



2114 BEACON AVENUE WEST

Parking Study

Olga Kochkareva
Transportation Planner

Author

Tania Wegwitz, RPP, MCIP
VP, Transportation

Reviewer

Prepared For: Cube Project Management Ltd.
Date: July 3, 2024
Our File No: 3710.B01

WATT VICTORIA
302 – 740 Hillside Ave
Victoria, BC V8T 1Z4
250-388-9877



TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
FIGURES.....	2
TABLES	2
1.0 INTRODUCTION.....	4
1.1 Subject Site.....	4
1.2 Site Characteristics & Policy Context.....	4
1.2.1 Planning & Policy Context	5
1.2.2 Services	6
1.2.3 Transit.....	6
1.2.4 Walking	7
1.2.5 Cycling	7
1.2.6 Carsharing	8
2.0 PROPOSED DEVELOPMENT	9
2.1 Land Use.....	9
2.2 Proposed Parking Supply	9
2.2.1 Vehicle Parking	9
2.2.2 Bicycle Parking.....	9
3.0 PARKING REQUIREMENT	10
3.1 Vehicle Parking Requirement	10
3.2 Bicycle Parking Requirement.....	10
4.0 EXPECTED PARKING DEMAND	11
4.1 Resident Parking Demand.....	11
4.1.1 Adjustment Factor.....	12
4.1.2 Parking Demand by Unit Type	14
4.2 Visitor Parking Demand.....	15
4.3 Summary of Expected Parking Demand.....	16



5.0	ON-STREET PARKING.....	16
6.0	TRANSPORTATION DEMAND MANAGEMENT.....	18
6.1	Non-Standard Bicycle Parking and Bicycle Repair Station.....	18
6.1.1	Overview.....	18
6.1.2	Recommendation.....	20
6.2	Carsharing.....	20
6.2.1	Overview.....	20
6.2.2	Recommendation.....	21
6.3	TDM Welcome Package.....	22
6.3.1	Overview.....	22
6.3.2	Recommendation.....	22
6.4	Summary of TDM Measures.....	23
7.0	SWEPT PATH ASSESSMENT.....	24
8.0	CONCLUSIONS.....	25
9.0	RECOMMENDATIONS.....	25

FIGURES

Figure 1. Subject Site.....	4
Figure 2. Modo Vehicle Locations Within Proximity to Subject Site.....	8
Figure 3. Example of Non-standard Bicycle Parking at Royal Jubilee Hospital.....	18

TABLES

Table 1. Breakdown of Proposed Development.....	9
Table 2. Vehicle Parking Requirement.....	10
Table 3. Bicycle Parking Requirement.....	11
Table 4. Summary of Parking Demand at Representative Sites.....	12
Table 5. Summary of Adjusted Parking Demand at Representative Sites.....	13



Table 6. Summary of Adjusted Parking Demand by Unit Type..... 15

Table 7. Summary of Total Expected Parking Demand..... 16

Table 8. Summary of On-Street Parking Conditions..... 17

Table 9. Summary of TDM Measures..... 23



1.0 INTRODUCTION

Watt Consulting Group (WATT) was retained by Cube Project Management to conduct a parking study for the proposed multi-family residential development at 2114 Beacon Avenue West in the Town of Sidney, BC. The purpose of this study is to determine the total parking demand for the subject site and identify transportation demand management measures to reduce the total expected parking demand.

1.1 Subject Site

The proposed development is located at 2114 Beacon Avenue West in the Town of Sidney and is currently zoned as R2 – Single and Two-Family Residential.



Figure 1. Subject Site

1.2 Site Characteristics & Policy Context

To support the parking analysis and recommendations, a summary of the services and transportation options available in the vicinity of the site is provided in the following sections, accompanied by an overview the Town of Sidney's Updated Official



Community Plan (OCP) and other community policies relevant to sustainable transportation and parking demand management.

1.2.1 Planning & Policy Context

The Town of Sidney’s Official Community Plan (OCP), adopted in 2022, sets out multi-modal transportation objectives that are relevant to the proposed development.¹ Section 5: Residential Lands details how Multi-Unit Residential properties adjacent to the West Sidney Mixed Use Village shall be evaluated on:

- The amount of workforce-oriented affordable/attainable housing provided.
- The proximity of the development to amenities and services.
- The distance of the development to major collector streets.

The 2019 Town of Sidney Housing Assessment noted that employee attraction and retention in Sidney is difficult due to the lack of affordable housing. The provision of workforce-oriented housing is further supported by policies relating to developments adjacent to the West Sidney Mixed Use Village, seen in Section 7 of the OCP.

Section 6: Transportation of the OCP details how new developments that request a variance to parking requirements require a Transportation Demand Management (TDM) study and should support recommended TDM measures to increase non-automobile transportation and decrease reliance on private vehicles, which includes considering reduced parking requirements for developments that support the use of active transportation and transit, and also encourage underground parking. The deployment of TDM measures in proposed developments is further supported by the 2022 Town of Sidney Climate Action Plan.²

Given that the site of the proposed development is within the boundary of the proposed West Sidney Mixed Use Village, the 2022 West Side Local Action Plan (WSLAP) contains direction for future planning and land use management within the Village site:³

- Section D5: Parking calls for progressive approaches to transportation, including parking, and recommends that new developments in the village area be either

¹ Town of Sidney. (2022). Official Community Plan Bylaw No. 2240. Available online at: <https://www.sidney.ca/wp-content/uploads/Updated-OCP-Adopted-June-27-2022.pdf>

² Town of Sidney. (2022). Climate Action Plan. Available online at: <https://www.sidney.ca/wp-content/uploads/Climate-Action-Plan-2022.pdf>

³ Town of Sidney. (2022). West Side Local Area Plan. Available online at: <https://www.sidney.ca/wp-content/uploads/West-Side-Local-Area-Plan-2.pdf>



exempt from minimum parking requirements, or base their parking requirements on the results of TDM studies.

