

Holland Road Day Care Centre Traffic Impact Statement

September 2025

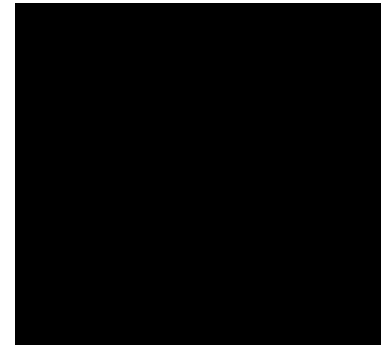
Prepared for
Methodical Methods Inc.





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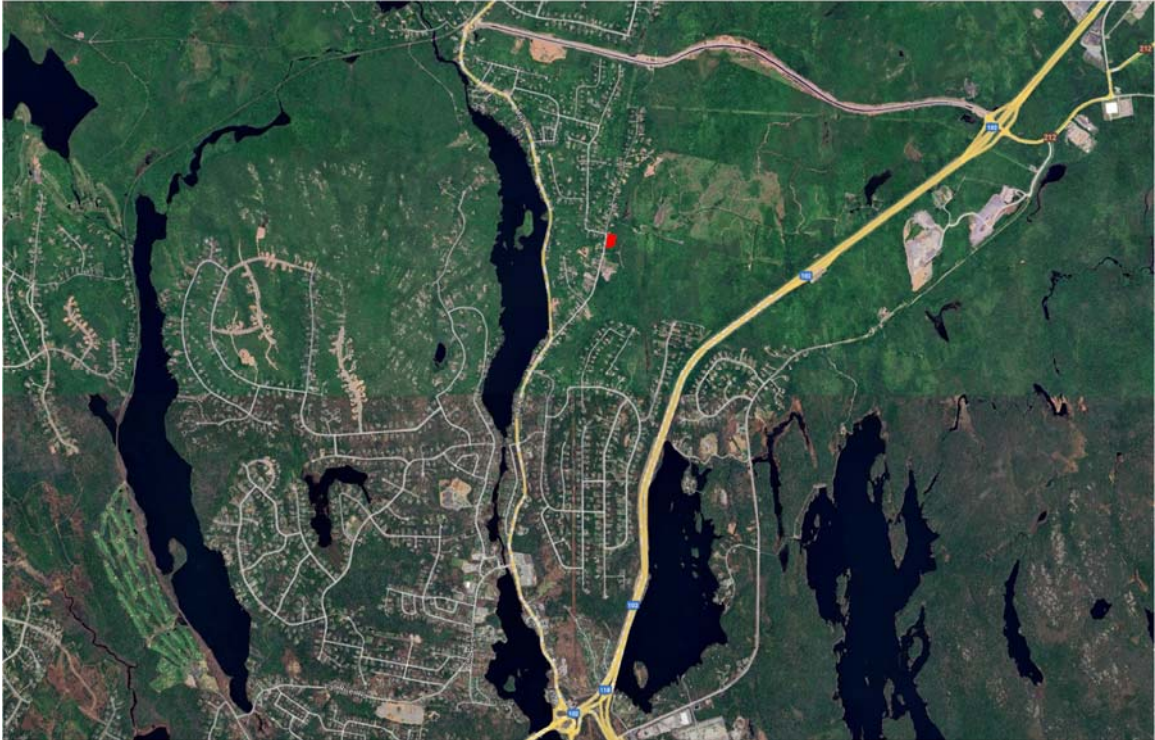
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1 Introduction

1.1 Background

Methodical Methods Inc. is working on a proposal to create a new Day Care Centre on their property at 229 Holland Road in Fletchers Lake, Nova Scotia. Exhibit 1.1 shows the site in red in the context of the surrounding area.

Exhibit 1.1 – Proposed Day Care in Fletchers Lake, Nova Scotia



Source: Google Earth

The new Day Care Centre will accommodate 140 students and approximately 25 staff. Parking will be provided on the property with approximately 40 surface parking spaces.

The existing property has a vacant home located close to Holland Road.

