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TRAFFIC IMPACT STATEMENT

FOR

IDIL DAVIDSON, LLC
C/O IDI LOGISTICS

PROPOSED WAREHOUSE

195-215 DAVIDSON AVENUE
BLOCK 502.02, LOTS 37.01 & 38.01
FRANKLIN TOWNSHIP
SOMERSET COUNTY, NEW JERSEY

DECEMBER 21, 2022

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INTRODUCTION

Dolan and Dean Consulting Engineers, LLC (D&D) has prepared this Traffic Impact Analysis to support the application for a proposed warehouse along Davidson Avenue in Franklin Township, Somerset County. The site is currently designated as Lots 37.01 & 38.01 of Block 502.02 and is occupied by a 285-room hotel, and 23,500 square foot light industrial building. Through the development proposed, the existing site uses will be razed and replaced with a 201,610 square foot warehouse. Access to the warehouse is proposed via two full-movement driveways along Davidson Avenue where the northern driveway will service trucks and intersect opposite Atrium Drive.

While any redevelopment of the property will result in traffic changes, both the volume and characteristics of that traffic are of important consideration in the evaluation of this application. D&D has been commissioned by the applicant to prepare this Traffic Impact Statement for the proposed warehouse. Accordingly, this analysis includes the following:

- A review of the existing roadway conditions within the site vicinity.
- A projection of traffic volumes that could be generated by the warehouse, and trip generation comparison against the existing site uses.
- A site plan review focusing on the access design, interior circulation, and parking supply.

EXISTING CONDITIONS

The site is designated as Lot 37.01 & 38.01 in Block 502.02 and is also known as 195-215 Davidson Avenue. The property is developed with a 285-room hotel, and 23,500 square foot light industrial building. Site access is provided via a divided ingress/egress driveway and two full movement driveways along Davidson Avenue, as shown in the image.

EXISTING ROADWAY CONDITIONS

Davidson Avenue has a general northeast-southwest orientation between Easton Avenue and New Brunswick Road. Along the site frontage, the speed limit is 45 miles per hour and one lane is provided for each direction of travel.

Atrium Drive is a private roadway between Davidson Avenue and Pierce Street. The posted speed limit is 25 miles per hour and, although unstriped, one travel lane per direction is provided. The Atrium Drive approach to Davidson Avenue and Pierce Street is controlled by a STOP sign. The approach to Davidson Avenue provides separate right-turn and left-turn lanes. Atrium Drive provides access to Atrium Corporate Park and DoubleTree hotel.

TRAFFIC CHARACTERISTICS OF THE PROPOSED USE

Data compiled by the Institute of Transportation Engineers (ITE) is typically used to forecast trip generation for new development. Based on review of the 11th Edition of the ITE Trip Generation Manual, Land Use Code 150 – "Warehousing" is applicable to the proposed warehouse. Note that the ITE definition of "Warehousing" acknowledges that warehouses include ancillary office space. Therefore, the ITE rates are applied to the total proposed building area. Trip generation calculations are appended and summarized below.

TABLE I
TRIP GENERATION PROJECTION
201,610 SF WAREHOUSE

Vehicle Type	Morning Peak Hour			Evening Peak Hour			Weekday Daily		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Cars	24	6	30	7	23	30	112	112	224
Trucks	2	2	4	3	3	6	60	61	121
Total	26	8	34	10	26	36	172	173	345

As shown, the peak hour trip generation is relatively low with less than one trip every minute. The morning peak hour represents approximately 10% of the daily trips, and 10% of daily trips are generated during the evening peak hour. Based on ITE data, warehouse trip generation is steady throughout the day, with a lower concentration of trucks during the morning and evening peak hours. More truck trips are generated throughout the balance of the day when overall roadway and warehouse driveway volumes are lower.

As previously mentioned, the site is currently occupied by 285-room hotel, and 23,500 square foot light industrial building, Table II shows the overall traffic comparison between the existing hotel and light industrial building and the proposed warehouse building. For the existing hotel, reference is made to ITE Land Use Code 310 "Hotel" and for the existing light industrial building, reference is made to ITE Land Use Code 110 "General Light Industrial".