Additionally, the BC Transit 2022 Peninsula Transit Future Local Area Transit Plan establishes a 25-year vision of an integrated regional transit system in the Saanich Peninsula.⁴ The Plan outlines the development of a RapidBus route on Highway 17 that will run between the Legislative District in Victoria to the Swartz Bay Ferry Terminal with eventual 15-minute all-day service. This Plan includes a proposed RapidBus station less than 300m away from the proposed development, which future residents will be able to benefit from once implemented.

1.2.2 Services

The proposed development has access to a range of services. It is within close walking distance (300m / approximately a 4-minute walk) to a commercial strip mall with a grocery store, restaurants, and retail stores, located to the east of the proposed development across Highway 17. More commercial services, restaurants and medical offices are located 500m to the east along Beacon Avenue (about a 6-minute walk). Just west of the subject site is West Sidney's Industrial Park, where a number of businesses and employment opportunities are located, including the newly developed Amazon Distribution Centre. Additionally, the site is located adjacent to Victoria International Airport. Therefore, the subject site is within close proximity to a variety of amenities for future residents to access.

There are a several public parks and greenspaces surrounding the proposed development, including Boulder Park, Bevan Park, and Swiftsure Park, which are all approximately 400m away from the subject site. In addition, Sidney Elementary School lies approximately 600m to the northwest of the proposed development.

1.2.3 Transit

The subject site is fairly well connected to transit, and is located within 300m (about a 4-minute walk) from three bus stops currently served by the following six routes:

- Route 71 Swartz Bay to Downtown Sidney (20-120-minute frequency)
- Route 82 Sidney / Saanichton via Stautw (15-120-minute frequency)

⁴ BC Transit. (2021). BC Transit 2021 Peninsula Transit Future Service Plan. Available online at: <https://www.bctransit.com/documents/1529716646896#:~:text=Full%20implementation%20of%20the%20Peninsula,downtown%20Victoria%20would%20be%20retained.>



- Route 83 Sidney / Brentwood / Royal Oak (10-120-minute frequency)
- Route 85 North Saanich (60-120-minute frequency)
- Route 87 Sidney / Dean Park via Airport (30-60-minute frequency)
- Route 88 Airport / Sidney (60-minute frequency)

These routes provide connections to existing regional routes, such as Route 70 (Swartz Bay / Downtown), designated to evolve into the future Peninsula Line RapidBus route; Route (72 Swartz Bay / Downtown) and Route 75 (Saanichton / Royal Oak / Downtown), providing residents with transportation to and from regional centres.

1.2.4 Walking

The proposed development's current Walk Score is **78**, which indicates that most errands can be accomplished on foot.⁵ Existing pedestrian infrastructure around the development includes a multi-use pathway along the south side of Beacon Avenue that extends around the site of the Victoria International Airport and connects to multi-use pathways on either side of Highway 17, as well as marked and pedestrian-activated flasher level crosswalks at Highway 17 and Beacon Avenue. Sidewalks have been installed on Galaran Road to the West of the property, and there is a mix of on-street shoulders and sidewalks in other areas in the development's proximity.

1.2.5 Cycling

The site has a bike score of **94**⁶, indicating that daily errands can be accomplished by bike. There is a multi-use pathway along Beacon Ave, which connects to multi-use pathways along Highway 17. Downtown Sidney is accessible by bike via a shared road on Beacon Avenue, east of Highway 17.

The proposed site is situated near a number of regional cycling pathways, including the Lochside Regional Trail, and the Flight Path, allowing future residents to safely travel for commercial and recreational purposes around the Saanich Peninsula.

In addition, the Town of Sidney's 2023 Active Transportation Plan identifies active transportation and associated infrastructure development as a strategic priority, active transportation as a preferred travel option and heightened connectivity as a key

⁵ More information about the site's Walk Score can be found online: <https://www.walkscore.com/score/2114-beacon-ave-w-sidney-bc-canada>

⁶ More information about the site's Bike Score can be found online: <https://www.walkscore.com/score/2114-beacon-ave-w-sidney-bc-canada>



objective. As such, there is potential for more active transportation connections and infrastructure improvements as Council’s strategic priorities come to fruition.

