

December 29, 2025

Shannon Meagher, Director of Housing Development & Special Projects
Widmyer Corp
601 W Main Avenue, Ste 400
Spokane, Washington 99201



RE: TRIP GENERATION AND DISTRIBUTION LETTER BETHANY VILLAGE – SPOKANE, WASHINGTON

Dear Ms. Meagher:

Thank you for retaining CivTech to provide a Trip Generation and Distribution Letter for Bethany Village (the "**Project**"), located in Spokane, Washington. The **Project** is located on the Bethany Church site. Since the building itself burned a few years ago, the site is now planned for redevelopment into 22 low-income housing units and a 7,270 square foot (SF) community building which will function as a church, gathering place and meeting facility. The previous Bethany Church was a single multi-story building totaling 35,223 SF.

This trip generation and distribution letter (TGDL) will provide a brief description of the **Project**, the surrounding roadway network, the anticipated trips generated by the **Project**, and an assignment of trips to the existing roadway network.

BACKGROUND AND PURPOSE

This traffic letter is required by the City of Spokane to satisfy the initial application and State Environmental Protection Act (SEPA) checklist, to determine the traffic impact fee, and to obtain building permits. The purpose of this traffic letter is to document the amount of traffic anticipated to be added to the transportation system by the **Project**, and to estimate which routes the traffic is likely to utilize.

METHODOLOGY

The TGDL utilizes the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 12th Edition* and *Trip Generation Handbook, 3rd Edition* to estimate site traffic volumes for this development. Data utilized from the *Trip Generation Manual, 12th Edition* can be found in **Attachment C**.

This site is ideally located for low income housing whose residents may not have access to a vehicle. Spokane Transit route 34 travels on Ray Street, with stops available at 28th Avenue, one block to the south. The shopping opportunities of Lincoln Heights are also within walking distance of this site. Sidewalks are available on the surrounding streets, and bicycles are allowed on all surrounding streets. This development is not expected to generate any measurable increase either rail or air travel.

Trip distribution patterns for vehicles associated with the site were derived for the proposed development based on likely routes and destinations in the surrounding area.

EXISTING CONDITIONS

The **Project** is located on the south hill of Spokane, Washington, with Ray Street forming the west border, 26th Avenue forming the northern border and 27th Avenue forming the southern border. Ray Street is a principal arterial on the Spokane arterial network. Both 26th Avenue and 27th Avenue are local access streets that serve the surrounding land uses. The site is located on parcel 35273.0618, approximately 900 feet north of 29th Avenue, another principal arterial. West of Ray Street, 27th Avenue is a minor collector.

SURROUNDING LAND USES

Surrounding land uses include existing residential to the north, south, and east. West of the site, across Ray Street are various small office buildings as well as the Thorton Murphy Park and Southside Senior Activity Center. The site itself is located within the City of Spokane. A detailed vicinity map can be found in **Attachment B**.

EXISTING LAND USE

The site is currently zoned R-1 (Residential – 1) and is currently occupied by a single multi-story building totaling 35,223 square feet that was used as a church with school, office, and meeting rooms, with parking and landscaping as required when it was originally constructed. This building experienced a fire a few years ago, and although it is still standing is not currently usable. This building is planned for removal in anticipation of the development.

PROPOSED DEVELOPMENT

The **Project** will redevelop the 1.43 acre site into 22 low-income residential units with a 7,270 square foot community building. The site plan is included in **Attachment A**.

PROPOSED ACCESS

Access to the site will be at two (2) access points, one to 26th Avenue and one to 27th Avenue. Movements from 27th Avenue at Ray Street area restricted to right-in/right-out due to raised channelization on Ray Street.

TRIP GENERATION

The potential trip generation for the proposed development was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 12th Edition* and *Trip Generation Handbook, 3rd Edition*. The ITE *Trip Generation Manual* contains data collected by various transportation professionals for a wide range of different land uses. The data are summarized in the report and average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized land use. The report provides information for daily and weekday peak hour trips.

The ITE Land Use Codes 223 (*Affordable Housing – Income Limits*) and 560 (*Church*) were applied to the land uses to generate trips for the site. The anticipated trip generation is summarized in **Table 1**. Detailed trip generation calculations, along with data provided by the ITE *Trip Generation Manual, 12th Edition* are provided in **Attachment C**.

Table 1 – Trip Generation

Scenario	ITE Code	ITE Land Use Name	Quantity	Units [†]	AM Distribution		PM Distribution				
					In	Out	In	Out			
Previous	560	Church	35.223	KSF	62%	38%	41%	59%			
As Proposed	223	Affordable Apmt – Income	22	DUs	29%	71%	59%	41%			
	560	Church	7.270	KSF	62%	38%	41%	59%			
Scenario		ADT		AM Peak Hour			PM Peak Hour				
		Rate	Total	Rate	In	Out	Total	Rate	In	Out	Total
Previous											
Church		6.78	238	0.37	8	5	13	0.44	7	9	16
As Proposed											
Affordable Apmt- Income		10.06	222	0.99	6	16	22	0.80	11	7	18
Church		6.78	50	0.37	2	1	3	0.73	2	3	5
As Proposed Total			272		8	17	25	0.73	13	10	23
Difference [‡]		-	+34	-	0	+12	+12	-	+6	+1	+7

Notes: *All average rates were calculated by dividing total trips generated using regression equation by the number of dwelling units. (See below.)

[†] DUs = Dwelling Units [‡] As Proposed minus As Zoned

CALCULATIONS (Equations shown only where applicable)			
Scenario	Daily	AM Peak Hour	PM Peak Hour
Existing	WA: $T = 35.223 \times 6.78$	FC: $T = 35.223 \times 0.37$	WA: $T = 0.37 \times 35.223 + 2.59$
As Proposed	FC: $T = 3.73 \times 22 + 139.35$	FC: $T = 0.21 \times 22 + 17.21$	FC: $LN(T) = 0.72 \times LN(22) + 0.64$
	WA: $T = 7.270 \times 6.78$	WA: $T = 7.270 \times 0.37$	FC: $T = 0.37 \times 7.270 + 2.59$

The proposed development is anticipated to generate 272 weekday daily trips, 25 trips during the AM peak hour, and 23 trips during the PM peak hour. The proposed development in comparison to the existing land use could have a net increase of 34 additional weekday daily trips, 12 additional trips during the AM peak hour, and 7 additional trips during the PM peak hour.

TRIP DISTRIBUTION & ASSIGNMENT

Trip distribution patterns were assumed for the proposed development based on likely destinations and routes in the surrounding area. The resulting trip distribution percentages for the study area are shown in **Table 2**.

Table 2 - Site Trip Distribution

Direction (To/From)	Percentage
	Pop.
North on Ray Street	60%
South on Ray Street	30%
North on Freya Street	5%
South on Freya Street	5%
Total	100%

As 27th Avenue at Ray Street is limited to right-in/right-out movements, inbound traffic from the north and outbound traffic to the south is unable to utilize this intersection. Some of this traffic will use the 26th Avenue access point to Ray Street, while other traffic will use Freya Street.

CONCLUSIONS

From the above, the following can be concluded:

- The previous church is projected to generate 238 weekday daily trips, 13 (8 in/5 out) trips during the AM peak hour, and 16 (7 in/9 out) trips during the PM peak hour.
- The **Project** is anticipated to generate 272 weekday daily trips, 25 (8 in/17 out) trips during the AM Peak Hour, and 23 (13 in/10 out) trips during the PM Peak Hour.
- When compared with the previous church located on the site, the site will see a slight increase in traffic volumes: **34 daily trips, 12 A.M. peak hour trips, and 7 P.M. peak hour trips.**
- The assignment and distribution of site volumes can be found in **Attachment B.**
 - 60% of traffic is expected to travel north on Ray Street
 - 30% of traffic is expected to travel south on Ray Street
 - 5% of traffic is expected to travel north on Freya Street
 - 5% of traffic is expected to travel south on Freya Street

Thank you for allowing CivTech to assist you on this project. Please contact me with any questions you may have on this Trip Generation & Distribution Letter.

Sincerely,

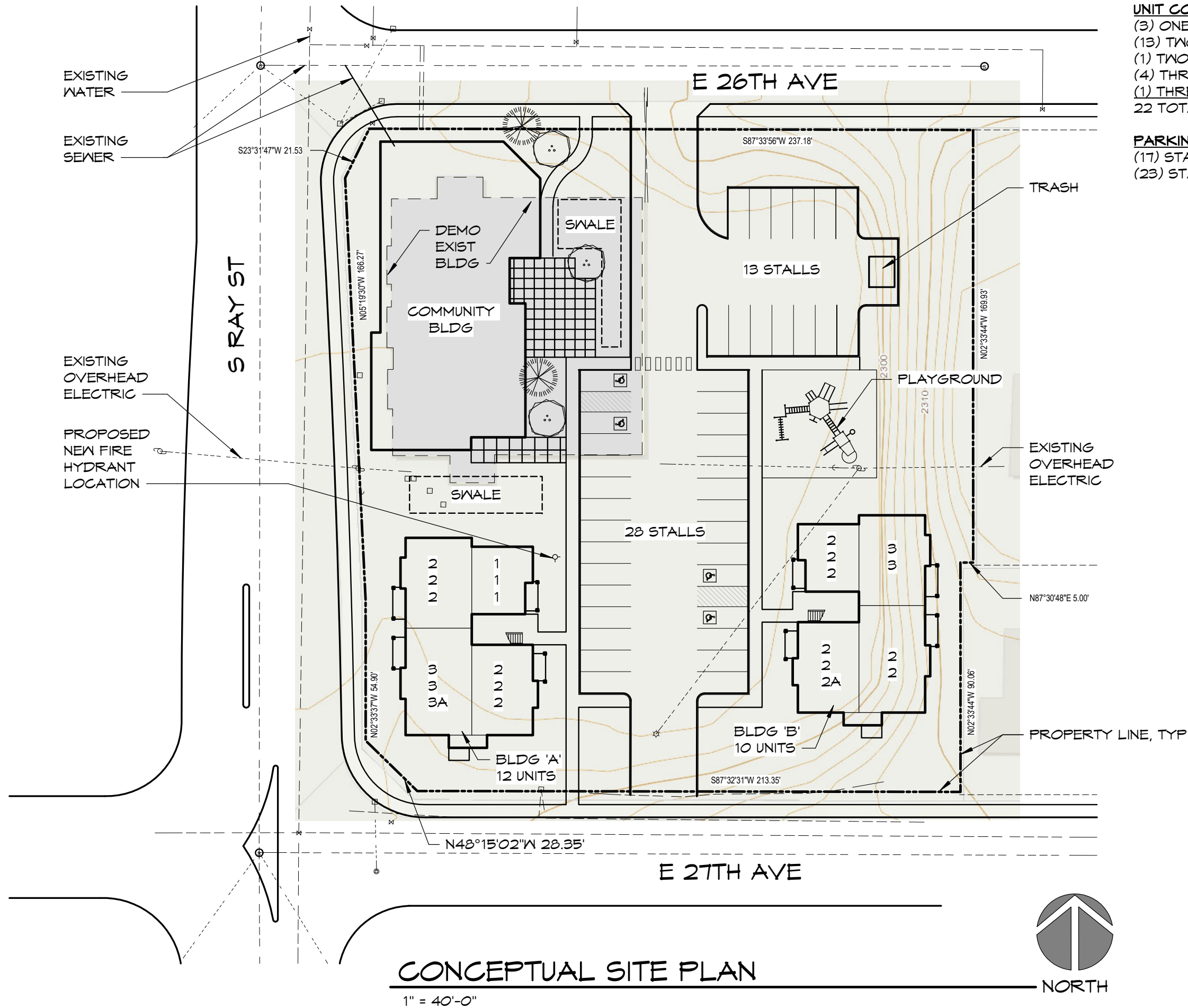
CivTech



Ann L. Winkler, PE
Senior Traffic Engineer

Attachments (3)

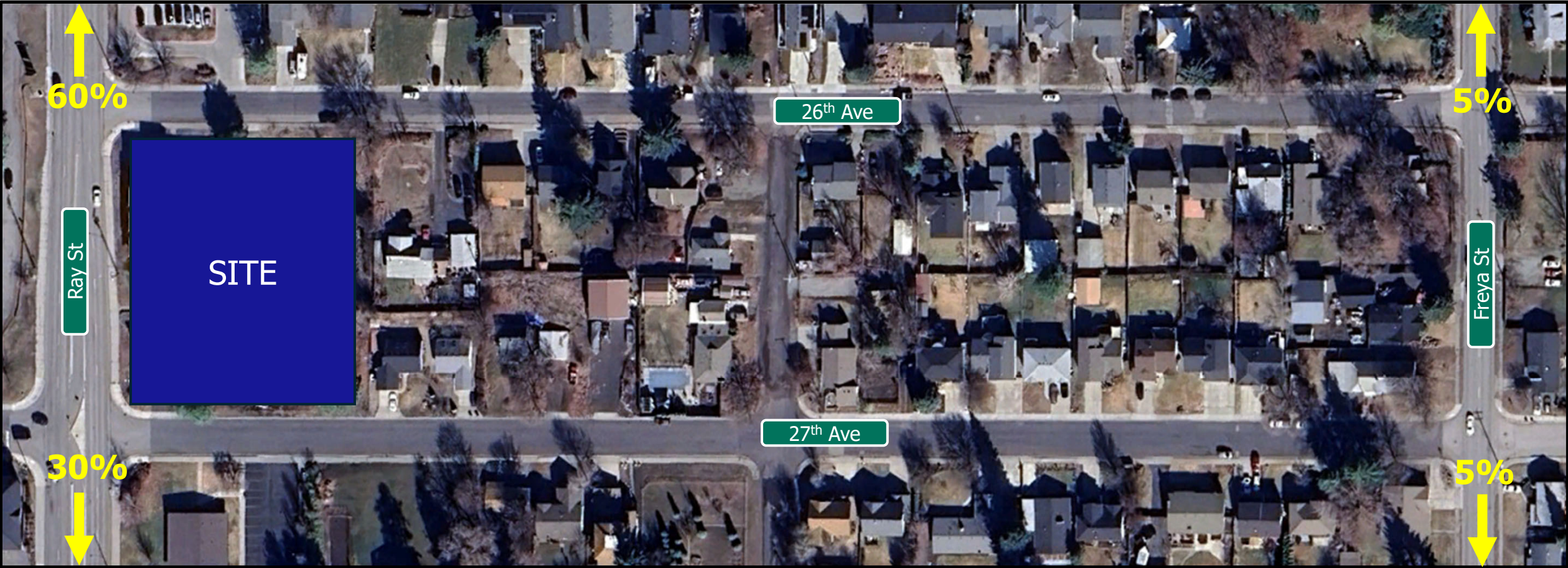
- A. Site Plan
- B. Vicinity Map and Trip Distribution
- C. Trip Generation Calculations



UNIT COUNT
(3) ONE-BEDROOM UNITS
(13) TWO-BEDROOM UNITS
(1) TWO-BEDROOM, TYPE 'A'
(4) THREE-BEDROOM
(1) THREE-BEDROOM, TYPE 'A'
22 TOTAL UNITS

PARKING
(17) STALLS AT COMMUNITY
(23) STALLS AT RESIDENTIAL

2607 S RAY
PROCLAIM LIBERTY
04/28/25
PN: 2315



Methodology Overview

This form facilitates trip generation estimation using data within the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 11th Edition and methodology described within ITE's Trip Generation Handbook, 3rd Edition. These references will be referred to as Manual and Handbook, respectively. The Manual contains data collected by various transportation professionals for a wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The Handbook explains the methodology for how to use data contained within the Manual, such as when to use the fitted curve instead of the average rate, when adjustments to the volume of trips are appropriate, how to make them, etc. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type & Site Characteristics

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common).

Land Use Types and Size

Proposed Use	Amount Units	ITE LUC	ITE Land Use Name
Church and Parish House	35.223 1,000 square feet	560	Church

Box 2 - Define Site Context

Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The Manual separates data into 4 setting categories - Rural, General Urban/Suburban, Dense Multi-Use Urban and Center City Core. This worksheet uses the following abbreviations, respectively: R, G, D, and C. The Manual does not have data for all settings of all land use codes. See the table on the next page titled "Site Context and Time Periods" - if this table is not provided, the "General Urban/Suburban" setting is used by default.

Box 3 - Define Analysis Objectives Types of Trips & Time Period

This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Site Context and Time Periods - Actual Setting, Setting Data Available for LUC, Setting Used in Analyses

Proposed Use	Setting	ADT		AM Peak Hour		PM Peak Hour		(not used)	
		Available	Used	Available	Used	Available	Used	Available	Used
Church and Parish House	General Urban/Suburban G	G	G	G	G	G	G		

If the desired setting is not available within the *Manual*, adjustments may be made in Boxes 6 through 8.

Box 4 - Is Study Site Multimodal?

Per the Handbook, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the Box 5 through 8 approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicle trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the Handbook has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Bethany Village

Previous

Trip Generation

December 2025

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve ("FC"), or Custom ("C"))

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	(not used)
Church and Parish House	WA: $T=X*6.78$ [6.78]	WA: $T=X*0.37$ [0.37]	FC: $T=0.37*X+2.59$ [0.44]	

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and in/out Distributions)

Baseline Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)			
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total
Church and Parish House	50%	119	119	238	62%	8	5	13	41%	7	9	16				
Totals		119	119	238		8	5	13		7	9	16				

If vehicle trip reductions are not applied for internal capture and alternative mode, vehicle trips may be separated into vehicle trip subsets (pass-by trips, diverted trips, truck trips, new passenger vehicle trips) as part of Box 10. If vehicle trip reductions are to be applied, continue to Box 6.

Box 6 - Convert Baseline Vehicle Trips to Person Trips

If no vehicle trip reductions are to be applied, this portion may be ignored. The Handbook states "There are not enough samples to derive precise percentages by mode...however, for all but one,...the motor vehicle percentage of total person trips is at least 96 percent." and "[vehicle occupancy for] many of the most commonly analyzed land use codes are not [available]." This form assumes that the total baseline vehicle trips for all land use codes accounts for 90% of total person trips. Unless otherwise specified, this form later reverses the conversion in Box 8.

Box 8 - Convert Person Trips to Final Vehicle Trips

The vehicle occupancy and baseline alternate mode are now factored out from the external trips in vehicles, after any adjustments for internal capture and additional alternate mode from Box 7. In Box 6, vehicle trips were considered to account for 90% of total person trips. Alternate mode trips in addition to the baseline, if any, are accounted for in Box 7. It is estimated that vehicle trips should be reduced by an additional 0% due to carpooling. The final external trips in vehicles is multiplied by 90% (= 90% - 0%) to produce the external vehicle trips.

External Vehicular Trips

Proposed Use	ADT			AM Peak Hour			PM Peak Hour			(not used)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Church and Parish House	119	119	238	8	5	13	7	9	16			
Totals	119	119	238	8	5	13	7	9	16			

Bethany Village

Trip Generation

Previous

December 2025

Net New Trips. Pass-by trips and truck trips may be subtracted from the total external vehicle trips, if applicable/data available. Diverted link trips may also be separated, but are often (conservatively) grouped with primary trips.

