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March 10, 2025

Brad Gibson
WitzelDyce
826 King Street N, Unit 20
Waterloo, ON · N2J 4G8

Re: Transportation Impact Letter
2415 University Avenue East, Waterloo

Dear Brad,

I am providing this letter in support of a proposal to convert some office space to a daycare on the subject property. The building at 2415 University Avenue East is a two-storey office building located at the northeast corner of University Avenue and Northfield Drive East in the City of Waterloo. The building gross floor area (GFA) is 29,410 s.f. (2,732 s.m.). The proposal is to convert 908 s.m. (9,771 s.f.) to a daycare that is intended to serve 119 children. A site location plan and the site plan are attached for reference.

City staff have asked for this Transportation Impact Letter to understand the transportation impacts of the change in use. The letter provides an overview of the change in traffic generation, a review of how traffic will access the site, a review of the parking supply and a description of how the parking is intended to be used to facilitate drop-off and pick-up activity.

The traffic generation potential of the proposal was compared to the potential traffic generation of a fully occupied office building on the site to understand how much additional traffic is anticipated with the change in use. Traffic generation estimates were developed based on information in the ITE Trip Generation Manual (11th Edition) for general office building (land use 710) and day care center (land use 565) uses. Excerpts from the manual are attached for reference. The office trip generation is related to the GFA and the daycare trip generation is related to the number of children.

The table below provides a comparison of the trip generation of the proposal in comparison to the use of the building as an office. While an office use in the building is estimated to generate 58 to 60 weekday peak hour trips, the proposal with both office and daycare uses is estimated to generate between 134 and 137 peak hour trips – an increase of 76 to 77 peak hour trips. These estimates represent a combination of both inbound and outbound traffic in the two busiest hours of the weekday.

Table 1: Trip Generation Comparison

Description		AM Peak Hour			PM Peak Hour			Notes
		In	Out	Total	In	Out	Total	
Original Land Use								
Office	Equation	Ln(T)=0.86Ln(X)+1.16			Ln(T)=0.83Ln(X)+1.29			
	Rate	1.73	0.24	1.97	0.34	1.70	2.04	29.4
	Trips	51	7	58	10	50	60	1,000 sf
Revised Proposal								
Office	Equation	Ln(T)=0.86Ln(X)+1.16			Ln(T)=0.83Ln(X)+1.29			
	Rate	1.84	0.26	2.09	0.36	1.84	2.19	19.6
	Trips	36	5	41	7	36	43	1,000 sf
Daycare	Rate	0.41	0.37	0.78	0.37	0.42	0.79	119
	Trips	49	44	93	44	50	94	children
Total Trips		85	49	134	51	86	137	
Change in Trips		34	42	76	41	36	77	

Access to the site is provided at a driveway that allows only right turns into and out of the site. This level of traffic activity can be comfortably accommodated at the right turns driveway. Traffic wanting to access the site from the west that would otherwise turn left into the site can drive past the site and navigate the roundabout immediately to the east of the site at University Avenue and Labrador Drive. Traffic wanting to exit the site to the east that would otherwise turn left out of the site can turn right and access the nearby land uses to the east using Northfield Drive, Toman Drive and Bridge Street.

Parking for the site is being provided in accordance with the requirements in the City's Zoning By-law. Parking for the office use is required at a rate of 2.5 spaces for every 100 s.m. Parking for the daycare use is required at a rate of 4.0 spaces for every 100 s.m. The table below illustrates how the parking that is provided meets the requirements for the site.

Table 2: Parking Requirements and Provisions

Description	Requirement	Supply
Office use (industrial mall)	2.5 spaces/100 s.m. = 46 spaces for 1,825 s.m.	
Daycare use (childcare)	4.0 spaces/100 s.m. = 37 spaces for 908 s.m.	
Total	83 spaces	98 spaces (+15 spaces)

Ten spaces on the site plan have been identified for short-term drop-off and pick-up. The ten spaces are immediately adjacent to the building and closest to the doors that will be used for the daycare. It is intended that these spaces would be signed and designated for short-term use during typical drop-off and pick-up times so that when children are being dropped off or picked up, the caregiver can park close to the building and minimize the number of children walking in



the parking lot. The operator will monitor the use of the ten spaces, and there are five more spaces adjacent to the building that can additionally be designated for short-term drop-off and pick-up in the future if there is the need. In addition to the drop-off and pick-up spaces, the parking supply meets the requirements of the Zoning By-law to accommodate caregiver parking for longer term needs and staff along with the needs of the remaining office space.

