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March 4, 2024

Kate Wills, BES, MCIP, RPP
MHBC Planning, Urban Design & Landscape Architecture
540 Bingham Centre Drive, Suite 200
Kitchener, ON · N2B 3X9

Re: Traffic Assessment
18-20 Hickory Street West

Dear Kate,

This traffic assessment letter is being provided in support of the development applications at 18-20 Hickory Street West in Waterloo for a nine-unit townhouse proposal. Site Plan Approval and the proposed Zoning By-law amendment for the project requires the lifting of a Holding Provision and one of the elements that is needed to lift the Holding Provision is to verify that sufficient transportation capacity and transportation infrastructure is available within the surrounding road network affected by the development. This letter provides an estimate of traffic generation for the proposal and an opinion regarding the traffic impacts.

The site is located in the Northdale area of Waterloo on the north side of Hickory Street West west of Spruce Street as shown on the attached Site Location Plan. This area is ideal for students attending the University of Waterloo and Wilfred Laurier University to live given its location close to the two campuses and the amenities in the area geared to the student population. In addition to being walking distance from both campuses, the area is well-served by transit and active transportation infrastructure. Rapid transit stations serve the area at the Research & Technology Park, the University of Waterloo and Seagram Drive.

The proposal (site plan attached) includes nine townhouse units with a total of 26 bedrooms geared to students in a three-storey format. A single driveway access is proposed at the west edge of the site to Hickory Street West. Parking is being provided in accordance with the zoning by-law requirements. Nine spaces are proposed including one type A accessible space. In addition, nine bicycle parking spaces are proposed, meeting the zoning by-law requirements for bicycle parking.

Traffic generation estimates were developed based on a review of two different land use categories in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. Both the Multifamily Housing (Low-Rise) and Off-Campus Student Apartment (Low-Rise) categories were reviewed. Both categories include attached residential units in two to three

storey buildings. The rates in the Multifamily Housing category are in trips per unit and the rates in the Off-Campus Student Apartment category are in trips per bedroom. The results for the proposal are summarized in the table below. Excerpts from the ITE Trip Generation Manual are attached for reference.

Table 1: Trip Generation Estimates

Land Use	ITE Code	Description	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise)	220	Rate (trips/unit)	0.10	0.30	0.40	0.32	0.19	0.51
		Trips (9 units)	1	3	4	3	2	5
Off-Campus Student Apartment (Low-Rise)	225	Rate (trips/bedroom)	0.05	0.07	0.12	0.12	0.12	0.24
		Trips (26 bedrooms)	1	2	3	3	3	6

NOTE: ITE Trip Generation Manual, 11th Edition

The review finds that the proposal is likely to generate six (6) or fewer trips in each of the weekday morning and afternoon peak hours. The additional traffic is minimal – less even than the daily variation in traffic on Hickory Street West. It is my opinion that the incremental increase in traffic will not have a significant impact on transportation capacity and the transportation infrastructure within the surrounding road network.

If you have any questions about the information presented in this letter, please contact me to discuss.