Net New [Non-Truck] Trips

Proposed Use	ADT			AM Peak Hour			PM Peak Hour			(not used)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Church and Parish House	119	119	238	8	5	13	7	9	16			
Totals	119	119	238	8	5	13	7	9	16			

Methodology Overview

This form facilitates trip generation estimation using data within the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 11th Edition and methodology described within ITE's Trip Generation Handbook, 3rd Edition. These references will be referred to as Manual and Handbook, respectively. The Manual contains data collected by various transportation professionals for a wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The Handbook explains the methodology for how to use data contained within the Manual, such as when to use the fitted curve instead of the average rate, when adjustments to the volume of trips are appropriate, how to make them, etc. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type & Site Characteristics

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common).

Land Use Types and Size

Proposed Use	Amount Units	ITE LUC	ITE Land Use Name
Affordable Apmt - Income	22 Dwelling Units	223	Affordable Housing - Income Limits
Church and Parish House	7.270 1,000 square feet	560	Church

Box 2 - Define Site Context

Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The Manual separates data into 4 setting categories - Rural, General Urban/Suburban, Dense Multi-Use Urban and Center City Core. This worksheet uses the following abbreviations, respectively: R, G, D, and C. The Manual does not have data for all settings of all land use codes. See the table on the next page titled "Site Context and Time Periods" - if this table is not provided, the "General Urban/Suburban" setting is used by default.

Box 3 - Define Analysis Objectives Types of Trips & Time Period

This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Bethany Village

Proposed

Trip Generation

December 2025

Site Context and Time Periods - Actual Setting, Setting Data Available for LUC, Setting Used in Analyses

Proposed Use	Setting		ADT		AM Peak Hour		PM Peak Hour		(not used)	
			Available	Used	Available	Used	Available	Used	Available	Used
Affordable Apmt - Income	General Urban/Suburban	G	G D C	G	G D C	G	G D C	G		
Church and Parish House	General Urban/Suburban	G	G	G	G	G	G	G		

If the desired setting is not available within the *Manual*, adjustments may be made in Boxes 6 through 8.

Box 4 - Is Study Site Multimodal?

Per the Handbook, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the Box 5 through 8 approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicle trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the Handbook has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Bethany Village

Proposed

Trip Generation

December 2025

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve ("FC"), or Custom ("C"))

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	(not used)
Affordable Apmt - Income	FC: $T=3.73 \cdot X+139.35$ [10.06]	FC: $T=0.21 \cdot X+17.21$ [0.99]	FC: $LN(T)=0.72 \cdot LN(X)+0.64$ [0.80]	
Church and Parish House	WA: $T=X \cdot 6.78$ [6.78]	WA: $T=X \cdot 0.37$ [0.37]	FC: $T=0.37 \cdot X+2.59$ [0.73]	

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and in/out Distributions)

Baseline Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)			
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total
Affordable Apmt - Income	50%	111	111	222	29%	6	16	22	59%	11	7	18				
Church and Parish House	50%	25	25	50	62%	2	1	3	41%	2	3	5				
Totals		136	136	272		8	17	25		13	10	23				

If vehicle trip reductions are not applied for internal capture and alternative mode, vehicle trips may be separated into vehicle trip subsets (pass-by trips, diverted trips, truck trips, new passenger vehicle trips) as part of Box 10. If vehicle trip reductions are to be applied, continue to Box 6.

Box 6 - Convert Baseline Vehicle Trips to Person Trips

If no vehicle trip reductions are to be applied, this portion may be ignored. The Handbook states "There are not enough samples to derive precise percentages by mode...however, for all but one,...the motor vehicle percentage of total person trips is at least 96 percent." and "[vehicle occupancy for] many of the most commonly analyzed land use codes are not [available]." This form assumes that the total baseline vehicle trips for all land use codes accounts for 90% of total person trips. Unless otherwise specified, this form later reverses the conversion in Box 8.

Box 8 - Convert Person Trips to Final Vehicle Trips

The vehicle occupancy and baseline alternate mode are now factored out from the external trips in vehicles, after any adjustments for internal capture and additional alternate mode from Box 7. In Box 6, vehicle trips were considered to account for 90% of total person trips. Alternate mode trips in addition to the baseline, if any, are accounted for in Box 7. It is estimated that vehicle trips should be reduced by an additional 0% due to carpooling. The final external trips in vehicles is multiplied by 90% (= 90% - 0%) to produce the external vehicle trips.

External Vehicular Trips

Proposed Use	ADT			AM Peak Hour			PM Peak Hour			(not used)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Affordable Apmt - Income	111	111	222	6	16	22	11	7	18			
Church and Parish House	25	25	50	2	1	3	2	3	5			
Totals	136	136	272	8	17	25	13	10	23			

Bethany Village

Proposed

Trip Generation

December 2025

Net New Trips. Pass-by trips and truck trips may be subtracted from the total external vehicle trips, if applicable/data available. Diverted link trips may also be separated, but are often (conservatively) grouped with primary trips.

Net New [Non-Truck] Trips

Proposed Use	ADT			AM Peak Hour			PM Peak Hour			(not used)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Affordable Apmt - Income	111	111	222	6	16	22	11	7	18			
Church and Parish House	25	25	50	2	1	3	2	3	5			
Totals	136	136	272	8	17	25	13	10	23			

Land Use: 223

Affordable Housing

Description

Affordable housing includes all multifamily housing that is rented at below market rate. Facilities that are subject to income limitations must also include at least one employed member. Facilities with age restrictions or residents with special needs may not have any employed household members. Eligibility to live in affordable housing can be a function of limited household income, resident age, or special needs.

Land Use Subcategory

Data are presented for three subcategories for this land use: (1) sites with income limitations for its tenants (denoted as income limits in the data plots), (2) sites with both minimum age thresholds and income limitations for its tenants (denoted as senior in the data plots), and (3) sites designed for and occupied by residents with special needs, such as persons with physical and mental impairments, single mothers, recovering addicts and others living in a group setting (denoted as special needs in the data plots).

Additional Data

For most study sites contained in this land use, all dwelling units in the development are classified as affordable units. For residential study sites that provide a mix of market value and affordable units, the study sites with at least 75 percent of the dwelling units designated as affordable are also included in this land use database.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1990s and the 2010s in California, Florida, Illinois, New Hampshire, and New Jersey.

Source Numbers

436, 501, 918, 934, 1003, 1004, 1046, 1057

Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 5

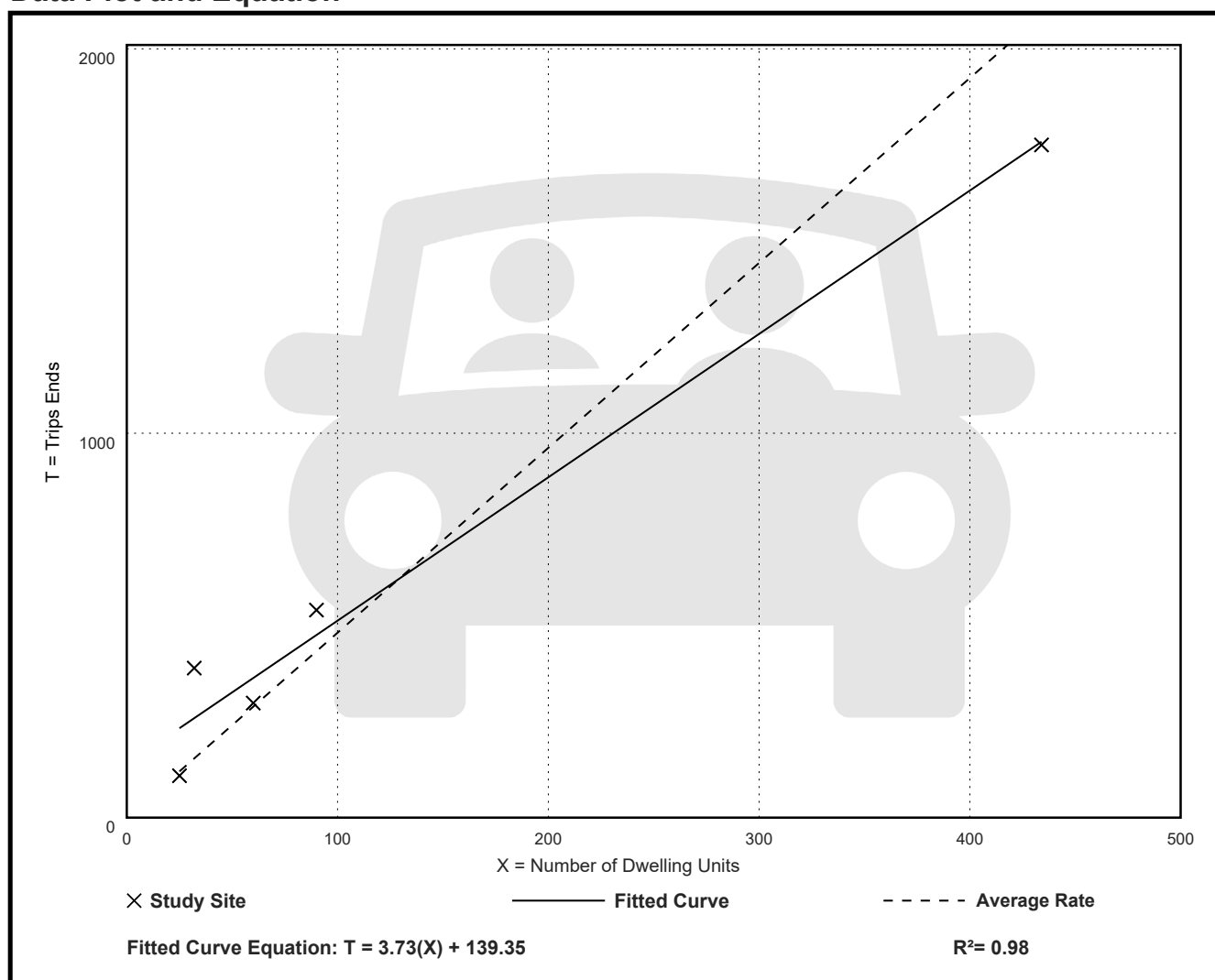
Avg. Num. of Dwelling Units: 128

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.81	4.03 - 12.16	2.03

Data Plot and Equation



Affordable Housing - Income Limits (223)

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: 6

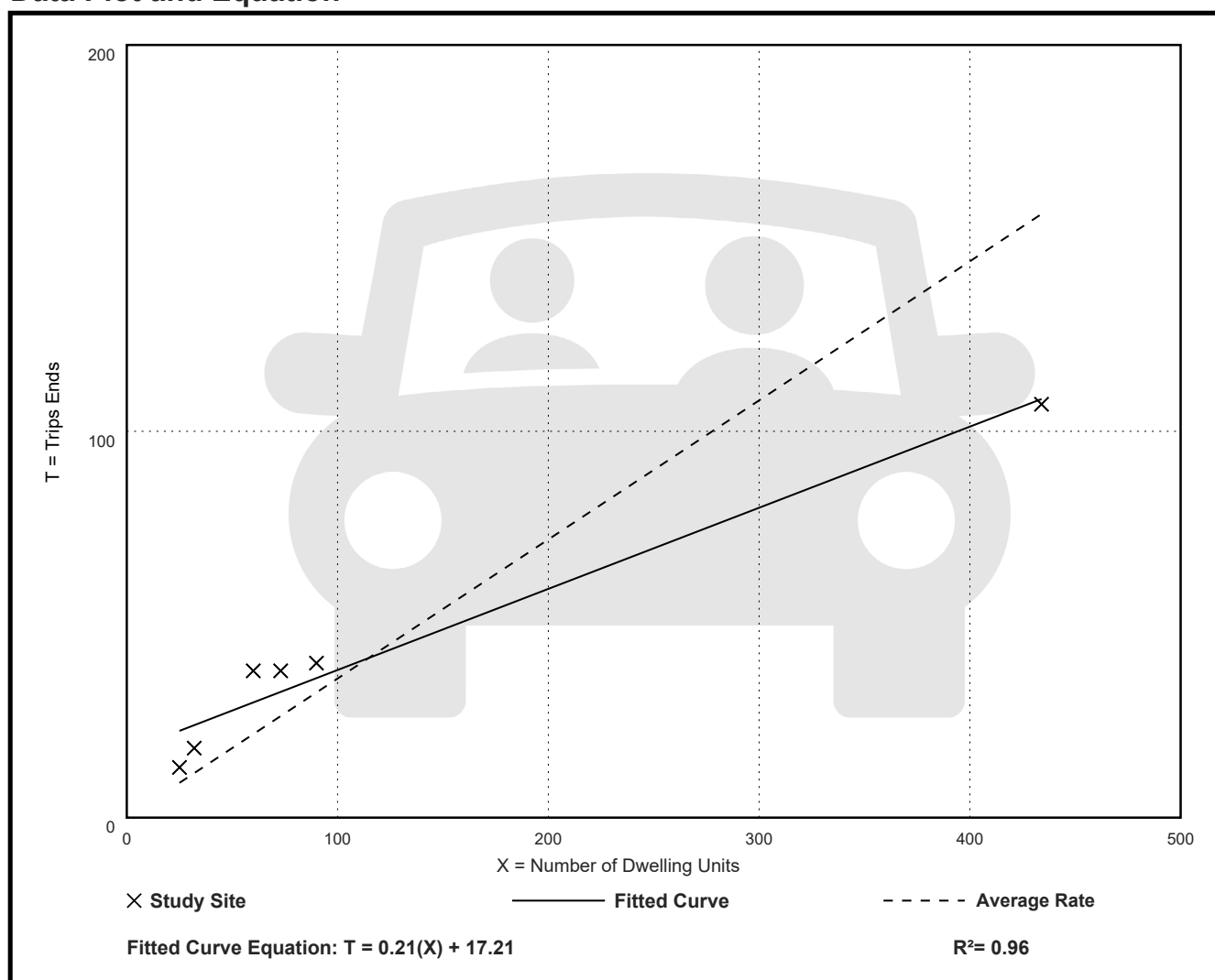
Avg. Num. of Dwelling Units: 119

Directional Distribution: 29% entering, 71% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.25 - 0.63	0.16

Data Plot and Equation



Affordable Housing - Income Limits (223)

