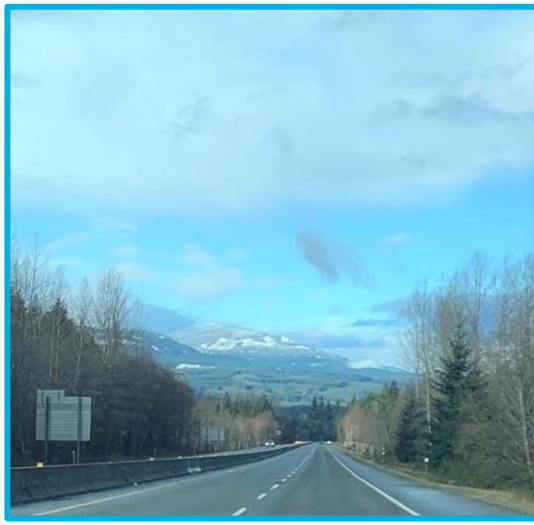
1590 PIERCY AVENUE

Parking Study

Build With Perspective Ltd.





WATT CONSULTING GROUP

2022 July 04

WATT VICTORIA
#302, 740 Hillside Avenue
Victoria, BC V8T 1Z4
(250) 388-9877

1590 PIERCY AVENUE

Parking Study

Matthew Lilly, B.Sc.
Transportation Technical Assistant
Author

Tim Shah, RPP, MICP
Senior Transportation Planner
Reviewer

Prepared For: Build With Perspective Ltd.
Date: 2022 July 04
Our File No: 3328.B01

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

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1.0 INTRODUCTION

Watt Consulting Group (WATT) was retained by Build with Perspective Ltd. to conduct a parking study for the proposed townhouse development at 1590 Piercy Avenue in the City of Courtenay, BC. The purpose of this study is to determine the total parking demand for the subject site..

1.1 SUBJECT SITE

The proposed development is located at 1590 Piercy Avenue in the City of Courtenay (See Figure 1).

Figure 1. Subject Site

1.2 SITE CHARACTERISTICS & POLICY CONSIDERATIONS

The following provides information regarding services and transportation options in proximity to the subject site (see **Figure 2**). In addition, the City of Courtenay's Official Community Plan (OCP) and other community policies pertaining to sustainable transportation and parking management are summarised.

COMMUNITY POLICIES

The City of Courtenay updated its Official Community Plan in June of 2022.[1] The OCP contains policy direction on a number of topics pertaining to parking and including the distinct goal of "Functional Transportation Choices". This goal directs the City to rebalance its transportation system to provide a more functional spectrum of options that prioritises walking, cycling, and transit. This in turn will support active living and transportation, neighbourliness, economic vitality, affordable transportation, and lower carbon footprints.

Part C: Streets and Transportation of the OCP, outlines several objectives and policies directly relevant to this study including:

- Objective 2: Transportation investments prioritise walking, cycling, and transit
- Objective 6: The amount of land dedicated to parking is minimized
- Objective 7: Parking standards reflect electric vehicle and cycling needs

SERVICES

The site is located approximately 1.1 kilometres from commercial / retail amenities including restaurants, a grocery store (Thrifty Foods) and cafés. There are also a number of personal and professional services within this distance including medical services, accounting, and wealth management

[1] City of Courtenay. (2022). Bylaw 3070: Official Community Plan, Available online at: https://pub-courtenay.escribemeetings.com/filestream.ashx?DocumentId=2454

offices. Courtenay Elementary School is 600m from the site (7-minute walk).

TRANSIT

There are two bus stops at the intersection of Cumberland Road and Piercy Avenue that are within a 300m (6-minute walk) of the subject site. The bus stops are served by the 8 (Downtown / Anfield Centre), which provides service to a number of destinations in the community including downtown Courtenay, Driftwood Mall, Anfield Centre, and schools such as Puntledge Park Elementary School and Lake Trail Secondary School.

The site is also located about 900m (11-minute walk) from a bus stop at Fitzgerald Avenue and 16th Street, which is served by the 1 (Comox Mall / Anfield Centre). The 1 operates as the Frequent Transit Network (FTN) route offering 20-minute service at peak hours between the municipalities of Courtenay and Comox. It provides service to a number of destinations including downtown Courtenay, North Island College, North Island Hospital Comox Valley, and downtown Comox, among other destinations.

WALKING

According to Walk Score, the subject site* can be described as "somewhat walkable" with a walk score of 54, suggesting that some errands may be accomplished on foot.[2] Sidewalks are located on both sides of Piercy Avenue and serve to connect residents to nearby transit stops on Cumberland Road.

[2] More information about the site's walk score is available online at: https://www.walkscore.com/score/1580-piercy-ave-courtenay-bc-canada

*1580 Piercy Avenue as used in place of 1590 Piercy Avenue as 1580 Piercy Avenue is more up to date with current amenities and conditions on Walkscore.com

The Rotary Trail is a multi-use pathway northeast of the subject site that is part of the City's long-term pedestrian network. This pathway travels northwest and southeast, terminating at 5th Street and 29th Street respectively and increases active transportation (AT) connectivity throughout the city.

CYCLING

The subject site has access to cycling infrastructure Cumberland Road and 17th street travelling Northeast into town, and southwest towards Cumberland; additionally, the Rotary Trail – at the north eastern border of the subject site - provides additional access to multiple areas of the city. According to the City's Transportation Master Plan, a buffered / painted bicycle lane on 17th Street is proposed for the medium-term **Figure 2**. This facility will allow for greater connectivity - and safety - for residents of the subject site travelling to destinations such as downtown Courtenay and further onto Comox or North Island College. As of June 2022, construction has begun on the 17th Street bicycle facility upgrades.

