MEMO

DATE:	June 13, 2025
PROJECT NO:	04-23-0285
PROJECT:	**Metro Vancouver Private Off-Street Parking Study**
SUBJECT:	**Off-Street Parking Overview – V4**
TO:	Mark Seinen – Senior Planner Metro Vancouver
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1. INTRODUCTION

Metro Vancouver (MV) has engaged Bunt & Associates Engineering Ltd (Bunt) to provide transportation consultancy services with a focus on private off-street parking as part of the upcoming Regional Parking Strategy. In conjunction, Bunt collaborated with Liveable City Planning Ltd (LCP) to study development parking cost and the correlation between parking cost and housing affordability.

This memo summarizes the current off-street parking bylaws, utilization, and costs. It also includes a summary of interviews with developers regarding parking developments.

The timing of this study and its data analysis were completed before the announcement of Bill 47, which mandates the elimination of minimum parking requirements for developments in municipalities in Transit Oriented Areas within Metro Vancouver. Nonetheless, understanding the implications and effects of these changes on parking supply and usage remains crucial.

1.1 Memorandum Organization:

This memorandum provides a summary of the study, covering the following key topics and organized into the sections listed below:

- **Section 2: Key Findings**
- **Section 3: Background Review**
  - 2018 Regional Parking Study
  - The New Zealand Auckland Parking Strategy
- **Section 4: Parking Generation Manuals**
- **Section 5: Current Parking Bylaws**
  - Summary of current Bylaw parking rates
  - Comparison to parking rates from 2018 study
  - Transportation Demand Management
  - Constraints & Opportunities
- **Section 6: Parking Utilization**
- **Section 7: Parking Economics**
- **Section 8: Developer Interviews**

2. KEY FINDINGS

Key findings focusing on updated parking utilization, parking cost, and developer interview are presented below:

2.1.1 Parking Utilization Analysis

Parking utilization in this analysis is measured using an advanced methodology that compares the number of stalls occupied per occupied unit to the number of stalls provided per unit. This approach offers a more accurate view of demand by accounting for differences in unit occupancy and parking supply.

For example, a ratio of 0.5 means that, on average, residents are using only half of the parking provided per unit, indicating an opportunity to right-size the parking supply based on actual demand.

This ratio is intended for planning purposes and reflects parking use relative to occupied units, rather than total lot occupancy, since empty stalls may simply result from vacant units rather than low parking demand.

The analysis shows that:

- Parking is generally underutilized across the studied areas.. Parking utilization ranges from 0.60 in Delta to 0.78 in Langley Township and Port Coquitlam. This suggests there may be opportunities to right-size parking supply, especially in areas with lower demand.
- Parking utilization decreases near frequent or rapid transit compared to away from the frequent transit network. Frequent transit access effectively reduces parking demand, reinforcing the value of transit-oriented development (TOD) and the potential to lower parking requirements near transit corridors.
- There is higher percent of parking surplus in strata only buildings compared to Market Rental units. This suggests that strata buildings may be supplied with more parking than is typically needed, resulting in lower utilization. In contrast, market rental buildings tend to have parking supply more closely aligned with resident demand, leading to higher utilization rates.

2.1.2 Parking Economics Analysis

Bunt has partnered with LCP to examine the economics of parking from the developer's perspective, focusing on meeting government requirements and market demand. Financial models were developed to understand how changes in parking supply impact housing affordability for buyers. The key takeaways include:

- Parking is more expensive than most people realize. For apartment purchasers or renters, the true cost of a parking stall typically ends up being 1.5 to 1.6 times the initial hard construction cost. When all associated costs are factored in, the price of a single parking stall in the building modelled in this report ranges from approximately $117,400 to $137,000.

- Parking is a cost centre. In order to sell condos or to rent new apartments, developers must satisfy the minimum market demand for parking in a particular location as well as the minimum parking supply required by the municipality. Developers are always motivated to right size parking supply to the particular target market for their project.

- Developers will always supply parking at the minimum levels that they think the market will demand. The greater impact of high parking requirements is that they hinder high intensity development options by reducing what a developer can afford to pay for land. In many cases, parking drives the development of decisions.

- High parking requirements significantly impact project economics. They increase overall costs, not only in terms of higher construction expenses but also due to added costs in design, insurance, and other factors. These elevated costs can lower the price developers are able to pay for land, sometimes to the extent that landowners are unwilling to sell. Additionally, in order to meet the minimum profitability thresholds required by banks and investors, typically 15% to 20% return on costs for condominiums and a 6% return on equity for purpose-built rental projects, developers may need to raise condo prices or rental rates, which can degrade overall project viability.

- Low parking requirements reduce total project costs, both in terms of absolute hard costs and in associated 'multiples' like design and insurance. These lower costs allow developers to pay more for land, potentially making deals feasible where they otherwise wouldn't be. In turn, the lower cost structure can reduce the sale prices of condominiums or rental rates while still allowing developers to achieve their required profitability thresholds, ultimately improving the viability of development projects.

- Increasing parking requirements can have significant cost implications for buyers. Based on an economic analysis of a mixed-use development in Vancouver, adding one parking stall per unit could require a household to earn an additional $31,000 to $36,000 annually to qualify for a mortgage. This added financial burden can substantially affect housing affordability, potentially putting homeownership out of reach for many prospective buyers.

2.1.3 Developer Interviews

Bunt conducted interviews with five local developers, including one non-profit provider, to explore challenges and opportunities related to parking in development projects. The key takeaways from these conversations include:

- Developers identified two key factors influencing the determination of the number of vehicle parking spaces in a development project: product type and proximity to transit specifically for SkyTrain stations. Generally, there is lower parking demand in rental units compared to strata units. Additionally, parking supply tends to be lower when the site is close to a SkyTrain station; However, this is not always the case given market demand.

- Regarding Bill 44 and Bill 47, relaxing or removing parking minimums provides developers with more freedom, but the actual parking supply depends on market demand.

- Parking is generally not considered a profit centre, as parking stalls are not directly used for profit. Developers aim to provide just enough parking to meet market or end-user demand. If parking supply falls short of what purchasers expect, it can impair the perceived value of a project and potentially jeopardize its viability. For example, luxury buildings targeted at higher-income buyers, who are more likely to own one or more vehicles, must typically include at least one stall per unit to remain competitive in that sub-market.

- There is no guarantee that homebuilders would pass on savings if parking requirements were reduced. The cost of the unit is typically not reduced, as the product is priced to the market, dependent on location and proximity to transit.

- Some developers noted cases where there is a surplus of parking spaces led to the need for discounted sales.

- For non-profit developers (BC-housing):
    - BC Housing focuses on reducing end-user costs. The lack of parking is seen as a driver of affordability, aiming for less expensive housing.
    - BC Housing typically targets a 1-storey parkade rather than focusing on parking demand. The number of parking stalls is determined by physical site conditions, acting as a barrier to providing more spaces. The goal is also to reduce the physical construction footprint.

3. BACKGROUND REVIEW

3.1 2018 Regional Parking Study

The previous regional parking study, the *2018 Regional Parking Study,* was completed in 2018, conducted by TransLink and Metro Vancouver, which included the data collection and review of 70 off-street parking sites. This is supplemented in this current review with and additional 130 sites, collected from municipal surveys (see Section 3.5). The key findings from the 2018 study are outlined below.

1. Parking supply considerably exceeds demand (Percentage of Supply over Demand in Strata: 42%, Market Rental: 35%, and Mixed Rental: 41%).
2. Parking supply appears to be decreasing for newer strata and market rental apartment buildings.
3. Zero-bedroom units (less than 600 sq.ft.) have the largest surplus of parking.
4. Parking supply is lower in buildings closer to frequent transit.
5. Parking utilization is lower near frequent transit compared to further away:
    a. For Strata, 0.86-0.97 vehicles per unit near frequent transit compared to 0.99 for developments further away; and
    b. For Market rental, 0.35-0.72 vehicles per unit near frequent transit compared to 0.99 for developments further away.
6. There is a correlation between high transit demand and low parking utilization. This is stronger for rental apartment sites.

3.2 Auckland Regional Parking Strategy

Auckland is dealing with many similar parking issues as Metro Vancouver and Auckland's parking strategy and approach is viewed as a potential model for the Regional Parking Strategy.

Auckland Transport released their parking strategy, the *Tāmaki Makaurau Auckland's Parking Strategy* in May 2023, based on significant changes to central and local government policies and to respond and guide the growth of Auckland. Auckland's parking strategy key policy changes were focused on:

- Increasing land use intensification and reducing urban sprawl;
- Encouraging transport by modes other than private vehicles;
- Requirements to tackle climate change (reduce GHG's);
- Increasing safety in the transport system; and
- Providing better connections for people, places, goods, and services.

The National Policy Statement directed Auckland Council to remove the requirement for car parking to be provided as part of new developments. As a result, Auckland Transport has recognized that there is potential for overspill of car parking from developments into streets.

3.2.1 Tiered System

The parking strategy groups Auckland into parking tiers. Each tier indicates the readiness for a change to the on-street parking environment. **Table 3.2** outlines the locations of the different tiers and the type of implementation strategy for each tier.

Table 3.2: Auckland Parking Management Tiers

TIER	READINESS FOR CHANGE	EXAMPLES OF LOCATION	IMPLEMENTATION
3	High	City centre, metro centre (within 45 min public transport from city centre) + Rapid transit station	Proactive parking management prioritizing and encouraging most travel to be undertaken by modes other than the car.
2	Moderate	Town centre, mixed use, terrace housing and apartment building, stadium, hospital, tertiary education + Multiple frequent transit network routes	Encouraging a shift to sustainable modes for commuting while still supporting short-stay parking.
1	Low	Mixed housing urban and below + Multiple connector or 1 frequent transit network route or less	Manage parking responsively (i.e. respond to issues as they arise)

The tiered parking system also indicates to developers that they cannot pass on the costs of parking to taxpayers with the overspill of vehicle parking into streets. Additionally, people looking to rent or buy property will need to consider their parking needs as the tiered system will mean they will not necessarily be able to rely on overnight on-street parking.

4. PARKING GENERATION MANUALS

In estimating parking generated from new development, the manual that is commonly used in North America is the Institute of Transportation Engineers (ITE) Parking Generation Manual which is often used along side Urban Land Institute's Shared Parking Manual. This section provides a brief description for each manual.

4.1 ITE Parking General Manual

The ITE Parking Generation Manual (5th Edition) sets out data from several surveys set out across North America (Canada and USA). This online database provides a parking rate suggestion based on several filtering systems, such as site setting, time periods, size of development, region, and proximity to transit. A 6th Edition of the manual was released in late 2023, for which data will be available in due course. The parking rates (Parking Space per Dwelling Unit) provided by ITE give precedents for rates across uses and allows individuals to calculate a suggested level of parking that could be provided at a development.

The average parking rates, from the ITE database for Low-rise, Mid-rise, High-rise, and affordable housing have been set out in **Table 5.1**. These rates are based on sites surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta and multiple cities within the US.

Table 5.1: Average Residential Parking Rates (Parking Space /Dwelling Unit)

RESIDENTIAL BUILDING LAND USE	SETTING / LOCATION				
	General Urban/Suburban		Dense Multi-Use Urban		City Centre Core
	No Nearby Rail Transit	< 800m Rail Transit	No Nearby Rail Transit	< 800m Rail Transit	
Low Rise	1.21	1.07	0.76	0.58	-
Mid Rise	1.31	1.12	0.90	0.71	0.22
High Rise	0.98	-	0.55	0.44	0.46
Affordable Housing	0.99	-	0.53	-	0.16

The table above demonstrates that the average parking rate, not dependent on the geographical location of the units, ranges between 1.31- 0.16 parking spaces per dwelling unit. Parking rates are typically lower in dense urban locations or City Centre Core areas. In addition, average parking rates are lower in locations within 800 metres of a rail station compared to not nearby rail transit.

4.2 ULI Shared Parking Manual

Shared parking is the utilization of parking spaces for two or more land uses without conflict. The feasibility of shared parking relies on two conditions:

- Fluctuations in vehicle accumulation throughout different hours, days, or seasons for each individual land use; and
- Interconnected relationships among the land uses, leading to visits to multiple land uses using the same automobile.

In the context of a mixed-use development, consider the parking dynamics between a supermarket and residential visitor parking. The supermarket's peak parking demand typically occurs during the daytime, whereas residential visitor parking tends to peak in the evening. This temporal misalignment creates an opportunity for shared parking, enabling optimal parking utilization. For instance, the supermarket may have surplus parking spaces available during the evening, which can be utilized by residential visitors.

To facilitate effective shared parking analysis, the *Shared Parking (3rd Edition)* publication, associated with the Shared Parking Calculation Model from the Urban Land Institute (ULI), proves invaluable. This publication, introduced in 2020, builds upon the original methodology established in 1983. Its primary objective is to assist in determining the appropriate number of parking spaces for developments. By offering a comprehensive analysis and data encompassing diverse land uses, types, and mixes, the Shared Parking publication serves as a foundational resource for accurate parking space allocation. The handbook presents tables that focus on base parking ratios, adjustment factors, and mode split data tailored to specific contexts.

With the introduction of no minimum parking in TOA, there is opportunity to consider shared parking (District Parking) from a neighbourhood or regional standpoint either from a short-term or long-term solution standpoint. This could allow for responding to over spillage/overflow of parking needs and to aid in the control of pick-up/drop-off space requirements where there could be an abundance of pick-up/drop-off needs resulting from the reduction of parking availability. Balancing the construction of district shared parking along with the intent to reduce private automobile reliance resulting from removing parking minimums needs careful considerations.

5. CURRENT PARKING BYLAWS

5.1 Summary of Current Bylaws

This section provides a summary of current parking bylaw rates for nine municipalities, as of December 2023. Bylaws have changed since the release of Bill 47: Transit-oriented area for developments (TOAs) legislation, which specifies local governments to not require minimum off-street residential parking spaces provisions for developments in designated TOAs (800m of rail stations or 400m of designated bus exchanges and West Coast Express stations).

However, it is still important to review these parking bylaw rates, since these are the bylaws which impacted developments as studied in this parking review. The presented rates represent the base parking fees outlined in City Bylaws. It is important to note that several municipalities offer potential adjustments and reduced parking rates based on specific criteria, such as compliance with transportation demand management (TDM) strategies, which will be discussed in the subsequent section. For a comprehensive overview, the detailed parking bylaw requirement summary table is available in **Appendix A.** The following list is the nine municipalities reviewed:

- City of Burnaby
- City of Coquitlam
- City of Delta
- City of Maple Ridge
- City of New Westminster
- City of North Vancouver
- District of North Vancouver
- City of Surrey
- City of Vancouver

For the purpose of reviewing residential development off-street parking requirements, **Figures 1** and **2** below illustrate the spectrum of parking rates across the nine study municipalities, categorized by 0-1 bedroom and 2+ bedrooms units, respectively. Notably, only four out of the nine municipalities have specified parking rates for affordable housing. These municipalities include Burnaby, Coquitlam, Maple Ridge, and Vancouver.

Figure 3.1: Residential Minimum Parking Requirements (# Parking Space Per Unit, 0 – 1 bedroom)

*City Centre is defined as the downtown core area as specified by each municipality's bylaw.

Figure 3.2: Residential Minimum Parking Requirements (# Parking Space Per Unit, 2+ bedrooms)

*City Centre is defined as the downtown core area as specified by each municipality's bylaw.

Based on the high level review, Bylaw trends across the nine municipalities show that:

- City centre areas have lower parking rates compared to city-wide rates.
- Average market rental parking rates are generally lower than strata parking rates.
- Average affordable housing parking rates are higher or equal to market rental parking rates.
- Lowest parking rate is 0.3 in the 0-1 bedroom category in the City of Vancouver.
- Highest parking rate is 1.6 in the 0-1 bedroom category in the City of Delta.
- Lowest parking rate is 0.5 in the 2+ bedrooms category in the City of Coquitlam's market rental or City of Vancouver's affordable housing.
- Highest parking rate is 2.0 in the 2+ bedrooms category in the City of Delta and City of Maple Ridge.

For commercial parking rates in the context of mixed-use developments, we explored parking rates for businesses typically found in residential mixed-use developments including retail, office, healthcare (i.e., dentist, family doctor, chiropractor), and leisure (i.e., gym). The summary of rates are shown in the table below:

Table 3.1: Mixed-Use Development Commercial Parking Rates

	COMMERCIAL PARKING RATES (RETAIL, OFFICE, HEALTHCARE, LEISURE) – PER GFA (SQM)	
Location/Setting	CITY-WIDE	CITY CENTRE*
Low	0.01	0.01
High	0.05	0.04
Average	0.02	0.02

*City Centre is defined as the downtown core area as specified by each municipality's bylaw.

5.2 Bylaw Updates since 2018 Parking Study

As noted above, the parking Bylaw rates were collected in December 2023 which has been updated since the release the TOA legislation. As shown below, parking rates were already being reduced around the region prior to the TOA legislation. Comparing to Bylaw rates as reviewed in the 2018 parking study, the following are some notable changes for each municipality:

- City of Burnaby: previous lowest parking rate is 1.0. Their recent bylaw has shown to include a market rental category with parking rates below 1.0.
- City of Coquitlam: previous lowest parking rate is 1.0. Their recent bylaw has shown to the Evergreen Line Core area parking rates to reduced to below 1.0.
- City of Delta: previously presented as a flat parking rate of 1.5. Their recent bylaw shows categories for strata and market rental with market rental rates from 1.3-1.5. However, strata rates increases to 1.6-2.

- City of Maple Ridge: previous lowest parking rate is 1.5. Their recent bylaw has shown to include reduced parking rates in their central business district area to equal to or below 1.5.
- City of New Westminster: minimum rates stays the same at 0.6 (for market rental).
- City of North Vancouver: minimum rates stays the same at 0.6 (for market rental).
- District of North Vancouver: minimum rates stays the same at 1 + 1 per 100 square metres.
- City of Surrey: minimum rates stays the same at 0.9 (for strata).
- City of Vancouver: previous lowest parking rate is 0.5 (excluding 0 in some area). Their recent bylaw has shown to include an affordable housing category with parking rates reduced to 0.3.

It is important to emphasize that the aforementioned review specifically pertains to the base parking rates outlined in municipal bylaws. It is common for most municipalities to incorporate TDM measures, which facilitate the possibility of reducing parking requirements as an incentive for promoting alternative travel modes.

5.3 Transportation Demand Management (TDM) Measures

Transportation Demand Management (TDM) encompasses a range of strategies that, although complex and sometimes inconsistent, generally fall into the following main categories:

- **Provision and Incentive for Encouraging Sustainable Travel or Discouraging Private Vehicle Use:** This pertains to the implementation of various measures, including but not limited to car sharing, unbundled parking, bicycle facilities and spaces, transit passes, transit connectivity improvements, etc. Due to the array of options available, a point system may be employed to systematically calculate the degree of parking reduction. This approach is designed to promote sustainable transportation practices and discourage reliance on private vehicles. Point system is seen to be used by the City of Vancouver and the District of North Vancouver.
- **Fee Payment:** In this approach, developers or entities make financial contributions or fees directly to the municipality in exchange for a reduced parking rate. Typically, these payments are allocated by the Municipalities to fund TDM programs aimed at promoting sustainable travel modes or initiatives within the community. Fee payments are often restricted to specific zones, such as City Centre or Transit station areas, and are subject to a maximum limit on the percentage of parking supply that can be reduced. Municipalities adopting this approach include the City of Coquitlam, City of New Westminster, City of North Vancouver, and City of Surrey.
- **Amenity Cost Charges (ACC):** In addition to other fee payments, the ACC, as proposed in Bill 46, can be imposed to support TDM programs through the funding of community amenities. Construction (and thereby increasing the number) of public squares/civic amenities including placemaking opportunities, multi-modal hubs/consolidation areas, or community centres provide opportunities for those in the community to congregate in closer proximity to

their residence or place of work. This can potentially increase the opportunity for alternative mode use beyond the private vehicle by reducing trip distance and thus decreasing the need for parking as a result.

5.4 Constraints & Opportunities

- **Zero-bedroom (Studio) rate:** The 2018 parking study has shown parking utilization for zero-bedroom demonstrates the lowest parking utilization. However, only one (Coquitlam) of the nine municipalities reviewed has a separate bylaw parking rate for zero-bedroom.
- **Proximity to transit rate:** Even though reduced transit proximity is built within TDM measures in many municipalities, there is an opportunity to establish standardized parking requirements for developments near SkyTrain stations or the Frequent Transit Network. This could contribute to a more consistent and equitable approach to parking regulations across the region.
- **Consistent TDM program**: Acknowledging the complexity and challenges associated with TDM requirements, there is an opportunity to streamline and standardize these measures across the region. Implementing a tiered system, similar to the strategy employed in Auckland, could offer a more straightforward and consistent approach to TDM requirements, fostering clarity and ease of compliance for developers and entities operating within the region.