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: 8

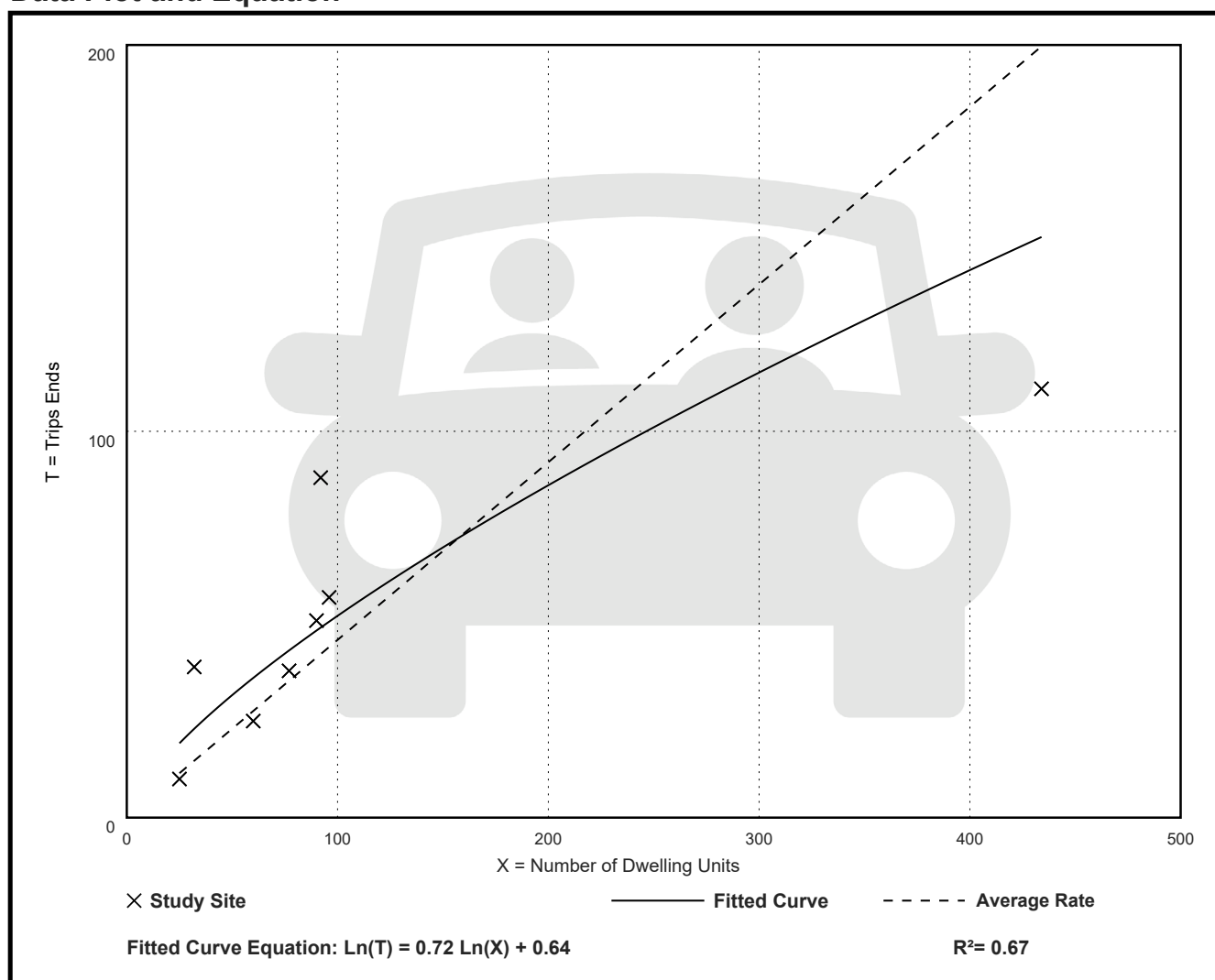
Avg. Num. of Dwelling Units: 113

Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.26 - 1.22	0.28

Data Plot and Equation



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 6

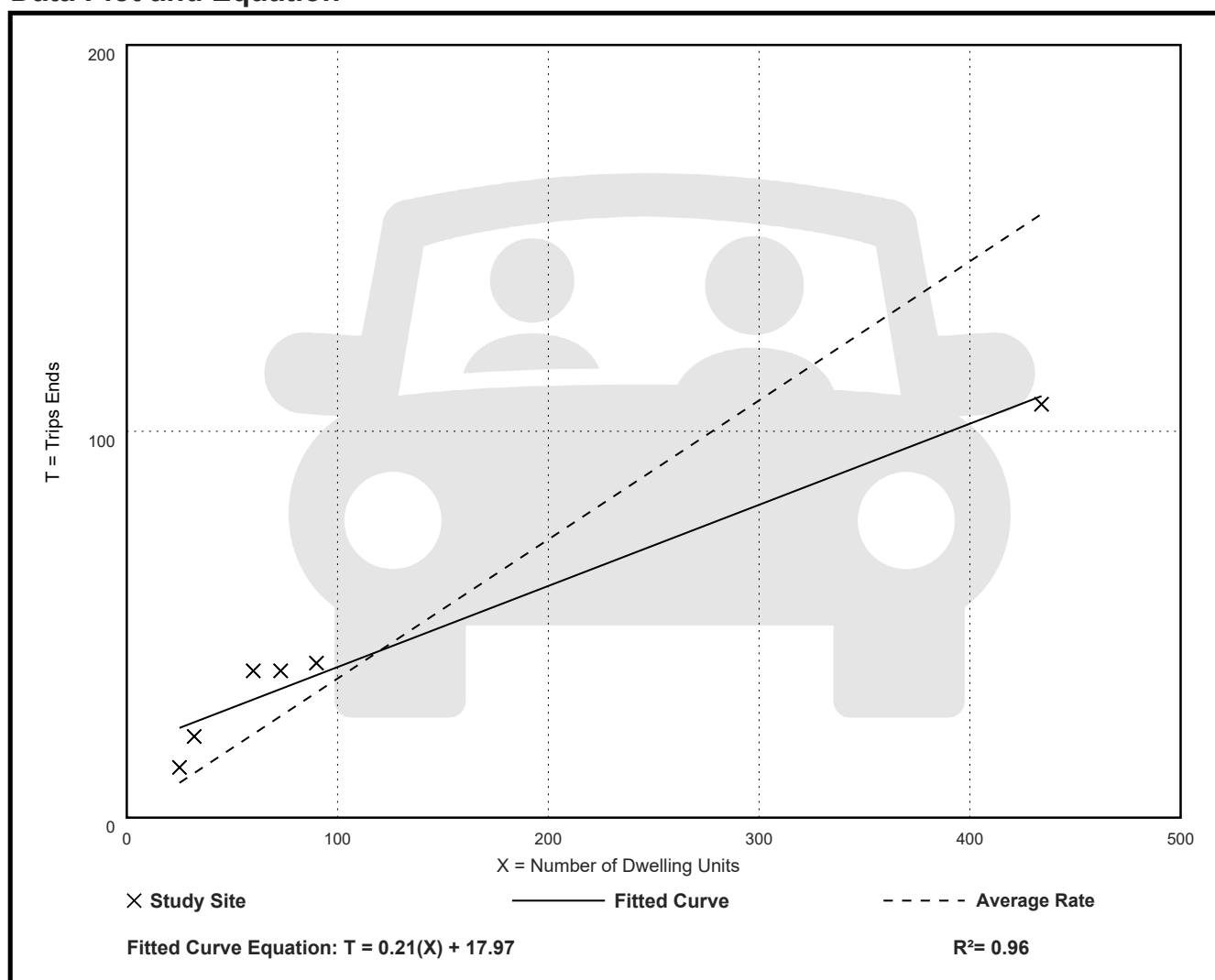
Avg. Num. of Dwelling Units: 119

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.25 - 0.66	0.16

Data Plot and Equation



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 9

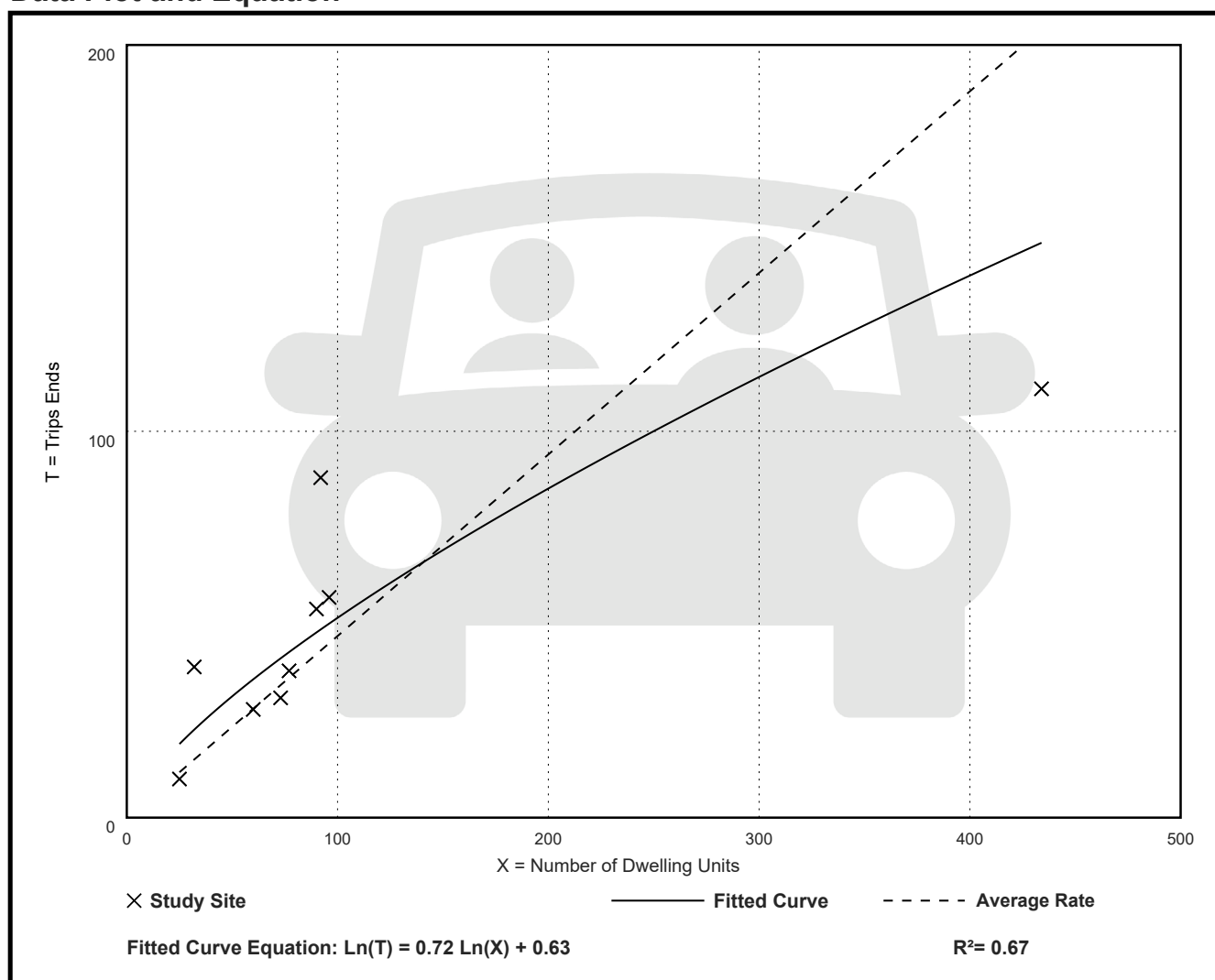
Avg. Num. of Dwelling Units: 109

Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.47	0.26 - 1.22	0.27

Data Plot and Equation



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Dwelling Units

On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Dwelling Units: 32

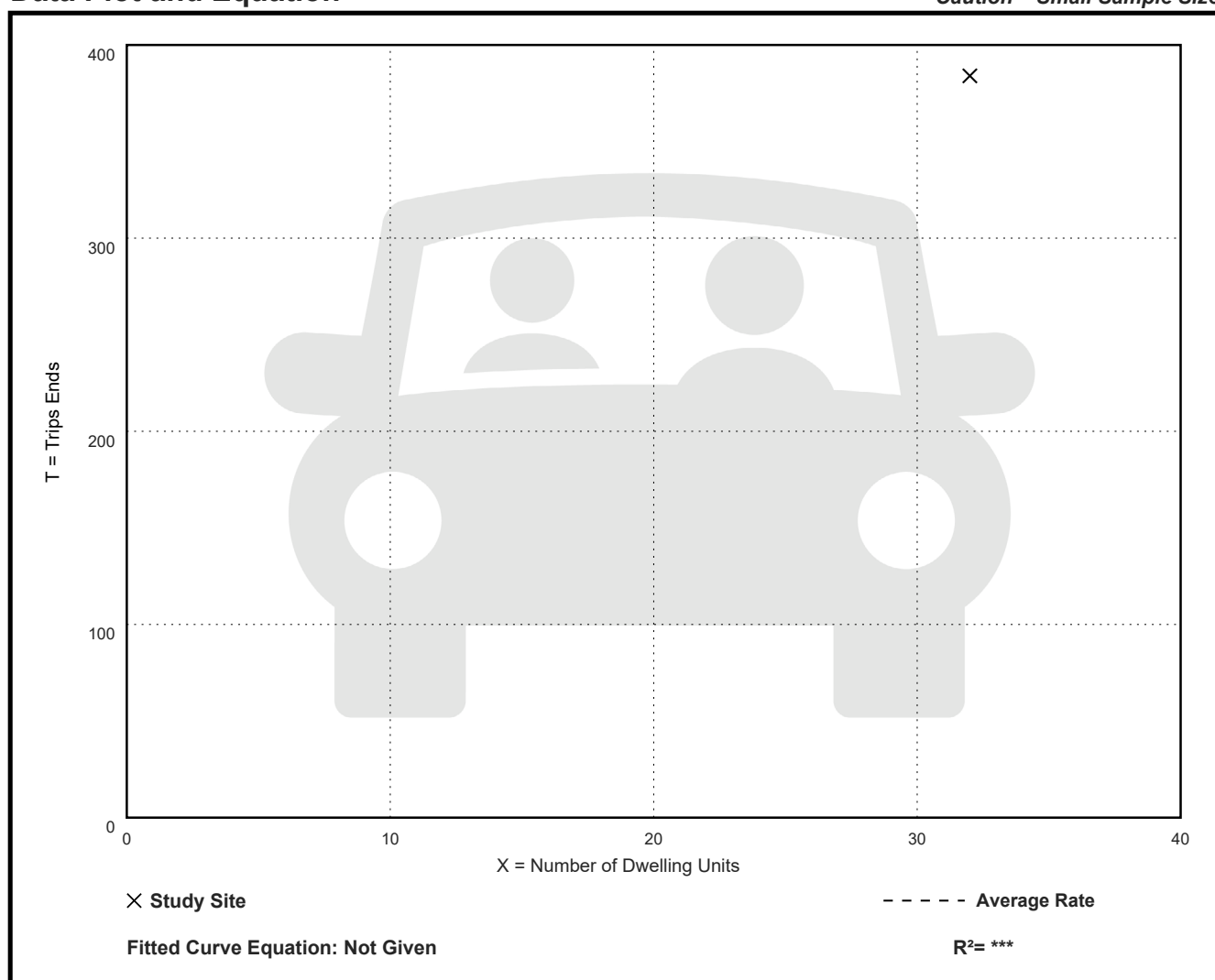
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
12.00	12.00 - 12.00	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Dwelling Units

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Dwelling Units: 32

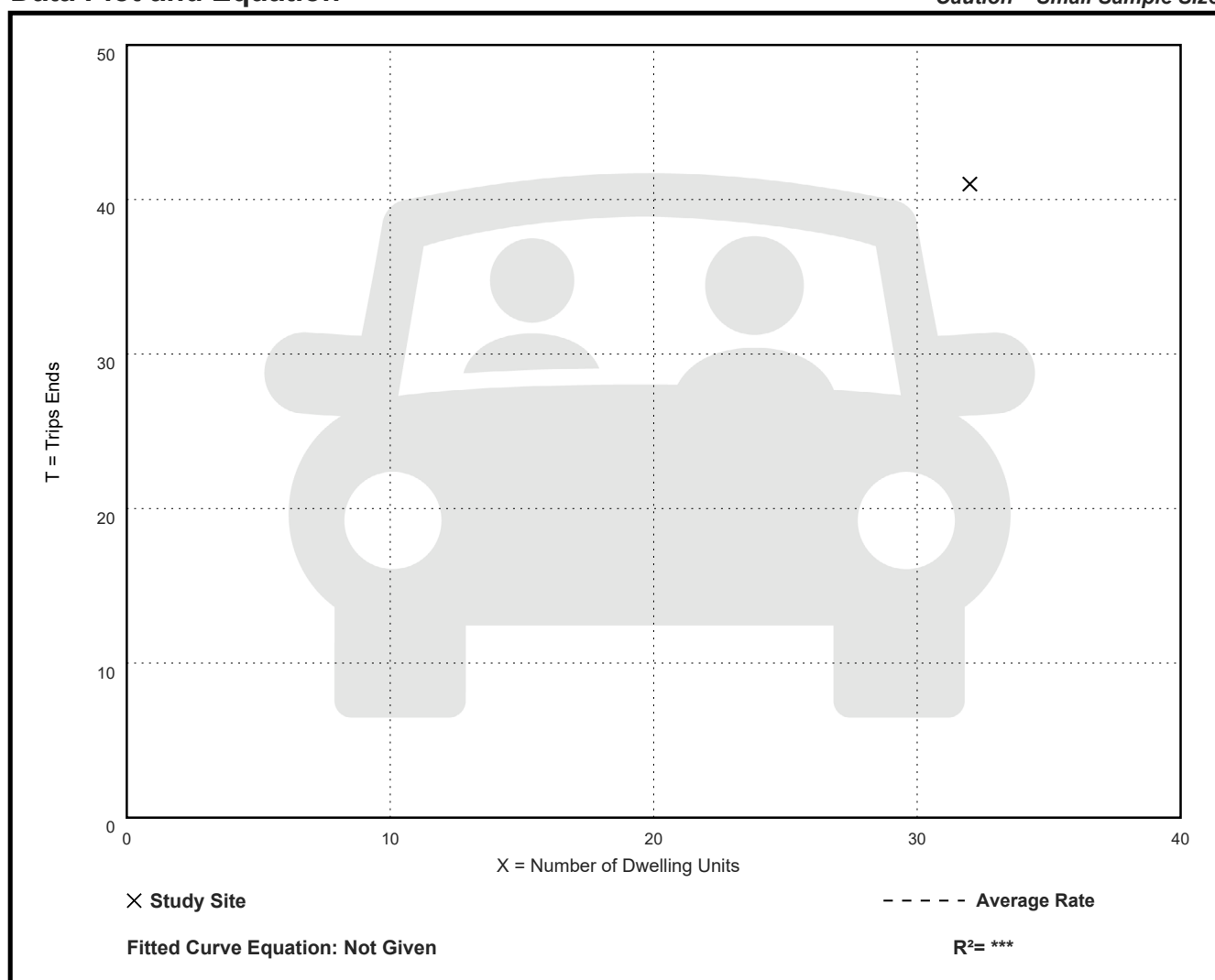
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.28	1.28 - 1.28	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Dwelling Units

On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Dwelling Units: 32

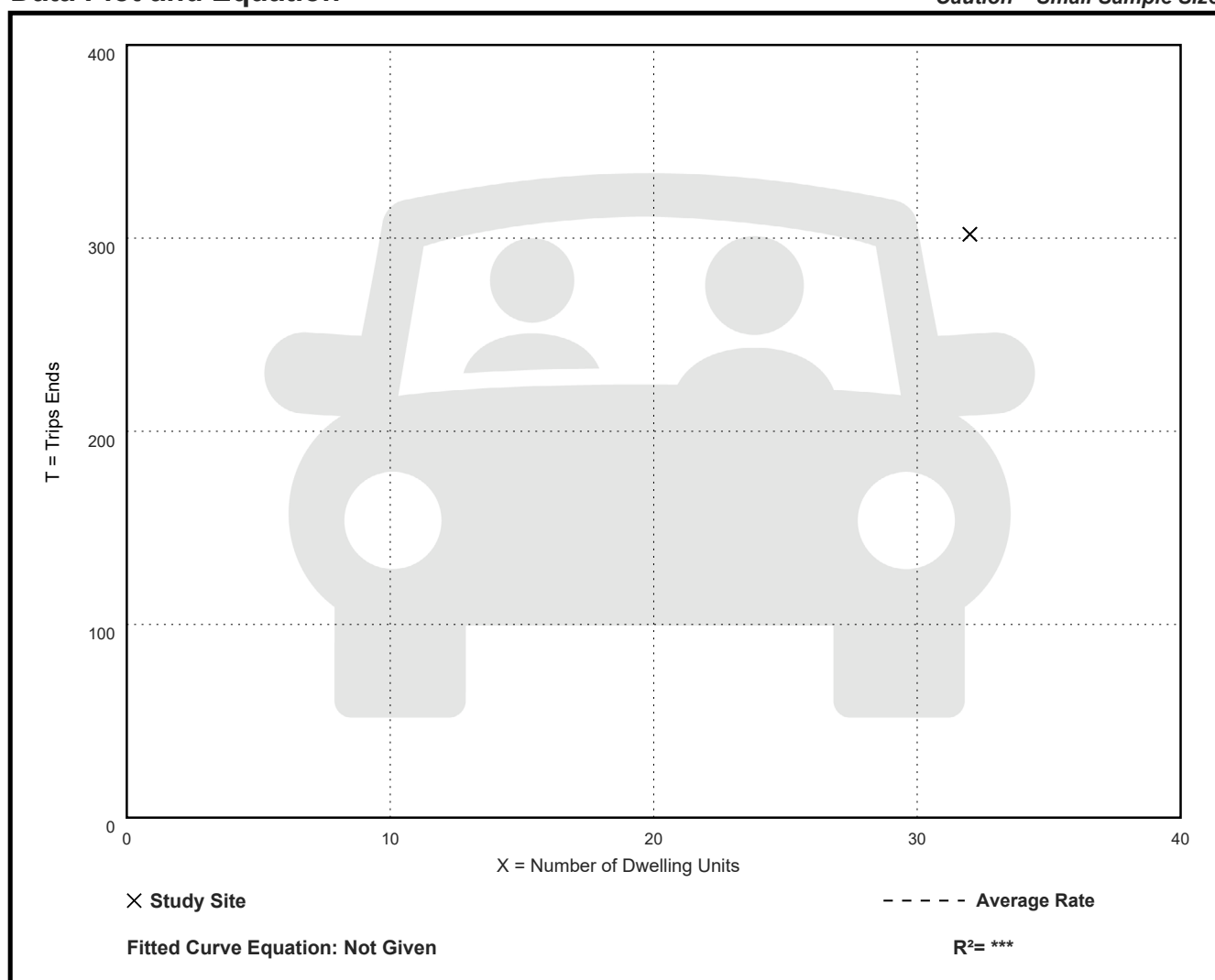
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	9.44 - 9.44	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Dwelling Units

