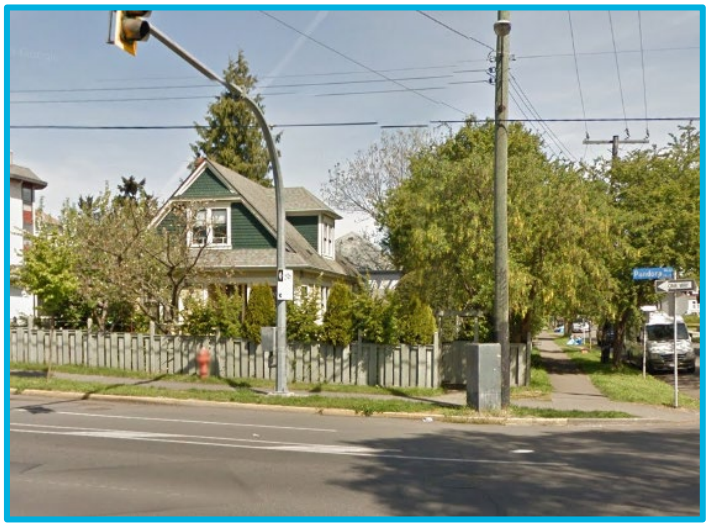
Pandora Ave & Camosun St

Parking Study

H Development Group Ltd.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APRIL 6, 2022

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PANDORA AVE AND CAMOSUN ST

Parking Study

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1.0 INTRODUCTION

Watt Consulting Group (WATT) was retained by H Development Group Ltd. to conduct a parking study for the proposed multi-family residential building at 1270 and 1286 Pandora Avenue and 1516 Camosun Street in the City of Victoria, BC. The purpose of this study is to [a] review and document the City of Victoria's minimum parking supply requirements (Schedule C), as well as related Official Community Plan policies that support increased density and sustainable transportation, [b] conduct a parking analysis to identify if a change in geographic area is warranted to help the applicant reduce the parking demand, and [c] comment on transportation demand management (TDM) strategies and their impact on parking demand that may be suitable for the site to justify a parking variance. The parking supply requirements as outlined in Schedule C will be considered as the unadjusted expected parking demand for the site (base case).

1.1 SUBJECT SITE

The proposed site consists of three sites north of Pandora Avenue (1200 block of Pandora Avenue) between Camosun Street and Chambers Street within the City of Victoria. The location of the proposed development is shown in Figure 1.

FIGURE 1. SUBJECT SITE

1.2 SITE CHARACTERISTICS & POLICY CONTEXT

The following provides information regarding services and transportation options in proximity to the development. In addition, the City of Victoria's 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 December of 2019, the OCP contains a number of 30-year goals in 17 distinct topic areas that give expression to Victoria's sustainability commitment and work toward the achievement of long-term sustainability goals. Section 7 of the OCP (Transportation and Mobility) contains a number of goals and policy directions to reduce overall dependency on single occupancy vehicles and prioritize sustainable modes of travel including walking, cycling, and transit, among others.

As identified in Section 7.12 of the City of Victoria Official Community Plan (OCP)[1], the City should consider reductions in parking requirements 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.*"

"*7.12.2 Activities and circumstances of land uses, structures or building include the provision of a comprehensive suite of permanent on-site alternative travel supports and active transportation infrastructure, including such things as short-term and long-term bicycle parking facilities*

[1] City of Victoria (2012). 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

including shower and locker facilities, ridesharing, car-share co-ops, payroll transit passes and other automobile trip reduction measures."

The proposed development is meeting both conditions. The factors (e.g., location, transit accessibility, walkability, cycling infrastructure) that support non-auto mode choice are described in this section. Further, reductions to parking could be applied if the applicant commits to a range of TDM measures presented in **Section 5** of this report, or if there is merit for change in the designated geographic area per Schedule C which is presented in **Section 3**.

