



# 450 DALLAS ROAD

## Parking Study & TDM Plan

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November 29, 2021  
File No. 2931.B01



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### Appendix A. Modo Carshare Letter



## 1.0 INTRODUCTION

Watt Consulting Group (WATT) was retained by Reliance Properties Ltd. to conduct a parking study for a proposed development at 450 Dallas Road in the City of Victoria. The purpose of this study is to determine the parking demand for the site and identify transportation demand management strategies to help the applicant reduce the expected parking demand.

### 1.1 SUBJECT SITE

The proposed development is located at 450 Dallas Road Street in the City of Victoria (see **Figure 1**). It is currently zoned R3-H (High Density Multiple Dwelling District) and has two multi-family buildings located on the parcel.

**FIGURE 1. SUBJECT SITE**





## 1.2 SITE CHARACTERISTICS & POLICY CONTEXT

The following provides information regarding services and transportation options in proximity to the site at 450 Dallas Road. 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 several 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 policy directions to reduce overall dependency on single occupancy vehicles and prioritize sustainable modes of travel including walking, cycling, and transit, among others.

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.”*

Section 21 of the OCP (Neighbourhood Directions) also provides strategic planning direction for all of the City’s neighbourhoods including James



Bay.<sup>1</sup> Some of the strategic directions that are relevant for the proposed development are as follows:

- Enable adaptation and renewal of the existing building stock (21.16.4)
- Continue to support sensitive infill (21.16.5)
- 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 (21.16.8)



### SERVICES

James Bay Village is within 600m (about a 5-7 minute walk) of the site, where several commercial amenities and personal services are located including a grocery store, medical, pharmacy, financial services, café, and restaurants.



### TRANSIT

The subject site has limited access to transit service. There is a pair of bus stops on Niagara Street and Menzies Street, about 300m away (3-5 minutes) from the subject site. Both stops are serviced by Route 2 (James Bay / South Oak Bay / Willows) and Route 3 (James Bay / Royal Jubilee). Both routes provide 30-minute service during the weekday peak periods, with the Route 3 also providing service throughout the day seven days per week.

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<sup>1</sup> 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>



### WALKING

The subject site has a Walk Score<sup>2</sup> of 59, which indicates that some errands can be accomplished on foot. However, the site's Walk Score does not accurately reflect its walkability as several of the commercial and retail amenities are within a short walk (5-7 minutes) of the subject site.

Walkability for the site's residents is well-supported by immediate access to a 2.2m sidewalk on the north side of Dallas Road and a newly constructed off-street multi-use pathway on the south side of Dallas Road. The multi-use pathway provides connections to Ogden Point and recreational destinations along the harbour. There is also a crosswalk at the Dallas Road / Menzies Street intersection, which provides a safe crossing for pedestrians to access the off-street multi-use pathway.



### CYCLING

The subject site is in an area where cycling is convenient for most trips. According to the City of Victoria's VicMap, both Dallas Road and Cook Street are designated as a 'signed bike route', which are facilities that include the bicycle route sign (IB-23) and are typically found on quieter local streets.<sup>3</sup> VicMap has not been updated at this time to include the newly constructed two-way protected bike lane on the south side of Dallas Road (see photos below).<sup>4</sup> This new facility is a 2.9km two-way protected bike lane from Clover Point to Dock Street and connects to important north-south cycling routes including Cook Street, which provide connections to downtown Victoria (via Vancouver Street), Cook Street Village, and other employment and commercial destinations.

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<sup>2</sup> More information about the site's Walk Score is available online at: <https://www.walkscore.com/score/450-dallas-rd-victoria-bc-canada>

<sup>3</sup> City of Victoria. (2020). Current Cycling Network. Available online at: <https://www.victoria.ca/EN/main/residents/transportation/cycling/current-cycling-network.html>

<sup>4</sup> City of Victoria. (2020). Dallas Road. Available online at: <https://www.victoria.ca/EN/main/residents/transportation/cycling/dallas-rd.html>



Photos of the new two-way protected bike lane on the south side of Dallas Road in proximity to the subject site.



### 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 two Modo vehicles located within 600m (5-7 minute walk) of the subject site at the following locations:

- Simcoe Street and Croft Street
- Government Street and Niagara Street





## 2.0 PROPOSED DEVELOPMENT

### 2.1 LAND USE

The proposed development includes two purpose-built rental buildings—one existing and one proposed. The existing building has 57 units and the new 6-storey building includes 54 units. Both buildings contain a mix of bedroom types from bachelor to three-bedrooms (See **Table 1**).