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Dwelling Units: 32

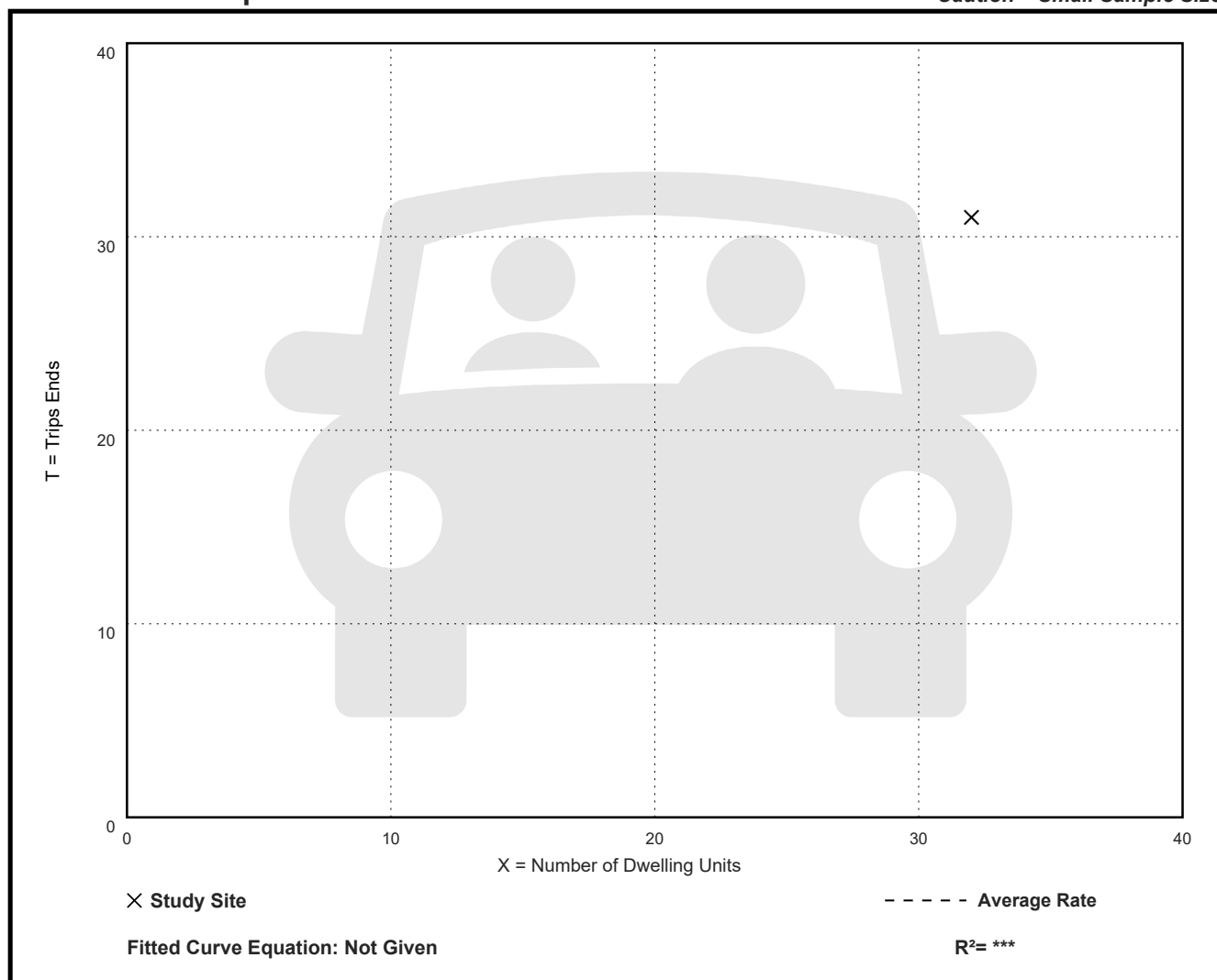
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.97	0.97 - 0.97	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

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: 2

Avg. Num. of Bedrooms: 219

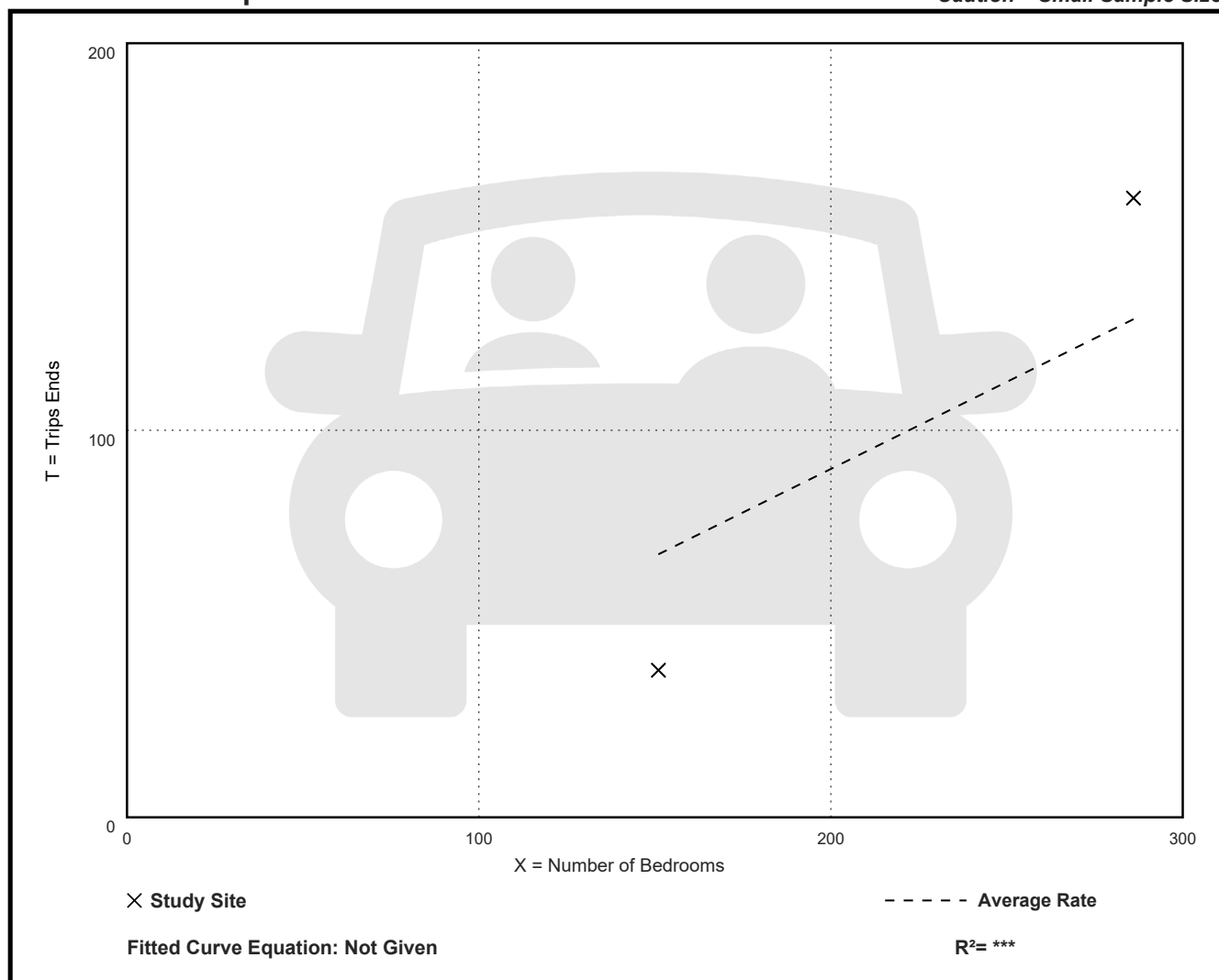
Directional Distribution: 37% entering, 63% exiting

Vehicle Trip Generation per Bedroom

Average Rate	Range of Rates	Standard Deviation
0.45	0.25 - 0.56	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Bedrooms

On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Bedrooms: 219

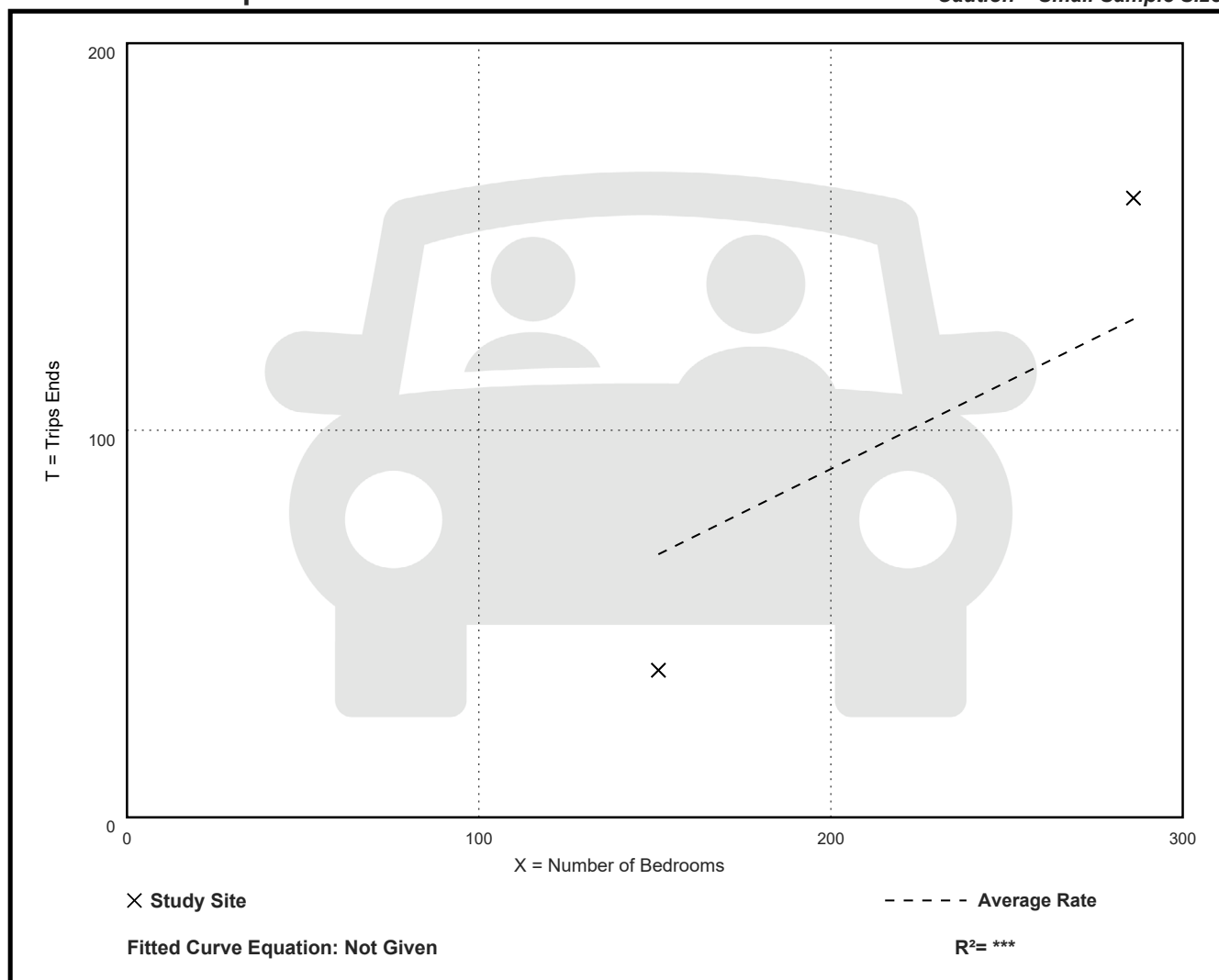
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Bedroom

Average Rate	Range of Rates	Standard Deviation
0.45	0.25 - 0.56	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Bedrooms

On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Bedrooms: 219

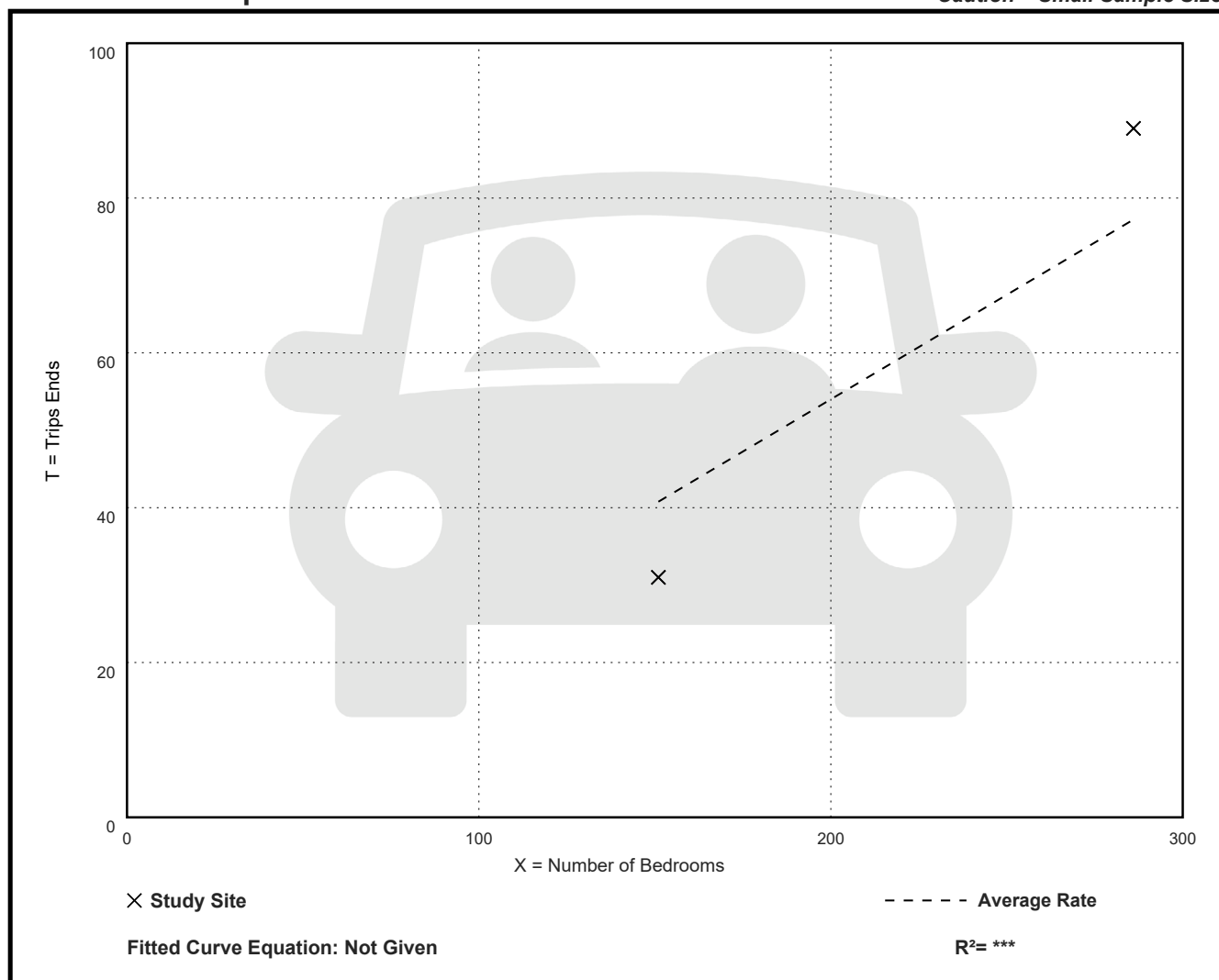
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Bedroom

Average Rate	Range of Rates	Standard Deviation
0.27	0.21 - 0.31	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Residents

On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Residents: 140

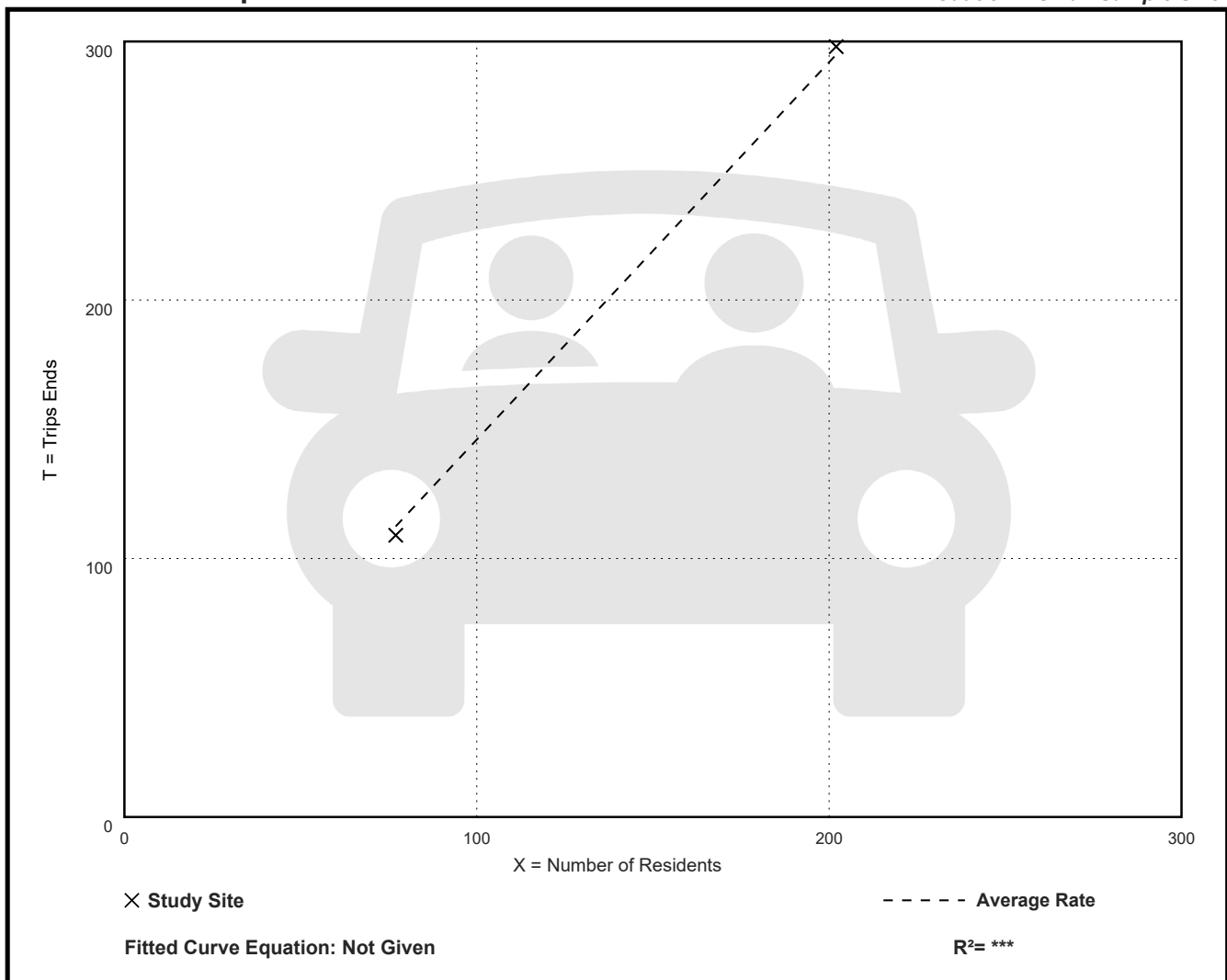
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Resident

Average Rate	Range of Rates	Standard Deviation
1.46	1.42 - 1.48	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Residents

