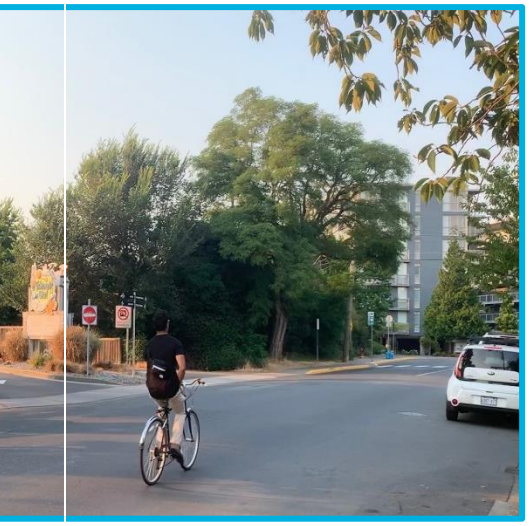
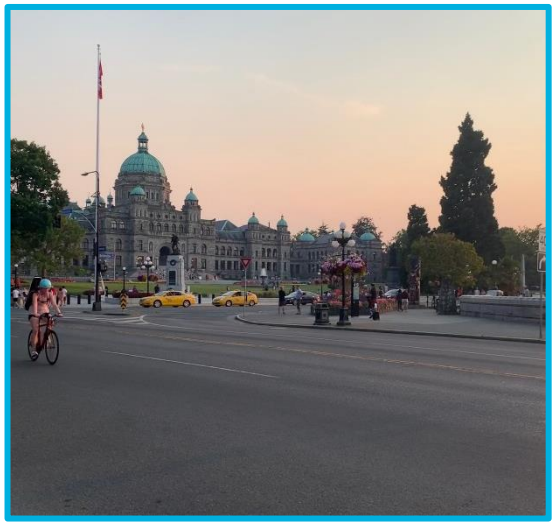
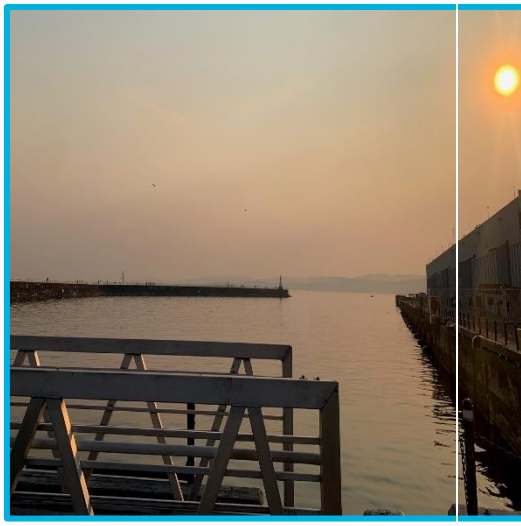
205 QUEBEC STREET

Parking Study

One Point Properties Inc.

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April 11, 2022

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1.0 INTRODUCTION

Watt Consulting Group (WATT) was retained by Mike Geric Construction to conduct a parking study for the proposed development at 597 Montreal Street, 205 Quebec Street, and 210, 214 & 224 Kingston Street in the James Bay Neighbourhood in the City of Victoria, BC. The purpose of this study is to determine the total parking demand for the subject site and – if required – any transportation demand management measures to reduce parking demand, in order to meet the proposed supply.

1.1 SUBJECT SITE

The proposed development is located at 597 Montreal Street, 205 Quebec Street, and 210, 214 & 224 Kingston Street in the City of Victoria (see **Figure 1**). It is currently designated as Parking-Lot Only Paved or Gravel. Furthermore, the City of Victoria's Zoning Bylaw No. 80-159 (Schedule C) designates the subject site as being in the "Other Areas" Geographic Area, approximately 44 metres outside of the "Core Area" [1].

[1] City of Victoria, (2020). Official Community Plan, Available online at: https://www.victoria.ca/assets/Departments/Planning~Development/Community~Planning/OCP/Up~to~date~OCP~and~Design~Guidelines/OCP_WholeBook.pdf

FIGURE 1. SUBJECT SITE

1.2 SITE CHARACTERISTICS & POLICY CONSIDERATIONS

The following provides information regarding services and transportation options in proximity to the subject site (see **Figure 2**). In addition, the City of Victoria's community and planning policies pertaining to sustainable transportation and parking management are summarized.

CITY & NEIGHBOURHOOD PLANNING POLICY

The City of Victoria's Official Community Plan (OCP) provides policies and objectives to guide decisions on planning and land management. Most recently updated in February of 2020, the OCP contains several 30-year goals in 17 distinct topic areas that express the City's commitment to sustainability and actionable items for achieving these long-term commitments. Section 7 of the OCP (Transportation and Mobility) contains policy directions to reduce overall dependency on single occupancy vehicles and prioritise sustainable modes of transportation including walking, cycling, and transit, among others. [2]

The OCP also supports transportation demand management and parking management strategies as outlined in sections 7.11 and 7.12. Specifically, Section 7.12 indicates that reductions in the parking requirements should be considered where:

"*7.12.1 Geographic location, residential and employment density, housing type, land use mix, transit accessibility, walkability, and other factors support non-auto mode choice or lower parking demand.*"

Furthermore, Section 21 of the OCP (Neighbourhood Directions) provides strategic planning direction for all of the City's neighbourhoods including

[2] City of Victoria, (2020). Official Community Plan, Available online at: https://www.victoria.ca/assets/Departments/Planning~Development/Community~Planning/OCP/Up~to~date~OCP~and~Design~Guidelines/OCP_WholeBook.pdf

James Bay.[3] Several strategic directions relevant for the proposed development are as follows:

- 21.16.1 - Maintain a variety of housing types and tenures for a range of age groups and incomes.
- 21.16.3 - Maintain an interesting diversity of land uses, housing types and character areas.
- 21.16.4 - Enable adaptation and renewal of the existing building stock
- 21.16.5 - Continue to support sensitive infill
- 21.16.8 - Improve pedestrian, cycling and transit connections between Downtown, Beacon Hill Park, James Bay Village and waterfront areas, including through the introduction of local transit service

SERVICES

The site is located within 800 metres of James Bay Village (~9-minute walk). James Bay Village contains several amenities and services including a grocery store, medical clinic, drug store, financial services, cafés, and several restaurants. Additionally, the site is adjacent to Victoria's Inner Harbour, a 2-kilometre walkway from Fisherman's Wharf to the Johnson Street Bridge, which provides access to multiple restaurants, pubs, and cafés. The site is also within 600 metres (~5-minute walk) west of the British Columbia (BC) Legislature Building, the Royal BC Museum and IMAX theatre, as well as several other local and tourist amenities that provide employment and recreational opportunities.