1.2.6 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”) offers carsharing services in the Saanich Peninsula with a fleet of approximately 5 vehicles. There are two Modo vehicles within 1km (12-minute walking distance) of the subject site at the following locations and shown in Figure 2 below:

- Fourth Street (between Mt Baker Avenue and Sidney Avenue)
- Third Street (between Bevan Avenue and Oakville Avenue)

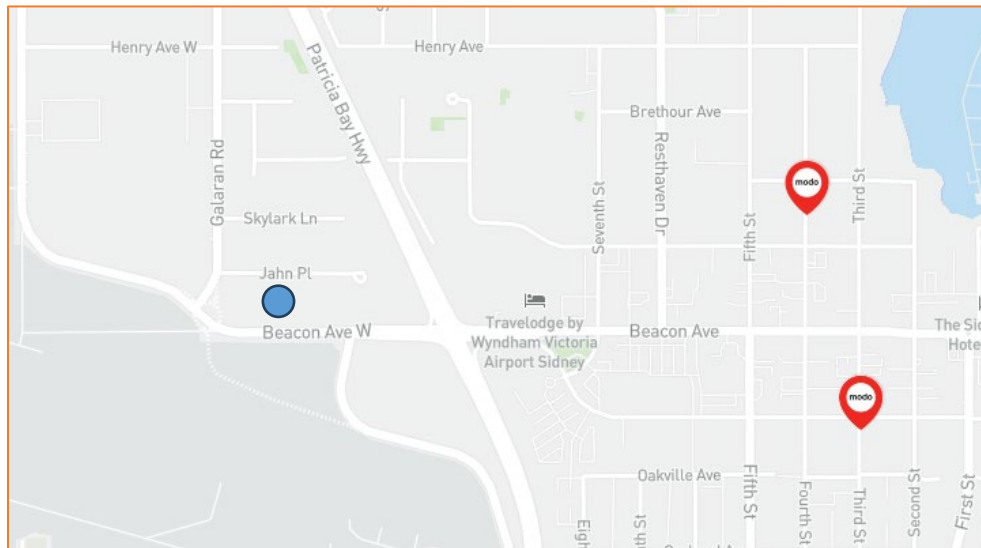


Figure 2. Modo Vehicle Locations Within Proximity to Subject Site



2.0 PROPOSED DEVELOPMENT

2.1 Land Use

The proposed development includes two, 4-storey multi-family strata residential buildings, with 68 units in each of the buildings. Of the 136 total residential units, 28 will be designated as accessible. **Table 1** provides a summary of the land uses at the proposed development.

Table 1. Breakdown of Proposed Development

Land Use	Type	Quantity
Multi—family Residential (Strata)	One-Bedroom	87 units
	Two-Bedroom	6 units
	Three-Bedroom	43 units
Total Multi-family Residential Units		136 units

2.2 Proposed Parking Supply

2.2.1 Vehicle Parking

A total of 93 vehicle parking spaces are proposed for the development, equating to a rate of 0.70 spaces per residential unit. The proposed width for the maneuvering aisle in the underground parkade is 6.25 m.

2.2.2 Bicycle Parking

A rate of one Class I bicycle space per residential unit is proposed, equating to 136 Class I bicycle spaces, as well as 16 Class II bicycle spaces.



3.0 PARKING REQUIREMENT

3.1 Vehicle Parking Requirement

Part 4 of the Town of Sidney Bylaw No.2140⁷ outlines parking regulations for new development in Sidney. As per the bylaw, 1.0 vehicle parking spaces per residential unit are required. This results in a total parking requirement of **136 spaces**. The proposed development will have a deficit of 41 spaces from the requirement, as summarized in **Table 2**.

Table 2. Vehicle Parking Requirement

Land Use	Bylaw Requirement	Units	Requirement
Residential			
Dwelling, Apartment	1 parking space per dwelling unit	136 units	136 parking spaces
Proposed Parking Supply			93 spaces
Parking Deficit			-43 spaces

3.2 Bicycle Parking Requirement

As per the Town of Sidney Bylaw No. 2140, a rate of 1 Class I bicycle parking space per residential unit is required, and a rate of 6 Class II bicycle parking spaces per residential building is required. This results in a requirement of 148 bicycle parking spaces, which the proposal is meeting. See **Table 3**.

⁷ Town of Sidney. (n.d). Official Community Plan Bylaw No. 2140. Available online at: <https://www.sidney.ca/wp-content/uploads/2140-Off-Street-Parking-Loading.pdf>



Table 3. Bicycle Parking Requirement

Land Use	Bylaw Requirement		Units	Requirement Class I	Requirement Class II
	Class I	Class II			
Apartment	1 space per dwelling unit	6 spaces per building	136 units	136 spaces	12 spaces
Proposed Bicycle Parking Supply				136 spaces	16 spaces
Total Proposed Parking Supply				152 spaces	
Parking Deficit				+4 spaces	

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 the actual parking demand.

4.1 Resident Parking Demand

Data from the 2019 Town of Sidney Multi-Family Residential Parking Study conducted by WATT was used to estimate parking demand for the proposed 136 residential strata units. This was a comprehensive study that reviewed the rate of parking utilization in multi-family apartment buildings across the Town, and how it compared to bylaw direction within the Town and other municipalities in the Capital Region. The data from this study is still representative to the subject site, as the transportation context has not changed substantially in Sidney over the past five years in terms of public transit or active transportation expansion.

