Harbourside Transportation Consultants
219 Waverley Rd, Suite 200
Dartmouth, NS, Canada B2X 2C3
Tel: 902-405-4696
www.harboursidetransportation.com

March 22, 2024

Project No. 242026

Matthew Howse
Better Vibes Cafe
204 Conrad Road
Lawrencetown, NS B2Z 1S1

Re: Better Vibe Café Renovation – Traffic Impact Statement

1 Introduction

Harbourside Transportation Consultants has completed a traffic impact statement, as per Halifax Regional Municipality (HRM) requirements, in support of the proposed renovation to the Better Vibe Café.

2 Site Context

The Better Vibe Café is located at Civic No. 204 Conrad Road in Lawrencetown, Nova Scotia. The subject site is located approximately one kilometre from Conrad's Beach. The site context is shown in Figure 1.

Figure 1: Site Context

3 Existing Transportation Network

Conrad Road is a local cul-de-sac roadway that is accessed from Lawrencetown Road. Conrad Road is owned and maintained by the Province. Conrad Road runs north-south for a length of approximately two kilometres and terminates at the access to Conrad's Beach. Conrad Road has a rural cross section with one travel lane in each direction and a posted speed limit of 50 km/h. The Salt Marsh Trail intersects Conrad Road near Lawrencetown Road. The cross section of Conrad Road is shown in Figure 2.

Figure 2: Conrad Road

Near Conrad's Beach, on-street parking is prohibited on the west side of Conrad Road. The parking area at the beach has a capacity of less than 10 vehicles, requiring beach users to park on the shoulder of the road. On good weather days, vehicles will routinely be parked on the east side of Conrad Road along the majority of Conrad Road and extend past the subject site.

4 Current Business Operations

There are two buildings on the subject site: the Better Vibe Café and a residential home. The subject site has two access points on Conrad Road - the south access provides access to the primary parking area for the café and the north access is primarily used for pedestrian access to the café, bicycle parking and deliveries. The site plan is shown in Figure 3.