**TABLE 1. SUMMARY OF LAND USES**

Building	Studio (405- 460 sq.ft.)	One- bedroom (427- 610 sq.ft.)	Two- bedroom (720- 905 sq.ft.)	Three- bedroom (980- 1,264 sq.ft.)	Total Units
Existing Building	14	20	16	7	57
New Building	19	20	7	8	54
<b>Unit Total</b>	<b>33</b>	<b>40</b>	<b>23</b>	<b>15</b>	<b>111</b>

### 2.2 PROPOSED PARKING SUPPLY

#### 2.2.1 VEHICLE PARKING

The proposed parking supply is 67 off-street spaces as follows:

- Residential parking = 53
- Visitor parking = 12 (including one van accessible stall)
- MODO EV carshare stalls = 2
- **Total = 67**

The 67 off-street parking include 50 underground spaces and 17 surface spaces. This results in a parking supply ratio of 0.59 spaces per unit (including visitor). Even though this ratio is slightly lower than the parking supply for the existing site (0.64 spaces per unit), the proposed development will include several improvements including additional





bicycle parking, electric bicycle parking, two MODO carshare parking spaces, and electric vehicle (EV) ready parking stalls (see **Section 6.0** for more details).

### 2.2.2 BICYCLE PARKING

The proposed bicycle parking supply includes 160 secured long-term spaces (1.44 spaces per unit) and 12 short-term spaces (six spaces per building). This represents a significant improvement from the existing bicycle parking where only 10 long-term spaces are provided (0.14 spaces per unit).

## 3.0 PARKING REQUIREMENT

### 3.1 VEHICLE PARKING

The City of Victoria's Zoning Bylaw No. 80-159 (Schedule C) identifies the bylaw 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 (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 secured in perpetuity through a legal agreement); All other multiple dwellings.
- **Location** – Core Area, Village/Centre and Other Area; and
- **Unit Size** – <45m<sup>2</sup> (< 485 sq.ft.), 45m<sup>2</sup> to 70m<sup>2</sup> (485 - 750 sq.ft.), and >70m<sup>2</sup> (>750 sq.ft.)

The subject building falls in the 'Other Area' category per Figure 1 of Schedule C and includes 'Apartment' uses per Table 1 of Schedule C.<sup>5</sup> Based on the Schedule C requirements, the site is required to provide a total of 111 off-street parking spaces (110.7, rounded) comprising 100 residential spaces and 11 visitor spaces. Therefore,

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<sup>5</sup> City of Victoria. (2018). Schedule C, Zoning Regulations Bylaw (no. 80-159). Available online at: <https://www.victoria.ca/assets/Departments/Planning-Development/Development-Services/Zoning/Bylaws/Schedule%20C.pdf>



with 67 off-street parking spaces, the site has 44 less parking spaces than calculated per Schedule C. See **Table 2**.

**TABLE 2. MULTI-FAMILY PARKING REQUIREMENT**

Unit Size	Units	Schedule C Rate	Total Spaces Required
37m <sup>2</sup> to 43m <sup>2</sup>	47	0.75 spaces per unit (<45m <sup>2</sup> )	35.2
40 m <sup>2</sup> to 66m <sup>2</sup>	47	0.9 spaces per unit (45-70m <sup>2</sup> )	42.3
>70m <sup>2</sup>	17	1.3 spaces per unit (>70m <sup>2</sup> )	22.1
Visitor Parking	111	0.1 spaces per unit	11.1
<b>Total</b>			<b>111</b>

### 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<sup>2</sup> in area and 1.25 spaces per unit for units that are 45m<sup>2</sup> or more. This results in a requirement of 127 long-term bicycle parking spaces. The subject site is also required to provide 0.1 short-term bicycle parking spaces per unit, which results in 12 spaces. The applicant is currently exceeding the long-term bicycle parking requirement (by 33 spaces) and meeting the short-term requirement.



## 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 [a] parking observations of representative sites in James Bay and [b] vehicle ownership data from the Insurance Corporation of British Columbia for several representative multi-family apartment sites in the City of Victoria.

### 4.1 RESIDENTIAL DEMAND

#### 4.1.1 SITE SELECTION

Observations of parked vehicles were completed at 15 market rental buildings in the James Bay neighbourhood representing a total of 613 units. Sites were selected in the James Bay neighbourhood to ensure consistency in urban and transportation characteristics. It is unknown if any of these sites currently provide transportation demand management (TDM) measures; however, based on the age of the buildings, it is assumed that no (or minimal) TDM measures are available to the residents.