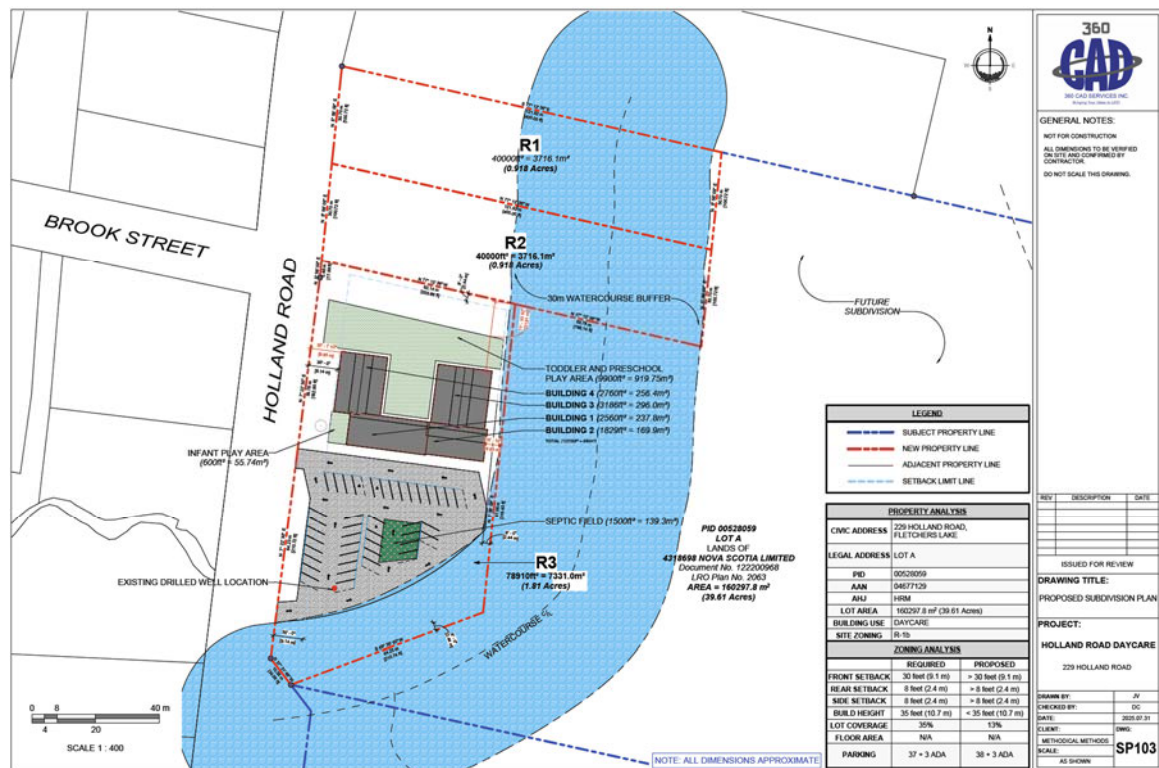
Access will be from two new connections to Holland Road just south of Brook Street and the site plan shows a separate driveway to enter at the southern edge of the property and a separate driveway to exit at the northern edge of the property. There are existing driveway cuts close to each of these locations. This configuration will allow parents to drop off and pick up their children throughout the day.

Refer to Exhibit 1.2 for a photo of the property and Exhibit 1.3 for a proposed site plan for the development as provided by Methodical Methods Inc.

Exhibit 1.2 – 229 Holland Road in Fletchers Lake, Nova Scotia



Exhibit 1.2 – Proposed Day Care Centre in Fletchers Lake, Nova Scotia



JRL consulting was retained by Methodical Methods Inc. to prepare a Traffic Impact Statement (TIS) to assess the potential traffic impacts of the proposed Day Care Centre in Fletchers Lake, Nova Scotia.

The purpose of a Traffic Impact Statement is to provide a high level overview of a proposed development including estimates of site-generated traffic along with an initial review of existing traffic counts in the general area of the proposed development. We are pleased to submit this report which summarizes our findings.