TABLE II
TRIP GENERATION COMPARISON

Use		Size	Morning Peak Hour	Evening Peak Hour
Existing	Hotel	285 Room	131	168
	Light Industrial	23,500 SF	17	15
	Total		148	183
Proposed	Warehouse	201,610 SF	34	36
Difference			-114	-147

As shown, the proposed redevelopment will operate with significantly lower peak hour traffic volumes than what formerly existed on site. It should be noted that the ITE Manual of Transportation Engineering Studies recommends that traffic impact studies be performed for developments that will generate 100 or more peak hour trips. Site traffic falls well below this threshold and accounts for only 36% of what would be considered a significant traffic increase based on ITE methodology. As a result, the site development will not create a negative traffic impact on the adjacent roadway network.

SITE ACCESS, CIRCULATION AND PARKING

The following comments address access and parking as shown on the Site Plan prepared by Bohler Engineering NJ, LLC.

- Access will be provided via two full-movement driveways along Davidson Avenue. The southernmost driveway will serve as the primary access for passenger vehicles, while the northern driveway will cater to heavy vehicle traffic.

- The Ordinance requires one parking stall per 1,000 square feet of warehouse space up to 5,000 square feet, and one space per every 2,500 square feet, thereafter, equating to a requirement of 84 parking stalls for the proposed warehouse.

- The site plan provides 134 passenger car parking spaces served by a 26-foot aisle. 34 trailer loading spaces and 12 trailer parking spaces served by a 70-foot aisle is proposed northwest of the new warehouse building. These dimensions will provide efficient two-way flow and parking maneuvers, especially for larger trucks that would frequent the site.

Based on this review, it is concluded that safe and efficient access and circulation can be provided to the site with reasonable and prudent driver behavior. Consequently, from a traffic engineering perspective, the site is particularly well suited for the proposed development.

Technical Appendix

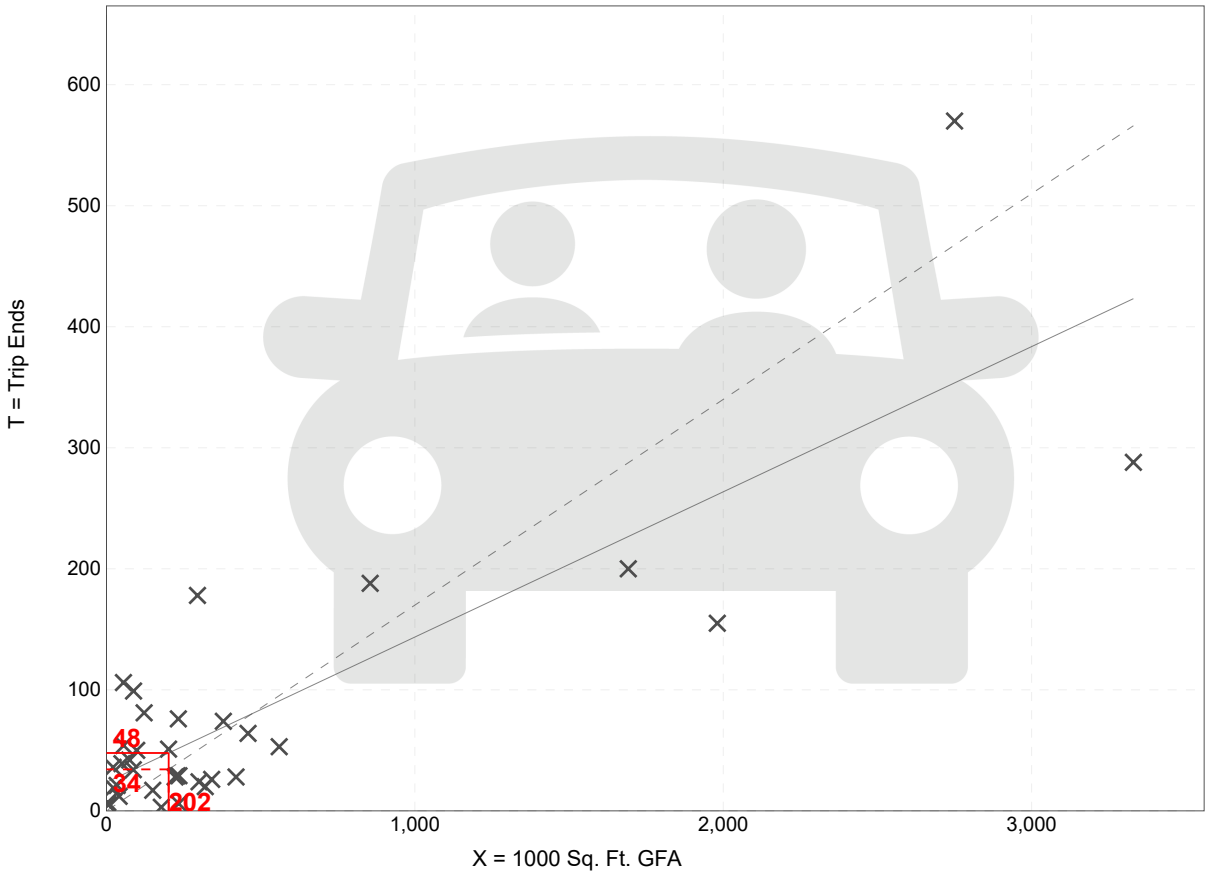
Warehousing
(150)

