OAK BAY UNITED CHURCH AFFORDABLE HOUSING DEVELOPMENT

Parking Study

Prepared for:	Oak Bay United Church
Prepared by:	**Watt Consulting Group**
Our File:	2335
Date:	May 16, 2018

TABLE OF CONTENTS

1.0 INTRODUCTION

Watt Consulting Group was retained by the Oak Bay United Church to prepare a parking study for the proposed rezoning of the Oak Bay United Church in the District of Oak Bay. The purpose of this study is to determine if the proposed parking supply will accommodate parking demand by considering demand at representative sites and in consideration of parking management approaches.

1.1 SUBJECT SITE

The proposed development site is located at 1355 Mitchell Street in the District of Oak Bay. The site is currently zoned P2 'special institutional use'. See **Figure 1**.

FIGURE 1. **SUBJECT SITE**

1.2 SITE CHARACTERISTICS

The following provides details regarding transportation options and services that are located in proximity to the site.

Services

Oak Bay Village is within 500m (about a 6-minute walk) of the site, where residents can access a variety of commercial and retail uses including a grocery store, coffee shops and bistros, a library, recreation centre, financial institutions, medical services, and restaurants.

The Fort Street and Foul Bay Road intersection is within 850m of the site (10-minute walk) where residents can access a grocery store, restaurants, and a recreation centre.

Transit

There are four bus stops within a 5-minute walk of the subject site. These include two bus stops on Foul Bay Road served by route 3 (James Bay / Royal Jubilee) and route 7 (UVic / Downtown), and two stops on Oak Bay Avenue served by route 2 (James Bay / South Oak Bay / Willows) and route 8 (Interurban / Tillicum Mall / Oak Bay). These four bus routes operate at 15-40 minute headways during peak hours and provide service to key employment hubs and destinations within the region including downtown Victoria, the University of Victoria, Camosun College, and most parts of Oak Bay.

The Victoria Region Transit Future Plan[1] provides guidance on future transit networks in the Victoria Region. The subject site is within 150m (2-minute walk) of Foul Bay Road and Oak Bay Avenue—identified as “Frequent Corridors” on the Frequent Transit Network (FTN). The FTN is intended to provide medium to high density mixed land use corridors with frequent and reliable transit service of 15 minutes or better between 7:00am to 10:00pm, seven days a week.[2] Frequent Corridors will achieve faster travel times through fewer bus stops and transit priority measures, which, coupled with enhanced bus stops, will improve the overall appeal of transit.

Walking

The subject site can be described as very walkable with a walk score of 87, indicating that daily errands do not require a vehicle.[3] Sidewalks are available on

[1] BC Transit. (2011). Transit Future Plan Victoria Region. Executive Summary. Available online at: https://bctransit.com/servlet/documents/1403641054491

[2] Ibid.

[3] More information about walk score is available online at: https://www.walkscore.com/score/1355-mitchell-st-victoria-bc-canada

both sides of the majority of roads surrounding the site, including Granite Street. The posted speed limit of 40km/h on Granite Street and the availability of a crosswalk at the corner of Granite Street and Mitchell Street help create a comfortable walking environment.

Cycling

There are no existing bike facilities on either Granite Street or Mitchell Street. Foul Bay Road and Oak Bay Avenue, about 150m (1-minute bike ride) from the subject site, are both designated as commuter bike routes according to the District's Active Transportation Strategy.[4] Both streets could provide residents and church visitors alike with viable cycling route options to travel within Oak Bay and to other destinations in the region.

2.0 PROPOSED DEVELOPMENT

The proposed development is to rezone the existing church site to allow for up to 46 market rental units, 50 affordable housing units, and 4 townhouse units. The existing Oak Bay United Church will be retained and a new church programming space is proposed; however, the existing church office, Thrift Shop, Threshold Housing Society, and storage area will be demolished. See **Table 1**. The proposed Church programming space is expected to function similarly to the existing church and exhibit similar parking demand characteristics.

TABLE 1. **SUMMARY OF PROPOSED DEVELOPMENT**

Land Use	Quantity	
	Units	Floor area
Church Programming Space		3,200 sq.ft. (297m^2)
Church (existing)[5]		9,365 sq.ft.(870m^2)
Market Rental		
Bachelor / Studio	8	
One-Bedroom	34	
Affordable Housing		
Bachelor / Studio	2	
One-Bedroom	42	
Two-Bedroom	4	
Three-Bedroom	2	
Townhouse		
One-Bedroom + Den	1	

[4] A commuter bike route is defined as major roadways with either bike lanes or wide shoulder lanes. More information about Oak Bay's recommended bike network is provided in the Oak Bay Active Transportation Strategy, available online at: https://www.oakbay.ca/sites/default/files/municipal-hall/Reports/Oak%20Bay%20Active%20Transportation%20Strategy_FINAL_Sept12-11.pdf

[5] *The Church is the only building that will remain on site. Gardener Hall (Thrift Shop), the Church office, the garage, and the Threshold Housing Society will all be demolished as part of the redevelopment.

Land Use	Quantity	
	Units	Floor area
Two-Bedroom	3	
Total	**96**	**12,565 sq.ft. (1,157m²)**

2.1 PROPOSED PARKING SUPPLY

The proposed parking supply for the site is 115 parking spaces, allocated as follows:

- 38 spaces, market rental housing
- 15 spaces, affordable housing
- 6 spaces, townhouses
- 6 spaces, residential visitor parking, electric vehicle parking, and spare
- 50 spaces, existing church and proposed church programming space

At the time of writing, the Oak Bay United Church is planning to continue to lease 35 of the 50 parking spaces to the District of Oak Bay, which will function as public parking from 9:00AM to 5:00PM Monday to Friday. The other 15 parking spaces will be intended for the church and as visitor parking for the residential units.

The proposal also includes 123 long-term ("Class 1") bicycle parking spaces—one space per unit—along with 6 short-term ("Class 2") visitor parking spaces.