SERVICES

The proposed site benefits from direct access to a number of amenities. These amenities include a newly built Save-on-Foods grocery store (750m, approx. 10-minute walk), the Ecole Intermediaire Central Middle School (700m, approx. 9-minute walk), the Fernwood Community Gardens (550m, approx. 7-minute), the Urban Grocer (900m, approx. 11-minute walk) as well as close proximity to medical offices, restaurants, a daycare, and institutional and retail services. The development is a short distance from the Royal Athletic Park (900m, approx. 11-minute walk), Oak Bay Recreation Centre (2.2km), and Downtown YMCA (1.5km) which can promote active trips and activities. North Park Village and Fernwood Square, which are less than 500m-1km away, both offer a variety of retail, restaurant, and employment opportunities close to the subject site. The development is located just outside of the designated core area making other destinations such as malls, financial institutions, and other various services and amenities highly accessible for future residents of the proposed development. In addition, the proximity to downtown Victoria allows for access to a number of employment opportunities for future tenants.

TRANSIT

The subject site has excellent access to transit. It is within 600m, a seven-minute walking distance, to nine bus stops located along Pandora Avenue, Johnson Street, Yates Street, Fernwood Road, and Cook Street. At these stops, there is one Rapid Transit Network route, three Frequent Transit Network routes, and five Local Transit Network routes. These routes include:

Rapid Transit

- Route 15 Esquimalt – Fort / Yates Express

Frequent Transit

- Route 14 Vic General via Craigflower
- Route 27 Gordon Head / Downtown
- Route 28 Majestic / Downtown

Local Transit

- Route 2 James Bay / South Oak Bay / Willows
- Route 11 Tillicum Mall via Gorge
- Route 22 Vic General / Hillside Mall
- Route 24 Cedar Hill / Admirals Walk
- Route 25 Maplewood / Admirals Walk / Colwood Exchange

The multitude of routes that are available to future residents of the subject site ensure that all the major destinations across Greater Victoria can be reached by reliable transit service.

The Victoria Transit Future Plan[2] identifies Pandora Avenue, Johnson Street, and Yates Street as Frequent Transit Corridors, which will greatly enhance the site's access to frequent service. The Frequent Transit Network is intended to provide a convenient, reliable, and frequent transit

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

service (15 minutes or better between 7:00am to 10:00pm, 7 days a week) to medium to high density mixed land use corridors.

WALKING

The proposed development's walk score[3] ranges from 84 to 86, which means that the development is very walkable. This indicates that most errands do not require a car and therefore, future residents will be able to complete most utilitarian and discretionary trips on foot given the high density of commercial and retail in the area. Pandora Avenue has wide sidewalks on both sides of the street with pedestrian crossing infrastructure such as overhead pedestrian crossing signs and signals at most cross-roads. The local streets surrounding the development have excellent connectivity from Pandora Avenue and Camosun Street including sidewalks on both sides of the road and safe, accessible crossings. Overall, the pedestrian infrastructure in the area is highly connective to close-by villages and the downtown and therefore, promotes walking and rolling.

CYCLING

The proposed development is located in an area where cycling is convenient for all trips. A buffered bike lane is currently available at Pandora Avenue along the site frontage. To the west at Cook Street / Pandora Avenue the buffered bike lane turns into a fully protected bi-directional bike lane which provides safe and comfortable travel for all levels of cyclists. The bike lane on Pandora Avenue connects to many other protected bike lanes in the downtown core such as Vancouver Street and Wharf Street, which are providing All Ages and Abilities (AAA) infrastructure which will directly benefit the site. Pandora Avenue along the frontage of the subject site is a designated AAA network which will be

[3] More information about the sites' Walk Score is available at: https://www.walkscore.com/score/1270-pandora-ave-victoria-bc-canada, https://www.walkscore.com/score/1286-pandora-ave-victoria-bc-canada, https://www.walkscore.com/score/1516-camosun-st-victoria-bc-canada

developed in 2022[4]. AAA Connections such as phase 2 of Fort Street which connects to Pandora Avenue and the Fernwood Connection are also planned for the near future. It is anticipated that the City's investments in active transportation over the medium term will have a significant impact in increasing the modal split for cycling, especially in the downtown core.