Sincerely,



Julia Salvini, MEng, PEng, FITE
President

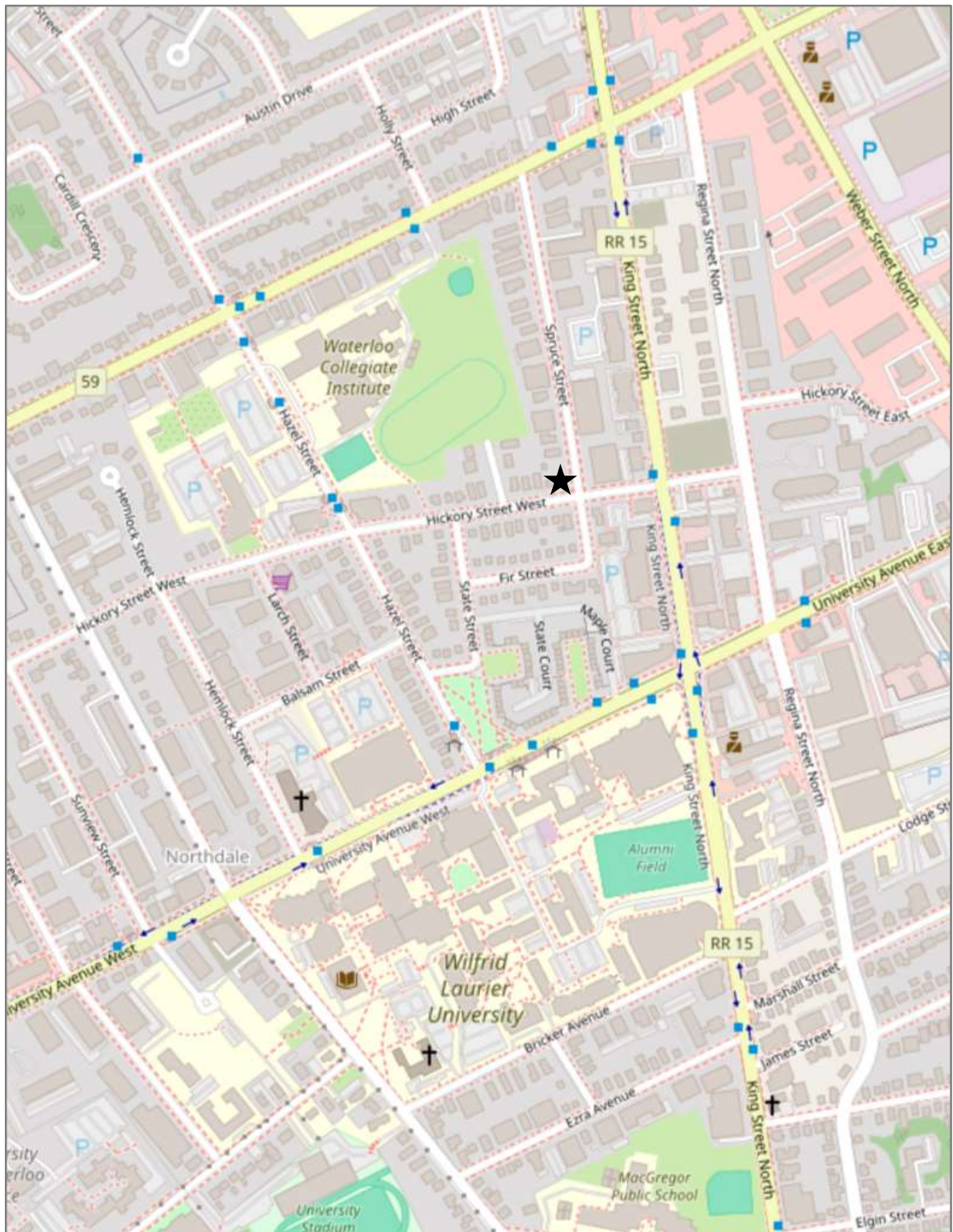
Cc: Rick Zhu, Dennis Home Corp.
Trevor Hawkins, MHBC