3.0 PARKING REQUIREMENT

The District of Oak Bay Bylaw No. 3540 determines the minimum parking supply requirement. See **Table 2**. Per the Bylaw, the 'Churches' and 'Church Meeting and Community Halls' uses within the P-2 zone require 1 parking space per 10m², resulting in approximately 117 spaces.

'Multiple Family Dwelling' uses within the P-2 zone require two spaces per dwelling unit, plus additional guest parking spaces of one space per four dwelling units or part thereof. Therefore, the residential component of the subject site may be required to provide up to 216 spaces (192 resident, 24 visitor). In total, the site is required to provide 333 parking spaces.

TABLE 2. **PARKING REQUIREMENT**

Land Use	Quantity	Parking Requirement		
		Use	Rate	Req't
Existing Church	870m²	Churches	1 per 10m² of building area	87
Church Programming Space	297m²	Church Meeting and Community Halls	1 per 10m² of building area	30

Land Use	Quantity	Parking Requirement		
		Use	Rate	Req't
Market Rental Housing	42	Multiple Family Dwelling	2 per dwelling unit	84
Affordable Housing	50	Multiple Family Dwelling	2 per dwelling unit	100
Townhouse	4	One Family Residential Use	2 per dwelling unit	8
Visitor	137	Guest Parking	0.25 per unit	24
			Total Parking Requirement	**333**

3.1 REPRESENTATIVE MUNICIPALITIES

Required parking supply rates were reviewed for 12 municipalities to determine how the District of Oak Bay's requirement for multi-family residential uses compared with other communities. See **Table 3**.

The majority of comparable municipalities (nine of twelve) have a lower parking requirement for apartment / multi-family use. Rates range from 1.0-1.5 spaces per unit. The municipalities of Highlands, Metchosin and North Saanich have a comparable supply rate to Oak Bay (2 spaces per unit); however, these municipalities are more rural in nature and do not share the more urban characteristics of Oak Bay. The table confirms that Oak Bay's required supply rate for multi-family dwelling is higher than most CRD municipalities and may warrant an update to align its rate with current parking demand and best practices.

TABLE 3. **MULTI-FAMILY PARKING REQUIREMENT IN OTHER CRD MUNICIPALITIES**

Municipality	Bylaw Classification	Required Supply Rate
Central Saanich	Residential Apartment	1.5 spaces / unit
Colwood	Residential, multi-family (attached housing, apartments)	1.5 / unit + 1 / 100m² of building floor area exceeding 60 m² times the number of units
Esquimalt	Medium and High Density Apartments	1.3 spaces / unit
Highlands	Dwelling unit	2.0 spaces / unit
Langford	Apartment outside City Centre designation	1.0 spaces / unit, 2.0 spaces / unit with more than 1 bedroom
Metchosin	Residential	2.0 spaces / unit
North Saanich	Apartment	2.0 spaces / unit
Oak Bay	Residential Use	1.5 spaces / unit

Municipality	Bylaw Classification	Required Supply Rate
Saanich	Apartment	1.5 spaces / unit
Sidney	Dwelling, apartment	1.0 spaces / unit
Sooke	Residential, medium Density/High Density Multifamily / Tent Lot residential	1.5 spaces / unit
Victoria	Apartment	1.3 spaces / unit
View Royal	Apartment (Zoning Bylaw, 2014)	Studio or one bedroom – 1 space / unit, Two bedroom – 1.5 spaces / unit, Three bedroom – 2 spaces / unit

4.0 EXPECTED PARKING DEMAND

Expected parking demand is estimated in the following sections to determine if the proposed parking supply will accommodate site parking needs. Expected parking demand is based on vehicle ownership information from the Insurance Corporation of British Columbia, observations, and secondary research.

4.1 MARKET RENTAL HOUSING

The proposed development includes 42 market rental units comprising a mix of bachelor and one-bedroom units. To determine an accurate parking demand rate, observations were conducted at nine multi-family apartment rental sites in the District of Oak Bay and the City of Victoria. Representative sites were selected based on three criteria, as follows:

1. Walk Score. Sites needed to have a 'very walkable' walk score (70-89). Sites that were either below or above these scoring thresholds were considered to be unrepresentative of the subject site.[6]
2. Housing Tenure. All sites needed to be market rental, which reflects the proposed market rental units for the subject site. Comprehensive studies from the City of Victoria, Metro Vancouver, the City of Toronto have concluded that parking demand is anywhere from 30% to 50% lower among market rental than strata condominium units.[7,8,9]

[6] The Walk Score methodology and the scoring thresholds are described in detail online at: https://www.walkscore.com/methodology.shtml

[7] Metro Vancouver. (2012). The Metro Vancouver Apartment Parking Study. Available online at: http://www.metrovancouver.org/services/regional-planning/PlanningPublications/Apartment_Parking_Study_TechnicalReport.pdf

[8] City of Toronto. (2007). Parking Standards Review – Phase Two Apartment Building / Multi-Unit Blocks Developments Component, New Zoning By-Law Project. Available online at: https://www1.toronto.ca/city_of_toronto/city_planning/zoning__environment/files/pdf/cansult_final_apart_stds.pdf

[9] WATT Consulting Group. (2016). Review of Zoning Regulation Bylaw Off-Street Parking Requirements (Schedule C): Working Paper no.3 Parking Demand Assessment. Available online at: http://www.victoria.ca/assets/Departments/Planning~Development/Community~Planning/Documents/Victoria%20Schedule%20C%20Parking%20Review_Working%20Paper%20no3_FINAL_Sept23-16.pdf

3. Countable Parking Spaces. The sites needed to have parking spaces that were visible and therefore countable. Some apartment sites within the region, especially newer rental buildings, have gated underground parking making counting difficult.

Observations were completed at each site at times that represent the residential peak period, as follows:

1. Tuesday February 20, 2018 at 10:00pm; and
2. Tuesday February 27, 2018 at 9:30pm

Results conclude average peak parking demand to be 0.60 vehicles per unit ranging from 0.50 vehicles per unit to 0.71 vehicles per unit. See **Table 4**.

