

## Trip Generation Memorandum – Spout Springs Food Mart

Reed Creek Food Mart, LLC have selected Traffic Solutions to provide services to conduct a trip generation study for a proposed Spout Springs Food Mart development located at 6495 Spout Springs Road in the Flowery Branch, Hall County, Georgia. Located southeast quadrant of the Spout Springs Road and Elizabeth Lane intersection as shown in **Figure 1- Location Map**.

The proposed development will be situated on approximately 3.05 acres encompassing the following:

- Food Mart at 6,000 sf with 12 fueling positions
- Quick Serve Restaurant with Drive Through - 2,500 sf
- Quick Serve Restaurant with Drive Through - 2,000 sf

All vehicular access to the site will be provided by two (2) driveways: fully accessible driveway on Elizabeth Lane and a right-in/right-out driveway on Spout Springs Road as shown in **Figure 2 - Site Plan**.

The accepted procedure for determining the trips generated by the development of a property based on the land use and intensity is to apply the rates or equations developed by the Institute of Transportation Engineers (ITE) as published in the Trip Generation Manual - 11<sup>th</sup> Edition. The rates or equations in this informational report are calculated from nationally collected data. This method was used to establish the trip generation for the proposed development.

The results of the trip generation for the proposed development are given in **Table 1**. The data in Table 1 shows the distribution of trips that will be entering and exiting the assigned driveways, as well as the new or primary trips that are generated by the proposed land use development.

Figure 1. Site Map



Table 1. Trip Generation - Daily, AM/PM Peak Hour and Distribution %

Land Use (ITE Code)	Intensity	Avg Daily Trips		AM Peak Hour			PM Peak Hour		
		Enter	Exit	Enter	Exit	Total	Enter	Exit	Total
Distribution		50%	50%	50%	50%	100%	50%	50%	100%
C-Store 6 ksf w/gas station (945)	12 fueling positions	2101	2102	169	170	339	163	164	327
Distribution		50%	50%	58%	42%	100%	50%	50%	100%
Fast Food Restaurant (933)	2,000 sf	450	451	50	36	86	33	33	66
Distribution		50%	50%	51%	49%	100%	58%	42%	100%
Fast Food Restaurant w/Drive Thru (934)	2,500 sf	584	585	57	55	112	48	35	83
Unadjusted Total Trips		3,135	3,138	276	261	537	244	232	476
C-Store w/gas station Pass-by (945)	76%AM / 75%PM			129	129	258	122	123	245
Fast Food Restaurant Pass-by (934)	50%AM / 55%PM			28	28	56	26	19	46
TOTAL New Trips				119	104	223	96	90	186

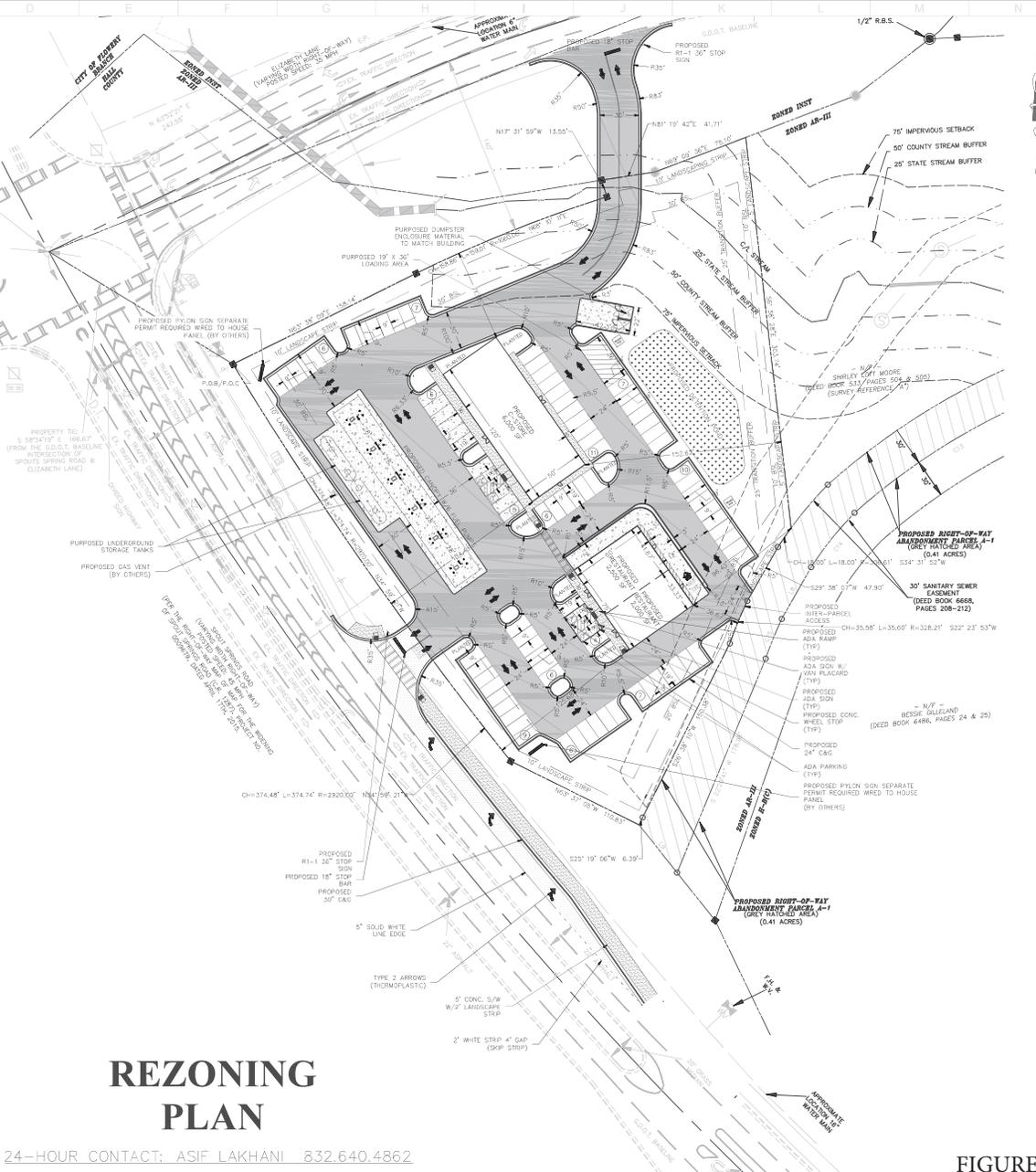
Spout Spring Road is a four-lane divided roadway with a posted speed limit of 45 miles per hour. According to GDOT’s data the functional classification of Spout Springs Road is a Minor Arterial. Spout Springs travels in the north/south directions between Interstate 985 to the north and Interstate 85 to the south. According to GDOTs Traffic Analysis and Data Application (TADA), the latest traffic data was collected from count station 139-0441 in April 2023, showing an ADT of 15,550 vehicles traveling along Spout Spring Road, of which - 8,100 (52%) vehicles were travel in the northbound direction and 7,440 (48%) vehicles in the southbound direction.

Elizabeth Lane is a two-lane undivided local roadway with a posted speed limit of 35 miles per hour. Elizabeth Lane. travels in the east/west direction between Spout Springs Road and Cash Road. The land uses on Elizabeth Lane are primarily single-family residential and a secondary entrance to Cherokee Bluff High School. Traffic data was collected on Elizabeth Lane on Wednesday, January 15, 2025. The data shows the daily traffic volume on Elizabeth Lane to be 2,880 vpd, of which 1,340 (47%) were eastbound and 1,540 (53%) were westbound.



**VICINITY MAP**

THIS PROPERTY IS LOCATED WITHIN AN AREA OF MINIMAL FLOOD HAZARD (AS SHOWN ON F.I.R.M. COMMUNITY PANEL NUMBER 13190224G, DATED 12/01/2022.



**SITE AREA CALCULATIONS**

	SQUARE FOOTAGE	ACREAGE	PERCENTAGE
TOTAL SITE AREA	132,799.13	3.05	100.0
EXISTING ON-SITE IMPERVIOUS AREA	4,458	0.10	3.4
EXISTING PERVIOUS AREA	153,045	3.51	115.2
PROPOSED ON-SITE IMPERVIOUS AREA	85,621	1.85	60.7
BUILDING(S)	10,200	0.24	7.9
SIDEWALK	2,410	0.06	1.8
PAVEMENT/DRIVEWAYS/DRIVEWAY	70,21.00	1.61	52.8
PROPOSED PERVIOUS AREA	46,687.8	1.07	35.2
TOTAL DISTURBED AREA	0	0.00	N/A
PROPOSED OFF-SITE IMP.	8,807	0.20	N/A

**SITE DATA**

EXISTING USE	TOAD 00000A
EXISTING ZONING	R-5 SKENEL
PROPOSED ZONING CLASSIFICATION	CONDOMINIUM ZONING WITH FUEL SALES AND RETAIL
PROPOSED ZONING CLASSIFICATION	AR - A AGRICULTURAL, RESIDENTIAL
OVERLAY DISTRICT	GATEWAY OVERLAY
EXISTING LOCAL JURISDICTION	HALL COUNTY
FLOOD ZONE CLASSIFICATION	X