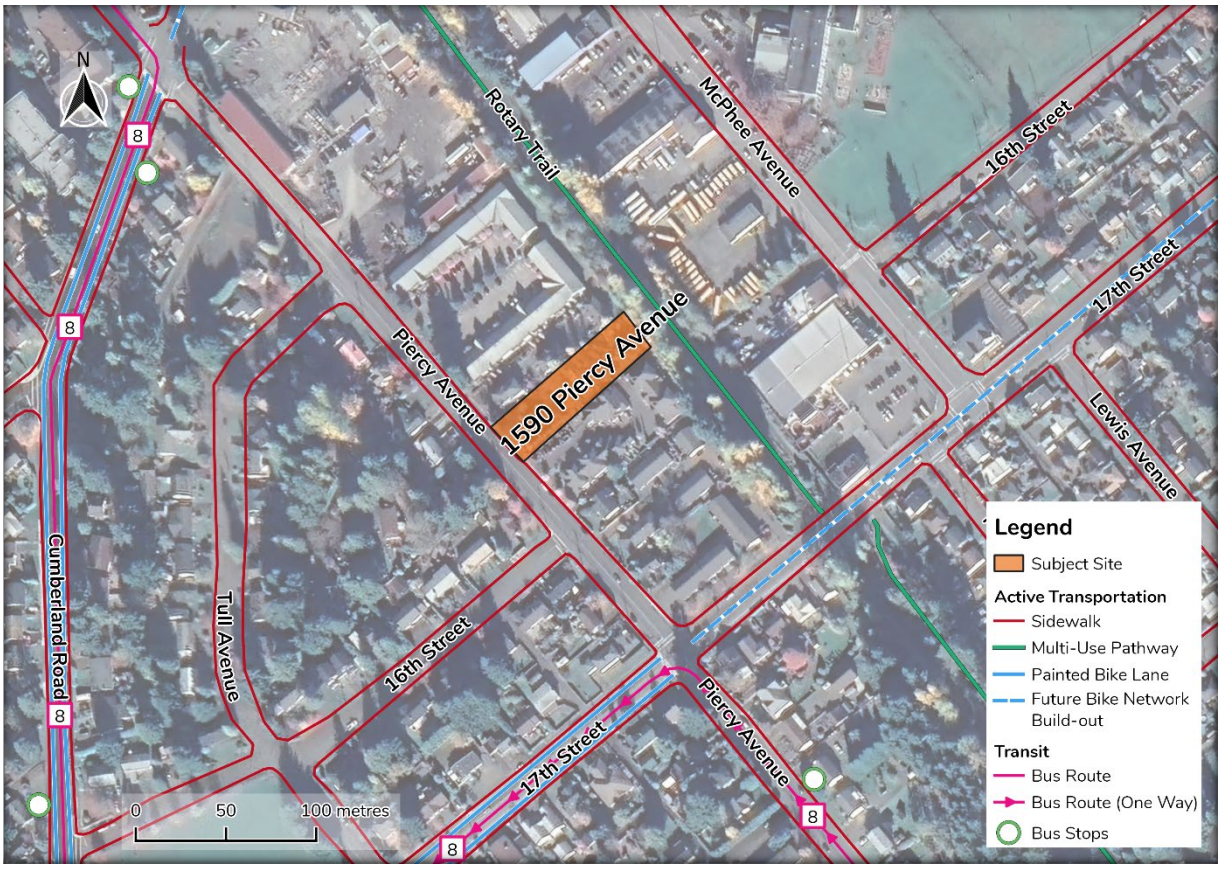

Figure 2. Transportation Options in Proximity to Site

1.3 CURRENT LAND USE

The site is currently zoned R-2 (Residential Two Zone) - which allows for single residential dwelling duplex, and accessory building uses – and is currently occupied by a single detached house.

2.0 PROPOSED DEVELOPMENT

2.1 LAND USE

The proposed development is for a nine-unit townhouse complex comprising 6 two-bedroom units and 3 three-bedroom units.

2.2 PROPOSED PARKING SUPPLY

2.2.1 RESIDENTIAL PARKING

A total of 10 parking spaces are proposed - a rate of 1.11 spaces per unit.

2.2.2 BICYCLE PARKING

The applicant is proposing one electrified long-term bicycle parking space per unit, in addition to two short term guest bicycle parking spaces. Section 6.0 includes specific bicycle parking recommendations for the applicant's consideration.

3.0 PARKING REQUIREMENT

3.1 VEHICLE PARKING

The City of Courtenay Bylaw No. 2500 (2007) determines the minimum parking supply requirement. Per the Bylaw, the site would be subject to the "Multi residential dwellings use" and be required to provide 1.5 parking spaces per residential unit with 10% of the required spaces being provided and retained for visitor parking.

With nine proposed units, this results in a requirement of 14 parking spaces (13.5 rounded), delineated as 13 spaces residential parking spaces and 1 as visitor parking spaces. This is four spaces greater than the proposed supply of 10 spaces parking 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 demand. Expected parking demand is based on observations from other townhouse sites in Courtenay and Comox, as well as research from past parking studies.

4.1 RESIDENTIAL PARKING DEMAND

4.1.1 REPRESENTATIVE SITES

Observations were conducted at 8 townhouse sites in the City of Courtenay and Town of Comox, representing a total of 206 units. A breakdown of each site and how it corresponds to the site location can be found in **Table 1**.