CARSHARING

Carsharing programs are an effective way for people to save on the cost of owning a vehicle while having access to a convenient means of transportation. The Modo Car Cooperative ("Modo") is the most popular carsharing service in Greater Victoria. There are ten Modo vehicles located within 550m (6-8 minute walking distance) of the subject site. The vehicles in proximity to the subject site are located at the following locations:

- Yukon Street & Chambers Street
- Johnson Street & Chambers Street (2)
- Johnson Street & Harrison Street
- Pandora Avenue & Harrison Street (2)
- View Street & Ormond Street
- Mason Street & Cook Street
- Gladstone Avenue & Chambers Street (2)

Additionally, Evo Car Share recently introduced a fleet of 80 vehicles to Victoria.[5] This car share service allows members to pick up a car, use it for as long as needed, and drop it off at any permitted location within the 20-square kilometer Home Zone (see **Figure 2**), where the subject site is located. End-of-trip parking includes City parkades, surface lots, reserved

[4] More information about designated AAA networks is available at: https://www.victoria.ca/EN/main/residents/streets-transportation/walk-roll-transit/cycling/victoria-s-aaa-cycling-network.html

[5] Times Colonist (July 30, 2021). *New car share service drives into Victoria this weekend*. Retrieved from https://www.timescolonist.com/business/new-car-share-service-drives-into-victoria-this-weekend-1.24347519

Evo spaces, and resident-only parking. There is also satellite parking at the University of Victoria and Camosun College's Lansdowne campus. [6]

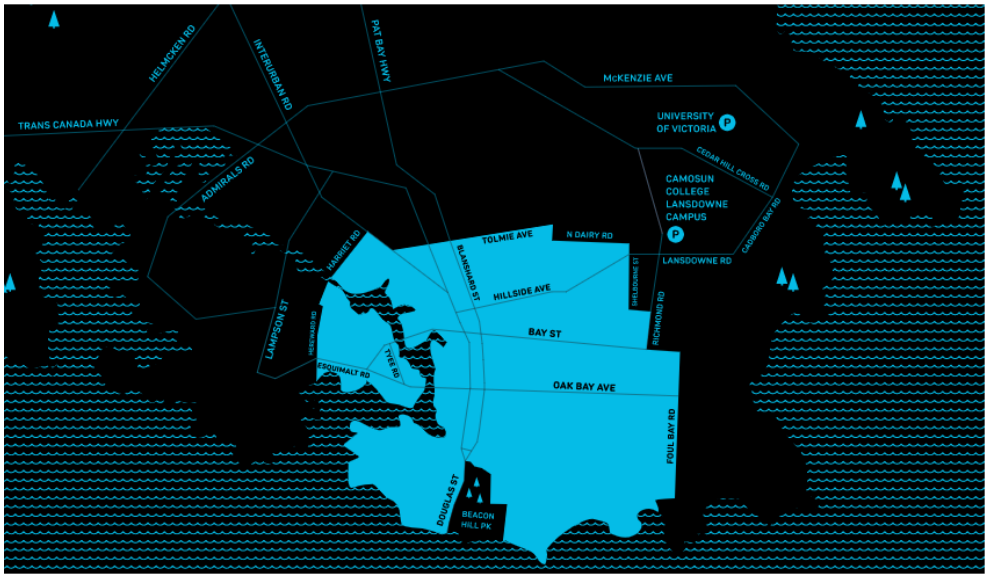

FIGURE 2. EVO VICTORIA HOME ZONE

[6] More information about the Evo Car Share service is available online at: https://evo.ca/victoria

2.0 PROPOSED DEVELOPMENT

2.1 LAND USE

The proposed development includes a 46-unit multi-family residential building comprised of 43 condo units and three affordable home ownership units (2 Jr. One Bedroom units & 1 Studio unit), which are described in detail in this section. The development will include a mix of bedroom types from studio to three bedrooms (See Table 1).

TABLE 1. UNIT BREAKDOWN

Unit Size	Quantity
< 45m^2	3
45m^2 - 70m^2	33
> 70m^2	10
Total	**46**

2.2 PROPOSED PARKING SUPPLY

2.2.1 VEHICLE PARKING

The proposed off-street parking supply is 40 vehicle spaces, which includes visitor parking. This results in a parking ratio of 0.87 spaces per unit. The applicant is proposing to allocate 35 spaces as resident parking, and 5 spaces for visitors, including one accessible space. Additionally, the applicant will be providing one scooter / motorcycle space.