The Multi-Family Residential Parking Study collected observational data to determine the parking supply, utilization, and occupancy of 34 multi-family buildings in Sidney, 27 of which were strata condominium buildings. Ten of the most representative buildings to the proposed development were used to estimate parking demand for the subject site. These representative buildings were chosen because they had similar walk score, proximity to services and commercial areas, tenure, and transportation options comparable to the subject site. A summary of the representative Strata sites, the



number of observed vehicles, and their average parking demand rate is provided in **Table 4.**

Table 4. Summary of Parking Demand at Representative Sites

Address	Walk Score	Units	Number of Observed Vehicles	Parking Demand Rate (Vehicles/Unit)
10016 Third Street	82	25	20	0.80
10160 Third Street	71	28	23	0.82
9650 First Street	87	19	21	1.11
9710 Second Street	90	12	9	0.75
9805 Seaport Place	86	54	77	1.43
2380 Brethour Avenue	92	22	16	0.73
2520 Oakville Avenue	77	7	6	0.86
9667 First Street	77	14	7	0.50
9717 First Street	77	17	14	0.82
9818 Third Street	93	24	21	0.88
Totals / Average	83.2	222	-	0.87

The average parking demand for the multi-family residential Strata units in Sidney is 0.87 spaces per unit. Applied to the proposed development, this results in **119 spaces** (136 units * 0.87 =118.32, rounded up).

4.1.1 Adjustment Factor

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, it can be expected that some residents return home very late at night or the next morning or have driven out of town for business or vacation.

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.⁸ The study also suggested that occupancy surveys that start between 9:00pm – 10:30pm should have a 10% adjustment factor while a survey conducted between 10:30pm and 11:00pm should have a 5% adjustment factor. As the observations in this study occurred between 9:00pm and 10:30pm, a 10% adjustment factor was applied to the observed parking demand to determine peak parking demand. A summary of the adjusted parking demand rates are provided in **Table 5**.

Table 5. Summary of Adjusted Parking Demand at Representative Sites

Address	Units	Number of Observed Vehicles	Parking Demand Rate (Vehicles/Unit)	Adjusted Parking Demand (Vehicles/Units)*1.10
10016 Third Street	25	20	0.80	0.88
10160 Third Street	28	23	0.82	0.90
9650 First Street	19	21	1.11	1.22
9710 Second Street	12	9	0.75	0.83
9805 Seaport Place	54	77	1.43	1.57
2380 Brethour Avenue	22	16	0.73	0.80
2520 Oakville Avenue	7	6	0.86	0.94
9667 First Street	14	7	0.50	0.55
9717 First Street	17	14	0.82	0.91
9818 Third Street	24	21	0.88	0.96
Totals / Average	222	-	0.87	0.96

⁸ Metro Vancouver. (2012). The Metro Vancouver Apartment Parking Study, Technical Report. Available online at: http://www.metrovancouver.org/services/regional-planning/PlanningPublications/Apartment_Parking_Study_TechnicalReport.pdf



4.1.2 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 increase the parking demand.⁹

To determine parking demand by unit type, ratios were derived from a large-scale parking study commissioned by Metro Vancouver.¹⁰ A similar study has not yet been completed in Greater Victoria. The Metro Vancouver study included many urban municipalities similar to Saanich and Victoria along with more smaller and/or suburban communities that have similar characteristics to Sidney, Central Saanich, Langford, and Colwood, among others. The Metro Vancouver study assumes the following “ratio differences” for strata parking demand:

- 1-Bedroom units’ parking demand rates will be 19% higher than studio units rates;
- 2-Bedroom units’ parking demand rates will be 30% higher than 1-Bedroom rates; and
- 3-Bedroom units’ parking demand rates will be 23% higher than 2-Bedroom rates.

Table 6 presents the parking demand by unit type, considering the adjustment factor in Section 4.1.1, applied to the observed parking demand at each representative site.

⁹ 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.

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



Table 6. Summary of Adjusted Parking Demand by Unit Type

Address	Unit Type		
	One-bedroom	Two-bedroom	Three-bedroom
10016 Third Street	-	0.88	-
10160 Third Street	0.77	1.00	-
9650 First Street	-	1.22	-
9710 Second Street	-	0.83	-
9805 Seaport Place	-	1.37	1.69
2380 Brethour Avenue	-	0.78	0.96
2520 Oakville Avenue	0.75	0.98	-
9667 First Street	0.47	0.61	0.75
9717 First Street	0.86	1.12	-
9818 Third Street	0.80	1.04	-
Average	0.73	0.98	1.13
Applied to Proposed Development	64 (0.73*87 units)	6 (0.98*6 units)	49 (1.13*43 units)

Applying these rates to the proposed development (87 one-bedroom, 6 two-bedroom, and 43 three-bedroom units) indicate that resident parking demand will be 118 vehicle spaces.

4.2 Visitor Parking Demand

Observations were conducted as part of a study by Metro Vancouver¹¹ 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 in the Capital Regional District (CRD) by WATT and indicate that visitor parking demand is not strongly influenced by

¹¹ Metro Vancouver Apartment Parking Study, Technical Report, 2012. Available online at: http://www.metrovancouver.org/services/regionalplanning/PlanningPublications/Apartment_Parking_Study_TechnicalReport.pdf



location. Therefore, it is estimated that visitor parking demand will be 0.1 vehicles per unit, resulting in **14 spaces** (136 units * 0.1 = 13.6, rounded up).

4.3 Summary of Expected Parking Demand

The total expected parking demand for the site is **132 vehicle parking spaces**, which is 39 spaces more than the proposed supply of 93 spaces. See **Table 7**.

