

MEMO

DATE: October 2, 2019
PROJECT NO: 04-19-0339
PROJECT: 15135 20th Avenue Residential Development
SUBJECT: Draft Parking Variance Study

TO: Helen Lui
Catalyst Community Developments Society

PREPARED BY: Spencer Behn, EIT, Rachel Gasson, M.Eng., P.Eng.
REVIEWED BY: James Lee, P.Eng., MBA, PMP

1. INTRODUCTION

Bunt & Associates Engineering Ltd. (Bunt) has been commissioned by Catalyst Community Developments Society (Catalyst) to conduct a parking variance for the proposed residential development at 15135 20th Avenue, in Surrey BC.

The project plan at the time of writing is to provide 91 non-market rental units, of which 18 are to be shelter units. To inform the project design, Bunt has undertaken a parking study to calculate the anticipated parking demand and corresponding supply required for this development.

As the City of Surrey does not have a specific bylaw rate for either market or non-market rental housing, Catalyst is proposing to provide parking at a level more appropriate for the anticipated parking demand which falls below the number of parking stalls required by the City's Zoning Bylaw. This said, Bunt has prepared parking variance studies for a number of non-market purpose built rental housing in Surrey previously which have been accepted by both City staff and Council. The following memo provides a parking supply rationale to support a reduced parking provision for the subject development.

