

LADNER VILLAGE HOTEL TRIP ANALYSIS AND PARKING STUDY

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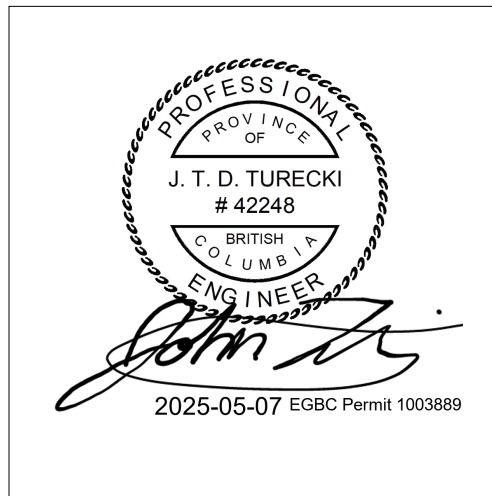
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1 INTRODUCTION

The City of Delta (the City) has assembled a ~1.2 acre site in Ladner Village including 4910-4926 Delta Street, 4924-4958 Chisholm Street. The City has conducted an economic feasibility assessment for an 88-room hotel with retail space on the site (the Development). This trip analysis and parking analysis of the Development, as considered in the feasibility assessment, will help the City understand the mobility opportunities and constraints the project presents. In particular, understanding the change in vehicle trips generated by the site compared to the previous uses, and understanding how expected parking demand compares with Zoning Bylaw requirements and proposed parking supply.

The project site is outlined in red in Figure 1.



Figure 1 - Map of Site Location (City of Delta)

The Site was previously home to a variety of businesses including a dance studio, professional offices, civic offices and archives, an auto glass shop, and a furniture store. These have now been demolished. Two public parking lots were provided on the Site, one of which remains publicly accessible.

This study considers the potential change in trip making and parking supply and demand compared to previous land uses on the Site and compared to the City's recently updated Zoning Bylaw.

1.1 EXISTING PRE-DEMOLITION CONDITIONS

Pre-demolition land use and parking supply statistics are summarized in Table 1.

Table 1 - Pre-Demolition Land Uses

Building	Estimated Area (m ²)	Estimated Area (ft ²)	Land Use	Parking Spaces
4940-4942 Chisholm Street	145	1,566	Office	13 Spaces, Incl. 0 accessible
	460	4,951	Dance Studio	
4924-4930 Chisholm Street	465	5,000	Antique/furniture store	None
4926 Delta Street	163	1,753	Autoglass shop	~3 Spaces
4918 Delta Street	381	4,100	Delta Archive Society various programming /storage by Delta	14 spaces Incl. 2 accessible (Public Parking)
4952-4958 Chisholm Street	0	0	Parking	42 spaces Incl. 2 accessible (Public Parking)
Total	1,614	17,370		72 Spaces incl 4 accessible (56 public/16 private)

Information is from the City of Delta. Where measurements are unavailable or additional information is required, the City of Delta's online mapping portal was used to estimate floor areas or partial floor areas.

Figure 2 shows the existing conditions on the site as of April 6, 2025, with demolition in progress in the background, and the parking lot at 4952-4958 Chisholm in partial operation in the foreground.



Figure 2 - Existing Conditions with Demolition in Progress

1.2 DEVELOPMENT CONCEPT

The Development as assessed would have a total floor area of approximately 11,240m² (121,000 ft²) including 1115m² (12,000 ft²) of retail space and an 88-unit hotel. The hotel use is an “aparthotel” where units generally

have small kitchens and separate bedrooms, this may also be referred to as an “all suites” hotel. No floor plans are available for the project at this time.

The feasibility assessment recommends a number of commercial land uses to compliment the hotel, which could be included as part of the commercial space. These include a restaurant with rooftop outdoor dining, coffee shop/bakery, boutique fitness studio, and boutique spa. This analysis assumes the mix of retail and restaurant uses aligns with the feasibility assessment. Floor areas for the restaurant, coffee shop/bakery, gym, and spa were taken from the feasibility assessment. Development statistics are shown in Table 3. It is expected that the final floor areas may vary somewhat from these values.

Table 2 –Development Statistics

Land Use	Units / Gross Floor Area (m ²)	Units / Gross Floor Area (ft ²)
Restaurant	372 m ²	4,000 ft ²
Coffee shop/bakery	186 m ²	2,000 ft ²
Gym/PT Studio	325 m ²	3,500 ft ²
Boutique Spa	232 m ²	2,500 ft ²
Hotel	88 Units	
Total	11,240 m²	121,000 ft²

Development statistics as analysed, including the most appropriate ITE land uses are shown in Table 3.