Study sites that are in proximity to the subject site were assessed in more detail to calculate an accurate representation of parking demand at the subject site. Average peak parking demand among those sites (1063 Foul Bay Road, 1066 Foul Bay Road, 1510 Clive Drive and 1520 Richmond Avenue) is 0.68 vehicles per unit, which higher than the average among all study sites.

TABLE 4. **SUMMARY OF OBSERVATIONS AT REPRESENTATIVE SITES**

Location	Number of Units	Tuesday February 20, 2018 10:00pm		Tuesday February 27, 2018 9:30pm	
		Vehicles Observed	Demand Rate (vehicles per unit)	Vehicles Observed	Demand Rate (vehicles per unit)
1063 Foul Bay Road	92	62	0.67	62	0.67
1066 Foul Bay Road	36	19	0.53	21	0.58
1510 Clive Drive	17	13	0.76	12	0.71
1520 Richmond Avenue	22	10	0.45	13	0.59
2184 Cadboro Bay	20	11	0.52	12	0.57
2230 Cadboro Bay	43	22	0.51	25	0.58
1760 Fort Street	18	10	0.56	10	0.56
1710 Richmond Avenue	36	19	0.53	18	0.50
1505 Belcher Avenue	33	20	0.61	20	0.61
		Average	**0.57**		**0.60**

4.1.1 PARKING DEMAND BY UNIT SIZE

There is a substantial amount of research concluding that parking demand varies based on unit size, that is, the greater the number of bedrooms, the higher the parking demand. For the four sites closest to the subject site, the total parking demand can be further assessed by unit size (i.e., number of bedrooms).

Parking demand by unit type was calculated using:

1. Adjusted peak parking demand at each site[10];
2. The breakdown of unit type (i.e., number of bedrooms) at each site[11]; and
3. The assumed "ratio differences" between each unit type based on the King County Metro[12] study, which recommends one-bedroom units have a 20% higher parking demand than bachelor units; two-bedroom units have a 60% higher parking demand than one-bedroom units; and three-bedroom units have a 15% higher parking demand than two-bedroom units. The relative ratios concluded in the study from King County were found to closely represent the distribution among a small sample of sites from Victoria.[13]

Table 5 presents average parking demand, factored for unit size, for the four most proximate representative sites. Demand is as follows:

- Bachelor Units | 0.50 vehicles per unit X 8 units = 4 vehicles
- One-bedroom Units | 0.60 vehicles per unit X 34 units = 20 vehicles
- **Total Market Rental Resident Parking Demand = 24 vehicles**

TABLE 5. **PARKING DEMAND AT REPRESENTATIVE SITES, BY UNIT SIZE**

Site*	Adjusted Parking Demand Rate	Parking Demand Distribution (vehicles per unit)		
		Studio / Bachelor	One-Bedroom	Two-Bedroom
1063 Foul Bay Road	0.74	0.51	0.64	1.02
1066 Foul Bay Road	0.64	0.48	0.59	0.95
1510 Clive Drive	0.84	--	0.67	1.08
1520 Richmond Avenue	0.65	--	0.56	0.89
Average	**0.72**	**0.50**	**0.62**	**1.0**

[10] The peak parking demand rates were also factored up to account for any residents that may not have been home during observations. A conservative factor of 10% is applied to each site (this is based on known ratio differences between results from observations and vehicle ownership information at similar sites).

[11] The unit size breakdown for the representative sites was obtained via email from the Canada Mortgage and Housing Corporation.

[12] King County Metro. (2013). Right Size Parking Model Code. Table 2, page 21. Available online at: http://metro.kingcounty.gov/programs-projects/right-size-parking/pdf/140110-rsp-model-code.pdf

[13] WATT was retained by the City of Victoria to review and update the City's off-street parking requirements (Schedule C) to align regulations with actual parking demand, current trends, and community planning objectives. As part of the study, a handful of sites were sampled to understand how parking demand differs by unit type among multi-family buildings.

4.1.2 PRECEDENT SITES

There have not been many market rental buildings constructed in Oak Bay since the 1980s. "The Clive" is a notable exception that was constructed in 2015. It was one of the representative sites used in this study. Data received from the District of Oak Bay show that the Clive was approved by Council to supply 16 resident parking spaces for a 17-unit building, or 0.94 spaces per unit.[14] While 0.94 spaces per unit is higher than the parking demand rate reported for the representative sites, it still indicates that a recent market rental building in Oak Bay was approved to supply parking below 1 space per unit, which is also well below the District's parking requirement of 2 spaces per unit.

4.2 AFFORDABLE HOUSING

The proponent is including 50 affordable housing units, which will be managed by BC Housing. The proposed unit mix is as follows:

- Bachelor / Studio (300 sq.ft.) = 2
- One-bedroom (420 sq.ft.) = 42
- Two-bedroom (650 sq.ft.) = 4
- Three-bedroom (820 sq.ft.) = 2

4.2.1 VEHICLE OWNERSHIP AT REPRESENTATIVE SITES

Affordable housing and subsidized housing are widely understood to experience lower parking demand as compared market rental units. Vehicle ownership information was obtained from ICBC for nine affordable housing sites within urban areas of the City of Victoria. These sites are managed by different organizations including Pacifica Housing and the Greater Victoria Housing Society. The sites combine for a total of 478 units—most of which are subsidized housing. The target demographics for these housing units range from low-income individuals and families, seniors, and persons with a disability.

The average vehicle ownership rate across the nine sites is 0.42 vehicles per unit and ranges from 0.23 to 0.66 vehicles per unit. See **Table 6**.

TABLE 6. **VEHICLE OWNERSHIP AT REPRESENTATIVE SITES**

Site*	Target Demographic / Manager	Units	Vehicles	Vehicle Ownership Rate (vehicles / unit)
918 Collison Street	Low-income (GVHS)	100	23	0.23
2105 Dowler Place	Low-income (GVHS)	66	17	0.26
35 Gorge Road East	Low to moderate income (GVHS)	68	45	0.66
3015 Jutland Road	Low-income (Pacifica)	30	18	0.60

[14] Email correspondence with District of Oak Bay Planning Technician on October 25, 2017.