[3] City of Victoria, (2020). Official Community Plan Section 21: Neighbourhood Directions. Available online at: https://www.victoria.ca/assets/Departments/Planning~Development/Community~Planning/OCP/OCP%20Neighbourhood%20Directions%20-%20James%20Bay.pdf

TRANSIT

The subject site has limited access to frequent transit. The closest bus stop is on Superior Street about 100 metres southwest of the subject site, and is serviced by Route 2 (James Bay/South Oak Bay/Willows), travelling in a counter-clockwise loop around the James Bay Neighbourhood and then north-eastwards into Oak Bay via Downtown Victoria. Route 2 provides service every ~15-minutes during weekdays, every ~17-minutes on Saturdays, and every ~20-minutes on Sundays.

The site is also ~750 metres east (9-minute walk) of the BC Legislature transit terminus at Douglas Street, where over 10 transit routes start and terminate. These routes provide service to various parts of Greater Victoria including downtown, the Westshore communities, Swartz Bay, Saanich, among others. Furthermore, Douglas Street has been identified as part of the future Rapid Transit Network per the BC Transit Future Plan.

BC Transit's Victoria Regional RapidBus Implementation Strategy addresses that the Rapid Transit Network will deliver connected, frequent, fast, and reliable transit service between areas of highest travel demands in the region.[4] The service frequency of these routes is designed to be 15-minutes or better, between 7:00 a.m. and 10:00 p.m., seven days a week, and with less stops than traditional transit services.[5] In the next three years, the Westshore-Downtown Victoria Line will be introduced (Phase 1), building on the priority bus lanes that have already been completed on Douglas Street.

[4] BC Transit, (2021). Victoria Regional RapidBus Implementation Strategy, Available online at: https://www.bctransit.com/documents/1529712854568

[5] BC Transit, (2011). Victoria Transit Future Plan. Available online at: https://www.bctransit.com/documents/1507213421003

WALKING

The subject site has a Walk Score of 72, which indicates that some errands can be accomplished on foot.[6] There are sidewalks present on both sides of Quebec Street with many more within the surrounding area as well as crosswalks available within 100 metres of the subject site at Montreal Street / Kingston Street and Quebec Street / Pendray Street.

Walk Score is a useful tool in determining the walkability of a location. It creates an aggregated average of seven categories. However, it does not always fully reflect the walkability of a subject site as it may be subject to outlier values that may skew the average, and in some cases certain amenities may not have been updated within the score database. Additionally, as areas develop walk scores are subject to change as more amenities become available.

CYCLING

The subject site is situated in an area where cycling is convenient for most trips. According to the City of Victoria's OCP, Quebec Street is designated as an 'existing bikeway', which is a bike facility type that includes the bicycle route sign (IB-23). These facilities are typically found on quieter local streets.[7] This signed bike route extends eastward into Bellville Street and continues north on to Government Street where it connects to the Victoria All Ages and Abilities (AAA) protected bike lane network. The route also travels south into James Bay and continues on to Kingston Street, Eric Street and then Dallas Road and eventually connects with the new two-way protected bike lane on the south side of Dallas

[6] Walkscore, (2021). 205 Quebec Street Walkscore, more information about the site's Walk Score. Available online at: https://www.walkscore.com/score/205-quebec-st-victoria-bc-canada

[7] City of Victoria, (2020). Current Cycling Network. Available online at: https://www.victoria.ca/EN/main/residents/transportation/cycling/current-cycling-network.html

Road.[8] The facility on Dallas Road is a 2.9-kilometre two-way protected bike lane starting at Dock Street and travelling east to Clover Point.

According to the City of Victoria's Cycling AAA Network, two north-south routes are planned for James Bay including Government Street and Montreal Street. Further, two east-west route options, Superior Street and Michigan Street, are also being considered – one of which will be pursued as part of priority investments by the end of 2022.[9] **Figure 2** illustrates the locations of current and future bicycle routes near the subject site with solid lines and dashed lines representing each respectively.

CARSHARE

Carshare is a form of car rental where people can book vehicles for varying lengths of time. They are usually co-operative and users must sign up as a member to be able to use the vehicles and pay the costs associated with it. Carshare is a good option for those who sometimes need access to a vehicle but may not be able to pay the costs associated with owning a vehicle. The Modo Car Cooperative ("Modo") is the most popular carsharing service in Greater Victoria. There is one Modo vehicle located adjacent to the subject site on Kingston Street and another vehicle within ~450 metres at the termination of Dallas Road. There are three additional Modo vehicles within a 10-minute walk of the site. Further, as of July 2021, a new carshare service operator called "Evo" is now available in the City of Victoria including the James Bay neighbourhood. This will provide more transportation choices to future residents, visitors, employees, and customers of the subject site.[10]

[8] City of Victoria, (2020). Dallas Road. Available online at: https://www.victoria.ca/EN/main/residents/transportation/cycling/dallas-rd.html
[9] City of Victoria, (2021). City of Victoria All Ages and Abilities Cycling Routes in James Bay. Available online at: https://www.victoria.ca/EN/meta/news/news-archives/2021-news/all-ages-and-abilities-cycling-routes-in-james-bay.html
[10] EVO Car Share, (2021). Hello Victoria – A little bit about us. Available online at: https://evo.ca/victoria

