

# Shropshire Associates LLC

SBE Certified

Traffic Engineering, Transportation Planning & Design

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December 15, 2022

Mr. John Connors  
Brickstone Realty Corporation  
The Lits Building  
701 Market Street, 3<sup>rd</sup> Floor  
Philadelphia, PA

(via email: jconnors@brickstoneco.com)

Re: **Trip Generation Evaluation  
Clermont Lodge  
Block 262, Lots 15 & 16  
Dennis Township, Cape May County, NJ  
SA Project No. 22353**

Dear Mr. Connors:

Shropshire Associates has prepared a trip generation evaluation for the Clermont Lodge use variance application. The site is located along northbound Route 9 in Dennis Township to the north of Route 83 intersection with Route 9. The existing site is approximately 30.8 acres, wooded and undeveloped. The site lies within both Clermont Village Center (CVC) and Clermont Village Residential (CVR) Zoning Districts.

## Existing Conditions

In the vicinity of the site, **Route 9 (Shore Road)** is a two-lane roadway under the jurisdiction of the New Jersey Department of Transportation (NJDOT) and is classified<sup>1</sup> as an Urban Minor Arterial. Route 9 has an approximate cartway width of 38', consisting of an 11' travel lane and 8' shoulder in both directions. In the vicinity of the site, Route 9 has a posted speed limit of 45 MPH. For the purpose of this assessment, Route 9 is assumed to extend in a general north-south direction.

**Route 83** is a two-lane roadway under the jurisdiction of NJDOT and is classified<sup>1</sup> as an Urban Minor Arterial. Route 9 has an approximate cartway width of 38', consisting of an 11' travel lane and 8' shoulder in both directions. In the vicinity of the site, Route 83 has a posted speed limit of 45 MPH. For the purpose of this assessment, Route 83 is assumed to extend in a general east-west direction.

The **Route 9 and Route 83** intersection is a T-shaped signalized intersection. The northbound Route 9 approach consists of a left-turn lane and one dedicated through lane. The southbound Route approach consists of a through lane and an exclusive channelized yield-controlled right-turn lane. The eastbound Route 83 approach consists of one lane for left-turn movements and an exclusive channelized yield-controlled right-turn lane. The traffic signal has three phases which include an exclusive northbound Route 9 phase, a southbound and northbound Route 9 through phase, and a left-turn phase for Route 83.

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<sup>1</sup> NJDOT Straight Line Diagrams



The most recent NJDOT traffic count data shows an annual average daily traffic (AADT) volume of 7,788 vehicles along the Route 9 frontage of the site. From the AADT, weekday and weekend peak hour volumes would range from 555 to 684 vehicles.

### **Proposed Conditions**

The proposed Clermont Lodge will have access via one full-movement driveway along northbound Route 9. NJDOT will be responsible for the review and permitting of the proposed driveway access to Route 9 and will require a full traffic impact study for the review.

Clermont Lodge is proposed to have three distinct uses from a trip generation standpoint: lodging, a tavern and event facilities. The proposed uses and their sizes are as follows:

- Lodging: 120 rooms in total including a lodge building, bungalows and cabins
- Tavern: Approximately 5,000 square foot (SF) building with up to 150 seats
- Playhouse/Chapel: approximately 150 seats
- Primary Event Barn: approximately 150 seats
- Secondary Event Barn: approximately 100 seats

Operationally, it is anticipated that the playhouse/chapel and secondary event barn could have concurrent events. The primary event barn would be used as an amenity to the playhouse/chapel if two events are scheduled concurrently (i.e., a wedding is performed in the chapel with the primary barn used for the reception while a second event occurs in the secondary barn). All other on-site amenities such as the recreation facilities are not considered traffic generating elements of the site.

### **Trip Generation Evaluation**

The purpose of this evaluation is to first determine peak hour site trips generated by the proposed uses. In addition, the projected site trips will be compared with projected peak hour site trips for permitted uses within the CVC and CVR Districts. The comparison will provide a basis for determining the traffic intensity criteria related to the required use variance.

The amount of traffic generated by the proposed development can best be estimated by a comparison with similar sites. Data published by NJDOT in their HAPS Trip Generation Rates was used to estimate the number of trips to be generated by the proposed site. The HAPS rates are primarily based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11<sup>th</sup> Edition*. NJDOT also has some approved trip generation data for specialty uses that are not contained in the ITE manual.

The proposed uses of the site are most similar to Land Use 310: Hotel for the lodging component, Land Use 831: Quality Restaurant for the tavern and Land Use W09: Banquet Hall for the event facilities. The projection of weekday and weekend peak hour traffic to be generated by the proposed development is summarized in Table 1. The total peak hour trips for the proposed uses are projected to range from 126 to 222 trips per hour. It should be noted that



the actual trip generation should be lower than projected considering the synergy between the lodging, tavern and event uses. It is anticipated that a substantial portion of the lodging patrons will also be attending events and/or patronizing the tavern. Therefore, the estimates in Table 1 are considered to be conservatively high for the proposed Clermont Lodge.

<b>Table 1 HAPS Trip Generation for Proposed Clermont Lodge</b>									
Land Use	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Lodging	34	30	64	42	30	72	48	38	86
Tavern	18	4	22	25	16	41	31	22	53
Playhouse/ Chapel*	22	2	24	41	4	45	45	5	50
Secondary Event Barn*	14	2	16	27	3	30	30	3	33
<b>TOTAL</b>	<b>88</b>	<b>38</b>	<b>126</b>	<b>135</b>	<b>53</b>	<b>188</b>	<b>154</b>	<b>68</b>	<b>222</b>

\* Assumes 90% Inbound and 10% Outbound Directional Split

The portion of the site that fronts Route 9 is in the CVC District which would permit a variety of commercial uses including:

- General Retail with Single Users under 15,000 SF
- Supermarket under 15,000 SF
- Non-drive through Restaurants/Taverns
- Financial Services
- Medical Services
- Offices
- Daycare
- Personal Services
- Health Club/Exercise Facilities
- Theatre/Cinema under 15,000 SF
- Library/Museum/Art Gallery
- Studio for Art, Dance, Music, etc.
- Municipal/Quasi-public Uses
- Houses of Worship
- Public Park, Square or Plaza
- Mixed-use Building with Residential Units

Conditionally permitted uses in the CVC District include:

- General Retail with Drive-through Facilities
- Restaurants/Taverns that serve Alcoholic Beverages
- Liquor Stores
- Financial Services with Drive-through Facilities
- Hotel/Inn
- Hotel with Conference Center
- Campgrounds



The eastern portion of the property is in the CVR Zone. Permitted/conditionally permitted uses in the CVR Zone include:

- Single-family Dwellings
- Two-family Dwellings
- Townhouses
- Park/Public Square
- Community Building & Related Recreational Facilities
- Assisted Living Facility (conditional)
- Residential Health Care Facility (conditional)
- Center Residential Cluster (conditional)

With 30.8 acres, it is anticipated by Vince Orlando's office that the site could be developed in an overall plan with the following permitted uses in the CVC and CVR Districts:

- Supermarket of 15,000 SF (CVC)
- General Retail building of 15,000 SF (CVC)
- Daycare Facility of 6,000 SF (CVC)
- Health Club/Exercise Facility of 12,000 SF (CVC)
- Additional Townhouses (CVR)

Consistent with the methodology in projecting the trip generation for the proposed Clermont Lodge, the amount of traffic to be generated by the permitted uses can best be estimated based on data published by the ITE. The permitted uses in the CVC District are most similar to ITE Land Use 850: Supermarket, Land Use 822: Strip Retail Plaza <40K SF, Land Use 565: Day Care Center and Land Use 492: Health/Fitness Club

Based on ITE data, trips to be generated by these permitted CVC uses during the weekday AM, weekday PM and Saturday peak hours are summarized in Table 2. The total peak hour trips for the permitted uses are projected to range from 160 to 299 trips per hour. It should be noted that additional development within the CVR District portion of the property could be constructed which would increase the peak hour trip projections shown in Table 2.

<b>Table 2 Trip Generation for Permitted Site Development of CVC District</b>									
Land Use	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Supermarket 15,000 SF	25	18	43	67	67	134	76	76	152
General Retail 15,000 SF	21	14	35	49	50	99	50	49	99
Daycare 6,000 SF	35	31	66	31	36	67	6	4	10
Health Club 12,000 SF	8	8	16	24	17	41	19	19	38
<b>TOTAL</b>	<b>89</b>	<b>71</b>	<b>160</b>	<b>171</b>	<b>170</b>	<b>341</b>	<b>151</b>	<b>148</b>	<b>299</b>



Table 3 shows a comparison of the permitted use trips with those to be generated by the proposed property uses. As shown in Table 3, the permitted uses will create substantially more weekday AM, weekday PM and Saturday peak hour site trips than the proposed Clermont Lodge.

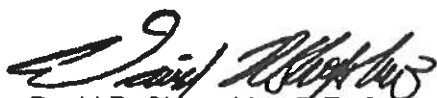
Table 3 Trip Generation Comparison									
Land Use	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Proposed Clermont Lodge	88	38	126	135	53	188	154	68	222
Permitted CVC Site Development	89	71	160	171	170	341	151	148	299
<b>Difference</b>	<b>-1</b>	<b>-33</b>	<b>-34</b>	<b>-36</b>	<b>-117</b>	<b>-153</b>	<b>3</b>	<b>-80</b>	<b>-77</b>


**Conclusion**

The trip generation analysis provided above indicates that the proposed Clermont Lodge is projected to generate significantly less peak hour traffic than permitted uses that could be developed on the site. As the proposed Clermont Lodge would generate less peak hour traffic than permitted uses, the Township zoning ordinance anticipates a higher level of traffic could be permitted on the site. Therefore, from a traffic perspective, the use variance for the proposed Clermont Lodge can be granted without substantial detriment to the public good or a substantial impairment to the zoning ordinance and master plan of Dennis Township.