Table 3 –Development Statistics as Analysed

Land Use	ITE Land Use as Analysed	Units / Gross Floor Area (m ²)	Units / Gross Floor Area (ft ²)
Restaurant	931 - Fine Dining Restaurant	372 m ²	4,000 ft ²
Coffee shop/bakery	936 - Coffee/Donut Shop without Drive-Through Window	93 m ²	1,000 ft ²
	932 – High-Turnover Restaurant	93 m ²	1,000 ft ²
Gym/PT Studio	492 - Health/Fitness Club	325 m ²	3,500 ft ²
Boutique Spa	492 - Health/Fitness Club	232 m ²	2,500 ft ²
Hotel	311-All Suites Hotel	88 Units	
Total		11,240 m²	121,000 ft²

The coffee shop is expected to function as a blend of restaurant, bakery and café. For analysis purposes the floor area is split evenly between restaurant and coffee shop to capture this mix of uses.

The feasibility assessment recommended 88 parking spaces be provided (1 per hotel unit), in line with the City of Delta Zoning Bylaw, with additional retail parking to be provided.

2 TRIP ANALYSIS

The trip analysis considers vehicle trips generated by the site under pre-demolition conditions, as well as with the proposed development. Institute of Transportation Engineer (ITE) trip generation rates are referenced for

general urban/suburban conditions. ITE rates are typically from relatively auto oriented environments and are often conservative for local conditions in Metro Vancouver.

In order to enable a like-to-like comparison of vehicle trips between the existing and future conditions, only primary trips are included. Primary trips exclude pass-by trips, which are trips to a site made on the way to somewhere else. For example, stopping to pick up groceries on the way home from work is a pass by trip to the grocery store.

Because vehicles are already on the street network when making a pass by trip, the removal of these trips does not decrease the total amount of background traffic on the street network. ITE publishes data on pass by trips for some land uses and these have been used to estimate values for pre-demolition and future conditions where applicable.

2.1 EXISTING, PRE-DEMOLITION VEHICLE TRIP GENERATION

Primary vehicle trip generation for the pre-demolition condition is summarized in Table 4. Note that totals may not add due to rounding.

Table 4 - Primary Vehicle Trip Generation - Pre-Demolition

Land Use	ITE Land Use	Area (ft ²)	AM Network Peak					PM Network Peak				
			Rate	Pass By	In	Out	Total	Rate	Pass By	In	Out	Total
Office	710 - General Office Building	1,566	1.52	0%	2	0	2	1.44	0%	0	2	2
Dance Studio	492 - Health/Fitness Club	4,951	1.31	0%	3	3	6	3.45	0%	10	7	17
Antique/furniture store	890 - Furniture Store	5,000	0.26	0%	1	0	1	0.52	53%	1	1	1
Autoglass shop	942 - Automobile Care Center	1,753	2.25	0%	3	1	4	3.11	0%	3	3	5
Delta Archives/storage	710 - General Office Building	4,100	1.52	0%	5	1	6	1.44	0%	1	5	6
	Total	17,370			14	6	20			14	18	32

In total, the Site prior to demolition would have generated about 20 primary vehicle trips in the AM peak hour and 32 primary vehicle trips in the PM peak hour. This is about one trip every 2-3 minutes.

Pass-by trips are not expected to have been a significant factor for the pre-demolition land uses, with only the furniture store included in the ITE pass-by data and a low total number of expected trips overall.

2.2 DEVELOPMENT VEHICLE TRIP GENERATION

Primary vehicle trip generation for the Development using ITE rates is estimated in Table 5. Note that totals may not add due to rounding.

Table 5 - Primary Vehicle Trip Generation

Land Use		AM Network Peak					PM Network Peak				
Land Use	Size	Rate	Pass-By	In	Out	Total	Rate	Pass By	In	Out	Total
Restaurant	4000 ft ²	0.73	0%	1	1	3	7.8	44%	12	6	17
Coffee shop/bakery (Coffee Shop)	1000 ft ²	93.08	50%	24	23	47	32.29	55%	7	7	15
Coffee shop/bakery (Restaurant)	1000 ft ²	9.57	43%	3	2	5	9.05	43%	3	2	5
Gym/PT Studio	3500 ft ²	1.31	0%	2	2	5	3.45	0%	7	5	12
Boutique Spa	2500 ft ²	1.31	0%	2	2	3	3.45	0%	5	4	9
Subtotal Retail				32	31	63			34	24	58
Hotel	88 Units	0.34	0%	16	14	30	0.36	0%	16	16	32
Total				48	45	93			50	40	90

