Kimley»Horn

MEMORANDUM

To:	Matthew J. Schlicht Engineering Solutions
From:	Jeff Wilke, PE, PTOE Kimley-Horn and Associates, Inc.
Date:	November 6, 2024
Subject:	View High Sports Complex Traffic Assessment Lee's Summit, Missouri
Project No.:	268132011

11/06/2024

INTRODUCTION

Kimley-Horn has prepared the following assessment for the proposed View High Sports Complex, generally located in the northeast and southeast corners of the intersection of View High Drive and Ashurst Drive in Lee's Summit, Missouri, adjacent to the city limits. View High Drive is located within Kansas City, Missouri. The purpose of this memorandum is to review previous traffic studies prepared for the approved development on the site, document the trip generation estimated for the proposed development plan, and make an assessment of public street improvements needed to accommodate development traffic.

APPROVED DEVELOPMENT

The Summit Church development is a 43-acre site that includes a 67,000 square-foot church building with a 1,500-seat worship venue, which was built in two phases. The north site drive is located approximately 430 feet east of the View High Drive and Chipman Road intersection. The south site drive (Ashurst Drive) is located approximately 635 feet north of the 109th Street and View High Drive intersection. A 6-acre portion of the site along the west edge of the site between View High Drive and the north site drive was planned to be developed as a commercial site. The site also includes 15 acres of undeveloped land located south of Ashurst Drive, and no land uses were planned for that area.

The original traffic impact study for this development was completed in August of 2015 and was titled The Summit Church Traffic Impact Study. The traffic study for the approved development included a discussion of development phasing and timing of the improvements identified. The study stated that the north and south site drives were to be constructed with the initial phases of the development. The initial phase was to include approximately half of the church building and worship venue spaces. The second phase included the remaining church and worship venue spaces and the commercial site.

Turn lane improvements were identified at the View High Drive and Ashurst Drive intersection with the second phase of the development. These improvements include constructing a median break and southbound left-turn lane with a minimum of 200 feet of storage plus an appropriate taper. A northbound right-turn lane with a minimum of 150 feet of storage plus an appropriate taper was also recommended at the View High Drive and Ashurst Drive. These improvements have not been constructed at the time of this assessment.

An update to the original traffic impact study was prepared in April of 2020. The updated study evaluated both phases of the church without any commercial development. For the updated study, a traffic signal was assumed at the intersection of View High Drive and Chipman Road as part of the City of Lee's Summit's Chipman Road improvements project. The updated study found that the improvements identified in the original traffic study for the View High Drive and Ashurst Drive intersection were not necessary without the commercial development.

EXISTING CONDITIONS

Since the original traffic impact study was completed in 2015, the church has been constructed. The north site drive separating the church and commercial site has been partially constructed, extending south from Chipman Road approximately 250 feet and providing access to the church's parking area before terminating. The north site drive is not continuous to Ashurst Drive. Ashurst Drive has been constructed and provides right-in, right-out access at View High Drive before extending east to connect to a single-family neighborhood. The commercial area to the west of the church has not been developed. Since the original traffic impact study and update was prepared, View High Drive has been restriped to accommodate buffered bike lanes, resulting in one travel lane in each direction. Chipman Road was under construction as part of the City's Chipman Road improvements project at the time of this assessment.

PROPOSED DEVELOPMENT

The proposed sports complex includes soccer fields, pickleball courts, basketball courts, and an office area located in the southeast corner of the View High Drive and Ashurst Drive intersection. This portion of the proposed development site will be accessed by three new driveways along Ashurst Drive. The proposed development plan also includes a commercial pad site in the northeast corner of the View High Drive and Ashurst Drive intersection. The commercial site will be accessed by a new driveway along a drive aisle that aligns with the north site drive for the Summit Church.

There are three smaller soccer fields located in the center of the proposed development site. Four pickleball courts are proposed to be located directly east of the three soccer fields. A drive aisle separates the pickleball courts and the full-size soccer field located in the eastern portion of the site. Six basketball courts and an office building are located west of the soccer fields. A large surface parking area is located in the western portion of the proposed development site, with additional parking provided along the drive aisle that runs parallel to Ashurst Drive at the north edge of the site. The drive aisle in the western parking area will extend to the south property line, to allow for a future connection to the south.