6. PARKING UTILIZATION

Parking supply and demand data were collected 217 residential and mixed-use sites (including the sites analyzed as part of the 2018 study and data from 16 additional affordable housing sites collected as part of this study). A spreadsheet of the full dataset is attached alongside this memorandum. It is noted to the limited scope of this exercise, only a high level analysis is provided.

When reviewing parking utilization, a basic method is often used that simply divides the number of occupied stalls by the total number of stalls. For this study, however, an advanced methodology is applied, which compares the number of stalls occupied per occupied unit to the number of stalls provided per unit. This approach gives a more accurate picture of parking demand because it takes into account how many units are actually occupied and how much parking is provided at each site. Compared to the basic method, it adjusts for differences between sites and shows how much parking is used per occupied unit. This helps reveal how efficiently the parking is being used, rather than just looking at the overall lot. This ratio is intended for planning purposes and reflects parking use relative to occupied units, rather than total lot occupancy, since empty stalls may simply result from vacant units rather than low parking demand.

$$\text{Advanced Utilization Ratio} = \frac{\text{Average Stalls Occupied per Occupied Unit}}{\text{Stalls Provided per Unit}}$$

For example, consider a residential development where each unit is provided with 1.5 parking stalls. Among the units that are actually occupied, residents are using an average of 0.9 stalls per occupied unit. To assess how efficiently the parking is being utilized, the parking utilization ratio can be calculated by dividing the average number of stalls used per occupied unit (0.9) by the number of stalls provided per unit (1.5). This results in a utilization ratio of 0.60, indicating that only 60% of the provided parking is being used on a per-occupied-unit basis.

For reference, the attached spreadsheet as noted above includes both analysis for the basic and advance methodologies.

The summary below provides a high-level review based on available dataset covering various development types and years, ranging from 2011 to 2025. As such, the overall findings may be influenced by the concentration of data in certain locations, time periods, or housing types, which could skew general trends.

Parking utilization is dependent by many factors, including changing municipal bylaws, transit accessibility, building age, and demographic patterns. Given these variables, the analysis should be viewed as a general overview rather than a detailed or site-specific assessment. A more in-depth review would be required to fully understand localized parking behavior and inform targeted policy decisions.

A high-level summary of the data analysis is provided below, based on the available data. It should be noted that data availability varies by municipality, and additional information is needed to develop a more comprehensive understanding. Key findings are as follows:

1. Parking Utilization Across Municipalities

- Advanced utilization ranges from 0.60 (Delta) to 0.78 (Langley Township and Port Coquitlam), with an average of 0.66, meaning that, on average, only 66% of provided parking is being used per occupied unit.
- Municipal variation is notable. Places like New Westminster (utilization 0.71, surplus 40%) and North Vancouver City (utilization 0.77, surplus 30%) maintain relatively higher utilization and lower surplus, indicating better alignment of parking supply and demand. In contrast, places such as Delta (utilization 0.60, surplus 68%) and Burnaby (utilization 0.62, surplus 61%) show lower utilization with much higher surplus.

2. Proximity to Frequent Transit Network (FTN) and Rapid Transit Stations

- Areas closer to FTN or rapid transit tend to have lower parking utilization (0.67) compared to areas away from FTN (0.69). This supports the general expectation that car dependency is reduced in areas with frequent transit.
- Despite slightly lower utilization, surplus is still high (44–50%), showing that even in transit-served areas, supply often exceeds need.

3. Tenure Type (Strata vs. Rental)

- Strata units have a lower advanced utilization (0.65), and a higher surplus (55%) compared to market rental, which shows 0.72 utilization and only 38% surplus.
- This suggests that strata developments are generally built with more parking than residents use, while rental buildings better match supply to actual demand.

6.1 Time series analysis

The following analysis compares parking utilization in residential developments across Metro Vancouver, focusing on data collected from 2012 to 2017 and from 2018 onward. It is important to note that data for developments since 2018 is somewhat limited, which may affect the completeness of observed usage trends. Nonetheless, this comparison offers a high-level understanding of how parking utilization changes over time. More comprehensive data, including additional municipalities, would be needed to provide a fuller and more detailed picture. The key takeaways are as follows:

- Overall advanced utilization declined from 0.70 (2012–2017) to 0.63 (2018–2025), while surplus increased from 42% to 60%. This indicates that parking supply has continued to outpace actual vehicle ownership and usage in newer developments.
- Strata housing saw a drop in utilization from 0.71 to 0.62, with surplus growing from 41% to 62%. A possible explanation may include that owner's own fewer cars, including downsizing seniors and younger buyers.
- Market rental housing utilization increased from 0.71 to 0.75, with surplus decreasing from 41% to 34%. Rental developments may be better aligned with actual demand.
- Utilization near frequent bus dropped from 0.72 to 0.64, and near rapid transit from 0.70 to 0.65. Surplus increased to 55% and 53%, respectively. This points to an opportunity for to right-size parking supply near transit, as many residents in these areas may not rely on cars.

Overall, these trends reinforce the need to right-size parking by calibrating supply to actual usage patterns, supporting municipalities avoid overbuilding, improve affordability, and better support evolving mobility choices.

6.2 Affordable Housing Parking Survey

As noted above, as part of the analysis, Metro Vancouver conducted an additional parking data collection effort focused on affordable housing developments across the region. A total of 16 sites were surveyed in municipalities including Surrey, Richmond, New Westminster, Delta, Port Moody, Burnaby, and Vancouver. All 16 sites are operated by Metro Vancouver Housing, a non-profit housing provider offering rental homes subsidized to ensure affordability for low- to moderate-income households.

Surveys were conducted in late April and early May 2025 on weeknights (Tuesday, Wednesday, or Thursday) during nighttime hours to capture peak residential and visitor parking demand. Mondays, Fridays, and long weekends were avoided to ensure data reflected typical weekday conditions.

Parking demand was recorded at each site and compared to the total parking supply and number of housing units. The results showed a utilization ratio of 0.65, indicating that, on average, only 65% of the available parking per unit was being used.

This indicates that the use of parking spaces at affordable housing sites may be lower than the available supply, presenting an opportunity to better align future parking requirements to observed demand

7. PARKING ECONOMICS

This section summarizes key findings from the memo *Metro Vancouver Parking Economics*, prepared by Liveable City Planning (LCP) in April 2025. The memo examines the cost of parking from a developer's perspective and its implications for housing affordability. A financial model developed by LCP to assess how changes in minimum parking requirements affect development costs. A summary of the findings is provided below, with the full memo included in **Appendix B**.

7.1 True Cost of Parking

The cost of developing parking is often viewed solely as a construction expense. However, it is important to account for additional factors that contribute to the total cost of providing parking. These include design, insurance, marketing, administrative overhead, and government fees, all of which substantially increase the burden on developers. These cost "multipliers" can raise parking construction costs by 52% to 63%, significantly impacting overall development costs, especially as minimum parking requirements change.

7.2 Impact of Housing Affordability

These elevated parking costs directly impact homebuyers through increased housing prices and mortgage burdens. LCP's financial model examines how the total cost of a typical parking stall is reflected in mortgage financing to assess its impact on housing affordability. In the case studies, the cost of single parking stall that considers construction cost and "multipliers" would result in the need for an additional $31,000 to $36,000 in annual household income to qualify for a mortgage. Based on a 25-year amortization period and a 5% interest rate, this translates to an additional $690 to $810 in monthly mortgage payments to cover the cost of developing one parking stall. Therefore, additional parking stall requirements would significantly impact housing affordability.

7.3 The Profitability of Providing Additional Parking

Developers aim to provide just enough parking to meet market or end-user demand. If parking supply falls short of what purchasers expect, it can impair the perceived value of a project and potentially jeopardize its viability. For example, luxury buildings targeted at higher-income buyers, who are more likely to own one or more vehicles, must typically include at least one stall per unit to remain competitive in that sub-market. In middle-market projects, most buyers may still prefer at least one stall, even if they don't own a vehicle, in order to maintain future resale value. In starter-home markets, purchasers may be more willing to forgo a stall in exchange for a more affordable unit.

However, when municipal minimum parking requirements exceed market demand or willingness to pay, the added costs become a drag on project profitability and may even threaten project viability. Building more parking than needed adds substantial construction costs, lengthens timelines, delays sales closings, increases financing costs, and ultimately reduces both absolute profit and internal rates of return.

When faced with surplus parking (often due to high minimum parking ratios), developers may price extra stalls as optional add-ons to purchase agreements. They may also offer them at reduced prices or even for free as buyer incentives. However, surplus stalls in condominium developments typically do not recover their full construction cost. These stalls often sell for only a fraction of their true cost and lose further value once the building is completed when the Limited Common Property is handed over to the Strata Corporation.

Even from a rental perspective, parking stalls offer poor returns. In the Vancouver market, a typical stall can be rented for approximately $100 to $150 per month. Given that the construction cost per stall can exceed $100,000, this represents a rental yield of only 1% to 1.5%, a return considered unattractive by most investment standards.

7.4 Market Responses to Lower Parking Requirements

What happens when cities reduce or eliminate parking minimums? There is no guarantee that homebuilders will "pass along savings" if minimum parking requirements are removed. Housing units are priced according to market demand, not developer costs. For the same reason, developers are also generally unable to "pass along costs" to buyers.

The real estate market is highly transparent, and buyers discount the value of units without parking compared to those with it. Developers typically allocate parking based on unit size and price: larger, more desirable, and more expensive units receive more parking, while smaller or less desirable units may receive none, particularly when the number of stalls is limited. Unit pricing is adjusted accordingly.

Buyers are discerning. They factor parking availability into their valuation and offers. All else being equal, a buyer is likely to offer less for a unit without parking than for one that includes a stall. Some buyers, especially those without cars, may be willing to purchase a unit without parking, while others may insist on a stall to preserve future resale value and appeal to a broader market.

The classic real estate principle of "location, location, location" remains true. Every property is unique, and properties in high-demand, well-connected locations naturally command higher values. If minimum parking requirements were eliminated, developers could align parking supply more closely with actual demand. In areas with strong transit access and high land value, where car-free lifestyles are more viable, developers could offer more for land due to lower construction costs, improving overall project viability.

Conversely, when municipalities require more parking than the market demands, developers face higher costs and may be forced to reduce land bids or increase unit prices to maintain profitability. If these costs exceed what the market is willing to bear, projects may be cancelled or bypassed entirely.

7.5 Would builders continue to supply it even if they were not required to?

This is fundamentally a question of market viability. In luxury strata developments, the inclusion of parking is essential to marketing the property as a high-end offering. Higher-income households are more likely to own one or more vehicles, and if parking is reduced below what the market expects or demands, the project may no longer be perceived as a luxury product. This results in a loss of premium pricing and can undermine the overall economics of the development.

Developers will always supply at least the amount of parking they believe the market demands. For condominium projects, the requirement to secure approximately 60% in presales before proceeding provides an immediate test of market response. If parking is insufficient, sales slow, and it becomes more difficult to achieve the prices needed to deliver the 15%+ return on cost (ROC) typically required by lenders.

In the case of rental developments, developers are motivated to strike a careful balance. They must future-proof their buildings by avoiding both excessive and insufficient parking. Most conduct significant market research to determine the right level of supply. Some developers, particularly in high-amenity, transit-oriented areas, are experimenting with “parking-light” buildings, betting that a growing number of tenants are willing to live car-free.

Perhaps the most significant impact of minimum parking requirements is their effect on land economics. High parking mandates often make higher-density developments financially unviable by reducing what developers can afford to pay for land. As the saying goes, parking often leads the plan, it can dictate the scale and feasibility of the entire project.

In summary, the key takeaways this chapter includes:

- Parking is considerably more expensive than construction costs alone suggest, due to added overhead and regulatory expenses.
- Higher parking costs reduce housing affordability, increasing both purchase prices and required household income.
- Developers supply parking to meet buyer expectations, not because of minimum requirements, especially in luxury and mid-market strata projects.
- When a surplus of parking is developed, developers face higher costs, lower profits, and greater risk of project failure.
- Parking stalls offer low financial returns, particularly in rental buildings, where revenue rarely justifies construction costs.
- Eliminating parking minimums allows more flexibility to match supply with demand, improving project viability, especially in transit-accessible areas.
- Strict parking mandates can drive up land and housing costs, limiting the feasibility of compact, affordable development.

8. DEVELOPER INTERVIEWS

Survey interviews were conducted with five Metro Vancouver developers regarding parking development. The general key takeaways from the interviews are summarized below. The interview covers a wide range of topics related to parking and the full interview questions and answers are provided in **Appendix C**.

For profit developers:

- Developers identified two key factors influencing the determination of the number of vehicle parking spaces in a development project: development product type and proximity to transit specifically for SkyTrain stations. Generally, there is lower parking demand in rental units compared to strata units. Additionally, parking supply tends to be lower when the site is close to a SkyTrain station; However, this is not always the case given market demand.
- The determination of parking supply is driven by market research and observations from the developer, as well as compliance with parking minimums.
- Developers utilize external brokers, traffic professionals, building surveys, other developers, architects, sales agents, and other sources for market research.
- In regard to Bill 44 and Bill 47, relaxing or removing parking minimums provides developers with more freedom, but the actual parking supply depends on market demand.
- Parking is generally not considered a profit centre, as parking stalls are not directly used for profit. However, it may impact the "upper end" strata units and other product types and could be built as a loss in some cases.
- There is no guarantee that homebuilders would pass on savings if parking requirements were reduced. The cost of the unit is typically not reduced, as the product is priced to the market, dependent on location and proximity to transit.
- Parking costs vary significantly. Based on the four Developer interviews, high-level estimates were provided, with an average cost of $115,000 per stall. However, this figure ranges widely. from approximately $20,000 per stall for smaller townhouse developments to as much as $230,000 per stall for apartments, particularly in downtown or urban centres, or in areas with challenging soil conditions.
- Some developers noted cases there is a surplus of parking spaces that led to the need for discounted sales.
- In relation to government development cost, encompassing DCCs, ACCs, CACs (Bill 46), and pay-in-lieu, developers have acknowledged that DCCs and CACs are considered in early on in the project planning and financial modeling phase. As for introduction of ACC under Bill 46, developers stated it is still premature to provide conclusive comments. Developers express a desire for increased transparency concerning pay-in-lieu costs. Specifically, they seek clarity on the allocation of the budget in addition to DCC and CAC contributions.

For non-profit developers (BC-housing):

- BC Housing focuses on reducing end-user costs. The lack of parking is seen as a driver of affordability, aiming for less expensive housing.
- BC Housing typically targets a 1-storey parkade rather than focusing on parking demand. The number of parking stalls is determined by physical site conditions, acting as a barrier to providing more spaces. The goal is also to reduce the physical construction footprint.
- In areas where owning a vehicle for commuting is deemed essential, BC Housing may reduce the number of units to create more parking spaces.
- Savings from reduced parking in a non-profit model would be passed along to end-users in the form of lower rent.

APPENDIX A

Parking Bylaw Summary

		Residential Parking Requirement (per dwelling unit)																Commerical Parking Requirement GFA (Per Sqm)					Link
		Strata					Market Rental					Affordable											
Municipality	Notes	Studio	1-Bed	2-Bed	3-Bed+	Visitor	Studio	1-Bed	2-Bed	3-Bed+	Visitor	Studio	1-Bed	2-Bed	3-Bed+	Visitor	Accessible per space	Retail	Office	Healthcare	Lesiure	Non-Resi Accessible	
Burnaby Existing - 2019	800.4	1.6				0.25	0.6				0.1	1.5				0.2	0.04	0.022				0.02	https://www.coquitlam.ca/562/Zoning-Bylaw
	(800.4(2)(b.1))	1.1					0.6					N/A						N/A					
Coquitlam Existing	Standard City Wide	1		1.5		0.2	1				0.2	1				0.2	0.013	0.025				0.013	https://www.burnaby.ca/sites/default/files/acquiadam/2022-08/Off-Street-Parking.pdf
	Evergreen LineCore and Shoulder Station	0.85		1.25		0.15	0.75				0.15	0.65				0.15		N/A					
Coquitlam - Revised 2019	Bunt Database	0.7	0.85	1.1	1.35	0.1	0.5				N/A	N/A				N/A	N/A	N/A					
	Evergreen LineCore and Shoulder Station	0.63	0.765	0.99	1.215		0.5																
New Westminster	Standard City Wide	1	1.2	1.4	1.5	0.2	1				0.1	N/A				N/A	N/A	0.013	0.02	0.03	0.011	1 per 1-25 required off-street parking spaces 2 per 26-50 required off-street parking spaces 3 per 51-75 required off-street parking spaces 4 per 76-100 required off-street parking spaces 1 additional accessible offstreet parking space required for every 50 required off-street parking spaces, in excess of 100	https://www.newwestcity.ca/database/files/library/Zoning_Bylaw_6680_2001_as_of_Jun._30_2023.pdf
	Downtown - 140.9	1		1.35		0.1	0.6		0.8			N/A						0.01	0.03	0.04			
City of North Vancouver	908(8)	1.05				N/A	0.6				N/A	N/A					1 per Accessible Unit	0.013				1 Disability Parking Space for each 25 required Parking Spaces up to 50 plus 0.02 Disability Parking Spaces for each required Parking Space in excess of 50.	https://www.cnv.org/business-development/building/land-use-approvals/zoning
District of North Vancouver	(1001(5))	1 + 1 per 100 sqm				0.25	N/A					N/A					0.1	0.02	0.02		0.03		https://www.dnv.org/sites/default/files/edocs/Zoning%20Bylaw.pdf
Surrey		1.3		1.5		0.2	N/A					N/A					0.02	>372 - 0.0275 372<Site<4645 - 0.03 >4645 - 0.025	0.025	0.035	N/A	0.02 (above 12 spaces required	https://www.surrey.ca/sites/default/files/bylaws/BYL_Zoning_12000.pdf
	City centre	0.9		1.1		0.1													0.014				
Delta		1.5		2		0.2	1.3		1.5		0.1	N/A					1 for 50% adaptable units	0.035 up to 350sqm + 0.04 >350	0.03			0.04	https://delta.civicweb.net/document/177229/
Maple Ridge	City Wide	1.5		2		0.1 (On-Street) - 0.2 (No On-Street)	1				0.2	1.5				0.2	0.013	0.03	0.025	0.33		0.013	https://www.mapleridge.ca/DocumentCenter/View/26272/Consolidated-Zoning-Bylaw-No-7600-2019?bidId=
	CBD	0.9		1			0.9		1			0.8	0.9	1.5				0.01 < 300sqm 0.03 >300sqm	0.02				
City of Vancouver	Current	0.5		0.6	No greater than 1.5 for units >180sqm	0.05	0.5		0.6	No greater than 1.5 for units >180sqm	0.05	0.3		0.5		0.05	0.034	0.01 < 300sqm 0.02 >300sqm		0.01 < 300sqm 0.05 - 300sqm<X<2300 0.033 >2300	0.054	1+ 0.0004	https://bylaws.vancouver.ca/parking/Sec04.pdf

*Bylaw rates based on Fall 2023 rates. These rates are pre-TOA, and may have been updated since then.

APPENDIX B

Parking Economics

METRO Vancouver Parking Economics

Updated 17 April 2025

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Contents

Purpose

Metro Vancouver has partnered with TransLink to develop a Regional Parking Strategy (RPS) that includes off-street and on-street parking supply and management guidance for the Metro Vancouver region. The goals of the strategy are to:

- Provide guidance to inform municipal parking requirements;
- Consider local needs through customized guidance for different land use and transportation contexts; and
- Right-size the supply of parking in the region, reduce the number of vehicles, make more efficient use of the limited land supply, and improve housing and transportation affordability.

To inform the Strategy, Bunt & Associates Engineering and Liveable City Planning have partnered to prepare this report, marrying their respective expertise in Transportation Engineering and development planning and economics.

Summary Conclusions

- **Parking is more expensive than most people think**. The end cost of a parking stall for an apartment purchaser (or a renter) is likely 1.5 to 1.6 times the initial construction hard cost. Considering all costs, a typical parking stall in the building modelled in this report ranges from $117,400 to $137,000

- **Developers seek to provide just enough parking** to meet market or end user demand (and ability to pay)

- **Developers do not generally see underground parking as a "profit centre"** and generally cannot recover the costs associated with a stall when they are selling surplus stall. Purchasers or End Users generally cannot collect enough rent from parking stalls to pay the mortgage interest costs related to the parking stall.