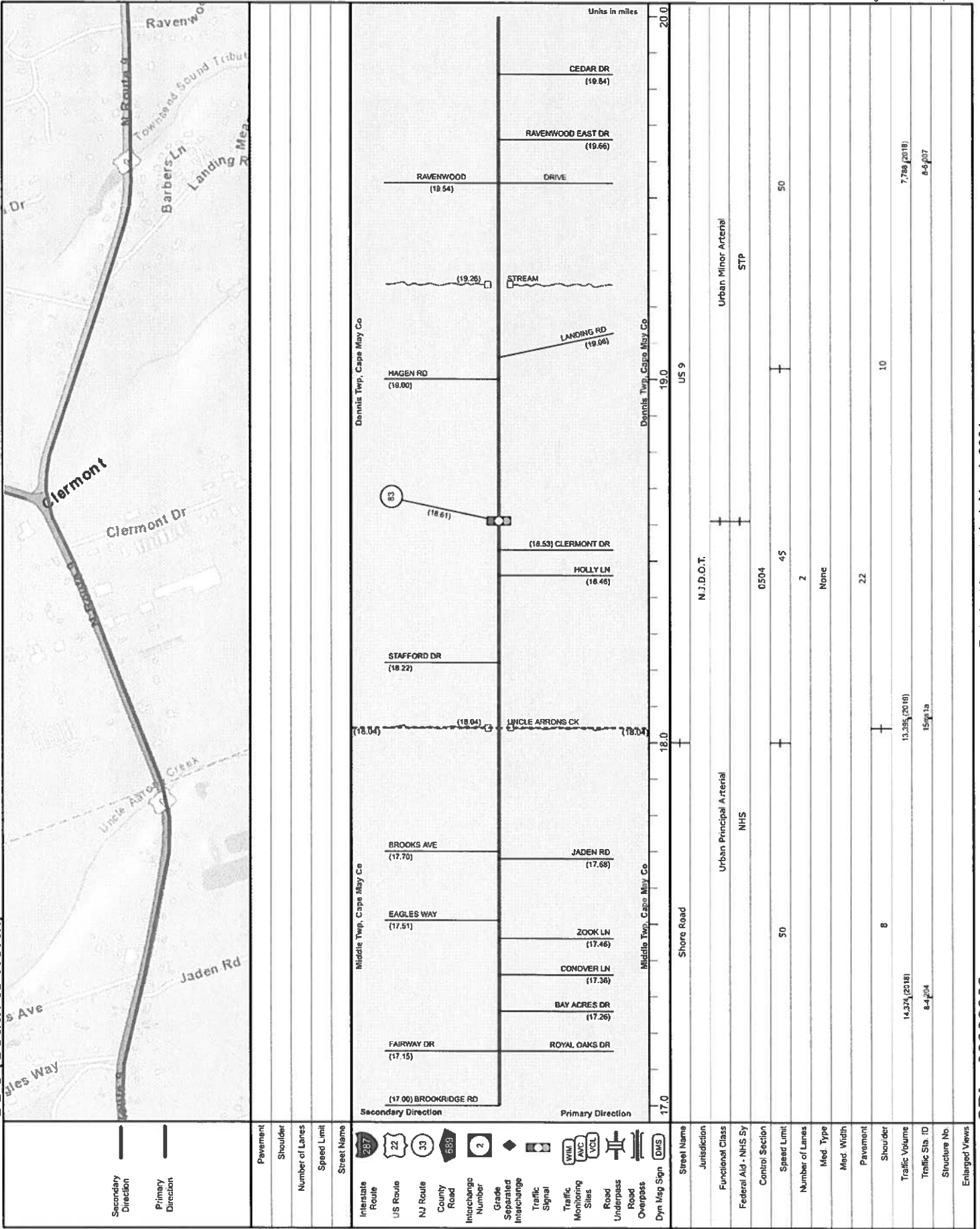
Please let us know if you have any questions.

Sincerely,  
**Shropshire Associates LLC**

  
 David R. Shropshire, P.E., P.P.  
 Principal  
 DRS/jab

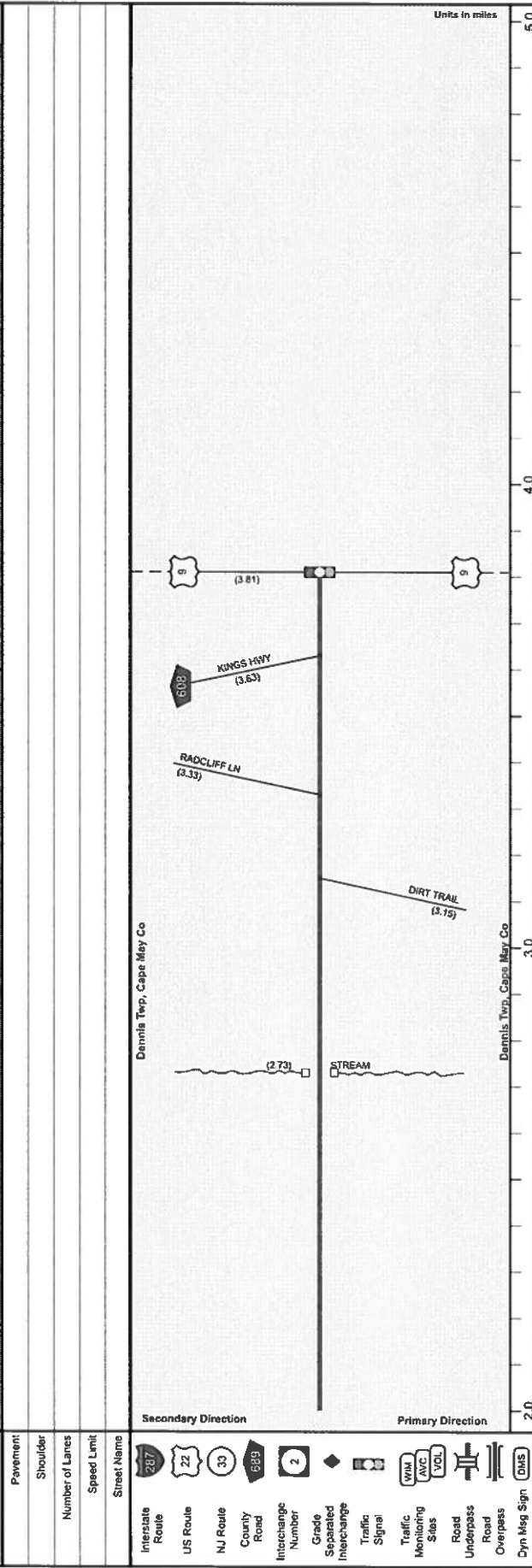
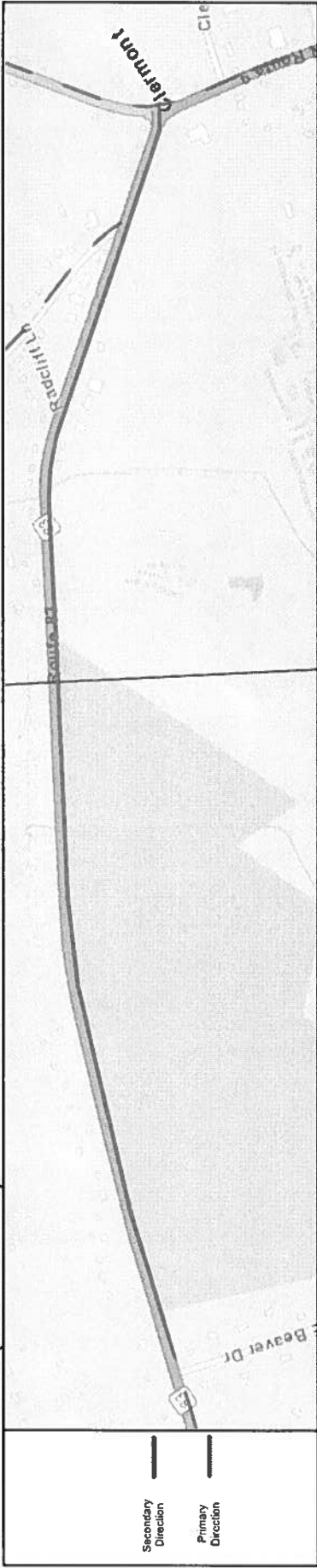
  
 Christopher R. Campbell  
 Traffic Consultant

- cc: *Greg Heflin* (via email: gheflin@brickstoneco.com)  
*John Connors Jr.* (via email: jconnorsjr@brickstoneco.com))  
*Vince Orlando* (via email: vorlando@engineeringdesign.com)  
*Matt Hender* (via email: mhender@engineeringdesign.com)  
*Robert T. Belasco* (Via email: rbelasco@sblawteam.com)  
*David Schultz* (via email: dschultz@dasarchitects.com)



NJ 83 (West to East)

Mile Posts: 2.000 - 3.810



Street Name	Trooper Bertram T Zimmerman III Memorial Highway
Jurisdiction	N.J.D.O.T.
Functional Class	Urban Principal Arterial
Federal Aid - NHS Sy	NHS
Control Section	0512
Speed Limit	50
Number of Lanes	2
Med. Type	None
Med. Width	22
Pavement	8
Shoulder	
Traffic Volume	3,340 (2019)
Traffic Sta. ID	15-028
Structure No.	
Enlarged Views	

SRI = 0000083

Date last inventoried: June 2019

# Hotel (310)

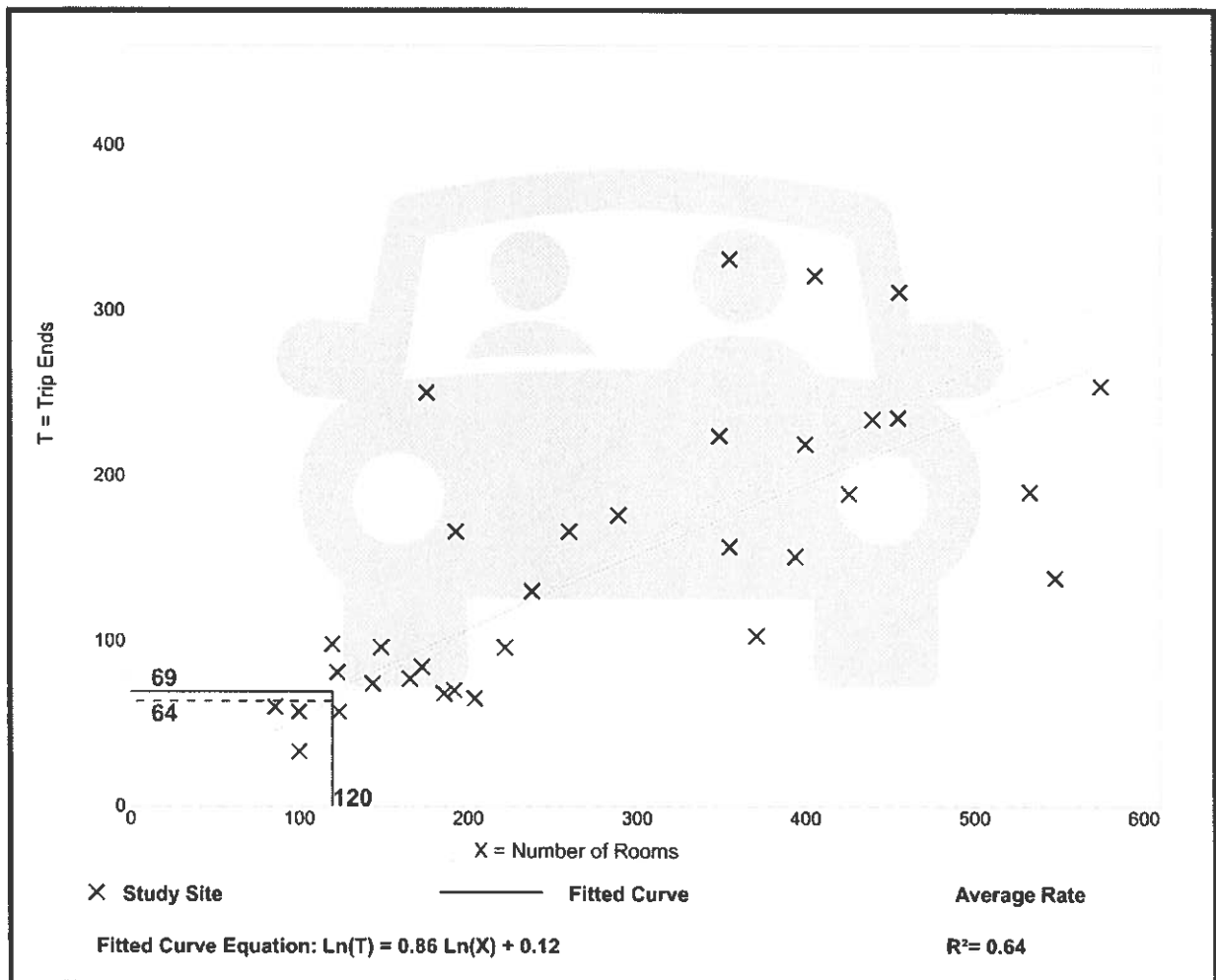
Vehicle Trip Ends vs: Rooms  
 On a: Weekday,  
 AM Peak Hour of Generator