- **Geographic Location |** All of the representative sites are located within the City of Courtenay and Town of Comox. This is based on walkability, access to transit, and access to commercial / retail amenities and is intended to encapsulate the unique socio-geographical features of the neighbourhood of the proposed development.
- **Walk Score |** This is a tool that ranks the walkability of a location based on its proximity to seven types of amenities: Dining and drinking, groceries, shopping, errands, parks, schools/education, and culture and entertainment. It is a useful tool for determining if a trip will require a vehicle, and may inform parking needs. The Walk Score of this development is 58, whereas the average Walk Score of the chosen representative sites is 30 (29.88, Rounded). This means that the proposed development will have greater walking access to amenities than most of the comparable townhouse developments in the region; thus, representative sites offer a more conservative estimate of parking demand.
- **Countable Parking Spaces.** The sites needed to have parking spaces that were visible and therefore countable. Many townhouse sites in the Comox Valley have enclosed garages or gated underground parking, making counting difficult.

TABLE 1. SUMMARY OF REPRESENTATIVE SITES

Address	Number of Units	Walk Score	Municipality
1500 Cumberland Ave	20	30	Courtenay
2061 Lake Trail Road // 2016 13th Street	33	31	Courtenay
2077 20th Street	40	19	Courtenay
1111 Edgett Road	24	37	Courtenay
1095 Edgett Road	21	29	Courtenay
1537 Noel Ave	36	14	Courtenay
1180 Braidwood	26	25	Comox
1580 Piercy Avenue	6	54	Courtenay

4.1.1 OBSERVATIONS

Observations were conducted during the following periods:

- Wednesday, 14 June 2022, from 12:00am to 1:00am
- Thursday, 15 June 2022, from 12:00am to 1:00am

Observations of parking utilisation were conducted at representative sites during the peak period for residential land uses (typically weekday evenings after 11:00pm). The peak observation for each site over the two observation periods was selected to calculate the parking demand (see **Table 2**). Parking demand ranged from 0.56 vehicles per unit to 1.25 vehicles per unit with an average parking demand of 0.96 vehicles per unit.

TABLE 2. OBSERVATIONS OF REPRESENTATIVE SITES

Site	Units	Observed Vehicles	Parking Demand (vehicles / unit)
1500 Cumberland Ave	20	25	1.25
2061 Lake Trail Road // 2016 13th Street	33	36	1.09
2077 20th Street	40	30	0.75
1111 Edgett Road	24	21	0.88
1095 Edgett Road	21	22	1.05
1537 Noel Ave	36	34	0.94
1180 Braidwood	26	24	0.92
1580 Piercy Avenue	6	7	1.17
		Average	**1.01**

4.2 VISITOR PARKING

A study conducted by Metro Vancouver concluded that visitor parking typically has a demand of less than 0.1 vehicles per unit. [3] This is corroborated by findings of multiple studies conducted by WATT Consulting Group throughout Vancouver Island, suggesting that visitor parking is not strongly linked to location. With a total of 9 units, and applying a visitor parking demand rate of 0.1, the recommended visitor parking is **1 space** (0.9 spaces, rounded). Section 4.3 addresses on-street parking conditions. Based on the on-street parking assessment, it is anticipated that visitor vehicles will park on-street as there is available supply during the peak time.

4.3 ON-STREET PARKING ASSESSMENT

On-street parking conditions were observed to determine parking availability adjacent to the subject site. Observations were completed on Piercy Avenue, between Cumberland Road and 17th Street; on Tull Avenue, between Piercy Avenue between

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

Piercy Avenue and 16th Street; and on 16th Street, between Tull Avenue and Piercy Avenue. Observations were conducted during the following periods:

- Tuesday, 13 June 2022, from 11:00pm to 12:00am
- Wednesday, 14 June 2022, from 11:00pm to 12:00am

Utilisation of the on-street parking spaces ranged from 20% to 23% with peak utilisation being observed during the 11:00pm to 11:30pm observation period on 13 June 2022 (see Table 3). This indicates that a few residents and/or visitors in the area are utilising the available and unrestricted on-street parking. A total of 110 spaces were vacant within this period indicating that parking is generally available during peak times when residents are expected to be home, and that visitor parking may be accommodated on-street.

TABLE 3. ON-STREET OBSERVATIONS DURING PEAK OCCUPANCY PERIOD

Street	Segment	Side	Available Spaces	Observed	% Occupied
Piercy Avenue	Cumberland Road – Tull Avenue	NE	17	0	0%
		SW	17	0	0%
	Tull Avenue – 16th Street	NE	20	6	30%
		SW	18	2	11%
	16th Street – 17th Street	NE	7	1	14%
		SW	7	2	29%
Tull Avenue	Piercy Avenue – Schjelderup Place	E	3	3	100%
		W	4	4	100%
	Schjelderup Place – 16th Street	E	2	2	100%
		W	3	3	100%
16th Street	Tull Avenue - Alleyway	NW	17	6	35%
		SE	17	3	18%

Street	Segment	Side	Available Spaces	Observed	% Occupied
	Alleyway – Piercy Avenue	NW	5	0	0%
		SE	5	0	0%
		Totals	**142**	**32**	**23%**

4.4 SUMMARY OF EXPECTED PARKING DEMAND

The total expected parking demand for the proposed development is **10 vehicle parking spaces** (9.95 spaces, rounded), nine residential parking spaces (9.05 spaces, rounded), and one visitor parking space (0.9 spaces, rounded). This results in a total expected demand of 10 spaces, which is equal to the proposed supply.

5.0 CONCLUSIONS

The proposed development at 1590 Piercy Avenue is a 9-unit multi-family townhouse development that is providing 10 vehicle parking spaces (1.11 spaces per unit), which is four vehicle parking spaces fewer than the requirement of 14 parking spaces (13.5 rounded) from the City of Courtenay Zoning Bylaw. Furthermore, the proposed development is proposing 9 electrified long-term bicycle parking spaces.

Expected parking demand for this development was estimated based on observational data collected from representative townhouse sites in Courtenay and Comox. The expected parking demand is 10 spaces (nine residential spaces and one visitor space), which is equal to the proposed spaces. Finally, observations of on-street parking in the area indicate that there is sufficient capacity to accommodate visitor parking.