- **High Parking Requirements**
    - Increase costs (higher absolute hard costs and higher 'multiples' for design, insurance, etc.),
    - Reduce the amount that a developer can afford to pay for land (sometimes to the point where vendors won't sell), and/or
    - Increase the price required for condos or rents for rentals in order to meet minimum profitability thresholds required by banks and investors (generally 15% to 20% return on costs for condominiums and a 6% total return on equity invested in purpose built rental projects).
    - Degrade project viability.

- **Low Parking Requirements**
    - Drive lower project costs (lower absolute hard costs and lower 'multiples' for design, insurance etc.)
    - increase the amount that a developer can afford to pay for land (to a point where a vendor will sell)

- Reduce the price needed for condos and rents for rentals in order to meet minimum profitability thresholds
- Improve project viability

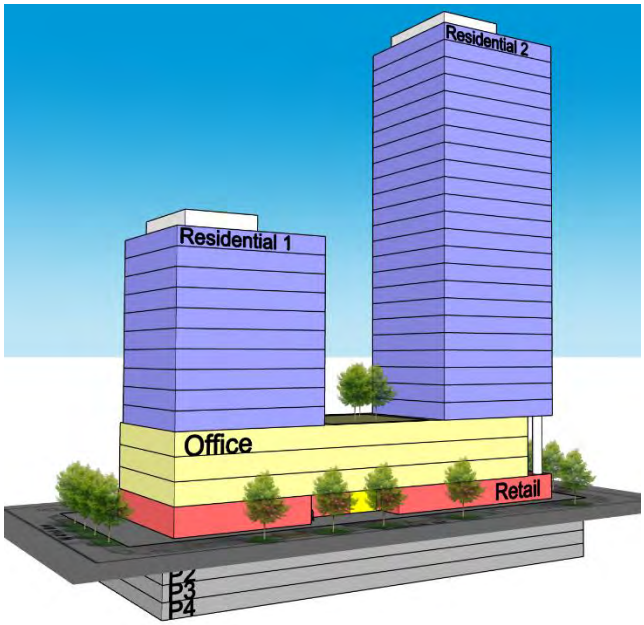
Land Residual Values

As demonstrated in the financial models, high parking requirements significantly impact construction costs and significantly impact what a developer can afford to pay for land (the “Land Residual”) if they are to achieve a commercially reasonable Return on Costs normally demanded by investors and banks that lend millions in construction financing.

Mixed-Use Development Model

To test the impact of various parking requirements on project economics and affordability to the end users, LCP prepared a model of a prototypical high density mixed-use town centre development based on actual development applications. The model used in the proformas that follow is built on a 34,080 sf site[1] (3,166 m^2) developed at 8.76 FSR:

- **Parkade:** 31,200 sf per level (# and fraction of levels varies with Parking Ratios tested)
- **Commercial Uses at Grade:** 11,400 sf on L1
- **Office Uses:** 18,700 sf on L2, 3 and 4
- **Residential Towers:** Tower 1 (L5 to L16); and Tower 2 (L5 to L28) both with 6,500 sf floorplates



GFA (sf) By Level

Level	Parkade	Retail	Office	Resi 1	Resi 2	Total
PX	as required					
P4	10,080					
P3	31,200					
P2	31,200					
P1	31,200					
L1		11,400	600	2,500	2,500	17,000
L2			18,700			18,700
L3			18,700			18,700
L4			18,700			18,700
L5				6,500	6,500	13,000
L6				6,500	6,500	13,000
L7				6,500	6,500	13,000
L8				6,500	6,500	13,000
L9				6,500	6,500	13,000
L10				6,500	6,500	13,000
L11				6,500	6,500	13,000
L12				6,500	6,500	13,000
L13				6,500	6,500	13,000
L14				6,500	6,500	13,000
L15				6,500	6,500	13,000
L16				2,300	6,500	8,800
L17					6,500	6,500
L18					6,500	6,500
L19					6,500	6,500
L20					6,500	6,500
L21					6,500	6,500
L22					6,500	6,500
L23					6,500	6,500
L24					6,500	6,500
L25					6,500	6,500
L26					6,500	6,500
L27					6,500	6,500
L28					2300	2300
GFA sf	As Required	11,400	56,700	76,300	154,300	298,700
% GFA		4%	19%	26%	52%	100%
FSR^		**0.33**	**1.66**	**2.24**	**4.53**	**8.76**

^(FSR) Floor Space Ratio = GFA / Site Area

Residential GFA sf		**230,600**
Condo GFA sf	80%	184,480
Market Rental GFA sf	15%	34,590
Below Market Rental GFA sf	5%	11,530

[1] 284 ft frontage; 120 ft depth

Key assumptions are laid out in the body of each pro forma which models high, moderate and low parking requirements. Appendix A describes the line items used in the pro formas.

Average Units at 83% Net to Gross Efficiency

It is assumed that 83% of Residential Floor Area is sellable, after taking into account common area circulation and indoor amenity space. The average unit mix and areas generate the number of units which, in turn, determines the number of parking stalls at the different parking ratios modelled. The tenure mix below is held constant for the models (80% Condo; 15% Market Rental; and 5% Below Market Rental) since they each have different parking ratios.

Units & Rents:	Condo								
Type	Mix	Size	Units	P/Rate	Stalls	NFA	Rent/sf	Rent/Mo	GPR
Micro	0%	350	-	0.5	-			-	-
Studio	5%	400	12	0.5	6.05	4,842		-	-
One	60%	550	145	0.5	72.63	79,888		-	-
Two	25%	750	61	0.6	36.31	45,391		-	-
Three	10%	950	24	0.6	14.53	22,998		-	-
	100%	**632.5**	**242**	**0.5350**	**129.52**	**153,118**		-	-

Units & Rents:	Rental								
Type	Mix	Size	Units	P/Rate	Stalls	NFA	Rent/sf	Rent/Mo	GPR
Micro	0%	350	-	0.5	-		4.50	1,575	-
Studio	5%	350	2	0.5	1.22	853	4.50	1,575	46,082
One	60%	500	29	0.5	14.63	14,629	4.50	2,250	789,974
Two	25%	725	12	0.5	6.10	8,838	4.50	3,263	477,276
Three	10%	900	5	0.5	2.44	4,389	4.50	4,050	236,992
	100%	**588.75**	**49**	**0.50000**	24.38	**28,710**	4.50	2,649	1,550,324

Units & Rents:	**Below Market Rental**								
Type	Mix	Size	Units	P/Rate	Stalls	NFA	Rent/sf	Rent/Mo	GPR
Micro	0%	350	-	0.3	-		2.50	875	-
Studio	5%	350	1	0.3	0.25	291	2.50	875	8,739
One	60%	500	10	0.3	3.00	4,994	2.50	1,250	149,817
Two	25%	725	4	0.5	2.08	3,017	2.50	1,813	90,514
Three	10%	900	2	0.5	0.83	1,498	2.50	2,250	44,945
	100%	**588.75**	**17**	**0.37000**	**6.16**	**9,801**	2.50	1,472	294,015

Parking Ratios & The "Hard Cost" of Underground Parking

Four bands of parking requirements were modelled, reflecting the lower ratios demanded by very urban municipalities to higher ratios in outlying cities where people have historically had a higher propensity to drive. Parking ratios applied to the Mixed Use Development model are shown below along with the total number of parking stalls required.

Applying an average area standard to each stall (actual stall + circulation space and ancillary underground area) allows the calculation of total parkade areas, and from there the application of a $/sf hard cost estimates applicable for the Metro Vancouver market[2] allows the calculation of the total "Hard Cost" for each scenario. Note that more parking requires more parking levels, deeper excavations, and longer construction times. The hard cost per square foot of parking increases with the number of levels. This is typically where most analysts stop when assessing the marginal cost of a parking stall.

HARD CONSTRUCTION COSTS[3]

		LOW/CITY CENTRE	LOW/CITY	AVERAGE	HIGH
		Vancouver	Vancouver	Burnaby	Maple Ridge
RESIDENTIAL	Units	Stalls/ Unit	Stalls/ Unit	Stalls/ Unit	Stalls/ Unit
Condominium	242				
Studios & 1s	157	0.50	0.50	1.10	1.60
2+ Bed	85	0.60	0.60	1.40	2.00
Market Rental	49				
Studios & 1s	32	0.50	0.50	0.80	1.50
2+ Bed	17	0.50	0.60	0.90	2.00
Below Market Rental	16				
Studios & 1s	11	0.30	0.30	1.10	1.30
2+ Bed	6	0.50	0.50	1.10	1.50
NON RESIDENTIAL	Area M^2	Stalls/ 100 m2	Stalls/ 100 m2	Stalls/ 100 m2	Stalls/ 100 m2
Office (Stalls/M2)	5,267	0.0100	0.0110	0.0200	0.0500
Retail (Stalls/M2)	1,059	0.0100	0.0110	0.0200	0.0500

PARKING STALLS REQUIRED	LOW/CITY CENTRE	LOW/CITY	AVERAGE	HIGH
Total Residential Stalls	**160**	**162**	**351**	**526**
Blended All Residential Stalls/All Units	0.52	0.53	1.14	1.71
Residential Condo Stalls	130	130	292	421
Residential Market Rental Stalls	24	26	41	82
Residential Below Market Rental Stalls	6	6	18	23
Office	**53**	**58**	**105**	**263**
Retail	**11**	**12**	**21**	**53**
TOTAL STALLS	**223**	**231**	**477**	**842**
Area/Stall sf	425	425	425	425
Total Parkade Area sf	**94,912**	**98,326**	**202,840**	**357,866**
# Parkade Levels	2.8	2.9	6.0	10.5
HARD CONSTRUCTION COST / sf	$170	$170	$180	$200
Parkade Hard Cost = Gross Parking Area x $/sf above	**$16,134,969**	**$16,715,371**	**$36,511,213**	**$71,573,189**
Hard Cost / Stall	**$72,250**	**$72,250**	**$76,500**	**$85,000**

[2] Drawn from Altus Construction Cost guides.

[3] **all numbers above are rounded calculations*

What Percentage of Hard Costs are Consumed by Parking"

As modelled in the pro formas in this report, the hard cost driven by parking is between 12% to 34% of Construction "Hard Cost" depending on the parking ratio demanded. This is before applying all the other multipliers (design, insurance, finance, development management, marketing, and after costs some minimum profit threshold.

Models	Total Hard Cost	Above Grade Cost	% Cost	Stalls/unit	Below Grade Cost	% Cost
City High Parking Ratio	$172,478,956	$113,517,500	65.8%	1.711	$58,961,456	34.2%
City Average Parking Ratio	$151,838,607	$113,517,500	74.8%	1.142	$38,321,107	25.2%
City Low Parking Ratio	$129,644,218	$113,517,500	87.6%	0.521	$16,126,718	12.4%

Parkade "Multiplier" Costs Are Significant

The reality is that construction "Hard Costs" costs associated with a parking stall are only the beginning of a chain of cascading costs. Policy makers in particular need to understand the full impacts of parking requirements through a typical development pro forma and on to the purchaser (or renter). One has to consider Design, Insurance, Development Management, typical Project Contingencies, Finance and Marketing and the typical (minimum) Development Profit that most lenders require before financing construction of a building. In all development pro formas, these costs are normally assessed as a percentage of hard cost as shown in the table below.

		LOW/CITY CENTRE	LOW/CITY	AVERAGE	HIGH
Total Stalls required		223	231	477	842
HARD CONSTRUCTION COST / sf		$170	$170	$180	$200
Parkade Hard Cost = Gross Parking Area x $/sf above		**$16,134,969**	**$16,715,371**	**$36,511,213**	**$71,573,189**
Hard Cost / Stall		***$72,250***	***$72,250***	***$76,500***	***$85,000***
PARKADE MULTIPLIER COSTS					
Add **Design** % x Hard Cost	5%	$806,748	$835,769	$1,825,561	$3,578,659
Add **Insurance** x Hard Cost	1%	$161,350	$167,154	$365,112	$715,732
Add **Development Management** to Costs Above	4%	$677,669	$702,046	$1,533,471	$3,006,074
Development Contingency x Costs Above	1%	$178,530	$184,926	$403,119	$789,587
Design Contingency x Design Cost	5%	$40,337	$41,788	$91,278	$178,933
Construction Contingency x Construction Cost	5%	$806,748	$835,769	$1,825,561	$3,578,659
Add **Finance** x Costs Above	10%	$1,807,185	$1,871,930	$4,080,625	$7,992,717
Add **Marketing** Commissions x Costs Above	3%	$620,574	$642,810	$1,401,373	$2,744,957
SUBTOTAL		**$21,306,360**	**$22,069,812**	**$48,113,813**	**$94,243,508**
Add 15% Return on Cost (Minimum for Financing)	15%	$3,195,954	$3,310,472	$7,217,072	$14,136,526
COST TO PURCHASERS		**$24,502,314**	**$25,380,284**	**$55,330,885**	**$108,380,034**
Add GST	5%	$1,225,116	$1,269,014	$2,766,544	$5,419,002
Add Provincial Property Transfer Tax	2%	$490,046	$507,606	$1,106,618	$2,167,601
TOTAL PARKADE COSTS		**$26,217,476**	**$27,156,904**	**$59,204,047**	**$115,966,636**
Total Parkade Cost / Stall		***$117,398***	***$117,382***	***$124,047***	***$137,721***
Multiplier Hard Cost to Total Cost		1.62	1.62	1.62	1.62

Add to these costs Provincial Property Transfer Tax and Federal GST (note: recently waived for Rental Housing) and the "multiplier" for Construction Hard Costs to a final tally is about 1.55 to 1.60 times.

Purchaser Impacts

Taking this analysis another step further, we can see just how expensive underground parking stalls are and their impacts on households trying to qualify for residential mortgages. Make no mistake, the full cost of providing required parking stalls is recognized in the Total Development Cost line in all development pro formas. Developers expect a minimum 15% Return on Cost and no lender is going to advance a construction loan unless there is a reasonable prospect of a 15% Return on Cost. At the end of the day, this bottom line is what sets the floor for residential unit prices.

In the table below, the total cost of a typical parking stall is carried through mortgage financing to determine impacts on housing affordability. Here it's important to note that Canadian banks must "stress test" mortgage applicants by adding 2% to the proposed mortgage rate before calculating the monthly payment over an amortization of 25 years. Total Shelter Costs cannot exceed 32% of Household Income so dividing the monthly payment by 0.32 generates the Household Income requirement attributed to the parking stall. In the case studies, one typical parking stall generated a requirement for an extra $31,000 to $36,000 of annual household income in order to qualify for a mortgage. Stripping away the 2% stress test interest hurdle, one can see the Actual Monthly Payment attributed to the parking.

		LOW/CITY CENTRE	LOW/CITY	AVERAGE	HIGH
Total Stalls required		223	231	477	842
HARD CONSTRUCTION COST / sf		$170	$170	$180	$200
Parkade Hard Cost = Gross Parking Area x $/sf above		**$16,134,969**	**$16,715,371**	**$36,511,213**	**$71,573,189**
Hard Cost / Stall		***$72,250***	***$72,250***	***$76,500***	***$85,000***
PARKADE MULTIPLIER COSTS					
Add **Design** % x Hard Cost	5%	$806,748	$835,769	$1,825,561	$3,578,659
Add **Insurance** x Hard Cost	1%	$161,350	$167,154	$365,112	$715,732
Add **Development Management** to Costs Above	4%	$677,669	$702,046	$1,533,471	$3,006,074
Development Contingency x Costs Above	1%	$178,530	$184,926	$403,119	$789,587
Design Contingency x Design Cost	5%	$40,337	$41,788	$91,278	$178,933
Construction Contingency x Construction Cost	5%	$806,748	$835,769	$1,825,561	$3,578,659
Add **Finance** x Costs Above	10%	$1,880,635	$1,948,282	$4,255,531	$8,342,083
Add **Marketing** Commissions x Costs Above	3%	$622,777	$645,101	$1,406,620	$2,755,438
SUBTOTAL		**$21,382,013**	**$22,148,455**	**$48,293,966**	**$94,603,355**
Add 15% Return on Cost (Minimum for Financin	15%	$3,207,302	$3,322,268	$7,244,095	$14,190,503
COST TO PURCHASERS		**$24,589,315**	**$25,470,723**	**$55,538,061**	***$108,793,858***
Multiplier Hard Cost to Total Cost (I)		*1.52*	*1.52*	*1.52*	*1.52*
Add GST	5%	$1,229,466	$1,273,536	$2,776,903	$5,439,693
Add Provincial Property Transfer Tax	2%	$491,786	$509,414	$1,110,761	$2,175,877
TOTAL PARKADE COSTS		**$26,310,568**	**$27,253,673**	**$59,425,725**	**$116,409,428**
Total Parkade Cost / Stall		***$117,815***	***$117,800***	***$124,512***	***$138,247***
Multiplier Hard Cost to Total Cost (II)		*1.63*	*1.63*	*1.63*	*1.63*
PURCHASER IMPACTS					
Parking Cost in Mortgage		***$117,815***	***$117,800***	***$124,512***	***$138,247***
Mortgage Interest Rate		5.0%	5.0%	5.0%	5.0%
Mortgage "Stress Test"		2.0%	2.0%	2.0%	2.0%
Interest Rate to Qualify for Mortgage		7.0%	7.0%	7.0%	7.0%
Amortization Years		25	25	25	25
Monthly Mortgage Payment for Stall at Qualifying Interest		$833	$833	$880	$977
Extra Annual Household Income Required for Parking Stall		$31,226	$31,222	$33,001	$36,641
Actual Monthly Mortgage Payment for the Stall		**$689**	**$689**	**$728**	**$808**
Year 1 Monthly Principal Repaid		207	207	219	243
Year 1 Monthly Interest Paid		(482)	(482)	(509)	(565)
Monthly Rental Income		150	150	150	150
Year 1 Monthly Profit (Loss) on Rental of Stall		-$332	-$332	-$359	-$415
Year 1 Annual Profit (Loss) on Rental of Stall		**-$3,980**	**-$3,979**	**-$4,308**	**-$4,982**

Is it "Profitable" to Build Parking?

In LCP's experience, developers of Condominium buildings for sale or properties for rent do not see parking as a "profit centre"; parking is a cost centre. In order to sell Condos or to rent new apartments, developers must satisfy the minimum market demand for parking in a particular location as well as the minimum parking supply required by the municipality. Developers are always motivated to right size parking supply to the particular target market for their project.

If the level of parking supply falls below that demanded by purchasers, that could impair value and potentially compromise the viability of a development project. For example, luxury buildings oriented to higher income buyers where purchasers will have a higher propensity to own one or more vehicles, will not be a viable offer or that sub-market if the developer does not provide one or more stalls per unit. For middle-market projects, most purchasers may want a stall to future proof future marketability even if they don't have a car; and for starter-home markets, purchaser may be quite willing to purchase without a stall in return for a more economical unit.

Conversely, if the minimum parking required by a municipality exceeds what the market needs, demands, or is willing to bear, then the added costs are a drag on project profitability and can even threaten project viability. A METRO parking study in 2012 concluded that, "Residential parking supply in strata apartments generally exceed parking demand in the range of 18-35 percent across the region" [4] and a 2025 update indicated that on average "parking is oversupplied by 47 percent in strata buildings and by 35 percent in market rental buildings"[5].

The reality is this: for whatever parking is provided, the Developer must secure at least a 15% Return on the Total Development Cost. Lenders won't lend if likely returns fall below that 15% threshold. We would challenge anyone familiar with the industry to find a single case where a developer has taken the position: 'I am going to increase my profit by building more parking stalls. As outlined in this report, building more parking than the market demands adds significant costs to a project. It also adds to the construction timeline, pushing the closing dates for sales further into the future, increasing the finance costs of a development and reducing absolute profit returns as well as the internal rates of return.

In the Greater Vancouver presale market, the cost of parking stalls is always absorbed within the total price of a unit because the decision whether to have a parking stall or not is not truly an option for a new development or for a resale for that matter. A developer needs to be in control of a development permit before launching presales; the development permit must adhere to municipal parking supply regulation as set out in the Development Permit approval; lenders do not issue construction loans until a project is 60% pre-sold; and once construction has commenced, the first order of business is to excavate the parkade to the depth required by the permit drawings. There is simply no practical option to reverse course and add or remove parking stalls from a development once foundations have been poured.