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: 36
Avg. 1000 Sq. Ft. GFA: 448
Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.19

Data Plot and Equation



Fitted Curve Equation: T = 0.12(X) + 23.62

R^2= 0.69

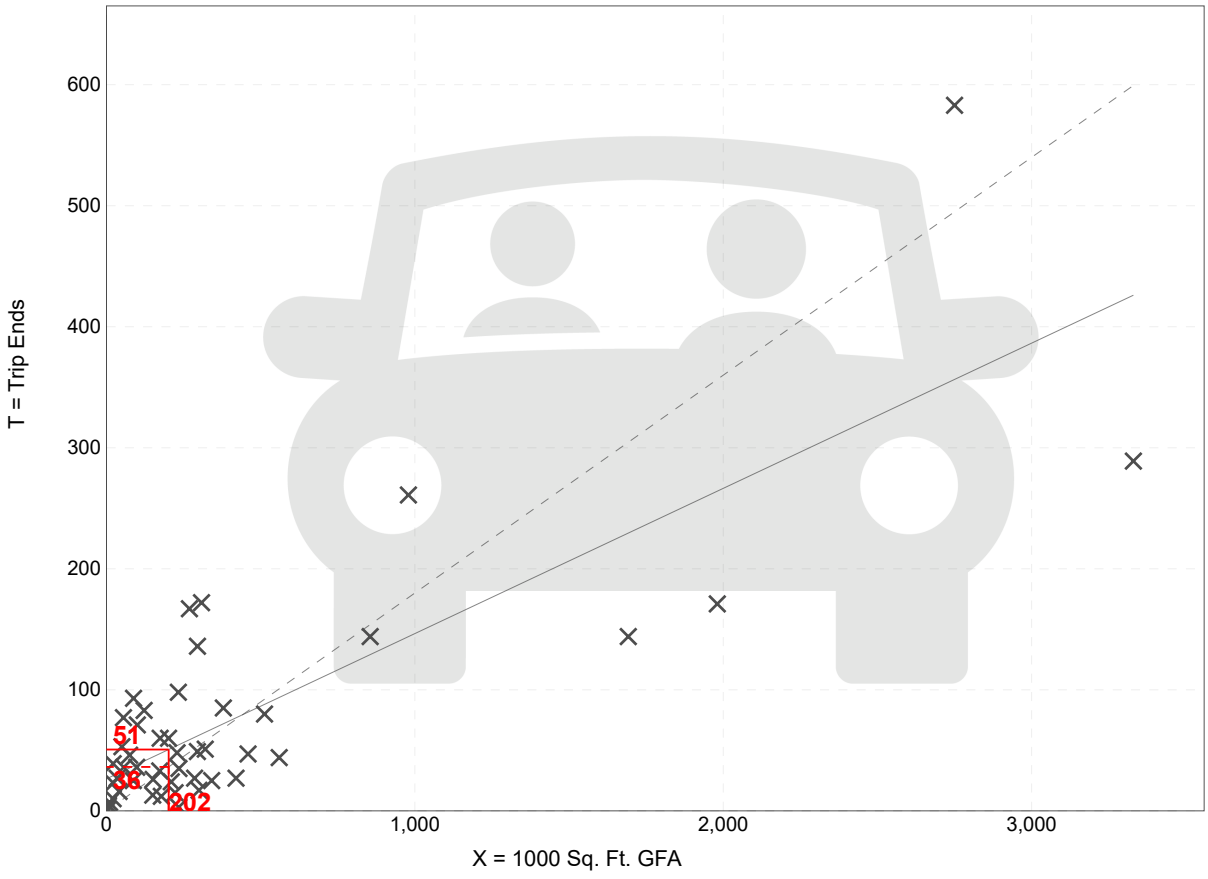
Warehousing
(150)