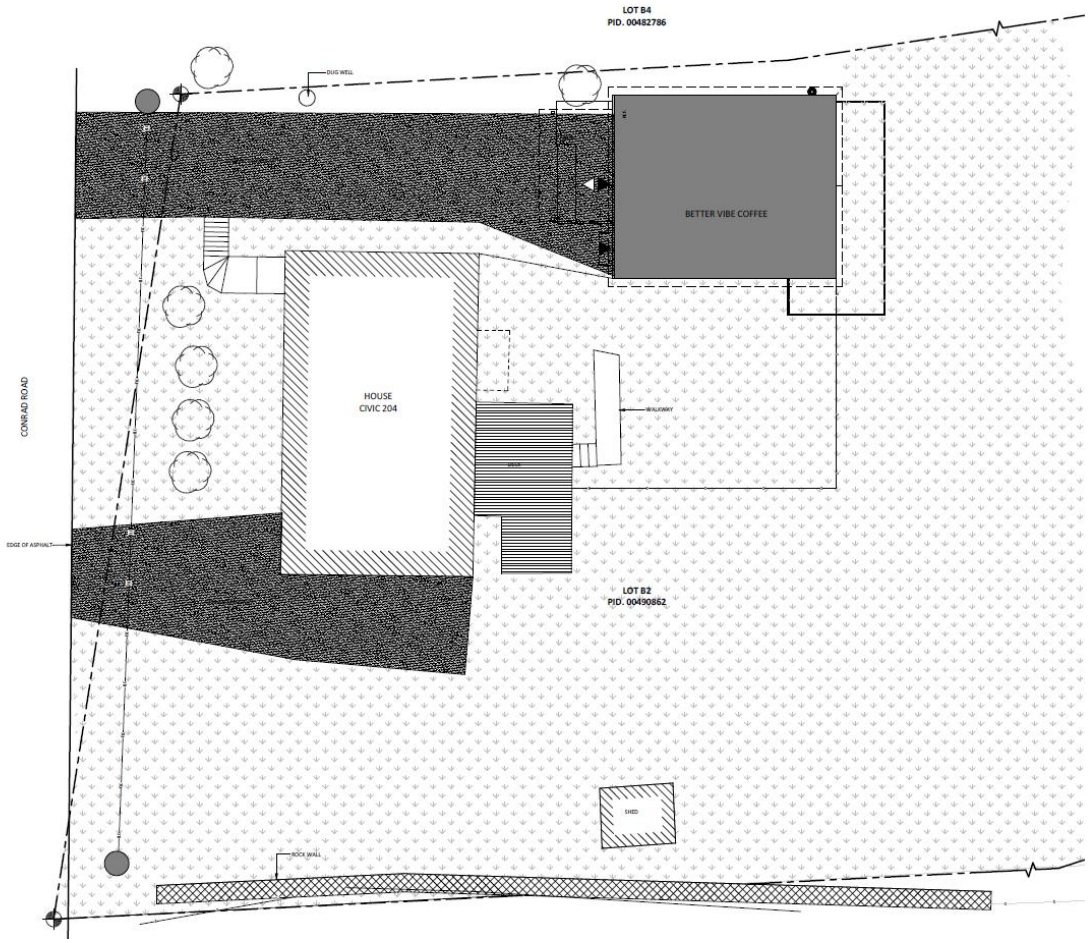


Figure 3: Site Plan

The Better Vibe Café currently operates with as a take-out window and has limited outdoor seating at picnic tables as outdoor seating. The Better Vibe Café is open seven days a week between 7:00am and 7:00pm and operates seasonally from May to October. The café averages approximately 45 transactions a day, with peak business days having around up to 130 transactions and occurring two or three times per month. Business at the café is highly influenced by weather and traffic to Conrad's Beach. On favourable weather days, an estimated 50 percent of customers arrive to site on foot or bicycle.

5 Proposed Renovation

The proposed renovation to the Better Vibe Café will convert interior storage space into indoor seating areas and provide more outdoor seating with a new deck structure. The proposed renovation will not increase the kitchen area and is not expected to result in significant increase in operations. The interior seating area will better accommodate current customers and encourage longer stays.

6 Trip Generation

The Institute of Transportation Engineers (ITE) *Trip Generation Manual*[1] is typically used to estimate vehicle trip generation. The land use code 936 Coffee/Donut Shop without Drive-Through, General Urban/Suburban provides the closest description to the establishment. However, the trip generation rates for this land use code does not reflect the actual operations at the café.

Table 1 summarizes the trip generation rates for the land use code for both the Peak Hour of Adjacent Street Traffic and the Peak Hour of Generator. Based on the café footprint of 1,000 square feet, the trip generation for the two one-hour periods represent 50% of the total trips expected based on daily transaction data.

Table 1: ITE Trip Generation Rates

Land Use		AM Peak Hour			PM Peak Hour		
		Rate	Entering	Exiting	Rate	Entering	Exiting
936 Coffee/Donut Shop without DT	Peak Hour of Adjacent Street Traffic	93.08	51%	49%	32.29	50%	50%
	Peak Hour of Generator	96.43	51%	49%	32.99	50%	50%
Note: Rates are in vehicles per hour vph/1000ft^2 of gross floor area (GFA) for commercial uses.							

Trip generation estimates for the café were estimated based on existing peak operations. Transactions per hour data was provided for three peak days in 2023:

- Sunday, July 9th, 2023: total of 133 transactions
- Saturday, July 15th, 2023: total of 79 transactions
- Monday, September 4th, 2023: total of 122 transactions

The transaction data is summarized in Figure 4. Trip generation estimates were developed by averaging the peak hour transaction data for the three days. It was assumed that each transaction is a new customer and equates to a total of two trips: one trip entering, and one trip exiting the site.

[1] *Trip Generation Manual*, 11th Edition, Institute of Transportation Engineers, September 2021.