#### 4.1.2 OBSERVATIONS

Observations of parking utilization were conducted at representative sites during the typical weekday peak hour period for residential land uses. For the purposes of this study, and to ensure that it overestimated rather than underestimated demand, the greater number of observed vehicles between each data collection exercise was used for the representative peak demand at each location. Parking demand ranged from 0.48 vehicles per unit to 1.04 vehicles per unit, with an average parking demand of 0.64 vehicles per unit as shown in **Table 3**. Observations were conducted from 9:00-10:30pm on Tuesday November 17 and Wednesday November 18, 2020.



**TABLE 3. PARKING DEMAND AT REPRESENTATIVE SITES**

Address	Number of Units	Peak Observed Vehicles	Parking Demand (Vehicles/Unit)*
450 Dallas Road (Subject Site)	73	42	0.58
310 St. James Street	29	22	0.76
340 St. James Street	26	16	0.62
230 Oswego Street	23	11	0.48
206 Oswego Street	23	12	0.52
465 Niagara Street	42	20	0.48
40 Boyd Street	20	11	0.55
535 Niagara Street	62	48	0.77
575 Marifield Avenue	42	21	0.50
520 Rithet Street	36	35	0.97
260 Michigan Street	24	25	1.04
500 Rithet Street	57	32	0.56
45 Boyd Street	71	37	0.52
121 Rendall Street	65	32	0.49
343 Simcoe Street	20	15	0.75
<b>Average</b>			<b>0.64</b>

\*Parking demand only includes resident vehicles and excludes visitor vehicles.

### 4.1.3 ADJUSTMENT FACTORS

Observations are a useful method of assessing parking demand rates; however, there are limitations. One such limitation is the fact that an observation may not “catch” all residents while they are home with their parked car on-site. On a typical weeknight in times prior to public health measures put in place due to COVID-19, it would be expected that some residents return home very late at night or in the next morning or have driven out of town for business or vacation.



For instance, a large scale apartment parking study commissioned by Metro Vancouver reported that observations of parking occupancy (percent of stalls occupied by a car or truck) increased later in the night. The study also suggested that occupancy surveys that start between 9PM – 10:30PM should have a 10% adjustment factor. Based on the available research, a conservative 10% adjustment factor is considered appropriate for the observations.

Even though the counts were completed during the COVID-19 pandemic, retaining the adjustment factor helps ensure that the parking demand estimates reflect a conservative (i.e. higher) estimation of demand. Further, based on the observations and past parking analyses completed in James Bay, there is significant on-street parking utilization in the neighbourhood. Even though it is hard to ascertain how much of the on-street parking is from resident or visitor vehicles, it can be assumed that some residents rely on on-street parking. This is another reason why the adjustment factor is appropriate for this study.

**Table 4** shows the difference between the observed parking demand and the adjusted parking demand rate, reflecting the 10% increase for “missed vehicles”. The average observed demand rate increased from 0.64 to 0.70 vehicles per unit (excluding visitor parking).

This finding is supported by the research that was undertaken as part of the Schedule C update for the City of Victoria. According to the multi-family residential parking demand analysis, which contained 126 buildings and 6,475 units across the City of Victoria, the average parking demand for market rental sites was reported as 0.54 vehicles per unit or 0.70 vehicles per unit as the 85<sup>th</sup> percentile demand.<sup>6,7</sup>

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<sup>6</sup> WATT Consulting Group & City of Victoria. (2016). Working Paper no.3: Parking Demand Assessment, Review of Zoning Regulation Bylaw Off-Street Parking Requirements (Schedule C).

<sup>7</sup> Some parking studies tend to plan for the 80<sup>th</sup> or 85<sup>th</sup> percentile demand rather than the average. This means 85% of sites will have peak parking at or below the rate of 0.70 vehicles per unit.