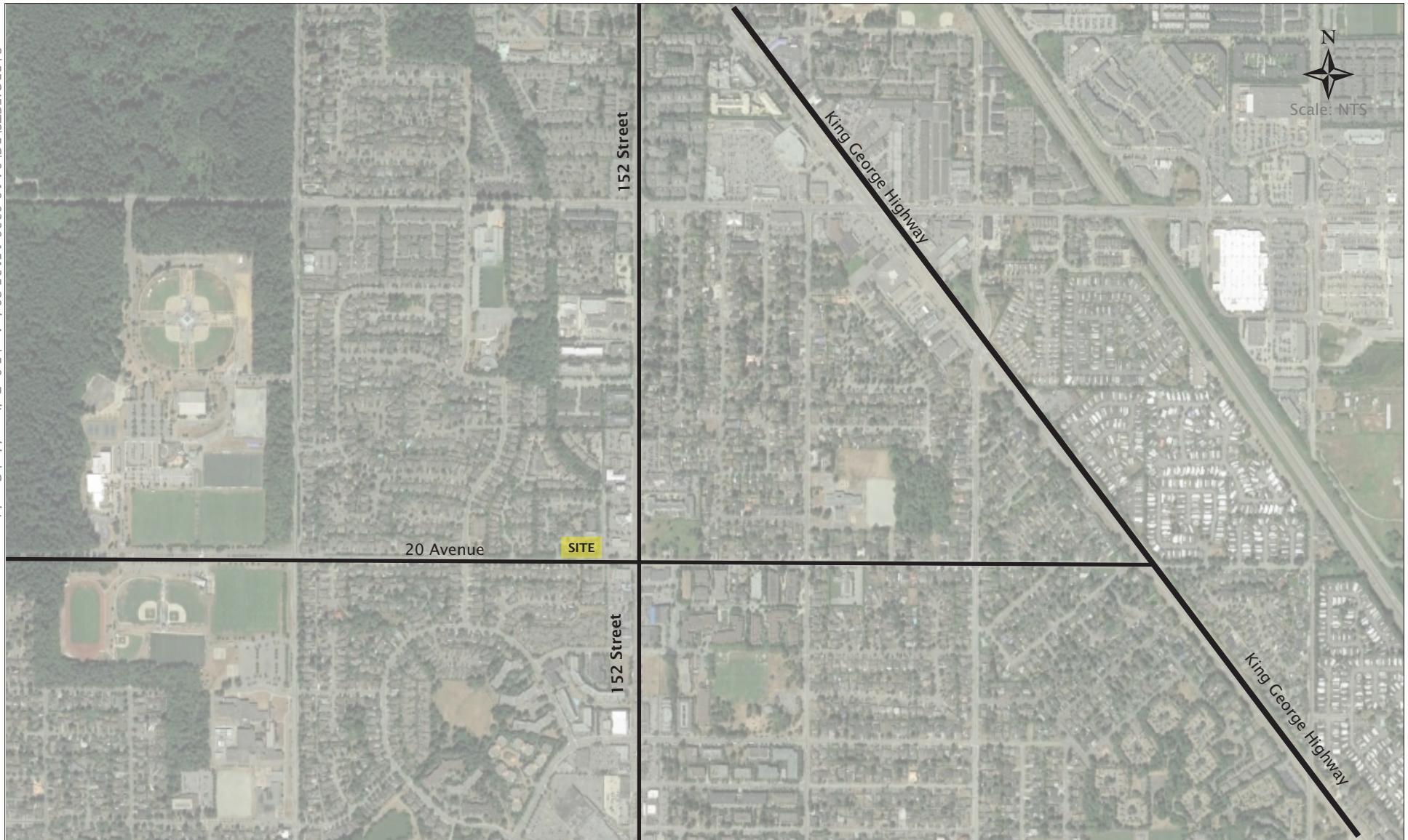


Exhibit 1.1
Site Location

04-19-0339

15135 20th Ave
September 2019

bunt
& associates

2. PROPOSED DEVELOPMENT

The proposed development plan includes 91 rental residential units, all of which are non-market units. The target residents at this facility will be varied with the current development plan proposing 20% (18) of the units provide shelter housing, and the remaining 80% (73) of the units provide non-market rental housing intended for tenants at the mid to low income scale.

The development would consist of primarily smaller units including approximately 66% studios and 1-bedroom units, and 34% 2-3 bedroom units as summarized in **Table 2.1**.

Table 2.1: Proposed Site Statistics

UNIT TYPE	SQ FT / UNIT	SQ M / UNIT	TOTAL
Studio	423	39	18 (20%)
1 Bedroom	534-645	50-60	42 (46%)
2 Bedroom	773	72	24 (26%)
3 Bedroom	1020	95	7 (8%)
		TOTAL	91 (100%)

3. VEHICLE PARKING SUPPLY REQUIREMENT & PROVISION

The City does not currently have a specific rate requirement for either market rental units or non-market rental units, both of which could be expected to have lower parking demand levels than general market strata multi-family residential units. **Table 3.1** provides a comparison between the City's bylaw rates and the proposed parking rates for the development.

Table 3.1: Vehicle Parking Supply Requirement & Provision

USE	QUANTITY (UNITS)	RATES		STALLS		STALL VARIANCE FROM BYLAW
		BYLAW	PROPOSED	BYLAW	PROPOSED	
Shelter Units Studio / 1-Bdrm	18	1.3 stalls per unit	0.10 stalls per unit	24	2	22 (92%)
General Non-Market Studio / 1-Bdrm	42	1.3 stalls per unit	0.98 stalls per unit	101 (54 + 47)	72	29 (29%)
General Non-Market 2-3 Bdrms	31	1.5 stalls per unit				
Residential Visitor	91	0.20 stall per unit	0.10 stalls per unit	18	9	9 (50%)
				TOTAL SITE	143	83
						60 (42%)

As the table indicates, under the City of Surrey Zoning Bylaw the development requires 143 off-street parking stalls, including 125 residential stalls, and 20 visitor stalls.

In total, Catalyst plans to provide 83 parking stalls (74 resident, 9 visitor) within the proposed parkade to service the residential development. This equates to 0.98 parking spaces per unit (excluding the shelter units), or could alternatively be distributed as 0.84 spaces per studio/1-bedroom unit plus 1.2 spaces per 2+ bedroom unit. This proposed provision results in a shortfall of 60 stalls (42%) compared to the bylaw requirement. It is Bunt's opinion that the supply rate proposed for the development is appropriate for the site context and anticipated residents.

Provided in the following section is a summary of research on the factors affecting resident auto ownership and information regarding parking demand at comparable sites that Bunt was able to gather for this project to support the proposed parking provision.