TRIP GENERATION

The expected trips generated by the currently proposed development plan are shown in **Table 1**. Trip generation estimates for the proposed plan were prepared using the *ITE Trip Generation Manual*, 11th Edition. The total trip generation is anticipated to be 1,131 daily trips, 62 trips during the AM peak hour (49 entering and 62 exiting), 181 trips during the PM peak hour (90 entering and 91 exiting), and 206 trips during the Saturday peak hour (101 entering and 105 exiting).

TABLE 1: PROPOSED DEVELOPMENT TRIP GENERATION

Land Use Description	ITE Code	Intensity / Units	Daily	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Soccer Complex	488	4 Fields	285	2	2	4	60	31	91	72	78	150
Office	710	20,000 Square Feet	286	37	5	42	7	37	44	6	5	11
Strip Retail (<40k)	822	6,900 Square Feet	560	10	6	16	23	23	46	23	22	45
Total Proposed Development Trips			1,131	49	13	62	90	91	181	101	105	206

The description for the Soccer Complex land use code in the *ITE Trip Generation Manual* states that additional amenities may include basketball and tennis courts. Thus, no separate trip generation calculation was made for the proposed basketball and pickleball courts. **Appendix B** provides the data from the *ITE Trip Generation Manual* that were used to determine the trip generation. It is worth nothing that the proposed trip generation is lower than the trip generation included in the original traffic impact study during the PM peak hour.

The improvements identified in the original traffic impact study should be adequate for the proposed development since the trip generation for the proposed development is lower than the original traffic impact study during the PM peak hour. It should be noted that Kansas City public works staff are not in support of providing full access at the intersection of View High Drive and Ashurst Drive. If the View High Drive and 109th Street intersection becomes signalized in the future, Ashurst Drive will be located within the functional area of the intersection. To address this future concern, the View High Drive and Ashurst Drive intersection could be restricted to left-in/right-in/right-out access.

To provide circulation within the proposed development, the north/south drive aisle on the east side of the commercial property should be constructed to connect Ashurst Drive to the north site drive. This will provide access to Chipman Road so that drivers may utilize the traffic signal at View High Drive and Chipman Road.

APPENDIX

Appendix A: SITE PLAN

Appendix B: ITE TRIP GENERATION MANUAL DATA

Appendix A: Site Plan

VIEW HIGH SPORTS COMPLEX

Preliminary Development Plan

Section 3, Township 47 North, Range 32 West

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROPERTY DESCRIPTION

ALL PAVING ON THE PARKING LOT WILL COMPLY WITH THE UNIFIED DEVELOPMENT ORDINANCE ARTICLE 8 IN TERMS OF PAVING THICKNESS AND BASE

OIL - GAS WELLS
ACCORDING TO EDWARD ALTON MAY JR'S ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI IN 1995, THERE ARE NOT OIL AND GAS WELLS WITHIN 185 FEET OF THE PROPERTY AS SURVEYED HEREON.

SURVEY AND PLAT NOTES:
THE SUBJECT PROPERTY SURVEYED LIES WITHIN A FLOOD ZONE DESIGNATED ZONE (X), AREAS LOCATED OUTSIDE THE 100 YEAR FLOOD PLAIN, PER F.E.M.A. MAP, COMMUNITY PANEL NO. 29095C0412G **EFFECTIVE DATE: JANUARY 20, 2017.**

