the capacity for construction and development. Labour availability will remain a barrier to sustaining elevated levels of construction activity in Victoria.
- The provision of financial incentive programs and fundings by more senior government entities, such as Canada Mortgage and Housing Corporation (CMHC), could improve the favourability for rental housing development by helping developers acquire capital needed via fundings or financial programs at more favourable financing and borrow terms for rental and affordable units. Examples include CMHC's Seed Funding, Apartment Construction Loan Program (formerly Rental Construction Financing Initiative), BC Housing's Community Housing Fund.

Sincerely,

URBAN SYSTEMS LTD.

Justin Barer, MPL, RPP, MCIP, PLE
Land Economics Lead

Oscar Chan, MA
Land Economics Research and Data Analyst