4. NON-MARKET RESIDENT PARKING SUPPLY RATIONALE

4.1 Factors Affecting Resident Auto Ownership

Given that the proposed non-market rental housing development is planned primarily for tenants at the mid to low end of the income scale, it is Bunt's opinion that the City's regular "Multi Unit Residential Dwelling" rate requirement for off-street parking would overstate the actual parking demand experienced at the proposed development. The City's regular "Multi Unit Residential Dwelling" rate does not take into account a number of other key factors which studies have shown to significantly impact vehicle ownership levels and subsequently parking demand. These factors include:

- Tenure of the units (i.e., rental vs. strata);
- The income level of the tenants; and,
- Proximity of the site to high quality/high frequency transit.

The sections below provide detailed discussions on how these different factors would influence the future parking demand to help rationalize the level of non-market rental off-street parking that is proposed for the development in comparison to the City's Zoning Bylaw requirement.

4.1.1 Effect of Tenure

Rental units tend to have lower auto ownership levels compared to strata units. This contention is supported by findings from the Metro Vancouver Apartment Parking Study (MVAPS) released in September of 2012. The study included research and a comprehensive survey program of over 1,000 apartment household units in the Greater Vancouver area, including strata and rental units.

A key finding in the MVAPS was that residents of rental apartment units (both market and non-market units combined) had average auto ownership levels of 0.82 vehicles per household, approximately 65% of that of strata units. While this absolute rate would not be appropriate for the

proposed development, this data suggests that in general, rental units can be expected to experience lower auto ownership levels than strata units; a difference not accounted for by the City's regular Multi Unit Dwelling bylaw rate. Furthermore, an update to this study, titled the "2018 Regional Parking Study", was recently conducted and at the time of writing had just been published on Metro Vancouver's Regional Planning Committee (RPC) agenda. The findings of this study support the same notion – i.e., the parking demands experienced at rental residential buildings are lower than the demands at strata residential buildings.

A similar finding from a comprehensive City of Toronto study¹ indicated market rental apartment units had auto ownership levels of 75% compared to strata units, for all locations in the City regardless of accessibility to high capacity transit and density.

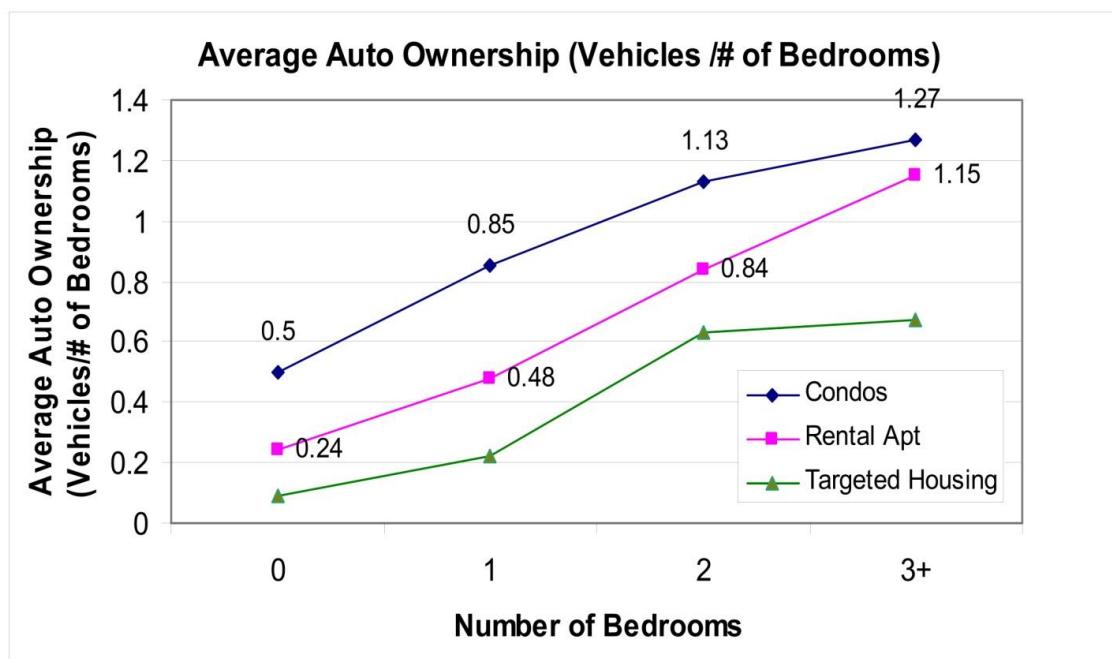
Given this research, because the City's Multi Unit Residential Dwelling rate does not distinguish between strata and rental developments, the rate likely overstates the actual parking demand as it does not take into account the effect that tenure has on vehicle ownership.