In summary:

- The proposal is estimated to generate 134 to 137 two-way trips in the weekday peak hours, which can be accommodated at the existing right turns driveway.
- Good routing options are available for traffic that would otherwise turn left into or out of the driveway.
- Parking for the site is being provided in accordance with the requirements in the City's Zoning By-law.
- Ten spaces on the site plan have been identified for short-term drop-off and pick-up. There are five more spaces adjacent to the building that can additionally be designated for short-term drop-off and pick-up in the future if there is the need.

Please let me know if you have any questions about the information in this letter.

Sincerely,


Julia Salvini, MEng, PEng, FITE
President

Attach: Site Location Plan
 Site Plan
 ITE Trip Generation Manual Excerpts





Site Location Plan

Source: openstreetmap.org



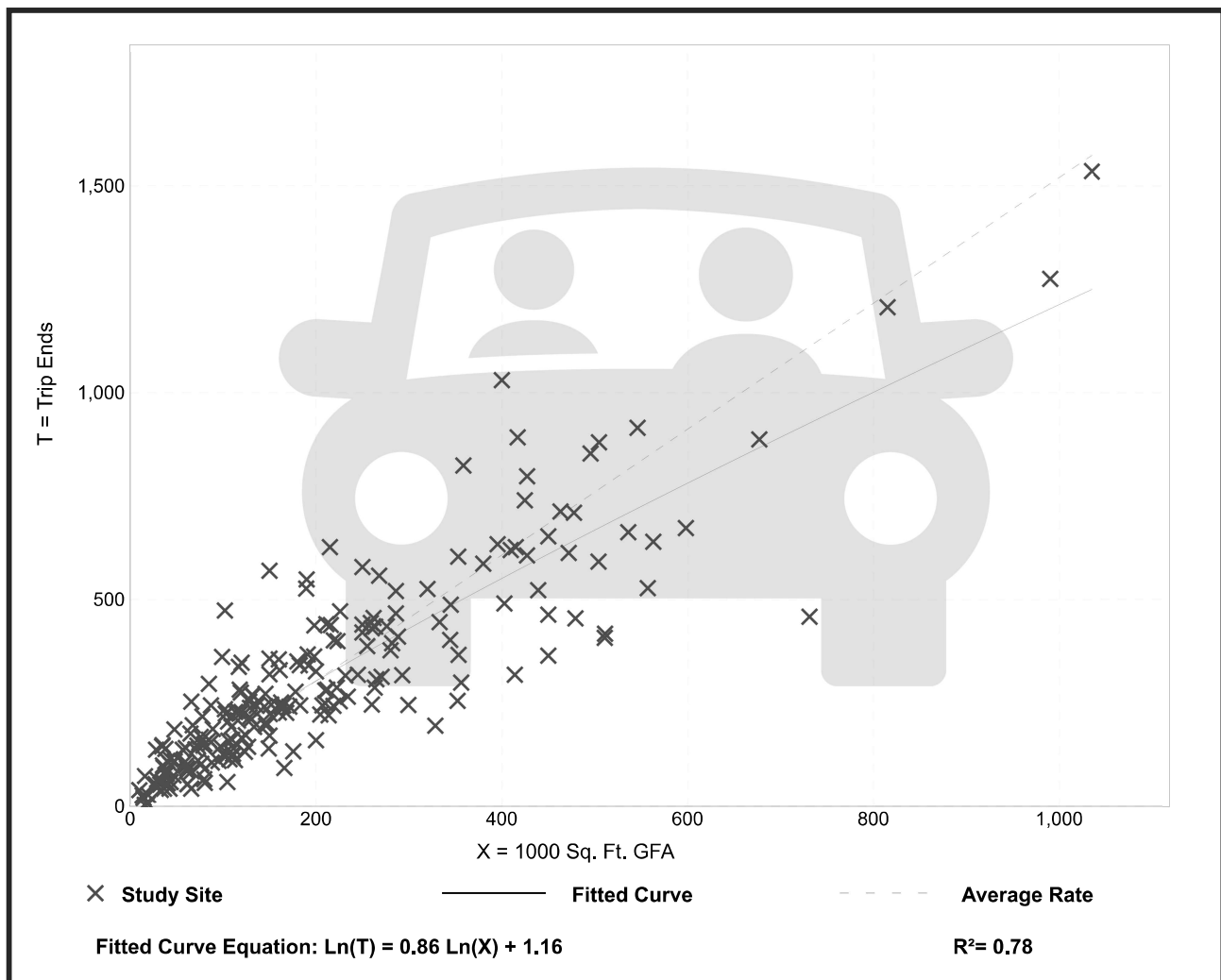
General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 221
 Avg. 1000 Sq. Ft. GFA: 201
 Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.52	0.32 - 4.93	0.58