Site*	Target Demographic / Manager	Units	Vehicles	Vehicle Ownership Rate (vehicles / unit)
411 Sitkum Road	Seniors (GVHS)	75	27	0.36
950 Humboldt Street	Persons with disability (Pacifica)	44	15	0.34
921 North Park Street	Seniors + families (GVHS)	74	29	0.39
1025 North Park Street	Family + persons with disability (Pacifica)	10	5	0.50
510 Dalton Street	Family + persons with disability (Pacifica)	11	5	0.45
			Average	**0.42**

*Vehicle ownership information obtained from Insurance Corporation of British Columbia (ICBC). These data do not include visitor vehicles. Information for all sites is current as of March 31, 2016 with the exception of 921 North Park Street where the data are current as of April 30, 2014.

4.2.2 PARKING DEMAND BY UNIT TYPE

Similar to market rental housing, research has demonstrated that parking demand in affordable housing buildings varies by unit size. Two of the proposed affordable housing units are 300 square feet in size (bachelor / studio units), which meet the Urban Land Institute's definition for a "Micro Unit" – *a small studio apartment, typically less than 350 square feet with a full functioning kitchen and bathroom*.[15] Forty-two of the proposed affordable housing units are 420 square feet in size, which is a small one-bedroom unit.

Examples of recently constructed multi-family buildings—comprising a significant share of bachelor / studios and small one-bedrooms—with little to no parking include the Janion[16] building in Victoria and the N3[17] in Calgary's East Village. Interviews with contacts for each building confirmed that the impacts of providing no parking have been minimal as residents already had a lifestyle that was conducive to not owning a vehicle, while other residents have adjusted to using more sustainable forms of transportation.[18] Data from the City of Seattle are also showing a trend of new small efficiency dwelling unit (SEDU) buildings being constructed with little or no parking—a trend that will likely continue as vehicle ownership declines.[19] These findings generally confirm that smaller units do not require as much parking, if any parking at all.

[15] The Macro View on Micro Units, Urban Land Institute Multifamily Housing Council, 2015, pg. 4. Available online at: http://uli.org/wp-content/uploads/ULI-Documents/MicroUnit_full_rev_2015.pdf

[16] More information about the Janion is available online at: http://www.janion2013.com/neighbourhood.html

[17] More information about the N3 condo building is available online at:
http://www.n3condo.ca/
http://www.evexperience.com/n-3/

[18] Phone conservation held with Senior Vice-President of Strategy & Business Development at the Calgary Land and Municipal Corporation on September 15, 2017.

[19] According to the City of Seattle, a SEDU is a micro-housing unit that is a minimum of 150 square feet with a full kitchen or kitchenette. More information is available online at: http://www.seattle.gov/dpd/codesrules/codes/efficiencydwellings/default.htm

From 2016 to 2017, the consultant team worked with the City of Victoria to update their off-street parking regulations. As part of that project, a focus group meeting was hosted with five affordable housing organizations working in the Capital Region to better understand what they thought was the right amount of parking for affordable housing units. A "blanket rate" for affordable housing sites was determined to not be appropriate given the full spectrum (and diversity) of affordable housing needs.

Focus group participants also explained how the minimum supply rates for new affordable housing should differentiate by unit size recognizing that the parking demand needs of those living in smaller units may be completely different from those living in larger units.[20] More recently it was reported that parking demand in two- and three-bedroom units are similar as they typically house families and therefore may require a vehicle.[21]

Based on this research, the assumed "ratio differences" between each unit type were applied based on the King County Metro study to the bachelor and one-bedroom units. However, the ratio between two-bedrooms and one-bedrooms was adjusted to 80% to reflect the fact that two-bedrooms are more likely to house a family, which may predict higher vehicle ownership needs. The same assumption was applied to three-bedroom units, which are similar to two-bedroom units from a parking demand perspective.

As shown in **Table 7**, results conclude that average parking demand when factored for unit size, is as follows:

- Bachelor Units | 0.31 vehicles per unit X 2 units = 1 vehicle (0.62, rounded)
- One-bedroom Units | 0.32 vehicles per unit X 42 units = 13 vehicles
- Two-bedroom Units | 0.55 vehicles per unit X 4 units = 2 vehicles
- Three-bedroom Units | 0.55 vehicles per unit X 2 units = 1 vehicle
- **Total Affordable Housing Resident Parking Demand = 17 vehicles**

[20] City of Victoria. (2016). Review of Zoning Regulations Bylaw Off-Street Parking Requirements, Working Paper no.5: Preliminary Recommendations. Available online: http://www.victoria.ca/assets/Departments/Planning~Development/Community~Planning/Documents/Victoria%20Schedule%20C_Working%20Paper%20no5_Oct25-16_FINAL.pdf

[21] Email correspondence with the Greater Victoria Housing Society Executive Director on February 22, 2018.

TABLE 7. **VEHICLE OWNERSHIP AT REPRESENTATIVE SITES, BY UNIT SIZE**

Site*	Vehicle Ownership Rate (vehicles / unit)		
	Studio / Bachelor	One-Bedroom	Two-Bedroom
918 Collison Street	0.21	0.27	--
2105 Dowler Place	--	0.26	0.46
35 Gorge Road East	0.39	0.49	0.88
3015 Jutland Road	--	--	0.52
411 Sitkum Road	0.29	0.36	0.64
950 Humboldt Street	0.33	0.41	--
921 North Park Street	--	0.25	0.45
918 Collison Street	--	0.25	0.45
2105 Dowler Place	--	0.26	0.48
Average	**0.31**	**0.32**	**0.55**

Vehicle ownership information obtained from Insurance Corporation of British Columbia (ICBC). These data do not include visitor vehicles. Information is current as of March 31, 2016.

4.3 TOWNHOUSE

The proposed development includes four townhouse units ranging from 617-1,367 sq. ft. Observations of representative sites were not completed as the majority of townhouse sites within the Capital Region have enclosed garages or gated underground parking, making counting difficult.