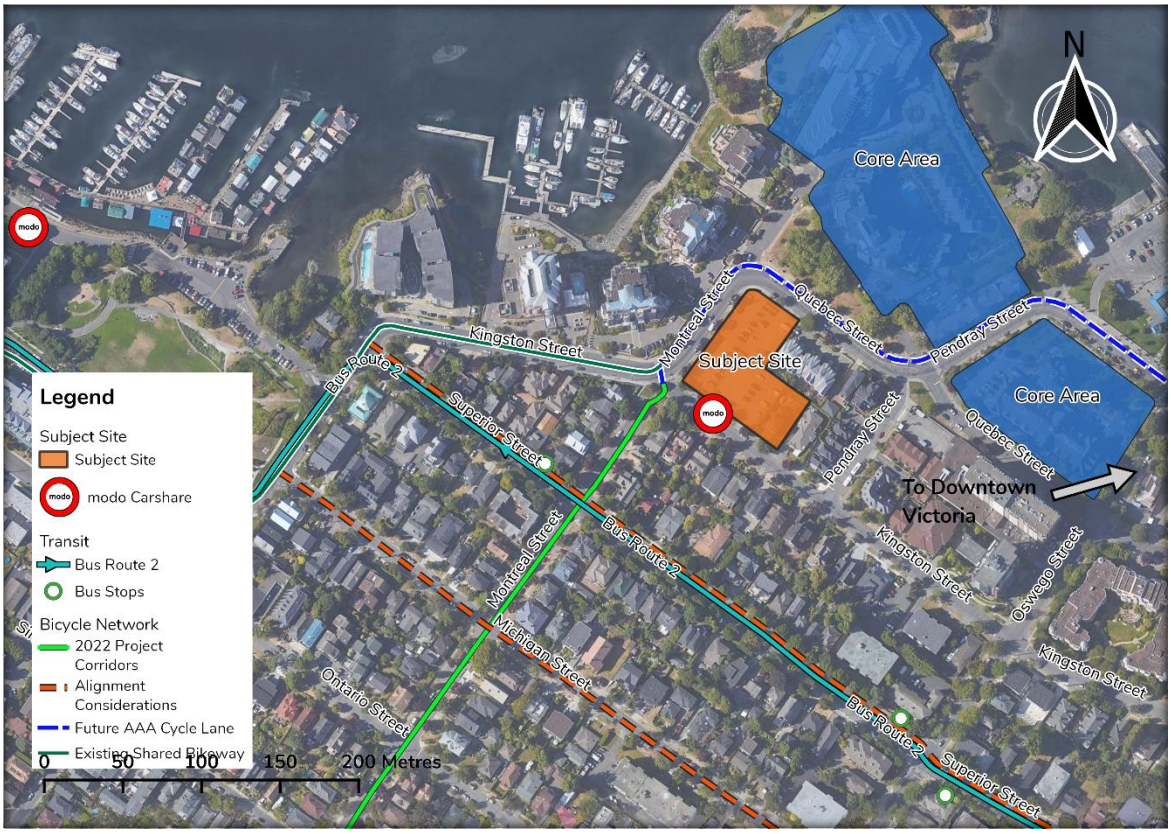

FIGURE 2. TRANSPORTATION OPTIONS IN PROXIMITY TO SITE

1.3 CURRENT LAND USE

The development site includes five lots (205 Quebec Street, 507 Montreal Street, 210 Kingston Street, 214 Kingston Street, and 218 Kingston Street) and is currently zoned as R-K Zone, Medium Density Attached Dwelling District. The current usage of these lots is Parking-Lot Only Paved or Gravel.

2.0 PROPOSED DEVELOPMENT

2.1 LAND USE

The proposed development is a multi-use development comprising 102 condominium units, 10 attached home (townhouse) units, a commercial retail unit, a day care, and a café. Table 1 outlines the unit size and land use composition for the proposed development:

TABLE 1: SUMMARY OF LAND USES AT SUBJECT SITE

Usage Type	Unit Type	Number of Units
Residential	Smaller than 45m^2	2
	Between 45m^2 and 70m^2	36
	Larger than 70m^2	64
	Townhouse	10
Usage Type	**Land Use**	**Floor Area**
Commercial	Commercial Retail Unit	152m^2
	Day Care (Care Facility)	312m^2
	Café (Restaurant)	105m^2

2.2 GEOGRAPHICAL CONSIDERATIONS

The City of Victoria OCP contains characteristic guidelines for determining different geographic regional classifications within the city. These geographic areas are subject to change with local development of and around each area. Table 2 outlines guideline characteristics for each of the regional classifications.

TABLE 2: GEOGRAPHIC AREA CHARACTERISTICS

Geographic Area	Land Use	OCP Guideline Characteristics
Village / Centre	Large Village	-Low to mid-rise mixed-use buildings with ground level commercial, offices, community services, and/or visitor accommodation -Located on dedicated pedestrian and cyclist network routes with wide sidewalks present, and regularly spaced trees -Building set close to street frontage -Served by frequent transit stops within 200m -Public park and/or playground within 400m and a public square or green
	Town Centre	-Mid-rise mixed-use buildings that have ground level commercial, offices, community services, or visitor accommodation -City-wide destination retail nearby -Large grocery store or equivalent food retail -City-wide recreations, education, or cultural facilities -Located on dedicated pedestrian and cyclist network route -Served by rapid or frequent transit stations within 200m -Public park and playground within 400mand a large formal, central public square with green and paved elements and public art
Core Area	Urban Core	-High density and mixed use -High-rise buildings 3-20 storeys -Intensive employment, industrial, and transportation uses -Served by rapid, frequent, and local transit -Well defined public realm where walking, cycling, and public transit are preferred travel modes

Geographic Area	Land Use	OCP Guideline Characteristics
Other Area (Subject Site)	Urban Residential	-Primarily multi-unit residential (including townhouses, and low to mid-rise apartments up to six storeys) -A residential character public realm featuring landscaping and street tree planting -Located within 400m of Urban Core, a Large Urban Village, or Town Centre -Located within 400m of a frequent transit route or 800m from rapid transit

The proposal for the subject site is a 17-storey, high density, mixed-use development within 44 metres of the "Core Area" designation and has many of the guideline characteristics of a "Core Area" development. Further, the development is located on current pedestrian and bicycle routes and will be seeking to improve these infrastructure features to better accommodate future expansions of the Victoria AAA and pedestrian networks. Lastly, the development is proposing a café and a commercial retail unit to aid in defining the local public realm. To this end, the "Core Area" geographic region should be expanded to include the proposed development along with its corresponding parking rates.

2.3 PROPOSED PARKING SUPPLY

2.3.1 VEHICLE PARKING

A total of 142 parking spaces are proposed for the development comprising 107 multi-family condo residential spaces, 13 townhouse spaces, 15 visitor / commercial spaces, 5 daycare spaces, and two Modo spaces.

2.3.2 BICYCLE PARKING

The applicant will be providing 156 long-term secure bicycle parking spaces, a rate of 1.4 bicycle space per residential unit, however it is currently unknown if or how these will be designated for residents or employees. A total of 25 short-term bicycle parking spaces are proposed as well.