4.1.2 Effect of Lower Incomes

In addition to not distinguishing between strata and rental tenures, the City's bylaw rate also does not differentiate between "market" and "non-market" housing, despite several industry studies having indicated that affordable "non-market" housing experience considerably lower vehicle ownership rates than "market" housing.

Other communities that have studied auto ownership associated with subsidized/affordable housing have found that affordable rental apartment units have lower auto ownership than market rental unit residents, which in turn have lower auto ownership levels than strata units. **Figure 4.1** below illustrates the auto ownership levels of residents of approximately 4,700 apartment buildings in a large study conducted on behalf of the City of Toronto, which clearly demonstrates this relationship. Affordable or "targeted" housing units as indicated in the graph were found to have auto ownership levels approximately 30% to 60% lower than market units; the smaller units in particular were found to have 60% fewer vehicles.

¹ Source: City of Toronto Parking Standards Review – Phase Two Apartment Building/Multi-Unit Block Developments Component, New Zoning Bylaw Project, Consult Limited, February 2007

Figure 4.1: 2006 Average Auto Ownership by Housing Type and No. of Bedrooms

Source: City of Toronto Parking Standards Review – Phase Two Apartment Building/Multi-Unit Block Developments Component, New Zoning Bylaw Project, Consult Limited, February 2007

The City of Mississauga conducted a study of over 4,600 non-profit rental housing units by various stratifications. **Figure 4.2** below summarizes in tabular form the proposed minimum parking guidelines resulting from the survey findings from this study for market rental units, for units with a “shallow” (lower) subsidy level, and for units with a “deep” (higher) subsidy level.

Figure 4.2: Proposed Minimum Parking Guidelines for Non-Seniors Apartments

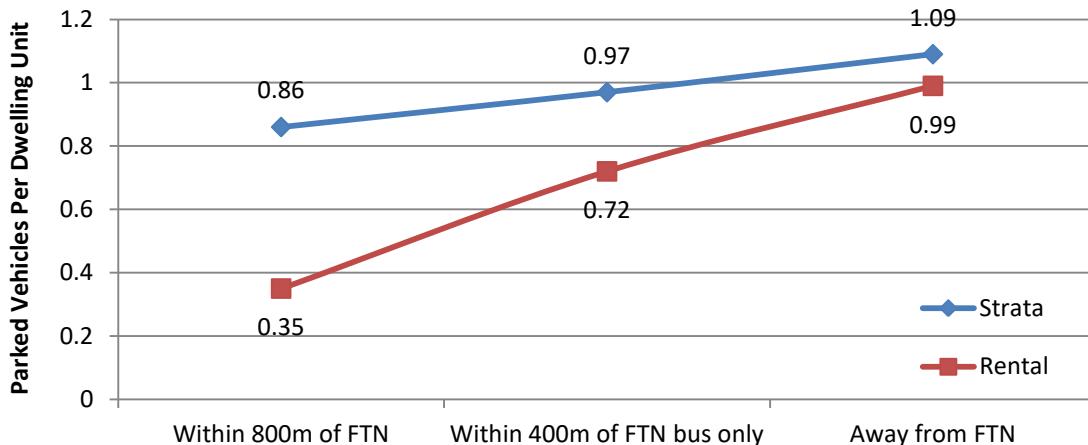
Subsidy Category	Unit Size	Vehicle Ownership Rate
Market	One Bedroom	0.75
	Two Bedroom	0.90
	Three Bedroom	1.14
	Four Bedroom	1.21
Shallow	One Bedroom	0.40
	Two Bedroom	0.60
	Three Bedroom	0.74
	Four Bedroom	1.10
Deep	One Bedroom	0.31
	Two Bedroom	0.50
	Three Bedroom	0.70
	Four Bedroom	0.97