To determine a parking demand rate for townhouse, the Institute of Transportation Engineers (ITE) Parking General Manual was reviewed.[22] Land use code 230 (residential condominium / townhouse) has a peak period parking demand of 1.38 vehicles per unit. Applied to the subject site, this would result in 6 vehicles (5.52, rounded).

4.4 VISITOR PARKING DEMAND

Visitor parking demand rates have been demonstrated in the range of 0.05 to 0.07 vehicles per unit for multi-residential.[23] More recent research found a visitor parking demand rate of 0.1 across 11 multi-family residential sites in proximity to downtown Victoria.[24] In addition, the proposed visitor parking rate for the City of Victoria's draft Schedule C off-street parking regulations is 0.1 spaces per unit. It is therefore recommended that a rate of 0.1 spaces per unit be applied to the proposed development. With 96 proposed units, a rate of 0.1 vehicles per unit results in a peak visitor parking demand of approximately 10 vehicles.

[22] Institute of Transportation Engineers. (2010). Parking Generation 4th Edition. Washington, DC.

[23] Based on observations of visitor parking conducted in 2015 for two studies of multi-family residential sites (one adjacent to downtown Victoria, the other in Langford) and findings from the 2012 Metro Vancouver Apartment Parking Study (Table 31, pg50) available at: www.metrovancouver.org/services/regionalplanning/PlanningPublications/Apartment_Parking_Study_TechnicalReport.pdf

[24] Based on observations of visitor parking conducted in 2016 for 12 multi-family residential sites in proximity to downtown Victoria.

4.5 CHURCH

4.5.1 EXISTING SITE

The Oak Bay United Church has been providing community services and programs for over 100 years to both congregational members and those from the larger community. While the Church hosts a number of events throughout the year, the three most common events that generate the most parking include the following:

- **Tuesday evening Choir** – organized by the Victoria Choral Society, 120 people regularly attend this event from all over the Victoria Region.
- **Friday Thrift Shop** – the church operates a Thrift Shop from September to June every Friday from 10am-1pm and the first Saturday of each month.
- **Sunday Congregation** – Sunday service occurs weekly from 10:00-11:15am. Typical attendance is 130 people. The majority of the congregation members live in the neighbourhood, although some travel from other municipalities in the region.[25]

4.5.2 PARKING DEMAND, EXISTING CHURCH

The redevelopment of the site will retain the existing church sanctuary and add a new church programming space. In the future, the Church is expected to function similarly, although there is less certainty whether the Victoria Choral Society will continue to rent space Tuesday evenings. In addition, the Thrift Shop will no longer be operating on the future site, which may result in less parking demand on Fridays. Given that the size of the congregation is not expected to change as a result of the development, existing church parking demand is considered a good forecast of future parking demand.

Observations were conducted at the site over the course of the week to understand temporal differences in parking demand. The Church parking lot has a supply of 53 unreserved parking spaces.

Observations were conducted during the following periods:

- Tuesday January 23, 2018 at 7:30pm
- Thursday January 25, 2018 at 3:30pm, and 7:30pm
- Friday January 26, 2018 at 9:30am, and 12:00pm
- Sunday January 28, 2018 at 10:30am
- Saturday February 24, 2018 at 10:30am

Peak parking demand was observed on Sunday January 28 at 10:30am during Church service when 52 vehicles were observed on-site, with one space still available. Results from observations on Tuesday January 23, 2018 at 7:30pm indicated high occupancy with 51

[25] Phone conversation held with Oak Bay United Church Property Development Committee on Friday February 23, 2018.

vehicles observed, and two parking spaces still available. On-street parking conditions were assessed and a detailed summary is provided in Section 5.0.

Results indicate that the parking closest to the site on Granite Street (the unrestricted area from Mitchell Street to Hampshire Avenue on the south side) saw three vehicles. This is consistent with what was observed during the Tuesday evening observation. Although there were at least two vehicles observed during all other times, it is assumed that these vehicles were attributed to the Church (seen as a conservative estimate). Further, even though the north side of Granite Street may also accommodate church-goers, occupancy on this road segment was observed consistently during all other observations, suggesting it is difficult to assume these vehicles are attributed to the Church.

Based on the observations of the Church's off-street parking lot, and the on-street parking surrounding the site, there are a total of 55 vehicles attributed to the Church during the peak period. There are typically 130 individuals in attendance at the Church service, resulting in a parking demand rate of 0.42 vehicles per person.

Peak parking demand for the Church occurs for a limited time during the week (every Sunday during Church service), and it is inefficient to supply parking that will accommodate parking demand during this time, as it can significantly oversupply parking during all other times. On-street parking observations were undertaken (see Section 5.0) that concluded there is sufficient on-street parking available surrounding the site to accommodate Sunday Church parking demand without preventing area residents from accessing on-street parking.

4.5.3 PARKING DEMAND, NEW CHURCH PROGRAMMING SPACE

The new development will include a 297m^2 building for church programming. The Church programming space is intended for church activities and events along with serving as a social gathering space for residents. Without knowing when the specific church activities and events will be scheduled throughout the week, it is difficult to determine parking demand. However, it is safe to assume that parking demand for the programming space will [a] not be simultaneously occurring during the Sunday service congregation[26] and [b] that some of the users of the space will be existing residents who will not require a parking space.

As part of the observations, off-peak counts were completed to determine church parking demand when service is not offered. The busiest non-peak time was Friday January 26 at 9:30am where 32 vehicles were observed (60% occupancy). As the count was completed during a Friday morning, there is a chance that some of the vehicles observed are attributed to the public and Oak Bay Avenue business owners, who are permitted to park in the lot during the week. However, without knowing who the parking users are, it is difficult to accurately conclude how much of the parking is truly attributed to the Church.

[26] This is an assumption. At the time of writing this report, few details were provided about the church programming space including how it will function and the times of the week that it would be used.

As 35 of the 53 spaces are leased to the District (and used by employees of Oak Bay businesses and the public), the outstanding number of spaces (18) could be an estimate of the number of church vehicles that could occupy the lot during the weekday. This is expected to overestimate demand, as it is based off of supply; however, this represents “worst case scenario”.