3.0 PARKING REQUIREMENTS

3.1 RESIDENTIAL PARKING

The City of Victoria's Zoning Bylaw No. 80-159 (Schedule C) identifies the parking requirements for the site. Schedule C specifies parking requirements based on several different factors for multi-family uses including:

- **Class of Use (i.e., Housing Tenure)** – Condominium; Apartment; Affordable; and All Other Multiple Dwellings.
- **Location** – Core Area, Village/Centre and Other Area; and
- **Unit Size** – Smaller than 45metres², between 45metres² and 70metres², and Larger than 70m²

The proposed development falls in the 'Other Areas' classifications per Figure 1 of Schedule C and is subject to the corresponding parking rate requirements (See Table 3).

TABLE 3. PARKING REQUIREMENT PER SCHEDULE C

Multi Family Condominium Geographic Region	Unit Size	Schedule C Parking Rate
Other Areas	Smaller than $45m^2$	0.85
	Between $45m^2$ and $70m^2$	1.00
	Larger than $70m^2$	1.45
Visitor Parking Requirement in All Areas		0.10

3.2 COMMERCIAL PARKING

Schedule C further identifies the parking requirements of a variety of commercial uses within the "Other Areas" geographic region including commercial retail units, day care (care facility), and cafés (restaurants).

- **Commercial Retail Units** – 1 space per $37.5m^2$
- **Day Care Facilities** – 1 space per $80m^2$
- **Cafés** – 1 space per $20m^2$

3.3 SUMMARY OF REQUIRED PARKING

By applying the residential and commercial parking requirements outlined in Schedule C to the proposed development, the proposed development must provide the following parking spaces (see Table 4):

TABLE 4: SCHEDULE C: "OTHER AREAS" VEHICLE PARKING REQUIREMENTS

Unit Size		Number of Units	Bylaw Parking Requirement	Required Parking Spaces
Multiple Dwelling 'Condominium'	Smaller than 45metres^2	2	0.85	2
	Between 45metres^2 and 70metres^2	36	1.00	36
	Larger than 70metres^2	64	1.45	93
	Townhouse*	10	1.45	14.5
	Visitor Parking	112	0.1	11
Land Use Type		**Floor Area**	**Bylaw Parking Requirement**	**Required Parking Spaces**
Commercial	Commercial Retail Unit	152m^2	1/37.5m^2	4
	Day Care (Care Facility)	312m^2	1/80m^2	4
	Café (Restaurant)	105m^2	1/20m^2	5
Summary of Bylaw Parking Requirements				
			Total Parking Spaces Required	**169**

*the 10 proposed townhouse units have been categorized as "multiple dwelling condominium" for the purposes of the parking requirement calculation (a rate of 1.45 spaces per unit was applied).

By applying parking demand rates for the "Other Areas" geographic region, the development must provide 169 vehicle parking spaces, comprising 145 residential

spaces, 11 visitor spaces, and 13 commercial spaces. This is 27 spaces greater than the proposed supply.

However, if the development was subject to the "Core Area" classification in Schedule C, it would only be required to provide 138 parking spaces—1 less than the proposed supply.

3.4 BICYCLE PARKING

Based on Part 1: Table 2 of Schedule C, a development must provide bicycle parking spaces as outlined in **Table 5** - each including portions thereof of the given areas:

TABLE 5: SCHEDULE C - BICYCLE PARKING REQUIREMENTS

Unit Size		Long-Term Bicycle Parking Requirement	Short-Term Bicycle Parking Requirement
Residential	Floor Area Smaller than 45metres^2	1.00	The greater of 6 or 0.1 per dwelling unit
	Floor Area Greater than or Equal To 45metres^2	1.25	
	Townhouse	1.0 if no garage is provided	The greater of 6 or 0.1 per dwelling unit
Land Use Type		**Long-Term Bicycle Parking Requirement**	**Short-Term Bicycle Parking Requirement**
Commercial	Commercial Retail Unit (152m^2)	1/200m^2	1/200m^2
	Day Care (Care Facility) (312m^2	1/700m^2	1/200m^2
	Café (Restaurant) (85m^2)	1/400m^2	1/100m^2
Summary of Bylaw Bicycle Parking Requirements			
Total		**132**	**20**

By applying these rates, the development must provide 132 long-term bicycle parking spaces and 20 short-term spaces. The applicant is exceeding long-term and short-term requirement by 24 and 5 spaces, respectively.

4.0 EXPECTED PARKING DEMAND

Expected parking demand for the site is estimated in the following sections to determine if the proposed supply will adequately accommodate demand. Expected parking demand is based on three different data sources: (1) ICBC vehicle ownership data; (2) data from past parking studies completed by WATT; and (3) data from the City's Schedule C.

4.1 CONDOMINIUM PARKING DEMAND

4.1.1 REPRESENTATIVE SITES

ICBC provided vehicle ownership data for 14 multi-family condominium buildings in the City of Victoria, representing a total of 667 units. A summary of the representative sites is outlined in **Table 6**. Each location was chosen based on two criteria:

- **Geographic Location |** All of the representative sites are within the City of Victoria in areas / neighbourhood comparable to James Bay based on walkability, access to transit, and access to commercial / retail amenities. This is to represent the unique socio-geographical features of the municipality.
- **Walk Score** | This is a tool that ranks the walkability of a location based on its proximity to seven types of amenities: Dining and drinking, groceries, shopping, errands, parks, schools/education, and culture and entertainment. It is a useful tool for determining if a trip will require a vehicle, and may inform parking needs. As of 24 August 2021, the Walk Score of this development is 72 and the average Walk Score of the chosen representative sites is 81 (See **Figure 3**). [11]

[11] Walk Score, (2021). 205 Quebec Street Walk Score. Available online at: https://www.walkscore.com/score/205-quebec-st-victoria-bc-canada