[4] https://www2.gov.bc.ca/assets/gov/housing-and-tenancy/tools-for-government/uploads/metro_apartment_parking_study_technical_report.pdf
[5] https://metrovancouver.org/boards/RegionalPlanning/RPL-2025-01-09-AGE.pdf

Surplus Parking is a "Loss Centre"

If there are surplus stalls (driven for example by high minimum parking ratios set by some municipalities), developers might price surplus stalls as extras that purchasers can add to their Agreements of Purchase and Sale. Developers sometimes use free or low-priced stalls as purchase incentives. However, in our experience we have never seen parking stalls advertised at prices that reflect the true cost of delivering the stall as outlined in this report.

A telling observation is this: developers who end up holding surplus parking stalls in condominium projects generally never recover the true cost of building those surplus stalls. Surplus parking stalls normally sell for a fraction of the full costs documented in this study. Surplus stalls are of little value to developers once a building has completed and the Limited Common Property parking facility is turned over to the ownership and management of a Strata Corporation.

If surplus stalls are not registered to the developer under a long term lease, the Limited Common Property becomes the property of the Strata Corporation, and the developer no longer has any hope of financial return. If stalls are registered in the developer's leasehold ownership, these can only be rented to residents of the building because Strata Corporations normally prohibit the access to, and rental of, parking stalls to non-residents. Developers also face PTT and GST tax liabilities on parking held in ownership once a project has completed.

From the perspective of a rental return that a developer (or purchaser) could receive, a parking stall could be rented out today for about $100 to $150 per month in the Vancouver market. That rent – against a true cost of $117,398 per stall for example – represents a rental yield on cost of only 1% to 1.5% - a poor return by any measure. Considering the full cost accounting for a typical stall, the monthly mortgage payment attributable to that stall ranges from $686 to $805 per month (table below). Of this total, mortgage interest accounts for between $479/month to $563/month in Year 1. Incoming rents are therefore not enough to break even, and the parking stall owner will in fact subsidize the true cost of financing the parking stall.

PURCHASER IMPACTS

Parking Cost in Mortgage	***$117,398***	***$117,382***	***$124,047***	***$137,721***
Mortgage Interest Rate	5.0%	5.0%	5.0%	5.0%
Mortgage "Stress Test"	2.0%	2.0%	2.0%	2.0%
Interest Rate to Qualify for Mortgage	7.0%	7.0%	7.0%	7.0%
Amortization Years	25	25	25	25
Monthly Mortgage Payment for Stall at Qualifying Interest	$830	$830	$877	$973
Extra Annual Household Income Required for Parking Stall	$31,115	$31,111	$32,878	$36,502
Actual Monthly Mortgage Payment for the Stall	**$686**	**$686**	**$725**	**$805**
Year 1 Monthly Principal Repaid	206	206	218	242
Year 1 Monthly Interest Paid	(480)	(480)	(507)	(563)
Monthly Rental Income	150	150	150	150
Year 1 Monthly Profit (Loss) on Rental of Stall	-$330	-$330	-$357	-$413
Year 1 Annual Profit (Loss) on Rental of Stall	**-$3,959**	**-$3,958**	**-$4,285**	**-$4,956**

Over time. mortgage interest falls as principal is paid down, but the gap remains significant. Even the least expensive stall (Low / City Centre proforma) is a consistent loss centre through the first 10 years of mortgage payments.

Parking Stall: Finance vs Rent

Y1 Parking Stall Rent at $100/Month

Year	0	1	2	3	4	5	6	7	8	9	10
Principal	117,398	114,922	112,319	109,582	106,706	103,683	100,505	97,164	93,652	89,961	86,081
Payment		(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)
Principal		2,476	2,603	2,736	2,876	3,023	3,178	3,341	3,512	3,691	3,880
Interest		(5,759)	(5,632)	(5,499)	(5,359)	(5,212)	(5,057)	(4,895)	(4,724)	(4,544)	(4,355)
Rent @$100/mo (3% inflation)		1,200	1,236	1,273	1,311	1,351	1,391	1,433	1,476	1,520	1,566
Profit (Loss)		**(4,559)**	**(4,396)**	**(4,226)**	**(4,048)**	**(3,862)**	**(3,666)**	**(3,462)**	**(3,248)**	**(3,024)**	**(2,790)**

Y1 Parking Stall Rent at $150/Month

Year	0	1	2	3	4	5	6	7	8	9	10
Principal	117,398	114,922	112,319	109,582	106,706	103,683	100,505	97,164	93,652	89,961	86,081
Payment		(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)	(8,236)
Principal		2,476	2,603	2,736	2,876	3,023	3,178	3,341	3,512	3,691	3,880
Interest		(5,759)	(5,632)	(5,499)	(5,359)	(5,212)	(5,057)	(4,895)	(4,724)	(4,544)	(4,355)
Rent @$150/mo (3% inflation)		1,800	1,854	1,910	1,967	2,026	2,087	2,149	2,214	2,280	2,349
Profit (Loss)		**(3,959)**	**(3,778)**	**(3,590)**	**(3,392)**	**(3,186)**	**(2,971)**	**(2,746)**	**(2,510)**	**(2,264)**	**(2,007)**

What Will Developers Do With Lower Parking Ratios?

The three financial models (High Parking, Average Parking, Low Parking) show a $20.6 to $42.8M construction hard-cost cost savings between the High, Average and Low parking scenarios that can be attributed to the parking construction cost savings with lower levels of parking supply. Some cynical people will suggest that developers can and will pocket the savings as extra profit, but that is simply not the case. The reality is that the housing market is a free market where sellers and purchasers constantly adjust their pricing and offers based on location and amenity, including the quantum of parking that comes with a unit.

Parking Models	Avg Stalls/Unit	Above Grade	Below Grade	Total Hard Cost	Parking % Hard Cost
City High Parking	1.63	$113,517,500	$58,961,456	$172,478,956	34%
City Average Parking	1.11	$113,517,500	$38,321,107	$151,838,607	25%
City Low Parking	0.52	$113,517,500	$16,126,718	$129,644,218	12%
Difference Average - High	(0.52)	$0	-$20,640,349	-$20,640,349	-9%
Difference Low - High	(1.11)	$0	-$42,834,738	-$42,834,738	-22%

It also helps to understand the current market context. Metro Vancouver's housing market is defined by rising costs – land, construction and skyrocketing municipal and regional levies and taxes – that have far surpassed household income growth. Over the last 20 years, the cost of multifamily housing has more than tripled; incomes have only doubled[6]. Housing affordability is at historic lows. The savings generated by lower parking ratios can be used to make projects in high-propinquity high-land-cost locations more financially viable and they can make units more affordable to purchasers.

Developers: The real estate market is transparent and participants in that market will discount the value of units without parking relative to units with parking. Developers allocate parking by unit size and price: larger, more desirable and more expensive units get more parking; smaller, and more inferior units sometimes get none where there are fewer stalls than units. Pricing for units is adjusted accordingly – a concept consistent with the *Canadian Uniform Standards of Professional Appraisal[7] Practice (CUSPAP)* which set out the need to adjust property valuations based on superior or inferior conditions (superiority in this case of having access to a dedicated parking stall; or the inferiority of not having the same).

Appraisers: Appraisers will – all things being equal - value properties with less parking lower than properties with parking. Under the Canadian Appraisal Institute standards there are three key valuation approaches – the Direct Comparison Approach, the Cost Approach and Income Approach. All valuation approaches require appraisers to collect comparable data and to make adjustments to the value of a property based on its superior or inferior qualities . The presence or absence of parking is certainly one of the more important variables.

Lenders: Most lenders generally require professional appraisals before approving mortgage financing and they will check what is included in the purchase that underpins the value of the property they are lending against. Lenders will for example add parking revenue to the stream of income generated by an income producing property and they will note the absence of parking and corresponding revenue when considering a loan against a property with no parking.

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[6] LCP research

[7] https://www.aicanada.ca/about-aic/cuspap/canadian-uniform-standards-of-professional-appraisal-practice-cuspap/#10-2-3

Consumers: At the end of the day, buyers aren't oblivious. They will take into account differences in parking supply when considering the value of their offers. All other things being equal, a purchaser will be prepared to pay or offer less for a unit without parking versus a unit with parking. Some purchasers without cars may be prepared to buy a unit without a parking stall; others may demand a parking stall because they want to future proof their apartment resale to a wider market that may demand a stall in the future.

Correlation and Causality Caveat: A complexity that we can't easily disaggregate is the value of location and the correlation between projects with low parking and locations with more amenity and connectivity. Developments without parking or with little parking are more often located in areas of great propinquity with easy access to transit, local shops, employment etc. These areas will generally command higher land values and higher prices more on account of the bid-rent principles of real estate economics than the amount of parking they offer. Location, location, location is the mantra in real estate economics. Every piece of real estate is different. Propinquity naturally attracts higher property values. However, if parking minimums were removed and developers could right-size parking supply to meet demand, in higher propinquity locations that command higher land prices, developers could offer more for land for these locations that support car-free lifestyles and they would have a lower construction cost base, which only improves the viability of the project in question. Conversely, if they had to provide more parking than that warranted by demand, then they have less to pay for the land and they'd have to look to purchasers for higher pricing to meet minimum profitability requirements. Where these costs exceed what the market can bear, projects are terminated or passed over.

In addition, it's highlighted that:

1) "There is no guarantee that homebuilders would "pass along savings" in the absence of minimum parking requirements. The unit is priced according to demand, not according to developer costs. Developers are equally unable to "pass along costs" for this same reason."

2) "More parking does increase the cost of housing – not because the costs are "passed along," but because, like any amenity, it makes the unit more functional and marketable."

Would builders continue to supply it even if they were not required to?

This is a question of viability. The supply of parking for a luxury strata project is a prerequisite for marketing a property as a luxury asset. Higher income households have a higher propensity to own one or more cars. Reduce the parking below what the market expects or demands, and you simply no longer have a luxury offer, you lose luxury pricing and the economics of the project collapses.

Developers will ALWAYS supply parking at the minimum levels that they think the market will demand. The requirement for 60% presales on condo projects offers a very quick test of market response. If parking availability is too low, absorption slows and it's more difficult to achieve the sales prices needed to reach 15%+ ROC demanded by lenders. Considering Rental properties, developers need to future proof their buildings – they are motivated to provide neither to much parking nor too little and most do a lot of homework to ensure that they offer the right amount. Some developers with sites in high amenity transit-oriented areas are moving to parking light buildings, taking a gamble that there are enough potential tenants willing to live car-free.

The bigger impact is that high parking requirements often kill higher intensity development options by reducing what a developer can afford to pay for land. Parking – as they say – often leads the plan.

PRO FORMAS

City Centre | Low Parking

City Centre, City Low Parking

	BASIC INFO			Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
Site	Site Area								34,080
	Parkade Footprint								31,200
	Gross Floor Area GFA			184,480	34,590	11,530	56,700	11,400	298,700
GFA	% GFA	%		62%	12%	4%	19%	4%	100%
	Floor Space Ratio	#		5.41	1.01	0.34	1.66	0.33	8.76
	Efficiency	%		83%	83%	85%	80%	90%	
NFA	NFA Sellable/Leasable	sf		153,118	28,710	9,801	45,360	10,260	247,249
	Avg Unit	sf		632.5	588.75	600	-	-	
Units	Units			242	49	16	-	-	307
	Parking 1 Bed or Less			0.50	0.50	0.30			
	Parking 2 Beds or More			0.60	0.50	0.50			
	Blended Parking Ratio	Resi = #/unit Commercial = #/sm		0.5350	0.5000	0.3700	0.0100	0.0100	
Parking	Parking Stalls	#		130	24	6	53	11	223
	Area/Stall	sf		425	425	425	425	425	
	Parkade Area	sf		55,044	10,362	2,569	22,387	4,501	94,863
	Parkade Levels			1.76	0.33	0.08	0.72	0.14	3.0
	Cost/sf Above Grade	$/sf GFA		$400	$400	$400	$325	$250	
	Cost/sf Below Grade	$/sf GFA		$170	$170	$170	$170	$170	
	Above Grade $	$		73,792,000	13,836,000	4,612,000	18,427,500	2,850,000	113,517,500
	Below Grade $	$		9,357,471	1,761,593	436,653	3,805,811	765,190	16,126,718
Hard $	TOTAL Hard Cost Assumption	$		83,149,471	15,597,593	5,048,653	22,233,311	3,615,190	129,644,218
	Blended Cost/sf GFA			451	451	438	392	317	434

	REVENUE			Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
	REVENUE								
Sales Value	Sale/sf	$		$1,600					
	Gross Sales	$		244,989,440					244,989,440
	Less Commissions at Close	-1.50%		(3,674,842)					(3,674,842)
Sales Value	NET SALES VALUE	$		241,314,598					241,314,598
Income Value	Avg Rent / sf / mo	$		-	$.00	$.50	$.75	$.75	
	Gross Potential Rent	$		-	1,722,582	294,035	2,041,200	461,700	4,519,497
	Stall Rent / Mo				$100	$100			
	Plus Parking At $/ mo	$100			29,258	7,252	63,211	12,709	
	Total Potential Income	$			1,751,840	301,267	2,104,411	474,409	4,631,927
	Vacancy %	%			-2.0%	-2.0%	-5.0%	-5.0%	
	Vacancy $	$			(35,037)	(6,025)	(105,221)	(23,720)	
	Vacancy /Unit/Mo	$			(60)	(31)	-	-	
	Operating Expense / Unit/Mo	$			(550)	(550)	-	-	
	Operating Expense Total	$			(321,841)	(107,806)		-	
	Operating Expense %	%			-18%	-36%	0%	0%	0%
	Net Operating Income			-	1,394,962	187,437	1,999,190	450,689	
	Cap Rate				4.25%	4.75%	5.00%	5.00%	
	INCOME VALUE			-	32,822,642	3,946,032	39,983,803	9,013,772	85,766,248
	TOTAL VALUE: SALES OR INCOME VALUE			241,314,598	32,822,642	3,946,032	39,983,803	9,013,772	327,080,847
	Value/sf NFA			51,576	51,143	$403	$881	$879	$1,323
	Value / Unit			996,820	673,094	241,581			

	COSTS			Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL	$/sf GFA	% Budget
1	Land cost			65,922,352	4,486,126	(2,102,170)	(1,463,541)	1,438,252	68,281,018	229	23.8%
1	Community Amenity Contribution	negotiated		-	1	1	1	1	5	0	0.0%
1	Property Transfer Tax	4.0% of Property Cost		2,636,894	179,445	(84,087)	(58,542)	57,530	2,731,241	9	1.0%
1	Appraisal & Due Diligence	25,000 by %GFA		15,440	2,895	965	4,746	954	25,000	0	0.0%
2	Construction Cost	from above		83,149,471	15,597,593	5,048,653	22,233,311	3,615,190	129,644,218	434	45.3%
2	Construction Management fee	0% construction		-	-	-	-	-	-	-	0.0%
2	Environmental	1 by % GFA		1	0	0	0	0	1	0	0.0%
2	Demo & HazMat	$426,000 by sf GFA		263,102	49,332	16,444	80,864	16,258	426,000	1	0.1%
2	On Site Servicing	$1 sf GFA		184,480	34,590	11,530	56,700	11,400	298,700	1	0.1%
2	Off Site Servicing	2% hard cost		1,662,989	311,952	100,973	444,666	72,304	2,592,884	9	0.9%
2	Furnishings & Equipment	$1 /sf GFA		184,480	34,590	11,530			230,600	1	0.1%
2	Other Construction	$0 /sf GFA		-	-	-	-	-	-	-	0.0%
3	Insurance	1.0% construction		854,445	160,281	51,891	228,155	37,152	1,331,924	4	0.5%
3	Legal	100,000 by %GFA		61,761	11,580	3,860	18,982	3,817	100,000	0	0.0%
4	City Rezoning Permit	$0.50 /sf GFA		92,240	17,295	5,765	28,350	5,700	149,350	1	0.1%
4	City Development Permit	$0.50 /sf GFA		92,240	17,295	5,765	28,350	5,700	149,350	1	0.1%
4	City Building Permit	0.01 x Construction		831,495	155,976	50,487	222,333	36,152	1,296,442	4	0.5%
4	City DCC / DCL	varies		6,541,661	472,499		1,236,060	248,520	8,498,740	28	3.0%
4	City Public Art	$1.98 /sf GFA Residential		365,270	68,488				433,759	1	0.2%
4	Metro Park 2025	$300 per unit($ 0.24/sf GFA other)		72,625	14,629		13,608	2,736	103,598	0	0.0%
4	Metro DD&SS 2025	$6,298 per unit		1,524,648	307,115	102,873	300,510	60,420	2,295,565	8	0.8%
4	Metro Water 2025	$6,791 per unit		1,643,995	331,155	110,925	300,510	60,420	2,447,006	8	0.9%
4	Translink DCC	$1,554 /unit (0r 1.25/sf non res))		376,199	75,779	25,383	70,875	14,250	562,486	2	0.2%
4	Blank								-	-	0.0%
4	BC Home Owner Protection & Warranty	$2,000 / condo unit		484,169					484,169	2	0.2%
4	Unrecoverable Property Tax	0.0030 x Property Value x 2 years		197,767	13,458	(6,307)	(4,391)	4,315	204,843	1	0.1%
5	Architect	2.250% construction		1,870,863	350,946	113,595	500,249	81,342	2,916,995	10	1.0%
5	Other Consultants	2.750% construction		2,286,610	428,934	138,838	611,416	99,418	3,565,216	12	1.2%
6	Sales Commissions (Dev Phase)	1.50% gross sales		3,674,842	-	-	-	-	3,674,842	12	1.3%
6	Marketing & Creative	2.00% gross sales		4,899,789	-	-	-	-	4,899,789	16	1.7%
6	Presentation Centre	$500,000		500,000		19,300		19,083	538,383	2	0.2%
6	Leasing Commissions	10% Y1 Rent					204,120	46,170	250,290	1	0.1%
6	Tenant Improvement Allowance	$25.00 /sf NFA					1,134,000	256,500	1,390,500	5	0.5%
7	Unrecoverable Building Operating Costs								-	-	0.0%
7	Other Operating Costs								-	-	0.0%
8	Development Contingency	1.00%	total cost less land	1,118,151	184,535	58,115	277,087	46,968	1,684,856	6	0.6%
8	Design Contingency	1.00%	design	41,575	7,799	2,524	11,117	1,808	64,822	0	0.0%
8	Construction Contingency	5.00%	construction	4,272,226	801,403	259,457	1,140,777	185,758	6,659,620	22	2.3%
8	Construction Cost Escalation	0.00%	construction	-	-	-	-	-	-	-	0.0%
9	Income During Development								-	-	0.0%
9	Other								-	-	0.0%
10	Development Management Fees	3.00%	Costs Above -Land	3,517,413	583,417	183,948	874,130	147,941	5,306,848	18	1.9%
10	Other Development Management								-	-	0.0%
11	GST Payable	waived for rental							-	-	0.0%
11	GST Credits								-	-	0.0%
	Blank									-	0.0%
12	Blank			-	-	-	-	-	-	-	0.0%
12	Blank									-	0.0%
12	Finance Interest & Fees	33,059,919 by %GFA		20,418,124	3,828,398	1,276,133	6,275,519	1,261,744	33,059,919	111	11.5%
	TOTAL COSTS			**209,757,319**	**28,527,505**	**5,406,392**	**34,769,963**	**7,837,801**	**286,298,980**	958	100.0%
	PROFIT (LOSS)			**31,557,279**	**4,295,137**	**(1,460,360)**	**5,213,841**	**1,175,970**	**40,781,867**	137	14.2%
	RETURN ON COST			**15.0%**	**15.1%**	**-27.0%**	**15.0%**	**15.0%**	**14.2%**		