Data Plot and Equation



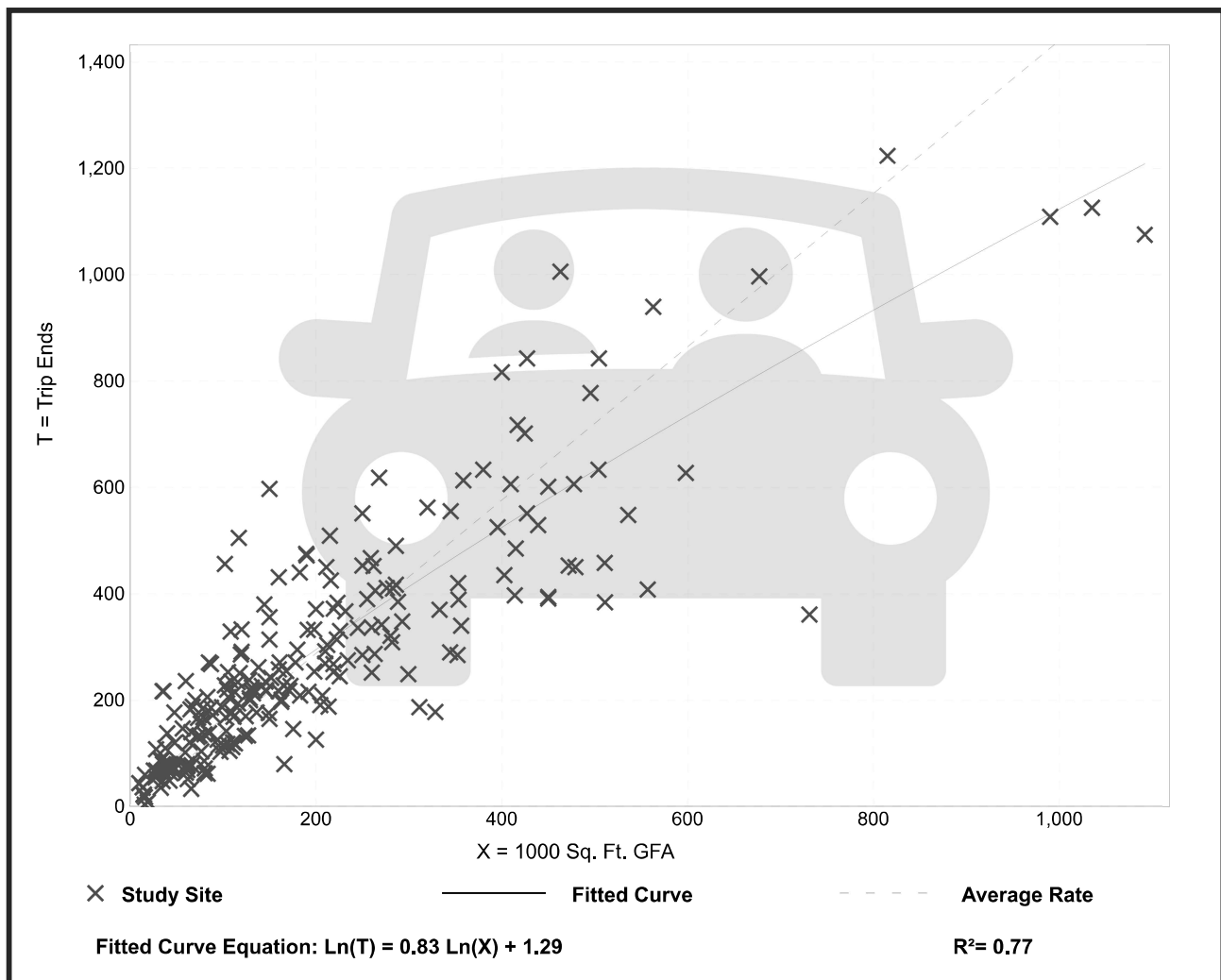
General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 232
 Avg. 1000 Sq. Ft. GFA: 199
 Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.44	0.26 - 6.20	0.60