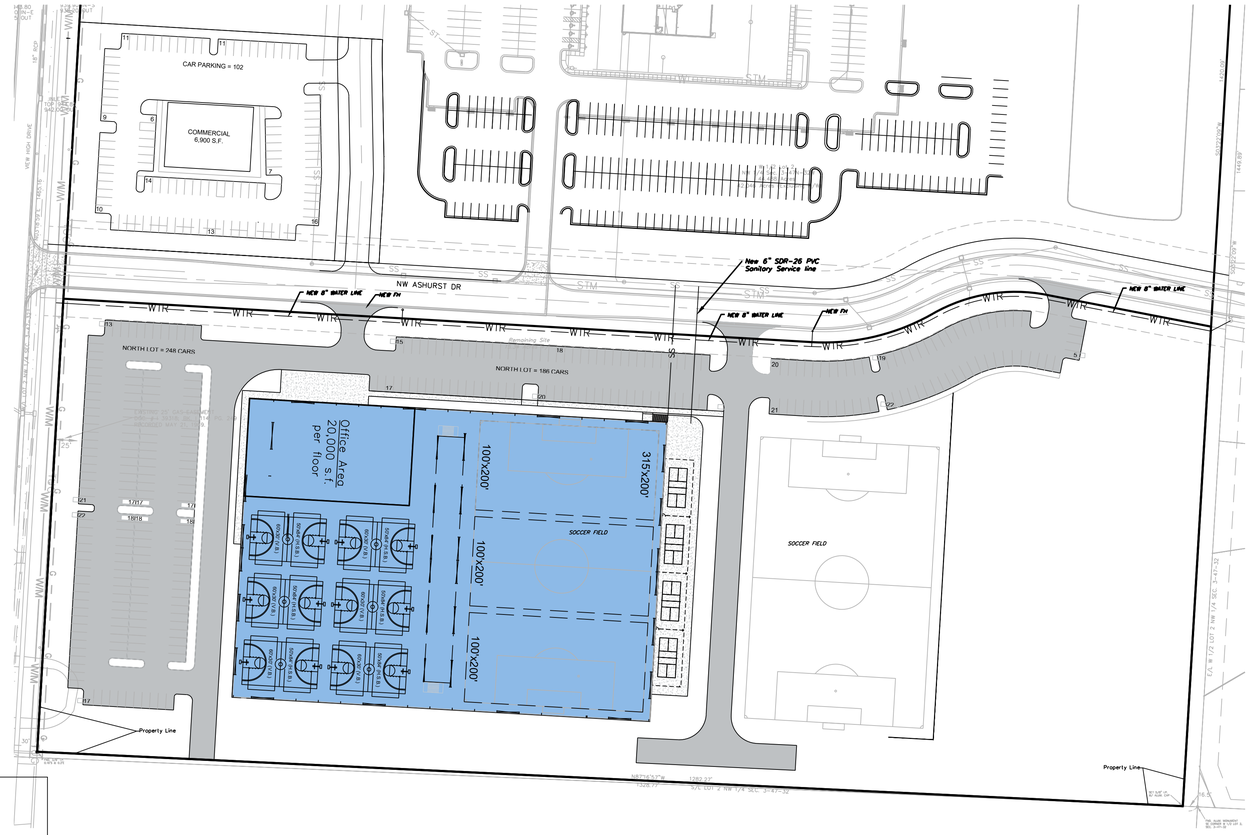
UTILITY COMPANIES:

THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

EVERGY ~ 298-1196
MISSOURI GAS ENERGY ~ 756-5261
SOUTHWESTERN BELL TELEPHONE ~ 761-5011
COMCAST CABLE ~ 795-1100
WILLIAMS PIPELINE ~ 422-6300
CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800
CITY OF LEE'S SUMMIT PUBLIC WORKS INSPECTIONS ~ 969-1800
CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900
MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483

GENERAL NOTES:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2 ~ ALL REQUIRED EASEMENTS WITHIN THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED BY SEPARATE DOCUMENT
3 ~ ANY REQUIRED EASEMENT LOCATED OUTSIDE OF THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR BY SEPARATE INSTRUMENT PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
4 ~ THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTORS 48 HOURS PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
5 ~ THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH THE IMPROVEMENTS PROPOSED BY THESE PLANS AND SITE CONDITIONS.
6 ~ THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND OBTAIN THE APPROPRIATE BLASTING PERMITS FOR A REQUIRED BLASTING. IF BLASTING IS ALLOWED, ALL BLASTING SHALL CONFORM TO STATE REGULATIONS AND LOCAL ORDINANCES.



SITE LOCATION MAP

SCALE" 1"=50'

..\..\VICINITY MAP.png

Vicinity Map

INDEX OF SHEETS:

Site Impervious Area

Total Area	15.20 acres (661,895.09 sq. ft.)
Commercial Office Site	
Site Area	15.20 Acres
Building	157,181 sq. ft.
Parking	144,652 sq. ft
Sidewalk	20,078 sq. ft
Impervious Area	321,911 sq. ft (68.9% of Site)
Floor-Area-Ratio	48.6%

Parking:
Provided
339 Standard (0 ADA Accessible)

Required
339 Standard (0 ADA Accessible)

Total Parking Spaces 38

Current Zoning: PMIX
Proposed Zoning: PMIX

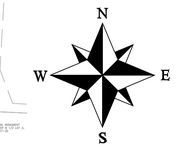
Site Improvement Notes

Sanitary Sewer Improvements
~The site will utilize the existing sanitary sewer on the north side of SW Village Park Dr.

Water Main Improvements
~The site will utilize the existing water on the south side of SW Village Park Dr.