Source: City of Mississauga Policy & Planning Division, *Parking Guidelines for Public and Private Non-Profit Housing*, March 2005

A clear relationship in these rates can be seen that supports Bunt's contention that the lower the income level, the lower the auto ownership will be, and therefore, the lower the parking requirement should be. As mentioned previously, at the time of writing the proposed development is to provide non-market units of which 20% are to be "Shelter" rates representing a "Deep" subsidy level. Informed by the developer, it is Bunt's understanding that the remaining 80% of the units are for low to mid income level tenants and as such would fall into the "Shallow" subsidy level.

4.1.3 Effect of Proximity to Transit

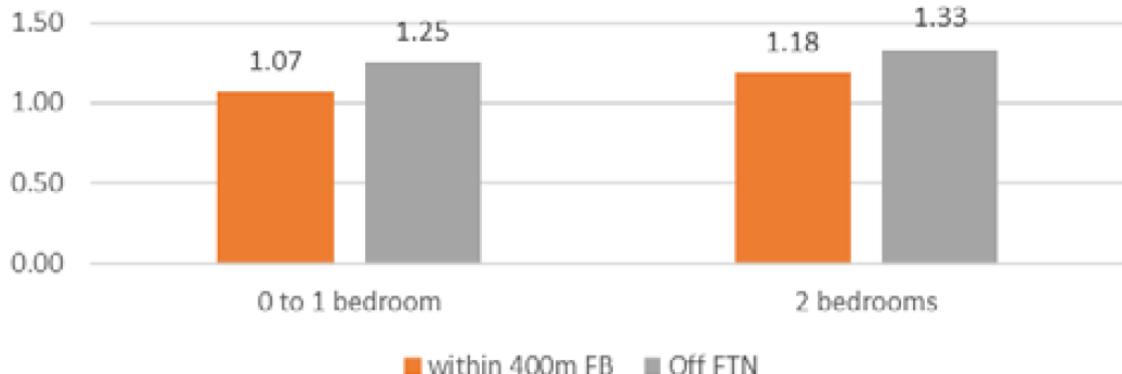
Research has shown that accessibility to alternative modes of travel reduce auto ownership, particularly proximity to high quality/high frequency transit. Generally, the findings of the 2018 Regional Parking Study previously referenced found that apartments within 800m of Metro Vancouver's Frequent Transit Network (FTN) have lower auto ownership levels than those outside convenient walking distance to bus and rail transit services. The FTN network is a network of corridors where transit service runs at least every 15 minutes in both directions, 15 hours throughout the day and into the evening, 7 day a week. The relationship between vehicle ownership and proximity to the region's FTN for rental and strata units is shown in **Figure 4.3**.

Figure 4.3: Parking Demand by Tenure & Transit Proximity

Source: Data from 2018 Regional Parking Study Technical Report, March 2019

While the rates presented in Figure 4.3 are not directly applicable to the subject site as they apply to strata and market rental developments rather than non-market rental developments, the conclusion from the data is that there is a direct relationship between vehicle ownership and proximity to high quality/high frequency transit.

In addition to the information shown in Figure 4.3, the 2018 Regional Parking Study also provided further information on the relative relationship between auto ownership, unit size and accessibility to frequent transit services, as illustrated in Figure 4.4.