Pass by trips are expected to be a significant portion of coffee shop trips. While ITE reference data does not provide pass by percentages for a coffee shop without a drive through, there are rates for drive through only coffee shops. Pass by rates are 90% in the AM, and 98% in the PM peak periods. The analysis uses a more conservative land use, fast food restaurant without drive through, for which pass-by rates are 50% in the AM and 55% in the PM.

2.2.1 DISCUSSION

AM peak trips are influenced by the coffee shop which generates a high number of primary trips. In the PM peak, all land uses are similarly busy. The overall change in trips from existing conditions is estimated in Table 6. Note that totals may not add due to rounding.

Table 6 - Estimated Change in Vehicle Trips

Scenario	AM Network Peak			PM Network Peak		
	In	Out	Total	In	Out	Total
Pre Demolition	14	6	20	14	18	32
Development	48	45	93	50	40	90
Change	+34	+39	+73	+36	+22	+58

Overall there is an increase of about 73 trips in the AM peak period, and 58 trips in the PM peak period compared to the pre-demolition scenario. This is about one trip each minute.

The trip analysis is based on ITE rates which may be conservatively high due to reduced auto reliance in the Metro Vancouver Region as compared to other cities in North America where data is sourced from. Additional development in the Ladner Village such as the ongoing development at Bridge and Elliott, may reduce the number of driving trips, and increase the number of trips by transit, walking, and cycling within the Village. Additionally, internal trips from the new hotel may offset vehicle trips for the coffee shop and other businesses in the Development.

3 PARKING ANALYSIS

The parking analysis considers pre-demolition and Development parking demand. Parking requirements are estimated using the Delta Zoning Bylaw.

3.1 PRE-DEMOLITION PARKING SUPPLY AND DEMAND

Existing parking resources on the site are summarized in Table 7 for each parcel.

Table 7 - Pre-Demolition Site Parking Supply

Off-street parking supply	Total Supply	Accessible	Parking Type
4918 Delta Street	14	2	Public
4952-4958 Chisholm Street	42	2	Public
4926 Delta Street	3	0	Private
4940-4946 Chisholm Street	13	0	Private
4924-4930 Chisholm Street	0	0	
Total	72	4	56 public, 16 private

Pre-demolition parking demand was surveyed by others in May of 2023. Along Chisholm Street between Elliott Street and Georgia Street 34 of 72 spaces were utilized at the peak (47% occupancy, with 38 empty spaces). Along the blocks of Delta Street and Elliott Streets between Chisholm and Trenant Street, peak occupancy was 28 of 38 spaces, (74% with 10 empty spaces). Overall there are about 110 spaces on street with 48 vacant during the peak demand period. Off street public parking lots on the site had 30 parked vehicles at the peak.

It is unclear how much of the on-street parking and public off street parking demand surveyed by others in 2023 was related to the former land uses on the site. However with 48 available parking spaces on street at the peak time, there appears capacity on-street to accommodate the 30 vehicles observed parked off-street within the site.

3.2 DEVELOPMENT PARKING REQUIREMENTS

The City of Delta Zoning Bylaw was recently updated with reduced parking requirements based on surveys in the City. Bylaw requirements for the proposed development are calculated in Table 8.

Table 8 - Delta Zoning Bylaw Parking Requirements

Land Use	Zoning Bylaw Class of Use	Size (m ²)	City of Delta Requirement		Note
			Rate	Total	
Restaurant	Restaurant	372	5 per 100m ²	19	
Coffee Shop	Coffee Shop	186	5 per 100m ²	9	
Gym/ PT Studio	Indoor Recreation Facility	325	3 per 100m ²	10	Gym use
Boutique Spa	Indoor Recreation Facility	232	3 per 100m ²	7	Health Spa use
Hotel	Hotel	88 units	1 per unit	88	

3.2.1 DISCUSSION AND RECOMMENDATION

The City of Delta requires 88 parking spaces for the hotel uses in addition to parking for retail uses. Parking requirements for the commercial uses will be confirmed when the retail mix is finalized.