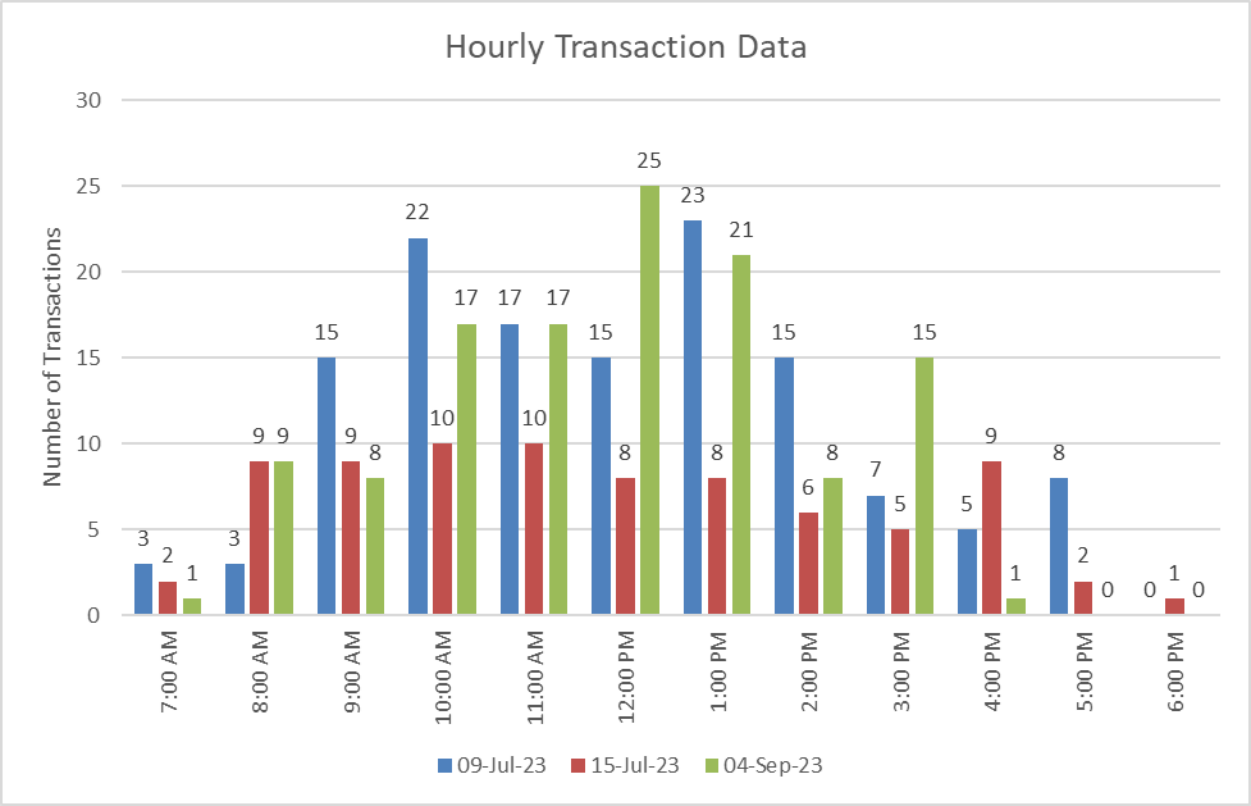


Figure 4: Summary of Hourly Transaction Data

The morning (AM) peak hour of the generator typically occurs around 10:00am and is estimated to generate approximately 34 trips. The afternoon (PM) peak hour of the generator occurs around 1:00pm and is estimated to generate approximately 36 trips. The majority of these trips are pass-by trips by vehicles, pedestrians and/or cyclists travelling to/from Conrad's Beach.

Table 2: Trip Generation Estimates

Land Use	Timeframe	AM Peak Hour			PM Peak Hour		
		Total	Entering	Exiting	Total	Entering	Exiting
Better Vibe Café	Peak Hour of Generator	34	17	17	36	18	18

The proposed renovation is not expected to significantly increase trips to/from the site. A 25% increase would result in only 9 additional trips during the AM and peak hours. It is anticipated that the new vehicle trips can be accommodated on Conrad Road with no appreciable impact on traffic operations.

7 Parking Requirement

The minimum parking requirements for the subject site are set out in the Lawrencetown Land Use By-Law.[2]. The land use Restaurant – Take-Out appears to provides the closest description to the establishment. However, the café does not offer a full restaurant menu, selling mainly café beverages, baked goods and ice cream. For a take-out restaurant exceeding 300 square feet of GFA, the parking requirement is 16 parking spaces per 1,000 square feet of GFA. In addition to the required parking spaces, 1 reserved accessible parking space per 50 seats is required. A total of 17 parking spaces are required on the subject site. Alternatively, if the café was considered as a retail store, for a retail store not exceeding 5,000 square feet of GFA, the parking requirement is 3.3 parking spaces per 1,000 square feet of GFA. Only 4 parking spaces would be required on site.

The existing unpaved parking lot is approximately 19 metres wide and can accommodate approximately 7 parking spaces. While there may be some opportunities to slightly increase on-site parking, 17 parking spaces cannot be accommodated on the subject site.

Current operations indicate an average of 17-18 transactions per hour based on data for peak summer days. A parking requirement of 17 parking spaces would accommodate peak hour operations on peak days if all customers were to arrive by vehicle at the same time. Peak days typically only occur 2-3 days per month in the summer. As previously stated, customers at the café are predominantly made up of beach goers and local residents with as much as 50% of customers arriving on foot or bicycle. These peak business days coincides with favourable weather days, where most customers are already parked along Conrad Road to access the beach. The limited parking encourages local residents to walk or bike to the café. Bicycle parking is provided on the subject site to accommodate and encourage cycling trips. On-site parking is primarily needed to accommodate customers on non peak days (where the number of customers can be less than 50% of peak days) and to accommodate customers with mobility challenges.

The café operations depart from the typical businesses that are considered in the Land-use By-law's minimum parking requirements. Consideration should be given to using an alternative calculation for the parking requirement. The existing parking supply appears to be adequate to accommodate current and proposed business operations.

8 Access Sight Distance Review

A sight distance review was completed for the site access points to confirm that the sight lines meet the minimum stopping and decision sight distance requirements of the Transportation Association of Canada's (TAC) *Geometric Design Guide for Canadian Roads*[3].

---

[2] *Land Use By-Law Lawrencetown, Halifax Regional Municipality, Amendments to October 2023.*

[3] *Geometric Design Guide for Canadian Roads,* Transportation Association of Canada, June 2017.