This indicates that typical non-peak parking demand at the church is approximately 18 vehicles, which represents a typical day at the site. Based on this analysis, church parking demand will range from as low as 18 vehicles to as high as 55 during Sunday Church Service.

4.6 SUMMARY OF EXPECTED PARKING DEMAND

Based on the analysis of each proposed land use, total expected parking demand for the site is 75 vehicles on a typical day and 112 vehicles during the peak period. See **Table 8**. With 115 proposed parking spaces, the findings indicate that parking demand will be accommodated both during a typical non-church service period and during the Sunday Church Service. When Church service is in session it is estimated that approximately 5 vehicles will seek parking on-street nearby the site.

TABLE 8. **SUMMARY OF EXPECTED PARKING DEMAND**

Land Use		Units / Quantity	Expected Parking Demand	
			Rate	Total
Market Rental	Bachelor / Studio	8	0.50 / unit	4
	One-Bedroom	34	0.60 / unit	20
Affordable Housing	Bachelor / Studio	2	0.31 / unit	1
	One-Bedroom	42	0.32 / unit	13
	Two-Bedroom	4	0.55 / unit	2
	Three-Bedroom	2	0.55 / unit	1
Townhouse		4	1.38 / unit	6
Visitor		96	0.1 / unit	10
Church	Existing Church	870m^2	18-55 vehicles	18-55
	Programming Space	297m^2		
		Total Expected Parking Demand		**75-112**

5.0 ON-STREET PARKING ASSESSMENT

On-street parking conditions were assessed on streets surrounding the site bounded by Oak Bay Avenue to the north, Brighton Avenue to the south, Foul Bay Road to the west and Hampshire Avenue to the east. A total of eight observations were conducted during the following periods:

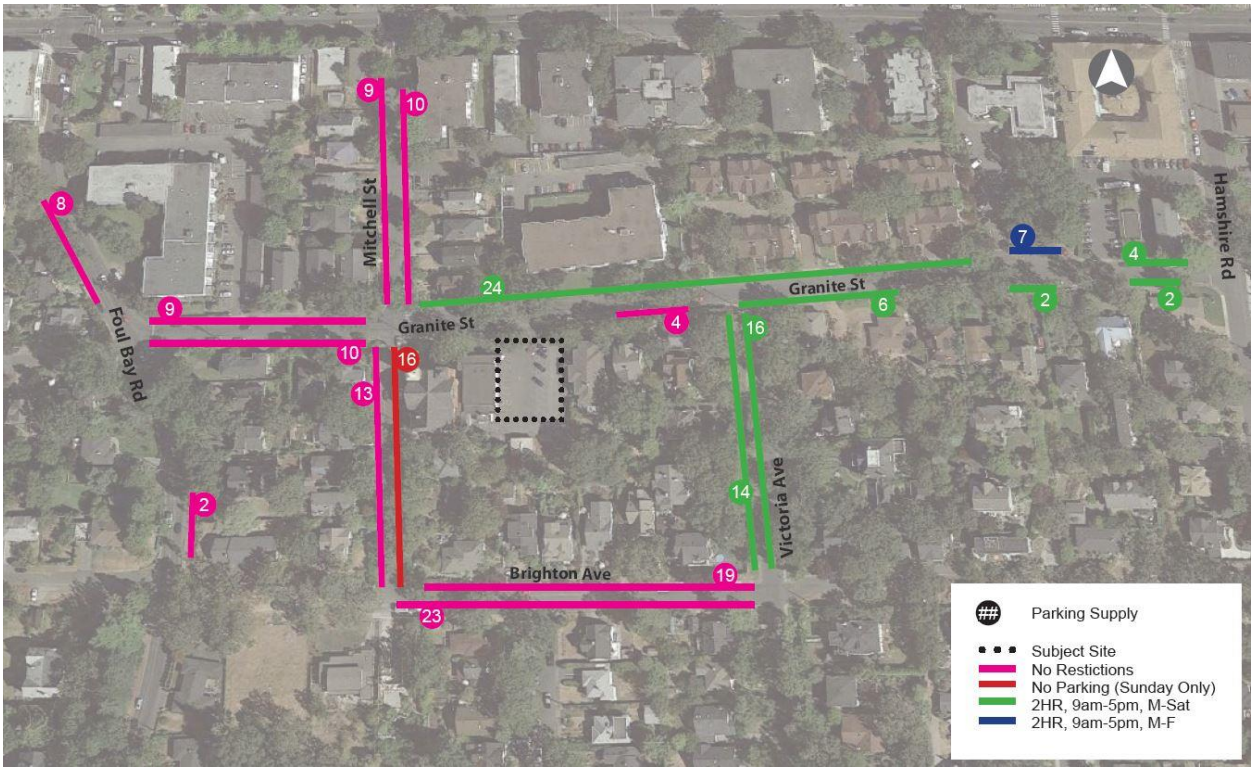
- Monday January 22, 2018 at 3:00pm
- Tuesday January 23, 2018 at 7:30pm
- Thursday January 25, 2018 at 3:30pm, and 7:30pm
- Friday January 26, 2018 at 9:30am, and 12:00pm
- Sunday January 28, 2018 at 10:30am
- Saturday February 23, 2018 at 10:30am

These observations reflect peak periods for residential land uses, adjacent commercial land uses, and the Church. See **Appendix A** for a summary of all on-street parking observations.

There are a total of 198 on-street parking spaces in proximity to the subject site. A number of spaces are unrestricted while others are restricted to 2 hours. Parking directly adjacent the site on Granite Street are restricted to 2 hours, 9am – 5pm, Monday – Saturday (one segment is restricted to Friday). Parking on Mitchell Street is largely unrestricted, though parking on the east side (between Granite Street and Brighton Avenue) is restricted on Sundays due to Church service. **Figure 2** illustrates the on-street parking supply and parking restrictions.