	Revenue			Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
	GFA			184,480	34,590	11,530	56,700	11,400	298,700
	FSR			5.41	1.01	0.34	1.66	0.33	8.76
	Units			242	49	-	-	-	291
	Net Sales			241,314,598	-	-	-	-	241,314,598
	Income Value			-	32,822,642	3,946,032	39,983,803	9,013,772	85,766,248
	Total Revenue			**$241,314,598**	**$32,822,642**	**$3,946,032**	**$39,983,803**	**$9,013,772**	**$327,080,847**
1	**Land**			**68,574,687**	**4,668,467**	**(2,185,290)**	**(1,517,336)**	**1,496,737**	**71,037,264**
2	**Construction**			**85,444,523**	**16,028,057**	**5,189,130**	**22,815,542**	**3,715,152**	**133,192,403**
3	**Insurance & Legal**			**916,206**	**171,861**	**55,751**	**247,138**	**40,968**	**1,431,924**
4	**Government Fees**	5.8% total costs		**12,222,309**	**1,473,690**	**294,891**	**2,196,205**	**438,213**	**16,625,308**
5	**Design & Consultants**	4.9% Construction		**4,157,474**	**779,880**	**252,433**	**1,111,666**	**180,759**	**6,482,211**
6	**Marketing**	12.5% Revenue		**9,074,630**	-	**19,300**	**1,338,120**	**321,753**	**10,753,803**
7	**Interim Building Operations**			-	-	-	-	-	-
8	**Contingencies**	6.3% Construction Cost		**5,431,952**	**993,736**	**320,096**	**1,428,980**	**234,534**	**8,409,299**
9	**Adjustments**			-	-	-	-	-	-
10	**Development Management**	2.5% all cost less land		**3,517,413**	**583,417**	**183,948**	**874,130**	**147,941**	**5,306,848**
11	**GST**			-	-	-	-	-	-
12	**Finance**	12% total costs		20,418,124	**3,828,398**	**1,276,133**	**6,275,519**	**1,261,744**	**33,059,919**
	Total Costs			**$209,757,319**	**$28,527,505**	**$5,406,392**	**$34,769,963**	**$7,837,801**	**$286,298,980**
	Profit (Loss)			**$31,557,279**	**$4,295,137**	**-$1,460,360**	**$5,213,841**	**$1,175,970**	**$40,781,867**
	Return on Cost			15.0%	15.1%	-27.0%	15.0%	15.0%	14.2%
	Return on Revenue			13.1%	13.1%	-37.0%	13.0%	13.0%	12.5%
	Cost / Unit			$866,463	$585,014				
	Cost/sf GFA			1,137	825	469	613	688	958

City Centre, City Low Parking				Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
Stalls/ Unit				Avg Cost/Unit	Avg Cost/Unit	Avg Cost/Unit			
Parking Ratio Blended				0.5350	0.5000	0.3700			
Parking Construction Hard Cost / Unit				**38,654**	**36,125**	**26,733**			
Design Costs	5.0%			1,933	1,806	1,337			
Building Permit x hard cost	0.010			387	361	267			
Construction Insurance Costs	1.0%			406	361	267			
Marketing Costs	3.0%			1,448	-	-			
Development Contingency	1.0%			428	387	286			
Construction Contingency	5.0%			1,933	1,806	1,337			
Development Management	3.0%			1,356	1,225	907			
Finance	11.5%			5,375	4,858	3,595			
SUBTOTAL PARKING COST / UNIT				**$51,918**	**$46,930**	**$34,728**			
Profit	15%			7,788	7,040	5,209			
SUBTOTAL II PARKING COST / UNIT				**$59,706**	**$53,970**	**$39,938**			
GST	5%			2,985					
PTT	2%			1,194					
TOTAL PARKING COST / UNIT				**$63,885**	**$53,970**	**$39,938**	-	-	-
As % Unit Cost / Value				**6.4%**	**8.0%**	**16.5%**			
Downpayment	**15%**			**9,583**					
Principal before Insurance	85%			54,303					
Insurance	2.80%			1,520					
Principal AFTER Insurance				**$55,823**					
Amortization	Years			25					
5 Year Fixed Mortgage Rate	5.60%								
Mortgage Stress Test	2.00%								
Qualifying Mortgage Interest Rate	**7.60%**			**7.60%**					
Monthly Payment				$416					
Household Income to Qualify for Mortgage on Parking			32% income for Shelter	**$15,606**					

Income Based Return on Stall									
Monthly Rent/stall					$125	$125			
Monthly Rent on Avg Parking Per Unit					$75	$56			
Annual Income					$900	$666			
Operating Expense	-10%	estimate			-$90	-$67			
Net Operarating Income					$810	$599			
PARKING YIELD ON COST / UNIT					**1.5%**	**1.5%**			
Capitalization Rate					4.25%	4.75%			
Value at Average Stall / Unit					**$19,059**	**$12,619**			

City Centre | High Parking

City - HIGH Parking

	BASIC INFO				Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
Site	Site Area	-								34,080
	Parkade Footprint									31,200
	Gross Floor Area GFA				184,480	34,590	11,530	56,700	11,400	298,700
GFA	% GFA	%			62%	12%	4%	19%	4%	100%
	Floor Space Ratio	#			5.41	1.01	0.34	1.66	0.33	8.76
	Efficiency	%			83%	83%	85%	80%	90%	
NFA	NFA Sellable/Leasable	sf			153,118	28,710	9,801	45,360	10,260	247,249
	Avg Unit	sf			632.5	588.75	600			
Units	Units				242	49	16	-	-	307
	Parking 1 Bed or Less				1.60	1.10	1.00			
	Parking 2 Beds or More				2.00	1.50	1.30			
Parking	Parking Ratio	Resi = #/unit	Commercial = #/sm		1.7400	1.2400	1.1050	0.0500	0.0500	
	Parking Stalls	#			421	60	18	263	53	816
	Area/Stall	sf			425	425	425	425	425	
	Parkade Area	sf			179,021	25,699	7,671	111,936	22,506	346,832
	Parkade Levels				5.74	0.82	0.25	3.59	0.72	11.1
	Cost/sf Above Grade	$/sf GFA			$400	$400	$400	$325	$250	
	Cost/sf Below Grade	$/sf GFA			$170	$170	$170	$170	$170	
	Above Grade $	$			73,792,000	13,836,000	4,612,000	18,427,500	2,850,000	113,517,500
	Below Grade $	$			30,433,644	4,368,751	1,304,059	19,029,055	3,825,948	58,961,456
Hard $	TOTAL Hard Cost Assumption	$			104,225,644	18,204,751	5,916,059	37,456,555	6,675,948	172,478,956
	Blended Cost/sf GFA				565	526	513	661	586	577

	REVENUE				Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
	REVENUE									
Sales Value	Sale/sf	$			$1,600					
	Gross Sales	$			244,989,440					244,989,440
	Less Commissions at Close	-1.50%			(3,674,842)					(3,674,842)
Sales Value	NET SALES VALUE	$			241,314,598					241,314,598
Income Value	Avg Rent / sf / mo	$			-	$.00	2.50	3.75	3.75	
	Gross Potential Rent	$			-	1,722,582	294,015	2,041,200	461,700	4,519,497
	Stall Rent / Mo					$100	$100			
	Plus Parking At $/ mo	$100				72,561	21,659	316,054	63,545	
	Total Potential Income	$				1,795,143	315,674	2,357,254	525,245	4,993,315
	Vacancy %	%				-2.0%	-2.0%	-5.0%	-5.0%	
	Vacancy $	$				(35,903)	(6,313)	(117,863)	(26,262)	
	Vacancy /Unit/Mo	$				(61)	(32)	-	-	
	Operating Expense / Unit/Mo	$				(500)	-	-	-	
	Operating Expense Total	$				(321,841)	-	-	-	
	Operating Expense %	%				-18%	0%	0%	0%	0%
	Net Operating Income				-	1,437,398	309,361	2,239,391	498,983	
	Cap Rate					4.25%	4.75%	5.00%	5.00%	
	INCOME VALUE				-	33,821,141	6,512,855	44,787,817	9,979,658	95,101,471
	TOTAL VALUE: SALES OR INCOME VALUE				241,314,598	33,821,141	6,512,855	44,787,817	9,979,658	336,416,069
	Value/sf NFA				$1,576	$1,178	$660	$987	$973	$1,361
	Value / Unit				996,820	693,570	398,726	-	-	

	COSTS				Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL	$/sfGFA	% Budget
1	Land cost				44,309,397	2,789,820	(2,703,540)	(14,086,822)	(1,075,462)	29,233,394	98	10.0%
1	Community Amenity Contribution	negotiated			1	1	1	1	1	5	0	0.0%
1	Property Transfer Tax	4.0%	of Property Cost		1,772,376	111,593	(108,142)	(563,473)	(43,018)	1,169,336	4	0.4%
1	Appraisal & Due Diligence	25,000	by %GFA		15,440	2,895	965	4,746	954	25,000	0	0.0%
2	Construction Cost		from above		104,225,644	18,204,751	5,916,059	37,456,555	6,675,948	172,478,956	577	58.9%
2	Construction Management Fee	0%	construction		-	-	-	-	-	-	-	0.0%
2	Environmental	1	by % GFA		1	0	0	0	0	1	0	0.0%
2	Demo & Haz Mat	$426,000	by sf GFA		263,102	49,332	16,444	80,864	16,258	426,000	1	0.1%
2	On Site Servicing	$1	sf GFA		184,480	34,590	11,530	56,700	11,400	298,700	1	0.1%
2	Off Site Servicing	2%	hard cost		2,084,513	364,095	118,321	749,131	133,519	3,449,579	12	1.2%
2	Furnishings & Equipment	$1	/sf GFA		184,480	34,590	11,530	-	-	230,600	1	0.1%
2	Other Construction	$0	/sf GFA		-	-	-	-	-	-	-	0.0%
3	Insurance	1.0%	construction		1,069,422	186,874	60,739	383,433	68,371	1,768,838	6	0.6%
3	Legal	100,000	by %GFA		61,761	11,580	3,860	18,982	3,817	100,000	0	0.0%
4	City Rezoning Permit	$0.50	/sf GFA		92,240	17,295	5,765	28,350	5,700	149,350	1	0.1%
4	City Development Permit	$0.50	/sf GFA		92,240	17,295	5,765	28,350	5,700	149,350	1	0.1%
4	City Building Permit	0.01	x Construction		1,042,256	182,048	59,161	374,566	66,759	1,724,790	6	0.6%
4	City DCC / DCL	varies			6,541,661	472,499		1,236,060	248,520	8,498,740	28	2.9%
4	City Public Art	$1.98	/sf GFA Residential		365,270	68,488				433,759	1	0.1%
4	Metro Park 2025	$300	per unit($ 0.24/sf GFA other)		72,625	14,629		13,608	2,736	103,598	0	0.0%
4	Metro DD&SS 2025	$6,298	per unit		1,524,648	307,115	102,873	300,510	60,420	2,295,565	8	0.8%
4	Metro Water 2025	$6,791	per unit		1,643,995	331,155	110,925	300,510	60,420	2,447,006	8	0.8%
4	Translink DCC	$1,554	/unit (0r 1.25/sf non res))		376,199	75,779	25,383	70,875	14,250	562,486	2	0.2%
4	Blank									-	-	0.0%
4	BC Home Owner Protection & Warranty	$2,000	/ condo unit		484,169					484,169	2	0.2%
4	Unrecoverable Property Tax	0.0030	x Property Value x 2 years		132,928	8,369	(8,111)	(42,260)	(3,226)	87,700	0	0.0%
5	Architect	2.250%	construction		2,345,077	409,607	133,111	842,772	150,209	3,880,777	13	1.3%
5	Other Consultants	2.750%	construction		2,866,205	500,631	162,692	1,030,055	183,589	4,743,171	16	1.6%
6	Sales Commissions (Dev Phase)	1.50%	gross sales		3,674,842	-	-	-	-	3,674,842	12	1.3%
6	Marketing & Creative	2.00%	gross sales		4,899,789	-	-	-	-	4,899,789	16	1.7%
6	Presentation Centre	$500,000			500,000		19,300		19,083	538,383	2	0.2%
6	Leasing Commissions	10%	Y1 Rent					204,120	46,170	250,290	1	0.1%
6	Tenant Improvement Allowance	$25.00	/sf NFA					1,134,000	256,500	1,390,500	5	0.5%
7	Unrecoverable Building Operating Costs									-	-	0.0%
7	Other Operating Costs									-	-	0.0%
8	Development Contingency	1.00%	total cost less land		1,347,275	212,907	67,553	442,672	80,261	2,150,669	7	0.7%
8	Design Contingency	1.00%	design		52,113	9,102	2,958	18,728	3,338	86,239	0	0.0%
8	Construction Contingency	5.00%	construction		5,347,111	934,368	303,694	1,917,163	341,856	8,844,192	30	3.0%
8	Construction Cost Escalation	0.00%	construction		-	-	-	-	-	-	-	0.0%
9	Income During Development									-	-	0.0%
9	Other									-	-	0.0%
10	Development Management Fees	3.00%	Costs Above -Land		4,244,221	673,413	213,887	1,399,372	253,548	6,784,441	23	2.3%
10	Other Development Management									-	-	0.0%
11	GST Payable	waived for rental								-	-	0.0%
11	GST Credits									-	-	0.0%
	Blank									-	-	0.0%
12	Blank				-	-	-	-	-	-	-	0.0%
12	Blank									-	-	0.0%
12	Finance Interest & Fees	29,246,508	by %GFA		18,062,925	3,386,799	1,128,933	5,551,647	1,116,204	29,246,508	98	10.0%
	TOTAL COSTS				209,878,407	29,411,619	5,661,656	38,951,215	8,703,825	292,606,723	980	100.0%
	PROFIT (LOSS)				31,436,191	4,409,522	851,199	5,836,601	1,275,833	43,809,346	147	15.0%
	RETURN ON COST				15.0%	15.0%	15.0%	15.0%	14.7%	15.0%		

	Revenue				Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
	GFA				184,480	34,590	11,530	56,700	11,400	298,700
	FSR				5.41	1.01	0.34	1.66	0.33	8.76
	Units				242	49	-	-		291
	Net Sales				241,314,598	-	-	-	-	241,314,598
	Income Value				-	33,821,141	6,512,855	44,787,817	9,979,658	95,101,471
	Total Revenue				**$241,314,598**	**$33,821,141**	**$6,512,855**	**$44,787,817**	**$9,979,658**	**$336,416,069**
1	**Land**				**46,097,214**	**2,904,309**	**(2,810,716)**	**(14,645,548)**	**(1,117,525)**	**30,427,734**
2	**Construction**				**106,942,219**	**18,687,357**	**6,073,884**	**38,343,251**	**6,837,125**	**176,883,836**
3	**Insurance & Legal**				**1,131,183**	**198,454**	**64,599**	**402,415**	**72,188**	**1,868,838**
4	**Government Fees**	5.8%	total costs		**12,368,232**	**1,494,672**	**301,761**	**2,310,568**	**461,279**	**16,936,513**
5	**Design & Consultants**	4.9%	Construction		**5,211,282**	**910,238**	**295,803**	**1,872,828**	**333,797**	**8,623,948**
6	**Marketing**	11.3%	Revenue		**9,074,630**	-	**19,300**	**1,338,120**	**321,753**	**10,753,803**
7	**Interim Building Operations**				-	-	-	-	-	-
8	**Contingencies**	6.3%	Construction Cost		**6,746,499**	**1,156,377**	**374,206**	**2,378,563**	**425,456**	**11,081,101**
9	**Adjustments**				-	-	-	-	-	-
10	**Development Management**	2.6%	all cost less land		**4,244,221**	**673,413**	**213,887**	**1,399,372**	**253,548**	**6,784,441**
11	**GST**				-	-	-	-	-	-
12	**Finance**	10%	total costs		**18,062,925**	**3,386,799**	**1,128,933**	**5,551,647**	**1,116,204**	**29,246,508**
	Total Costs				**$209,878,407**	**$29,411,619**	**$5,661,656**	**$38,951,215**	**$8,703,825**	**$292,606,723**
	Profit (Loss)				**$31,436,191**	**$4,409,522**	**$851,199**	**$5,836,601**	**$1,275,833**	**$43,809,346**
	Return on Cost				15.0%	15.0%	15.0%	15.0%	14.7%	15.0%
	Return on Revenue				13.0%	13.0%	13.1%	13.0%	12.8%	13.0%
	Cost / Unit				$866,964	$603,144				
	Cost/sf GFA				1,138	850	491	687	763	980

City - HIGH Parking					Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
Stalls/ Unit					Avg Cost/Unit	Avg Cost/Unit	Avg Cost/Unit			
Parking Ratio Blended					1.7400	1.2400	1.1050			
Parking Construction Hard Cost / Unit					125,715	89,590	79,836			
Design Costs	5.0%				6,286	4,480	3,992			
Building Permit x hard cost	0.010				1,257	896	798			
Construction Insurance Costs	1.0%				1,320	896	798			
Marketing Costs	3.5%				4,710	-	-			
Development Contingency	1.0%				1,393	959	854			
Construction Contingency	5.0%				6,286	4,480	3,992			
Development Management	3.0%				4,409	3,039	2,708			
Finance	10.0%				15,130	10,429	9,293			
SUBTOTAL PARKING COST / UNIT					**$185,506**	**$114,762**	**$102,272**			
Profit	15%				24,976	17,215	15,341			
SUBTOTAL II PARKING COST / UNIT					**$191,482**	**$131,982**	**$117,613**			
GST	5%				9,574					
PTT	2%				3,830					
TOTAL PARKING COST / UNIT					**$204,886**	**$131,982**	**$117,613**	-	-	-
As % Unit Cost / Value					**20.6%**	**19.0%**	**29.5%**			
Downpayment	15%				30,733					
Principal before Insurance	85%				174,153					
Insurance	2.80%				4,876					
Principal AFTER Insurance					$179,029					
Amortization	Years				25					
5 Year Fixed Mortgage Rate	5.60%									
Mortgage Stress Test	**2.00%**									
Qualifying Mortgage Interest Rate	**7.60%**				**7.60%**					
Monthly Payment					-$1,331					
Household Income to Qualify for Mortgage on Parking		32%	income for Shelter		**$50,050**					

Income Based Return on Stall						Market	BMR			
Monthly Rent/stall						$150	$150			
Monthly Rent on Avg Parking Per Unit						$186	$166			
Annual Income						$2,232	$1,989			
Operating Expense	-10%	estimate				-$223	-$199			
Net Operating Income						$2,009	$1,790			
PARKING YIELD ON COST / UNIT						1.5%	1.5%			
Capitalization Rate						4.25%	4.75%			
Value at Average Stall / Unit						$47,266	$37,686			

City Centre | Average Parking

City - Average Parking

	BASIC INFO		Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
Site	Site Area							34,080
	Parkade Footprint							31,206
	Gross Floor Area GFA		184,480	34,590	11,530	56,700	11,400	298,700
GFA	% GFA	%	62%	12%	4%	19%	4%	100%
	Floor Space Ratio	#	5.41	1.01	0.34	1.66	0.33	8.76
	Efficiency	%	83%	83%	85%	80%	90%	
NFA	NFA Sellable/Leasable	sf	153,118	28,710	9,801	45,360	10,260	247,249
	Avg Unit	sf	632.5	588.75	600			
Units	Units		242	49	16	-	-	307
	Parking 1 Bed or Less		1.10	0.80	0.50			
	Parking 2 Beds or More		1.40	0.90	0.50			
	Bleded Parking Ratio	Resi = #/unit Commercial = #/sm	1.2050	0.8350	0.5000	0.0300	0.0300	
Parking	Parking Stalls	#	292	41	8	158	32	530
	Area/Stall	sf	423	425	425	425	425	
	Parkade Area	sf	123,977	17,305	3,471	67,161	13,503	225,418
	Parkade Levels		3.97	0.55	0.11	2.15	0.43	7.2
	Cost/sf Above Grade	$/sf GFA	$400	$400	$400	$325	$250	
	Cost/sf Below Grade	$/sf GFA	$170	$170	$170	$170	$170	
	Above Grade $	$	73,792,000	13,836,000	4,612,000	18,427,500	2,850,000	113,517,500
	Below Grade $	$	21,076,173	2,941,860	590,072	11,417,433	2,295,569	38,321,107
Hard $	TOTAL Hard Cost Assumption	$	94,868,173	16,777,860	5,202,072	29,844,933	5,145,569	151,838,607
	Blended Cost/sf GFA		514	485	451	526	451	508

	REVENUE		Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
	REVENUE							
Sales Value	Sale/sf	$	$1,600					
	Gross Sales	$	244,989,440					244,989,440
	Less Commissions at Close	-1.50%	(3,674,842)					(3,674,842)
Sales Value	NET SALES VALUE	$	241,314,598					241,314,598
Income Value	Avg Rent / sf / mo	$	-	5.00	2.50	3.75	3.75	
	Gross Potential Rent	$	-	1,722,582	294,015	2,041,200	461,700	4,519,497
	Stall Rent / Mo			$100	$100			
	Plus Parking At $/ mo	$100		48,861	9,801	189,632	38,127	
	Total Potential Income	$		1,771,443	303,816	2,230,832	499,827	4,805,918
	Vacancy %	%		-2.0%	-2.0%	-5.0%	-5.0%	
	Vacancy $	$		(35,429)	(6,076)	(111,542)	(24,991)	
	Vacancy /Unit/Mo	$		(61)	(31)	-	-	
	Operating Expense / Unit/Mo	$		(150)	-	-	-	
	Operating Expense Total	$		(321,841)	-		-	
	Operating Expense %	%		-18%	0%	0%	0%	0%
	Net Operating Income		-	1,414,173	297,739	2,119,291	474,836	
	Cap Rate			4.25%	4.75%	5.00%	5.00%	
	INCOME VALUE		-	33,274,665	6,268,193	42,385,810	9,496,715	91,425,383
	TOTAL VALUE: SALES OR INCOME VALUE		241,314,598	33,274,665	6,268,193	42,385,810	9,496,715	332,739,982
	Value/sf NFA		$1,576	$1,159	$640	$934	$926	$1,346
	Value / Unit		996,820	682,364	383,747	-	-	-