**BUILDING DATA**

0 STORY BUILDING AREA	8,000 SQ. FT.
RETAIL BUILDING AREA	14,550 SQ. FT.
BUILDING COVERAGE	1.80%
MAX BUILDING HEIGHT (BY CODE)	50 FEET

DIRECTION	REQUIRED SETBACK	PROPOSED SETBACK
FRONT (SOUTH)	30 FEET	SEE PLAN
REAR (NORTH)	25 FEET	SEE PLAN
SIDE (EAST)	20 FEET	SEE PLAN
SIDE (WEST)	30 FEET	SEE PLAN

**PROPOSED PARKING DATA**

COUNTY PARKING REQUIRED:

RETAIL SERVICE (AREA 5000 SQFT)	30 SPACES
1 SPACE FOR EACH 800 SQUARE FEET OF SALES AND/OR SERVICE AREA	30 SPACES
RESIDENTIAL/STREET (AREA 5000 SQFT)	108 SPACES
15 SPACES FOR EACH 1000 SQFT OF GROSS FLOOR AREA	72 SPACES
300 MAXIMUM PARKING (TOTAL OF REQUIRED)	108 SPACES
TOTAL PARKING PROVIDED	102 SPACES

PROPOSED PARKING:

STANDARD SPACES 9'x12'	86 SPACES
FUEL PUMP SPACES	13 SPACES
ACCESSIBLE SPACES (BY CODE)	4 SPACES
TOTAL PARKING PROVIDED	103 SPACES

LANDSCAPED ISLAND TOTAL TO 5-10 PERCENT OF PAVED AREA: 15.0%

**SITE NOTES**

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SITE WORK SPECIFICATIONS AND SHALL COMPLY APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- REFERENCE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS, TRUCK DOCKS, SIDEWALKS, STOPS, TRANSFORMER PADS, ETC.
- TOPOGRAPHIC BOUNDARY SURVEY, PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY THE FOLLOWING COMPANY: FIATON LAND SURVEYING, LLC
- ALL DIMENSIONS AND BOUNDARIES TO THE FACE OF CURB, UNLESS OTHERWISE NOTED. ALL DIMENSIONS SHOWN TO BUILDINGS ARE TO OUTSIDE FACE OF BUILDING.
- ALL HANDICAP ACCESSIBLE PARKING SIGNS AND STRIPING SHALL BE IN ACCORDANCE WITH THE AMERICAN WITH DISABILITY ACT (ADA) REQUIREMENTS AND STATE CODE.
- ALL TRAFFIC SIGNS SHALL CONFORM TO THE UNIFORM TRAFFIC CONTROL MANUAL AND THE STATE OF GEORGIA.
- ALL STRIPED OR CURBED ROAD SHALL BE 5' UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS RESPONSIBLE FOR REPAIR OR ANY DAMAGE TO ANY EXISTING IMPROVEMENTS, ON-SITE OR OFF-SITE, SUCH AS PAVEMENT, UTILITIES, STORM DRAINAGE, ETC. THE REPAIR MUST BE APPROVED BY THE ENGINEER AND BE EQUAL OR BETTER THAN EXISTING CONDITIONS.
- SITE LIGHTING SHALL BE INCLUDED IN THE GENERAL CONTRACTOR'S SCOPE OF WORK. ALL PARKING LOT LIGHTING POLES, BASES, FIXTURES WITH LAMPS SHALL BE INSTALLED BY THE GENERAL CONTRACTOR'S ELECTRICAL CONTRACTOR AND SHALL SUPPLY A ONE-YEAR WARRANTY CERTIFICATE.
- CONTRACTOR SHALL OBTAIN ALL PERMITS BEFORE CONSTRUCTION BEGINS.
- SITE CONTRACTOR SHALL SUPPLY AS-BUILT PLANS INDICATING ALL CHANGES AND DEVIATIONS.
- ANY UNANTICIPATED CONDITIONS ENCOUNTERED DURING THE CONSTRUCTION PROCESS SHALL BE IDENTIFIED TO THE ENGINEER IMMEDIATELY.
- ALL CONCRETE SHALL BE 4000 PSI 28 DAY COMPRESSIVE STRENGTH.
- PROJECT SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- ALL CURB AND GUTTER WITHIN THE DEVELOPMENT SHALL BE 24" UNLESS OTHERWISE NOTED.
- PARKING LOT STRIPING SHALL BE INCLUDED IN PAVING CONTRACTOR'S SCOPE FOR WORK. ALL STRIPING IS TO HAVE TWO (2) COATS OF PAINT (M.V.).
- ALL TRAFFIC MARKINGS SHALL BE THERMOPLASTIC AND MEET DOT SPECIFICATIONS.

**LEGEND**

**PROPOSED**

- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE PAVING
- PROPOSED HEAVY DUTY ASPHALT PAVING
- PROPOSED STANDARD DOT PAVING
- DOT PAVING
- LANDSCAPE STRIP/SETBACK LINE
- PROPERTY LINE
- CURB & GUTTER
- WATER METER
- TRANSFORMER PAD
- ADA RAMP
- CONCRETE WHEEL STOP
- ADA PARKING SYMBOL
- DIRECTIONAL ARROWS
- 24" STOP BAR
- PROPOSED LIGHT POLE

**REZONING PLAN**

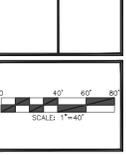
24-HOUR CONTACT: ASIF LAKHANI 832.640.4862

**FIGURE 2. SITE PLAN**



NO.	DATE	DESCRIPTION

**CIVIL PLANS**  
 6495 SPOUT SPRINGS RD  
 6495 SPOUT SPRINGS RD, CANTON, GA 30114  
 6495 SPOUT SPRINGS RD, CANTON, GA 30114  
 1176 LANFORD DRIVE SW, DUBLIN, GA 30047  
 ASIF LAKHANI 832.640.4862



DATE: 09/03/2024  
 PROJECT NUMBER: 2024-005

**SITE PLAN**

SHEET NUMBER: **C1**

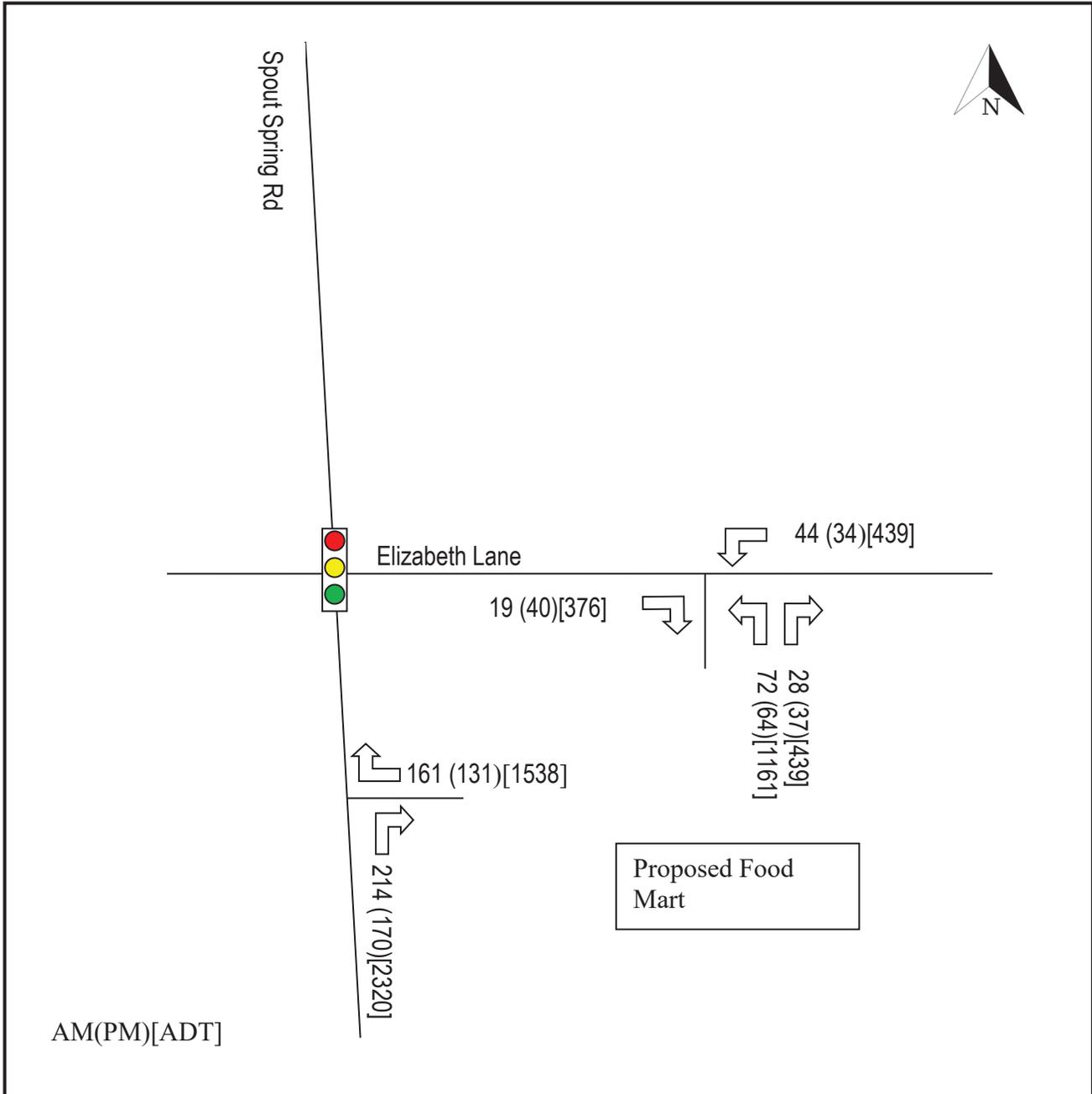


As shown in Table 1, the generated trips for this development consist of primary and pass-by trips. This is due to the nature of the proposed land uses. Primary trips are new trips on the roadway network. Primary trips typically enter the site and exit in the direction from which it entered. Pass-by trips are trips made as intermediate stops on the way from an origin to a primary destination. Pass-by trips are attracted from traffic passing on an adjacent street that contains direct access to the generator and are not new trips added to the system. We utilized the average percentage of pass-by trips as determined by ITE for each land use per AM and PM peak hour. The number of pass-by trips are then subtracted from the total number of trips to get the number of new trips generated by the proposed site.