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:	49
Avg. 1000 Sq. Ft. GFA:	400
Directional Distribution:	28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.01 - 1.80	0.18

Data Plot and Equation



Fitted Curve Equation: T = 0.12(X) + 26.48

R^2= 0.65

Warehousing
(150)

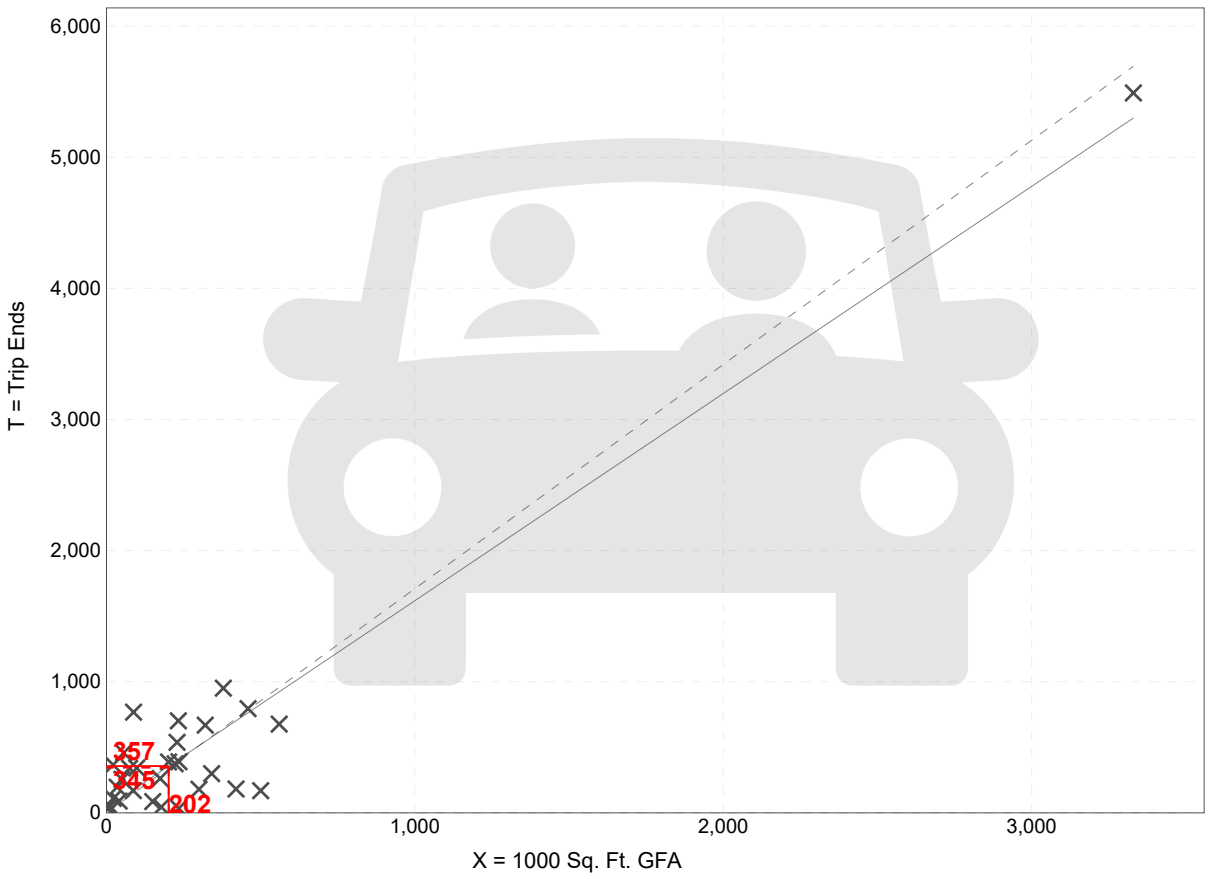
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 31
Avg. 1000 Sq. Ft. GFA: 292
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.71	0.15 - 16.93	1.48