	COSTS			Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL	$/sf GFA	% Budget
1	Land cost			$3,892,037	3,748,708	(2,162,962)	(7,769,200)	181,223	47,889,787	160	16.6%
1	Community Amenity Contribution	negotiated		-	1	1	1	1	5	0	0.0%
1	Property Transfer Tax	4.0% of Property Cost		2,155,681	149,948	(86,519)	(310,768)	7,249	1,915,591	6	0.7%
1	Appraisal & Due Diligence	25,000 by %GFA		15,440	2,895	965	4,746	954	25,000	0	0.0%
2	Construction Cost	from above		94,868,173	16,777,860	5,202,072	29,844,933	5,145,569	151,838,607	508	52.5%
2	Construction Management fee	0% construction		-	-	-	-	-	-	-	0.0%
2	Environmental	1 by % GFA		1	0	0	0	0	1	0	0.0%
2	Demo & Haz/Mat	$426,000 by sf GFA		263,102	49,332	16,444	80,864	16,258	426,000	1	0.1%
2	On Site Servicing	$1 sf GFA		184,480	34,590	11,530	56,700	11,400	298,700	1	0.1%
2	Off Site Servicing	2% hard cost		1,897,363	335,557	104,041	596,899	102,911	3,036,772	10	1.0%
2	Furnishings & Equipment	$1 /sf GFA		184,480	34,590	11,530	-	-	230,600	1	0.1%
2	Other Construction	$0 /sf GFA		-	-	-	-	-	-	-	0.0%
3	Insurance	1.0% construction		973,976	172,319	53,456	305,794	52,761	1,558,307	5	0.5%
3	Legal	100,000 by %GFA		61,761	11,580	3,860	18,982	3,817	100,000	0	0.0%
4	City Rezoning Permit	$0.50 /sf GFA		92,240	17,295	5,765	28,350	5,700	149,350	1	0.1%
4	City Development Permit	$0.50 /sf GFA		92,240	17,295	5,765	28,350	5,700	149,350	1	0.1%
4	City Building Permit	0.01 x Construction		948,682	167,779	52,021	298,449	51,456	1,518,386	5	0.5%
4	City DCC / DCL	varies		6,541,661	472,499		1,236,060	248,520	8,498,740	28	2.9%
4	City Public Art	$1.98 /sf GFA Residential		365,270	68,488				433,759	1	0.1%
4	Metro Park 2025	$300 per unit($ 0.24/sf GFA other)		72,625	14,629		13,608	2,736	103,598	0	0.0%
4	Metro DD&SS 2025	$6,298 per unit		1,524,648	307,115	102,873	300,510	60,420	2,295,565	8	0.8%
4	Metro Water 2025	$6,791 per unit		1,643,995	331,155	110,925	300,510	60,420	2,447,006	8	0.8%
4	Translink DCC	$1,554 /unit (0r 1.25/sf non res))		376,199	75,779	25,383	70,875	14,250	562,486	2	0.2%
4	Blank								-	-	0.0%
4	BC Home Owner Protection & Warranty	$2,000 / condo unit		484,169					484,169	2	0.2%
4	Unrecoverable Property Tax	0.0030 x Property Value x 2 years		161,676	11,246	(6,489)	(23,308)	544	143,669	0	0.0%
5	Architect	2.250% construction		2,134,534	377,502	117,047	671,511	115,775	3,416,369	11	1.2%
5	Other Consultants	2.750% construction		2,608,875	461,391	143,057	820,736	141,503	4,175,562	14	1.4%
6	Sales Commissions (Dev Phase)	1.50% gross sales		3,674,842	-	-	-	-	3,674,842	12	1.3%
6	Marketing & Creative	2.00% gross sales		4,899,789	-	-	-	-	4,899,789	16	1.7%
6	Presentation Centre	$500,000		500,000		19,300		19,083	538,383	2	0.2%
6	Leasing Commissions	10% Y1 Rent					204,120	46,170	250,290	1	0.1%
6	Tenant Improvement Allowance	$25.00 /sf NFA					1,134,000	256,500	1,390,500	5	0.5%
7	Unrecoverable Building Operating Costs								-	-	0.0%
7	Other Operating Costs								-	-	0.0%
8	Development Contingency	1.00%	total cost less land	1,245,548	197,380	59,786	359,879	63,615	1,926,208	6	0.7%
8	Design Contingency	1.00%	design	47,434	8,389	2,601	14,922	2,573	75,919	0	0.0%
8	Construction Contingency	5.00%	construction	4,869,880	861,596	267,281	1,528,970	263,807	7,791,534	26	2.7%
8	Construction Cost Escalation	0.00%	construction	-	-	-	-	-	-	-	0.0%
9	Income During Development								-	-	0.0%
9	Other								-	-	0.0%
10	Development Management Fees	3.00%	Costs Above -Land	3,921,529	624,161	189,247	1,136,751	200,745	6,072,434	20	2.1%
10	Other Development Management								-	-	0.0%
11	GST Payable	waived for rental							-	-	0.0%
11	GST Credits								-	-	0.0%
	Blank								-	-	0.0%
12	Blank			-	-	-	-	-	-	-	0.0%
12	Blank								-	-	0.0%
12	Finance Interest & Fees	31,046,906 by %GFA		19,174,868	3,595,288	1,198,429	5,893,403	1,184,917	31,046,905	104	10.7%
	TOTAL COSTS			209,877,199	28,926,369	5,447,390	36,846,649	8,266,576	289,364,184	969	100.0%
	PROFIT (LOSS)			31,437,399	4,348,296	820,804	5,539,161	1,230,138	43,375,798	145	15.0%
	RETURN ON COST			15.0%	15.0%	15.1%	15.0%	14.9%	15.0%		

	Revenue			Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
	GFA			184,480	34,590	11,530	56,700	11,400	298,700
	FSR			5.41	1.01	0.34	1.66	0.33	8.76
	Units			242	49	-	-	-	291
	Net Sales			241,314,598	-	-	-	-	241,314,598
	Income Value			-	33,274,665	6,268,193	42,385,810	9,496,715	91,425,383
	Total Revenue			**$241,314,598**	**$33,274,665**	**$6,268,193**	**$42,385,810**	**$9,496,715**	**$332,739,982**
1	**Land**			**56,063,160**	**3,901,593**	**(2,348,535)**	**(8,075,221)**	**189,427**	**49,830,384**
2	**Construction**			**97,397,599**	**17,231,929**	**5,345,617**	**30,579,396**	**5,276,138**	**155,830,680**
3	**Insurance & Legal**			**1,035,737**	**183,899**	**57,316**	**324,776**	**56,578**	**1,658,307**
4	**Government Fees**	5.8%	total costs	**12,303,405**	**1,483,280**	**296,243**	**2,253,405**	**449,745**	**16,786,079**
5	**Design & Consultants**	4.9%	Construction	**4,743,409**	**838,893**	**260,104**	**1,492,247**	**257,278**	**7,591,930**
6	**Marketing**	11.8%	Revenue	**9,074,630**	-	**19,300**	**1,338,120**	**321,753**	**10,753,803**
7	**Interim Building Operations**			-	-	-	-	-	-
8	**Contingencies**	6.3%	Construction Cost	**6,162,862**	**1,067,365**	**329,668**	**1,903,772**	**329,995**	**9,793,661**
9	**Adjustments**			-	-	-	-	-	-
10	**Development Management**	2.5%	all cost less land	**3,921,529**	**624,161**	**189,247**	**1,136,751**	**200,745**	**6,072,434**
11	**GST**			-	-	-	-	-	-
12	**Finance**	11%	total costs	**19,174,868**	**3,595,288**	**1,198,429**	**5,893,403**	**1,184,917**	**31,046,905**
	Total Costs			**$209,877,199**	**$28,926,369**	**$5,447,390**	**$36,846,649**	**$8,266,576**	**$289,364,184**
	Profit (Loss)			**$31,437,399**	**$4,348,296**	**$820,804**	**$5,539,161**	**$1,230,138**	**$43,375,798**
	Return on Cost			15.0%	15.0%	15.1%	15.0%	14.9%	15.0%
	Return on Revenue			13.0%	13.1%	13.1%	13.1%	13.0%	13.0%
	Cost / Unit			$866,959	$593,193				
	Cost/sf GFA			1,138	836	472	650	725	969

City - Average Parking				Condo	Mkt Rent	BM Rent	Office	Retail	TOTAL
Stalls/ Unit				Avg Cost/Unit	Avg Cost/Unit	Avg Cost/Unit			
Parking Ratio Blended				1.2050	0.8350	0.5000			
Parking Construction Hard Cost / Unit				87,061	60,329	36,125			
Design Costs	5.0%			4,353	3,016	1,806			
Building Permit x hard cost	0.0036			871	603	361			
Construction Insurance Costs	1.0%			914	603	361			
Marketing Costs	3.5%			3,262	-	-			
Development Contingency	1.0%			965	646	387			
Construction Contingency	5.0%			4,353	3,016	1,806			
Development Management	3.0%			3,053	2,046	1,225			
Finance	10.7%			11,248	7,538	4,514			
SUBTOTAL PARKING COST / UNIT				**$116,080**	**$77,799**	**$46,586**			
Profit	15%			17,412	11,670	6,988			
SUBTOTAL II PARKING COST / UNIT				**$133,492**	**$89,468**	**$53,574**			
GST	5%			6,675					
PTT	2%			2,670					
TOTAL PARKING COST / UNIT				**$142,836**	**$89,468**	**$53,574**	-	-	-
As % Unit Cost / Value				**14.3%**	**19.1%**	**14.0%**			
Downpayment	15%			**21,425**					
Principal before Insurance	85%			121,411					
Insurance	2.80%			3,400					
Principal AFTER Insurance				**$124,810**					
Amortization	Years			25					
5 Year Fixed Mortgage Rate	5.60%								
Mortgage Stress Test	2.00%								
Qualifying Mortgage Interest Rate	**7.60%**			**7.60%**					
Monthly Payment				-$953					
Household Income to Qualify for Mortgage on Parking		32% income for Shelter		**$34,893**					

Income Based Return on Stall									
Monthly Rent/stall					$150	$150			
Monthly Rent on Avg Parking Per Unit					$125	$75			
Annual Income					$1,503	$900			
Operating Expense	-10%	estimate			-$150	-$90			
Net Operating Income					$1,353	$810			
PARKING YIELD ON COST / UNIT					**1.5%**	**1.5%**			
Capitalization Rate					4.25%	4.75%			
Value at Average Stall / Unit					**$31,828**	**$17,053**			

Appendix A: Key Pro Forma Assumptions

Land Residual

Land value is calculated on a "residual" basis after considering all revenues, and costs and an expected financial "Return on Cost" of 15% . The residual is what a developer/investor would be prepared to offer on a property while meeting profitability thresholds for the investor and for banks that will finance construction. Note that below market rentals and uses that trigger profits less than 15% Return on Cost will have a "Negative Land Residual".

Property Transfer Tax

The general property transfer tax applies for all taxable transactions. The general property transfer tax rate is:

- 1% of the fair market value up to and including $200,000
- Another 2% of the fair market value greater than $200,000 and up to and including $2,000,000
- Another 3% of the fair market value greater than $2,000,000

Construction Hard Costs

"Hard" costs are calculated separately for above grade and below grade construction because the overall building cost will vary considerably based on the amount of underground parking provided. In urban contexts, Cities do not approve significant amounts of surface parking.

Concrete High Rise	$400/sf GFA above grade
Retail Shell	$250/sf GFA
Office	$325/sf GFA
Below Grade Parking	$170/sf GFA below grade

Design

Design costs are estimated at 5% of Construction Hard Cost for Multifamily and Mixed Use development at scale.

Insurance

Estimates for Third-Party and Wrap Up insurance are

- 2% x wood frame construction cost (because wood burns)
- 1% x concrete construction cost

City Fees (vary by City)

- Rezoning: Assume $0.50/sf for Rezoning fee
- Development Permit: Assume $0.50/sf for Development Permit Fee
- Building Permit: Assume $10/ $1000 construction cost for Building Permit Fee
- Community Amenity Contributions: generally negotiated in Cash or In-kind

Regional Fees (vary by City)

Water DCC

Assist Factor	Existing 50%	45% Jan 1, 2025	15% Jan 1, 2026	1% Jan 1, 2027
Residential Lot Development Unit	$6,692	$10,952	$16,926	$19,714
Townhouse Dwelling Unit	$5,696	$9,839	$15,206	$17,710
Apartment Dwelling Unit	$4,261	$6,791	$10,495	$12,223
Non-Residential (per square foot)	$3.39	$5.30	$8.19	$9.54

Park DCC

Assist Factor	Existing	75% Jan 1, 2025	50% Jan 1, 2026	1% Jan 1, 2027
Residential Lot Development Unit	-	$491	$981	$1,943
Townhouse Dwelling Unit	-	$442	$884	$1,751
Apartment Dwelling Unit	-	$303	$606	$1,199
Non-Residential (per square foot)	-	$0.24	$0.48	$0.94

Liquid Waste DCC

Assist Factor	Existing 17.5%	16% Jan 1, 2025	10% Jan 1, 2026	1% Jan 1, 2027
VSA				
Residential Lot Development Unit	$3,335	$10,498	$11,290	$12,476
Townhouse Dwelling Unit	$2,983	$9,593	$10,316	$11,400
Apartment Dwelling Unit	$1,988	$6,298	$6,772	$7,484
Non-Residential (per square foot)	$1.63	$5.30	$5.70	$6.30
NSSA				
Residential Lot Development Unit	$3,300	$9,760	$10,478	$11,557
Townhouse Dwelling Unit	$2,786	$8,996	$9,658	$10,652
Apartment Dwelling Unit	$2,030	$6,005	$6,448	$7,111
Non-Residential (per square foot)	$1.67	$5.00	$5.37	$5.92
LISA				
Residential Lot Development Unit	$3,313	$5,683	$6,152	$6,855
Townhouse Dwelling Unit	$2,756	$4,927	$5,333	$5,943
Apartment Dwelling Unit	$2,042	$3,516	$3,806	$4,241
Non-Residential (per square foot)	$1.54	$2.55	$2.76	$3.08
FSA				
Residential Lot Development Unit	$6,254	$11,443	$12,311	$13,613
Townhouse Dwelling Unit	$5,390	$10,015	$10,775	$11,914
Apartment Dwelling Unit	$4,269	$7,302	$7,855	$8,686
Non-Residential (per square foot)	$3.30	$5.41	$5.82	$6.43

Third Party Warranty

The Province of BC Requires that Developers selling multifamily housing register under the BC Homeowner Protection Act and secure Third-Party Warranty 2-5-10 year coverage for the property. Costs for this are assumed at $2,000 per unit.

Marketing Expenses (Condo)

- **Presentation Centre:** Condominium projects generally require a marketing centre, the cost of which can range from $500K to $1M.
- **Sale Commissions:** Condo sales generally require a 3% commission: half is paid at closing as a deduction from revenue; the other half is paid at the time of the presale and is therefore captured in the development budget as a cost during the development period.

Marketing Expenses (Residential Rental)

- 1/12 of Y1 Market Rent is budgeted as a leasing incentive.

Marketing Expenses (Commercial)

- 10% of Y1 Gross Rents cover commercial leasing commissions

Contingencies

It's prudent to budget for some construction cost risk but the standard for projecting project profitability is to use today's costs and today's values.

Development Contingency	1.00%	Total cost less land cost
Design Contingency	1.00%	Design costs
Construction Contingency	5.00%	Construction Hard Cost
Construction Cost Escalation	0.00%	Construction Hard Cost

Finance & Value Assumptions

Equity	25% of total development cost, advanced first until construction commencement.
Construction Finance Interest	Prime rate interest on progressive construction draws following 100% equity contribution.
Construction Finance Fee	2% of Maximum Construction Loan
Residential Take Out Finance	CMHC Apartment Construction Loan Program • Gross Rents at 90% of Market Potential • Mortgage Principal Max calculated on basis Debt Coverage Ratio of 1.1 x Net Operating Income, Qualifying Interest Face Rate of 4.25%, 50 Year amortization • "True Rate" is 100 basis points lower than Qualifying Interest Face Rate (e.g. 3.25%)
Condo Value	$1600/sf Parking included with purchase of most units.
Market Rental Value	Rents at $5.00/ Net Floor Area; 2% Vacancy; operating costs of $550/unit. Parking Stalls Rented at $100/month
Below Market Rental Value	Rents at $2.50 / Net Floor Area; 2% Vacancy; operating costs of $550/unit. Parking Stalls Rented at $100/month
Retail Value	$45 NNN rent, 5% Vacancy. Value = Net Operating Income / Capitalization Rate of 5%
Office Value	$45 NNN rent, 5% Vacancy. Value = Net Operating Income / Capitalization Rate of 5%

Note to Reader

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This report is necessarily forward looking, with assumptions and forecasts based on current information from many parties including reports shared by the Client, the client's representatives and other third-party consultants, architects and engineers. Many real estate variables will change over the course of a project, so any conclusions or opinions communicated in this report need to be read and understood in this context.

Liveable City Planning Ltd. holds no qualifications in any Engineering discipline including Environmental or Geotechnical Engineering. We may make use of third party Geotechnical, Engineering, and Environmental reports to inform budgets and schedules by summarizing key observations and conclusions, but we cannot offer professional opinions on topics in these fields of work.

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APPENDIX C

Developer Interviews

Off-Street Parking Survey

Note(s): If possible, provide up to three recent project examples that are indicative of the work your firm does.