6.0 RECOMMENDATIONS

Based on the conclusions of this study, the proposed parking for the development is supported, with the following optional recommendations for consideration:

1. Increase the number of long-term secured bicycle parking spaces to a rate of 1.5 spaces per unit each with 110V charging outlets.

2. Increase the size of bicycle parking spaces to accommodate cargo bikes and other non-standard bicycles. The spaces should be designed to be a minimum of 3.0 metres in length and 0.9 metres wide. They should also be provided as ground anchored racks.
3. Provide addition to end of trip facilities such as a bicycle maintenance area to further support active transportation.

1590 PIERCY AVENUE

Parking Study

Author: Matthew Lilly

Reviewer: Tim Shah, RPP, MCIP

Prepared for: Build With Perspective Ltd.

Our File: 2785.B01

Date: March 30, 2020

#501-740 Hillside Avenue
Victoria, BC V8T 1Z4

T 250.388.9877
F 250.388.9879
wattconsultinggroup.com

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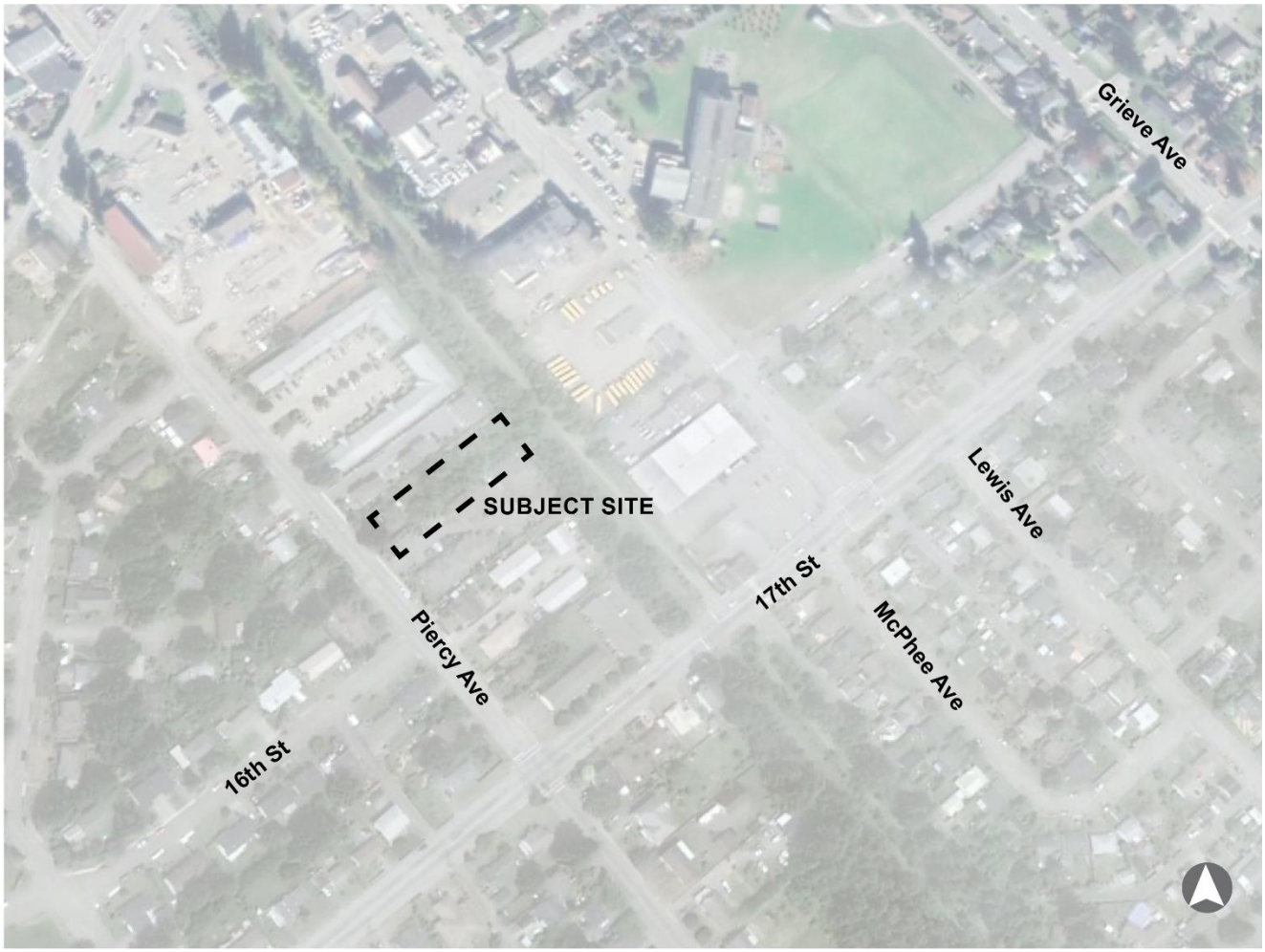
1.0 INTRODUCTION

Watt Consulting Group (WATT) was retained by Build with Perspective Ltd. to conduct a parking study for the proposed townhouse development at 1590 Piercy Avenue in the City of Courtenay, BC. 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 site is located at 1590 Piercy Avenue in the City of Courtenay. See **Figure 1**.

FIGURE 1. SUBJECT SITE



1.2 SITE CHARACTERISTICS & POLICY CONSIDERATIONS

The following provides information regarding relevant community policies, services and transportation options in proximity to the subject site.

COMMUNITY POLICIES

The City of Courtenay is in the process of updating its Official Community Plan (OCP), which will contain policy direction on a number of topics pertaining to parking including transportation and mobility, land use, and design of the built environment, among others. The City's existing OCP includes a number of goals and policies pertaining to transportation including goal #2, which is stated as follows:

"Development of a transportation system that provides choices for different modes of travel including vehicle, transit, pedestrian, cycling and people with mobility impairments".