2 Existing Traffic Conditions

2.1 Description

The principal routes affected by this development in Fletchers Lake are Holland Road and Nova Scotia Highway 2.

Exhibit 2.1 summarizes HRM's Characteristics of Street Classes from HRM's Municipal Service Systems Design Guidelines and we have also included Transportation Association of Canada's (TAC) Characteristics of Urban Roads in Exhibit 2.2

Exhibit 2.1 – HRM's Characteristics of Street Classes

Characteristic	Arterial Street	Major Collector	Minor Collector	Local Industrial	Local Street
1. Traffic Service Function	First Consideration	Traffic movement primary consideration, land access secondary consideration, some parking	Traffic movement of equal importance with land access, parking permitted	Traffic movement secondary consideration with land access primary consideration, parking permitted	Traffic movement secondary consideration with land access primary consideration, parking permitted
2. Land Access Function	Limited Access with no parking				
3. Range of design traffic average daily volume	More than 20,000	12,000 to 20,000 or more	Up to 12,000	Less than 3,000	Less than 3,000
4. Characteristics of traffic flow	Uninterrupted flow except at signals; w/ pedestrian overpass	Uninterrupted flow except at signals and crosswalks	Interrupted flow	Interrupted flow	Interrupted flow
5. Average running speed in off-peak conditions	50-70 km/hr	40-60 km/hr	30-50 km/hr	15-30 km/hr	15-30 km/hr
6. Vehicle types	All types	All types but trucks may be limited	All types with truck limitation	All types	Passenger and service vehicles, transit buses; large vehicles restricted
7. Connects to	Expressways, arterials, major collectors, minor collectors	Expressways, arterials, major collectors, minor collectors, some locals	Arterials, major collectors, minor collectors, locals	Some major collectors, minor collectors, locals	Some major collectors, minor collectors, locals

Exhibit 2.2 – Transportation Association of Canada Characteristics of Urban Roads

	Public Lanes		Locals		Collectors		Arterials		Expressways	Freeways
	Residential	Commercial	Residential	Indust./Comm.	Residential	Indust./Comm.	Minor	Major		
traffic service function	traffic movement not a consideration		traffic movement secondary consideration		traffic movement and land access of equal importance		traffic movement major consideration	traffic movement primary consideration	traffic movement primary consideration	optimum mobility
land service / access	land access only function		land access primary function		traffic movement and land access of equal importance		some access control	rigid access control	no access	no access
traffic volume (veh/day) (typical)	<500	<1000	<1000	<3000	<8000	1000 – 12 000	5000 – 20 000	10 000 – 30 000	>10 000	>20 000
flow characteristics	interrupted flow		interrupted flow		interrupted flow		uninterrupted flow except at signals and crosswalks		uninterrupted flow except at signals	free-flow (grade separated)
design speed (km/h)	30 - 40		30 - 50		50 - 80		50 - 70	60 - 100	80 - 110	80 - 120
average running speeds (km/h) (off-peak)	20- 30		20 - 40		30 - 70		40 - 60	50 - 90	60 - 90	70 - 110
vehicle type	passenger and service vehicles	all types	passenger and service vehicles	all types	passenger and service vehicles	all types	all types	all types up to 20% trucks	all types up to 20% trucks	all types up to 20% trucks
desirable connections	public lanes, locals		public lanes, locals, collectors		locals, collectors, arterials		collectors, arterials, expressways, freeways		arterials, expressways, freeways	arterials, expressways, freeways
transit service	not permitted		generally avoided		permitted		express and local buses permitted		express buses only	express buses only
accommodation of cyclists	no restrictions or special facilities		no restrictions or special facilities		no restrictions or special facilities		lane widening or separate facilities desirable		prohibited	prohibited
accommodation of pedestrians	pedestrians permitted, no special facilities		sidewalks normally on one or both sides		sidewalks provided where required		sidewalks may be provided, separation for traffic lanes preferred		pedestrians prohibited	pedestrians prohibited
parking (typically)	some restrictions		no restrictions or restrictions one side only		few restrictions other than peak hour		peak hour restrictions	prohibited or peak hour restrictions	prohibited	prohibited
min. intersection spacing ¹ (m)	as needed		60		60		200	400	800	1600 (between interchanges)
right-of-way width (m) (typically)	6 - 10		15 - 22		20 - 24		20 ² - 45 ³		>45 ³	>60 ³