**TABLE 4. ADJUSTED PARKING DEMAND AT REPRESENTATIVE SITES**

Address	Number of Units	Parking Demand (Vehicles/Unit)*	Adjusted Parking Demand (Vehicles/Unit)*
450 Dallas Road (Subject Site)	73	0.58	0.63
310 St. James Street	29	0.76	0.83
340 St. James Street	26	0.62	0.68
230 Oswego Street	23	0.48	0.53
206 Oswego Street	23	0.52	0.57
465 Niagara Street	42	0.48	0.52
40 Boyd Street	20	0.55	0.61
535 Niagara Street	62	0.77	0.85
575 Marifield Avenue	42	0.50	0.55
520 Rithet Street	36	0.97	1.07
260 Michigan Street	24	1.04	1.15
500 Rithet Street	57	0.56	0.62
45 Boyd Street	71	0.52	0.57
121 Rendall Street	65	0.49	0.54
343 Simcoe Street	20	0.75	0.83
	<b>Average</b>	<b>0.64</b>	<b>0.70</b>

\*Parking demand only includes resident vehicles and excludes visitor vehicles.



#### 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, therefore increasing the likelihood that additional vehicles will be owned by occupants and growing the parking demand.<sup>8</sup> As part of the Schedule C update, parking demand was shown to differ by unit type among the 6,475 multi-family residential units that were included in the sample.<sup>9</sup> This research, in addition to the stakeholder consultation that was conducted as part of the Schedule C update, resulted in recommendations to amend the multi-family residential parking requirements in Schedule C to include rates by unit size.

Based on the research above, and the fact that the City of Victoria’s Schedule C requirements differ by unit size, parking data collected for this study was assessed to reflect unit type using the following steps:

- Parking demand was calculated and adjusted by 10% (as described in Section 4.1.3);
- Existing breakdown of bedrooms per unit at each site was acquired from the Canada Mortgage and Housing Corporation (CMHC); and
- The assumed “ratio differences” in parking demand between each unit type was based on the 2018 Metro Vancouver Parking Study, which recommends, for market rental units, that one-bedroom units have a 117% higher parking demand than studio units; two-bedroom units have a 26% higher parking demand than one-bedroom units; and three plus-bedroom units have a 23% higher parking demand than two-bedroom units.<sup>10</sup>

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<sup>8</sup> 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.

<sup>9</sup> WATT Consulting Group & City of Victoria. (2016). Working Paper no.3: Parking Demand Assessment, Review of Zoning Regulation Bylaw Off-Street Parking Requirements (Schedule C).

<sup>10</sup> Metro Vancouver. (2018). Regional Parking Study – Technical Report, pg. 18. Available online at: <http://www.metrovancouver.org/services/regional-planning/PlanningPublications/RegionalParkingStudy-TechnicalReport.pdf>





As the 653-unit parking survey sample only includes 8 three-bedroom units (which is less than 2 percent), the three-bedroom rate could not be reliably derived from the data. As such, the three-bedroom ratio from the Metro Vancouver study was applied to the two-bedroom parking demand rate (0.85 vehicles per unit). With three-bedroom units having 23% higher demand than two-bedrooms, the three-bedroom rate is 1 vehicle per unit.

In summary, based on the analysis above, the following are the recommended demand rates for the market rental units:

- Studio | 0.35 spaces per unit
- One-bedroom | 0.7 spaces per unit
- Two-bedroom | 0.85 spaces per unit
- Three-bedroom | 1.0 space per unit

## 4.2 VISITOR DEMAND

Observations were conducted as part of a study by Metro Vancouver<sup>11</sup> that concluded typical visitor parking demand is less than 0.1 vehicles per unit. This is similar to observations that were conducted for parking studies by WATT Consulting Group in the City of Langford and the City of Victoria and indicates that visitor parking demand is not strongly influenced by location. As part of the update to the City of Victoria off-street parking requirements (Schedule C), the consulting team recommended a rate of 0.1 spaces per unit for visitor parking based on extensive research and data collection. The rate of 0.1 spaces per unit was ultimately adopted as the supply rate for visitor parking in Schedule C.

A rate of 0.1 spaces per unit is recommended for the proposed development.

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<sup>11</sup> Metro Vancouver. (2018). The 2018 Regional Parking Study. Technical Report. Available online at: <http://www.metrovancouver.org/services/regional-planning/PlanningPublications/RegionalParkingStudy-TechnicalReport.pdf>



### 4.3 SUMMARY OF EXPECTED PARKING DEMAND

Based on the analysis, the total expected parking demand for the site is 85 spaces (see **Table 5**). Therefore, the expected parking demand is greater than the proposed supply (67) by 18 spaces.

**TABLE 5. SUMMARY OF PARKING DEMAND**

Land Use		Units	Expected Parking Demand	
			Rate	Total
Multi-Family Residential (Market Rental)	Studio	33	0.35	11.5
	One-bedroom	40	0.7	28
	Two-bedroom	23	0.85	19.5
	Three-bedroom	15	1.0	15
Visitor		111	0.10	11.1
<b>Total Expected Parking Demand</b>				<b>85</b>

\*The total expected parking demand is 85.1 spaces and has been rounded down to the nearest 0.5.