Setting/Location: General Urban/Suburban  
 Number of Studies: 33  
 Avg. Num. of Rooms: 282  
 Directional Distribution: 53% entering, 47% exiting

## Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.53	0.25 - 1.42	0.21

## Data Plot and Equation





# Hotel (310)

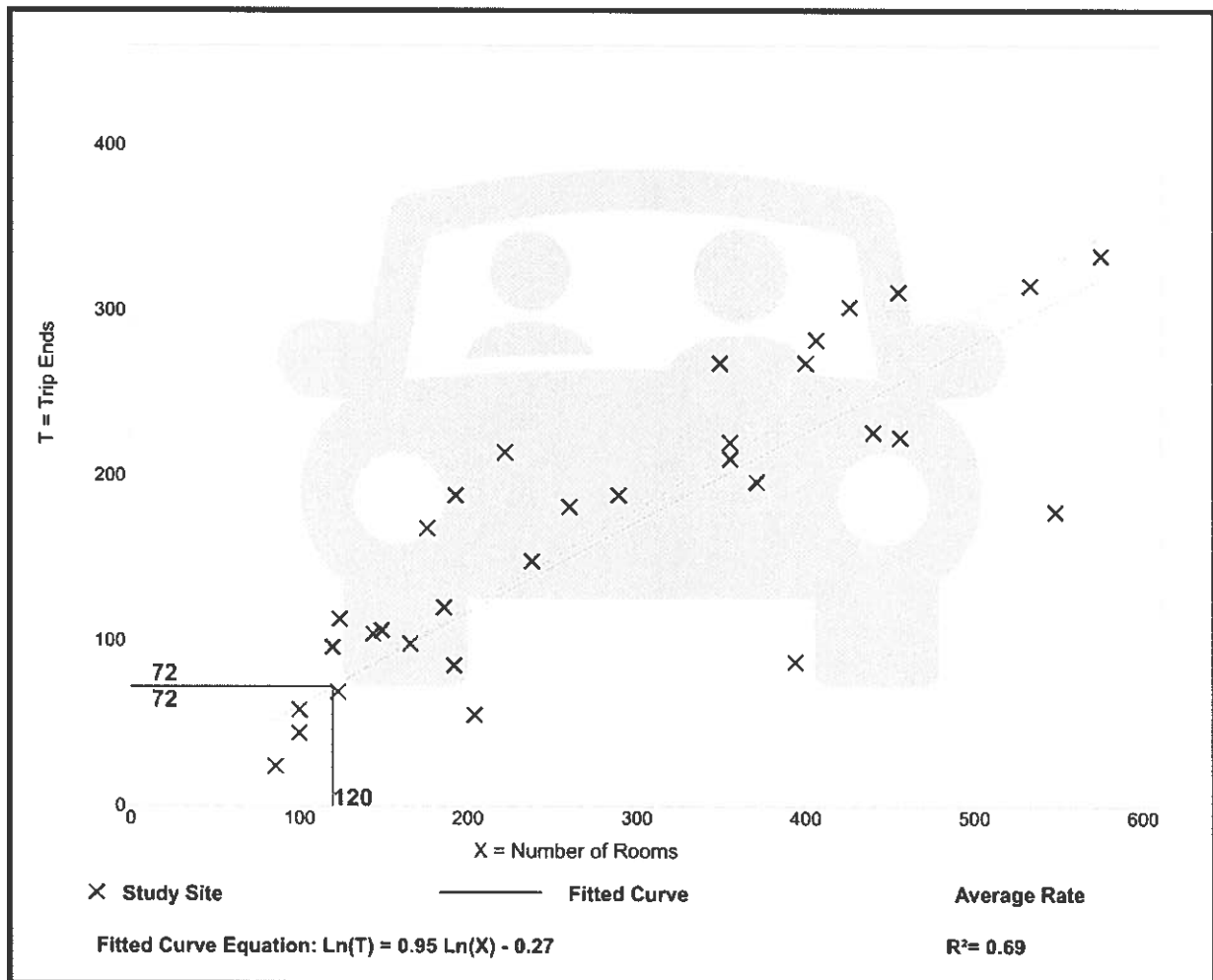
Vehicle Trip Ends vs: **Rooms**  
 On a: **Weekday,**  
**PM Peak Hour of Generator**

**Setting/Location:** **General Urban/Suburban**  
 Number of Studies: 32  
 Avg. Num. of Rooms: 285  
 Directional Distribution: 58% entering, 42% exiting

## Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.60	0.22 - 0.97	0.18

## Data Plot and Equation



# Hotel (310)

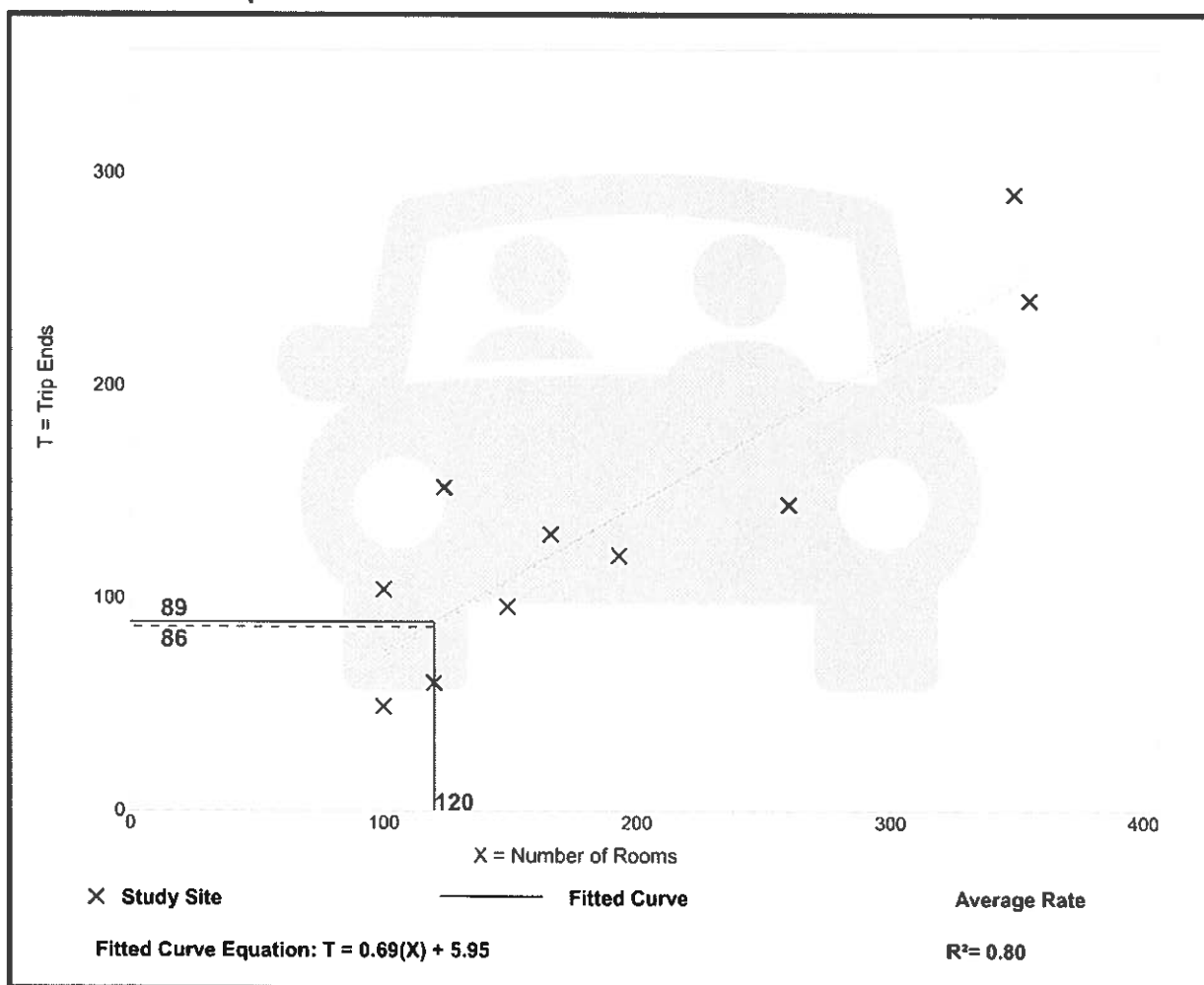
Vehicle Trip Ends vs: Rooms  
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban  
Number of Studies: 10  
Avg. Num. of Rooms: 192  
Directional Distribution: 56% entering, 44% exiting

## Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.72	0.49 - 1.23	0.20

## Data Plot and Equation



# Fine Dining Restaurant (931)

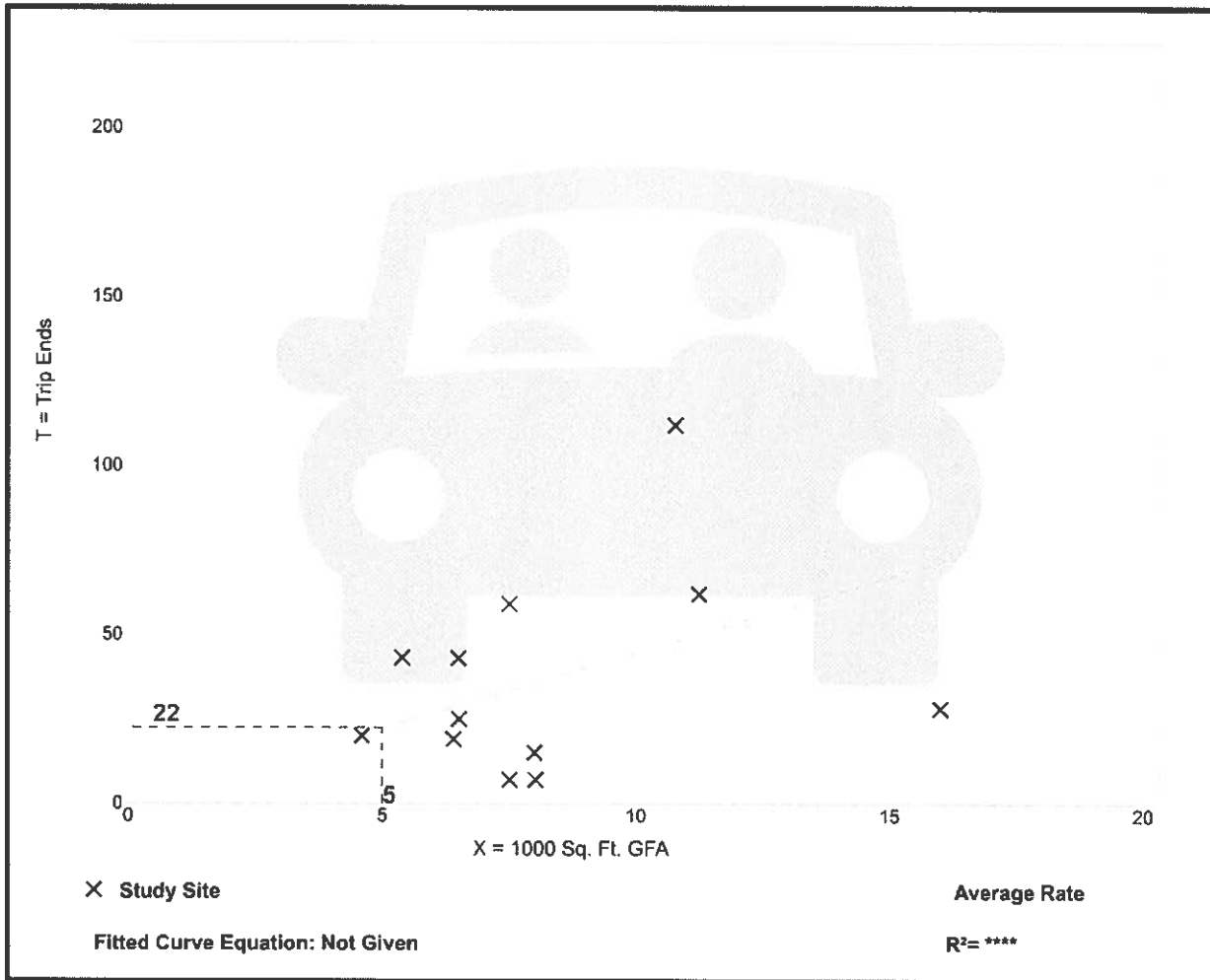
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**AM Peak Hour of Generator**

**Setting/Location: General Urban/Suburban**  
 Number of Studies: 12  
 Avg. 1000 Sq. Ft. GFA: 8  
 Directional Distribution: 80% entering, 20% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.47	0.87 - 10.38	3.26

## Data Plot and Equation



# Fine Dining Restaurant (931)

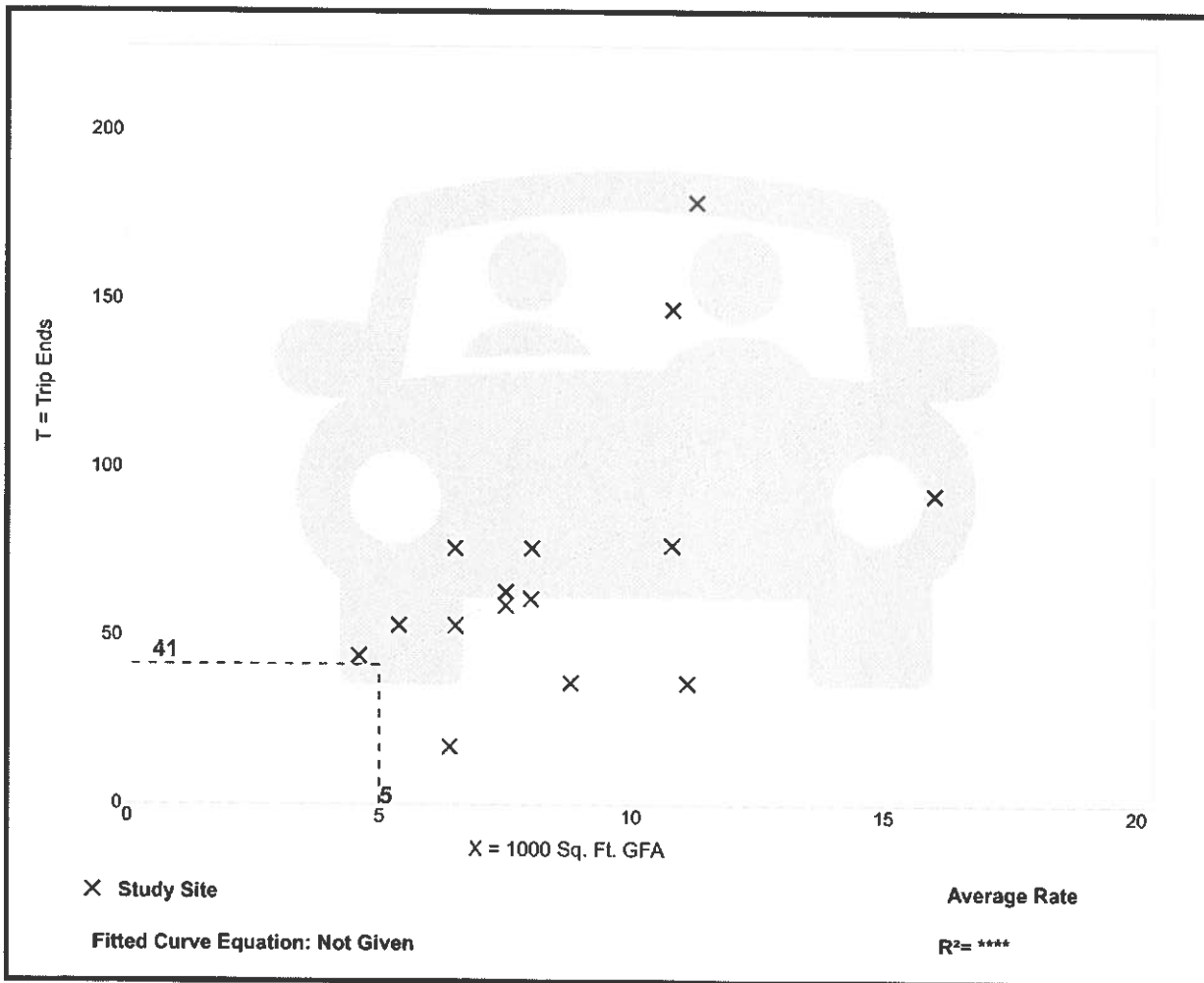
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**PM Peak Hour of Generator**

**Setting/Location: General Urban/Suburban**  
 Number of Studies: 15  
 Avg. 1000 Sq. Ft. GFA: 9  
 Directional Distribution: 61% entering, 39% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.28	2.66 - 15.90	3.89

## Data Plot and Equation



# Fine Dining Restaurant (931)

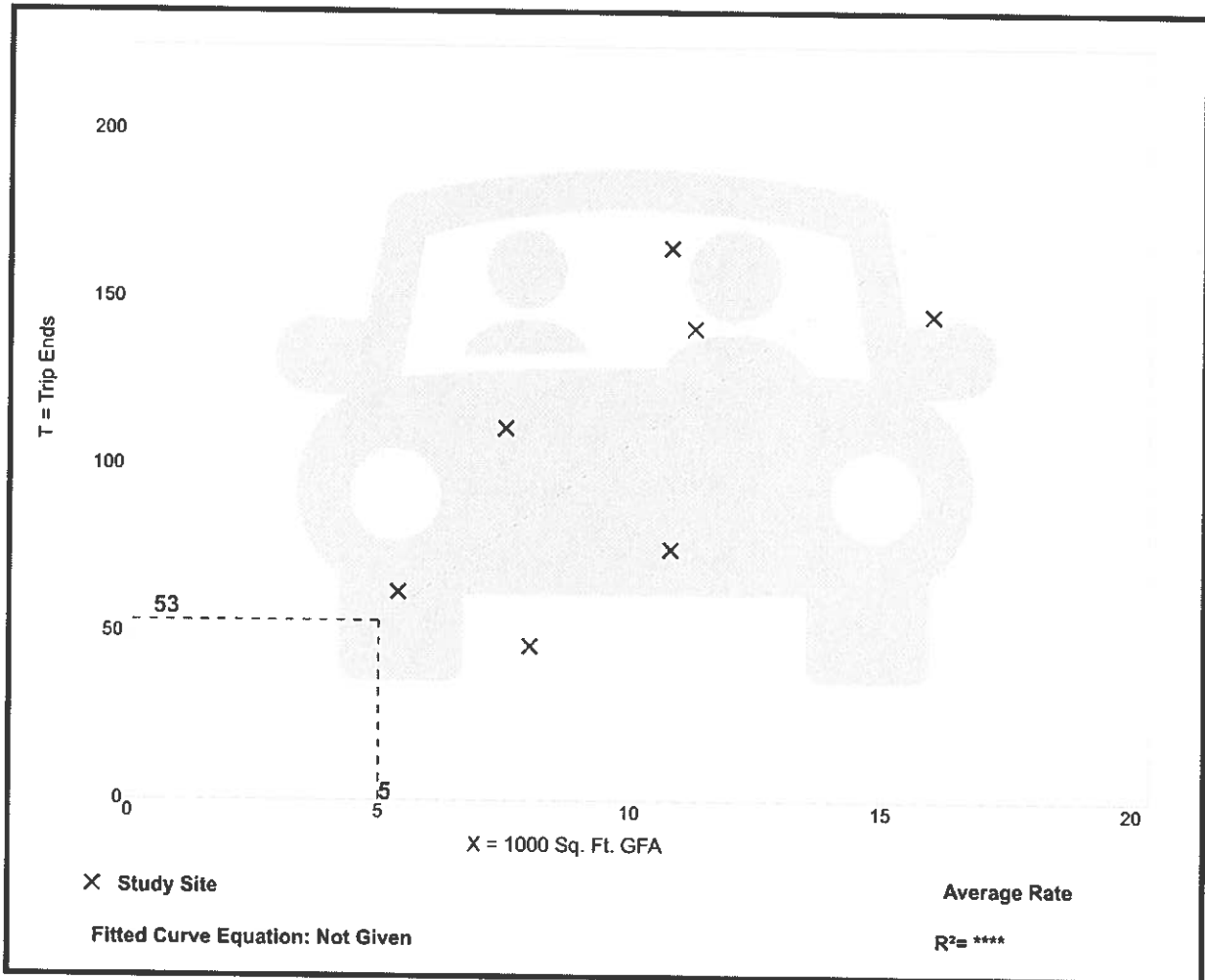
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Saturday, Peak Hour of Generator**

**Setting/Location: General Urban/Suburban**  
 Number of Studies: 7  
 Avg. 1000 Sq. Ft. GFA: 10  
 Directional Distribution: 59% entering, 41% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
10.68	5.75 - 15.29	3.62