Trip distribution for each land use is calculated using the data provided by ITE Trip Generation. The trip distribution determines the percentage of trips entering and exiting the proposed site. The total trip patterns for the proposed land uses will be consistent with the existing background traffic. After the trips were distributed along the existing roadway network, each trip type (primary / pass-by) was then assigned to all the access points of the proposed development with a certain level of reasonableness, based on the location of the driveways and each land use. Both primary and pass-by trips were then totaled, as shown in **Figure 3**.

The proposed food mart development is estimated to generate a total of 6,273 average daily trips with 3,135 trips entering the site and 3,138 trips exiting the site. During the AM peak hour, the site will generate 223 total new trips and 186 total new trips during the PM peak hour.

Figure 3. AM/PM/ADT Trip Distribution and Assignments - Total Trips





The proposed food mart development is estimated to generate a total of 6,273 average daily trips with 3,135 trips entering the site and 3,138 trips exiting the site. The need for a left turn lane and /or right turn lane on Elizabeth Lane and Spout Springs Road was analyzed in accordance with the GDOT Regulations for Driveways and Encroachment Control manual.

As with the peak hour trip assignments, the daily entering trips were distributed and assigned to each access point based on the daily traffic patterns of the adjacent street. From the analysis, it shows that of the 3,135 daily trips entering the site, 2,320 (74%) trips will make right turns into the site from Spout Springs Road. The analysis further shows that 376 (12%) trips will make a right turn into the site from Elizabeth Lane and 439 (14%) trips will make a left turn into the site from Elizabeth Lane.

In accordance with the minimum requirements from GDOT guidelines shown below, the driveway intersecting Elizabeth Lane is warranted for a left and right turn lane. While only a right turn lane is warranted on Spout Springs Road.

It is recommended that the turn lanes be installed at the GDOT minimum required storage length and taper for each type of turn lane at the respective roadway posted speed limit.

Posted Speed	2 Lane Routes		More than 2 Lanes on Main Road	
	AADT		AADT	
	<6,000	>= 6,000	<10,000	>= 10,000
35 MPH or Less	200 RTV a day	100 RTV a day	200 RTV a day	100 RTV a day
40 to 50 MPH	150 RTV a day	75 RTV a day	150 RTV a day	75 RTV a day
55 to 60 MPH	100 RTV a day	50 RTV a day	100 RTV a day	50 RTV a day
>= 65 MPH	Always	Always	Always	Always

Table 4-6 Minimum Volumes Requiring Right Turn Lanes

LEFT TURN REQUIREMENTS - FULL CONSTRUCTION				
Posted Speed	2 Lane Routes		More than 2 Lanes on Main Road	
	ADT		ADT	
	< 6,000	>= 6,000	< 10,000	>= 10,000
35 MPH or Less	300 LTV a day	200 LTV a day	400 LTV a day	300 LTV a day
40 to 50 MPH	250 LTV a day	175 LTV a day	325 LTV a day	250 LTV a day
>= 55 MPH	200 LTV a day	150 LTV a day	250 LTV a day	200 LTV a day

Table 4-7a Minimum Volumes Requiring Left turn Lanes, GDOT Regulations for Driveways & Encroachment Control Manual, Page 4-14, 7/3/2019 Rev. 5.0

# Convenience Store/Gas Station - VFP (9-15) (945)

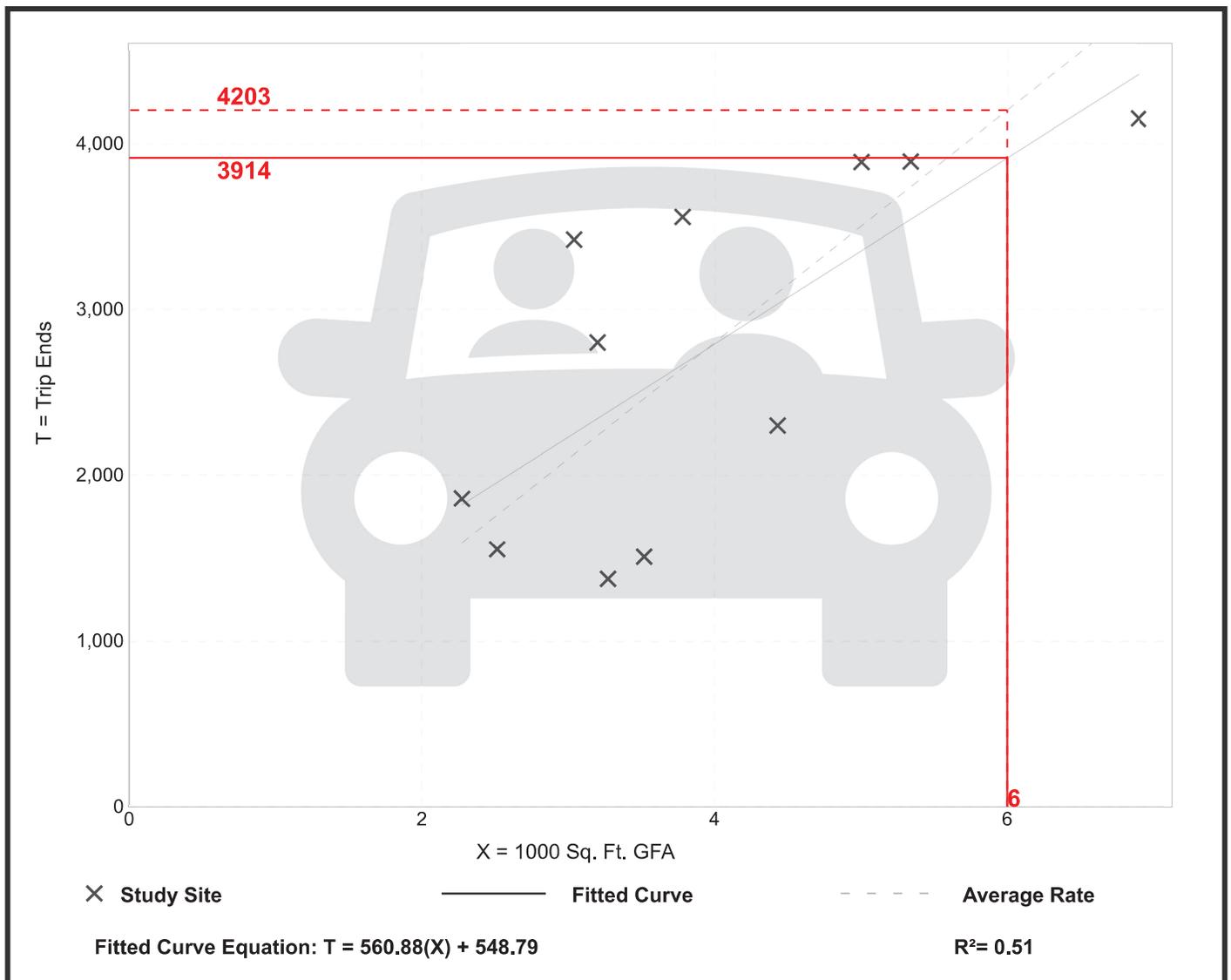
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 11  
Avg. 1000 Sq. Ft. GFA: 4  
Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
700.43	419.93 - 1125.00	206.44