The City OCP contains a number of other policies that relate to sustainable transportation and transportation demand management as outlined in multiple sections including: 4.4.3, 4.6.5, 5.2, and 10.3.

4.4.3. Land Use Designations (Residential Policies):

- Increasing densities can reduce urban sprawl and benefit the environment and transportation system, while promoting healthy community and fiscal responsibility through the provision of services. This may be achieved by creating neighbourhoods that offer a variety of transportation choices.[1]

4.6.5. Parks and Open Space (Greenway Strategy):

- The city requires safe, continuous, and convenient pedestrian routes from residences to public walkways, transit, and facilities. [2]

5.2 Transportation (Goals):

- Integrating land use changes with transportation planning to coordinate changes and increases in traffic patterns.
- Developing transportation systems that provide choices for different modes of travel including vehicle, transit, pedestrian, cycling, and people with mobility impairments.
- Supporting integration of transportation systems that reduce travel distances and congestion. [3]

[1] City of Courtenay (2016), Official Community Plan, Section 4.4.3: Land Use Designations Available online at: https://www.courtenay.ca/assets/Departments/Development~Services/Bylaw_2387_OCP.pdf.pdf
[2] Ibid, Section 4.6.5: Parks and Open Space.
[3] Ibid, Section 5.2: Transportation.

10.3. Planning for Climate Change (Objectives and Policies):

- Aligning developments within the following transportation mode hierarchy:
    1. Walking
    2. Cycling
    3. Transit
    4. Commercial delivery of goods and services
    5. SOV
- Encouraging and supporting initiatives that reduce the number of SOV trips throughout the community.[4]

SERVICES

The site is located approximately 1.1 kilometres from commercial / retail amenities including restaurants, a grocery store (Thrifty Foods) and cafés. There are also a number of personal and professional services within this distance including medical services, accounting, and wealth management offices. Courtenay Elementary School is 600m from the site (7-minute walk).

TRANSIT

There are two bus stops at the intersection of Cumberland Road and Piercy Avenue that are within a 300m (6-minute walk) of the subject site. The bus stops are served by the 8 (Downtown / Anfield Centre), which provides service to a number of destinations in the community including downtown Courtenay, Driftwood Mall, Anfield Centre, and schools such as Puntledge Park Elementary School and Lake Trail Secondary School.

The site is also located about 900m (11-minute walk) from a bus stop at Fitzgerald Avenue and 16th Street, which is served by the 1 (Comox Mall / Anfield Centre). The 1 operates as the Frequent Transit Network (FTN) route offering 20-minute service at peak hours between the municipalities of Courtenay and Comox. It provides service to a number of commuting destinations including downtown Courtenay, North Island College, North Island Hospital Comox Valley, and downtown Comox, among other destinations.

WALKING

The subject site can be described as somewhat walkable with a walk score of 56, suggesting that some errands can be accomplished on foot.[5] Sidewalks are located on both sides of Piercy Avenue and serve to connect residents to nearby transit stops on Cumberland Road.

[4] City of Courtenay (2016), Official Community Plan, Section 10.3: Planning for Climate Change. Available online at: https://www.courtenay.ca/assets/Departments/Development~Services/Bylaw_2387_OCP.pdf.pdf

[5] More information about the site's walk score is available online at: https://www.walkscore.com/score/1590-piercy-ave-courtenay-bc-canada

The recommended pedestrian network plan identified in the City's Transportation Master Plan shows a proposed multi-use pathway on Piercy Avenue between 29th Street and 5th Street.[6] This specific multi-use pathway is part of the City's long-term pedestrian network and is intended to increase connectivity and comfort for pedestrians, cyclists, and other active travel users when travelling along Piercy Avenue.