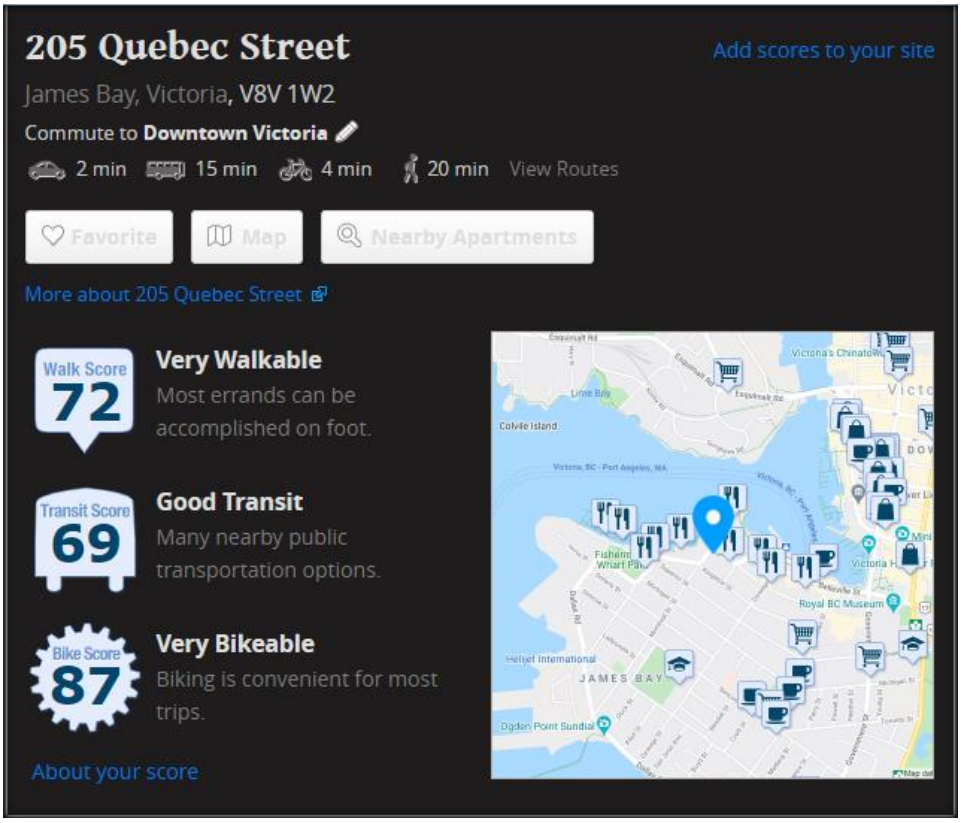

Figure 3. Walk Score for the Subject Site

TABLE 6. SUMMARY OF REPRESENTATIVE SITES

Address	Number of Units	Walk Score
640 Michigan Street	29	90
620 Toronto Street	191	85
320 Menzies Street	24	87
1436 Harrison Street	41	80
1035 Sutlej Street	41	85
1035 Southgate Street	17	89
1110 Oscar Street	24	88
1122 Hilda Street	15	89
439 Cook Street	28	91
797 Tyee Road	62	74
90 Regatta Landing	78	74
325 Maitland Road	59	63
1715 Richmond Ave	43	75
1615 Bay Street	15	63
Total	**667**	**-**
	Average	**81**

4.1.2 DATA

The parking demand data is summarized in **Table 7**. Peak vehicle ownership ranges from 0.63 vehicles per unit to 1.07 vehicles per unit. The average is 0.79 vehicles per unit.

TABLE 7. OBSERVATIONS AT REPRESENTATIVE SITES

Address	Number of Units	Owned Vehicles	Parking Demand (Vehicles/Unit)
640 Michigan Street	29	19	0.66
620 Toronto Street	191	141	0.74
320 Menzies Street	24	16	0.67
1436 Harrison Street	41	34	0.83
1035 Sutlej Street	41	31	0.76
1035 Southgate Street	17	13	0.76
1110 Oscar Street	24	15	0.63
1122 Hilda Street	15	12	0.80
439 Cook Street	28	25	0.89
797 Tyee Road	62	59	0.95
90 Regatta Landing	78	59	0.76
325 Maitland Road	59	63	1.07
1715 Richmond Ave	43	34	0.79
1615 Bay Street	15	12	0.80
		Average	**0.79**

4.1.3 ADJUSTMENT FACTORS

ICBC data is useful in assessing parking demand rates; however, there are limitations to this due to the age of the data obtained. This limitation may not account for the current demand rates for parking in these locations. To address this limitation, ICBC vehicle registration rates for the City of Victoria from the 2016 were compared to those of

2020.[12,13] The increased vehicle ownership registration in the municipality was 6.6%; as such, a conservative increase of 7% has been applied to the data provided by ICBC to create an adjusted demand rate of 0.85 vehicles per unit. (See Table 8).

TABLE 8. ADJUSTED PARKING DEMAND, REPRESENTATIVE SITES

Address	Owned Vehicles	Parking Demand (Vehicles/Unit)	Adjusted Demand (Vehicles/Unit)*1.07
640 Michigan Street	19	0.66	0.70
620 Toronto Street	141	0.74	0.79
320 Menzies Street	16	0.67	0.71
1436 Harrison Street	34	0.83	0.89
1035 Sutlej Street	31	0.76	0.81
1035 Southgate Street	13	0.76	0.82
1110 Oscar Street	15	0.63	0.67
1122 Hilda Street	12	0.80	0.86
439 Cook Street	25	0.89	0.96
797 Tyee Road	59	0.95	1.02
90 Regatta Landing	59	0.76	0.81
325 Maitland Road	63	1.07	1.14
1715 Richmond Ave	34	0.79	0.85
1615 Bay Street	12	0.80	0.86
	Average	**0.79**	**0.85**

[12] ICBC, (2021). Vehicle Population 2016 Passenger Vehicles, Available online at: https://public.tableau.com/app/profile/icbc/viz/VehiclePopulation-PassengerVehicles-2016/2016PassengerVehicles
[13] ICBC, (2021). Vehicle Population 2020 Passenger Vehicles. Available online at: https://public.tableau.com/app/profile/icbc/viz/VehiclePopulation-PassengerVehicles-2020/2020PassengerVehicles

4.1.4 PARKING DEMAND BY UNIT TYPE

Unit size type refers to the number of bedrooms provided within a residential unit. Research has shown that larger units will generally have more occupants or a family, thereby increasing the likelihood that additional vehicles will be owned by occupants and growing the parking demand. [14] Parking data collected for this study was assessed to reflect unit type using the following steps:

- Parking demand was calculated and adjusted by 7%;
- Parking demand by unit type was calculated based on the demand ratios of bedrooms per unit at each site acquired from the Metro Vancouver Parking Study from 2018; and
- The assumed "ratio differences" (from 2018 Metro Vancouver Parking study) for parking demand between each site was applied to unit data and vehicle observations. These "ratio differences" are as follows.[15]
    - 1-Bedroom units' parking demand rates will be 19% higher than studio unit rates; and,
    - 2-Bedroom units' parking demand rates will be 30% higher than 1-Bedroom unit rates.