## Data Plot and Equation



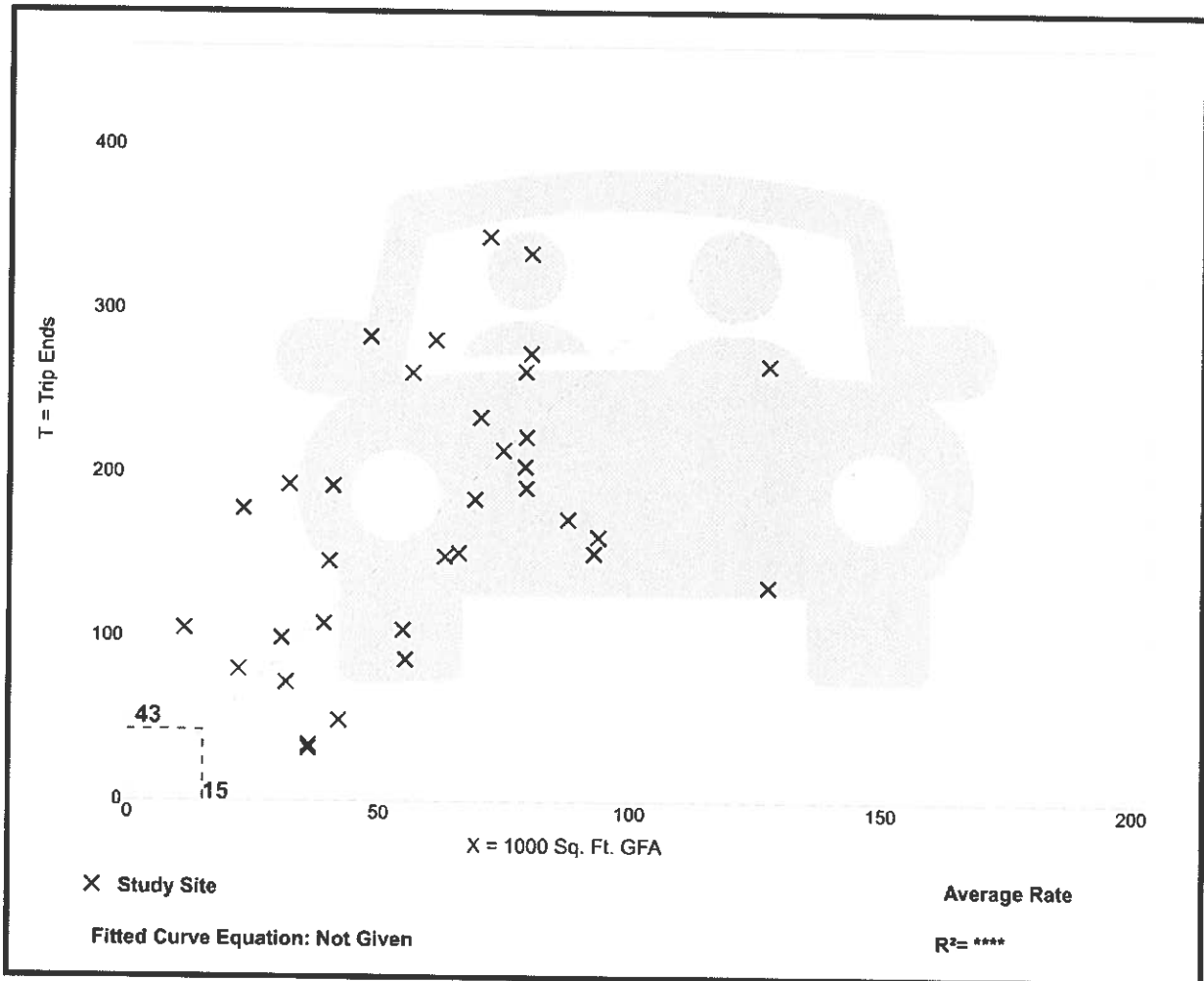
# Supermarket (850)

**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: 34  
 Avg. 1000 Sq. Ft. GFA: 61  
 Directional Distribution: 59% entering, 41% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.86	0.89 - 9.35	1.45

## Data Plot and Equation



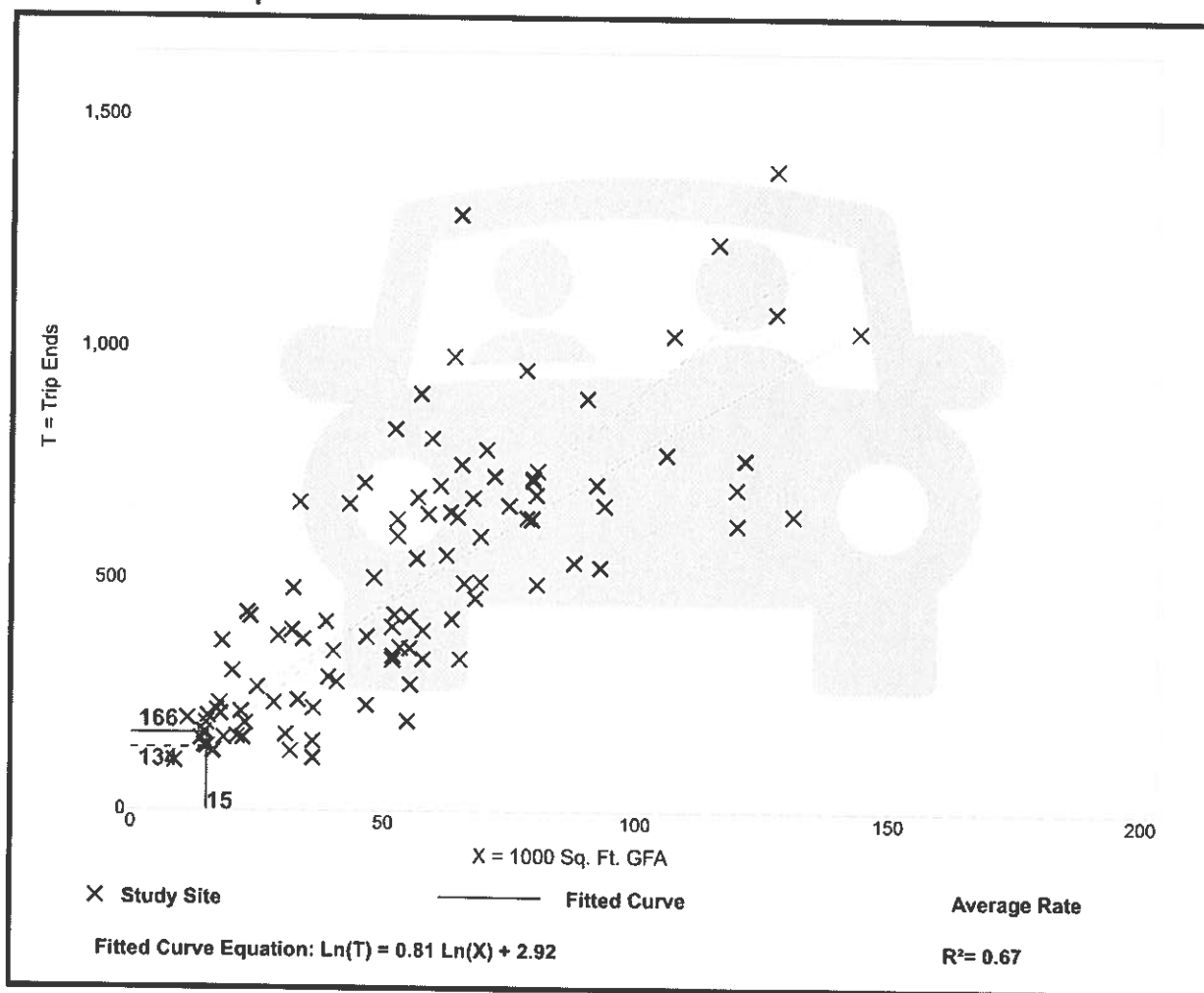
# Supermarket (850)

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: 104  
 Avg. 1000 Sq. Ft. GFA: 55  
 Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.95	3.11 - 20.30	3.32

## Data Plot and Equation



# Supermarket (850)

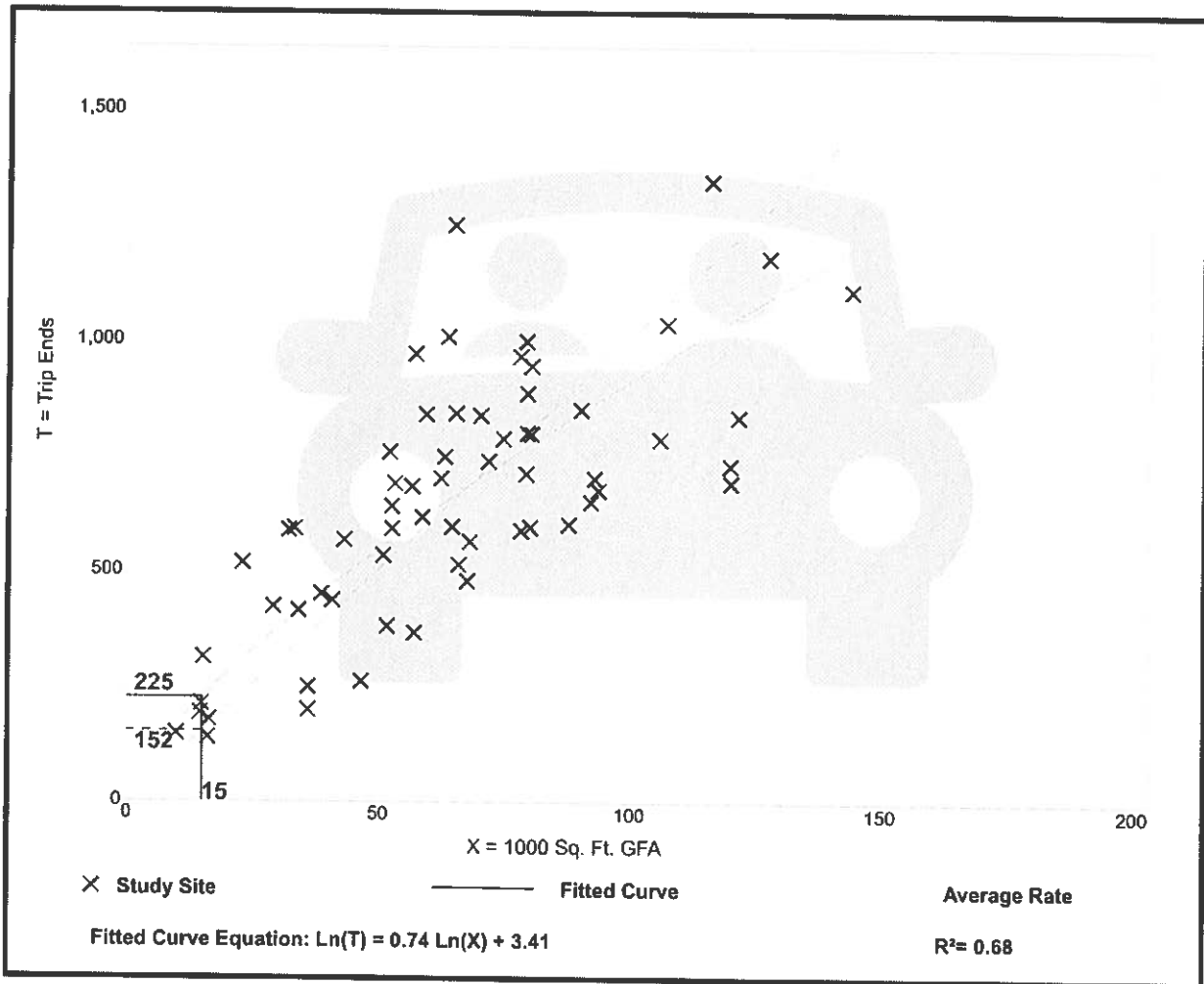
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban  
Number of Studies: 62  
Avg. 1000 Sq. Ft. GFA: 65  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
10.10	5.51 - 22.61	3.30