Data Plot and Equation



Fitted Curve Equation: T = 1.58(X) + 38.29

R^2= 0.92

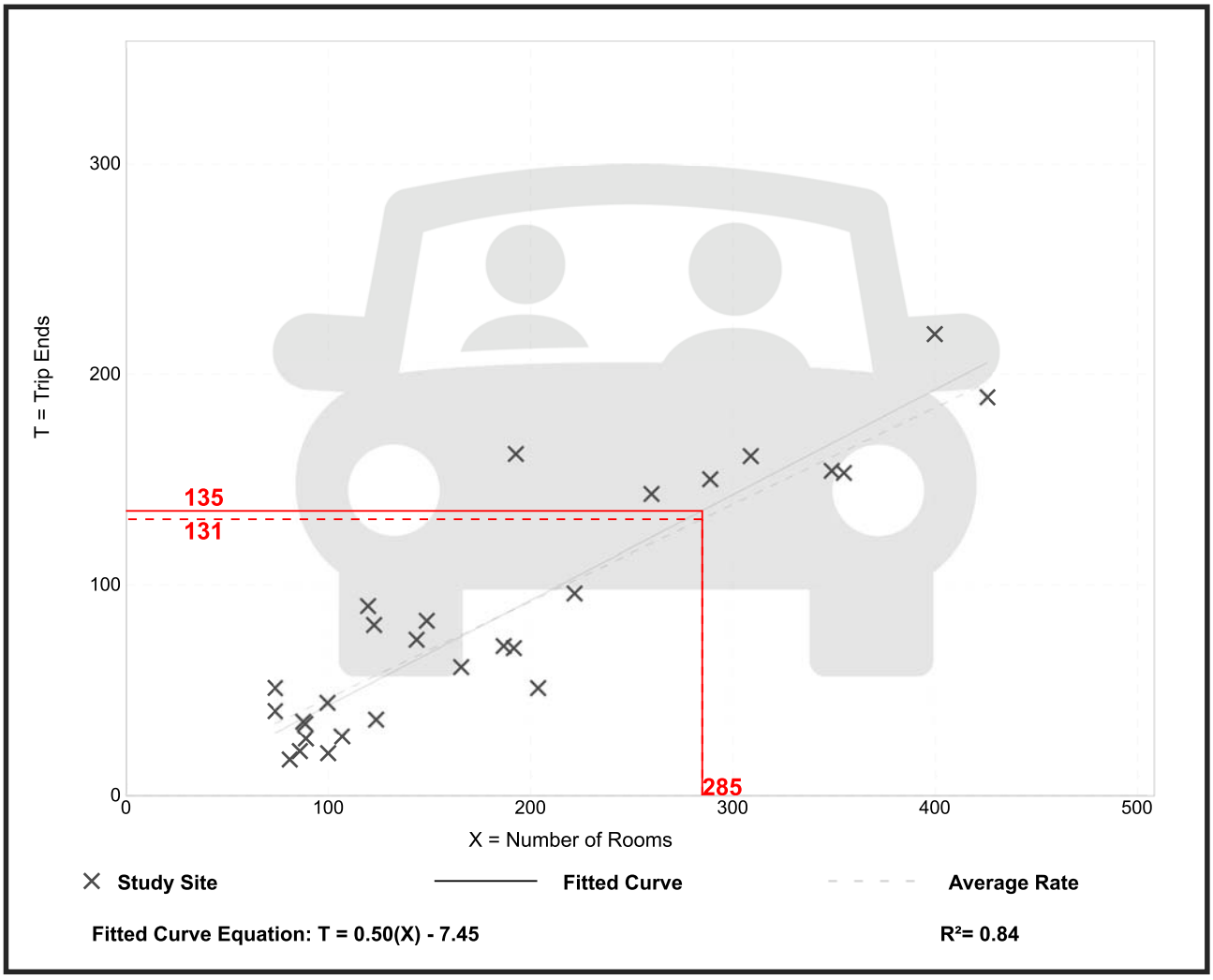
Hotel
(310)