CYCLING

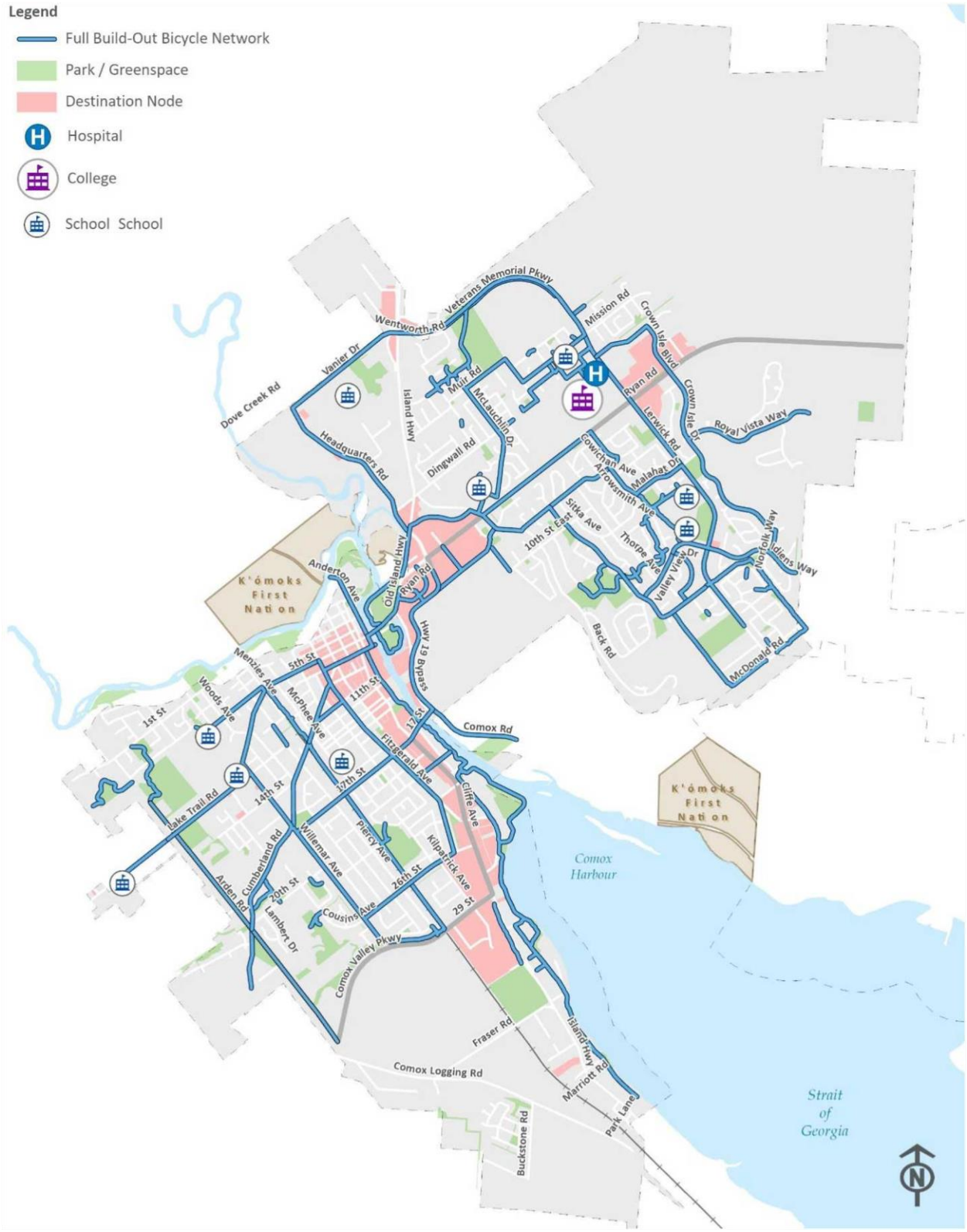
Piercy Avenue is currently designated as a 'Signed Bicycle Route'. According to the City's Transportation Master Plan and the Cycling Network Plan, there are no plans to upgrade Piercy Avenue to a better bicycle facility for all ages and abilities. However, the long-term pedestrian plan does identify a multi-use pathway on Piercy Avenue between 29th Street and 5th Street, which could facilitate trips for cyclists.

The Transportation Master Plan identifies a proposed buffered / painted bicycle lane on 17th Street in the medium-term.[7] See **Figure 2**. This facility would make it easier for residents of the subject site to travel more directly to destinations such as downtown Courtenay and to further destinations such as North Island College using other proposed bike facilities along Fitzgerald Avenue and Old Island Highway. A bike facility is also planned for Piercy Avenue in the long-term; however, the specific facility type is not known at this time.

[6] City of Courtenay & Urban Systems Ltd. (2019). Connecting Courtenay: Transportation Master Plan. Figure 5-3 Recommended Pedestrian Network Plan, pg. 43, available online at: https://www.courtenay.ca/assets/City~Hall/Project~Gallery/2018~Master~Transportation~Plan/2019-09-30%20Connecting%20Courtenay%20-%20Transportation%20Master%20Plan%20FINAL.pdf

[7] Ibid, Figure 9-3, pg. 77.

FIGURE 2. CITY OF COURTENAY FUTURE CYCLING NETWORK PLAN[8]



[8] City of Courtenay & Urban Systems Ltd. (2019). Connecting Courtenay: Transportation Master Plan.

1.3 CURRENT LAND USE

The site is currently zoned R-2 (Residential Two Zone), which allows for single residential dwelling duplex, and accessory building uses.

2.0 PROPOSED DEVELOPMENT

2.1 LAND USE

The proposed development is for a nine unit townhouse complex comprising of 6 two-bedroom units and 3 three-bedroom units.

2.2 PARKING SUPPLY

2.2.1 VEHICLE PARKING

A total of 10 parking spaces are proposed—a rate of 1.11 spaces per unit.

2.2.2 BICYCLE PARKING

The development will be providing 30 long-term and 6 short-term bicycle spaces. The long-term bicycle parking ratio results in 3.3 spaces per unit.

3.0 PARKING REQUIREMENT

The City of Courtenay Bylaw No. 2500 (2007) determines the minimum parking supply requirement. Per the Bylaw, the site would be subject to the multi residential dwellings use and be required to provide 1.5 parking spaces per residential unit with 10% of the required spaces being provided and retained for visitor parking. With nine proposed units, this results in a requirement of 14 residential spaces, of which 13 spaces are for residential and 1 as visitor parking. This is four spaces greater than the proposed supply (10 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 demand. Expected parking demand is based on [a] observations of other townhouse sites in Courtenay and Comox [b] research from past parking studies and [c] data from the Institute of Transportation Engineers Parking Generation Manual.

4.1 RESIDENT PARKING DEMAND

Observations were conducted at 8 townhouse sites in the City of Courtenay and Town of Comox, representing a total of 156 units. A breakdown of each site and how it corresponds to the site location can be found in **Table 1**.

Townhouse sites were selected based on two criteria, in the following priority order:

1. Countable Parking Spaces. The sites needed to have parking spaces that were visible and therefore countable. Many townhouse sites in the Comox Valley have enclosed garages or gated underground parking, making counting difficult.
2. Location. Where possible, townhouse sites were selected based on their location outside of downtown Courtenay and Comox. This was completed to ensure that the sites had comparable walkability and access to transportation options as the subject site.