Table 9 illustrates the adjusted average parking demand by unit type.

[14] Potoglou, D., & Kanaroglou, P.S., (2008). Modelling car ownership in urban areas: a case study of Hamilton, Canada. *Journal of Transport Geography, 16*(1): 42–54.
[15] Metro Vancouver, (2018). Regional Parking Study – Technical Report, pg. 18. Available online at: http://www.metrovancouver.org/services/regional-planning/PlanningPublications/RegionalParkingStudy-TechnicalReport.pdf

TABLE 9. PARKING DEMAND BY UNIT SIZE AT REPRESENTATIVE SITES

Address	Adjusted Demand	<40metres^2	>40metres^2 to ≤70metres^2	>70metres^2
640 Michigan Street	0.70	-	0.56	0.72
620 Toronto Street	0.79	0.59	0.70	0.91
320 Menzies Street	0.71	-	0.57	0.74
1436 Harrison Street	0.89	-	0.89	-
1035 Sutlej Street	0.81	0.63	0.75	0.98
1035 Southgate Street	0.82	-	-	0.82
1110 Oscar Street	0.67	0.50	0.60	0.78
1122 Hilda Street	0.86	-	0.67	0.87
439 Cook Street	0.96	-	-	0.96
797 Tyee Road	1.02	0.79	0.94	1.23
90 Regatta Landing	0.81	0.70	0.83	1.08
325 Maitland Road	1.14	-	-	1.14
1715 Richmond Ave	0.85	0.57	0.67	0.88
1615 Bay Street	0.86	0.68	0.81	1.05
Average	**0.85**	**0.64**	**0.73**	**0.93**

4.1.5 SUMMARY OF CONDOMINUM PARKING DEMAND

The ICBC vehicle ownership data, when adjusted for unit type, indicate that parking demand is even lower than the rates in the 'Core Area' of Schedule C, and significantly lower than the rates for 'Other Areas'. See **Table 10**.

Therefore, it is recommended that the applicant utilize the parking rates in Schedule C for 'Core Area' for calculating the total parking for the condominium units.

TABLE 10. SUMMARY CONDOMINIUM PARKING DEMAND, ICBC VS SCHEDULE C

Unit Size	Parking Demand Rate		
	ICBC Data	Schedule C 'Core Area'	Schedule C 'Other Areas
Smaller than $45m^2$	0.64 spaces / unit	0.65 spaces / unit	0.85 spaces / unit
Between $45m^2$ and $70m^2$	0.73 spaces / unit	0.80 spaces / unit	1.00 spaces / unit
Larger than $70m^2$	0.93 spaces / unit	1.20 spaces / unit	1.45 spaces / unit

4.2 TOWNHOUSE PARKING DEMAND

Parking demand data from previous townhouse parking studies conducted by WATT in the James Bay and Victoria West areas was compiled to assess the expected demand rates for the 10 townhouse units found in the proposed development. The findings of these previous studies found that the average parking demand was 1.08 spaces per unit. By adjusting this by 10% to account for any potential missing vehicles (in line with findings from a Metro Vancouver Parking Study that recommended an adjustment factor of 10% for parking data collection undertaken after 9:00pm) the demand rate was determined to be 1.18 spaces per unit.

TABLE 11. TOWNHOUSE PARKING DEMAND FROM PREVIOUS STUDIES

Address	Units	Observed Vehicles	Parking Demand (vehicles / unit)
290 Superior Street	7	7	1.00
229 Ontario Street	13	13	1.00
245 Ontario Street	9	9	1.00
242 Ontario Street	9	10	1.11
730 Sea Terrace	5	4	0.80
771 Central Spur Rd	7	10	1.43
773 Central Spur Rd	5	6	1.20
775 Central Spur Rd	7	8	1.14
785 Central Spur Rd	28	28	1.00
		Average	**1.08**
		10% Adjustment	**1.18**
		Total Expected Townhouse Parking Demand	**12 Spaces**

4.3 VISITOR PARKING

Observational visitor parking data was not collected for this study as it is not included within ICBC registration data. However, data from previously conducted studies by WATT Consulting Group throughout Greater Victoria have generally yielded rates between 0.05 and 0.1 vehicles per unit. This is in line with a study conducted by Metro Vancouver that concluded that visitor parking typically has a demand of less than 0.1 vehicles per unit, and the City of Victoria Schedule C whereby multi-family and

townhouse developments must provide visitor parking at a rate of 0.1 spaces per unit.[16] Each of these indicates that visitor parking is not strongly linked to location. Based on the available research, a rate of 0.1 is recommended.

4.4 COMMERCIAL PARKING

4.4.1 COMMERCIAL RETAIL UNIT

The proposed commercial-retail unit is 152m^2. Even though the applicant has not specified the exact commercial-retail use at this time, a general retail unit was assumed for the purposes of the parking analysis. Due to the ongoing COVID-19 pandemic, original data was not collected for this use as it would not represent typical conditions. The service sector is still short staffed due to the pandemic and some patrons are still not comfortable shopping in commercial/retail settings. As a result, original parking data could have resulted in an underestimate of true demand. For this reason, the Schedule C "retail" use was utilized. As discussed in Section 2.3 (Geographic Considerations), the subject site has many of the characteristics of the "Core Area" and as such, the Schedule C rate of 1 per 80m^2 was utilized.

4.4.2 DAY CARE

Staff Parking

The proposed day care facility will include a combination of 24 infant and 25 pre-school attendees. At this time, the applicant has not determined the number of staff required for this facility. According to the BC government, for licensed child care facilities, the child-to-staff ratios differ considerably depending on the type of care and age group.[17] For group child care (under 3 years old), the ratio for 1 to 4 children is 1 staff member (infant toddler educator). Therefore, with 24 proposed infant spaces, the total number of estimated staff is 6.