## Data Plot and Equation



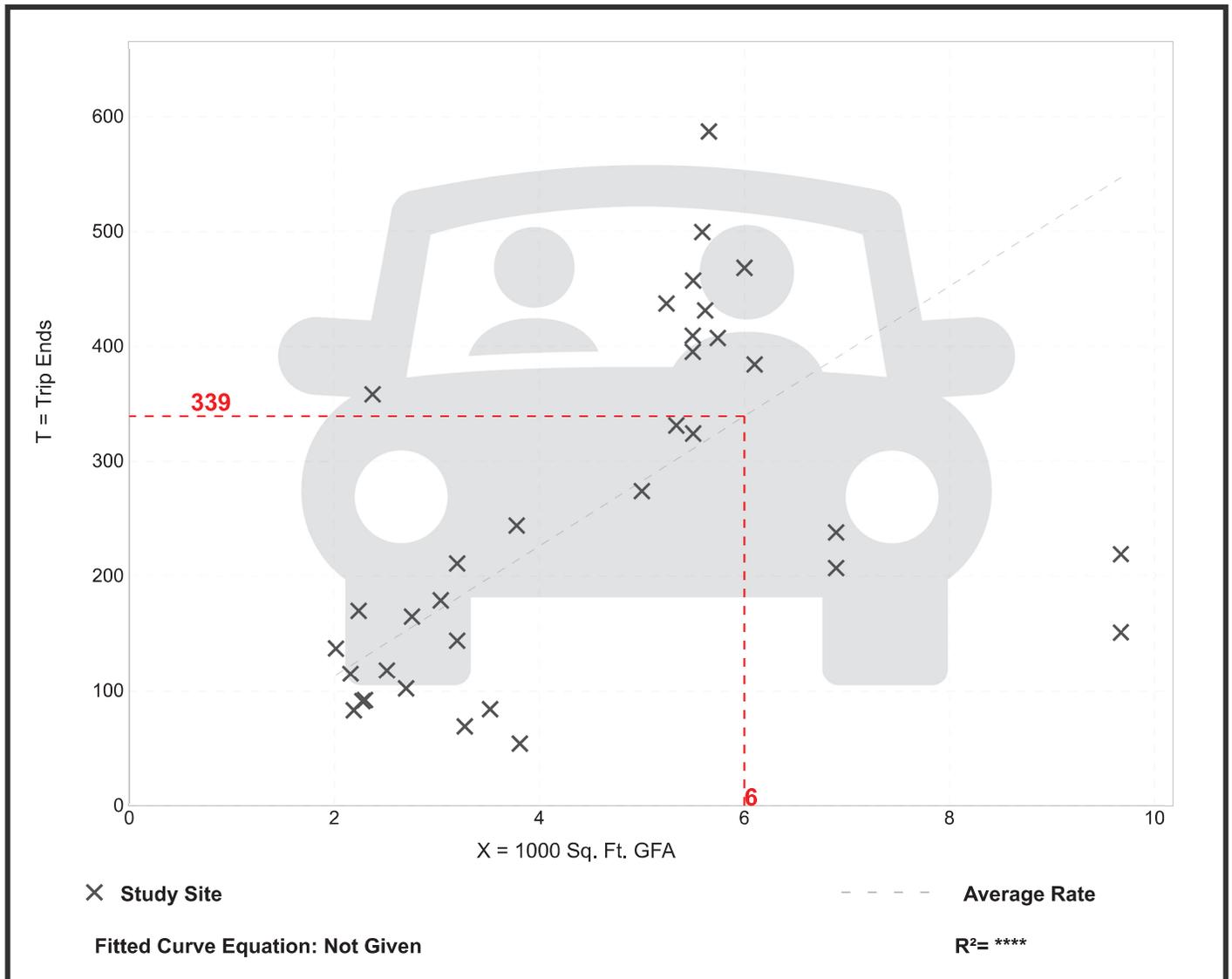
# Convenience Store/Gas Station - VFP (9-15) (945)

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: 4  
 Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
56.52	14.17 - 150.67	27.56

## Data Plot and Equation



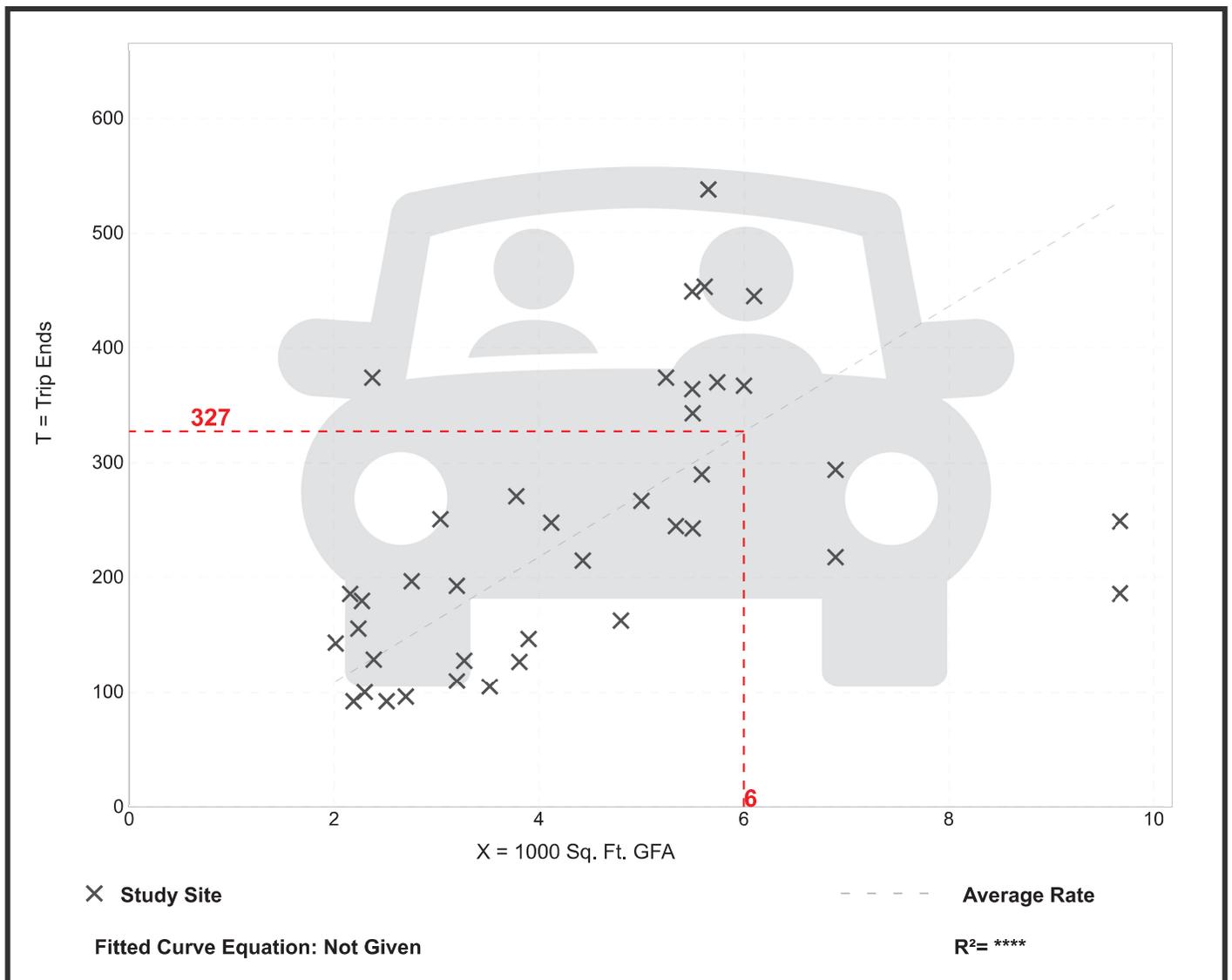
# Convenience Store/Gas Station - VFP (9-15) (945)

**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: 39  
 Avg. 1000 Sq. Ft. GFA: 4  
 Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
54.52	19.23 - 157.41	23.69