2.2.2 BICYCLE PARKING

The proposed bicycle parking supply includes 59 secured long-term spaces (1.28 spaces per unit) and 6 short-term visitor spaces. All long-term spaces will be in a secure, weather protected location. Furthermore, the proposed bicycle parking and maintenance facility is planned to be at the front of the building (ground floor), making

bicycle parking accessible and convenient for residents of the building. In addition, two of the long-term spaces will be designed to accommodate larger bicycles such as cargo bikes to make it easier to own a cargo bike at the development. The short-term spaces will be located at the entrance of the building.

3.0 PARKING REQUIREMENT

3.1 VEHICLE PARKING

The City of Victoria's Zoning Bylaw No. 80-159 (Schedule C) identifies the bylaw parking requirement 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 (dwelling unit in a building owned by a Strata Corporation); Apartment (dwelling unit secured as a rental in perpetuity through a legal agreement); Affordable (affordable dwelling units secure in perpetuity through a legal agreement); All other multiple dwellings.
- **Location** – Core Area, Village / Centre, and Other Area; and
- **Unit Size** – <45m^2 (<485 sq. ft.), 45m^2 to 70m^2 (485 – 750 sq. ft.), and >70m^2 (>750 sq. ft.)

The proposed development currently falls in the 'Other Area' category per Figure 1 of Schedule C and includes 'Condominium' uses as per Table 1. Based on the Schedule C requirements, the site is currently required to provide a total of 54 off-street parking spaces comprised of 49 resident spaces and 5 visitor spaces (See Table 2). Therefore, with 40 off-street parking spaces, the site is short 14 resident parking spaces as per Schedule C.

TABLE 2. PARKING REQUIREMENT PER SCHEDULE C – OTHER AREA

	Unit Size	Number of Units	Parking Requirement	Total Requirement
Resident Requirement (Condominium)	45m² - 70m²	33	1 space per dwelling unit	**33**
	> 70m²	10	1.45 spaces per dwelling unit	**15** (14.5, rounded)
Resident Requirement (Affordable)	< 45m²	3	0.20 spaces per dwelling	**1** (0.6, rounded)
Visitor Requirement	n/a	46	0.1 spaces per dwelling unit	**5** (4.6, rounded)
			Total	**54**

Each geographic area is defined in the City of Victoria OCP. For each different geographic area, a different parking requirement is set. These geographic areas are subject to change due to development of and around each area. Enhancing and expanding the villages and centres within Victoria is a goal that has been identified within the OCP. See Table 3 for characteristics of each geographic area. Further, affordable units in any area can be secured in perpetuity through a legal agreement and will provide lower parking requirements.

TABLE 3. GEOGRAPHIC AREA CHARACTERISTICS

Geographic Area (as defined in Schedule C)	**Land Use** (as defined in OCP)	**Characteristics** (as defined in OCP)
Village / Centre	Large Village	• Low to mid-rise mixed-use buildings that have ground level commercial, offices, community services, or visitor accommodation • Located on dedicated pedestrian and cyclist network route with wide sidewalks and regularly spaced trees • Building set close to street frontage • Served by frequent transit stops within 200m • Public park and playground within 400m and a public square or green

Geographic Area (as defined in Schedule C)	**Land Use** (as defined in OCP)	**Characteristics** (as defined in OCP)
	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 400m and 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
Other Area (Subject Site)	Urban Residential	• Primarily multi-unit residential (including townhomes, 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 proposed development is within 450m of the core area and 550m of the North Park and Stadacona Village as per Schedule C. The map in Schedule C which defines each geographic area is intended to change as development within the City progresses over time. The subject site is located on designated pedestrian and cycling routes and has excellent access to rapid, frequent, and local transit routes, which all have future plans to be expanded further. The buildings along Pandora Avenue, including the subject site all are set close to the street frontage, and have regularly spaced trees and greenery along the street frontages. The subject site is also close by to several parks such as Stadacona Park, Haegert Park, Royal Athletic Park, and other community greenspaces. The proposed development is a mid-rise building and although it does not have

commercial on the ground floor or a mixed-use purpose, the development's tenants will likely have employment in the general area and will promote economic advancement in the surrounding area.