Table 7. Summary of Total Expected Parking Demand

Land Use		Quantity	Expected Parking Demand Rate	Expected Parking Demand
Multi-family Residential	One-Bedroom	87 units	0.73 per unit	63.5 spaces
	Two-Bedroom	6 units	0.98 per unit	5.9 spaces
	Three-Bedroom	43 units	1.13 per unit	48.6 spaces
Total Resident Parking Demand				118 spaces
Visitor Parking		136 units	0.1 per unit	14 spaces
Total Parking Demand				132 spaces
Proposed Parking Supply				93 spaces
Parking Deficit				-39 spaces

5.0 ON-STREET PARKING

On-street parking observations were completed to determine parking availability nearby the subject site. Counts were completed on streets adjacent to the site with available on-street parking: Galaran Road, Jahn Place, and Skylark Lane.

Observations were completed at 9:00pm on Tuesday, March 19 and Wednesday, March 20, 2024. The evening counts were intended to capture the peak residential parking conditions when residents of the surrounding area are anticipated to be home with some parking their vehicles on-street.

An approximate total of 116 on-street parking spaces were observed, with peak utilization on Tuesday, March 19 where 17 vehicles were observed, equating to 20% of spaces being occupied. This indicates that there is on-street parking available around



the vicinity of the site. While it is not advisable to rely on on-street spaces to accommodate resident parking demand, visitor parking for the proposed development may be accommodated with the available on-street parking due to its temporary nature. As shown in **Table 8** below, the visitor parking demand of 14 spaces can be accommodated by the remaining 80% of spaces available (approximately 93 spaces) within vicinity of the proposed development. This reduces the overall parking demand to 118 spaces (resident parking demand).

Table 8. Summary of On-Street Parking Conditions

Street	Segment	Side	Available	21:00 19 March 2024		21:00 20 March 2024	
				Observed	% Occupied	Observed	% Occupied
Jahn Place	Galaran Rd - End	N	24	3	13%	2	8%
		S	24	1	4%	1	4%
Galaran Road	Beacon Ave - Skylark Lane	E	10	1	10%	1	10%
		W	9	6	67%	3	33%
Skylark Lane	Galaran Rd - End	N	23	4	17%	4	17%
		S	26	2	8%	4	15%
Totals			116	17	20%	15	15%



6.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation demand management (TDM) is the application of strategies and policies to influence individual travel choice to reduce single-occupant vehicle travel. TDM measures typically aim to encourage sustainability, enhance travel options, and decrease parking demand. Described below are a range of TDM measures that could be suitable for the proposed development, in addition to the appropriate recommendation and parking demand reduction for each measure. TDM measures are supported for the proposed development to [a] reduce the overall expected parking demand; [b] to support sustainable transportation choices for future residents and employees of the site and [c] to align with the broader policy and planning goals of the Town.

6.1 Non-Standard Bicycle Parking and Bicycle Repair Station

6.1.1 Overview

Non-standard bicycles are longer, wider, and heavier than a typical bicycle, which makes them more challenging to park than a regular bike. Non-standard bikes include a tricycles, electric cargo bikes, or a bike with a trailer, for example. Because of their size, these bikes require different parking configurations. As electric bicycles and other non-standard bikes become more commonplace, it will be important that new developments provide the right mix of parking to allow users to park their bicycles securely and conveniently.

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.¹² This research also showed that users would feel more comfortable if they could park their bicycle in a locked or supervised area.



Figure 3. Example of Non-standard Bicycle Parking at Royal Jubilee Hospital

¹² 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



The Capital Region Local Government Electric Vehicle + Electric Bike Infrastructure Planning Guide¹³ 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 e-bike parking design guidelines include three key recommendations: (1) that all e-bike parking spaces be in a secure location (2) that 50% of the long-term bike parking spaces have access to a 110V wall outlet and (3) 10% of the spaces be designed for non-standard bicycles.

To meet the guidelines identified by the Capital Region Local Government Electric Vehicle + Electric Bike Infrastructure Planning Guide, it is recommended that the applicant ensure that 68 (50%) of the long-term bicycle parking spaces have access to a 110V wall outlet, and that 14 (10%) of the long-term spaces are designed for non-standard bicycles.

An onsite bicycle repair station 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 be inaccessible or present a financial barrier. The following amenities should be included at minimum:

- **Repair Tools:** Bicycle repair tools including: two identical tire levers; two screwdrivers (one flat head and one phillips); double sized wrenches of following sizes 8, 9, 10, 11, 15, 32 mm; allen keys of the following sizes 2.5, 3, 5, 6, 8 mm; a tire pump that works with Schrader and Presta valves.
- **Bike Repair Stand**
- **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-lit (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.

¹³ 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

¹⁴ Victoria Transport Policy Institute. (2015). *Parking Management: Strategies for More Efficient Use of Parking Resources*. Retrieved from: www.vtpi.org/tm/tm28.htm#_Toc128220491



6.1.2 Recommendation

It is recommended that the applicant commit to the following:

- Ensure at least 50% of Class I / long-term bicycle parking spaces have access to a 110V wall outlet (68 spaces).
- Ensure at least 10% of the required long-term bicycle parking spaces are designed for non-standard bike spaces (14 spaces). These parking spaces should have a minimum distance of 3.0m in length and 0.9m in width and should be provided as ground anchored racks.
- Include the following as part of the proposed bike repair station: repair tools, bike repair stand, bike wash station, lighting, and surveillance, and cycling information.

By committing to the above, a 5% reduction in resident parking demand would be supported.

6.2 Carsharing

6.2.1 Overview

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. Modo is the most popular carsharing service in the Saanich Peninsula, with three vehicles within the Town of Sidney, two of which are within 300m of the proposed development.