Highway 2 is a two-lane arterial road that runs from Halifax to Truro. In Fletchers Lake it provides access to commercial, industrial and residential land uses and it is the key route in the area. Some sections have concrete curb and gutter and other sections have a graveled shoulder and open stormwater ditches. The southern portion of Holland Road connects to Highway 2 at a stop-controlled intersection. There is a concrete sidewalk on the east side of Highway 2 south of Holland Road. The posted speed limit is 60 km/hr in Fletchers Lake area.

Holland Road is a local road that connects to Highway 2. It provides access to residential, commercial properties and Holland Road Elementary School. The posted speed 50 km/hr in front of the proposed development while the speed limit is 30 km/hr in the school zone to the south when children are present. There is a concrete sidewalk on the eastern side of Holland Road from Highway 2 to Brook Street including the area in front of the proposed development. Traffic Calming infrastructure is in place on Holland Road consisting of speed humps.

Refer to Exhibit 2.3 for photos of the Study Area in Fletchers Lake, Nova Scotia

Exhibit 2.3 – Study Area Photos



229 Holland Road in Flectchers Lake, Nova Scotia



229 Holland Road at proposed new site access on right looking north



229 Holland Road at proposed new site access on left looking south



Holland Road at Brook Street looking south



Brook Street at Holland Road looking east



Holland Road at Brook Street looking north

2.2 Existing Traffic Volumes

We reviewed HRM's traffic count database and HRM completed 24-hour traffic counts on Holland Road in November 2023 in front of Civic 63 between Highway 2 and Cora Lane. These counts were likely completed to assess the need for traffic calming and they captured traffic related to Holland Road Elementary School.

Annual Average Weekday Traffic (AAWT) at this location was 1407 vehicles (two-way traffic).

The AM peak hour for northbound traffic begins at 7am while the PM peak hour for northbound traffic begins at 5pm. The AM peak hour for southbound traffic begins at 7am while the PM peak hour for southbound traffic begins at 5pm.

We applied a 2% annual background growth rate to the volumes observed in the HRM counts to estimate traffic in 2025 as summarized in Exhibit 2.3.

Exhibit 2.3 – Holland Road Estimate Existing Traffic 2025

Location	Direction	AM PEAK	PM PEAK	AAWT
63 Cora Lane	Northbound	80	85	741
	Southbound	91	50	723

We expect existing traffic on Holland Road near the proposed development to be less than these HRM counts to the south as these counts are influenced by the Holland Road elementary, however, the proposed Day Care will attract vehicles in both directions as parents drop off and pick up their children in the morning and at the end of the day.

2.3 Trip Distribution

Fletchers Lake is north of Halifax/Dartmouth/Bedford so we expect that the majority of traffic will travel south towards Halifax Dartmouth in the AM peak hour on Highway 2 as residents commute to work and school and this reverses in the PM peak as residents return home.