Figure 4.4: Market Rental Vehicle Ownership by Household Size & Transit Proximity (Excluding Vancouver & UBC)

Source: 2018 Regional Parking Study Technical Report, March 2019

Again, the data shows there is an inverse relationship between vehicle ownership and proximity to high quality/high frequency transit. Figure 4.4 also shows that smaller unit sizes with one or no bedrooms have a lower parking demand as is typically found across most parking studies.

As the site is located approximately 150m west of 152nd Street, which is part of the region's FTN, the proposed development could be expected to experience lower vehicle ownership levels than sites without such good transit accessibility. Bus stops are located on both sides of 152nd Street at the intersection of 152nd Street and 20th Avenue, and are therefore within 200m of the site. As such, the nearest bus stops are located less than a 5 minute walk away, with signalized crosswalks at 152nd Street and 20th Avenue. These bus stops are both serviced by bus route 321, which connects New Westminster SkyTrain Station to White Rock, via Surrey Central SkyTrain Station in Surrey City Centre.

4.2 Auto Ownership at the Existing & Similar Sites

Given that a number of the tenants located on the wider site are scheduled to move into the proposed facility, Bunt has reviewed the existing parking ownership rates to gain an understanding of the anticipated future parking demands. **Table 4.1** summarizes the existing parking demand on site.

Table 4.1: Existing Parking Demand on Site

UNIT TYPE	NUMBER OF EXISTING UNITS	NUMBER OF VEHICLES OWNED	VEHICLE OWNERSHIP PER UNIT	NUMBER OF UNITS SCHEDULED TO MOVE INTO THE NEW BUILDING
Shelter Units Studio / 1-Bdrm	18	2	0.11	18
General Non-Market Studio / 1-Bdrm	-	-	-	-
General Non-Market 2-3 Bdrms	52	60	1.15	6
TOTAL	70	62	0.89	24

Given the above data reflects the existing site, and therefore the location and transit accessibility will remain unchanged, the above rates provide insight to the likely future parking demands.

Catalyst also provided data for the Chorus building located at 2358 153 Street, approximately one kilometre north of the subject site. This building is comprised of 71 non-market residential units, with a similar breakdown of units, 70% studio/1 bedroom and 30% 2-3 bedroom. This Chorus building is anticipated to attract comparable residents to the subject development, with this facility providing non-market rental and being located in the same area with similar proximity to transit.

Completed in 2016, Chorus undertook a parking review in May 2018 and found the parking demand for the site to be 45 residential parking spaces, or 0.63 parking spaces per unit overall. As such the site is understood to have six surplus parking spaces available for rent in addition to the

visitor parking supply. The visitor parking supply includes 11 parking spaces, which Chorus noted as being infrequently used with visitor parking always available.

As the peak residential parking demand rate recorded at the Chorus building was lower than the non-market rental rates being proposed for this development, it is Bunt's opinion that the proposed reduced parking supply should be adequate to accommodate the actual parking demand.

4.3 Residential Visitor Parking

4.3.1 Expected Visitor Parking Demand

While the City of Surrey's bylaw requires that 0.20 stalls per unit be provided for visitor parking, based on the recommendations found in the MVAPS and the findings of Bunt's own residential visitor parking studies conducted over the years, a rate closer to 0.10 stalls per unit is considered to be a more appropriate visitor parking demand rate to expect for general residential developments, i.e., not specific to strata or rental buildings. The results of Bunt's previous visitor parking studies are presented in **Table 4.2**.

Table 4.2: Visitor Parking Studies by Bunt

SOURCE	MUNICIPALITY	PEAK VISITOR PARKING DEMAND RATE (STALLS/UNIT)
One Lonsdale Corridor Rental Tower, studied on one day	City of North Vancouver	0.05
Two Guildford Town Centre Apartment Towers, studied on 4 days	City of Surrey	0.08
Six Metrotown Apartment Towers studied on 2 days	City of Burnaby	0.08

Based on the analysis above, for the proposed 91 rental units the peak resident visitor parking demand is expected to be no more than 9 stalls, which is equivalent to 0.10 stalls per unit. This is considered conservative given that it includes the shelter units, for which visitors typically do not come by private vehicle.