## 5.0 ON-STREET PARKING ASSESSMENT

On-street parking observations were completed to determine parking availability nearby the subject site. The on-street parking segments surrounding the site include residential parking only (RPO) and unrestricted parking. Counts were completed on the following streets:

- Menzies Street
  - Dallas Road Street to Rithet Street
  - Rithet Street to Niagara Street
- Dallas Road
  - Menzies Street to Lewis Street
- Lewis Street
  - Dallas Road to end of street

Observations were completed at 9:00pm on Tuesday November 17<sup>th</sup> and Wednesday November 18<sup>th</sup>, 2020 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.<sup>12</sup>

For the purposes of the analysis, only the unrestricted parking spaces are included. All of the Residential Parking Only spaces have been removed as future residents of 450 Dallas Road will not be permitted to park in these spaces.

A total of 25 on-street parking spaces were observed. On-street parking utilization was observed to be consistent on both days with 24-25 spaces occupied. This represents a peak parking occupancy of 98-100%, which indicates that the on-street parking conditions are busy with little to no parking available during the peak times.

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<sup>12</sup> Smith, M. (2020). Shared Parking Third Edition. Washington, DC: Urban Land Institute, ICSC, and National Parking Association.



## 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 following sections present several TDM measures that the applicant could pursue to reduce the amount of vehicle parking required for the development. All the TDM measures are recommended but the applicant will ultimately need to decide what they will commit to. An approximate reduction in parking demand is provided for each TDM measure.

### 6.1 CARSHARING

#### 6.1.1 OVERVIEW

As indicated in Section 1.2, there are two MODO vehicles located within 600m (5-7 minute walk) of the subject site. 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.<sup>13</sup>

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

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<sup>13</sup> 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](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.<sup>14</sup>
- 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.<sup>15</sup>

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.<sup>16</sup>

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 James Bay where there is greater access to multiple transportation options.

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<sup>14</sup> Clewlow, R.R. (2016). Carsharing and sustainable travel behaviour: Results from the San Francisco Bay Area. *Transport Policy*, 51, 158-164.

<sup>15</sup> Engel-Yan, J., & D. Passmore. (2013). Carsharing and Car Ownership at the Building Scale. *Journal of the American Planning Association*, 79(1), 82-91.

<sup>16</sup> Osgood, A. (2010). On-Street Parking Spaces for Shared Cars. *Access Magazine*, available online at: <http://www.accessmagazine.org/wp-content/uploads/sites/7/2016/01/access-36sharedparking.pdf>



### 6.1.2 RECOMMENDATION

The applicant has approached Modo to determine if it would be supportive of providing two vehicles at the subject site. At the time of writing, Modo has agreed to provide two vehicles at the site. Below are the conditions that the applicant would need to meet for a Modo carsharing program. **Appendix A** includes the letter from Modo, which provides more information about the conditions for carsharing services at the subject site.

- The applicant will provide, at no cost to Modo, two (2) designated parking stalls at 450 Dallas Road, to be accessible to all Modo members on a 24/7/365 basis and equipped with a Level 2 electric vehicle charging station (allowing to charge two vehicles simultaneously). The final parking drawings must comply with Modo's Construction Standards for Shared Vehicle Parking Space.
- The applicant will must commit to providing Modo a one-time financial contribution of approximately \$30,000 (including taxes and fees) to be used for the purchase of two (2) new shared vehicles with electric motorization to be located in the parking stalls designated for carsharing at the proposed development.
- Modo will provide the applicant with a Partnership Membership in Modo with a public value of the project fee (\$30,000), valid for the lifetime of the proposed development and allowing at any time a set number (equal to the project fee divided by \$500, rounded down to the closest whole number) of residents of the proposed development and existing rental tower on the property to simultaneously benefit from Modo membership privileges and lowest usage rates without the need to themselves pay a \$500 membership fee.
- Modo will provide a promotional incentive worth \$100 of driving credits to each resident of the development joining Modo for the first time.