Many municipalities have supported carsharing programs and their expansion due to their ability to reduce household vehicle ownership and parking demand. A 2018 study within 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.

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.¹⁵
- 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 forgone purchasing a car as a result of carsharing participation.¹⁶

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 within the Town of Sidney where there is greater access to multiple transportation options.

6.2.2 Recommendation

It is recommended that the applicant commit to the following:

- Work with Modo to determine if they would support locating two on-street or surface carshare vehicles plus chargers at the subject site. This commitment would grant partner use (membership) rights for the proposed development or approximately 140 memberships (typically 70 memberships per vehicle). Cost per Modo vehicle including its memberships is approximately \$35,000 (i.e. \$70,000 for two cars), with also approximately \$2,000 for a Level 2 charger that can serve both cars.
- If only one vehicle is located at the site, purchase additional memberships for the remaining units at a cost of \$500 per membership (66 units for an approximate total of \$33,000).

¹⁵ Clewlow, R.R. (2016). Carsharing and sustainable travel behaviour: Results from the San Francisco Bay Area. *Transport Policy*, 51, 158-164.

¹⁶ Engel-Yan, D., & D. Passmore. (2013). Carsharing and Car Ownership at the Building Scale. *Journal of the American Planning Association*, 79(1), 82-91.



A resident parking demand reduction of 15% is supported for the proposed development if two MODO vehicles are provided nearby on-street along with memberships for all units.

6.3 TDM Welcome Package

6.3.1 Overview

The purpose of a TDM-focused welcome package to all new building occupants is about educating them about transportation options available at their new residence. This package is meant to include information and incentives related to alternative transportation modes to owning a vehicle such as transit and cycling.

Travel behaviour research has shown that people moving to a new place or starting a new job have the opportunity for a behavioural change as they need to understand travel options and are more willing to try new modes of transportation. This development offers the opportunity to facilitate these behavioural changes. Providing information about alternative transportation modes to driving, before that decision has been finalized can increase residential mode share for carpool, bike, walk, or transit for travelling to work or accomplish other trips.

Incentives and promotions have been valuable in encouraging use of alternative modes of transportation. However, if residents are not aware of the available TDM options, they are less likely to consider using them. Information about available TDM programs for the site should be included as part of marketing the development and as part of a welcome package for new tenants. Marketing the TDM programs is particularly valuable for influencing travel behaviour.

6.3.2 Recommendation

It is recommended that the applicant consider implementing a TDM-focused welcome package that includes at minimum the following:

- BC Transit map and schedule;
- Town of Sidney and Saanich Peninsula bike network map;
- Information about the e-bikeshare program, such as policies and registration details; and
- Information regarding MODO membership details.

By committing to the TDM welcome package, a 1% reduction in resident parking demand would be supported.



6.4 Summary of TDM Measures

A summary of the proposed TDM measures, and their associated recommendations and parking reduction rates, is provided below in **Table 9**. Committing to the TDM measures would result in a resident parking demand reduction of 31 spaces, which would reduce the resident parking demand from 119 spaces to 88 spaces, resulting in an overall parking demand of 102 spaces.

Table 9. Summary of TDM Measures

TDM Measure	Provision	Parking Demand / Reduction
Baseline Resident Parking Demand		
Non-standard Bicycle Parking & Bicycle Repair Station	50% of the long-term spaces with access to a 110V outlet; 10% of the long-term spaces as non-standard bicycle parking spaces; bicycle repair station includes repair tools, bike repair stand, bike wash station, lighting and surveillance, and cycling information.	-5%
Carsharing	Provision of two Modo vehicles along with memberships for all units.	-15%
TDM Welcome Package	Provide a TDM-focused welcome package that includes BC Transit map and schedule, bike network map, e-bikeshare information, Modo information.	-1%
Total Resident Parking Demand		118 spaces
Total Resident Parking Demand Reduction		-21%
Total Parking Demand Reduction		25 spaces
Estimated Resident Parking Demand with TDM		93 spaces



Residential Visitor Parking Demand	14 spaces (per Table 7)
On-street Capacity for Visitor Parking	14 spaces
Total Parking Demand with TDM + On-street Visitor Parking	93 spaces
Proposed Parking Supply	93 spaces
Difference	0 spaces

7.0 SWEEP PATH ASSESSMENT

Part 4, Section 4 of the Town of Sidney Bylaw No.2140 provides geometric standards for the design of parking spaces and access to parking.

Parking spaces at a 90 degree angle from the drive aisle must have a minimum width of 2.7m and length of 5.8m.

Parking spaces that are designated for small car use may reduce the width of the space to 2.5m and length of the space to a minimum of 5m.

The bylaw states that maneuvering aisle within a parking area shall be provided in accordance with standard engineering practices. The proposed maneuvering aisle width in the parking garage is 6.25m. WATT has conducted a review of both the standard and small car parking spaces within the proposed parking area to ensure that vehicles are able to safely maneuver into and out of the parking spaces.

The design vehicles selected are the TAC Passenger Car (P Car), which is generally of similar dimensions to a typical pickup truck on the streets today, and the Ford Escape for a small car. The swept path assessment is provided in **Appendix A**.

The swept path assessment demonstrates that the design vehicles (which are generally representative of the largest calibre of passenger vehicles for both standard and small car spaces that can reasonably be expected to frequent this garage) can successfully maneuver into and out of the proposed parking spaces by backing-in to the space where sufficient aisle length is provided.