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: 2

Avg. Num. of Residents: 140

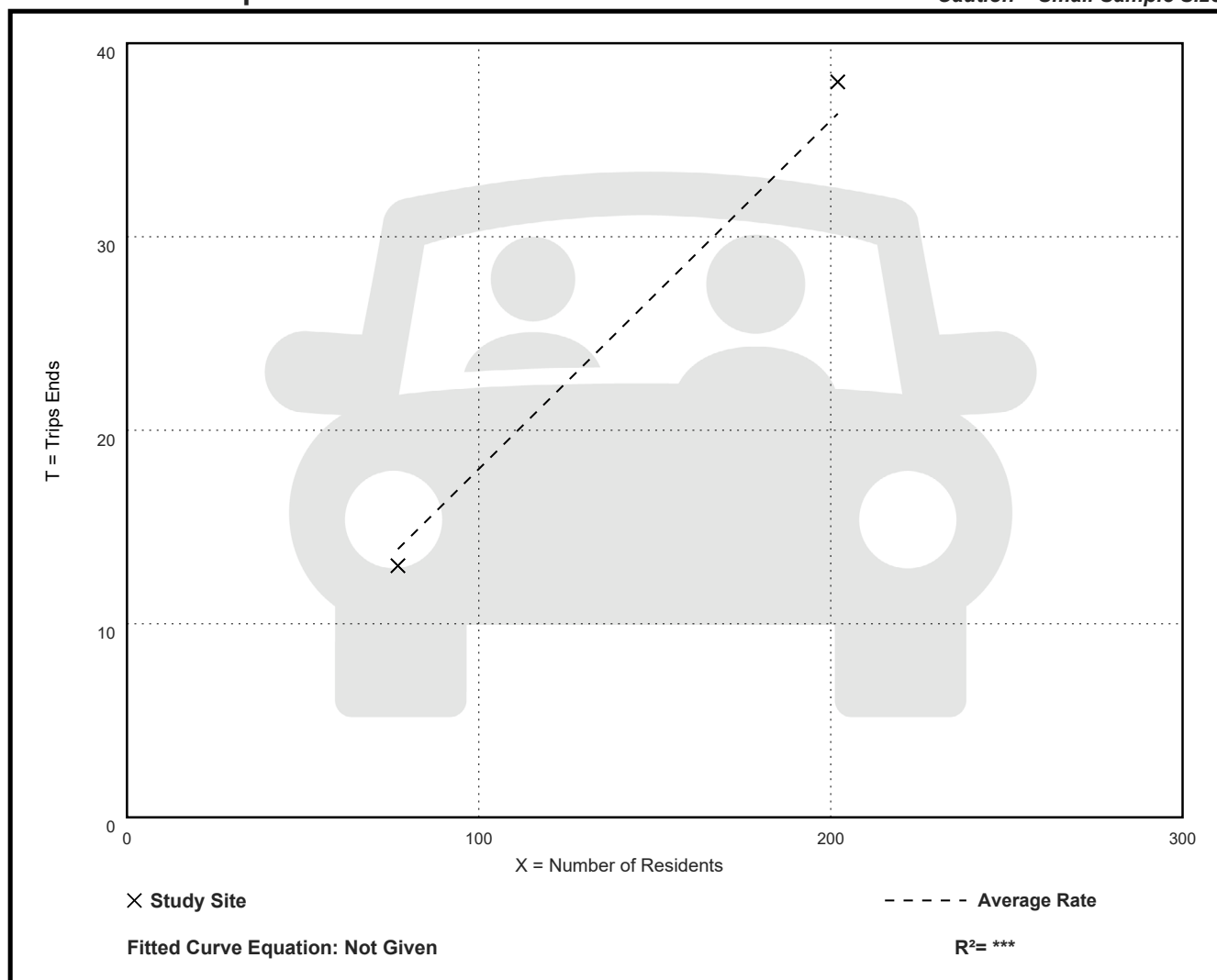
Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Resident

Average Rate	Range of Rates	Standard Deviation
0.18	0.17 - 0.19	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Residents

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: 2

Avg. Num. of Residents: 140

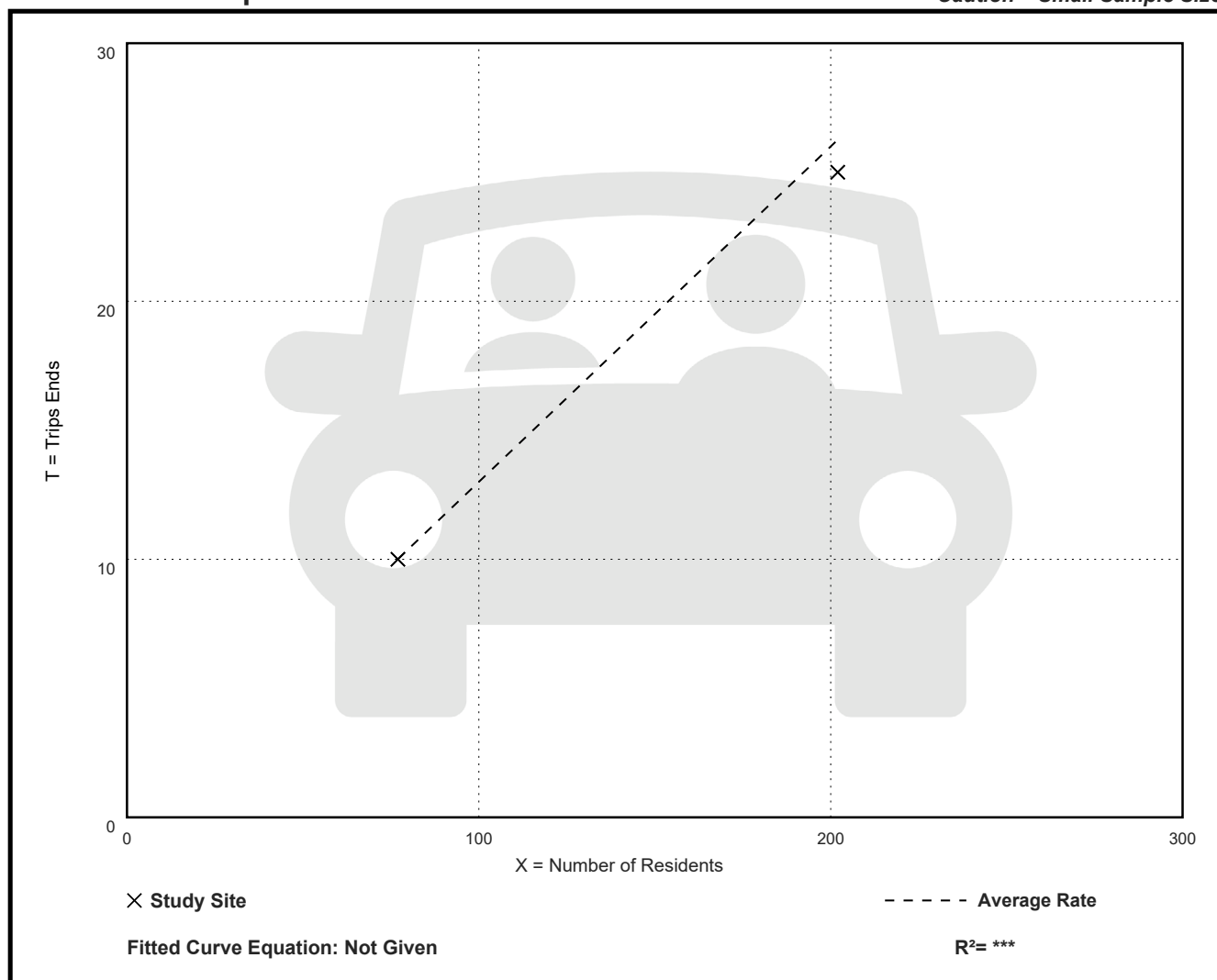
Directional Distribution: 71% entering, 29% exiting

Vehicle Trip Generation per Resident

Average Rate	Range of Rates	Standard Deviation
0.13	0.12 - 0.13	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Residents

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Residents: 140

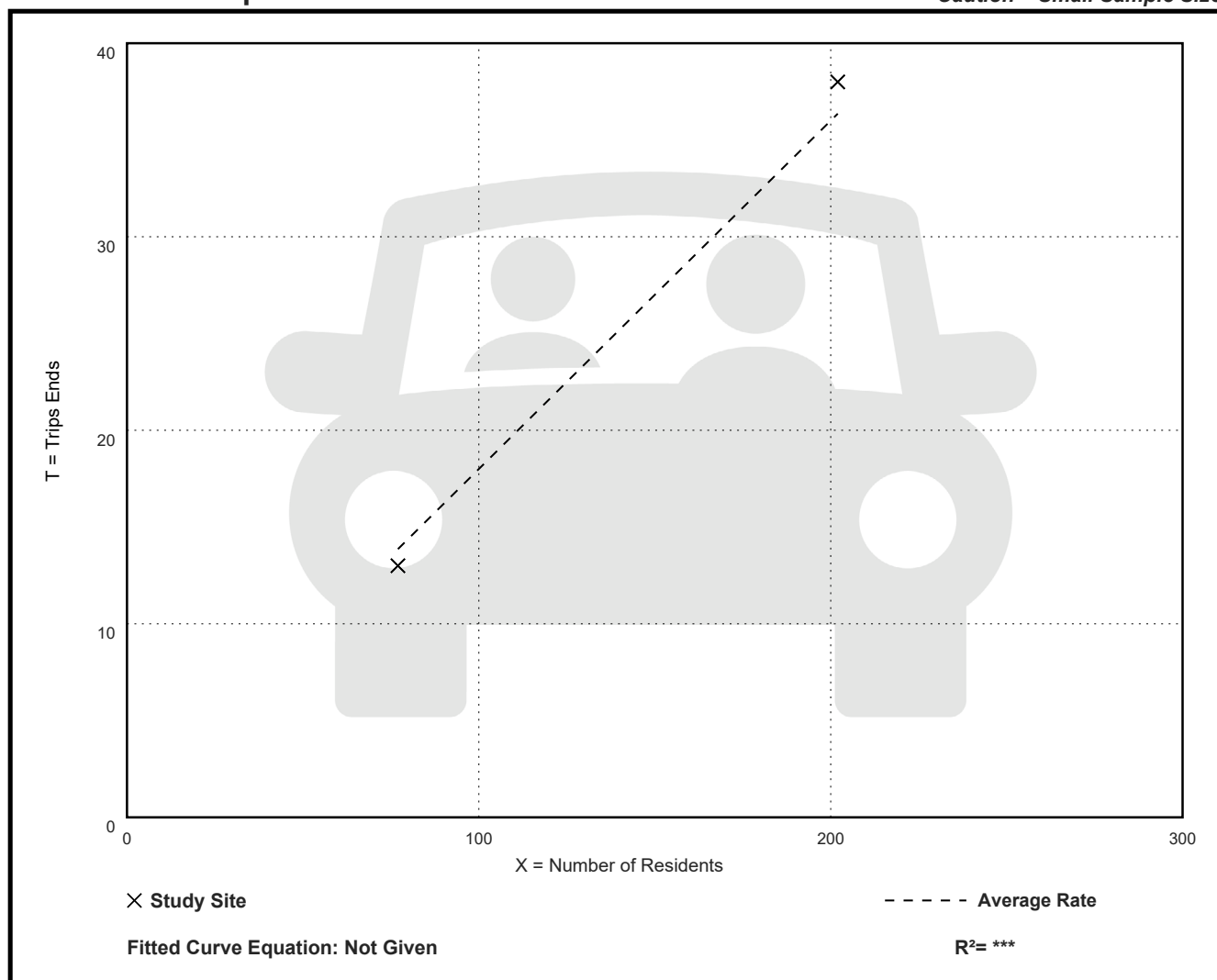
Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Resident

Average Rate	Range of Rates	Standard Deviation
0.18	0.17 - 0.19	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Income Limits (223)

Vehicle Trip Ends vs: Residents

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Residents: 140

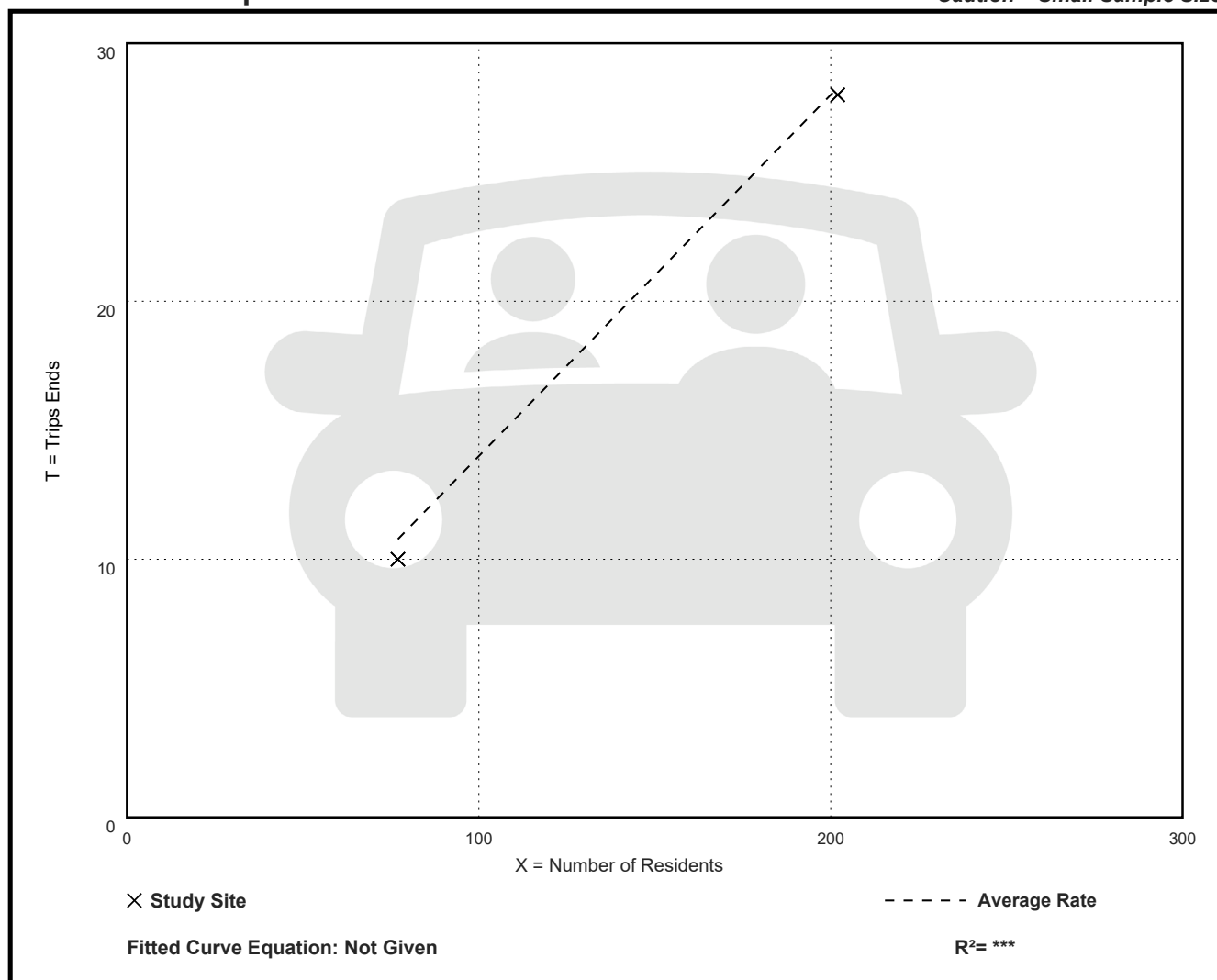
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Resident

Average Rate	Range of Rates	Standard Deviation
0.14	0.13 - 0.14	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Senior (223)

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: 2

Avg. Num. of Dwelling Units: 89

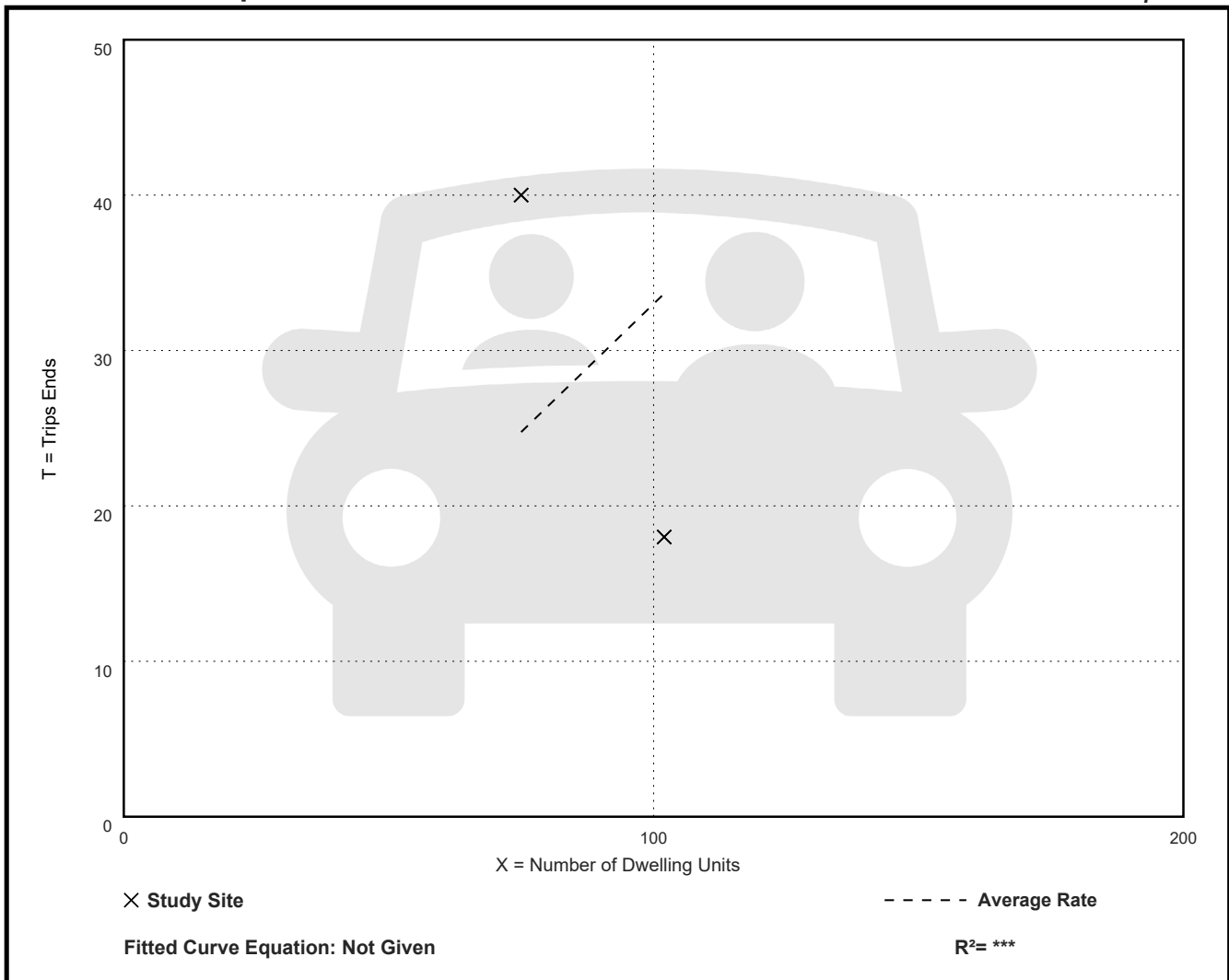
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.33	0.18 - 0.53	***

Data Plot and Equation

Caution – Small Sample Size



Affordable Housing - Senior (223)

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: 1

Avg. Num. of Dwelling Units: 102

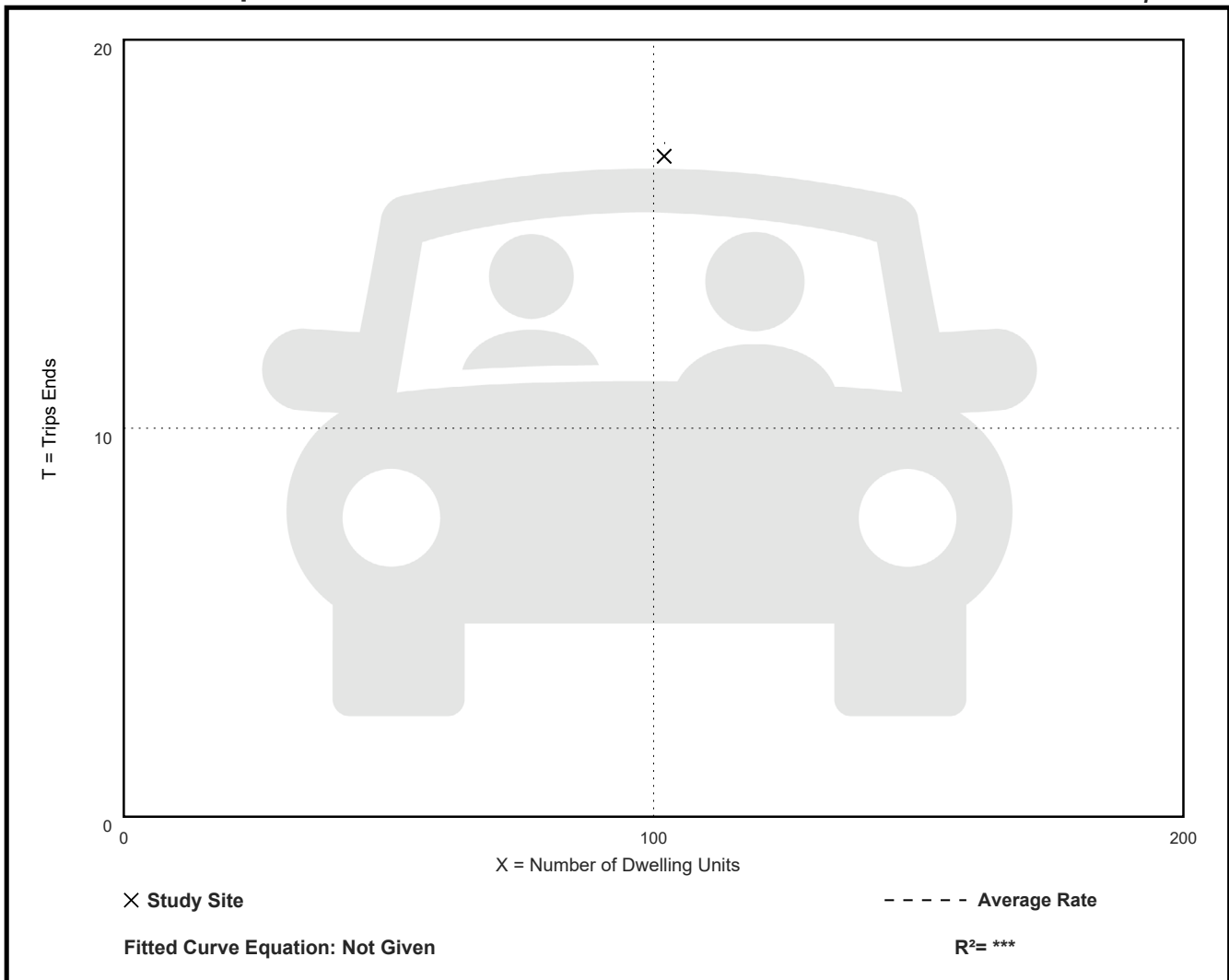
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.17	0.17 - 0.17	***

Data Plot and Equation

Caution – Small Sample Size



Land Use: 560 Church

Description

A church is a building in which public worship services are held. A church houses an assembly hall or sanctuary. It may also house meeting rooms, classrooms, and, occasionally, dining, catering, or event facilities.