Due to the current excellent access to active modes of transportation, economic advancement, and community features and amenities, the site's geographic location should be redefined as a 'Village / Centre', regarding the parking requirements. As expansion of the area continues and if more densified employment opportunities become available, the area could be considered a part of the 'Core Area' in the future.

See Table 4 for parking requirements for the village / centre area, representing the expected parking demand of the proposed development.

TABLE 4. PARKING REQUIREMENT PER SCHEDULE C – VILLAGE/CENTRE AREA

	Unit Size	Number of Units	Parking Requirement	Total Requirement
Resident Requirement (Condominium)	45m² - 70m²	33	0.85 spaces per dwelling unit	**28** (28.05, rounded)
	> 70m²	10	1.3 spaces per dwelling unit	**13**
Resident Requirement (Affordable)	< 45m²	3	0.20 spaces per dwelling	**1** (0.6, rounded)
Visitor Requirement	n/a	46	0.1 spaces per dwelling unit	**5** (4.6, rounded)
			Total	**47**

Therefore, parking demand for the site is expected to be 47 off-street parking spaces, of which 42 will be resident parking spaces and 5 will be visitor parking spaces. The proposed supply is 7 spaces short of the expected parking demand and therefore TDM measures are presented to reduce parking demand in order to meet the parking supply.

3.2 BICYCLE PARKING

Per Table 2 of Schedule C, the subject site is required to provide one long-term bicycle parking space per unit that is less than 45m^2 in area and 1.25 spaces per unit for units that are 45m^2 or more. This results in a requirement of 57 long-term bicycle parking spaces. The applicant is exceeding this requirement by two spaces. The subject site is also required to provide a minimum of six (6) short-term bicycle parking spaces, which the applicant is meeting.

TABLE 5. BICYCLE PARKING REQUIREMENT AND SUPPLY

	Long-Term Bicycle Parking Demand		Visitor Bicycle Parking Demand
	Per dwelling < 45m^2	Per dwelling >= 45^2	
Multiple Dwelling (per Schedule C)	3	54	6
Proposed Parking at Site	59		6

3.3 ELECTRIC VEHICLE PARKING

Electric Vehicle (EV) parking requirements are defined per Schedule C. Based on the bylaw; the subject site is required to provide one EV charging outlet per resident parking space.

4.0 ON-STREET PARKING

On-street parking observations were completed to determine parking availability nearby the subject site. Sections of the on-street parking segments observed have parking restrictions such as 30 minutes at all times, and a residential parking only from 8:00am-6:00pm Monday to Saturday, however, most of the on-street parking along Pandora Avenue was unrestricted. Counts were completed on the following streets:

- Pandora Avenue
    - 1220 Pandora Avenue – Camosun Street
    - Camosun Street – Fernwood Road
- Camosun Street
    - Pandora Avenue – Balmoral Road

Observations were completed at 9:00pm on Tuesday August 3rd and Wednesday August 4th, 2021, to determine peak residential parking conditions. Evenings represent peak parking conditions for both residents and visitors alike according to the Urban Land Institute's Shared Parking Manual.[7]

A total of 37 on-street parking spaces were observed. On-street parking utilization was observed to be consistent on both days with 27-29 spaces occupied. This represents a peak parking occupancy of 72-78%, which indicates that there are still approximately 8-9 spaces available during the peak times. However, the on-street parking conditions on Camosun Street and the segment of Pandora Avenue from Camosun Street to Fernwood Road were highly utilized with over 88% occupancy on both nights. Parking on the segment along Camosun Street is Residential Parking Only (RPO) from 8:00am-6:00pm. This indicates that the on-street conditions on these segments have high occupancy and cannot accommodate any spillover from the proposed development. Table 6 presents a summary of the on-street parking assessment. In the table under "Restrictions", "RPO" indicates "Residential Parking Only".

[7] Smith, M. (2005). Shared Parking, 2nd Edition. The Urban Land Institute.