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



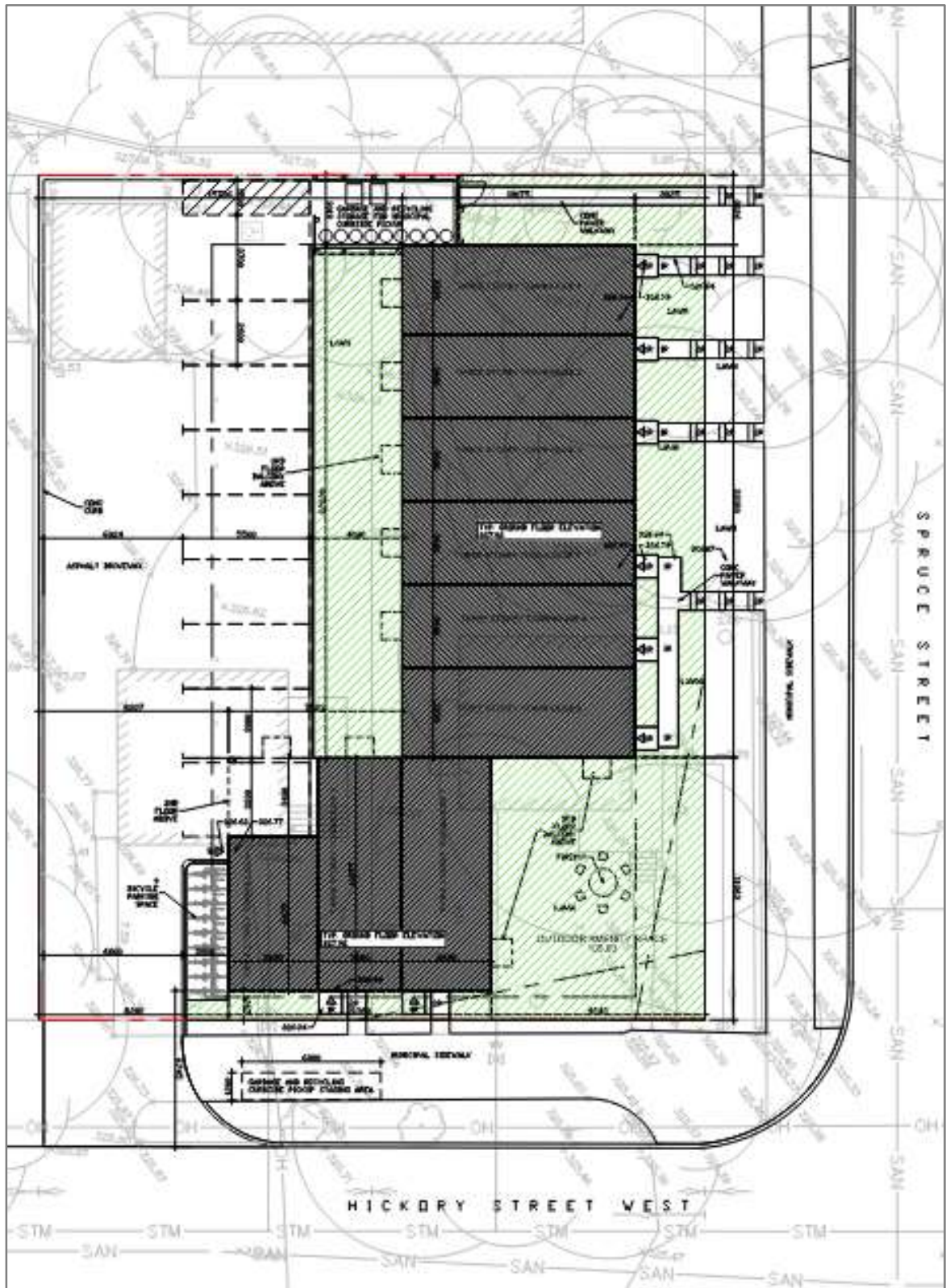
Attachments





Site Location Plan

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Proposed Site Plan

Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

**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: 49

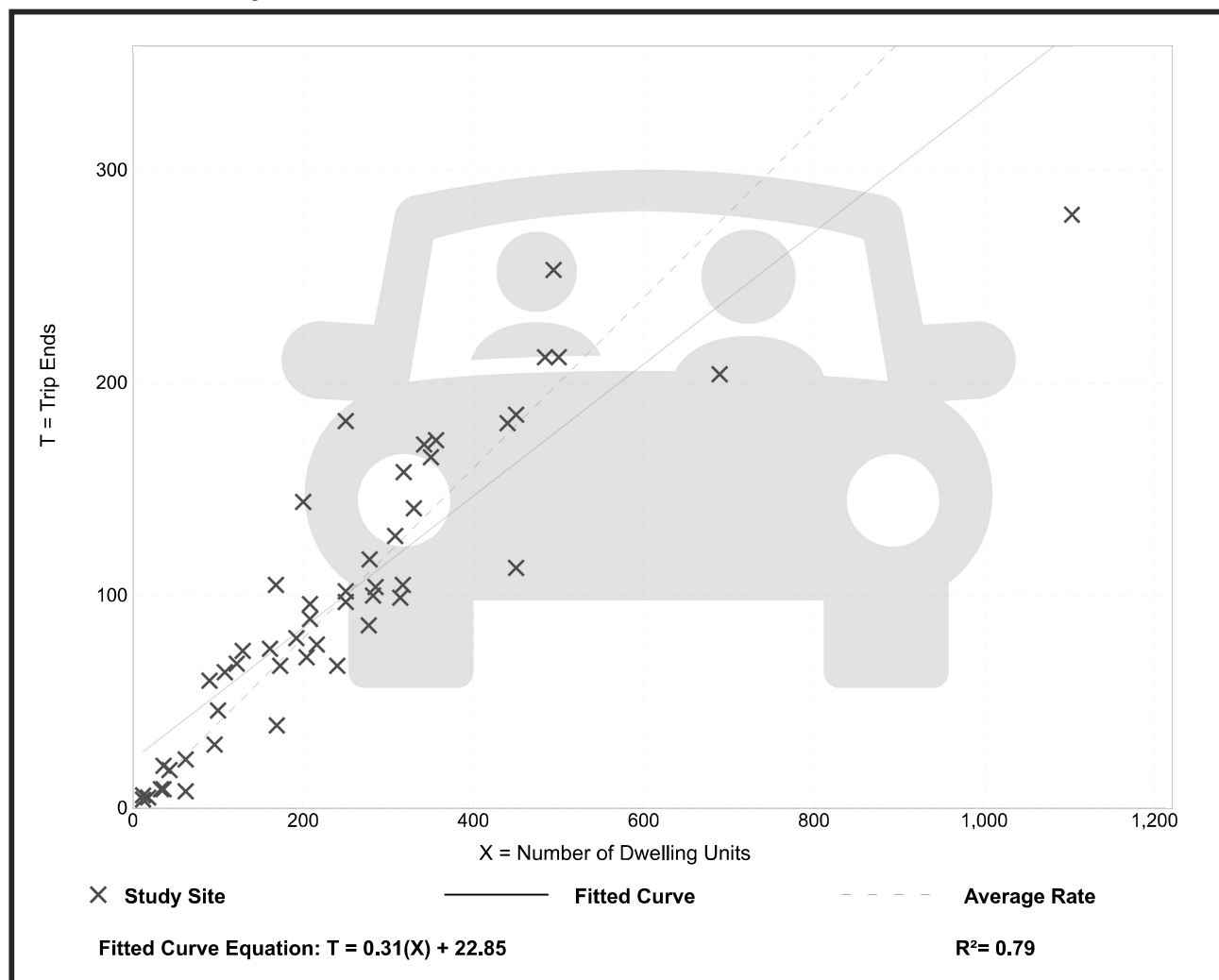
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