**A parking demand reduction of 20% would be supported if the applicant secures two Modo vehicles at the site. Memberships would also need to be provided to each unit.**



## 6.2 ADDITIONAL LONG-TERM BIKE PARKING

### 6.2.1 OVERVIEW

The applicant is committing to provide 160 long-term bike parking spaces, which results in 1.44 spaces per unit. This exceeds the Schedule C requirement by 33 spaces (or about 26%). The provision of additional bicycle parking spaces can support residents to satisfy potential bicycle demand in the present and future. Insufficient bicycle parking is considered a key barrier to promoting cycling, with additional bicycle parking associated with an increase of cycling by 10 to 40%.<sup>17</sup>

### 6.2.2 RECOMMENDATION

It is recommended that the applicant commit to providing 160 long-term bike parking spaces, which is significantly more than what is required in Schedule C. This is anticipated to have an impact in reducing vehicle parking demand by providing residents with more bicycle storage.

**A parking demand reduction of 2% is supported for every additional 10% of long-term bicycle spaces provided beyond what is required in Schedule C.<sup>18</sup>**

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<sup>17</sup> Hein, E. & Buehler, R. (2019). Bicycle parking: a systematic review of scientific literature on parking behaviour, parking preferences, and their influence on cycling and travel behaviour. *Transport Reviews*, 39(5).

<sup>18</sup> This estimate was derived from the City of Vancouver's Transportation Demand Management for Developments in Vancouver, which is available online at: <https://vancouver.ca/files/cov/transportation-demand-management-for-developments-in-vancouver.pdf>





## 6.3 BICYCLE MAINTENANCE FACILITY

### 6.3.1 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.<sup>19</sup> 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 be inaccessible or present a financial barrier.

### 6.3.2 RECOMMENDATION

It is recommended that the applicant provide a bicycle maintenance facility in the long-term bicycle parking area.

**A parking demand reduction of 2% is supported for every additional 10% of long-term bicycle spaces provided.<sup>20</sup>**

## 6.4 ELECTRIC BIKE PARKING

### 6.4.1 OVERVIEW

E-bikes are electric bicycles with an electric motor of 500 watts or less and functioning pedals that are limited to a top speed of 32 km/h without pedalling. They are an emerging transportation mode that is gaining popularity worldwide. With supportive cycling infrastructure in place, E-bikes have the potential to substitute for, or completely replace, almost all trips taken by a gasoline powered car, which could address congestion issues and mitigate parking challenges within urban areas.

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<sup>19</sup> Victoria Transport Policy Institute. (2015). *Parking Management: Strategies for More Efficient Use of Parking Resources*. Retrieved from: [www.vtpi.org/tdm/tdm28.htm#\\_Toc128220491](http://www.vtpi.org/tdm/tdm28.htm#_Toc128220491)

<sup>20</sup> This estimate was derived from the City of Vancouver's Transportation Demand Management for Developments in Vancouver, which is available online at: <https://vancouver.ca/files/cov/transportation-demand-management-for-developments-in-vancouver.pdf>



A 2018 study presented results of a North American survey of electric bike owners. The study reported that e-bikes have the capacity to replace various modes of transportation commonly used for utilitarian and recreational trips including motor vehicles, public transit, and regular bicycles. Specifically, it found that 62% of e-bike trips replaced trips that otherwise would have been taken by car.<sup>21</sup> A more recent study found that approximately 39 kilometres of driving per week is displaced by the average e-bike adopter along with 14 kilometres of travel by conventional bicycle.<sup>22</sup>

E-bike owners and prospective owner face a number of barriers. According to research completed in Greater Victoria, one of the top barriers facing prospective e-bike users is the fear that their bicycle might be stolen.<sup>23</sup> That same research found that prospective e-bike users would feel more comfortable if they could park their bicycle in a locked or supervised area.

The Capital Region Local Government Electric Vehicle + Electric Bike Infrastructure Planning Guide<sup>24</sup> includes e-bike parking design guidelines to help address the concerns of current and prospective e-bike owners as well as to increase overall e-bike ownership in the Capital Region. The guide recommends that new developments provide 50% of the long-term bicycle parking with access to an 110V wall outlet. Further, 10% of the long-term spaces are recommended to be provided as cargo racks to accommodate e-bikes.

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<sup>21</sup> MacArthur, J., Harpool, M., & D. Scheppke. (2018). A North American Survey of Electric Bicycle Owners. National Institute for Transportation and Communities, NITC-RR-1041.

<sup>22</sup> Bigazzi, A & E Berjisan. (2019). Electric Bicycles: Can they reduce driving and emissions in Canada. Plan Canada Fall 2019.