TABLE 6. SUMMARY OF ON-STREET PARKING ASSESSMENT

Street		Side	Restrictions	Parking Supply (spaces)	Vehicles Observed			
					Tues. 03/08/2021		Weds. 04/08/2021	
					Vehicles Observed	Occupancy	Vehicles Observed	Occupancy
Pandora Avenue	1220 Pandora Ave – Camosun St	N	N/A	15	11	73%	10	67%
		N	30-min Only (At All Times)	4	0	0%	0	0%
	Camosun St – Fernwood Rd	N	N/A	8	8	100%	7	88%
Camosun Street	Pandora Ave – Balmoral Rd	W	RPO (8:00am-6:00pm) Mon-Sat	10	10	100%	10	100%

5.0 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 following sections present several TDM measures that the applicant is committing to, which will reduce the amount of vehicle parking required for the development. An approximate reduction in parking demand is provided for each TDM measure.

5.1 CARSHARING

5.1.1 OVERVIEW

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. An external carshare program could be considered for the site, as 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.

As indicated in **Section 1.2**, there are seven Modo vehicles within 550m of the subject site and an even greater number of vehicles in the Fernwood, North Park, and Downtown neighborhoods[8]. This is providing the area with adequate 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 families who may require a vehicle for only select trips[9].

[8] The location of Modo vehicles is shown on the Modo car map, which is available online at: https://modo.coop/car-map
[9] 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

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 the 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 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.[10]
- 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 carshare vehicles. The study found that the presence of dedicated carshare vehicles has 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 forgone purchasing a car because of carsharing participation.[11]

Other studies have specifically explored whether the placement and location of a carsharing vehicle can have a positive impact on utilization. One study reported that on-street carshare vehicles can contribute to the growth of carsharing in two ways: (1) the time savings and convenience of on-street spaces can attract new members to carsharing organizations and (2) the better visibility of carshare vehicles parked on the street can serve as advertising that can show the benefits of membership.[12]

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[10] Clewlow, R.R. (2016). Carsharing and sustainable travel behavior: Results from the San Francisco Bay Area Transport Policy, 51, 158-164.
[11] Engel-Yan, D., & D. Passmore. (2013). Carsharing and Car Ownership at the Building Scale. Journal of the American Planning Association, 79(1), 82-91.
[12] Osgood, A. (2010). On-Street Parking Spaces for Shared Cars. Access Magazine, available online at: https://www.accessmagazine.org/wp-content/uploads/sites/7/2016/01/access-36sharedparking.pdf

While a study has not yet been completed in Greater Victoria to understand the impacts of carsharing on vehicle ownership or the specific placement of the vehicle, the results would likely be similar especially for households living in more urban areas such as Victoria where there is greater access to multiple transportation options.

5.1.2 RECOMMENDATION

A **15% reduction** in resident parking demand would be supported if the applicant purchases a vehicle and locates it on-site, which would include Modo memberships for all units of the proposed development.

The applicant could approach Modo to see if they would support locating a carshare vehicle at the subject site. This would require one of the on-street parking spaces to be dedicated to a Modo vehicle and the vehicle would be available to the building's residents and others in the neighbourhood. It would cost the applicant approximately $30,000. The applicant would not, however, be required to pay for memberships as Modo would provide partner user rights to the building.[13] According to Modo, the purchase of one vehicle ($30,000) would grant the applicant 60 partner user rights, which would cover all 46 units in the building.

5.2 BICYCLE MAINTENANCE FACILITY

5.2.1 OVERVIEW

Residential developments can provide dedicated on-site bicycle maintenance facilities, such as bicycle repair tools, pumps, wash stations, etc., to support ongoing bicycle use among building users.[14] This is particularly beneficial for residents living in smaller dwelling units where space is at a premium and/or access to a bicycle repair service may

[13] Partner user rights are equivalent to a unit receiving a Modo Plus membership, which gives them access to lower hourly rates and no monthly administrative fee. However, partner user rights do not grant member voting privileges.
[14] Victoria Transport Policy Institute. (2015). *Parking Management: Strategies for More Efficient Use of Parking Resources*. Retrieved from: www.vtpi.org/tdm/tdm28.htm#_Toc128220491

be inaccessible or present a financial barrier. The following amenities should be included:

- **Repair Tools:** Bicycle repair tools including hex wrenches, tire levers, and a tire pump.
- **Bike Wash Station**: A station with a hose, drain, and supplies which can assist a resident in cleaning their bicycle.
- **Lighting and surveillance**: The facility should be well-it (inside and out), with consideration for surveillance systems to address possible personal security issues.
- **Information:** Cycling network maps, information on bicycle shops, and an advertising space for scheduled events.