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: 59

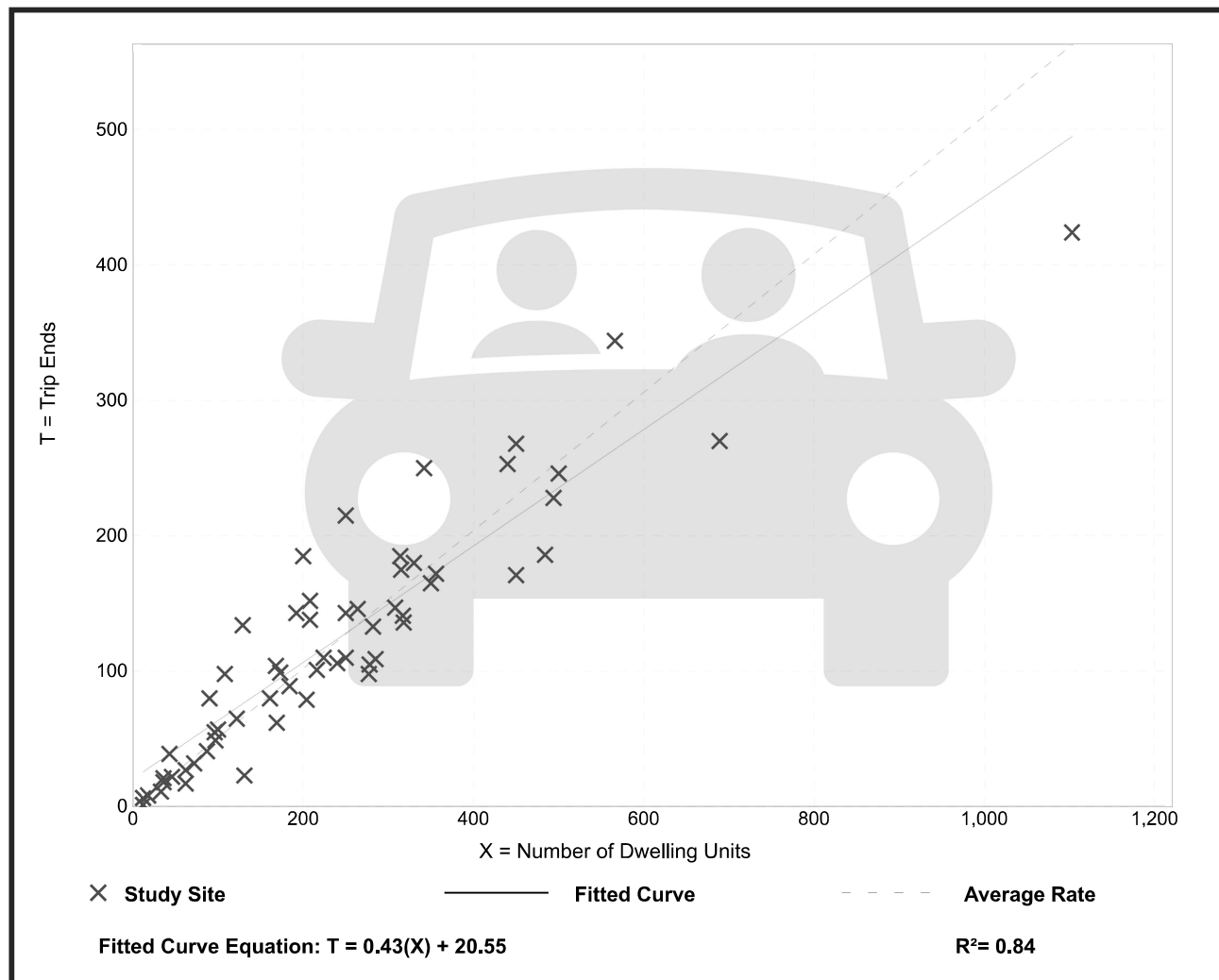
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



Off-Campus Student Apartment (Low-Rise) Adjacent to Campus (225)