## Data Plot and Equation



**Vehicle Pass-By Rates by Land Use**

Source: ITE Trip Generation Manual, 11th Edition

Land Use Code	945									
Land Use	Convenience Store/Gas Station									
Setting	General Urban/Suburban									
Time Period	Weekday AM Peak Period									
# Data Sites	16 Sites with between 2 and 8 VFP					28 Sites with between 9 and 20 VFP				
Average Pass-By Rate	60% for Sites with between 2 and 8 VFP					76% for Sites with between 9 and 20 VFP				
Pass-By Characteristics for Individual Sites										
GFA (000)	VFP	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
						Primary (%)	Diverted (%)	Total (%)		
2	8	Maryland	1992	46	87	13	0	13	2235	25
2.1	6	Maryland	1992	26	58	23	19	42	2080	25
2.1	6	Maryland	1992	26	58	23	19	42	2080	25
2.2	8	Maryland	1992	31	47	34	19	53	1785	25
2.2	< 8	Indiana	1993	79	56	6	38	44	635	2
2.2	8	Maryland	1992	35	78	9	13	22	7080	25
2.3	6	Maryland	1992	37	32	41	27	68	2080	25
2.3	< 8	Kentucky	1993	58	64	5	31	36	1255	2
2.3	6	Maryland	1992	37	32	41	27	68	2080	25
2.4	< 8	Kentucky	1993	—	48	17	35	52	1210	2
2.6	< 8	Kentucky	1993	—	72	15	13	28	940	2
2.8	< 8	Kentucky	1993	—	54	11	35	46	1240	2
3	< 8	Indiana	1993	62	74	10	16	26	790	2
3.6	< 8	Kentucky	1993	49	67	4	29	33	1985	2
3.7	< 8	Kentucky	1993	49	66	16	18	34	990	2
4.694	12	Maryland	2000	—	72	—	—	28	2440	30
4.694	12	Maryland	2000	—	78	—	—	22	1561	30
4.694	12	Maryland	2000	—	79	—	—	21	2764	30
4.848	12	Virginia	2000	—	55	—	—	45	1398	30
5.06	12	Pennsylvania	2000	—	84	—	—	16	3219	30
5.242	12	Virginia	2000	—	74	—	—	26	1160	30
5.242	12	Virginia	2000	—	71	—	—	29	548	30
5.488	12	Delaware	2000	—	80	—	—	20	—	30
5.5	12	Pennsylvania	2000	—	85	—	—	15	2975	30
4.2	< 8	Kentucky	1993	47	62	19	19	38	1705	2
4.694	16	Maryland	2000	—	90	—	—	10	2278	30
4.694	16	Delaware	2000	—	74	—	—	26	2185	30
4.694	16	Delaware	2000	—	58	—	—	42	962	30
4.694	16	Delaware	2000	—	84	—	—	16	2956	30
4.694	16	New Jersey	2000	—	79	—	—	21	1859	30
4.694	20	Delaware	2000	—	84	—	—	16	3864	30
4.848	16	Virginia	2000	—	68	—	—	32	2106	30
4.848	16	Virginia	2000	—	85	—	—	15	2676	30
4.848	16	Virginia	2000	—	75	—	—	25	3244	30
4.848	16	Virginia	2000	—	71	—	—	29	1663	30
4.993	16	Pennsylvania	2000	—	75	—	—	25	1991	30
5.094	16	New Jersey	2000	—	86	—	—	14	1260	30
5.5	16	Pennsylvania	2000	—	82	—	—	18	1570	30
5.543	16	Pennsylvania	2000	—	84	—	—	16	1933	30
5.565	16	Pennsylvania	2000	—	77	—	—	23	2262	30
5.565	16	Pennsylvania	2000	—	68	—	—	32	2854	30
5.565	16	New Jersey	2000	—	58	—	—	42	1253	30
5.565	16	New Jersey	2000	—	79	—	—	21	1928	30
5.565	16	New Jersey	2000	---	84	---	---	16	1953	30

**Vehicle Pass-By Rates by Land Use**

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	945									
Land Use	Convenience Store/Gas Station									
Setting	General Urban/Suburban									
Time Period	Weekday PM Peak Period									
# Data Sites	12 Sites with between 2 and 8 VFP					28 Sites with between 9 and 20 VFP				
Average Pass-By Rate	56% for Sites with between 2 and 8 VFP					75% for Sites with between 9 and 20 VFP				
Pass-By Characteristics for Individual Sites										
GFA (000)	VFP	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
						Primary (%)	Diverted (%)	Total (%)		
2.1	8	Maryland	1992	31	52	13	35	48	1785	25
2.1	6	Maryland	1992	30	53	20	27	47	1060	25
2.2	< 8	Indiana	1993	115	48	16	36	52	820	2
2.3	< 8	Kentucky	1993	67	57	16	27	43	1954	2
2.3	6	Maryland	1992	55	40	11	49	60	2760	25
2.4	< 8	Kentucky	1993	—	58	13	29	42	2655	2
2.6	< 8	Kentucky	1993	68	67	15	18	33	950	2
2.8	< 8	Kentucky	1993	—	62	11	27	38	2875	2
3	< 8	Indiana	1993	80	65	15	20	35	1165	2
3.6	< 8	Kentucky	1993	60	56	17	27	44	2505	2
3.7	< 8	Kentucky	1993	70	61	16	23	39	2175	2
4.2	< 8	Kentucky	1993	61	58	26	16	42	2300	2
4.694	12	Maryland	2000	—	78	—	—	22	3549	30
4.694	12	Maryland	2000	—	67	—	—	33	2272	30
4.694	12	Maryland	2000	—	66	—	—	34	3514	30
4.848	12	Virginia	2000	—	71	—	—	29	2350	30
5.06	12	Pennsylvania	2000	—	91	—	—	9	4181	30
5.242	12	Virginia	2000	—	70	—	—	30	2445	30
5.242	12	Virginia	2000	—	56	—	—	44	950	30
5.488	12	Delaware	2000	—	73	—	—	27	—	30
5.5	12	Pennsylvania	2000	—	84	—	—	16	4025	30
4.694	16	Maryland	2000	—	89	—	—	11	2755	30
4.694	16	Delaware	2000	—	73	—	—	27	1858	30
4.694	16	Delaware	2000	—	59	—	—	41	1344	30
4.694	16	Delaware	2000	—	72	—	—	28	3434	30
4.694	16	New Jersey	2000	—	81	—	—	19	1734	30
4.694	20	Delaware	2000	—	76	—	—	24	1616	30
4.848	16	Virginia	2000	—	67	—	—	33	2.954	30
4.848	16	Virginia	2000	—	78	—	—	22	3086	30
4.848	16	Virginia	2000	—	83	—	—	17	4143	30
4.848	16	Virginia	2000	—	73	—	—	27	2534	30
4.993	16	Pennsylvania	2000	—	72	—	—	28	2917	30
5.094	16	New Jersey	2000	—	86	—	—	14	1730	30
5.5	16	Pennsylvania	2000	—	90	—	—	10	2616	30
5.543	16	Pennsylvania	2000	—	87	—	—	13	2363	30
5.565	16	Pennsylvania	2000	—	81	—	—	19	2770	30
5.565	16	Pennsylvania	2000	—	76	—	—	24	3362	30
5.565	16	New Jersey	2000	—	61	—	—	39	1713	30
5.565	16	New Jersey	2000	—	86	—	—	14	1721	30
5.565	16	New Jersey	2000	---	81	---	---	19	2227	30

# Fast-Food Restaurant with Drive-Through Window (934)

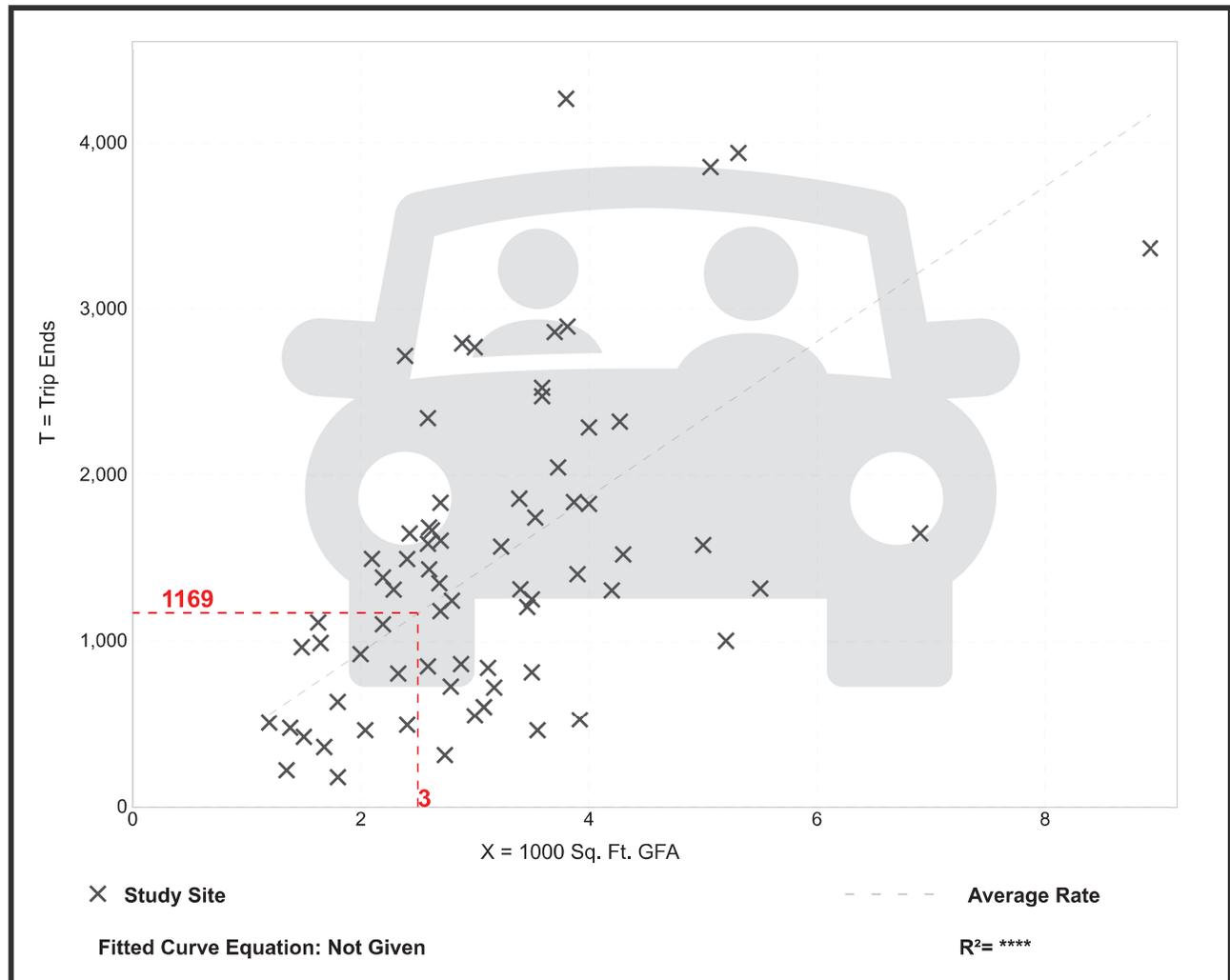
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 71  
Avg. 1000 Sq. Ft. GFA: 3  
Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