Developer / Development Questions/Information:

QUESTIONS	RESPONSE
Developer Name:	Anonymous
Approximate # of employees:	55
Contact Name:	Anonymous
Interview Date:	January 31, 2024
Recent "Indicative" Project Example #1 (no specific project name required, general info only)	
Approximate Year Completed (OP)	2021
Which City is the development located in?	Surrey, BC
General Land Use & Product Type	The project is a comprehensive development consisting of residential market rental units with ground floor commercial retail units (CRU).
Development Size (#units, floors)	371 units, 34 storeys
Close to transit? (SkyTrain, FTN, Bus Exchange)	Yes, approximately 100metres to SkyTrain
In your view, Under / Overparked Relative to Demand?	Slightly overparked (overprovision of parking spaces)
Recent "Indicative" Project Example #2 (no specific project name required, general info only)	
Approximate Year Completed (OP)	2023
Which City is the development located in?	Vancouver, BC
General Land Use & Product Type	Mixed-Use (Residential & Commercial)
Development Size (#units, floors)	94 residential units and 2 commercial units across 14 storeys plus a rooftop amenity.
Close to transit? (SkyTrain, FTN, Bus Exchange)	Close to the Kootenay Bus Exchange
In your view, Under / Overparked Relative to Demand?	In-Line with demand (neither under nor overparked)
Recent "Indicative" Project Example #3 (no specific project name required, general info only)	
Approximate Year Completed (OP)	2025
Which City is the development located in?	Vancouver, BC
General Land Use & Product Type	Rezoned to CD-1 – mixed-use development consisting of rental residential, office, grocery, SkyTrain head house and ground floor retail units.
Development Size (#units, floors)	39 storey tower, 223 residential rental units, 100,000 sq.ft. office space, and 22,000 sq.ft. grocery store and ground floor retail
Close to transit? (SkyTrain, FTN, Bus Exchange)	The SkyTrain station is constructed within the parkade of the development.
In your view, Under / Overparked Relative to Demand?	Overparked (over provision of parking spaces)

Market Conditions Questions

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
1	General	What are the key factors for determining the number of vehicle parking spaces in your development projects?	Project #1: Bylaw parking requirements and market demand.
			Project #2: Parking requirements under City policy & market evaluation of accessible transportation
			Project #3: We estimate demand based on the maximum anticipated density, types of uses, and parking minimums under City policy at the time of permits.
2	Parking Minimums	How would you approach the proposed developments differently if parking minimums were relaxed or eliminated? For context: this is very likely to be the case in the future given Bill 44 and Bill 47.	Project #1: Base parking purely on demand estimates or requirements by tenant(s)
			Project #2: Evaluate needs based on accessible transportation in the area, demographics, and the development unit mix.
			Project #3: I don't think we would have built as much parking as previously required by minimum amounts, especially since the site is right on transit and parking demand has decreased, particularly for rental residential buildings.
3	Cost	How much does it cost to construct parking in various development contexts? $/sf GFA Parking or $/Stall	Project #1: approximately $50,000 per stall
			Project #2: approximately $200 per sq.ft.
			Project #3: approximately $100,000 per stall
4	Marketability	To what extent is parking a marketable / essential asset in a development? For context: Do you build as little parking as possible to reduce your development costs? Do you build to meet the minimum demanded by the specific real estate market? Or are you incented to maximize supply because parking may be a profit centre?	Project #1: Given the transit-oriented development nature, parking provision is based on market demand, and it is not considered a profit centre relative to cost.
			Project #2: Build to meet the demand of the specific area market.
			Project #3: Depends on the ground conditions and therefore the cost to construct parking. We have a minimum amount we must provide to ensure we can lease or sell our units, so it is market driven. Although there is value attached to parking stalls, sometimes the added cost and risk of building deeper outweigh any potential income from the stalls.
4b	Profitability	Do you see parking stalls as a development "profit centre"?	Project #1: No
			Project #2: No
			Project #3: No, parking stalls are always viewed holistically within the development rather than as a separate profit centre.
5	Pricing	Skeptics question whether homebuilders would "pass along" their savings if they were able to supply less parking, arguing that they will simply keep the revenues for themselves and that the price of housing (especially condos) is set by the market and not meaningfully linked to the break-even costs of construction. What is your response to this? Do you think you can get the same price for a unit with parking vs without?	If there is clear upfront policy understanding going into land acquisition, there are no "savings," particularly in zero minimum zones. If parking is reduced below bylaw requirements through the entitlement process, then savings would theoretically help affordability. However, we would oppose any extraction of those savings as it would discourage development of new housing supply. It also depends on a number of variables including the building's adjacency to transit, type of unit, and buyer profile.
6	Barriers	What are the barriers to market parking "un-bundled" and separate from residential units or commercial spaces (e.g., design, approvals, pre-sales)?	Project #1: N/A
			Project #2: N/A
			Project #3: The overall management of stalls if they are being leased unbundled is a barrier. If the stalls are not restricted specifically for residents, additional security considerations are required.
7	Transit	How does transit availability and location affect development decisions?	Project #1: Transit availability also determines the parking supply for the project.
			Project #2: Transit availability also determines the parking supply for the project.
			Project #3: N/A

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
8	Product Type	How does tenure (i.e., strata vs rental units) affect the amount of parking built and how you price it? Do different tenures have different propensities for car ownership?	Project #1: Generally, rental units demand less parking per home than condominium ownership
			Project #2: Depending on the market demographics and location, not all rental units require parking, especially with alternative transportation modes available. With access to carsharing, rapid transit, and bike lanes, we are seeing less demand for stalls. The price of stalls rented is determined by market pricing at the time of leasing in the area.
			Project #3: N/A
9	Research	How do you assess market demand for parking for your projects? Have you conducted surveys or studies to understand the parking preferences of potential tenants or buyers, and how does this information inform your planning?	Project #1: same as below
			Project #2: Feedback from existing operating assets is reviewed, along with input from our Residential Property Management, community and market research of the area through pre-zoning open houses.
			Project #3: N/A
10	Shared Parking	Shared Parking - To what extent are you exploring shared parking concepts, where spaces may serve multiple uses or be shared among land uses (i.e., Commercial/Visitor) within the same parkade?	Project #1: Commercial parking is shared with resident visitor parking.
			Project #2: Shared commercial stalls with visitor parking.
			Project #3: N/A
11	Transit	Transit - How is transit accessibility considered in relation to parking planning (e.g., distance to transit, transit service level)?	Project #1: Review of access, distance, and availability of transit, the type of transit (such as rapid bus or train), as well as nearby car sharing, bike routes, and greenways.
			Project #2: Review of access, distance, and availability of transit, the type of transit (such as rapid bus or train), as well as nearby car sharing, bike routes, and greenways.
			Project #3: N/A
12	On-street Parking	How is the presence of nearby on-street parking considered in determining the planned number of vehicle parking spaces for the development?	Project #1: Not applicable to the project since there is no nearby on-street parking.
			Project #2: The presence of on-street parking is considered, but it is not the determining factor for the planned number of parking spaces.
			Project #3: N/A
13	Recent Legislation	BC's recent parking legislation (Bill 44, 46, 47) – What do your thoughts on the recent parking legislations? • (For developers of smaller infill buildings, if any) – how will Bill 44 (reducing or eliminating parking requirements in small-scale multi-unit housing developments) impact your pro formas? • (For developers of larger buildings) – how will Bill 46 (introduction of Amenity Cost Charges) impact your negotiations with municipalities about amenities (including parking) and associated costs (e.g. payment-in-lieu arrangements, TDM) • (For developers of larger buildings) – how much parking will you build in developments where residential parking is no longer required (due to Bill 47)?	It is unclear how the Amenity Cost Charge (ACC) would interact with other types of charges, for example, whether funds collected from other programs can be contributed into the ACC program. The amount of parking will vary depending on several factors evaluated during early design considerations, including market demographics and location.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
14	Parking Maximums	If there are parking maximum regulations, how does that impact your pro forma and decision-making processes when considering new developments? At what point do restrictions on the maximum number of stalls per unit impact the marketability of your strata or rental units?	N/A
15	Cost	How does your development project account for and address Development Cost Charges (DCCs) and Community Amenity Charges (CACs)? What changes are you anticipating with the new Amenity Cost Charge (ACC) in Bill 46?	Projects incorporate the estimated charges and fees into the pro formas early on. The ACCs are concerning because they could be set at a level that makes projects unviable to proceed, especially as other government levies (DCCs) are being charged and even increased yearly. We hope ACCs come with viability requirements so that charges do not exceed what a project can pay before becoming unviable.
16	General	If the aim of public policy is to reduce the amount of parking supplied in new buildings (for reasons of housing affordability and sustainable transportation), do you have suggestions on how this could be achieved?	N/A
17	General	It is challenging to retrofit parking spaces in existing buildings for other purposes. Do you see any opportunities to do so that we should be aware of?	There are opportunities to convert parking spaces into data or storage centres, although these require upfront HVAC provisions.
18	General	What do you need or what kind of incentive would be beneficial to facilitate a reduction in parking for a new development?	N/A
19	Regulation	Are any of your projects under/over parked because of municipal regulations?	They are historically overparked (More supply than demand).
20	Pay-in-Lieu Fairness	What do you think of Municipal Parking Pay-in-lieu schemes? Do you think it is fair that some municipalities maintain relatively high minimum parking ratios while demanding significant Pay-in-Lieu fees when developers choose to build fewer parking stalls? Does it make sense to pay the city for something you don't produce (and don't collect revenue or rents from)?	We do not agree with these schemes and would prefer the approach that the Province has taken, which is to have no minimum parking requirements in transit areas.

Off-Street Parking Survey

Note(s): If possible, provide up to three recent project examples that are indicative of the work your firm does.

Developer / Development Questions/Information:

QUESTIONS	RESPONSE
Developer Name:	Anonymous
Approximate # of employees:	~50
Contact Name:	Anonymous
Interview Date:	2024

Market Conditions Questions

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
1	General	What are the key factors for determining the number of vehicle parking spaces in your development projects?	The key factors for determining the number of vehicle parking spaces in our development projects include local zoning regulations, anticipated demand from the target market, transit accessibility, and the specific characteristics of the development site, such as its location and surrounding amenities.
2	Parking Minimums	How would you approach the proposed developments differently if parking minimums were relaxed or eliminated? For context: this is very likely to be the case in the future given Bill 44 and Bill 47.	If parking minimums were relaxed or eliminated, we would likely reassess our development plans to align with the new policy and market research that will optimize the land use.
3	Cost	How much does it cost to construct parking in various development contexts? $/sf GFA Parking or $/Stall	$ 190,000 to $230,000 per stall, depending on soil conditions.
4	Marketability	To what extent is parking a marketable / essential asset in a development? For context: Do you build as little parking as possible to reduce your development costs? Do you build to meet the minimum demanded by the specific real estate market? Or are you incented to maximize supply because parking may be a profit centre?	Parking is considered both a marketable asset and a cost factor in development. We aim to strike a balance between meeting market demand and optimizing project costs. The decision on the amount of parking to build is influenced by market research, cost considerations, and the ability to contribute to project profitability.
4b	Profitability	Do you see parking stalls as a development “profit centre”?	Parking can contribute to project revenue, but it is essential to consider the overall market dynamics in each project, pricing strategy, and tenure type. The potential for parking stalls to serve as a profit center depends on local market conditions and the specific needs of the target demographic. It may not always be a benefit. For one of the project examples, unsold parking stalls were sold at a discounted rate.
5	Pricing	Skeptics question whether homebuilders would “pass along” their savings if they were able to supply less parking, arguing that they will simply keep the revenues	The relationship between reduced parking requirements and housing prices is complex. Although reducing parking has the potential for cost savings to be passed on to buyers, we must consider various factors influencing the housing market. Market dynamics like competition, supply, and demand all play a role in determining housing prices. As projects

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
		for themselves and that the price of housing (especially condos) is set by the market and not meaningfully linked to the break-even costs of construction. What is your response to this? Do you think you can get the same price for a unit with parking vs without?	become more complex with changing regulatory standards, whether it be the new Step Code, seismic upgrades, or increased demand in servicing infrastructure, it is challenging for us to predict how a reduction in parking requirements will contribute to affordability. We are already witnessing local governments increasing their Development Cost Charge (DCC) rates, quickly absorbing potential cost savings.
6	Barriers	What are the barriers to market parking "un-bundled" and separate from residential units or commercial spaces (e.g., design, approvals, pre-sales)?	Unbundling for strata units depends on the partnership and the business plan.
7	Transit	How does transit availability and location affect development decisions?	Transit availability and location significantly influence development decisions. Proximity to transit can reduce parking demand, allowing for a more efficient use of space. We consider these factors in our planning to align with sustainable and transit-oriented development goals.
8	Product Type	How does tenure (i.e., strata vs rental units) affect the amount of parking built and how you price it? Do different tenures have different propensities for car ownership?	Different tenures may exhibit varying propensities for car ownership, which impacts parking demand and pricing structures. Generally, strata units need a parking space, but rental units may not want the additional parking cost in addition to rent.
9	Research	How do you assess market demand for parking for your projects? Have you conducted surveys or studies to understand the parking preferences of potential tenants or buyers, and how does this information inform your planning?	Market demand for parking is assessed through the expertise of qualified professionals such as our brokers, our project traffic consultants, as well as portfolio experience based on product tenure.
10	Shared Parking	Shared Parking - To what extent are you exploring shared parking concepts, where spaces may serve multiple uses or be shared among land uses (i.e., Commercial/Visitor) within the same parkade?	We assess the feasibility of shared parking, where spaces may serve multiple uses, to enhance efficiency and minimize the overall parking footprint. However, this is also dependent on tenure and what is allowed in the municipality in which we work.
11	Transit	Transit - How is transit accessibility considered in relation to parking planning (e.g., distance to transit, transit service level)?	See response to question #7.
12	On-street Parking	How is the presence of nearby on-street parking considered in determining the planned number of vehicle parking spaces for the development?	I am not aware of any projects where we have considered on-street parking when determining the planned number of vehicle parking stalls. For the example project, nn-street parking was not considered, as it is well utilized in the project area.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
13	Recent Legislation	BC's recent parking legislation (Bill 44, 46, 47) – What do your thoughts on the recent parking legislations? • (For developers of smaller infill buildings, if any) – how will Bill 44 (reducing or eliminating parking requirements in small-scale multi-unit housing developments) impact your pro formas? • (For developers of larger buildings) – how will Bill 46 (introduction of Amenity Cost Charges) impact your negotiations with municipalities about amenities (including parking) and associated costs (e.g. payment-in-lieu arrangements, TDM) • (For developers of larger buildings) – how much parking will you build in developments where residential parking is no longer required (due to Bill 47)?	Many of the details still need to be worked out at the municipal level as the legislation is implemented so it is difficult to comment at this time: 1. **Impact of Bill 46 on Larger Buildings: Bill 46,** I do not believe they have released the amount of the Amenity Cost Charge so it is difficult to comment on how this will impact future developments. I can say introducing Amenity Cost Charges will: a. Increase certainty for project financing earlier on in the development process. b. Eliminate the risk of negotiated CACs at a RZ. c. Also apply to projects that do not require RZ, meaning the use of them could be expanded to more projects. 2. **Parking in Developments with Bill 47:** With residential parking no longer required, the amount of parking built in developments will be reevaluated. The focus will shift towards aligning parking provisions more towards market demand and internal sustainabilityty initiatives.
14	Parking Maximums	If there are parking maximum regulations, how does that impact your pro forma and decision-making processes when considering new developments? At what point do restrictions on the maximum number of stalls per unit impact the marketability of your strata or rental units?	I am not aware of any project we have done with maximum parking regulations. If setting parking maximum regulations is considered, there will have to be a tipping point when reviewing the pro forma and decision-making processes. Restrictions on the maximum number of stalls per unit would need to consider market demand.
15	Cost	How does your development project account for and address Development Cost Charges (DCCs) and Community Amenity Charges (CACs)? What changes are you anticipating with the new Amenity Cost Charge (ACC) in Bill 46?	DCCs and CACs are factored into project planning and financial modeling. It's still too early to comment on the introduction of Amenity Cost Charges under Bill 46; however, it may lead to adjustments in how these charges are addressed.
16	General	If the aim of public policy is to reduce the amount of parking supplied in new buildings (for reasons of housing affordability and sustainable transportation), do you have suggestions on how this could be achieved?	If the goal is to impact affordability and sustainability, we should look at investing more at the macro level into walking, transit, and Zero Emissions Vehicle (ZEV) infrastructure rather than focusing on isolated TDMs in new developments. Ensuring accessibility to alternative transit throughout the year, considering our climate, can have a more profound impact on reducing the need for parking in new buildings, surpassing the impact of simply adding more bike stalls.
17	General	It is challenging to retrofit parking spaces in existing buildings for other purposes. Do you see any opportunities to do so that we should be aware of?	N/A - Innovative design and code/safety adjustments may facilitate such conversions.
18	General	What do you need or what kind of incentive would be beneficial to facilitate a reduction in parking for a new development?	Incentives such as density bonuses, streamlined approval processes, or financial benefits can encourage developers to reduce parking in new developments.
19	Regulation	Are any of your projects under/over parked because of municipal regulations?	Certainly. I recall a commercial project in Mount Pleasant where we adhered to the minimum parking requirements set by municipal regulations. However, despite meeting these standards, we were over parking and faced challenges in terms of market demand during the sales phase. As a result, we had to liquidate the parking spaces at discounted rates.
20	Pay-in-Lieu Fairness	What do you think of Municipal Parking Pay-in-lieu schemes? Do you think it is fair that some municipalities maintain relatively high minimum parking ratios while demanding significant Pay-in-Lieu fees when developers	Municipal Parking Pay-in-Lieu schemes may provide flexibility but must be carefully considered when reviewing the financial model. The fairness will depend on a balance between minimum parking ratios, market demand, and other the contributions developers need to consider when underwriting a project in said municipality.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
		choose to build fewer parking stalls? Does it make sense to pay the city for something you don't produce (and don't collect revenue or rents from)?	

Off-Street Parking Survey

Note(s): If possible, provide up to three recent project examples that are indicative of the work your firm does.

Developer / Development Questions/Information:

QUESTIONS	RESPONSE
Developer Name:	Anonymous
Approximate # of employees:	10 - 20
Contact Name:	Anonymous
Interview Date:	N/A
Recent "Indicative" Project Example #1 (no specific project name required, general info only)	
Approximate Year Completed (OP)	2022
Which City is the development located in?	District of North Vancouver
General Land Use & Product Type	Multi-family - 3 storey wood frame townhouse
Development Size (#units, floors)	88 stacked townhouses on 1 level of underground parking
Close to transit? (SkyTrain, FTN, Bus Exchange)	Rapid Bus route on Marine Drive within 10 min walk
In your view, Under / Overparked Relative to Demand?	Slightly overparked – 148 sold / 150 available stalls
Recent "Indicative" Project Example #2 (no specific project name required, general info only)	
Approximate Year Completed (OP)	2023
Which City is the development located in?	District of North Vancouver
General Land Use & Product Type	Multi-family – 3 storey wood frame townhouses
Development Size (#units, floors)	109 stacked townhouses on 1 level of underground parking
Close to transit? (SkyTrain, FTN, Bus Exchange)	Rapid Bus route on Marine Drive within 10 min walk
In your view, Under / Overparked Relative to Demand?	Slightly overparked - 161 sold / 167 available stalls
Recent "Indicative" Project Example #3 (no specific project name required, general info only)	
Approximate Year Completed (OP)	2022
Which City is the development located in?	City of Burnaby
General Land Use & Product Type	Multifamily – High Density concrete high rise
Development Size (#units, floors)	313 strata condos
Close to transit? (SkyTrain, FTN, Bus Exchange)	Approximately 10 min walk to Royal Oak SkyTrain Station
In your view, Under / Overparked Relative to Demand?	Slightly overparked: 312 stalls sold / 313 stalls available (non-eV); 25 EV stalls sold / 34 EV stalls available