## Data Plot and Equation





## Strip Retail Plaza (<40k) (822)

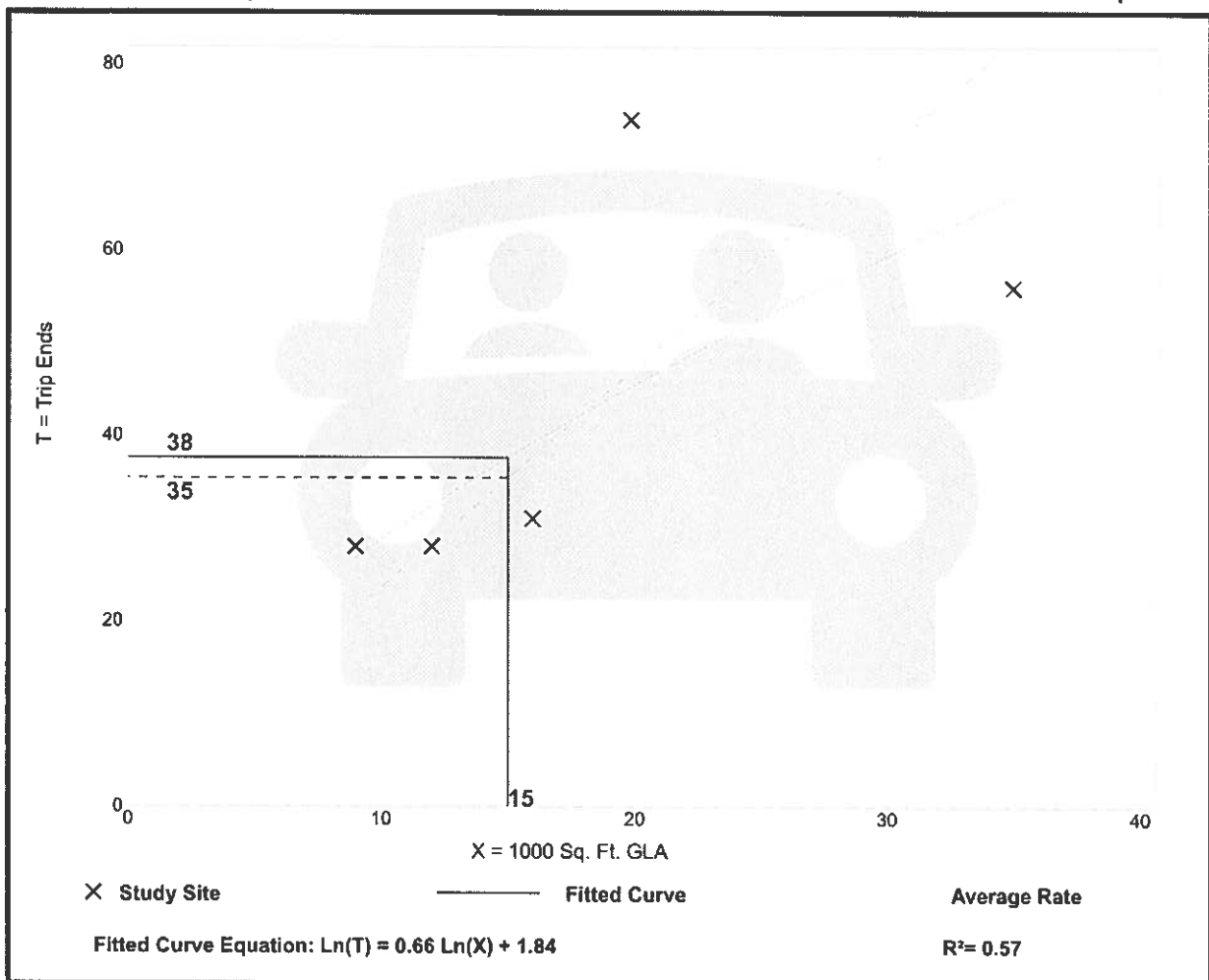
**Vehicle Trip Ends vs:** 1000 Sq. Ft. GLA  
**On a:** Weekday,  
 Peak Hour of Adjacent Street Traffic,  
 One Hour Between 7 and 9 a.m.  
**Setting/Location:** General Urban/Suburban  
 Number of Studies: 5  
 Avg. 1000 Sq. Ft. GLA: 18  
 Directional Distribution: 60% entering, 40% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

### Data Plot and Equation

*Caution – Small Sample Size*



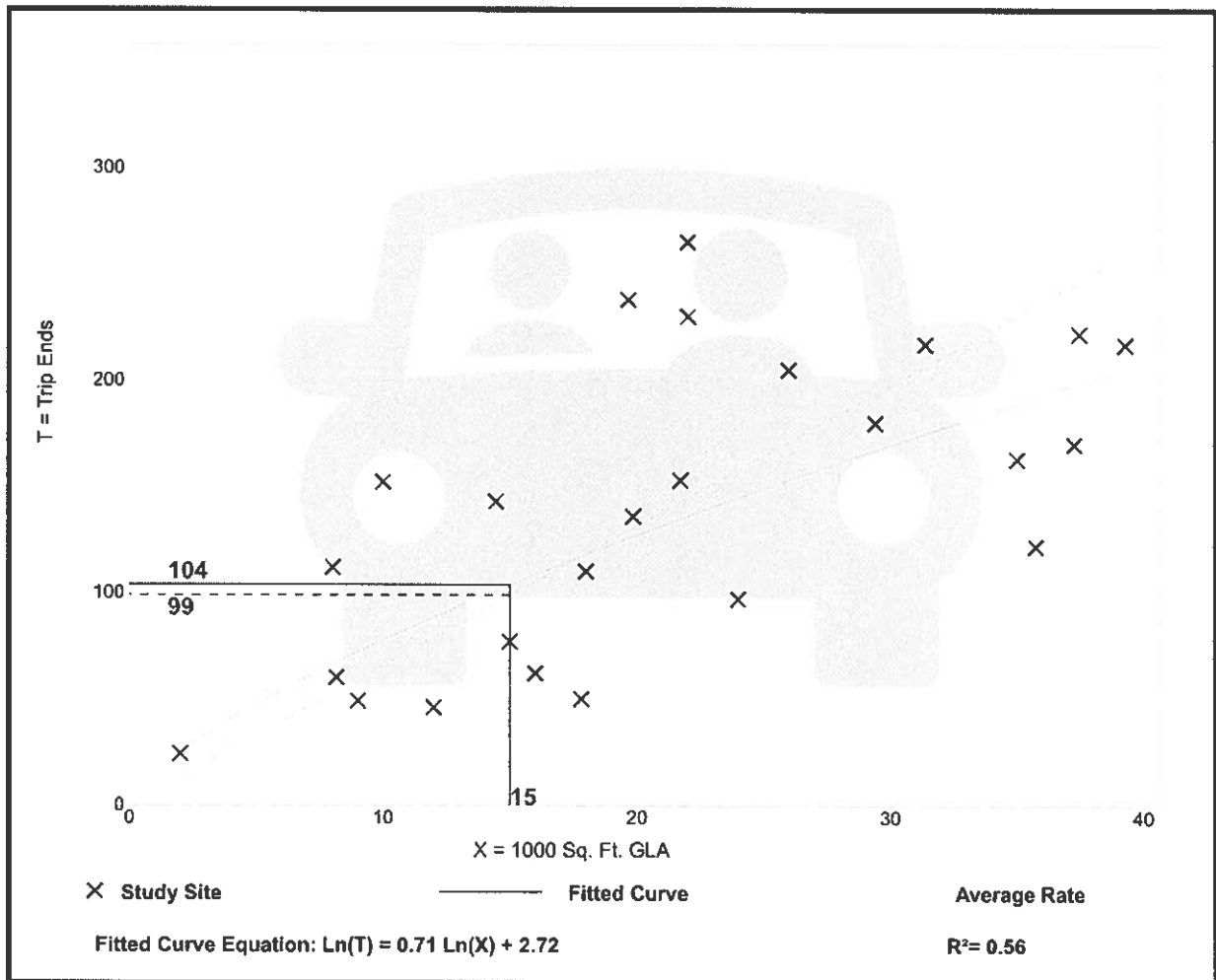
# Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA  
 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: 25  
 Avg. 1000 Sq. Ft. GLA: 21  
 Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

## Data Plot and Equation



# Strip Retail Plaza (<40k) (822)

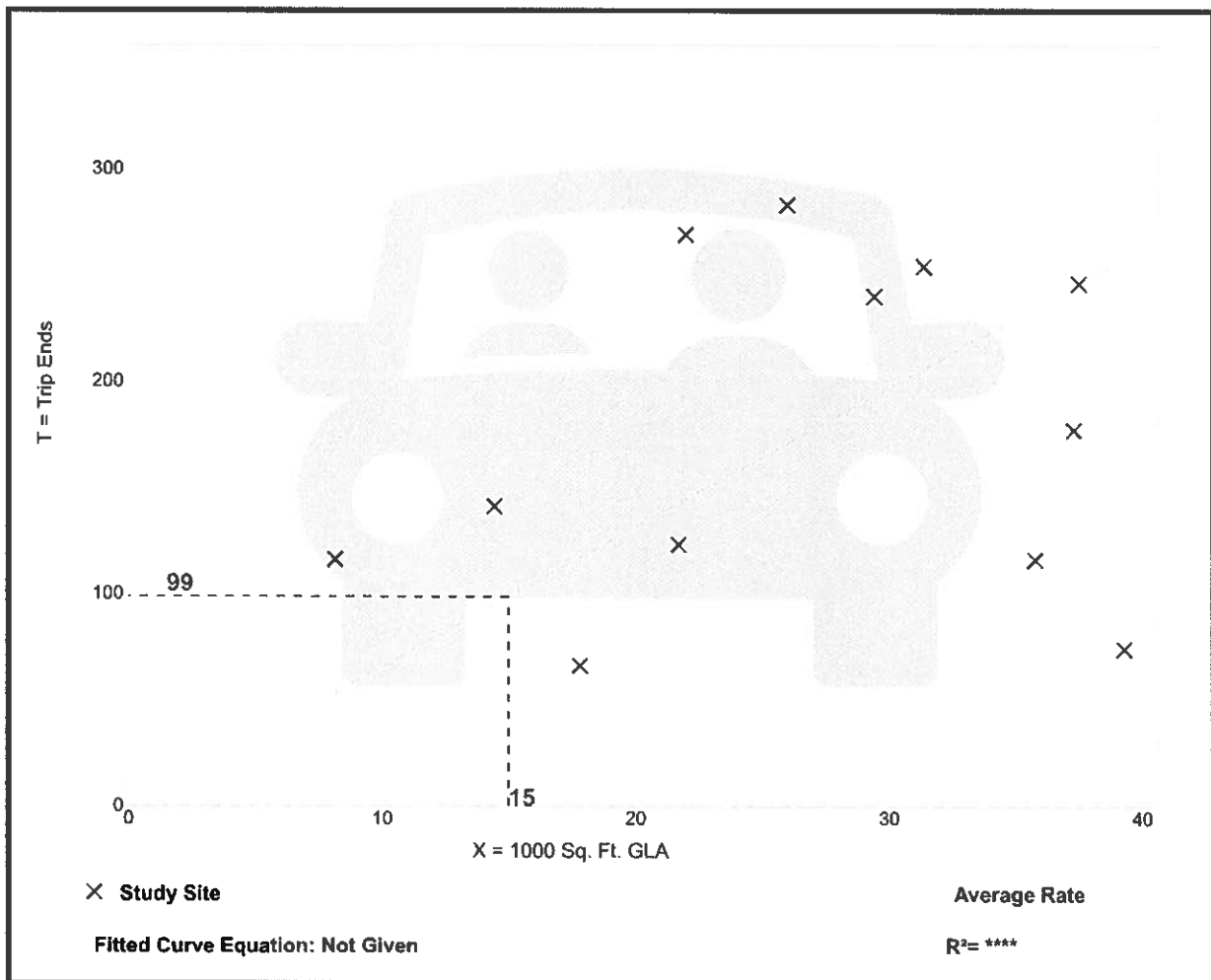
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA  
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban  
Number of Studies: 12  
Avg. 1000 Sq. Ft. GLA: 27  
Directional Distribution: 51% entering, 49% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.57	1.88 - 14.23	3.45