Vehicle Trip Ends vs: Bedrooms

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: 9

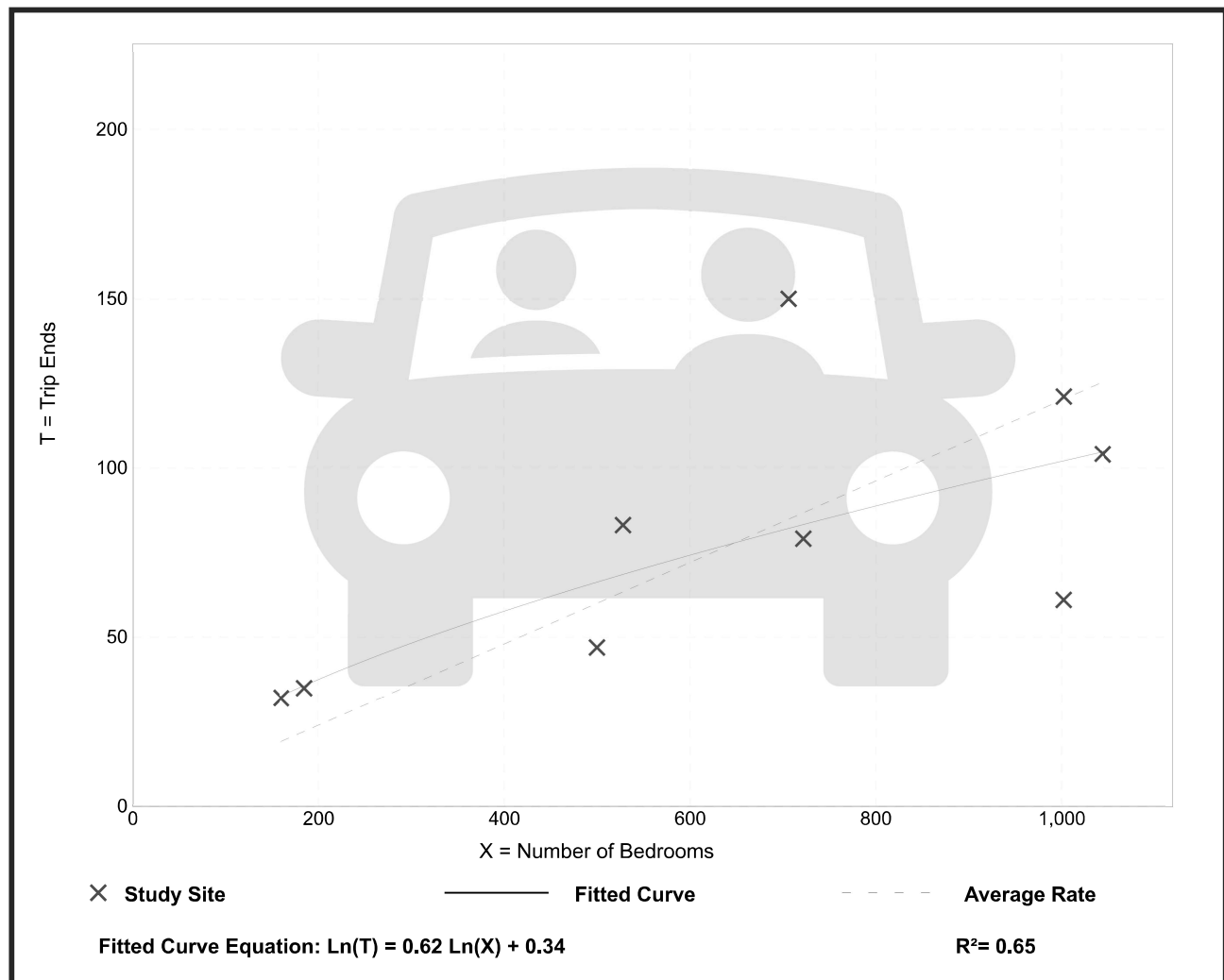
Avg. Num. of Bedrooms: 650

Directional Distribution: 38% entering, 62% exiting

Vehicle Trip Generation per Bedroom

Average Rate	Range of Rates	Standard Deviation
0.12	0.06 - 0.21	0.05

Data Plot and Equation



Off-Campus Student Apartment (Low-Rise) Adjacent to Campus (225)

Vehicle Trip Ends vs: Bedrooms

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: 9

Avg. Num. of Bedrooms: 650

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Bedroom

Average Rate	Range of Rates	Standard Deviation
0.24	0.13 - 0.43	0.08

Data Plot and Equation