TABLE 1. SUMMARY OF REPRESENTITIVE SITES

Site	Municipality	Units
1755 Willemar Avenue	Courtenay	31
1500 Cumberland Avenue	Courtenay	20
2061 Lake Trail Road // 2061 13th Street	Courtenay	33
2077 20th Street	Courtenay	40
1111 Edgett Road	Courtenay	24
1095 Edgett Road	Courtenay	21
1537 Noel Avenue	Comox	36
1180 Braidwood Road	Courtenay	26

4.1.1 OBSERVATIONS

Observations were conducted during the following periods:

- Wednesday, January 29, 2020, from 9:00pm to 11:30pm
- Thursday, January 30, 2020, from 9:00pm to 11:30pm

Observations of parking utilization were conducted at representative sites during the peak period for residential land uses (typically weekday evenings). The peak observation for each site over the two observation periods was selected to calculate the parking demand (see **Table 2**). Parking demand ranged from 0.53 vehicles per unit to 1.35 vehicles per unit with an average parking demand of 0.85 vehicles per unit.

TABLE 2. OBSERVATIONS OF REPRESENTITIVE SITES

Site	Units	Observed Vehicles	Parking Demand (vehicles / unit)
1755 Willemar Ave	31	9	0.75*
1500 Cumberland Ave	20	27	1.35
2061 Lake Trail Road // 2016 13th Street	33	19	0.58
2077 20th Street	40	33	0.83
1111 Edgett Road	24	21	0.88
1095 Edgett Road	21	21	1.00
1537 Noel Ave	36	19	0.53
1180 Braidwood	26	19	0.73
		Average	**0.85**

*1855 Willemar Avenue has a total of 31 units, of which 19 have garages and 12 do not. Observations taken at this site reflect the 12 non-garaged units and demand is calculated based on the countable spaces (12).

4.1.2 ADJUSTMENT FACTORS

Observations are a useful method of assessing parking demand rates; however, there are limitations to this method. One of these limitations is that a resident(s) may not be present at the time of observation.

To mitigate this factor, observations were conducted after 9:00pm. However, there is still a chance that some residents may not be home at the time of observation due a multitude of reasons. As such, it can be expected that their vehicle would not be present at the time of observation. This problem was addressed by a study commissioned by Metro Vancouver recommended an adjustment factor of 10% should be applied when parking observations are conducted between after 9:00pm.[9] This adjustment factor was applied to create an adjusted demand rate of 0.95. See **Table 3**.

[9] 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

TABLE 3. ADJUSTED PARKING DEMAND AT REPRESENTATIVE SITES

Site	Units	Parking Demand Rate (vehicles / unit)	Adjusted Parking Demand Rate (vehicles / unit)
1755 Willemar Ave	31	0.75	0.80
1500 Cumberland Ave	20	1.35	1.49
2061 Lake Trail Road // 2016 13th Street	33	0.58	0.64
2077 20th Street	40	0.83	0.91
1111 Edgett Road	24	0.88	0.97
1095 Edgett Road	21	1.00	1.10
1537 Noel Ave	36	0.53	0.58
1180 Braidwood	26	0.73	0.80
	Average	**0.85**	**0.95**

4.1.3 INSTITUTE OF TRANSPORTATION ENGINEERS

As stated earlier, the majority of townhouse developments in Courtenay and Comox have garages and vehicle parking demand is therefore difficult to ascertain. Only a few townhouse developments have carports, which enabled the consultant team to conduct observations of sites that were deemed representative of the subject site.

Due to the limited sample, the Institute of Transportation Engineers (ITE) Parking Generation Manual was used to support and validate the findings of the data collection. The manual's section on low-rise multifamily housing (Land Use 220) includes apartments, townhouses, and condominiums of at least three dwellings with one or two floors of residence; however, it does not include affordable housing developments. ITE reports the average parking demand is 1.21 vehicles per unit across 119 surveyed low-rise multi-family developments, with a lower and upper range of 0.58 vehicles per unit and 2.50 vehicles per unit, respectively.[10]

Using the ITE rate of 1.21 vehicles per unit, and the observed parking demand rate of 0.95 vehicles per unit, the two rates were averaged to increase the validity of the data collection findings. This results in a rate of 1.1 vehicles (spaces) per unit, which is the recommended rate for the resident parking demand for the site.

[10] Institute of Transportation Engineers. (2020). ITEParkGen Web-based App, (220 – Multifamily Housing (Low-Rise). Available online at: https://iteparkgen.org/ParkGenQuery

4.2 VISITOR PARKING

Observations of visitor parking were conducted at each of the representative sites and the average rate was 0.09 vehicles per unit. A study by Metro Vancouver concluded that visitor parking typically has a demand of less than 0.1 vehicles per unit.[11] Findings from similar studies conducted by WATT in the City of Langford and the City of Victoria support these findings, and suggest that visitor parking is not strongly linked to location.

Based on the available research and observational data, a rate of 0.1 is recommended for the subject site. With nine units and applying a visitor demand rate of 0.1, the recommended visitor parking is 1 space (0.9, rounded).

4.3 SUMMARY OF EXPECTED PARKING DEMAND

Based on adjusted observed parking demand results (0.95 vehicles per unit) as well as the ITE parking generation for low-rise multifamily dwellings (1.21 vehicles per unit), resident parking demand will be approximately 1.1 vehicles per unit. Visitor parking demand was calculated and determined as 0.1 vehicles per unit. This results in a residential requirement of 10 parking spaces and one (1) visitor space. This brings the total to 11 parking spaces, which is one greater than the proposed supply.

5.0 ON-STREET PARKING

On-street parking conditions were observed to determine parking availability around the subject site. Observations were completed on Piercy Avenue between Cumberland Road and 17th Street, and 16th Street. Counts were conducted on the following dates:

- Wednesday, January 29, 2020, at 9:00pm
- Thursday, January 30, 2020, at 9:00pm

These two count times were intended to capture the on-street conditions when local residents would have the highest likelihood of being home and/or when visitors might be visiting the neighbourhood.