## Data Plot and Equation



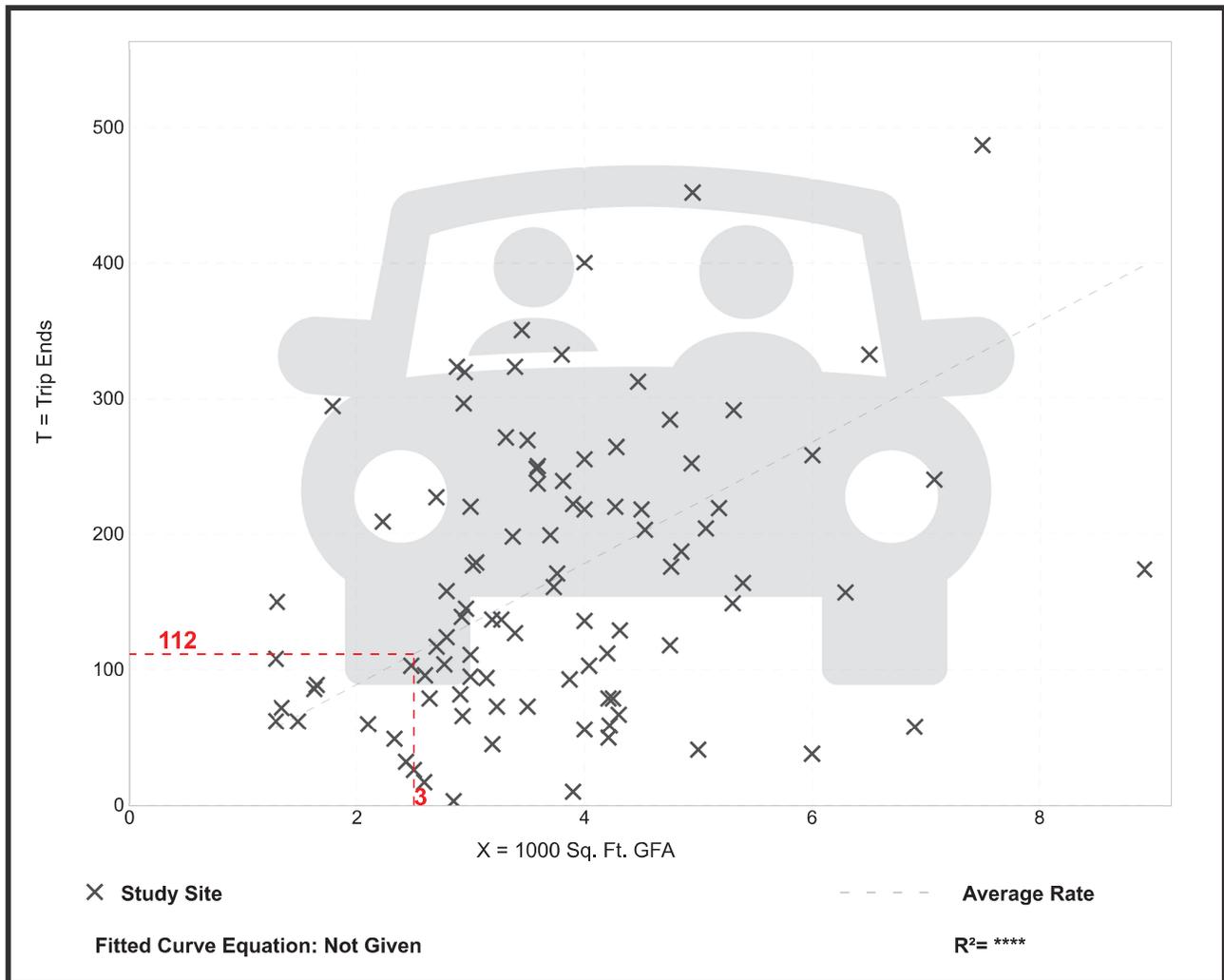
# Fast-Food Restaurant with Drive-Through Window (934)

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: 96  
 Avg. 1000 Sq. Ft. GFA: 4  
 Directional Distribution: 51% entering, 49% exiting

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

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

## Data Plot and Equation



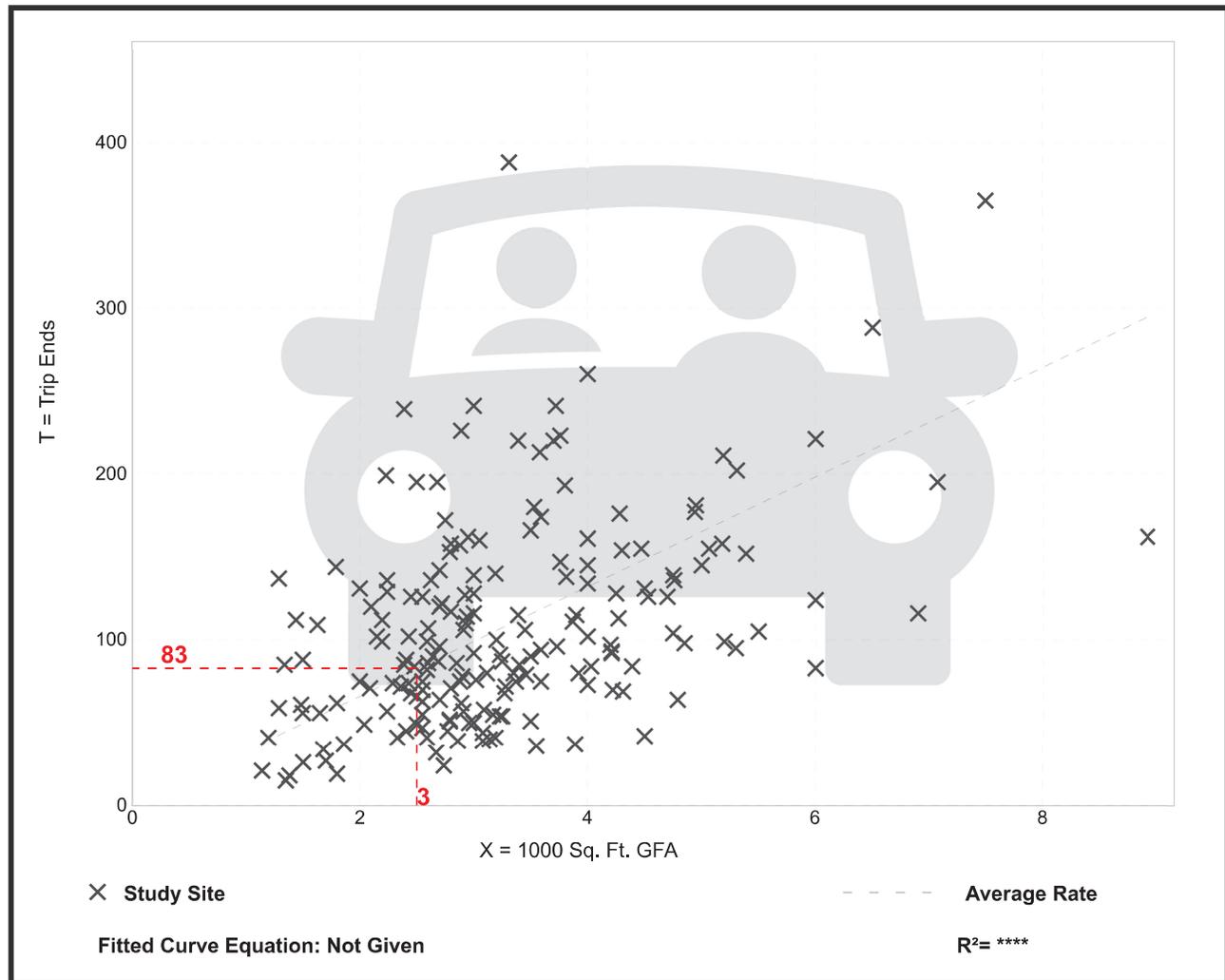
# Fast-Food Restaurant with Drive-Through Window (934)

**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: 190  
 Avg. 1000 Sq. Ft. GFA: 3  
 Directional Distribution: 52% entering, 48% exiting

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

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

## Data Plot and Equation





### Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	934								
Land Use	Fast-Food Restaurant with Drive-Through Window								
Setting	General Urban/Suburban								
Time Period	Weekday PM Peak Period								
# Data Sites	11								
Average Pass-By Rate	55%								
	Pass-By Characteristics for Individual Sites								
		Survey		Pass-By	Non-Pass-By Trips			Adj Street Peak	
GFA (000)	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source
1.3	Kentucky	1993	—	68	22	10	32	2055	2
1.9	Kentucky	1993	33	67	24	9	33	2447	2
2.8	Florida	1995	47	66	—	—	34	—	30
2.9	Florida	1996	271	41	41	18	59	—	30
3	Kentucky	1993	—	31	31	38	69	4250	2
3.1	Florida	1995	28	71	—	—	29	—	30
3.1	Florida	1996	29	38	—	—	62	—	30
3.2	Florida	1996	202	40	39	21	60	—	30
3.3	—	1996	—	62	—	—	38	—	21
4.2	Indiana	1993	—	56	25	19	44	1632	2
4.3	Florida	1994	304	62	—	—	38	—	30