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[16] Metro Vancouver, (2012). The Metro Vancouver Apartment Parking Study, Technical Report. Available online at: http://www.metrovancouver.org/services/regionalplanning/PlanningPublications/Apartment_Parking_Study_TechnicalReport.pdf

[17] BC Government. (2021). Licensed Child Care. Available online at: https://www2.gov.bc.ca/gov/content/family-social-supports/caring-for-young-children/how-to-access-child-care/licensed-unlicensed-child-care#licensed

For pre-school (2.5 years to school ages), the child-to-staff ratio for 1 to 8 children is 1 staff member (early childhood educator). Therefore, with 25 proposed pre-school spaces, the total number of estimated staff is 3. Combined, the total number of estimated staff for the day care is 9 employees.

To estimate the staff parking demand, data was utilized from the 2017 CRD Origin-Destination Household Travel Survey.[18] For the City of Victoria, the travel mode share for 'auto driver' is 60% for "to District" trips. This captures trips that are made from neighbouring jurisdictions including Langford, Saanich West, Saanich East, and Oak Bay. To validate the travel mode share figure, data from a day care parking study conducted by WATT in Central Saanich were reviewed.[19] The study surveyed day care facilities in more suburban locations including Saanich and Central Saanich to understand travel mod share among staff. The study found that among the 8-day care facilities sampled, the average driving mode share was 0.71 (or 71 percent).

A rate of 71% is higher than the auto driver mode share for the City of Victoria. This is expected given that travellers have more transportation options available to them when travelling to Victoria including regional trails and more frequent and direct transit service.

Therefore, applying a parking demand rate of 0.6 (60%) per employee to the estimated number of employees (9) results in 5 parking spaces.

Parent / Guardian Parking

The parking requirements for day care parents / guardians is subject to a range of factors including [a] when the day care's operating hours will be [b] whether there will be staggered drop-off and pick-up times and [c] the number of siblings who are

[18] Malatest. (2018). 2017 Capital Regional District Origin Destination Household Travel Survey. Available online at: https://www.crd.bc.ca/docs/default-source/regional-planning-pdf/transportation/crd-2017-od-survey-report-20180622-sm.pdf?sfvrsn=4fcbe7ca_2

[19] WATT Consulting Group. (2021). 7925 East Saanich Road Parking Study.

attending (i.e., a family with two children attending the day care only requires one parking space). However, for the purposes of this analysis, it was assumed that drop-off and pick-up would occur over an extended period (drop-off: 7:30am to 9:00am; pick-up: 3:30pm to 5:00pm). To estimate the number of vehicles, the following assumptions were utilized:

- With 49-day care spaces, the total number of families (baseline) is 49
- About 20% of the families live within walking / cycling distance and therefore will not require parking
- About 20% of the families will have more than one child attending the day care (one in the infant program and other in pre-school)

With these stated assumptions, of the 49-day care spaces, approximately 29 (49 *0.4) will drive and require parking. Assuming drop-off and pick-up is staggered in 30-minute increments, then approximately 10 vehicles (families) are expected on site at any one time (29 / 3). This means that the estimated parent / guardian parking is 10 spaces. Based on data from the day care parking study conducted by WATT, most of the day care facilities reported that parents mostly utilize on-street parking for drop-off and pick-up.

In summary, a total of 15 parking spaces are expected (based on rounding). This results in a demand rate of 1 space per 21m^2 (312 / 15 spaces). However, as indicated in it is anticipated that most parents will utilize on-street parking for drop-off and pick-up.

4.4.3 CAFÉ

The proposed café use is 105m^2. Similar to the rationale for the commercial-retail unit, original data was not collected. The Schedule C “restaurant” use was utilised. The rate for the “Core Area” is 1 per 40m^2.

4.5 SUMMARY OF EXPECTED PARKING DEMAND

The expected residential parking demand for the proposed development is 150 parking spaces, which is 8 greater than the proposed supply. Table 12 summarizes the expected parking demand for the proposed development.

TABLE 12. EXPECTED PARKING DEMAND BY LAND USE

Land Use		Units / Quantity	Expected Parking Demand		
			Demand Rate	Demand	Rounded (Total Spaces)
Residential, Condominium*	Less than 45m^2	2	0.65 / unit	1.3	1
	45m^2 to 70m^2	36	0.80 / unit	28.8	29
	Greater than 70m^2	64	1.20 / unit	76.8	77
Residential, Townhouse**		10 units	1.18 / unit	11.8	12
Residential Visitor (Condo & Townhouse)*		112 units	0.1 / unit	11.2	11
Commercial*	Commercial Retail Unit	152m^2	1 per 80m^2	1.9	2
	Café	105m^2	1 per 40m^2	2.6	3
Day Care (Care Facility)**		312m^2	1 per 21	14.8	15
				Total	**150 spaces**

*demand rates derived from 'Core Area' in Schedule C

**demand rates estimated by WATT based on past parking studies / professional judgment

5.0 SHARED PARKING

5.1 CAPTIVE MARKET ANALYSIS

A captive market refers to users of a facility or land use do not require a vehicle as they are already present on-site. To contextualize this in terms of parking, this accounts for users that park one time to access multiple facilities, amenities, or other land uses. By accounting for this the risk of "double counting" parking demands may be avoided.

For example, residents living at the subject site that own a vehicle would already be parked in their residential parking spaces and access the various commercial uses including the commercial spaces by foot. In addition, a portion of users of one land use (e.g., Day Care) may also access other site amenities at the development (e.g., Café). Due to the minimal expected parking demand at each of the various amenities, no reductions have been applied at this time.

5.2 TIME-OF-DAY ANALYSIS

In scenarios where two or more land uses have complementary parking demand patterns with differing peak parking demand times of day, they may opt to share a supply of parking to reduce overall parking supply for a site/area. This "shared parking" concept is often exemplified by office buildings and multi-family residential land uses having complementary parking demands. Office parking demand is typically highest during weekday working hours (9:00a.m-5:00p.m.), while residential and visitor parking demand is highest during weekday evenings and weekends, reducing the likelihood of competition for parking spaces based on the time of day.[20] [21] Due to the mixed-use nature of the subject site and the various commercial uses that have been proposed, there is an opportunity for shared parking.

[20] ITE. (2021). ITEParkGen Web-Based App
[21] Urban Land Institute. (2020). Shared Parking: Third Edition

The following assumptions were made for the shared parking time-of-day analysis:

1. Uses that can share parking include residential visitors, parents / guardians dropping off / picking up their children from day care, café employees, café patrons, commercial retail unit employees, commercial retail unit patrons.
2. Both day care staff and residents of the multi-family / townhouse units will have reserved parking spaces and have therefore been excluded from the analysis.