Parking demand for different land uses peaks at different times of the day. For example, hotel parking peaks overnight when all guests are generally present as well as some staff. Conversely, parking for restaurants peak midday for high turnover establishments, or later in the evening for fine dining establishments. This time varied demand creates opportunities to share parking between land uses. Accounting for time varied demand may reduce the expected peak parking demand and lower the appropriate parking supply.

It is also possible that TDM and parking management strategies could further reduce the amount of parking required.

Parking requirements for a future development should be determined using the actual mix of land uses and floor areas with consideration for a set of proposed TDM measures and parking management choices. A shared parking analysis, taking account of time varied demand, is recommended to be completed once the mix of uses and development areas are finalized.

56 existing public parking spaces will be removed as part of the development. Existing peak demand for these public parking spaces was observed by others to be about 30 vehicles in 2023. At the same time, along Chisholm Street, Elliott Street and Delta Street near the Site, there were about 48 empty parking spaces. Based on this, it appears that there is sufficient on-street capacity to absorb public parking demand on the street, especially since some of the parking demand may have been related to the pre-demolition land uses.

3.3 BICYCLE PARKING

The City of Delta Zoning Bylaw requires bicycle parking for retail and hotel land uses. For retail uses, one parking space is required for each commercial unit, or five per building, whichever is greater. For hotels, five spaces are required for each establishment. The number of spaces required would depend on the number of commercial units and buildings.

Based on the program identified a total of ten bicycle spaces would be required, including five retail and five hotel spaces. A mix on long term bicycle parking for staff and hotel guests, as well as short term bicycle parking for retail customers, is recommended.

4 PARKING MANAGEMENT STRATEGIES

Several strategies are outlined to potentially reduce required parking supply compared to the City's Zoning Bylaw requirements. These include both parking management strategies and transportation demand management measures.

4.1 PARKING MANAGEMENT STRATEGIES

Parking management strategies help to optimize the use of limited parking resources. Several parking management strategies are considered here at a high level.

1. **Time Limited Parking** – The building operator may set limits for parking on site. For example a maximum stay of 3 hours, similar to on-street spaces in the area, would encourage turnover without the concerns or complexity of paid parking. Time limited parking should be monitored and adjusted to ensure limits are appropriately managing the use of parking.
2. **Street Parking** – There is substantial street parking on Chisholm Street, Delta Street and some on Elliot Street. These parking resources could support the proposed development. However, the loss of public parking that is currently on the site could mean that these spaces are more likely to be well used.
3. **Off-Site Parking** – With parking on site limited, an off site parking arrangement may be effective for guests who do not need to drive frequently. Providing parking away from the site, in conjunction with an on-demand shuttle or subsidized taxi/ride share connection, may reduce the need for on site parking while achieving an acceptable level of service for guests. This would require developing an off-site parking location and managing a shuttle connection or taxi subsidy.
4. **Valet Parking** – Valet parking can increase the number of vehicles able to be parked in a given area. This may involve tandem parking, or parking in drive aisles. Valet drivers are able to move cars as needed allowing a more efficient use of space. Valet parking is common for hotels but carries an additional operational cost and may not be compatible with other land uses on the site. An off-site valet may be considered as well. Vehicles could be stored nearby but on a different property which could reduce parking demand on the site, but would require an available parking area.
5. **Limited Parking Access** – Restricting parking on-site to hotel guests and retail staff would help to manage parking on the site and simplify operations. However, this would result in all retail patrons parking on-street or other public lots.

4.2 TRANSPORTATION DEMAND MANAGEMENT (TDM)

TDM represents an opportunity to reduce vehicle driver trips in new developments. TDM is defined as a set of strategies aimed at maximizing the utility of sustainable transportation choices. TDM is used to manage traffic and parking demands and enhance the effectiveness of non-personal vehicle transportation. TDM includes programmatic measures that aim to encourage behaviour shifts by providing financial subsidies and information to support non-personal auto travel, and fees and disincentives to deter personal auto travel. In buildings, TDM also includes built infrastructure that goes above and beyond typical requirements to support sustainable transportation choices.

Several TDM measures are discussed here at a high level.