4.4 Rental Parking Provisions at Other Municipalities

In recent years, a number of municipalities located within Metro Vancouver have updated their Bylaw requirements to encourage affordable housing developments and to provide parking supplies that are more aligned with the demands found at these facilities. **Table 4.3** summarizes the parking requirements for purpose built rental developments throughout the Metro Vancouver.

Table 4.3: Existing Parking Demand on Site

MUNICIPALITY	HOUSING CLASSIFICATION	STUDIO/1BEDROOM REQUIREMENT FOR RESIDENTS	2+ BEDROOMS REQUIREMENT FOR RESIDENTS	RESIDENTIAL VISITOR REQUIREMENT
City of Surrey	Multi-unit residential dwelling non ground oriented	1.3 per unit	1.5 per unit	0.2 per unit
City of North Vancouver	Rental Apartments	0.6 per unit		0.1 per unit
City of Port Moody (TOD* Areas)	Below Market Rental	0.8 per unit		0.1 per unit
City of Port Moody (Non TOD Areas)	Below Market Rental	0.9 per unit		0.1 per unit
City of Coquitlam	Below Market Rental	1.0 per unit		0.2 per unit
City of Richmond	Affordable Housing Unit	1.0 per unit		0.2 per unit
City of Vancouver	Rental	1 per 125 m ² (equivalent to 0.46 spaces per unit for the proposed development)		Min 0.05 per unit Max 0.1 per unit
TOTAL				

* TOD = Transit Oriented Development

Parking requirements for rental units vary considerably throughout the region with rates typically associated to the number of units. The City of North Vancouver rate is the lowest at 0.6 parking spaces per apartment unit, with most other municipalities requiring just under 1 parking space per unit. Similarly, the visitor parking space requirement varies across municipalities with the City of Vancouver having the lowest requirement at 0.5 spaces per unit, and all other municipalities requiring either 0.1 or 0.2 parking spaces per unit for visitors.

Considering that the site is located within a town centre and that it is to provide non-market rental units, a reduced parking provision below the general City of Surrey Bylaw requirements is considered appropriate. Bunt recommends a rate of 0.98 parking spaces per unit plus 0.1 visitor parking spaces per unit which is aligned with what is required at many other municipalities nearby.

5. BICYCLE PARKING

Table 5.1 summarizes the proposed number of bicycle parking stalls for the development in comparison to the supply required by the City's Zoning Bylaw.

Table 5.1: Bicycle Parking Supply Requirement & Provision

USE	SIZE (UNITS)	BYLAW RATE	REQUIRED	PROPOSED
Residential	91	1.2 secure stalls per unit 6 visitor Stalls per building	109 Secure 6 Visitor	129 Secure 6 Visitor

As the table indicates, the proposed development is required to provide 109 secure bicycle stalls and 6 visitor bicycle stalls. To support the use of non-auto modes of travel by residents, staff, and visitors of the development, Catalyst proposes to provide bicycle parking at a rate that exceeds the City's Zoning Bylaw requirement.

6. CONCLUSIONS & RECOMMENDATIONS

The parking provision for the proposed development at 15135 20th Street is planned at a level more consistent with the anticipated parking demand at the site compared to the number required by the City of Surrey's Zoning Bylaw. As a result, the proposed provision represents a shortfall of 60 stalls (42%) from the City's requirement and a parking variance would be required for both the non-market residential and residential visitor components of the proposed development.

Research as presented herein on the factors influencing auto ownership and data obtained for a comparable non-market rental residential development strongly support reduced non-market residential parking supply rates for the development site. It is Bunt's view that the proposed parking rates would be more than adequate to service the demand of anticipated residents and residential visitors at the site. Moreover, with underground stalls generally costing in the order of \$30,000 to \$50,000 to construct, providing parking consistent with the bylaw rates, and thereby creating an over-supply of parking, would have a profound impact on the ability to provide the proposed non-market affordable housing. With these costs in mind, Catalyst's proposed parking supply more efficiently uses the available space while still keeping the project financially viable.