The swept path assessment was completed with the June 2024 version of the site plan, which has since been updated to reduce the total vehicle parking supply by two spaces. The maneuvering aisle width has remained the same and therefore another swept path assessment was not deemed necessary.



8.0 CONCLUSIONS

The proposed development at 2114 Beacon Avenue West in the Town of Sidney is for two, 4-storey multi-family strata residential buildings, with 68 units in both buildings, 136 units total. The applicant is proposing a total of 93 vehicle parking spaces and 152 bicycle parking spaces.

Expected parking demand for this development was estimated based on observational data collected from the subject site and other representative sites in Sidney and was informed by previously conducted studies. To account for missing vehicles and to improve the rigor of analysis, the observational data was adjusted by 10%, and further analyzed by unit type. Based on this data and analysis, the parking demand rate is determined to be 132 spaces (118 resident, 14 visitor spaces), which exceeds the proposed supply (93 spaces) by 39 spaces.

To reduce the expected parking demand further to align with the proposed supply, a suite of TDM measures aimed at reducing resident parking demand are recommended for the applicant's consideration. On-street parking observations indicate that visitor parking demand (14 spaces) can be accommodated by on-street parking within the vicinity of the proposed development. Committing to the TDM measures reduces the total site parking demand to 93 spaces, meeting the expected demand.

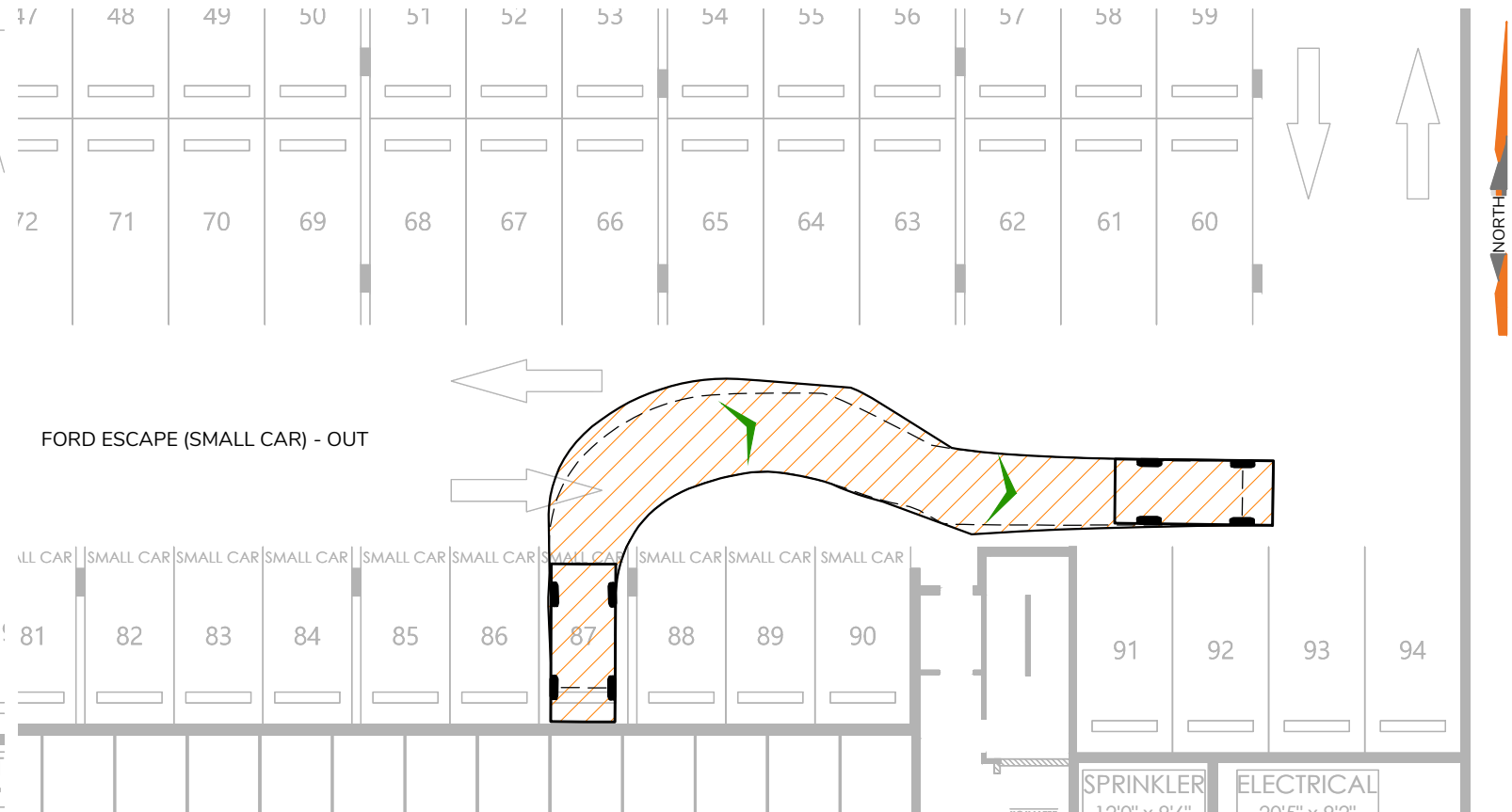
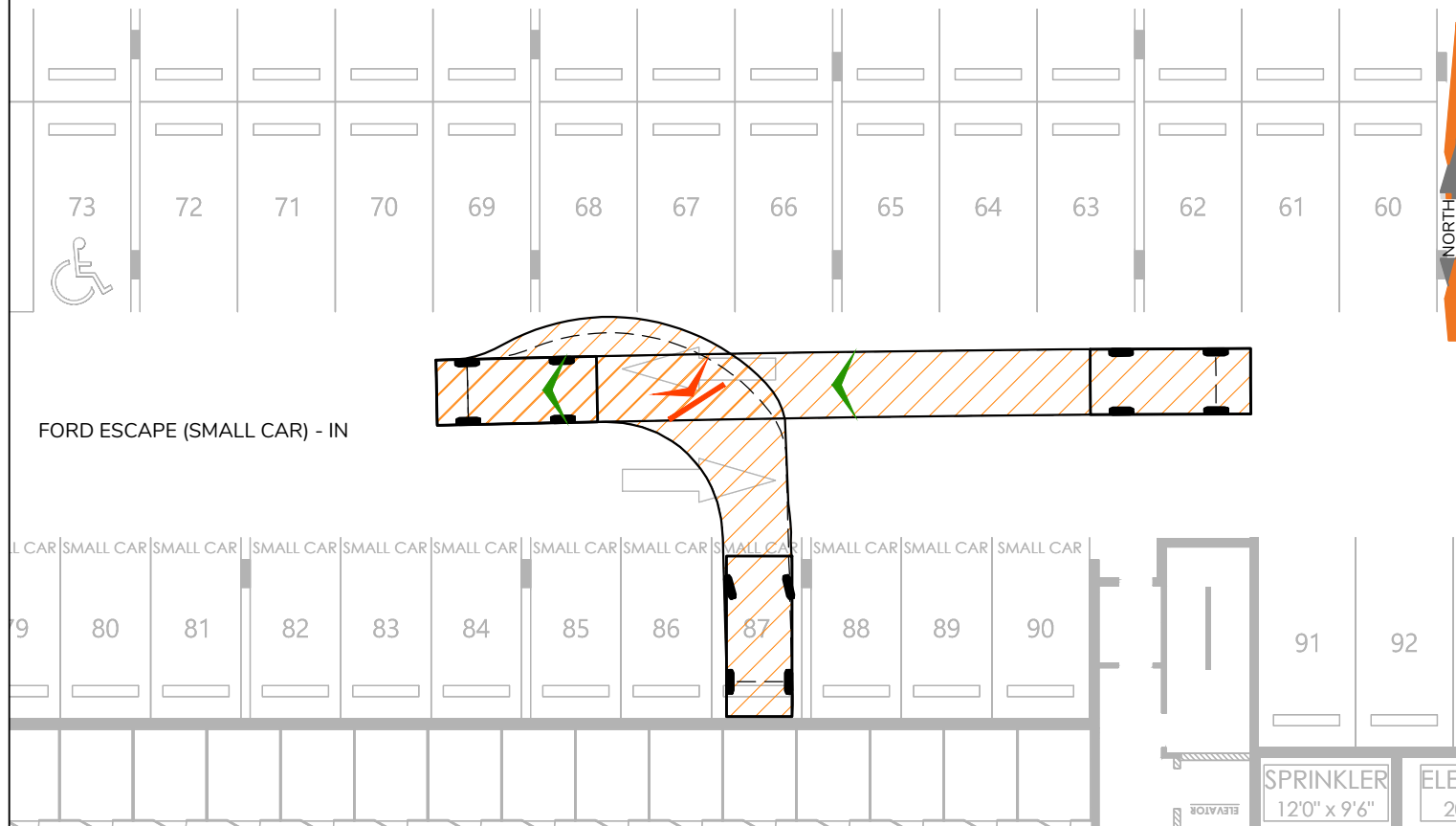
Further, the proposed parking garage plan with a maneuvering aisle width of 6.25m is acceptable and will be able to accommodate the vast majority of vehicles anticipated to use the facility.