Storm Sewer
~Enclosed pipe systems and inlets will collect and convey the onsite storm water runoff and direct it toward the existing public storm sewer system.

Storm Water Detention
~N/A



LEGEND:

Existing Underground Power	UGP
Existing Conc. Curb & Gutter	
Existing Wood Fence	X
Existing Gas Main	GAS
Existing Water Main	W
Existing Storm Sewer	STM
Existing Sanitary Sewer	SAN
Existing Underground Telephone	UGT
Existing Overhead Power	OHE
Proposed Storm Sewer	ST
Proposed Sanitary Sewer	SS
Proposed Underground Power	UGT
Proposed Gas Service	GAS
Proposed 8" D.I.P. Water	W
Proposed Electrical Service	UGP

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LEE'S SUMMIT, MO 64082
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Professional Registration
Missouri
Engineering 2005032186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

View High Sports Complex
Lee's Summit, Jackson County, Missouri

Project: VIEW HIGH SPORTS COMPLEX, LSMO
Issue Date: June 17, 2024

OVERALL Site Plan PLAN
Construction Plans for:
View High Sports Complex
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

C.100

Appendix B: ITE Trip Generation Manual Data

Land Use: 488
Soccer Complex

Description

A soccer complex is an outdoor facility that is used for non-professional soccer games. It may consist of multiple fields. The size of each field within the land use may vary to accommodate games for different age groups. On-site amenities may include stadium seating, a fitness trail, an activities shelter, aquatic center, picnic grounds, basketball and tennis courts, and a playground. Public park (Land Use 411) is a related use.

Additional Data

Caution should be used when applying these data. Peaking at soccer complexes typically occurred in time periods shorter than 1 hour. These peaking periods may have durations of 10 to 15 minutes. To assist in the future analysis of this land use, it is important to collect driveway counts in 10-minute intervals.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1990s and the 2010s in California, Colorado, Hawaii, Indiana, New Jersey, and Washington.

Source Numbers

377, 519, 565, 722, 856, 908, 952, 956, 1004

Soccer Complex
(488)

Vehicle Trip Ends vs: **Fields**
On a: **Weekday**

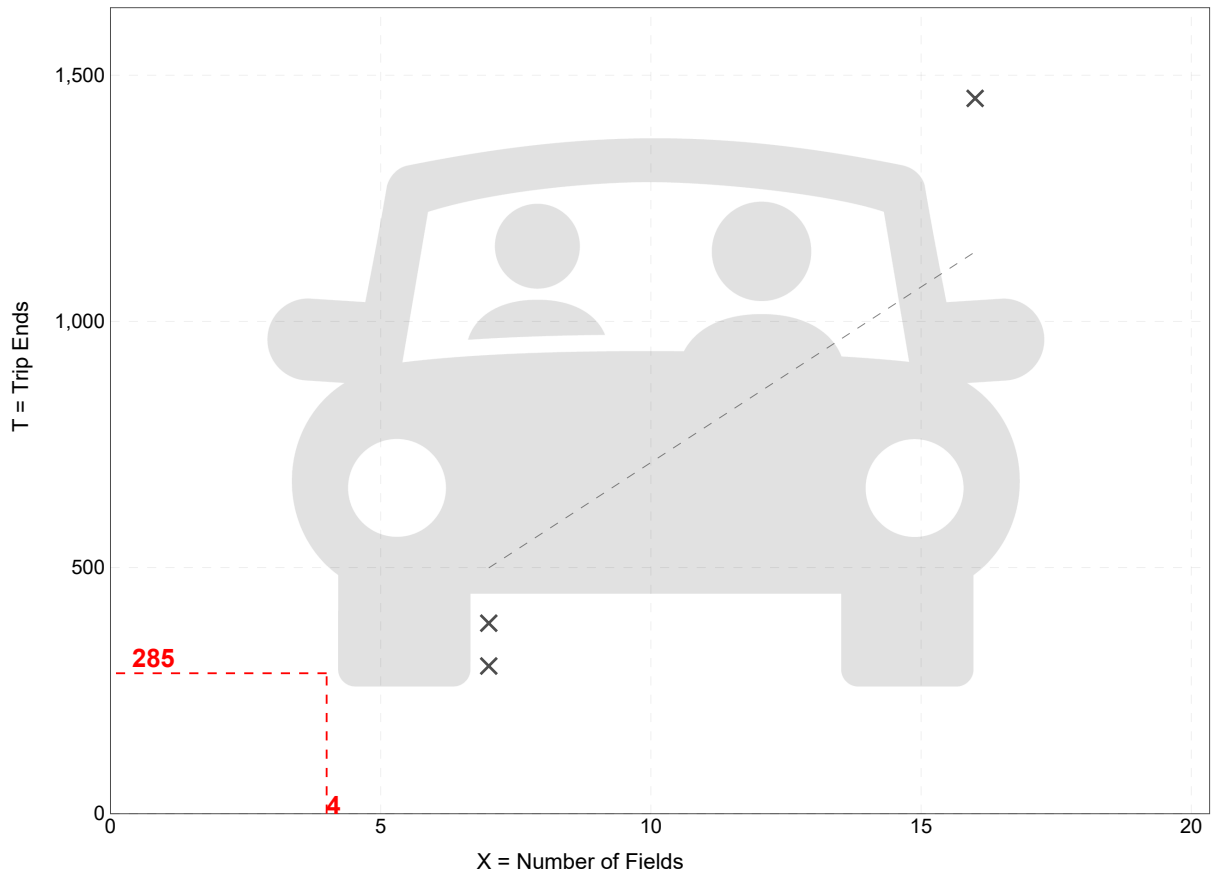
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. Num. of Fields: 10
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
71.33	42.86 - 90.81	26.03