The addition of these elements to the development could result in a parking demand reduction as they would promote cycling for residents by providing accessible and functional facilities.

5.2.2 RECOMMENDATIONS

A **2% reduction** in resident parking demand would be supported for the provision of a bicycle maintenance facility.

5.3 INFRASTRUCTURE IMPROVEMENTS

5.3.1 OVERVIEW

Contributions towards off-site pedestrian and cycling infrastructure that completes gaps in the active transportation can support walking and cycling. A bi-directional bike lane is being provided on Pandora Avenue along the site frontage. This facility will greatly improve connection in the network for active modes and increase the accessibility of cycling to residents of the development. Improved infrastructure can further encourage modal shift for residents of this development. See **Figure 3** for the bi-directional bike lanes along the site frontage. In addition, accessible let downs and a crosswalk will be provided on that leg of the Pandora Avenue & Camosun Street intersection.

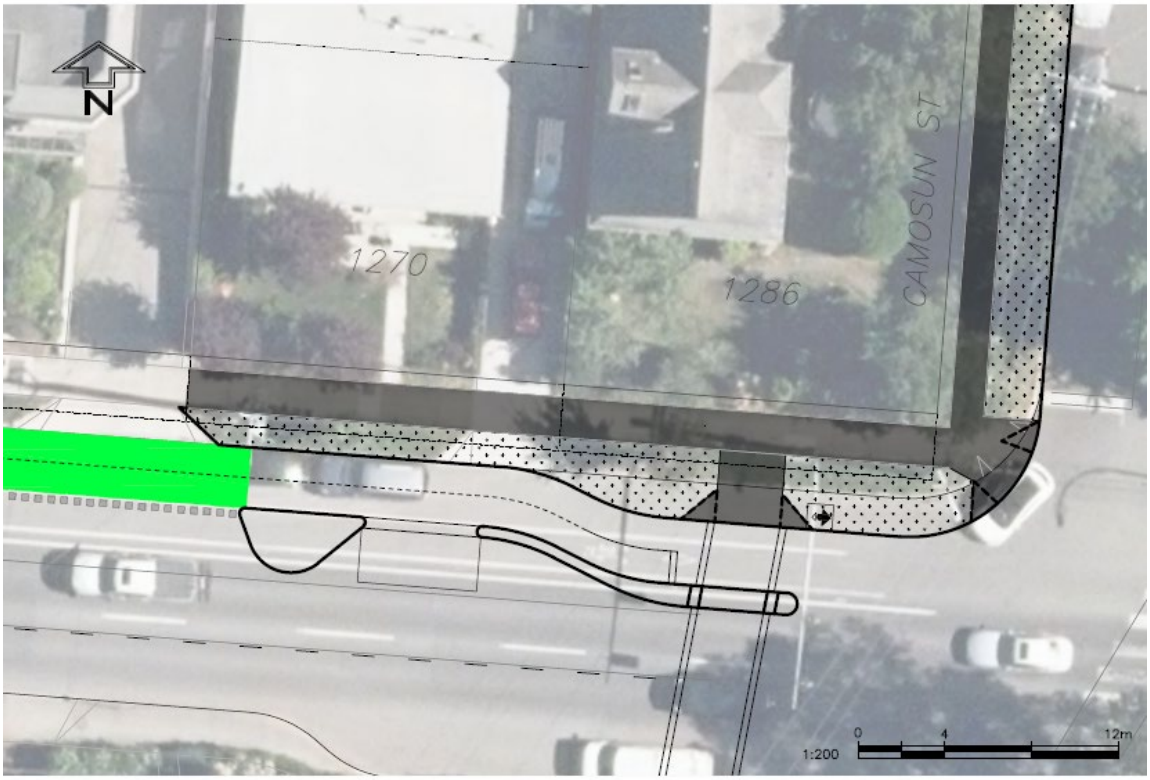

Figure 3: Pandora Avenue Bi-Directional Bike Lanes

The City of San Francisco's Transportation Demand Management Technical Justification Report estimated a 2% reduction in vehicle miles travelled as a result of pedestrian improvements in the adjacent road network.[15] In addition, a detailed transportation demand management study prepared for the City of Hamilton identifies off-site cycling infrastructure connections as the most effective walking & cycling TDM measure.[16]

[15] City of San Francisco. (2016). Transportation Demand Management Technical Justification. Retrieved from: https://default.sfplanning.org/plans-and-programs/emerging_issues/tsp/TDM_Technical_Justification.pdf

[16] IBI Group. (2016). Pier 7/8 Transportation Demand Management Detailed Report. Retrieved from: https://www.hamilton.ca/sites/default/files/media/browser/2016-06-08/west-harbour-pier6-7-8-transportation-demand-management-report.pdf

5.3.2 RECOMMENDATIONS

A **2% reduction** in resident parking demand would be supported, if the applicant commits to providing contributions towards off-site active transportation infrastructure. Extending the AAA cycling network will benefit not only the subject site, but also the nearby area, and has the potential to encourage modal shift for residents of the development.

5.4 TDM SUMMARY

Table 7 is a summary of the recommended TDM measures and their potential impact on parking demand. The applicant can effectively reduce parking demand by 19% (8 spaces) by committing to the above TDM measures. This could bring the demand from 42 resident parking spaces to 34. This reduction would effectively bring the total parking demand for the subject site from 47 parking spaces to 39, which is less than the proposed parking supply of 40 spaces, by one space.