Vehicle Trip Ends vs: **Rooms**
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: 28
Avg. Num. of Rooms: 182
Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.46	0.20 - 0.84	0.14

Data Plot and Equation



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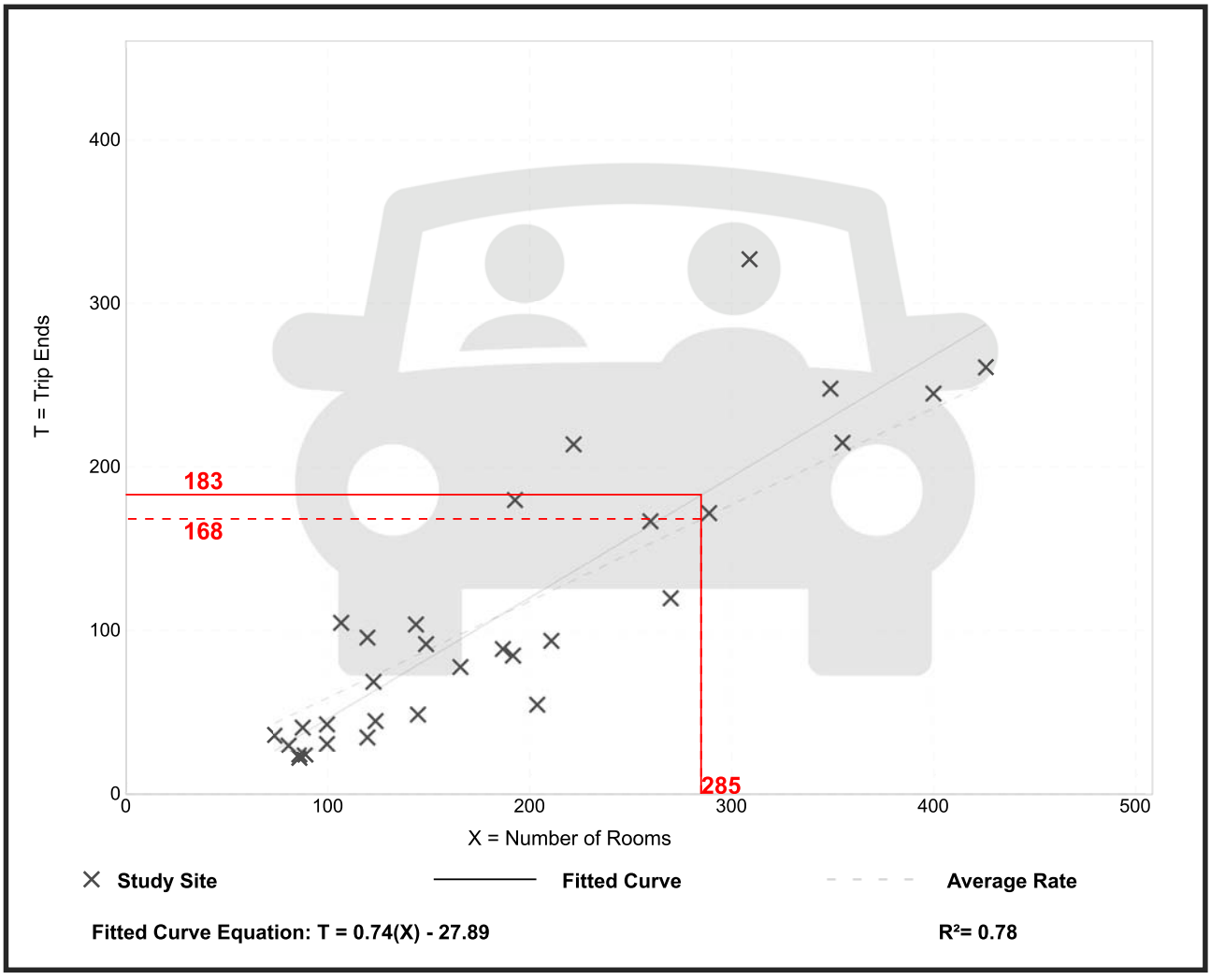
Hotel
(310)