## Data Plot and Equation



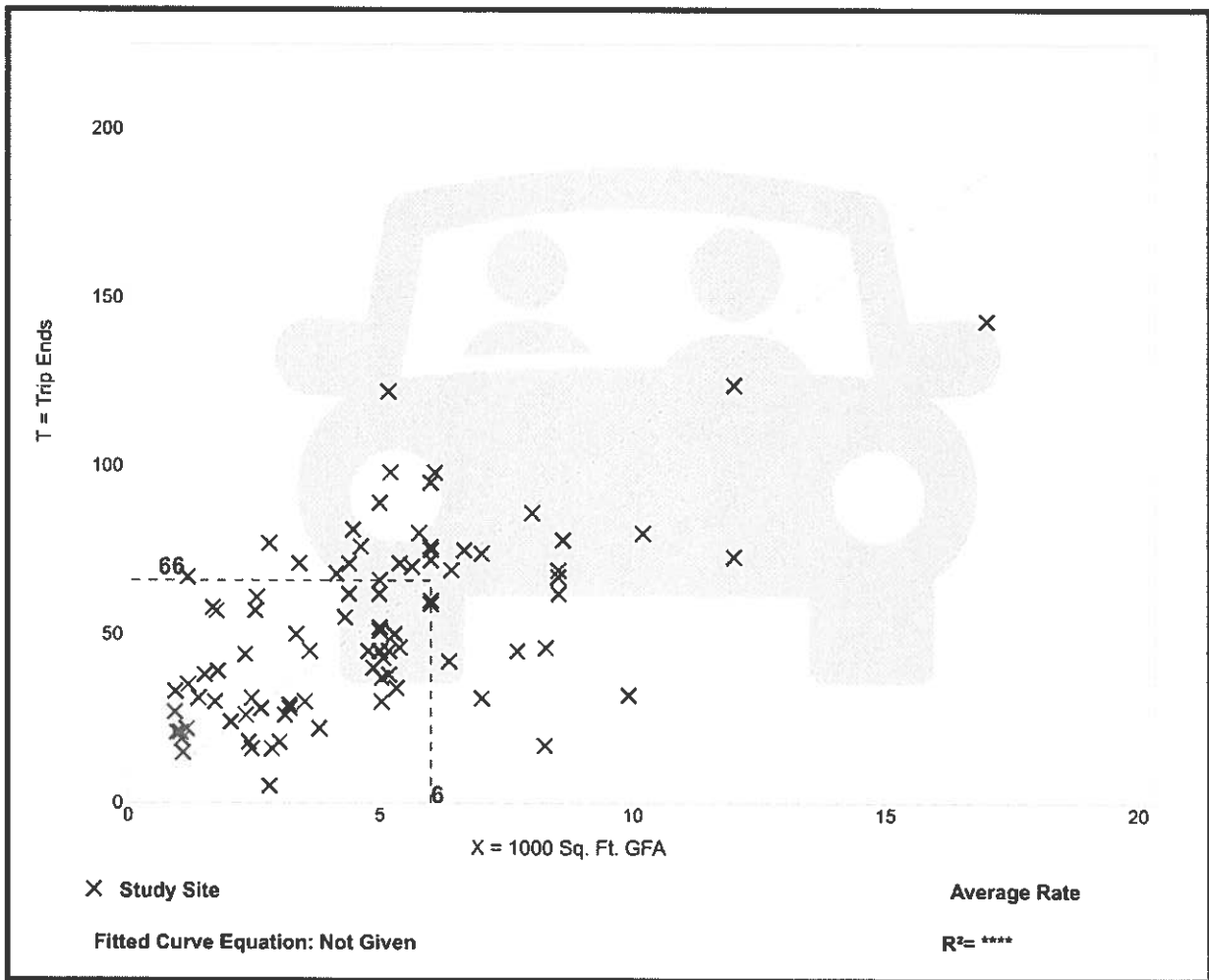
# Day Care Center (565)

**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: 89  
 Avg. 1000 Sq. Ft. GFA: 5  
 Directional Distribution: 53% entering, 47% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.00	1.79 - 57.02	6.08

## Data Plot and Equation



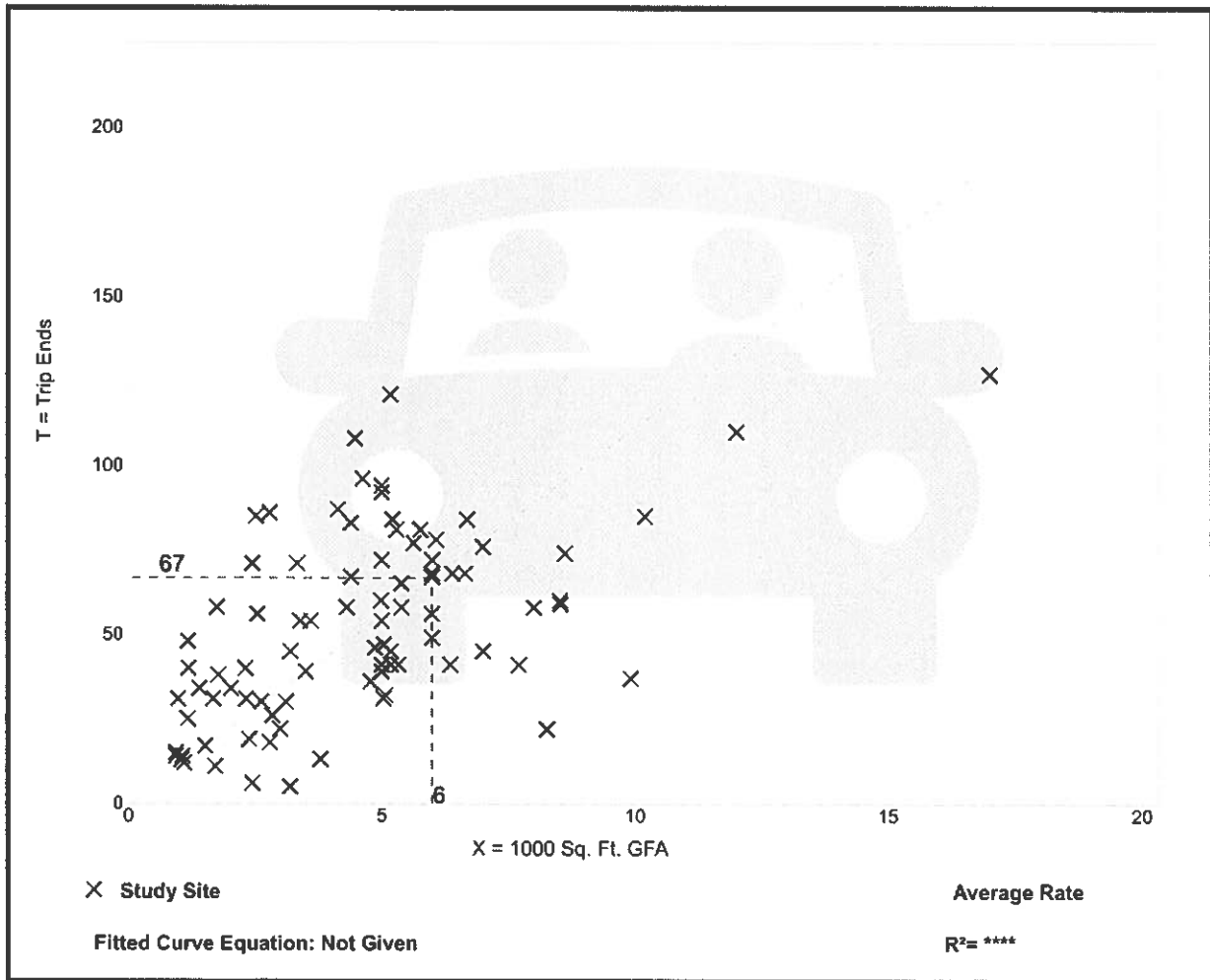
# Day Care Center (565)

**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: 90  
 Avg. 1000 Sq. Ft. GFA: 5  
 Directional Distribution: 47% entering, 53% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.12	1.56 - 40.85	6.28