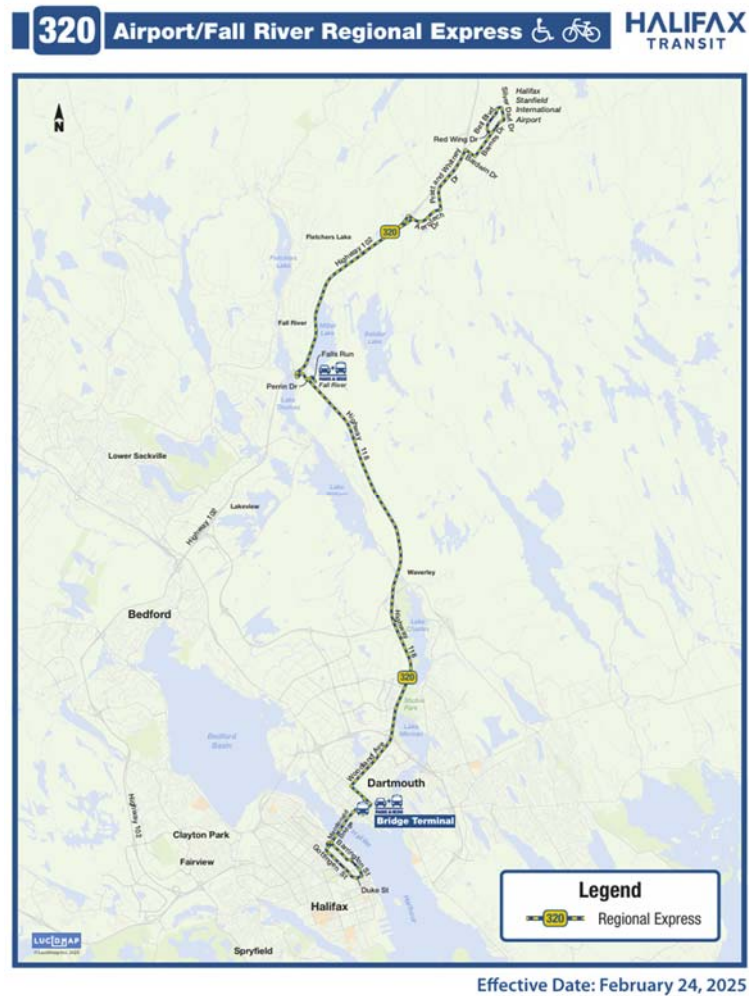
HRM counts in 2023 provided context on current trip distribution on Holland Road with 53% of vehicles travelling southbound and 47% moving northbound in the AM peak hour (influenced by the elementary school). In the PM peak hour 63% of vehicles travel northbound 37% moving southbound.

We expect that new traffic from the proposed Day will be attracted from residents in the area that will drop their children off before they travel to work.

2.4 Transit and Pedestrians

There is no transit service in the area of the proposed development on Holland Road. The closest option for transit is on Halifax Transit's Route 320 Airport/Fall River Regional Express which provides rural service to riders from Halifax Stanfield International Airport to Bridge Terminal with connections to the rest of the Halifax Transit network. Refer to Exhibit 2.4. There is a concrete sidewalk on the eastern side of Holland Road from Highway 2 to Brook Street including the area in front of the proposed development.

Exhibit 2.4 – Halifax Transit Route 320 Airport/Fall River Regional Express



2.5 Stopping Sight Distance

As per the Transportation of Canada Geometric Design Guide for Canadian Roads, adequate stopping sight distance *"is essential for safe operation that the vehicle operator be able to see far enough ahead to stop if necessary. Conditions that would force a vehicle operator to stop are for example, an object on the roadway, a culvert washout or other fault in the roadway. Adequate stopping sight distance is required throughout the length of the roadway. Minimum stopping sight distance is the sum of two distances namely:*

- *Brake reaction distance*

The distance travelled during the brake reaction time, that is the time that elapses from the instant an object, for which the driver decides to stop, comes into view to the instant the driver takes remedial action (contacts brake pedal).

- *Braking distance*

The distance travelled from the time that braking begins to the time the vehicle comes to a stop."

The posted speed in the area on Holland Road is 50 km/hr and this speed requires a stopping sight distance of 65 m. A design speed of 60 km/hr requires a stopping sight distance of 85 m.

We completed a Stopping Sight Distance (SSD) review on September 1, 2025 on Holland Road at the proposed new access for exiting vehicles at the existing driveway cut for 229 Holland Avenue. Field measurements were recorded using an object height of 0.6 meters and a driver eye height of 1.05 m. Refer to Exhibit 2.5.