Additional Data

Worship services are typically held on Sundays. Some of the surveyed churches offered day care or extended care programs during the week.

The sites were surveyed in the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Colorado, Florida, New Jersey, New York, Oregon, Pennsylvania, and Texas.

Source Numbers

428, 436, 554, 571, 583, 629, 631, 704, 903, 904, 957, 971, 1080, 1219

Church (560)

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

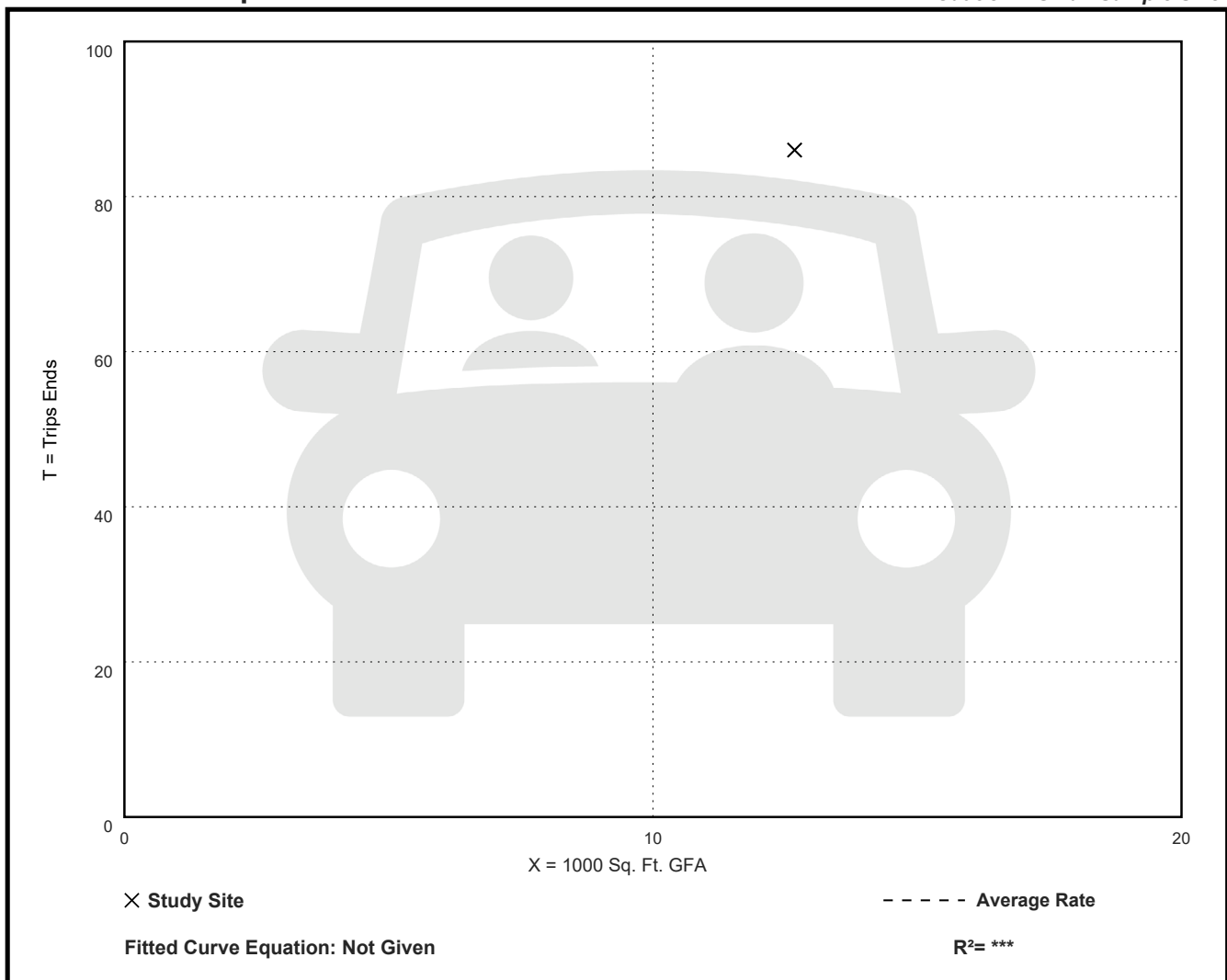
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 13
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.78	6.78 - 6.78	***

Data Plot and Equation

Caution – Small Sample Size



Church (560)

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: 2

Avg. 1000 Sq. Ft. GFA: 70

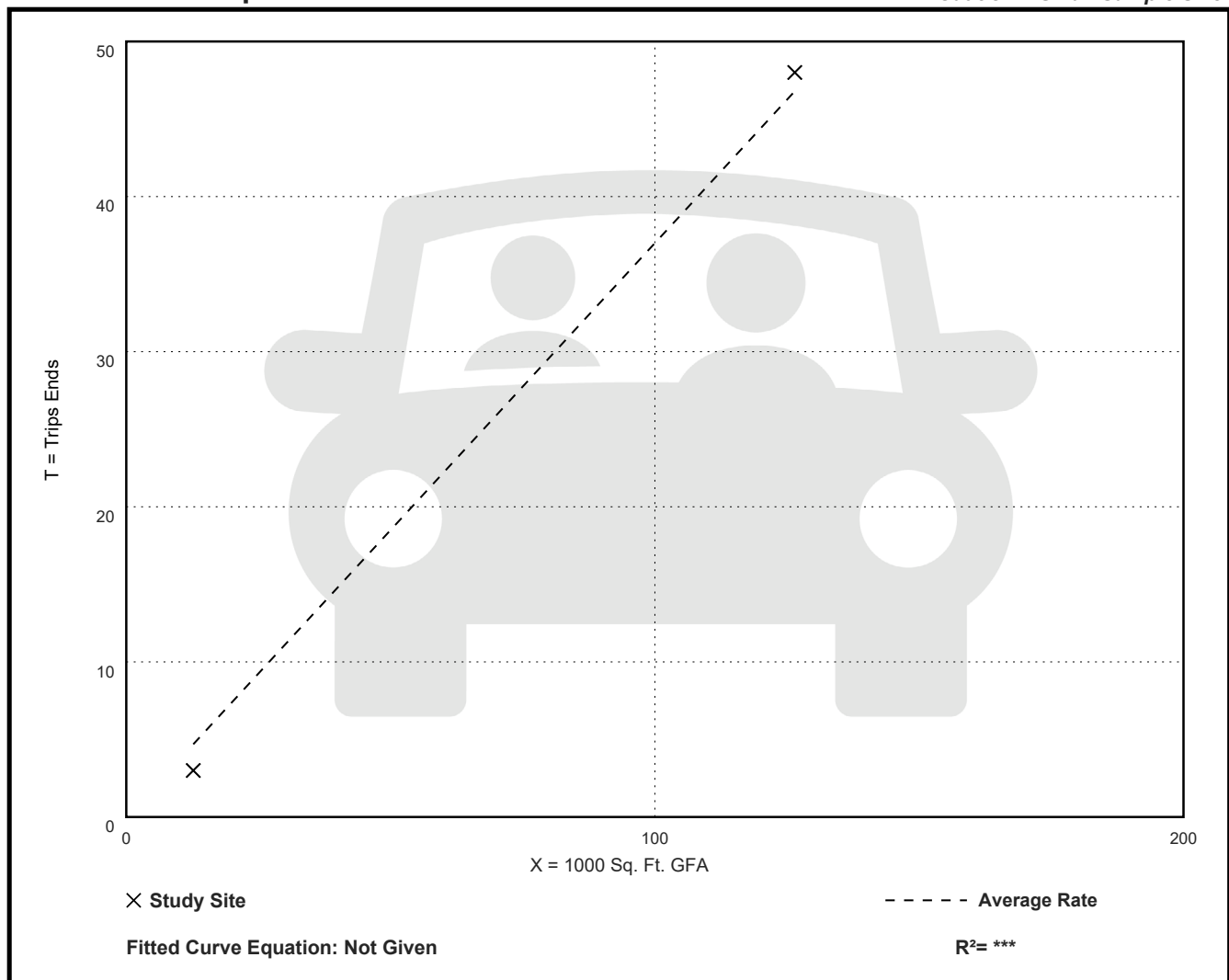
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.37	0.24 - 0.38	***

Data Plot and Equation

Caution – Small Sample Size



Church (560)

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: 6

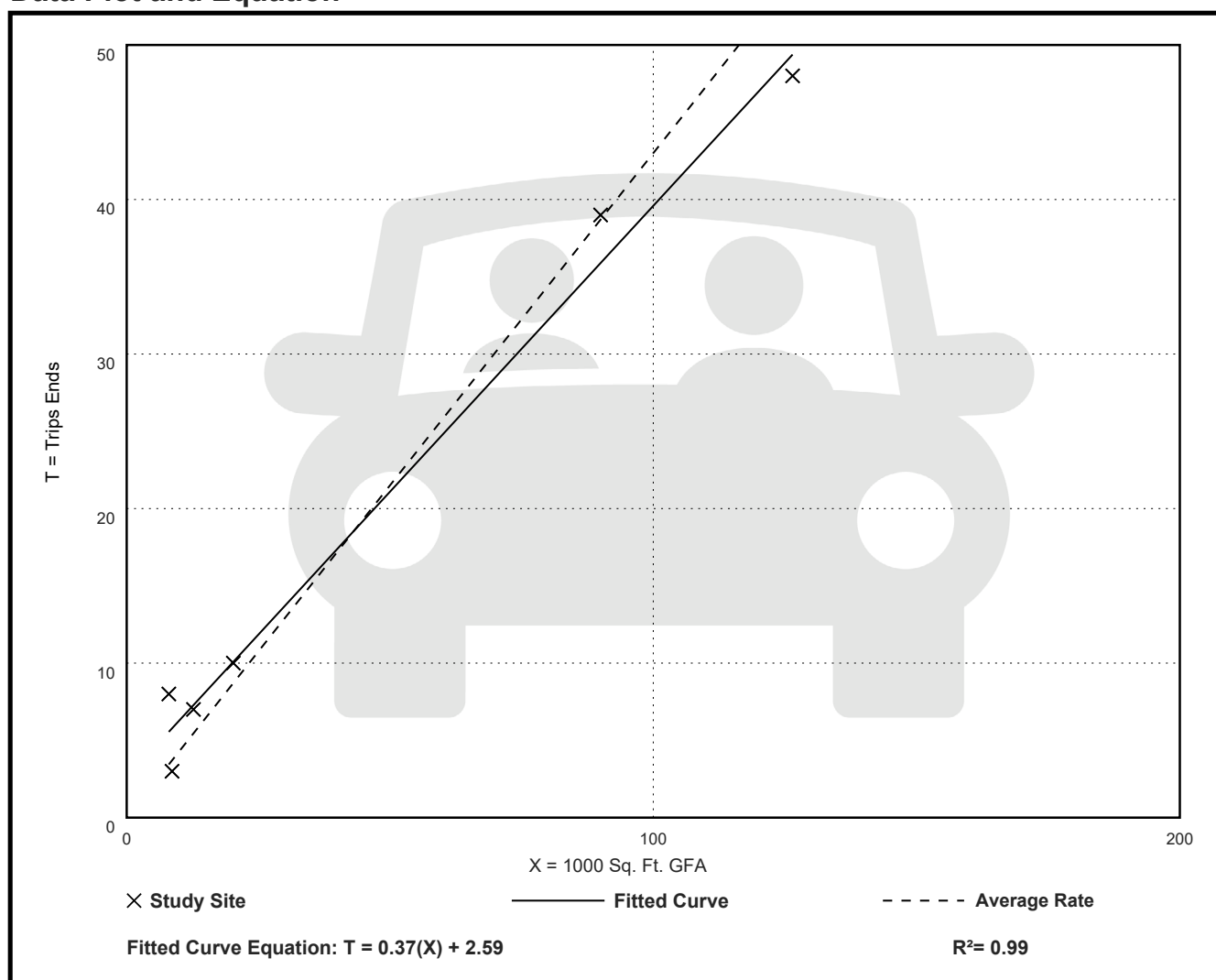
Avg. 1000 Sq. Ft. GFA: 44

Directional Distribution: 41% entering, 59% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.43	0.35 - 1.00	0.12