Vehicle Trip Ends vs: **Rooms**
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: 31
Avg. Num. of Rooms: 186
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.59	0.26 - 1.06	0.22

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

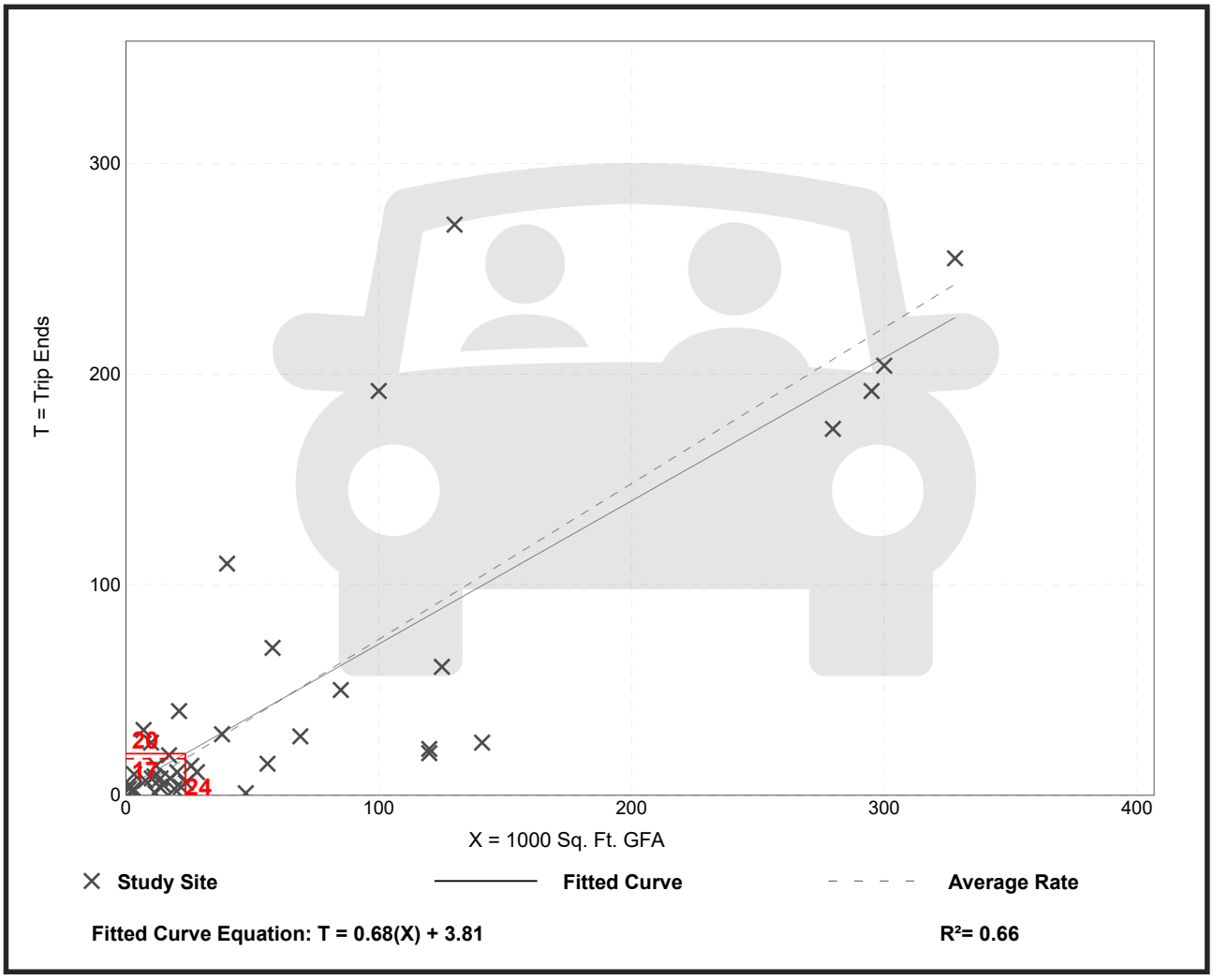
General Light Industrial
(110)