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

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

Soccer Complex
(488)

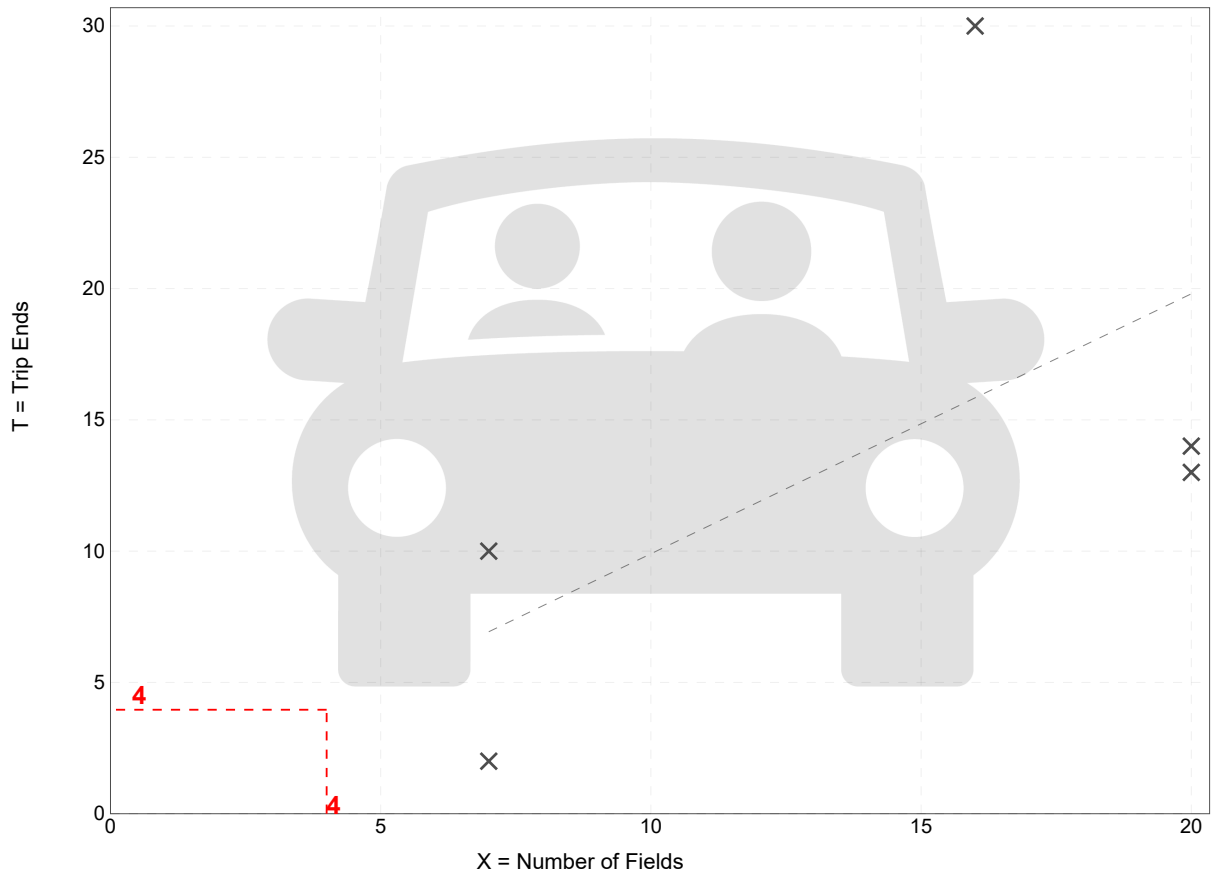
Vehicle Trip Ends vs: **Fields**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Fields: 14
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
0.99	0.29 - 1.88	0.62