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 3

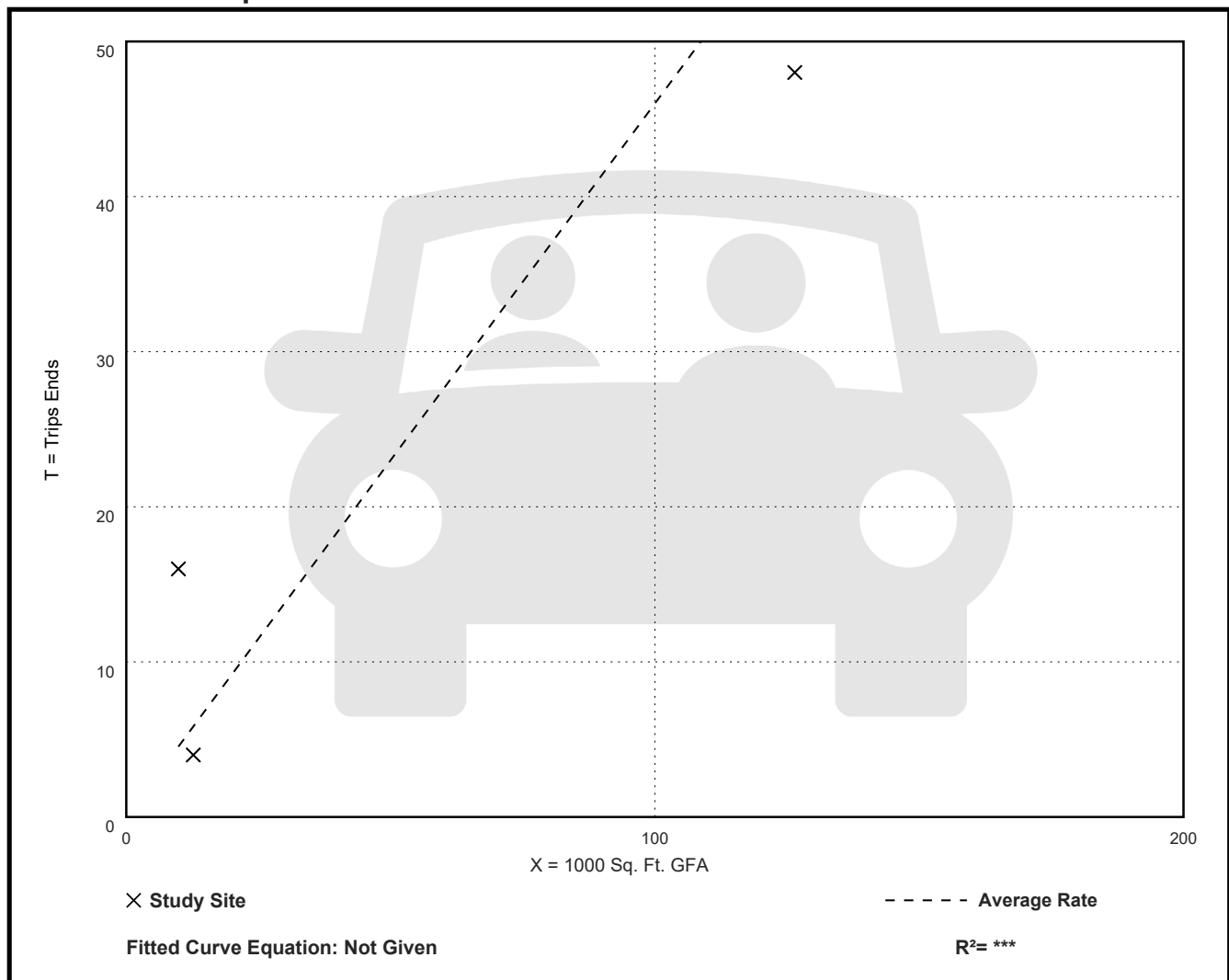
Avg. 1000 Sq. Ft. GFA: 50

Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.46	0.32 - 1.62	0.38

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 3

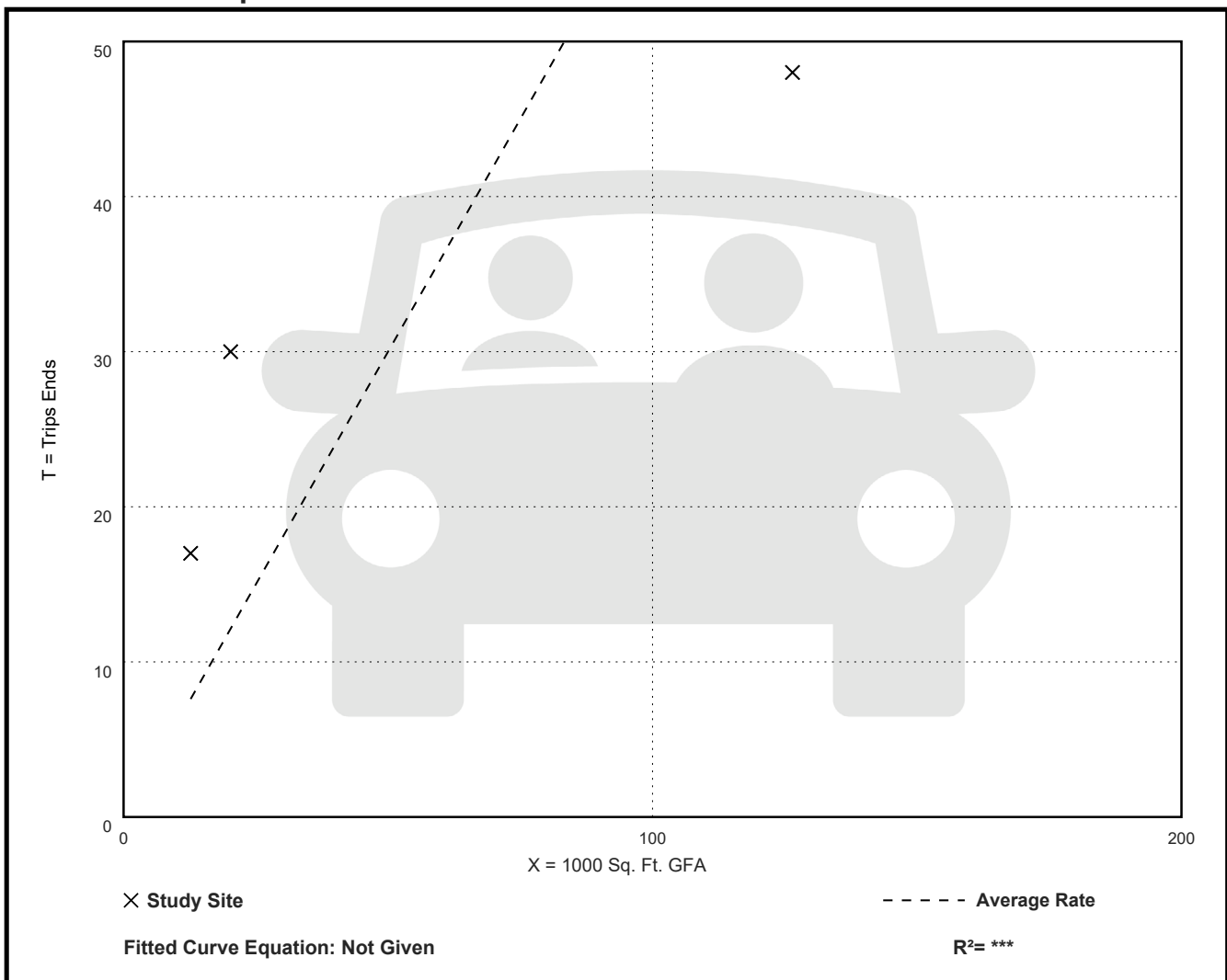
Avg. 1000 Sq. Ft. GFA: 53

Directional Distribution: 65% entering, 35% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.60	0.38 - 1.48	0.52

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 10

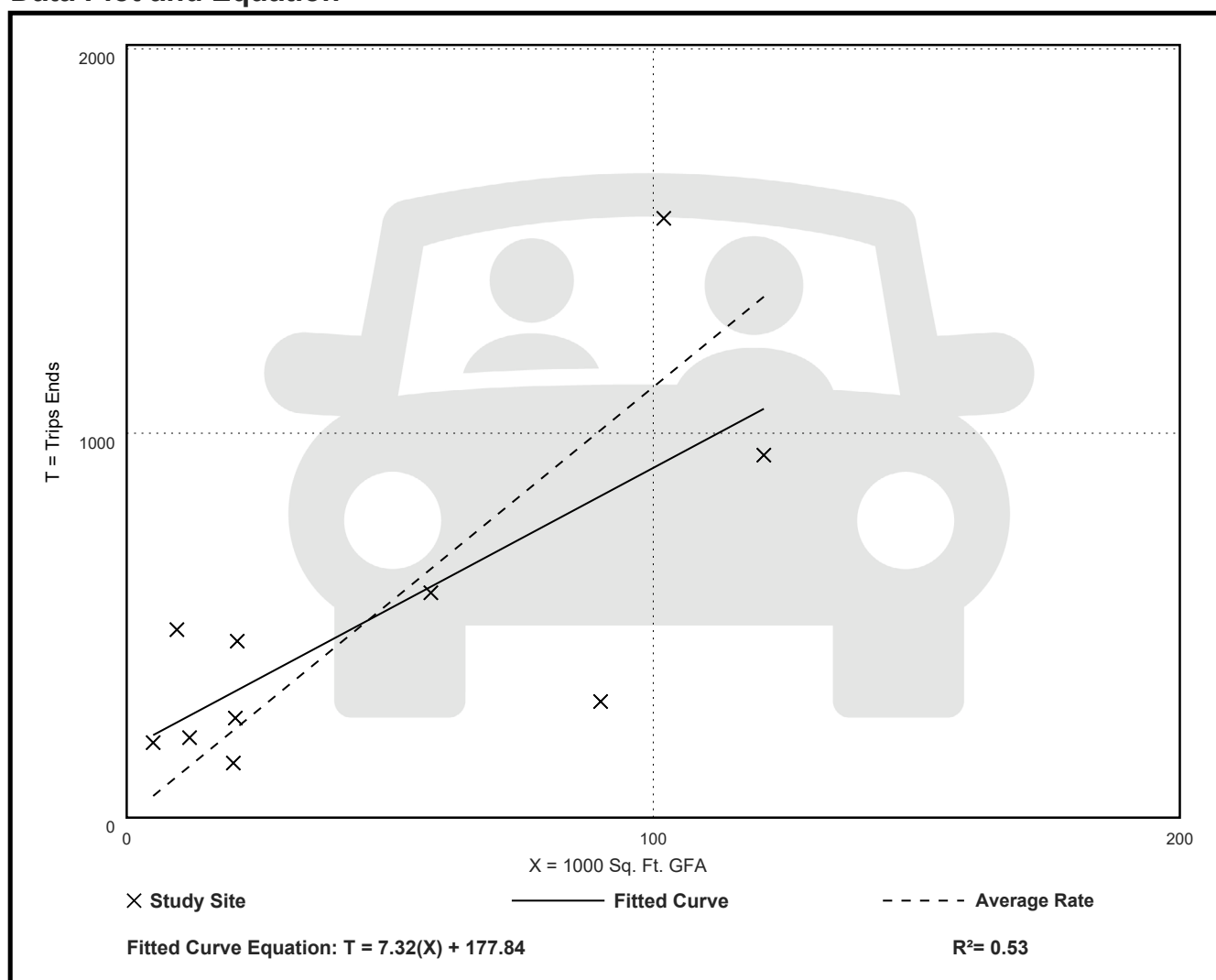
Avg. 1000 Sq. Ft. GFA: 46

Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.20	3.36 - 51.31	8.68

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: Seats
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 4

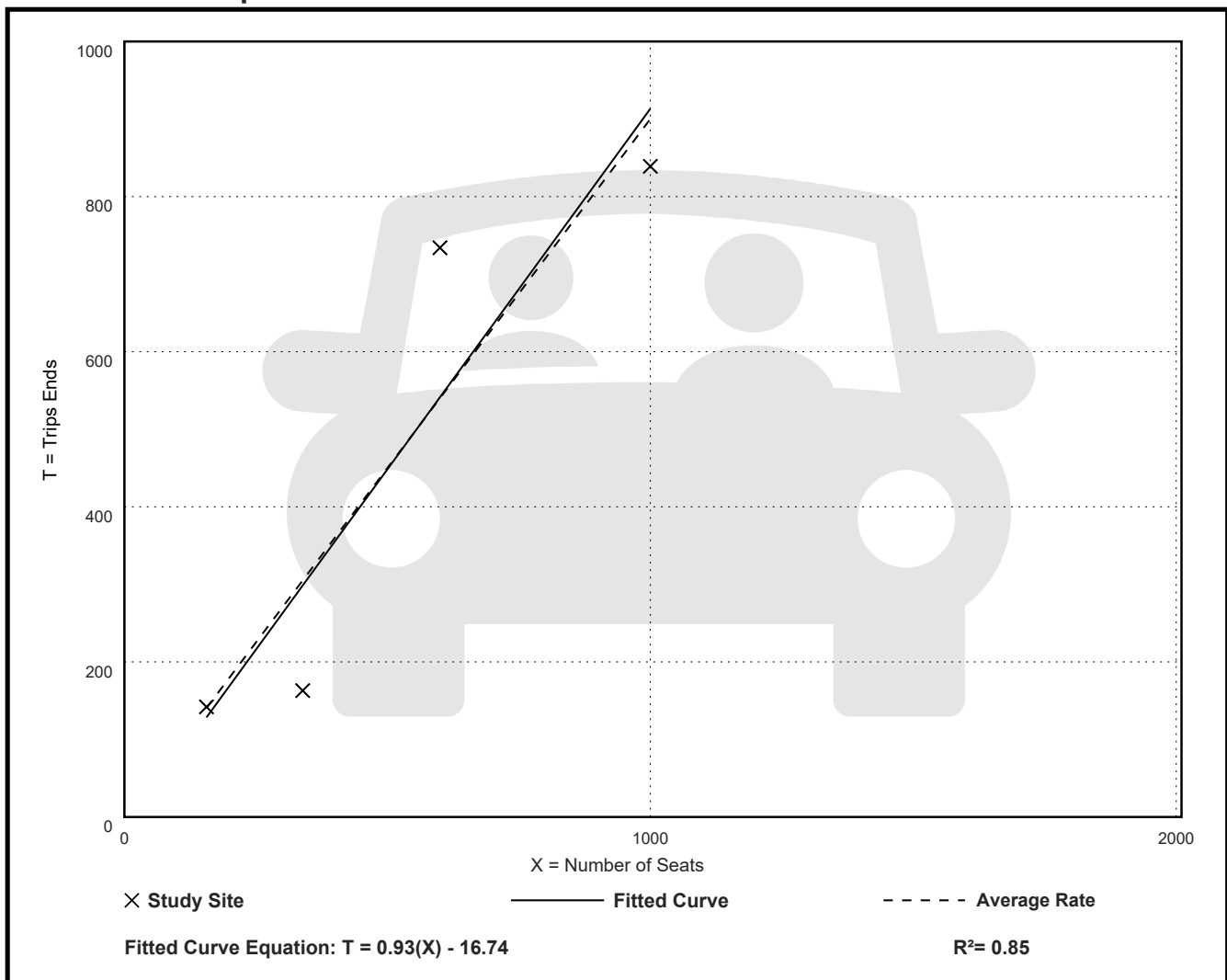
Avg. Num. of Seats: 524

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.90	0.48 - 1.22	0.28

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: Seats

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: 2

Avg. Num. of Seats: 378

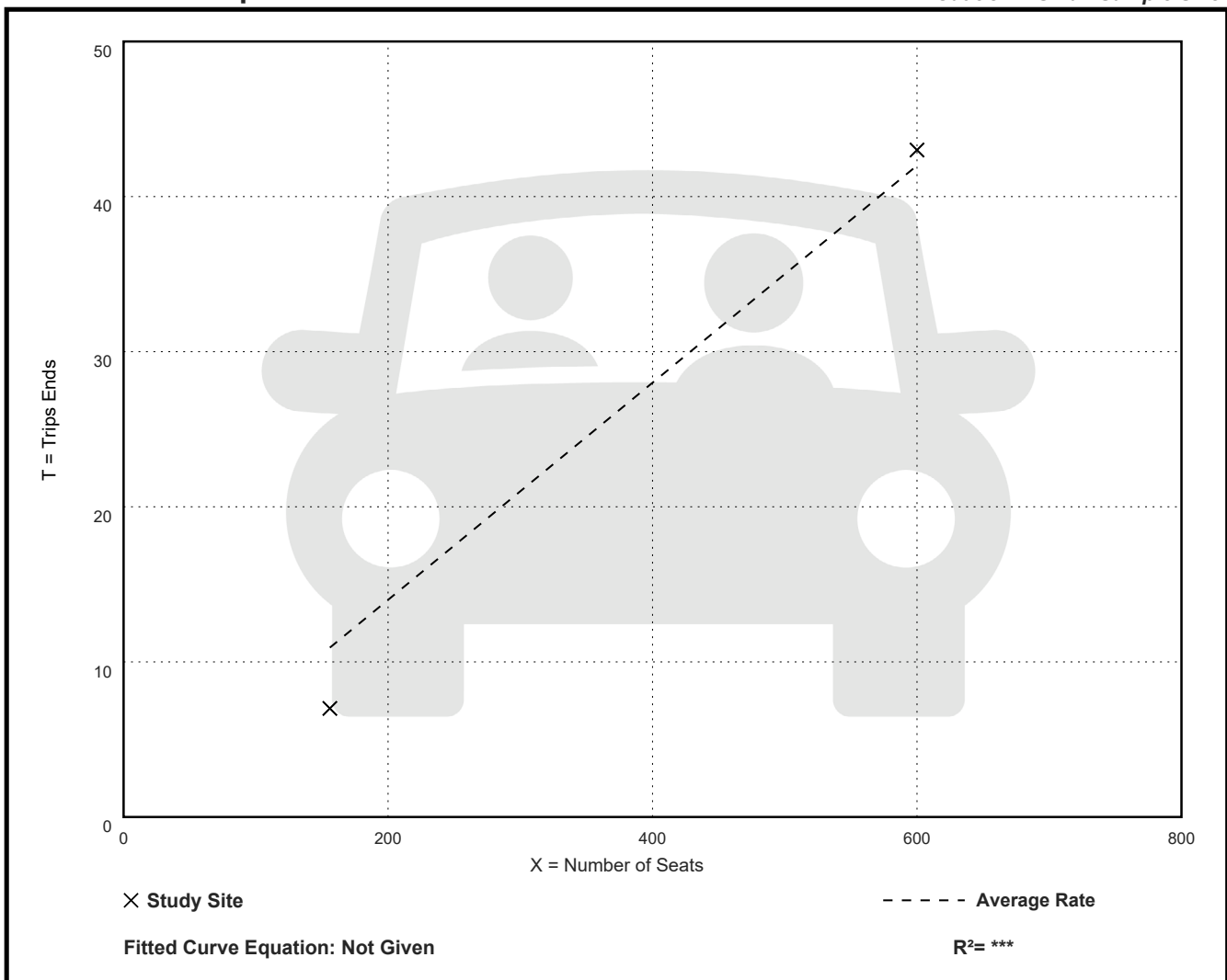
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.07	0.04 - 0.07	***

Data Plot and Equation

Caution – Small Sample Size



Church (560)

Vehicle Trip Ends vs: Seats

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: 4

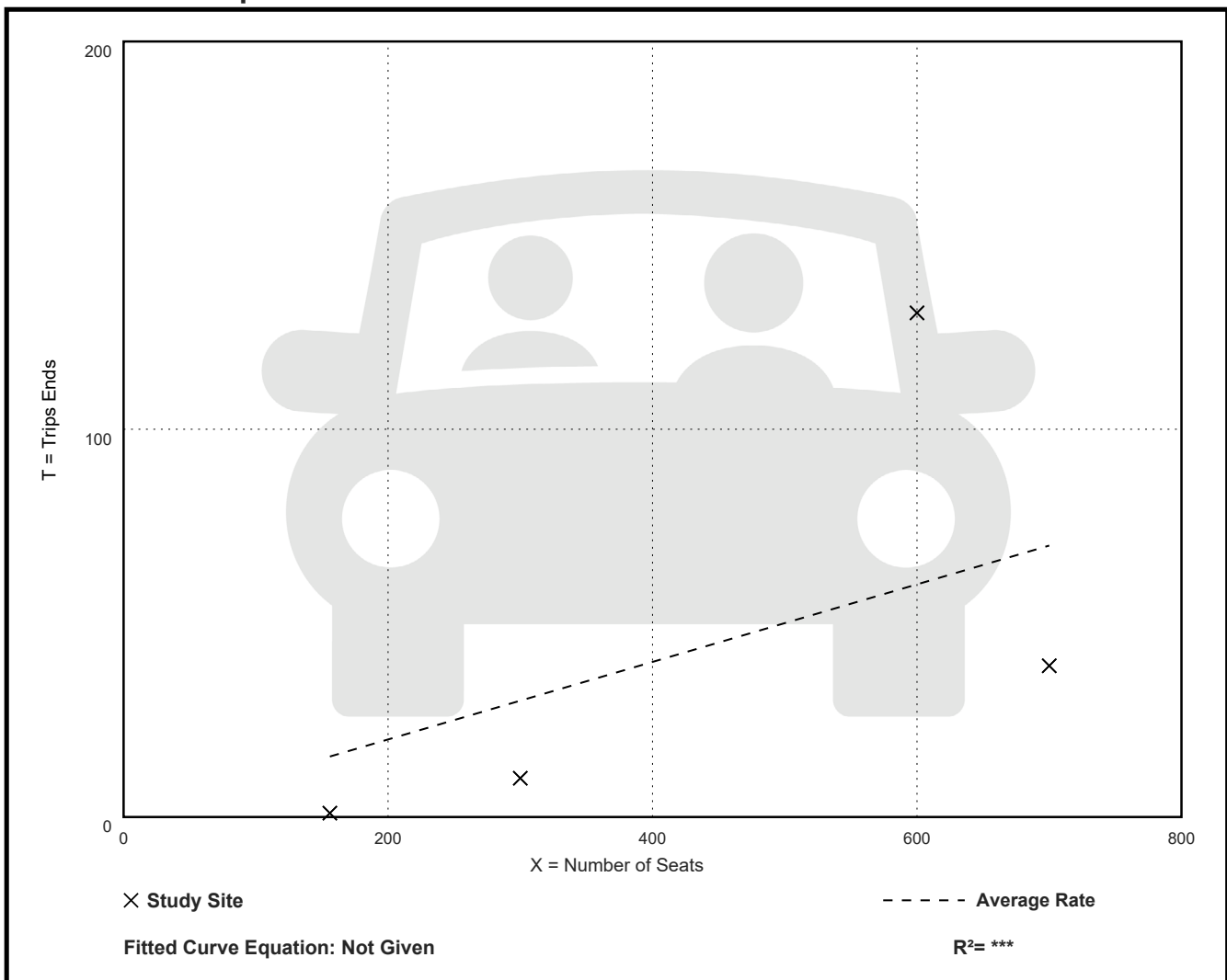
Avg. Num. of Seats: 439

Directional Distribution: 45% entering, 55% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.10	0.01 - 0.22	0.10