<sup>23</sup> WATT Consulting Group. (2018). Capital Region Local Government Electric Vehicle + Electric Bike Infrastructure Backgrounder. Available online at: [https://www.crd.bc.ca/docs/default-source/climate-action-pdf/reports/electric-vehicle-and-e-bike-infrastructure-backgrounder-sept-2018.pdf?sfvrsn=a067c5ca\\_2](https://www.crd.bc.ca/docs/default-source/climate-action-pdf/reports/electric-vehicle-and-e-bike-infrastructure-backgrounder-sept-2018.pdf?sfvrsn=a067c5ca_2)

<sup>24</sup> WATT Consulting Group. (2018). Capital Region Local Government Electric Vehicle + Electric Bike Infrastructure Planning Guide. Available online at: [https://www.crd.bc.ca/docs/default-source/climate-action-pdf/reports/infrastructure-planning-guide\\_capital-region-ev-ebike-infrastructure-project-nov-2018.pdf?sfvrsn=d767c5ca\\_2](https://www.crd.bc.ca/docs/default-source/climate-action-pdf/reports/infrastructure-planning-guide_capital-region-ev-ebike-infrastructure-project-nov-2018.pdf?sfvrsn=d767c5ca_2)



## 6.4.2 RECOMMENDATION

Based on discussions with the applicant, they will be committing to the following:

1. **Cargo Bike Parking** | 6% of the long-term bicycle parking spaces (10 spaces) will be designed for cargo bicycles (2.6m stall depth), which are harder to fit in a standard bike rack where the stall depth is 1.8 metres. Cargo bikes are typically longer than regular bicycles because they can carry cargo and/or multiple passengers and can be a popular option for young families.
2. **Access to Charging** | 50% of long-term bicycle parking spaces (91 spaces) will be energized to incentivize e-bike ownership, with priority for installation of plugs given to the horizontal bicycle parking.
3. **Secured Location** | All long-term bike parking spaces will be in a secure access-controlled location, which is especially important for e-bike users to minimize bike theft.

A **5% reduction** in resident parking demand is supported if the applicant commits to the electric bike parking recommendations above.

## 6.5 TRAFFIC CALMING IMPROVEMENTS

### 6.5.1 OVERVIEW

The applicant is proposing an extended speed hump at Lewis Street / Dunelm Wynd to help traffic calm Lewis Street. It will extend from Dunelm Wynd to the existing speed hump north of the proposed parkade access for the subject site. The extended speed hump will work to slow vehicle traffic by vertical deflection. Further, the extended speed hump will have decorative paint to enhance street beautification and create awareness of people walking and cycling along with other active road users in the area.

While an extended speed hump and other traffic calming improvements are not a conventional TDM measure, they are an important way to enhance the overall pedestrian realm surrounding the site. Further, the proposed extended speed hump will help adjust drivers' behavior and fit the context of this local road, which is consistent with the City of Victoria's traffic calming program.



### 6.5.2 RECOMMENDATION

The applicant's proposal to include a raised intersection and street art beautification is supported; however, due to the lack of research on traffic calming measures and vehicle parking demand, no parking reduction has been applied.

## 6.6 TDM SUMMARY

A summary of the proposed TDM measures and parking reductions is provided in **Table 6**. A resident parking reduction of 31% is supported if all the proposed TDM measures are provided. This represents a reduction in the estimated resident parking demand by 23 spaces, such that the demand will be 5 spaces less than the proposed supply.



**TABLE 6. SUMMARY OF ESTIMATED PARKING DEMAND WITH TDM**

TDM Measure	Provision	Parking Demand / Reduction
<b>Baseline Resident Parking Demand</b>		74 spaces (per Table 5)
<b>Total Resident Parking Demand Reduction</b>		-31% (-23 spaces)
Carshare Program	Two vehicles plus memberships for each unit	-20%
Additional Bike Parking*	26% additional	-4%
Bicycle Maintenance Facility	Space provided in bike room in P1	-2%
Electric Bicycle Parking	50% electric, 6% cargo spaces, 100% secure	-5%
<b>Estimated Resident Parking Demand with TDM</b>		51 spaces (74 – 23)
<b>Estimated Visitor Parking Demand</b>		11 spaces
<b>Total Site Parking Demand with TDM</b>		62 spaces
<b>Proposed Parking Supply</b>		67 spaces
<b>Difference</b>		<b>+5</b>

\*As indicated in Section 6.2, the applicant is currently providing 160 long-term bicycle parking spaces, which is 26% greater than what is required in Schedule C.