Peak utilization was observed on Wednesday January 29, 2020 with 14 parked vehicles observed out of 157 total spaces, an occupancy rate of 9%. This indicates that very few residents and/or visitors in the area are utilizing the available unrestricted on-street parking. A total of 143 spaces were unoccupied, which means that a majority of parking is available during the peak time when residents are expected to be home and/or when visitors may be in the neighbourhood.

[11] 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

6.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) refers to policies, programs, and services that are designed to reduce reliance on single occupancy vehicles (SOVs) and parking demand by encouraging sustainable travel such as active transportation, public transit, carpools, and ride-share services.[12]

As a part of the proposed development, the applicant will be providing 30 long-term and six short-term bicycle spaces to manage vehicle parking demand and support sustainable transportation options at the site. This would align with policy direction in the OCP and TMP that broadly support increasing cycling mode share and providing residents the option of multiple transportation modes. In addition to bicycle parking, it is recommended that the applicant implement the following TDM measures to further justify the reduction in parking supply.

6.1 SHARED ELECTRIC BICYCLE PROGRAM

Electric bicycles (e-bikes) are an emerging transportation mode that provide convenient, zero emission transportation. With Courtenay's proposed Long Term Cycling Network connecting Piercy Avenue to downtown, destination nodes, and local schools, e-bikes would be a highly viable substitute or replacement for motorized vehicles reducing congestion and greenhouse gas emissions.

As an emerging transportation form, there is limited e-bike ownership data available in Courtenay. Six bicycle retailers operating in the Comox Valley were surveyed to assess current interest and sales levels among Courtenay residents. All six retailers reported electric bikes in their inventory and have shown a year-over-year increase in sales with a range of demographics purchasing and/or expressing interest. Some stores such as Black's Cycle and Trails Bicycles reported that e-bikes now represent approximately 25-30% of their total bike sales. These data indicate that e-bikes are growing in popularity in the region.

It is recommended that the applicant provide a shared e-bike program in the proposed development to make cycling a more attractive mode of transportation. The minimum recommended size of the fleet is two e-bikes, which could be purchased locally. As mentioned above, a number of bicycle stores in the Comox Valley sell e-bikes ranging in price with the urban and commuter bikes typically in the range of $3,000-$5,000. The operation parameters of the shared e-bike program would need to be determined through direct outreach with future residents and the strata.

With the commitment to 30 long-term bicycle spaces, it is recommended that 10% of these spaces be equipped with 110V outlets to allow e-bike users easy access to battery charging while parked. If used in conjunction with the shared e-bike program outlined above, five 110V outlets would be provided—three for residents and two for the e-bike share program.

[12] Definition based on Transport Canada, TDM for Canadian Communities, March 2011

Lastly, cargo e-bikes are elongated bicycles (~ 2.5m versus ~1.8m) that allow transportation of children, groceries, or cargo. This increased capacity would allow significantly more trips to be accomplished by bicycle or e-bike, especially for young families; however, they require a longer bike rack to account for the additional length. Accounting for this, it is recommended that the bike racks outfitted with the 110V outlet also be designed to accommodate longer cargo e-bikes.

6.2 IMPACTS OF ELECTRIC BICYCLES

E-bikes are still an emerging form of mobility and there is limited research that has quantified the impact they have on vehicle ownership/parking demand; however, it is anticipated that they will have a positive impact on reducing vehicle ownership at this proposed development. A recent survey of North American e-bike owners reported the capacity of e-bikes to replace various modes of transportation commonly used for both recreational and utilitarian trips such as SOVs, public transit, and regular bicycles.

The study found that 62% of e-bike trips replaced car based transportation. Of that 62%, 45.8% were commuting to and from work or school, 44.7% were for entertainment, errands, and cordial visits, and 9.4% were for exercise or recreation. The average distance for each of these trips was about 15 kilometres.[13] Additionally, other studies have shown that 39 kilometres of car based transportation was displaced by utilization of an e-bike. [14]

6.3 TDM SUMMARY

Overall findings in the available research confirms that e-bikes do replace trips that would otherwise use a car or gas powered vehicle. With the provision of a shared e-bike program and 110V outlets supplied to 10% of the long-term bicycle spaces, a 15% reduction in resident parking demand is supported. This would reduce the number of resident vehicle parking spaces by two and bring the total site demand to nine spaces (eight resident and one visitor), which is one space lower than the parking supply (10 spaces).

7.0 CONCLUSIONS

The proposed development at 1590 Piercy Avenue is a nine unit townhouse complex with nine residential and one visitor parking spaces (one parking space per unit). In addition to this the applicant is also proposing to include 30 long-term and six short-term bicycle parking spaces (3.3 long-term spaces per unit).

Parking demand for this development was estimated based on observational data collected from representative townhouse sites in Courtenay and Comox, and was informed from previously conducted studies. To improve the rigor of the analysis, the observation data was also adjusted based on data from the Institute of Transportation Engineers Parking Generation

[13] MacArthur, J., Harpool, M., & D. Scheppke. (2018). A North American Survey of Electric Bicycle Owners. National Institute for Transportation and Communities, NITC-RR-1041.
[14] Bigazzi, A & E Berjisian. (2019). Electric Bicycles: Can they reduce driving and emissions in Canada. Plan Canada Fall 2019.

Manual. Based on these observations the peak parking demand rate is 11 parking spaces (ten residential and one visitor spaces), one greater than the proposed supply of 10 (nine residential and one visitor spaces). To accommodate this discrepancy TDM measures were recommended with the goal of reducing parking demand by up to 15%.

7.1 RECOMMENDATIONS

The provision of nine resident and one visitor parking spaces is supported if the applicant commits to adopting the following TDM recommendations:

- Provision of a resident shared e-bike program.
- Supplying 10% of long-term bicycle spaces with 110V outlets to enhance e-bike viability for the development.
- Designing 10% of long term bicycle parking spaces to accommodate cargo bicycles.