1. **Shared Bicycle Fleet** – Hotel uses can benefit from shared bicycles which could allow some guests to avoid renting a car and reduce parking demand. Note that the use of shared bikes by guests who bring a vehicle with them could help reduce vehicle trips but would actually increase parking demand.
2. **Enhanced Bicycle Parking** – Consider providing additional facilities for people who cycle to the site. This may include secure short term bike parking for retail customers or enhanced longer term bicycle storage for hotel and retail staff and hotel guests. This measure would compliment investments in cycling infrastructure made in the area and planned along Chisholm Street.
3. **Transit Passes** – Providing free passes for transit to guests can support those who do not come with a vehicle. Today, route #616 is about 300m (eastbound) or 500m (westbound) from the site and provides basic transit service to Ladner Exchange. Ladner Exchange provides connections to regional destinations. Improvements to transit service, including additional stops and routes closer to the site would help make this more attractive to guests.
4. **Hotel Shuttle Service** – While transit service is limited in the area, the hotel could provide a shuttle with either route based or on-demand services. This may provide a more direct connection to Ladner Exchange or local attractions.
5. **Ride Hailing Subsidy** – Hotel guests may be provided with a subsidy or credit for ride hailing services if they do not require a parking space. This is similar to a parking cash out, which is a common TDM strategy for employment uses.
6. **Pre-Arrival Transportation Information** – Hotel guests are likely to decide to bring a car well before they arrive. Other TDM measures that discourage driving may actually increase parking demand if guests arrive with a vehicle but then use other modes to travel around. Providing information on available driving alternatives, including transit and shuttle services, at the time of booking may help to reduce the number of guests arriving with vehicles. This information may also highlight walkable and cyclable attractions near and within the hotel. Implementing this in an effective way is likely to be a challenge due to the variety of ways rooms can be booked.

7. **Car Share** – While car share is a popular and effective TDM strategy for residential developments and some high density employment developments, it is of limited use in hotels and commercial retail buildings. Licensing and insurance requirements make it difficult for hotel guests to access shared vehicles. This likely limits the service to those who are BC residents. Retail buildings do not generate significant demand for shared vehicles and shared vehicle organizations are unlikely to support placing vehicles in retail areas unless they are also transit hubs or have significant residential uses nearby. Overall car share is not considered a strong TDM measure for the proposed development.
8. **Bicycle Infrastructure** – The City of Delta recently installed a new multi-use path along River Road connecting to Ferry Road which provides access to the Hamton Cove golf course and marshland trails. Expanding the network of protected cycling infrastructure appropriate for all ages and abilities is one of the most effective ways to encourage active transportation. The Delta Cycling Master Plan’s Ultimate Cycling Network includes connections along Chisholm Street, and Elliot Street/Arthur Drive adjacent to the site. Accelerating delivery of these connections could increase the number of people walking and cycling to and from the site.
9. **Land Use Planning** – Supporting higher density residential development near retail spaces can reduce the need for people to drive to access those amenities. Similarly, providing destinations and attractions near hotel accommodation can reduce guests’ need for a vehicle. Continuing to support diverse land uses in Ladner Village is recommended in order to support non-auto travel.
10. **Staff Parking Cash Out** – Where free parking is provided for staff, a parking cash out may be provided to reduce parking demand. A parking cash out is implemented by offering staff a monetary incentive each month in exchange for agreeing not to drive to work. A signed agreement is typically included as part of this arrangement. With significant, free, on-street parking nearby, this measure may not be as effective.

5 CONCLUSIONS AND RECOMMENDATIONS

The following summarizes conclusions and recommendations include in the foregoing analysis.

5.1 TRIP ANALYSIS

- Pre-demolition, the site is estimated to have generated 20 primary vehicle trips in the AM peak hour, and 33 in the PM peak hour.
- The proposed development may generate about 93 primary vehicle trips in the AM peak hour and 90 in the PM peak hour.
- The development would increase vehicle trips by about 73 trips in the AM peak and 57 trips in the PM peak.
- The results are based on ITE trip generation rates which may be conservative when applied to sites in Metro Vancouver. Trips between the hotel use and on-site retail uses may further reduce vehicle trips.
- Over time, vehicle trips may decrease with increased use of active transportation and transit.

5.2 PARKING STUDY

- Pre-demolition the site provided a total supply of 72 spaces, some of which was public parking.
- Observed demand noted by others in 2023 indicated about 48 open spaces on street during the peak period and 30 public spaces used on site. There appears to be sufficient on street capacity to accommodate diverted demand from the public parking lots on the site once they are removed.
- The City of Delta Zoning Bylaw requires parking spaces for the proposed development, including 88 for the hotel use as well as parking for the retail uses.
- Because different land uses have different peak periods of activity, the Developments peak parking demand may be lower than the Zoning Bylaw requirements.

Once the land use mix, retail uses, and proposed parking supply are confirmed, it is recommended that this analysis of trip generation and parking demand be updated.