## Data Plot and Equation



# Day Care Center (565)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Saturday, Peak Hour of Generator**

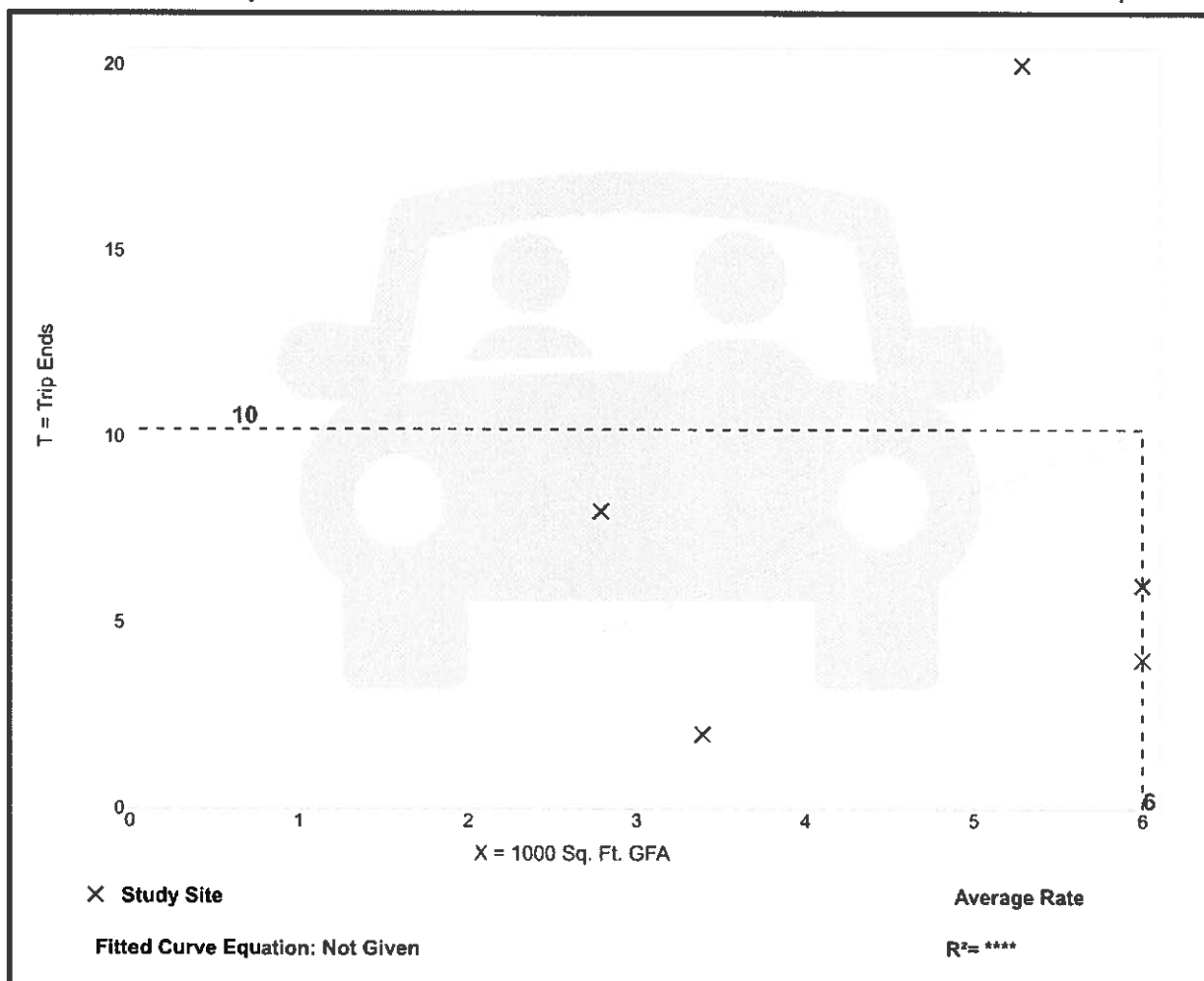
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 5  
 Avg. 1000 Sq. Ft. GFA: 5  
 Directional Distribution: 63% entering, 37% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.70	0.59 - 3.78	1.46

## Data Plot and Equation

*Caution – Small Sample Size*



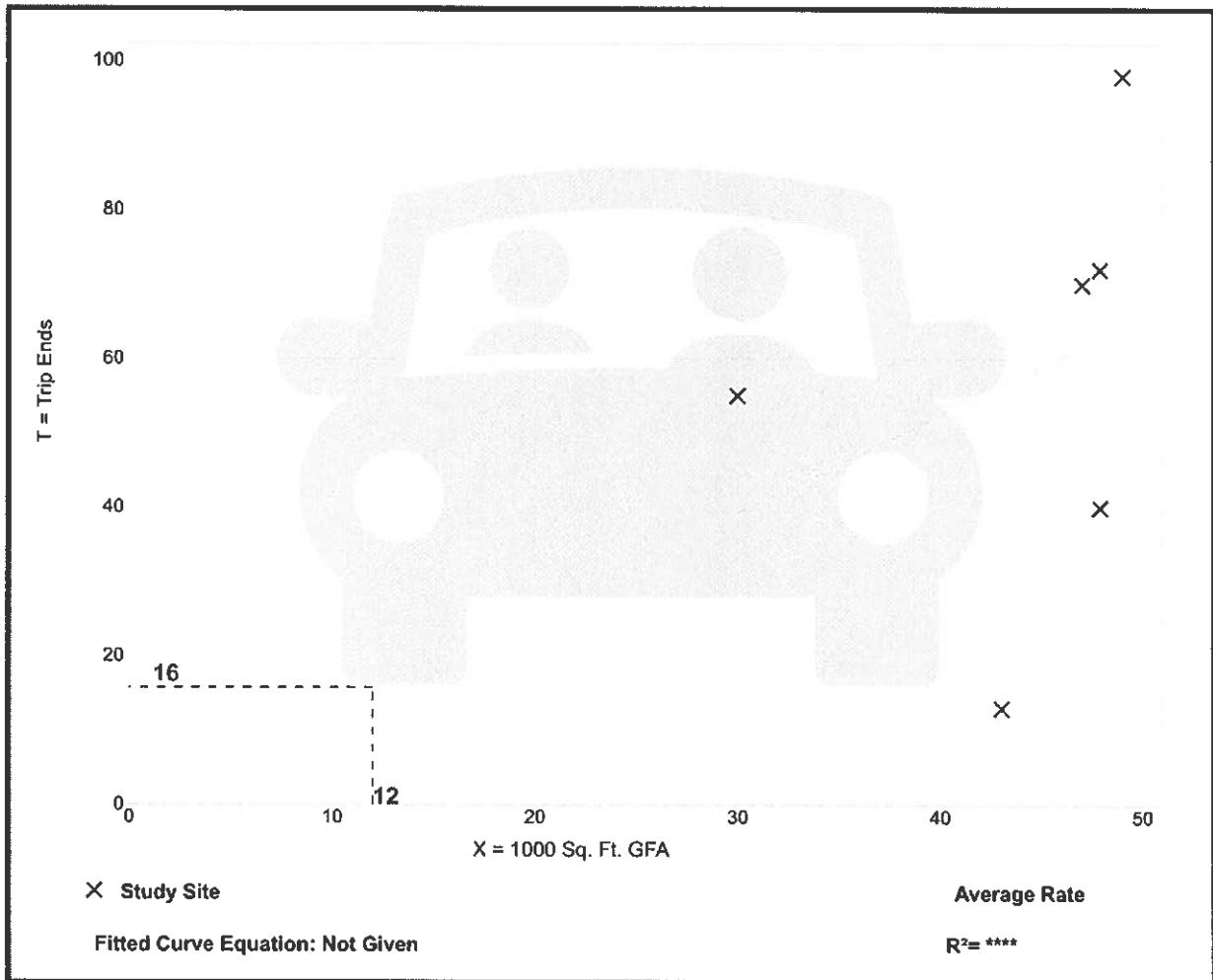
# Health/Fitness Club (492)

**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: 6  
 Avg. 1000 Sq. Ft. GFA: 44  
 Directional Distribution: 51% entering, 49% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.31	0.30 - 2.00	0.64

## Data Plot and Equation



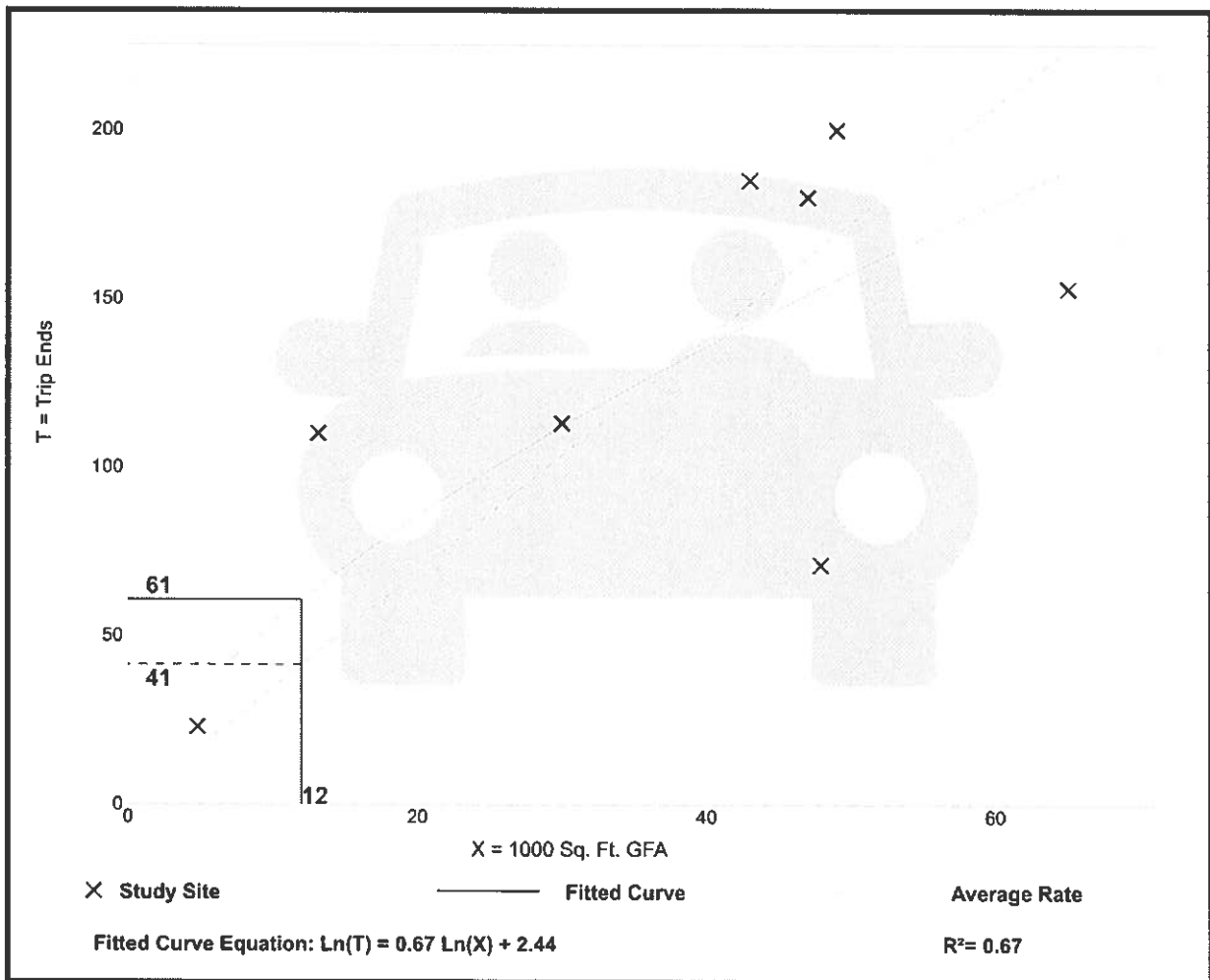
# Health/Fitness Club (492)

**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: 8  
 Avg. 1000 Sq. Ft. GFA: 37  
 Directional Distribution: 57% entering, 43% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.45	1.48 - 8.37	1.57

## Data Plot and Equation





# Health/Fitness Club (492)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Saturday, Peak Hour of Generator**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 3  
Avg. 1000 Sq. Ft. GFA: 16  
Directional Distribution: 49% entering, 51% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.19	2.87 - 4.03	0.63

## Data Plot and Equation

*Caution – Small Sample Size*