Market Conditions Questions

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
1	General	What are the key factors for determining the number of vehicle parking spaces in your development projects?	The key factor is the end-user type (owner-occupant vs. investor unit/rental unit). End-user ratios required for demand are usually projected slightly above what minimum requirements are required by the municipality for strata ownership.
2	Parking Minimums	How would you approach the proposed developments differently if parking minimums were relaxed or eliminated? For context: this is very likely to be the case in the future given Bill 44 and Bill 47.	The approach would remain consistent to be as close as possible to the actual market demand for the end-user, whether it is strata ownership or rental. We typically have discussions with sales agents to determine demand based on unit type (number of bedrooms) and end-user profiles.
3	Cost	How much does it cost to construct parking in various development contexts? $/sf GFA Parking or $/Stall	Underground parking stall construction costs can vary based on project location and the number of underground levels. Generally, the cost is $20,000 per stall if the parkade is not more than two levels. In downtown locations or for deeper parkades, the costs can skyrocket.
4	Marketability	To what extent is parking a marketable / essential asset in a development? For context: Do you build as little parking as possible to reduce your development costs? Do you build to meet the minimum demanded by the specific real estate market? Or are you incented to maximize supply because parking may be a profit centre?	We build to meet the demand of the end-user's needs. Otherwise, the home associated with the parking will have a fundamental flaw and reduce saleability. We prefer to build slightly more than we think we need to ensure saleability.
4b	Profitability	Do you see parking stalls as a development "profit centre"?	General: Parking stalls are not typically a significant profit centre. Constraints on the parking supply (often due to design requirements) limit profitability.
			Project #1: Stack townhouse projects - parkade design is often constrained by one level of underground parking only, competing with other design requirements (e.g., large storm water tanks, high number of bike parking spaces required).
			Project #2: See above.
			Project #3: High-rise - cost of construction is a limiting factor. Going to extreme depths more than required for additional parking stall revenue is not worthwhile.
5	Pricing	Skeptics question whether homebuilders would "pass along" their savings if they were able to supply less parking, arguing that they will simply keep the revenues for themselves and that the price of housing (especially condos) is set by the market and not meaningfully linked to the break-even costs of construction. What is your response to this? Do you think you can get the same price for a unit with parking vs without?	The saleability of a home is impacted by the parking stalls allocated to it. A home with deficient parking to meet the intended end-user's demand would be discounted from the market price. A home with too many parking stalls allocated would experience a diminishing return effect for each extra stall in the overall home price.
6	Barriers	What are the barriers to market parking "un-bundled" and separate from residential units or commercial spaces (e.g., design, approvals, pre-sales)?	Unbundled parking may be difficult for pre-sales. Not stating what a unit is allocated for parking introduces uncertainty for revenue and construction costs, leading to either too much wasted or not enough parking. Developers would view this as a risk factor to account for.
7	Transit	How does transit availability and location affect development decisions?	General: Absolutely. **1.** Walkability / convenience. **2.** Nuisance noise / crime.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
8	Product Type	How does tenure (i.e., strata vs rental units) affect the amount of parking built and how you price it? Do different tenures have different propensities for car ownership?	General: Stratafied Condo: 1 bedroom = 1 stall per unit 2 bedrooms = 1.5 stalls per unit 3 or 4 bedrooms = 2 stalls per unit Rental: 0.75 per unit (typically smaller sizes of 1-2 bedrooms)
9	Research	How do you assess market demand for parking for your projects? Have you conducted surveys or studies to understand the parking preferences of potential tenants or buyers, and how does this information inform your planning?	General: Sources for demand: 1. Other developers / comparable projects 2. Architects 3. Sales Agents
10	Shared Parking	Shared Parking - To what extent are you exploring shared parking concepts, where spaces may serve multiple uses or be shared among land uses (i.e., Commercial/Visitor) within the same parkade?	General: None
11	Transit	Transit - How is transit accessibility considered in relation to parking planning (e.g., distance to transit, transit service level)?	General: Project #1: Strata townhouse project is 5–10 minutes walking distance to Marine Drive / rapid bus. Since it is geared for families / owner-occupants, the parking reduction is not significant as families need vehicles for transporting kids and gear (not suitable for transit) Project #2: see above Project #3: Strata high-rise apartment 10 minutes walking distance to SkyTrain. There are more investors in this project than typical strata townhouse projects, in addition to the proximity of SkyTrain. Therefore, the parking ratio was skewed closer to 1 stall per unit.
12	On-street Parking	How is the presence of nearby on-street parking considered in determining the planned number of vehicle parking spaces for the development?	General: This is generally more impactful on our views regarding visitor and loading parking, not residential parking. If we believe on-street parking is deficient, we are likely to add more visitor parking.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
13	Recent Legislation	BC's recent parking legislation (Bill 44, 46, 47) – What do your thoughts on the recent parking legislations? • (For developers of smaller infill buildings, if any) – how will Bill 44 (reducing or eliminating parking requirements in small-scale multi-unit housing developments) impact your pro formas? • (For developers of larger buildings) – how will Bill 46 (introduction of Amenity Cost Charges) impact your negotiations with municipalities about amenities (including parking) and associated costs (e.g. payment-in-lieu arrangements, TDM) • (For developers of larger buildings) – how much parking will you build in developments where residential parking is no longer required (due to Bill 47)?	Bill 47 - We would still likely pay close attention to the market demand side (saleability factor) regardless of whether a mandated parking ratio is present or not.
14	Parking Maximums	If there are parking maximum regulations, how does that impact your pro forma and decision-making processes when considering new developments? At what point do restrictions on the maximum number of stalls per unit impact the marketability of your strata or rental units?	If we feel the maximum parking ratio hurts saleability, we will discount the value of the homes. This in turn discounts the revenue and squeezes the land value overall in our pro forma. The ability to pay for the land is impacted, resulting in more conservative land acquisition decisions for our projects.
15	Cost	How does your development project account for and address Development Cost Charges (DCCs) and Community Amenity Charges (CACs)? What changes are you anticipating with the new Amenity Cost Charge (ACC) in Bill 46?	The ACC under Bill 46 should consider housing typology and unit mix. If governments want to encourage a certain type of housing, the associated development costs should have financial advantages linked to that housing type, rather than being purely based on density (buildable area).
16	General	If the aim of public policy is to reduce the amount of parking supplied in new buildings (for reasons of housing affordability and sustainable transportation), do you have suggestions on how this could be achieved?	Changing the end-user's behaviour (demand side) is key. Understanding the end-user's needs and influencing those needs is more powerful than controlling the supply side for parking. For example, a young family of five with three kids still needs to go to soccer practice and school. Programs that introduce transportation pooling for high car-use scenarios would shift demand by addressing the convenience and cost factors of car ownership.
17	General	It is challenging to retrofit parking spaces in existing buildings for other purposes. Do you see any opportunities to do so that we should be aware of?	N/A
18	General	What do you need or what kind of incentive would be beneficial to facilitate a reduction in parking for a new development?	Having a viable, cost-effective, and convenient alternative mode of transportation other than cars for users of the building.
19	Regulation	Are any of your projects under/over parked because of municipal regulations?	Not to date have we seen any extreme differences between demand and supply at our projects, which focus on strata family housing.
20	Pay-in-Lieu Fairness	What do you think of Municipal Parking Pay-in-lieu schemes? Do you think it is fair that some municipalities	Cash grabs should be stopped!

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
		maintain relatively high minimum parking ratios while demanding significant Pay-in-Lieu fees when developers choose to build fewer parking stalls? Does it make sense to pay the city for something you don't produce (and don't collect revenue or rents from)?	

Off-Street Parking Survey

Note(s): If possible, provide up to three recent project examples that are indicative of the work your firm does.

Developer / Development Questions/Information:

QUESTIONS	RESPONSE
Developer Name:	Anonymous
Approximate # of employees:	~30
Contact Name:	Anonymous
Interview Date:	Jan 17, 2024
Project Example #1 - 4th Ave & Macdonald	
Approximate Year Completed (OP)	October, 2025
Which City is the development located in?	Vancouver (4th Ave & Macdonald), BC
General Land Use & Product Type	Mixed Use - Rental Residential
Development Size (#units, floors)	6 Stories (5 Storeys of residential & ground level commercial, 99 units & 14,000 sq.ft. commercial)
Close to transit? (SkyTrain, FTN, Bus Exchange)	Close to FTN
In your view, Under / Overparked Relative to Demand?	N/A (Project not completed)
Project Example #2 – East Columbia	
Approximate Year Completed (OP)	May, 2026
Which City is the development located in?	New Westminster, BC
General Land Use & Product Type	Rental Residential
Development Size (#units, floors)	6 Storeys
Close to transit? (SkyTrain, FTN, Bus Exchange)	Close to SkyTrain Station
In your view, Under / Overparked Relative to Demand?	N/A (Project not completed)
Project Example #3 - 6th / Manitoba	
Approximate Year Completed (OP)	N/A
Which City is the development located in?	N/A
General Land Use & Product Type	N/A
Development Size (#units, floors)	N/A
Close to transit? (SkyTrain, FTN, Bus Exchange)	N/A
In your view, Under / Overparked Relative to Demand?	N/A

Market Conditions Questions

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
1	General	What are the key factors for determining the number of vehicle parking spaces in your development projects?	The location and usage of the development are the two main factors. Carbon emission is also considered, as reduced parking results in less concrete usage and lower carbon emissions.
2	Parking Minimums	How would you approach the proposed developments differently if parking minimums were relaxed or eliminated? For context: this is very likely to be the case in the future given Bill 44 and Bill 47.	General: The determination of parking supply is driven by market research and the developer's observations
			Project #1: Parking demand is based on observations and gathered intelligence
			Project #2: Although the project is close to a SkyTrain station, surveys from the developer indicated that the market requires relatively higher parking demand for this location.
			Project #3: N/A
3	Cost	How much does it cost to construct parking in various development contexts? $/sf GFA Parking or $/Stall	The standard cost is approximately $80,000 per stall, rising to over $100,000 if excavation, geotechnical work, or water table issues are present.
			Project #1: N/A
			Project #2: Inefficient grading at the site location results in high construction costs for the parking structure.
			Project #3: N/A
4	Marketability	To what extent is parking a marketable / essential asset in a development? For context: Do you build as little parking as possible to reduce your development costs? Do you build to meet the minimum demanded by the specific real estate market? Or are you incented to maximize supply because parking may be a profit centre?	Reducing parking is not considered a way to reduce overall development costs.
4b	Profitability	Do you see parking stalls as a development "profit centre"?	Parking stalls are not seen or used as a direct profit centre. However, the provision of parking may influence the viability of upper-end rental units. It is not necessarily a cost that can be removed from the bottom line.
5	Pricing	Skeptics question whether homebuilders would "pass along" their savings if they were able to supply less parking, arguing that they will simply keep the revenues for themselves and that the price of housing (especially condos) is set by the market and not meaningfully linked to the break-even costs of construction. What is your response to this? Do you think you can get the same price for a unit with parking vs without?	The cost of a unit is not reduced when less parking is supplied, as the product is priced according to the market. This is also dependent on the location and proximity to transit.
6	Barriers	What are the barriers to market parking "un-bundled" and separate from residential units or commercial spaces (e.g., design, approvals, pre-sales)?	Commercial: Parking is always linked to lease agreements or tenant contracts that specify the required number of spaces. Rental: Parking is always unbundled; therefore, no barriers exist. Strata: While parking supply is based on market demand, spaces are often sold separately. Owners typically prefer dedicated parking stalls for their units.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
7	Transit	How does transit availability and location affect development decisions?	Transit access is crucial and is prioritized as follows: adjacent to a rapid transit station, within 10–15 minutes walking distance of a rapid transit station, and proximity to FTN routes.
			Project #1: N/A
			Project #2: Although near a SkyTrain station, market research suggests a high number of vehicle owners in this area, based on long-term investment decisions and NPV analysis.
			Project #3: N/A
8	Product Type	How does tenure (i.e., strata vs rental units) affect the amount of parking built and how you price it? Do different tenures have different propensities for car ownership?	N/A
9	Research	How do you assess market demand for parking for your projects? Have you conducted surveys or studies to understand the parking preferences of potential tenants or buyers, and how does this information inform your planning?	Building surveys are conducted to determine residential parking demand. External brokers provide insight into tenant-specific parking demand.
10	Shared Parking	Shared Parking - To what extent are you exploring shared parking concepts, where spaces may serve multiple uses or be shared among land uses (i.e., Commercial/Visitor) within the same parkade?	Shared parking is considered when land uses and usage patterns are complementary (e.g., day vs. night use). However, higher rates of work-from-home and security concerns make this more difficult to implement.
			Project #1The retailer at this site is unwilling to share parking space.
			Project #2: N/A
			Project #3: N/A
11	Transit	Transit - How is transit accessibility considered in relation to parking planning (e.g., distance to transit, transit service level)?	Developments within 10–15 minutes walking distance to a SkyTrain station, or within the same intersection as the station, may justify reduced parking supply.
12	On-street Parking	How is the presence of nearby on-street parking considered in determining the planned number of vehicle parking spaces for the development?	On-street parking is generally not considered in planning decisions, as it is not a reliable source of supply.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
13	Recent Legislation	BC's recent parking legislation (Bill 44, 46, 47) – What do your thoughts on the recent parking legislations? • (For developers of smaller infill buildings, if any) – how will Bill 44 (reducing or eliminating parking requirements in small-scale multi-unit housing developments) impact your pro formas? • (For developers of larger buildings) – how will Bill 46 (introduction of Amenity Cost Charges) impact your negotiations with municipalities about amenities (including parking) and associated costs (e.g. payment-in-lieu arrangements, TDM) • (For developers of larger buildings) – how much parking will you build in developments where residential parking is no longer required (due to Bill 47)?	These changes are viewed positively as they give developers more freedom to build what is necessary. However, this does not necessarily lead to a lower parking supply, as market demand remains the primary driver.
14	Parking Maximums	If there are parking maximum regulations, how does that impact your pro forma and decision-making processes when considering new developments? At what point do restrictions on the maximum number of stalls per unit impact the marketability of your strata or rental units?	Overall, reducing parking is beneficial, but outcomes depend on the product type. For higher-end units, insufficient parking can negatively impact the pro forma. Commercial uses may also require more parking than permitted by maximum regulations.
15	Cost	How does your development project account for and address Development Cost Charges (DCCs) and Community Amenity Charges (CACs)? What changes are you anticipating with the new Amenity Cost Charge (ACC) in Bill 46?	DCC: Aligned with published rates. CAC: Based on the specific offering; tied to bonus density or negotiated estimates. ACC: Standard fees vary by product type and location.
16	General	If the aim of public policy is to reduce the amount of parking supplied in new buildings (for reasons of housing affordability and sustainable transportation), do you have suggestions on how this could be achieved?	Not much more is needed, as parking supply requirements are already trending downward.
17	General	It is challenging to retrofit parking spaces in existing buildings for other purposes. Do you see any opportunities to do so that we should be aware of?	Not many opportunities exist. Retrofitting parking structures is challenging in many cases.
18	General	What do you need or what kind of incentive would be beneficial to facilitate a reduction in parking for a new development?	Incentives are not required, but viable, cost-effective, and convenient alternatives to private vehicles must be in place to reduce parking demand.
19	Regulation	Are any of your projects under/over parked because of municipal regulations?	N/A

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
20	Pay-in-Lieu Fairness	What do you think of Municipal Parking Pay-in-lieu schemes? Do you think it is fair that some municipalities maintain relatively high minimum parking ratios while demanding significant Pay-in-Lieu fees when developers choose to build fewer parking stalls? Does it make sense to pay the city for something you don't produce (and don't collect revenue or rents from)?	Parking is not built for profit; therefore, it is unfair to charge pay-in-lieu fees for parking supply levels that exceed market demand.
21	TDM	What are your thoughts on TDM measures? Any specific examples?	Transit passes are often too expensive and do not provide a financial return. Bike supply is generally overprovided. However, bike lockers and shower rooms are seen as beneficial and more frequently used by commercial employees.

Off-Street Parking Survey

Note(s): If possible, provide up to three recent project examples that are indicative of the work your firm does.

Developer / Development Questions/Information:

QUESTIONS	RESPONSE
Developer Name:	BC Housing
Approximate # of employees:	Approximately 1000
Contact Name:	David Pereira & Thomas Bevan
Interview Date:	Feb 07, 2024
Project Example #1: Skeena Terrance (2108 Cassiar St.)	
Approximate Year Completed (OP)	In the late 1960s
Which City is the development located in?	Vancouver, BC
General Land Use & Product Type	Social housing
Development Size (#units, floors)	1900 residential units and 1000 parking spaces
Close to transit? (SkyTrain, FTN, Bus Exchange)	Approximately 550m from Rupert Station
In your view, Under / Overparked Relative to Demand?	Parking Supply surpasses Demand
Project Example #2 Victoria Evergreen (Victoria, BC)	
Approximate Year Completed (OP)	Not complete
Which City is the development located in?	Victoria BC
General Land Use & Product Type	Social Housing
Development Size (#units, floors)	190 residential units
Close to transit? (SkyTrain, FTN, Bus Exchange)	Yes, near the Douglas St & King Rd intersection with frequent bus services
In your view, Under / Overparked Relative to Demand?	Low parking demand (~70% utilized), higher parking utilization in suburban (Chilliwack/ Richmond) Young people in social housing thinking of family will depend on transit – too expensive to own and operate car.
Project Example #3 RayCam (920 Hastings)	
Approximate Year Completed (OP)	Not complete
Which City is the development located in?	Vancouver (DTES)
General Land Use & Product Type	Redevelop an existing community centre into mixed-use development that includes retail, residential, community centre, and day care
Development Size (#units, floors)	N/A
Close to transit? (SkyTrain, FTN, Bus Exchange)	Yes
In your view, Under / Overparked Relative to Demand?	

Market Conditions Questions

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
1	General	What are the key factors for determining the number of vehicle parking spaces in your development projects?	BC housing generally targets a 1-storey parkade rather than focusing on parking demand. The number of parking stalls is determined by the physical site conditions, which is also the physical barrier to provide more parking spaces. Also, another goal is to reduce physical construction footprint. However, in areas where owning a vehicle to commute is deem essential, BC housing may reduce the number of units to create more parking spaces. The goal is to create a "1 stop shop for family" to live without car and car-ownership is viewed as a luxury.
2	Parking Minimums	How would you approach the proposed developments differently if parking minimums were relaxed or eliminated? For context: this is very likely to be the case in the future given Bill 44 and Bill 47.	General: see above
3	Cost	How much does it cost to construct parking in various development contexts? $/sf GFA Parking or $/Stall	N/A
4	Marketability	To what extent is parking a marketable / essential asset in a development? For context: Do you build as little parking as possible to reduce your development costs? Do you build to meet the minimum demanded by the specific real estate market? Or are you incented to maximize supply because parking may be a profit centre?	N/A
4b	Profitability	Do you see parking stalls as a development "profit centre"?	In BC Housing's non-profit model, the view is that reduced parking requirements drive affordability, with the objective of creating less expensive housing.
5	Pricing	Skeptics question whether homebuilders would "pass along" their savings if they were able to supply less parking, arguing that they will simply keep the revenues for themselves and that the price of housing (especially condos) is set by the market and not meaningfully linked to the break-even costs of construction. What is your response to this? Do you think you can get the same price for a unit with parking vs without?	Yes, under the non-profit model, BC Housing would pass on cost savings to tenants in the form of lower rent.
6	Barriers	What are the barriers to market parking "un-bundled" and separate from residential units or commercial spaces (e.g., design, approvals, pre-sales)?	In the 1970s, assigned parking established expectations for current redevelopment projects. However, future developments may decouple parking from rent while still prioritizing accessibility. Since vehicle ownership is viewed as a luxury, the BC government will not subsidize parking costs.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
7	Transit	How does transit availability and location affect development decisions?	It's about the total cost of living. If vehicle cost can be removed, it leads to an affordable life, and transit supports this. Affordability and transit are part and parcel.
8	Product Type	How does tenure (i.e., strata vs rental units) affect the amount of parking built and how you price it? Do different tenures have different propensities for car ownership?	N/A
9	Research	How do you assess market demand for parking for your projects? Have you conducted surveys or studies to understand the parking preferences of potential tenants or buyers, and how does this information inform your planning?	Demand is viewed in the context of location, i.e., suburbs. It is dependent on the surroundings and access to essential and commercial services.
10	Shared Parking	Shared Parking - To what extent are you exploring shared parking concepts, where spaces may serve multiple uses or be shared among land uses (i.e., Commercial/Visitor) within the same parkade?	Shared parking between adjacent lots or sites, and coordinated parking between buildings, can help minimize the need for multi-storey parking on a project site. This approach also reduces construction costs, particularly at sites with water table issues.
11	Transit	Transit - How is transit accessibility considered in relation to parking planning (e.g., distance to transit, transit service level)?	N/A
12	On-street Parking	How is the presence of nearby on-street parking considered in determining the planned number of vehicle parking spaces for the development?	On-street parking supply is fixed and should be priced or repriced according to market demand. A failure in managing street parking is ultimately a failure in pricing.
13	Recent Legislation	BC's recent parking legislation (Bill 44, 46, 47) – What do your thoughts on the recent parking legislations? • (For developers of smaller infill buildings, if any) – how will Bill 44 (reducing or eliminating parking requirements in small-scale multi-unit housing developments) impact your pro formas? • (For developers of larger buildings) – how will Bill 46 (introduction of Amenity Cost Charges) impact your negotiations with municipalities about amenities (including parking) and associated costs (e.g. payment-in-lieu arrangements, TDM) • (For developers of larger buildings) – how much parking will you build in developments where residential parking is no longer required (due to Bill 47)?	Parking shouldn't drive projects, as building parking significantly increases the cost of affordable construction. Bill 47 is not being reviewed as much, except in cases involving accommodations for people with disabilities.

#	TOPIC	QUESTIONS (SUGGESTED WORDING)	RESPONSE
14	Parking Maximums	If there are parking maximum regulations, how does that impact your pro forma and decision-making processes when considering new developments? At what point do restrictions on the maximum number of stalls per unit impact the marketability of your strata or rental units?	Not applicable or relevant for affordable housing projects. Zero parking: There is always a reason to provide some parking.
15	Cost	How does your development project account for and address Development Cost Charges (DCCs) and Community Amenity Charges (CACs)? What changes are you anticipating with the new Amenity Cost Charge (ACC) in Bill 46?	Tries not to pay for DCC for affordable housing projects on public lands The ACC to support public access. There are no formal guidelines for CACs.
16	General	If the aim of public policy is to reduce the amount of parking supplied in new buildings (for reasons of housing affordability and sustainable transportation), do you have suggestions on how this could be achieved?	Holistic zoning creates places for people to live without cars by ensuring essentials are within walking distance. Skeena: In social housing, commercial or parking spaces used to subsidize community shops are generally not profitable. These commercial spaces often hurt the proforma when evaluating the business case due to operational challenges, as they are usually run by residents. A strong business case and plan are required. District parking approaches include centralized parking for neighborhoods, similar to models used in other parts of the world, allowing capable individuals to walk to their destinations.
17	General	It is challenging to retrofit parking spaces in existing buildings for other purposes. Do you see any opportunities to do so that we should be aware of?	Projects from the 1970s were all surface parking lots, with minimal retrofitting since then.
18	General	What do you need or what kind of incentive would be beneficial to facilitate a reduction in parking for a new development?	Provide only the minimum required to reduce construction costs.
19	Regulation	Are any of your projects under/over parked because of municipal regulations?	N/A
20	Pay-in-Lieu Fairness	What do you think of Municipal Parking Pay-in-lieu schemes? Do you think it is fair that some municipalities maintain relatively high minimum parking ratios while demanding significant Pay-in-Lieu fees when developers choose to build fewer parking stalls? Does it make sense to pay the city for something you don't produce (and don't collect revenue or rents from)?	Pay-in-lieu fees are not paid to the municipality. Parking for neighborhood parkades should be funded by the municipality.