## 7.0 CONCLUSIONS

The proposed development at 450 Dallas Road includes two purpose-built rental buildings—one existing and one proposed. The total unit count is 111 units. A total of 67 vehicle parking spaces are proposed. In addition, the applicant is proposing 160 long-term bicycle parking spaces and 12 short-term spaces. The expected parking demand is 85 spaces, which exceeds the proposed supply by 18 spaces.

Four TDM measures are recommended for the applicant's consideration. These include [a] a carshare program, [b] additional bike parking, [c] a bicycle maintenance facility and [d] e-bike parking. Committing to all four TDM measures is anticipated to reduce resident parking demand by 23 spaces, which would bring the total site demand to 62 parking spaces, which is five (5) less than proposed supply. This would result in all resident and visitor vehicles being accommodated off-street.

## 8.0 RECOMMENDATIONS

It is recommended that the applicant:

1. Commit to purchasing up to two MODO carshare vehicles for the site and provide memberships to each unit, which will provide a viable mobility option for residents and reduce dependency on vehicle ownership;
2. Commit to providing the additional long-term bike parking spaces above and beyond the Schedule C requirements with a minimum of 160 spaces to receive a parking reduction;
3. Commit to providing a bicycle maintenance facility; and
4. Commit to providing electric bike parking, which includes designing at 6% of the total long-term spaces for cargo bikes, providing 50% of the total long-term spaces with an 110V outlet, and locating all spaces in a secure space to minimize theft.
5. Commit to providing an extended speed hump to help traffic calm Lewis Street and enhance the pedestrian realm.

## APPENDIX A: MODO CARSHARE LETTER





May 27, 2021

Reliance Properties Ltd.  
305 - 111 Water Street  
Vancouver, BC  
V6B 1A7

Attention: Juan Pereira

Dear Juan,

Re: Carshare arrangements at 450 Dallas Road, Victoria

This letter confirms that Modo sees the location of the proposed rental residential development at 450 Dallas Road in Victoria as having good potential for carsharing. Under the following arrangements, Modo would be willing to enter into an agreement with Reliance Properties Ltd. (the "Developer") to provide carsharing services:

1. The Developer will provide, at no cost to Modo, two (2) designated parking stalls at 450 Dallas Road, to be accessible to all Modo members on a 24/7/365 basis and equipped with a Level 2 electric vehicle charging station (allowing to charge two vehicles simultaneously);
2. Modo will review the final parking drawings and visit the development site to ensure that the stalls designated for carsharing will be suitable for Modo and comply with Modo Construction Standards For Shared Vehicle Parking Space (enclosed). Parking drawings provided to date to Modo show stall dimensions and layout satisfactory to Modo;
3. Assuming occupancy of the proposed development in 2024, the Developer will provide to Modo a one-time financial contribution of \$30,000.00 plus GST per vehicle (the "Project Fee") to be used for the purchase of two (2) new shared vehicles with electric motorization to be located in the parking stalls designated for carsharing at the proposed development;
4. Depending on market conditions upon occupancy of the proposed development, Modo may phase the delivered of one of the two vehicles as demand warrants;
5. Modo will provide the Developer with a Partnership Membership in Modo with a public value of the Project Fee, valid for the lifetime of the proposed development and allowing at any time a set number (*equal to the Project Fee divided by \$500, rounded down to the closest whole number*) of residents of the proposed development and existing rental tower on the property to simultaneously benefit from Modo membership privileges and lowest usage rates without the need to themselves pay a \$500 membership fee; and

6. Modo will provide a promotional incentive worth \$100 of driving credits to each resident of the development joining Modo for the first time;

Regarding the Partnership Membership, only residents of the existing tower and proposed development would be able to benefit from Modo membership privileges under the umbrella of the Partnership Membership and become "Partner Users". Residents would apply directly to Modo to become Partner Users. The right to become a Partner User would be available on a first come, first serve basis. The owner(s) of the rental buildings would not be involved in the sign-up process. Their sole administrative obligation related to the Partnership Membership would be to confirm, every six months, who, if anyone, among the Partner Users is no longer a resident of the rental residential buildings located on the property.

Modo is interested in working with Reliance Properties Ltd. and be part of the proposed development at 450 Dallas Road whose occupants and nearby residents may no longer need to own a car of their own for their personal and business needs.

Thank you for your support of carsharing in the City of Victoria.

Regards,

A handwritten signature in black ink, appearing to read 'Sylvain Cellaire', with a stylized flourish at the end.

Sylvain Cellaire  
Director of Business Development