The weekday morning (Friday, January 26th) observation represents the busiest of the eight counts (representing peak period for the adjacent commercial land uses, likely on Oak Bay Avenue) when 55% of all on-street parking spaces (108 spaces) were occupied. Parking occupancy for the streets immediately surrounding the subject site ranged from 60% (Granite Street) to 100% (Mitchell Street). Approximately 12 spaces were unoccupied along the portion of Granite Street closest to the subject site. This indicates that spill-over from the site can be accommodated.

FIGURE 2. **SUMMARY OF ON-STREET PARKING SUPPLY & RESTRICTIONS**



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 can be pursued to encourage sustainable travel, enhance travel options and decrease parking demand.

As identified in Section 4.5, during a Church service it is expected there will be a spillover of 5 vehicles from the site onto on-street parking. As part of managing parking demand during the Church service, the proponent can consider the following TDM measures. If these options are pursued, a parking demand reduction for the Church Sunday Service would be supported. All three options are described in detail below:

1. **Shuttle Services** – usually implemented by a transit agency, downtown business association, developer, or businesses, they can substitute for part or all of a vehicle trip and allow more people to use alternative transportation rather than a car. Shuttle buses often increase use of public transit, ridesharing and non-motorized transportation.[27]

[27] Litman, T. (2015). Shuttle Services: Paratransit, Shuttle Buses and Jitneys. TDM Encyclopedia: Victoria Transport Policy Institute. Available online at: http://www.vtpi.org/tdm/tdm39.htm

The Oak Bay United Church could consider a shuttle service option that would carry church-goers to and from the Church. The costs and scheduling for such a service would need to be further studied but at a high level, the service could alleviate parking demand.

2. **Ridematching** – refers to carpooling and vanpooling in which a vehicle carries additional passengers when making a trip with minimal additional mileage. Ridematching has minimal incremental costs because it makes use of vehicle seats that would otherwise be unoccupied.[28]

   Similar to a shuttle service, the proponent could consider encouraging carpooling among church-goers by establishing (or subscribing to) an online ridematching website (i.e., carpool.ca) and encourage hardcopy ridematching lists at the entrance of the Church. It is understood that carpooling to the Church is already occurring; a ridematching program would be a more formal program requiring coordination and maintenance.

3. **Scooter Parking** – the proponent is planning to provide a large bicycle parking room to accommodate residents' cycling needs. Given the larger share of seniors living in Oak Bay, consideration should be given to re-allocating a portion of the bicycle parking room to scooter parking. The District's seniors' population (defined as those aged 65 and older) was 38 percent as of the 2016 census. This is significantly higher than the Victoria Census Metropolitan Region where the share of seniors was 24 percent.[29,30] The supply of scooter parking can be determined in consultation with District staff. Ultimately, the provision of such parking can help alleviate the need for vehicle parking.

7.0 SUMMARY

The proposed development at the Oak Bay United Church includes 42 proposed market rental units, 50 affordable housing units, four townhouse units, and a new 297m^2 church programming space. The existing Church building will be retained whereas all of the other buildings will be demolished. The proposed parking supply for the redevelopment is 115 parking spaces.

Parking demand was estimated based on vehicle ownership data, observations of representative sites, observations of the existing church parking lot, on-street observations, and secondary research. The expected parking demand will be 24 vehicles for residents of the market rental units, 17 vehicles for residents of the affordable housing units, 6 vehicles for the residents of the townhouses, 10 visitor vehicles, 18 vehicles for typical church parking demand, and 55 vehicles during the Sunday Service.

[28] Litman, T. (2015). Ridesharing: Carpooling and Vanpooling. TDM Encyclopedia: Victoria Transport Policy Institute. Available online at: http://www.vtpi.org/tdm/tdm34.htm

[29] Statistics Canada. (2017). Victoria [Census metropolitan area], British Columbia and British Columbia [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E

[30] Statistics Canada. (2017. Oak Bay, DM [Census subdivision], British Columbia and Nova Scotia [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E

Total site parking demand was estimated to range from 75-112 vehicles.

It was estimated that up to five vehicles will seek on-street parking during the Sunday Church Service, which can be accommodated in nearby on-street parking spaces while not displacing area residents.

TDM programs such as a shuttle service and ridematching were outlined as viable options to help alleviate parking demand during Sunday Service. Further study is needed, however, to determine the financial viability of these options. Scooter parking is another TDM option that can help the proponent manage vehicle demand.

7.1 RECOMMENDATIONS

1. The proposed parking supply (115 spaces) is supported as appropriate for this site.
2. A shuttle service and ridematching should be further explored as TDM options to better manage parking demand during peak periods (i.e., Sunday Service).
3. Re-allocating a portion of the bicycle room to scooter parking should be further explored as a TDM strategy to manage vehicle demand and cater to prospective tenants.

APPENDIX A. ON-STREET PARKING SUMMARY

Oak Bay Church Parking Study
Summary of On-Street Parking Observations

Road Segment		Side	Parking Restriction	Parking Supply	Monday January 22, 2018		Tuesday January 23, 2018	
					3:30pm		7:30pm	
					Observed Vehicles	Occupancy (%)	Observed Vehicles	Occupancy (%)
Foul Bay Road	Oak Bay Ave - Granite St	E	No Parking					
		W	No Restrictions	8	6	75%	5	63%
	Granite St - Brighton Ave	E	No Restrictions	2	1	50%	0	0%
		W	No Parking					
Granite Street	Foul Bay Rd - Mitchell St	N	No Restrictions	9	5	56%	7	78%
		S	No Restrictions	10	2	20%	7	70%
	Mitchell St - Hampshire Ave	N	2hr, 9am-5pm, M-Sat	28	9	32%	14	50%
			2hr, 9am-5pm, M-F	7	7	100%	1	14%
		S	No Restrictions	4	1	25%	3	75%
			2hr, 9am-5pm, M-Sat	10	4	40%	3	30%
Mitchell Street	Oak Bay Ave - Granite St	E	No Restrictions	10	4	40%	8	80%
		W	No Restrictions	9	4	44%	7	78%
	Granite St - Brighton Ave	E	No Parking (Sunday Only)	16	0	0%	7	44%
		W	Unrestricted	13	2	15%	9	69%
Victoria Avenue	Granite St - Brighton Ave	E	2hr, 9am-5pm, M-Sat	16	0	0%	0	0%
		W	2hr, 9am-5pm, M-Sat	14	2	14%	1	7%
Brighton Avenue	Mitchell St - Victoria Ave	N	No Restrictions	19	0	0%	4	21%
		S	No Restrictions	23	2	9%	2	9%
			Total	**198**	**49**	**25%**	**78**	**39%**