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: 41
Avg. 1000 Sq. Ft. GFA: 65
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.74	0.02 - 4.46	0.61

Data Plot and Equation



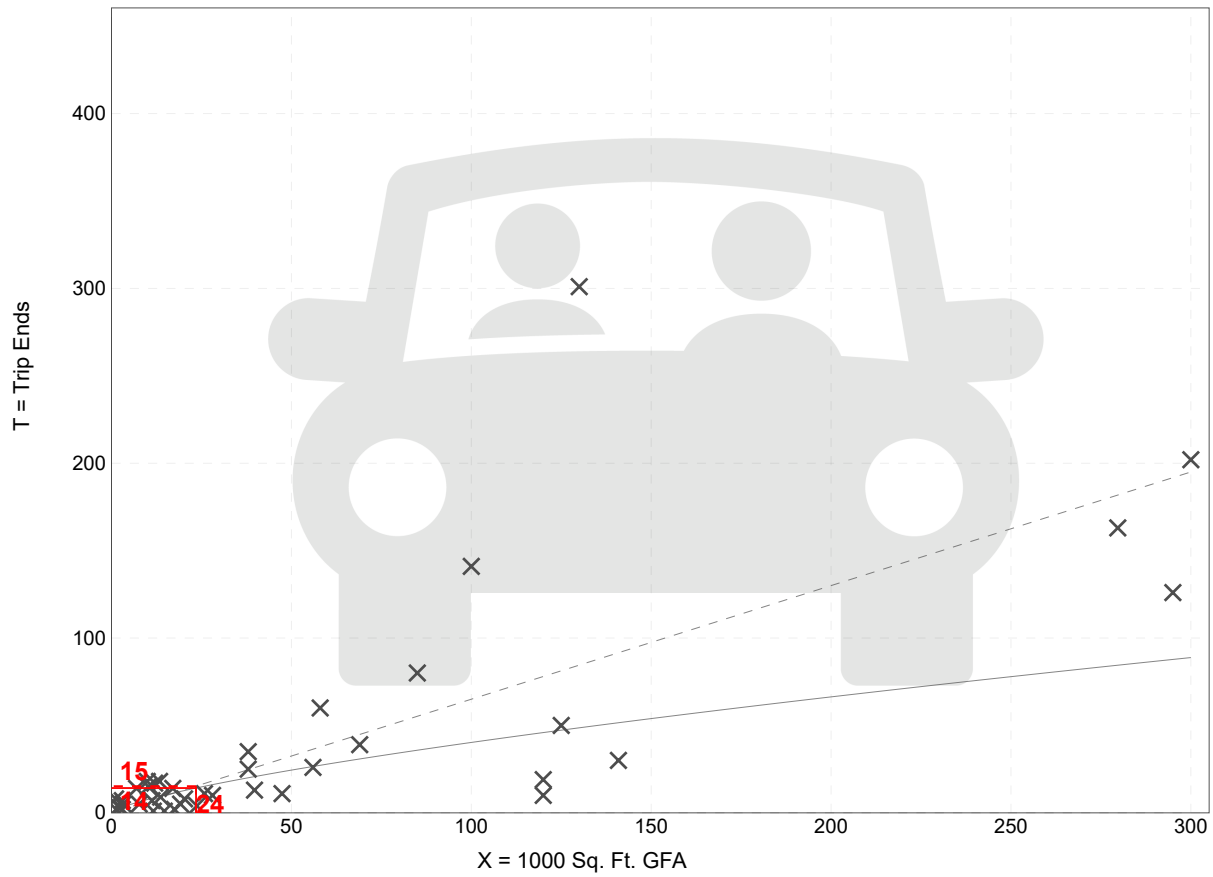
General Light Industrial
(110)

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: 40
Avg. 1000 Sq. Ft. GFA: 58
Directional Distribution: 14% entering, 86% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.65	0.07 - 7.02	0.56

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.72 Ln(X) + 0.38

R^2= 0.55