# Fast-Food Restaurant without Drive-Through Window (933)

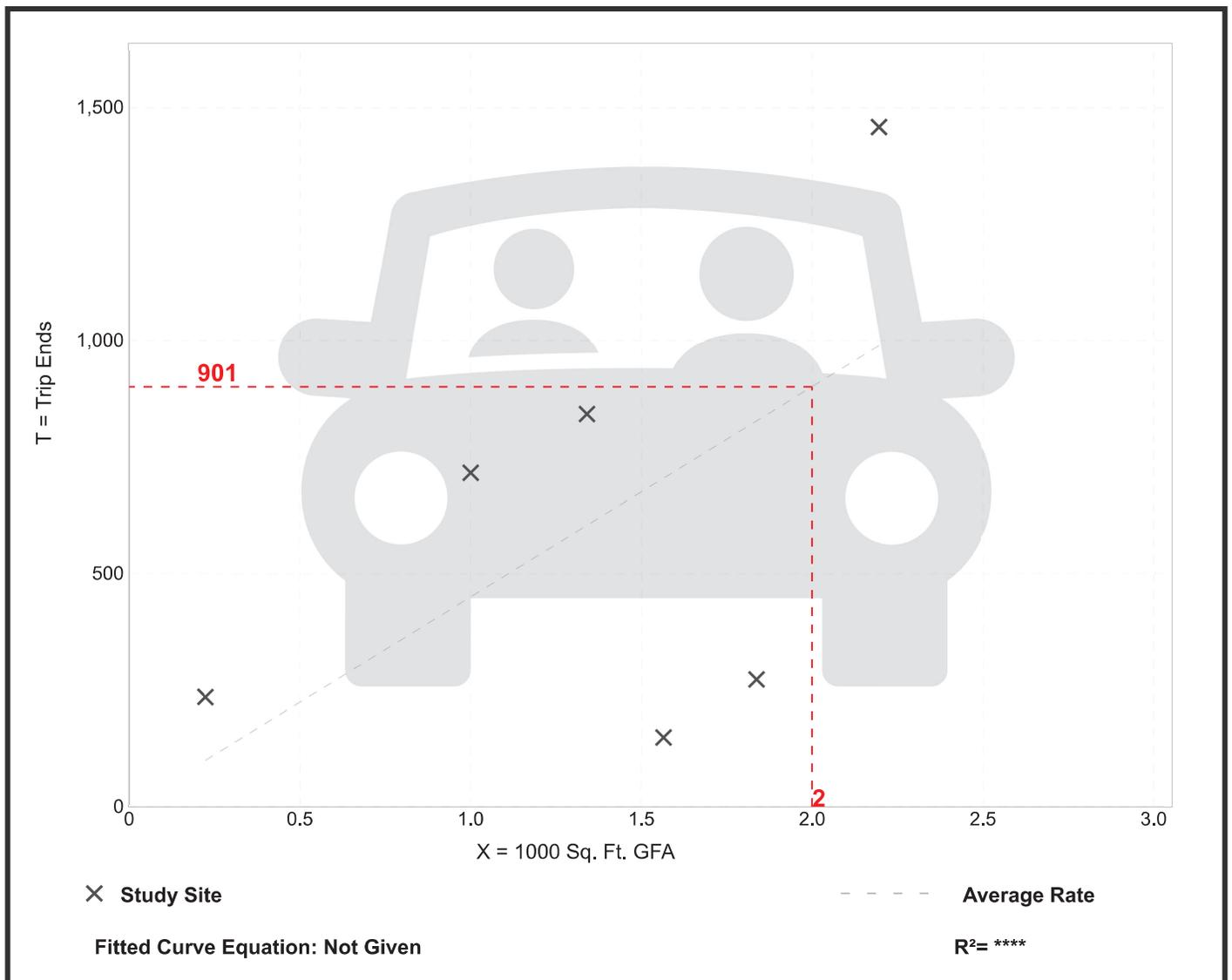
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 6  
Avg. 1000 Sq. Ft. GFA: 1  
Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
450.49	95.91 - 1053.57	310.99

## Data Plot and Equation



# Fast-Food Restaurant without Drive-Through Window (933)

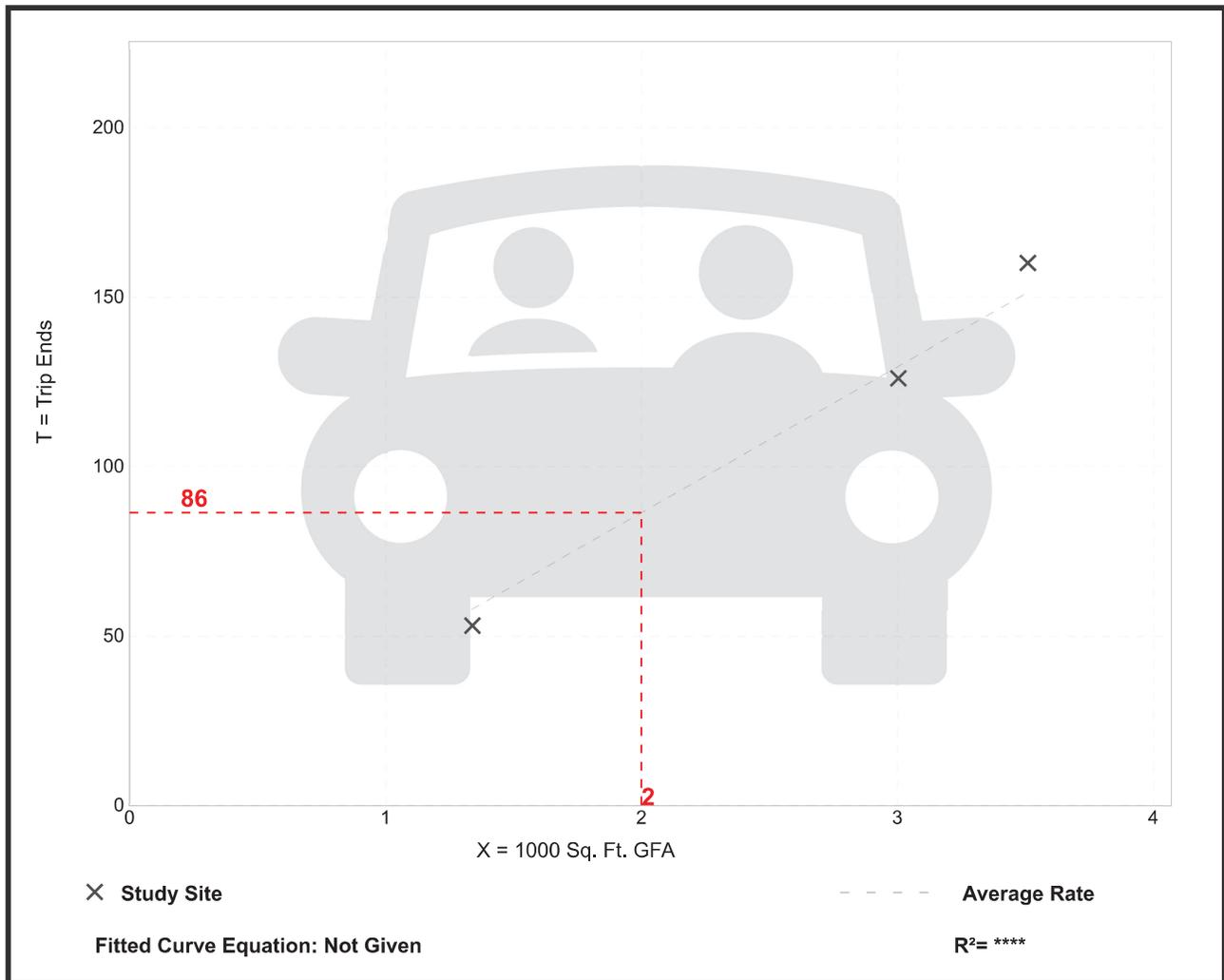
**Vehicle Trip Ends vs:** 1000 Sq. Ft. GFA  
**On a:** Weekday,  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location:** General Urban/Suburban  
 Number of Studies: 3  
 Avg. 1000 Sq. Ft. GFA: 3  
 Directional Distribution: 58% entering, 42% exiting