9.0 RECOMMENDATIONS

Based on the conclusions of this study, a total parking supply of 93 spaces is supported if the applicant commits to each of the following points below:

- Designate 10% of long-term bicycle parking spaces for non-standard bicycles;
- Ensure the bicycle repair station includes amenities;
- Work with Modo to provide two carshare vehicles on-site or on-street and provide memberships to all units;
- Provide a TDM welcome package;
- Allocate visitor parking to on-street.

The applicant has since committed to providing the all of the above recommendations.



LEGEND:

PERMIT TO PRACTICE:
 THESE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE BY THE PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS ENTERED INTO A CONTRACT, AND THERE ARE NO REPRESENTATIONS OF ANY KIND MADE BY THE DESIGN PROFESSIONAL TO ANY PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS NOT ENTERED INTO CONTRACT.

SEAL:

REVISIONS		
0	ISSUED FOR CLIENT REVIEW	2024-06-13
1		
2		
3		
4		
5		
6		
7		

**2114 BEACON AVE PARKING STUDY
 SWEEP PATH ASSESSMENT
 PASSENGER CAR AND FORD ESCAPE MOVEMENTS**

DRAWING NO: SPA-01	SCALE: 1:200	DRAWN: KB
DESIGN SPEED: -	DESIGN VEHICLE: PCAR/FORD ESCAPE	CHECKED: KM

WATT
 Consulting Group
 WATTCONSULTINGGROUP.COM
 PROJECT NO: 3710.B01