TABLE 7. SUMMARY OF PARKING DEMAND REDUCTIONS

TDM Strategies	Parking Reduction
5.1 Carsharing	15% (6 spaces)
5.2 Bicycle Maintenance Facilities	2% (1 space)
5.3 Infrastructure Improvements	2% (1 space)

6.0 CONCLUSIONS

The proposed development at 1270 Pandora Avenue, 1286 Pandora Avenue, and 1516 Camosun Street is a 46-unit multi-family residential building comprised of 43 condo units and three affordable home ownership units. A total of 40 vehicle parking spaces are proposed, along with 59 long-term bicycle parking spaces and 6 short-term bicycle parking spaces, and one scooter / motorcycle space.

Expected parking demand for this development was based on the City of Victoria's Zoning Bylaw No. 80-159 (Schedule C). This document states that the subject site is in the "Other" geographical area. This would result in the requirement of 49 resident parking spaces, 5 visitor parking spaces, 57 long-term bicycle spaces, and 6 short-term bicycle spaces.

The subject site is located in close proximity to the North Park Village, Stadacona Village, and the downtown core area. Additionally, the proposed development is in close proximity to excellent transit, AAA cycling infrastructure, and accessible wide pedestrian infrastructure that is suitable for walking or rolling. The assessment of the site characteristics supports a change of the site from 'Other' to 'Village / Centre' geographical area to better reflect parking demand for the site. Therefore, vehicle parking demand is expected to be 47 parking spaces (42 resident, 5 visitor).

Due to the fact that the expected parking demand exceeds parking supply, a suite of TDM measures are presented for the applicant's consideration identified in **Section 5**. The total expected parking demand, if all TDM measures are adopted is 39 parking spaces (34 resident, 5 visitor), which meets the proposed parking supply. **Table 7** summarized the parking reductions that are achieved from the TDM measures.

7.0 RECOMMENDATIONS

The proposed parking supply of 40 vehicle spaces (35 resident spaces and 5 visitor spaces) is supported, provided the following conditions are being met:

1. Commit to the purchase of a Modo vehicle and locate it on site and provide memberships for all units of the proposed development.
2. Commit to providing a bicycle maintenance facility.
3. Commit to providing contributions towards the off-site active transportation infrastructure identified in Section 5.3.

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