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: Seats

On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 3

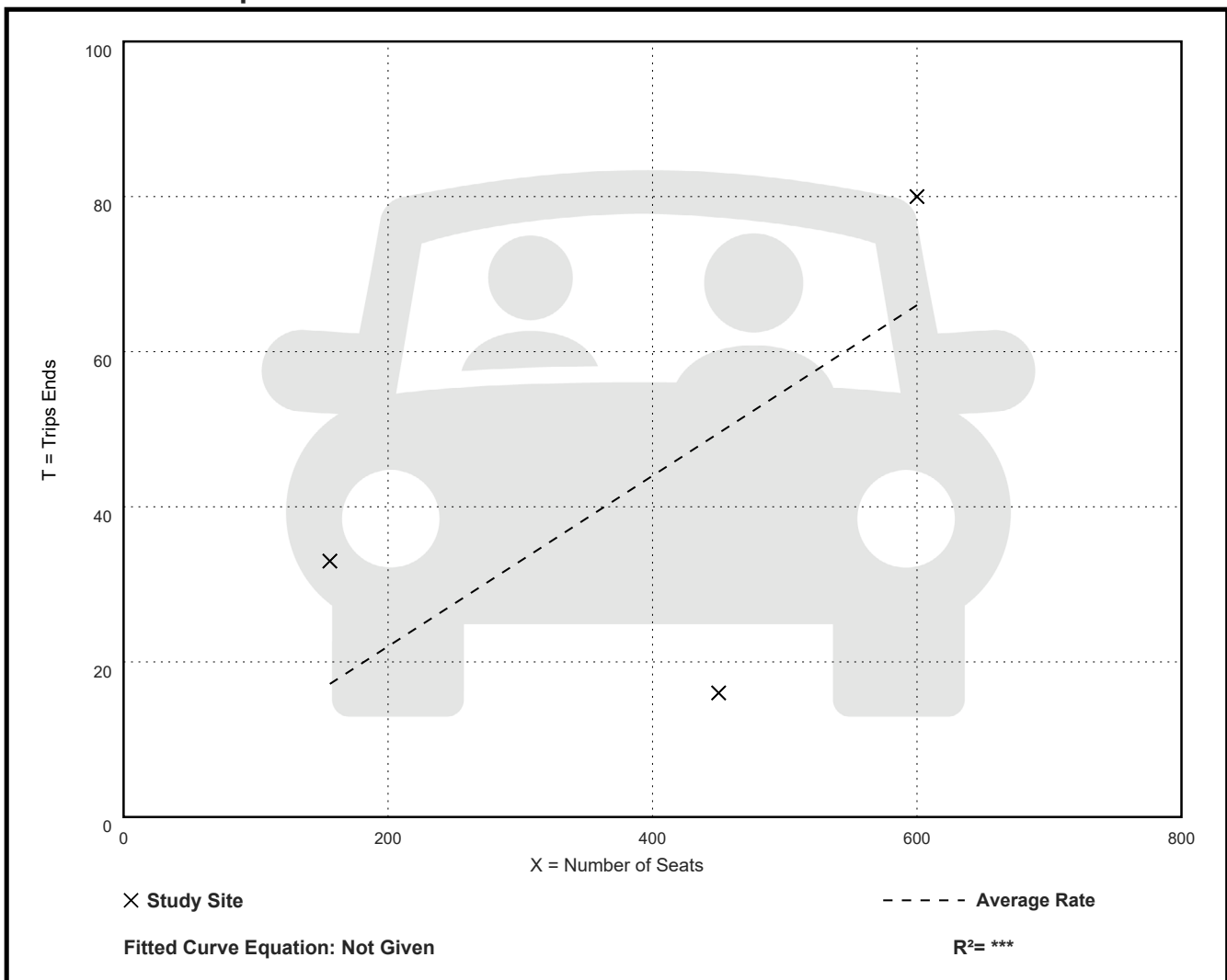
Avg. Num. of Seats: 402

Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.11	0.04 - 0.21	0.07

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: Seats

On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 3

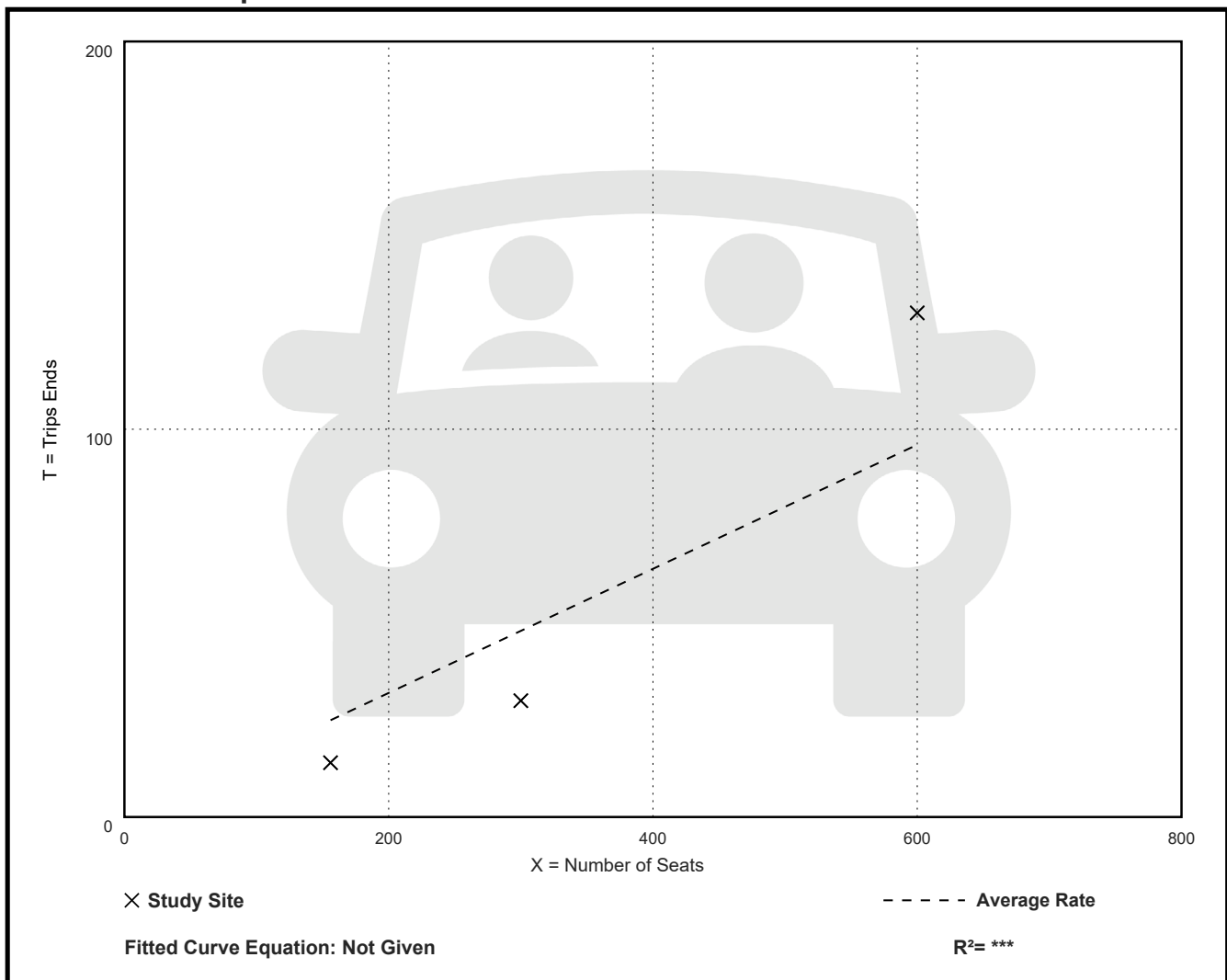
Avg. Num. of Seats: 352

Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.16	0.09 - 0.22	0.07

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: **Seats**

On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**

Number of Studies: **1**

Avg. Num. of Seats: **149**

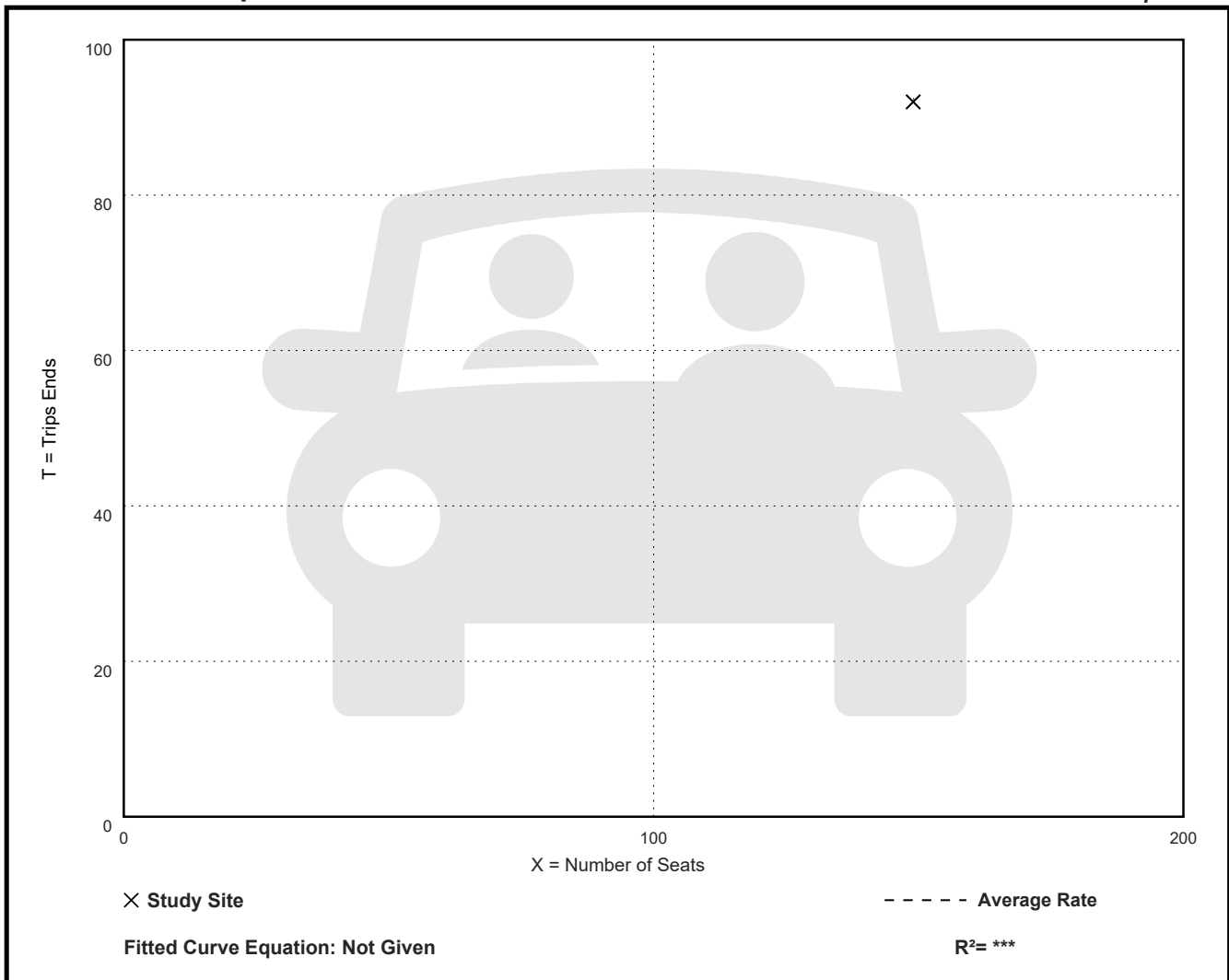
Directional Distribution: **50% entering, 50% exiting**

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.62	0.62 - 0.62	***

Data Plot and Equation

Caution – Small Sample Size



Church (560)

Vehicle Trip Ends vs: Seats
On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 1000

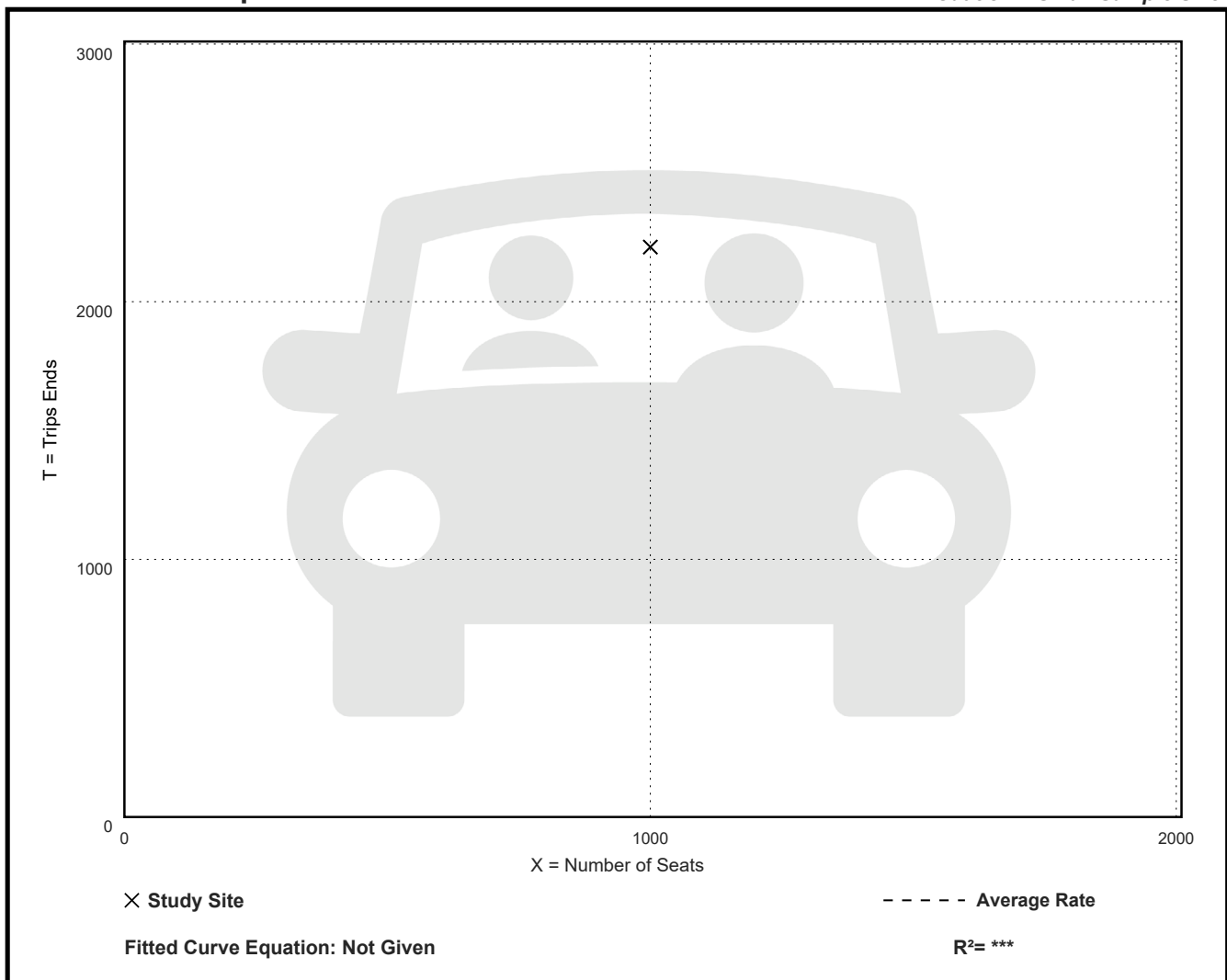
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
2.21	2.21 - 2.21	***

Data Plot and Equation

Caution – Small Sample Size



Church (560)

Vehicle Trip Ends vs: **Seats**

On a: **Sunday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**

Number of Studies: 12

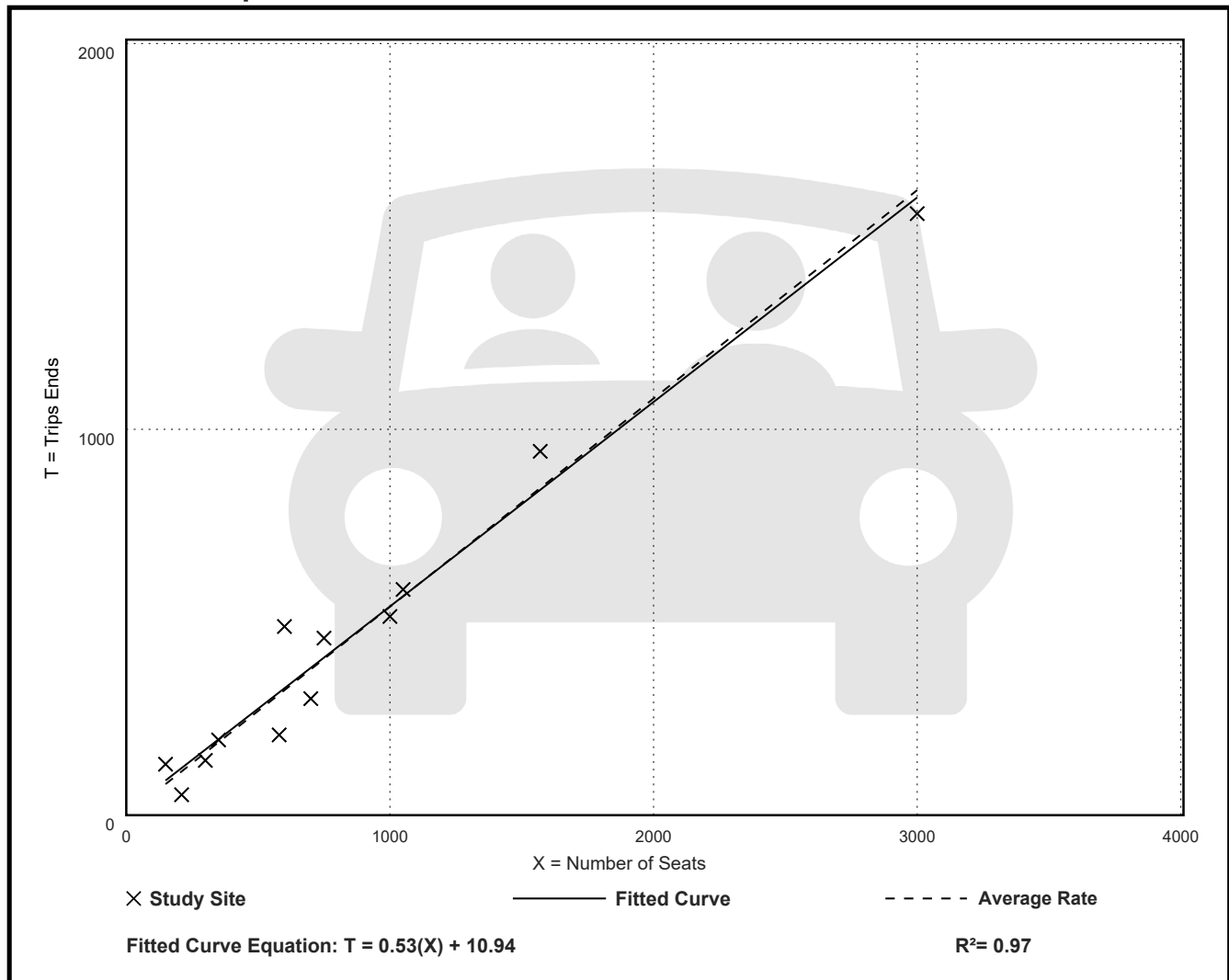
Avg. Num. of Seats: 855

Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.54	0.25 - 0.89	0.11

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: Attendees

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Attendees: 195

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Attendee

Average Rate	Range of Rates	Standard Deviation
0.08	0.08 - 0.08	***

Data Plot and Equation

Caution – Small Sample Size