By applying these assumptions, the results of the time-of-day analysis suggests that the peak parking demand will be 16 vehicles among the shareable uses. This accounts for an approximate 38% reduction from unfactored expected parking demand of 26 vehicles. Peak demand will be experienced at 9:00am when parents are dropping off their children at the day care and patrons arrive at the café. This means that all 16 parking spaces would need to be signed for "customer and visitor parking only" to ensure that they are shared among the commercial and day care uses. **Table 13** shows the adjusted parking demand for the site with shared parking, which indicates that the total site parking demand is 140 spaces (a reduction from 150 as shown in Table 12).

TABLE 13. EXPECTED PARKING DEMAND, ADJUSTED WITH SHARED PARKING

Land Use	Number of Units/Size	Expected Parking Demand	Expected Parking Demand (Sharing)
Non-Shareable Uses			
Residential Condominium	102 units	107 spaces	124
Residential Townhouse	10 units	12 spaces	
Day Care (Employees)	312m^2 (9 employees)	5 spaces	
	Total	**124**	
Shareable Uses			
Residential Visitor	112 units	11 spaces	16
Commercial Retail Unit	152m^2	2 spaces	
Day Care (Parents / Guardians)	312m^2	10 spaces	
Café (Restaurant)	105m^2	3 spaces	
	Total	**26 spaces**	
Total (Non-Shareable + Shareable)		**140** (124 + 16)	

6.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation demand management (TDM) is the application of strategies and policies to influence individual travel choice, most commonly to reduce single-occupant vehicle travel. TDM measures typically aim to encourage sustainable travel, enhance travel options, and decrease parking demand. The expected parking demand for the site is 150 parking spaces, which is only 8 spaces more than the proposed supply (142). Therefore, TDM is required for this development. The applicant would like to include a carsharing program to provide future residents / employees of the site with more sustainable transportation options and to provide an amenity for the community. Details of the carsharing program are included below.

6.1 CARSHARING

As indicated in Section 1.2, there are two Modo vehicles in proximity to the subject site and additional vehicles within a 10-minute walk. This is providing the area with some carsharing service and availability. Further, according to the 2017 CRD Regional Household Travel Survey, Victoria South—where the subject site is located—has one of the highest shares of households in the region with one vehicle (60%), which can make carsharing an even more viable option for residents who may require a vehicle for only select trips.[22]

Part of the reason why carsharing is expanding locally and being supported by municipalities is because of its ability to reduce household vehicle ownership and parking demand. A recent 2018 study from Metro Vancouver analyzed 3,405 survey respondents from carsharing users in the region and found that users of Car2go and Modo reported reduced vehicle ownership after joining a carsharing service. The impact was larger for Modo users; households joining Modo reduced their ownership from an average of 0.68 to 0.36 vehicles. Further, Modo members were close to five times more

[22] Capital Regional District. (2017). CRD Origin-Destination 2017 Household Travel Survey, pg. 105. Available online at: https://www.crd.bc.ca/docs/default-source/regional-planning-pdf/transportation/crd-2017-od-survey-report-20180622-sm.pdf?sfvrsn=4fcbe7ca_2

likely to reduce car ownership compared to Car2go users. Additional research has found the following:

- A 2016 study in San Francisco reported that the potential for carsharing to reduce vehicle ownership is strongly tied to the built environment, housing density, transit accessibility, and the availability of parking.[23]
- A 2013 study from the City of Toronto looked at the relationship between the presence of carsharing in a residential building and its impact on vehicle ownership. The study surveyed residents of buildings with and without dedicated carshare vehicles. The study found that the presence of dedicated carshare vehicles had a statistically significant impact on reduced vehicle ownership and parking demand. Specifically, 29% of carshare users gave up a vehicle after becoming a member and 55% of carshare users went without purchasing a car because of carsharing participation.[24]

The applicant is committing to providing two Modo vehicles for the subject site, which would have two designated off-street parking spaces. This would include a new vehicle and relocating the existing Modo vehicle parked on-street (Quebec Street & Montreal Street) into the off-street parking as part of the subject site. Memberships will also be provided to the residential units; however, the exact number of memberships has not been determined at the time of writing this report.

[23] Clewlow, R.R. (2016). Carsharing and sustainable travel behaviour: Results from the San Francisco Bay Area. *Transport Policy*, 51, 158-164.
[24] Engel-Yan, J., & D. Passmore. (2013). Carsharing and Car Ownership at the Building Scale. Journal of the American Planning Association, 79(1), 82-91.

A parking demand reduction of 15% would be supported if the applicant secures two Modo vehicles at the site.

This would reduce the residential parking demand from 119 to 101 spaces (119 * 0.15). Table 14 provides a summary of the revised site parking demand with sharing and TDM. With shared parking and committing to TDM, the total site parking demand is 121 spaces.

TABLE 14. EXPECTED PARKING DEMAND, ADJUSTED WITH SHARING + TDM

Land Use	Expected Parking Demand (Per Table 12)	Parking Reduction (Total Spaces)	Adjusted Parking Demand (With Reductions)
Residential Condominium + Townhouse	119 spaces	- 18	101
Day Care (Employees)	5 spaces	None	5
Commercial + Day Care (Customer / Visitor)	26 spaces	- 10	16
Total	**150**	**- 28**	**122***

*two off-street parking spaces will need to be designated for the Modo carshare vehicles.

7.0 CONCLUSIONS

The total peak parking demand was calculated to be 150 spaces, which is eight spaces greater than the proposed parking supply. A shared parking analysis was conducted, which found that 10 fewer parking spaces could be provided if all of the visitor and customer parking spaces were shareable. Further, the applicant is committing to an on-site carsharing program, which would include two vehicles and memberships for some of the units. With shared parking and the carsharing program, a reduction of 28 spaces is supported, which would bring the total site parking demand to 122 parking spaces.

8.0 RECOMMENDATIONS

It is recommended that the applicant:

1. Designate a minimum of 16 parking spaces to be shared among residential visitors, commercial customers, and child care drop-off / pick-up.
2. Commit to the provision of two Modo carshare vehicles and memberships for most of the residential units.