Exhibit 2.5 – Pylon used for Stopping Sight Distance Field Measurements



Visibility on Holland Road exceeds TAC requirements of 65 m and available SSD is greater than 85 m for northbound drivers and southbound drivers. Refer to Exhibit 2.6 for a summary of Stopping Sight Distance on Holland Road as well Exhibits 2.7 through 2.10 for photos from our field assessment.

Exhibit 2.6 – Stopping Sight Distance on Holland Road at Proposed Site Access

Location	Direction	Minimum SSD	Available SSD
Site Access at 229 Holland Road	Northbound	65 m	> 85 m
	Southbound	65 m	> 85 m

Exhibit 2.7 – Northbound Driver View on Holland Road to Site Access at 65 m



Exhibit 2.8 – Northbound Driver View on Holland Road to Site Access at 85 m



Exhibit 2.9 – Southbound Driver View on Holland Road to Site Access at 65 m



Exhibit 2.10 – Southbound Driver View on Holland Road to Site Access at 85 m



3 Site Generated Traffic

3.1 Trip Generation

The proposed Day Care Centre will accommodate 140 students and approximately 25 staff.

We completed trip generation estimates using equations provided in Institute for Transportation Engineer's Trip Generation Manual 11th Edition with the following Land Use Code:

- ITE Land Use 565 Day Care Centre

"A day care center is a facility where care for pre-school age children is provided, normally during daytime hours. A day care facility generally includes classrooms, offices, eating areas, and playgrounds. A center may also provide after-school care for school-age children." The unit of measurement for average vehicle trip ends is students.

Exhibit 3.1 – Estimated Future Site Generated Traffic Volumes

LAND USE	QUANTITY	AM PEAK			PM PEAK		
		TOTAL	ENTER	EXIT	TOTAL	ENTER	EXIT
Day Care Centre ITE Land Use 2565	140	101	53%	47%	98	47%	53%
			53	48		46	52

We estimate that the proposed Day Care Centre on Holland Road will generate traffic volumes of **101** vehicles (53 enter and 48 exit) in the AM peak hour and **98** vehicles (46 enter and 52 exit) in the PM peak hour.

We expect that a Day Care Centre in this suburban area will attract vehicles from residents who live in the general area of Fletchers Lake and many of the vehicle trips identified above will be pass-by trips or diverted trips as parents drop their children off on their way to work and pick them up on their way home.

4 Conclusions and Recommendations

- This Traffic Impact Statement has provided a high level overview of a proposed Day Care Centre on Holland Road in Fletchers Lake, Nova Scotia. Parking will be provided on site for 40 vehicles.
- It includes an estimate of new site generated trips and an analysis of existing traffic volumes in the surrounding area.
- Access will be from two connections to Holland Road just south of Brook Street and the site plan shows a separate driveway to enter at the southern edge of the property and a separate driveway to exit at the northern edge of the property (aligned with existing driveway locations to the property). This configuration will allow parents to drop off and pick up their children throughout the day.
- Based on ITE Trip Generation Rates (Day Care Centre Land Use 565) we estimate that the proposed Day Care Centre will generate **101** vehicle trips (53 enter, 48 exit) in the AM Peak Hour and **98** vehicle trips (46 enter, 52 exit) in the PM Peak Hour.
- We expect that a Day Care Centre in this suburban area will attract vehicles from residents who live in the general area of Fletchers Lake and many of the vehicle trips identified above will be pass-by trips or diverted trips as parents drop their children off on their way to work and pick them up on their way home. Actual net new traffic on Holland Road will likely be less than ITE estimates due to pass-by and diverted trips.
- Site generated traffic will most likely follow existing trip distribution patterns in Fletchers Lake in the peak hours with the majority of traffic heading south in the AM peak hour towards Halifax/Dartmouth/Bedford with this flow reversing in the PM peak hour as residents return home from work/school.
- Stopping Sight Distance at the proposed site access on Holland Road satisfies TACs minimum requirement of 65 m for northbound and southbound traffic and actual SSD exceeds 85 m in both directions.
- The traffic that will be generated by this proposed Day Care can be accommodated on Holland Road and we don't expect any significant impacts on the surrounding transportation network in Fletchers Lake, Nova Scotia.