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

Average Rate	Range of Rates	Standard Deviation
43.18	39.55 - 45.58	2.84

## Data Plot and Equation

*Caution – Small Sample Size*



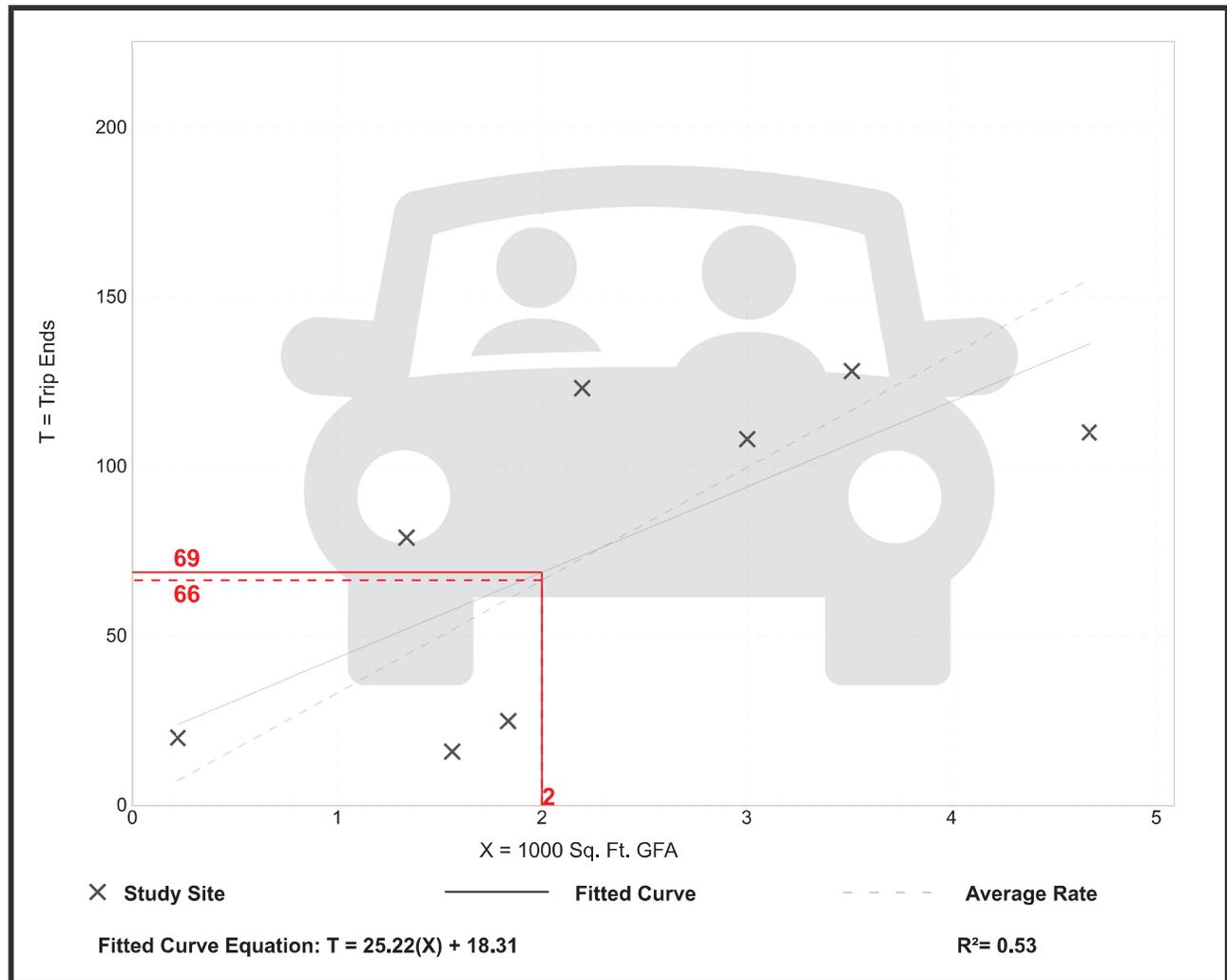
# Fast-Food Restaurant without Drive-Through Window (933)

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: 2  
 Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
33.21	10.23 - 89.29	17.22

## Data Plot and Equation



**TRAFFIC DATA SERVICES  
TRAFFIC SOLUTIONS, LLC TRAFFIC STUDY  
ELIZABETH LANE ADT COUNTS**

Elizabeth Lane Btwn Spout springs and  
Squirrel Nest Ct in Hall County

Site: #1  
1/15/2025  
Wednesday

Daily Volume

Interval Start	EB	WB	Combined	Interval Start	EB	WB	Combined
12:00 AM	3	4	5	12:00 PM	16	53	30
12:15 AM	1	2	3	12:15 PM	13	17	30
12:30 AM	0	0	0	12:30 PM	12	11	23
12:45 AM	0	0	0	12:45 PM	12	14	26
1:00 AM	1	4	1	1:00 PM	11	72	29
1:15 AM	1	0	1	1:15 PM	22	18	42
1:30 AM	2	1	3	1:30 PM	19	12	31
1:45 AM	0	0	0	1:45 PM	20	23	43
2:00 AM	1	1	3	2:00 PM	19	91	36
2:15 AM	0	0	0	2:15 PM	24	24	48
2:30 AM	0	1	1	2:30 PM	24	12	36
2:45 AM	0	2	2	2:45 PM	24	23	47
3:00 AM	0	1	5	3:00 PM	27	118	42
3:15 AM	0	1	1	3:15 PM	30	18	48
3:30 AM	1	3	4	3:30 PM	44	78	122
3:45 AM	0	1	1	3:45 PM	17	73	90
4:00 AM	2	4	3	4:00 PM	26	126	51
4:15 AM	0	2	2	4:15 PM	42	20	62
4:30 AM	0	5	5	4:30 PM	33	25	58
4:45 AM	2	8	10	4:45 PM	25	18	43
5:00 AM	0	6	3	5:00 PM	34	141	65
5:15 AM	1	9	10	5:15 PM	32	20	52
5:30 AM	2	13	15	5:30 PM	39	32	71
5:45 AM	3	16	19	5:45 PM	36	37	73
6:00 AM	0	20	15	6:00 PM	36	135	63
6:15 AM	5	19	24	6:15 PM	31	20	51
6:30 AM	3	25	28	6:30 PM	33	28	61
6:45 AM	12	29	41	6:45 PM	35	27	62
7:00 AM	11	65	27	7:00 PM	21	80	40
7:15 AM	13	38	51	7:15 PM	24	11	35
7:30 AM	19	43	62	7:30 PM	14	12	26
7:45 AM	22	43	65	7:45 PM	21	17	38
8:00 AM	22	101	45	8:00 PM	21	73	28
8:15 AM	26	43	69	8:15 PM	17	16	33
8:30 AM	43	47	90	8:30 PM	20	8	28
8:45 AM	10	34	44	8:45 PM	15	11	26
9:00 AM	13	52	30	9:00 PM	15	52	7
9:15 AM	11	29	40	9:15 PM	17	1	18
9:30 AM	15	17	32	9:30 PM	10	4	14
9:45 AM	13	14	27	9:45 PM	10	3	13
10:00 AM	8	53	18	10:00 PM	9	23	4
10:15 AM	9	15	24	10:15 PM	4	3	7
10:30 AM	16	19	35	10:30 PM	3	3	6
10:45 AM	20	21	41	10:45 PM	7	1	8
11:00 AM	8	50	15	11:00 PM	1	14	1
11:15 AM	10	15	25	11:15 PM	5	0	5
11:30 AM	11	16	27	11:30 PM	2	1	3
11:45 AM	21	19	40	11:45 PM	6	2	8

Volume Totals

	EB	WB	Combined
12:00 AM - 12:00 PM	361 (33.8%)	708 (66.2%)	1069
12:00 PM - 12:00 AM	978 (54.1%)	830 (45.9%)	1808
24 Hours	1339 (46.5%)	1538 (53.5%)	2877

Peak Hours

	EB	WB	Combined
12:00 AM - 12:00 PM	7:45 AM	7:45 AM	7:45 AM
Volume	113	178	291
Factor	0.66	0.95	0.81
12:00 PM - 12:00 AM	5:15 PM	3:30 PM	3:30 PM
Volume	143	196	325
Factor	0.92	0.63	0.67

Each Direction ▾

Time Period: 1 hour ▾

Exclude data: None ▾

	Total Flow	North	South
<b>12:00 am</b>	52	24	28
<b>01:00 am</b>	41	16	25
<b>02:00 am</b>	31	18	13
<b>03:00 am</b>	34	18	16
<b>04:00 am</b>	105	77	28
<b>05:00 am</b>	262	194	68
<b>06:00 am</b>	639	477	162
<b>07:00 am</b>	1103	740	363
<b>08:00 am</b>	1088	679	409
<b>09:00 am</b>	831	459	372
<b>10:00 am</b>	778	468	310
<b>11:00 am</b>	759	419	340
<b>12:00 pm</b>	979	511	468
<b>01:00 pm</b>	899	433	466
<b>02:00 pm</b>	904	433	471
<b>03:00 pm</b>	1100	543	557
<b>04:00 pm</b>	1228	515	713
<b>05:00 pm</b>	1344	598	746
<b>06:00 pm</b>	1183	574	609
<b>07:00 pm</b>	869	372	497
<b>08:00 pm</b>	641	255	386
<b>09:00 pm</b>	384	150	234
<b>10:00 pm</b>	180	84	96
<b>11:00 pm</b>	115	50	65
<b>7am-7pm</b>	12196	6372	5824
<b>6am-10pm</b>	14729	7626	7103
<b>6am-12am</b>	15024	7760	7264
<b>12am-12am</b>	15549	8107	7442
<b>am Peak</b>	07:00 am	07:00 am	08:00 am
<b>Peak Volume</b>	1103	740	409
<b>pm Peak</b>	05:00 pm	05:00 pm	05:00 pm
<b>Peak Volume</b>	1344	598	746