Oak Bay Church Parking Study
Summary of On-Street Parking Observations

Road Segment		Side	Parking Restriction	Parking Supply	Thursday January 25, 2018			
					3:00pm		7:30pm	
					Observed Vehicles	Occupancy (%)	Observed Vehicles	Occupancy (%)
Foul Bay Road	Oak Bay Ave - Granite St	E	No Parking					N/A
		W	No Restrictions	8	6	75%	5	63%
	Granite St - Brighton Ave	E	No Restrictions	2	1	50%	0	0%
		W	No Parking					N/A
Granite Street	Foul Bay Rd - Mitchell St	N	No Restrictions	9	7	78%	5	56%
		S	No Restrictions	10	6	60%	3	30%
	Mitchell St - Hampshire Ave	N	2hr, 9am-5pm, M-Sat	28	15	54%	7	25%
			2hr, 9am-5pm, M-F	7	7	100%	0	0%
		S	No Restrictions	4	1	25%	1	25%
			2hr, 9am-5pm, M-Sat	10	5	50%	1	10%
Mitchell Street	Oak Bay Ave - Granite St	E	No Restrictions	10	8	80%	5	50%
		W	No Restrictions	9	9	100%	5	56%
	Granite St - Brighton Ave	E	No Parking (Sunday Only)	16	2	13%	2	13%
		W	Unrestricted	13	2	15%	3	23%
Victoria Avenue	Granite St - Brighton Ave	E	2hr, 9am-5pm, M-Sat	16	1	6%	0	0%
		W	2hr, 9am-5pm, M-Sat	14	2	14%	1	7%
Brighton Avenue	Mitchell St - Victoria Ave	N	No Restrictions	19	1	5%	2	11%
		S	No Restrictions	23	2	9%	2	9%
			Total	**198**	**75**	**38%**	**42**	**21%**

Oak Bay Church Parking Study
Summary of On-Street Parking Observations

Road Segment		Side	Parking Restriction	Parking Supply	Friday January 26, 2018			
					9:30am		12:00pm	
					Observed Vehicles	Occupancy (%)	Observed Vehicles	Occupancy (%)
Foul Bay Road	Oak Bay Ave - Granite St	E	No Parking					
		W	No Restrictions	8	5	63%	4	50%
	Granite St - Brighton Ave	E	No Restrictions	2	1	50%	2	100%
		W	No Parking					
Granite Street	Foul Bay Rd - Mitchell St	N	No Restrictions	9	6	67%	7	78%
		S	No Restrictions	10	6	60%	6	60%
	Mitchell St - Hampshire Ave	N	2hr, 9am-5pm, M-Sat	28	15	54%	14	50%
			2hr, 9am-5pm, M-F	7	7	100%	6	86%
		S	No Restrictions	4	2	50%	2	50%
			2hr, 9am-5pm, M-Sat	10	5	50%	8	80%
Mitchell Street	Oak Bay Ave - Granite St	E	No Restrictions	10	8	80%	9	90%
		W	No Restrictions	9	9	100%	9	100%
	Granite St - Brighton Ave	E	No Parking (Sunday Only)	16	16	100%	11	69%
		W	Unrestricted	13	13	100%	9	69%
Victoria Avenue	Granite St - Brighton Ave	E	2hr, 9am-5pm, M-Sat	16	1	6%	2	13%
		W	2hr, 9am-5pm, M-Sat	14	2	14%	5	36%
Brighton Avenue	Mitchell St - Victoria Ave	N	No Restrictions	19	7	37%	5	26%
		S	No Restrictions	23	5	22%	3	13%
			Total	**198**	**108**	**55%**	**102**	**52%**

Oak Bay Church Parking Study
Summary of On-Street Parking Observations

Road Segment		Side	Parking Restriction	Parking Supply	Sunday January 28, 2018		Saturday February 24, 2018	
					10:30am		10:30am	
					Observed Vehicles	Occupancy (%)	Observed Vehicles	Occupancy (%)
Foul Bay Road	Oak Bay Ave - Granite St	E	No Parking					
		W	No Restrictions	8	3	38%	4	50%
	Granite St - Brighton Ave	E	No Restrictions	2	2	100%	0	0%
		W	No Parking					
Granite Street	Foul Bay Rd - Mitchell St	N	No Restrictions	9	3	33%	4	44%
		S	No Restrictions	10	5	50%	6	60%
	Mitchell St - Hampshire Ave	N	2hr, 9am-5pm, M-Sat	28	13	46%	10	36%
			2hr, 9am-5pm, M-F	7	1	14%	4	57%
		S	No Restrictions	4	3	75%	1	25%
			2hr, 9am-5pm, M-Sat	10	2	20%	4	40%
Mitchell Street	Oak Bay Ave - Granite St	E	No Restrictions	10	4	40%	6	60%
		W	No Restrictions	9	5	56%	6	67%
	Granite St - Brighton Ave	E	No Parking (Sunday Only)	16	0	0%	0	0%
		W	Unrestricted	13	9	69%	4	31%
Victoria Avenue	Granite St - Brighton Ave	E	2hr, 9am-5pm, M-Sat	16	0	0%	0	0%
		W	2hr, 9am-5pm, M-Sat	14	1	7%	1	7%
Brighton Avenue	Mitchell St - Victoria Ave	N	No Restrictions	19	4	21%	3	16%
		S	No Restrictions	23	4	17%	3	13%
			Total	**198**	**59**	**30%**	**56**	**28%**