APPENDIX

TRIP GENERATION ESTIMATES

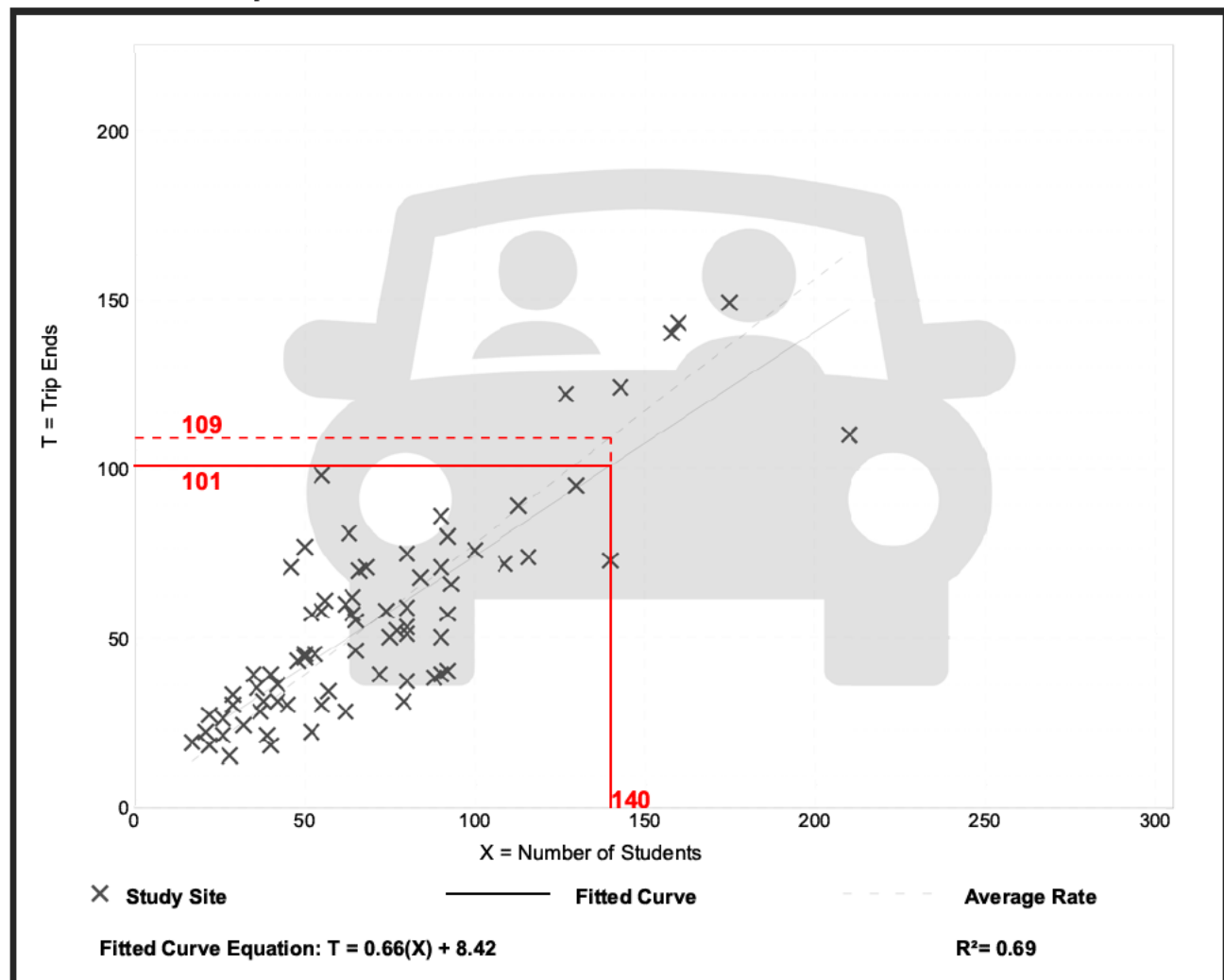
Day Care Center (565)

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