The minimum stopping and decision sight distance requirements for a two-lane roadway with a design speed of 50 km/h are:

- Minimum stopping sight distance = 65 metres;
- Minimum intersection sight distance – left-turn from stop = 105 metres; and
- Minimum intersection sight distance – right-turn from stop = 95 metres.

8.1 South Access (Parking)

The sight line south of the south access (looking to the left) is shown in Figure 5. There is approximately 80 metres of sight distance available. The requirement for minimum stopping distance is met south of the access. The requirement for minimum intersection sight distance for a right turn is not met south of the access, the sight line is limited by the horizontal curvature of the roadway.

The sight line north of the south access (looking to the right) is shown in Figure 6. There is over 200 metres of sight distance available. The requirements for minimum stopping sight distance and intersection sight distance are met north of the access.

Based on the Nova Scotia Department of Public Works (NSDPW) Access Management Guidelines the access is only required to meet stopping sight distance requirements. For moderate volume accesses (>10 vehicles per hour) the need to meet intersection sight distance is determined based on the main roadway Average Annual Daily Traffic (AADT) volume. For an access volume of less than 50 vehicles per hour, the main roadway AADT volume would need to exceed 10,000 vehicles per day for intersection sight distance to be required. The AADT on Conrad Road does not exceed this threshold. Given that the available stopping sight distance exceeds the minimum requirement for the posted speed limit, and both the access and main roadway volumes are low, the access location is not expected to create a safety issue.

Figure 5: Sight Line South of South Access (Looking to the Left)

Figure 6: Sight Line North of South Access (Looking to the Right)

8.2 North Access (Deliveries)

The sight line south of the north access (looking to the left) is shown in Figure 7. There is approximately 100 metres of sight distance available. The requirements for minimum stopping sight distance and intersection sight distance are met south of the access.

The sight line north of the north access (looking to the right) is shown in Figure 8. There is over 200 metres of sight distance available. The requirements for minimum stopping sight distance and intersection sight distance are met north of the access.

Figure 7: Sight Line South of North Access (Looking to the Left)

Figure 8: Sight Line North of North Access (Looking to the Right)

9 Conclusions and Recommendations

Harbourside Transportation Consultants has completed a traffic impact statement in support of the proposed renovation to the Better Vibe Café at 204 Conrad Road in Lawrencetown, NS.

The following conclusions were gathered from the investigations carried out:

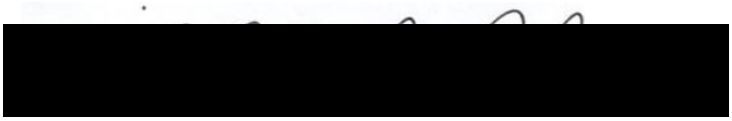
- The café is estimated to generate approximately to 34 trips during the AM peak hour and approximately 36 trips. The majority of these trips are pass-by trips by vehicles, pedestrians and/or cyclists travelling to/from Conrad's Beach.
- The proposed renovation will convert interior storage space into indoor seating areas and provide more outdoor seating with a new deck structure. The proposed renovation will not increase the kitchen area and is not expected to result in a significant increase in trips to/from the site.
- A 25% increase would result in only 9 additional trips during the AM and peak hours. It is anticipated that the new vehicle trips can be accommodated on Conrad Road with no appreciable impact on traffic operations.
- For a take-out restaurant use a total of 17 parking spaces are required on the subject site, including 16 standard parking spaces and one barrier free parking space. There are approximately 7 parking spaces on the subject site and while there may be some opportunities to slightly increase on-site parking, 17 parking spaces cannot be accommodated on the subject site.
- A parking requirement of 17 parking spaces would accommodate peak hour operations on peak days if all customers were to arrive by vehicle and at the same time. Peak days typically only occur 2-3 days per month in the summer. The café operations depart from the typical businesses that are considered in the Land-use By-law's minimum parking

requirements. Consideration should be given to using an alternative calculation for the parking requirement. The existing parking supply appears to be adequate to accommodate current and proposed business operations.

- Sight lines at the existing site accesses meet the minimum stopping sight distance requirement. Intersection sight distance requirements are met at the north access. At the south access, the intersection sight distance requirement for a right turn from stop is not met due to the geometry of the roadway. However, the NSDPW Access Management Guidelines indicates the accesses are required to meet stopping sight distance but are not required to meet intersection sight distance based on access and main roadway volumes. Given that the available stopping sight distance exceeds the minimum requirement for the posted speed limit, and both the access and main roadway volumes are low, the access location is not expected to create a safety issue.

If you have any questions or require and additional information regarding the above, please don't hesitate to contact me at your convenience.

Best Regards,



Michael MacDonald, P. Eng.
Senior Transportation Engineer, Principal
Tel: 902-405-4655
Email: mmacdonald@harboursideengineering.ca