Data Plot and Equation



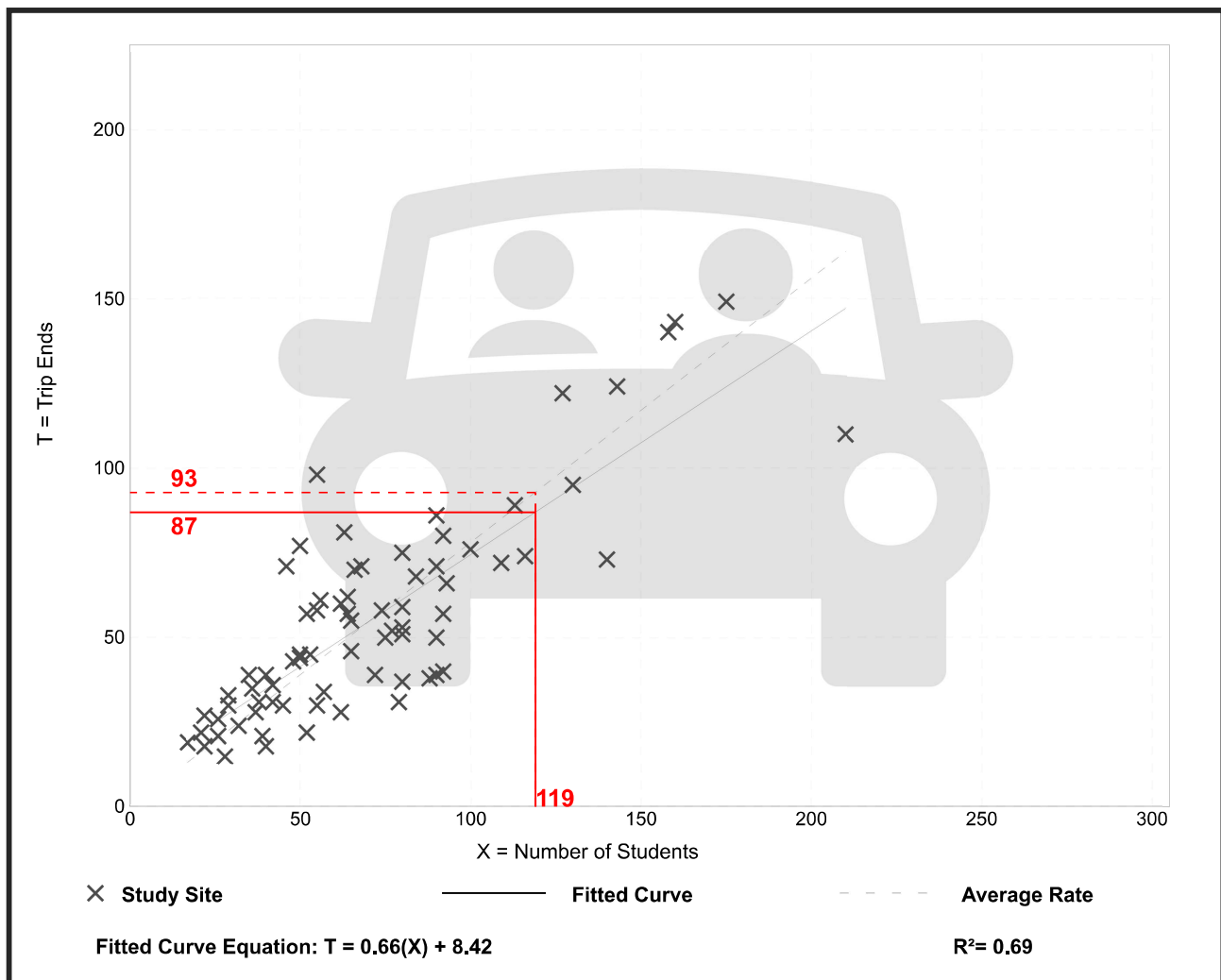
Day Care Center (565)

Vehicle Trip Ends vs: **Students**
 On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
 Setting/Location: **General Urban/Suburban**
 Number of Studies: 75
 Avg. Num. of Students: 71
 Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.78	0.39 - 1.78	0.25

Data Plot and Equation



Day Care Center (565)

Vehicle Trip Ends vs: **Students**
 On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
 Setting/Location: **General Urban/Suburban**
 Number of Studies: 75
 Avg. Num. of Students: 72
 Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.79	0.24 - 1.72	0.30

Data Plot and Equation