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

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Soccer Complex
(488)

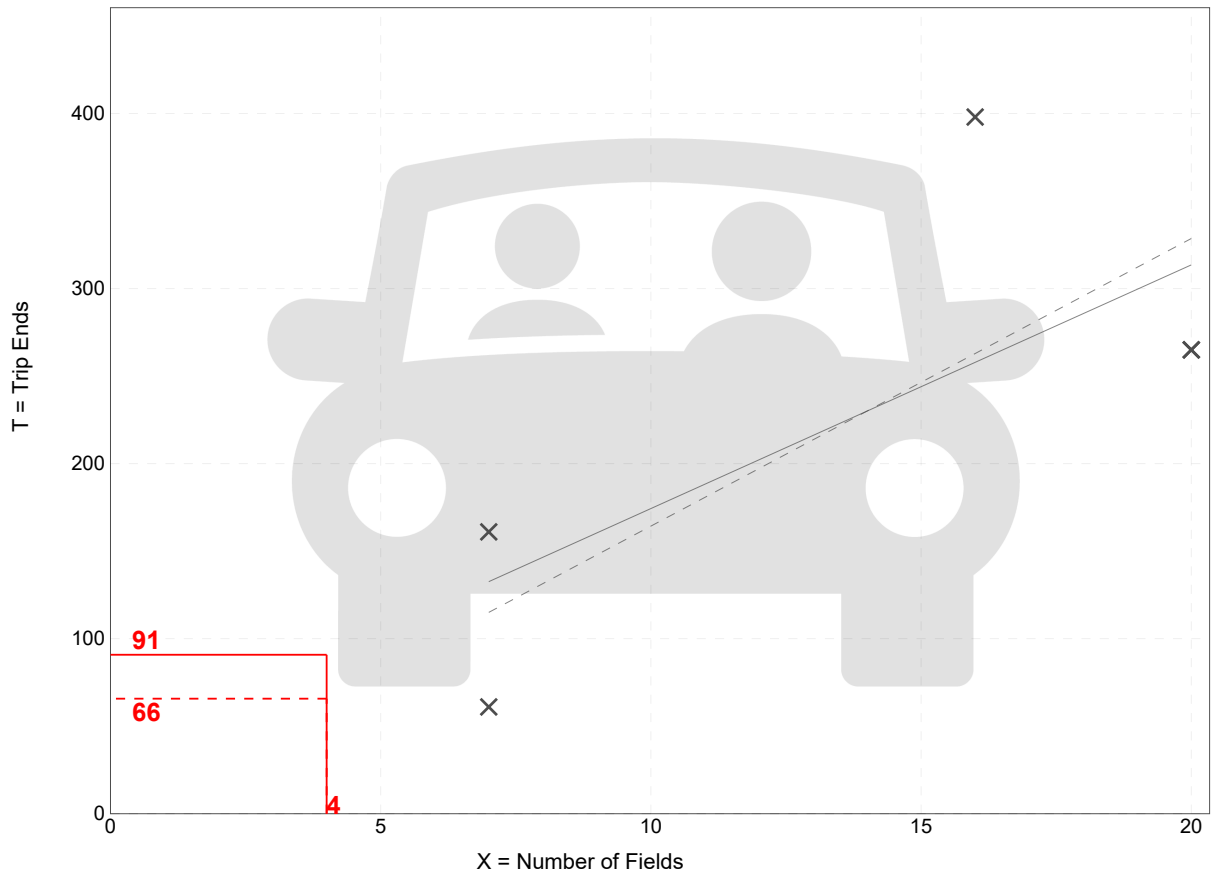
Vehicle Trip Ends vs: **Fields**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Fields: 14
Directional Distribution: 66% entering, 34% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
16.43	8.71 - 24.88	6.36

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 13.92(X) + 35.13

R^2= 0.53

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Soccer Complex
(488)

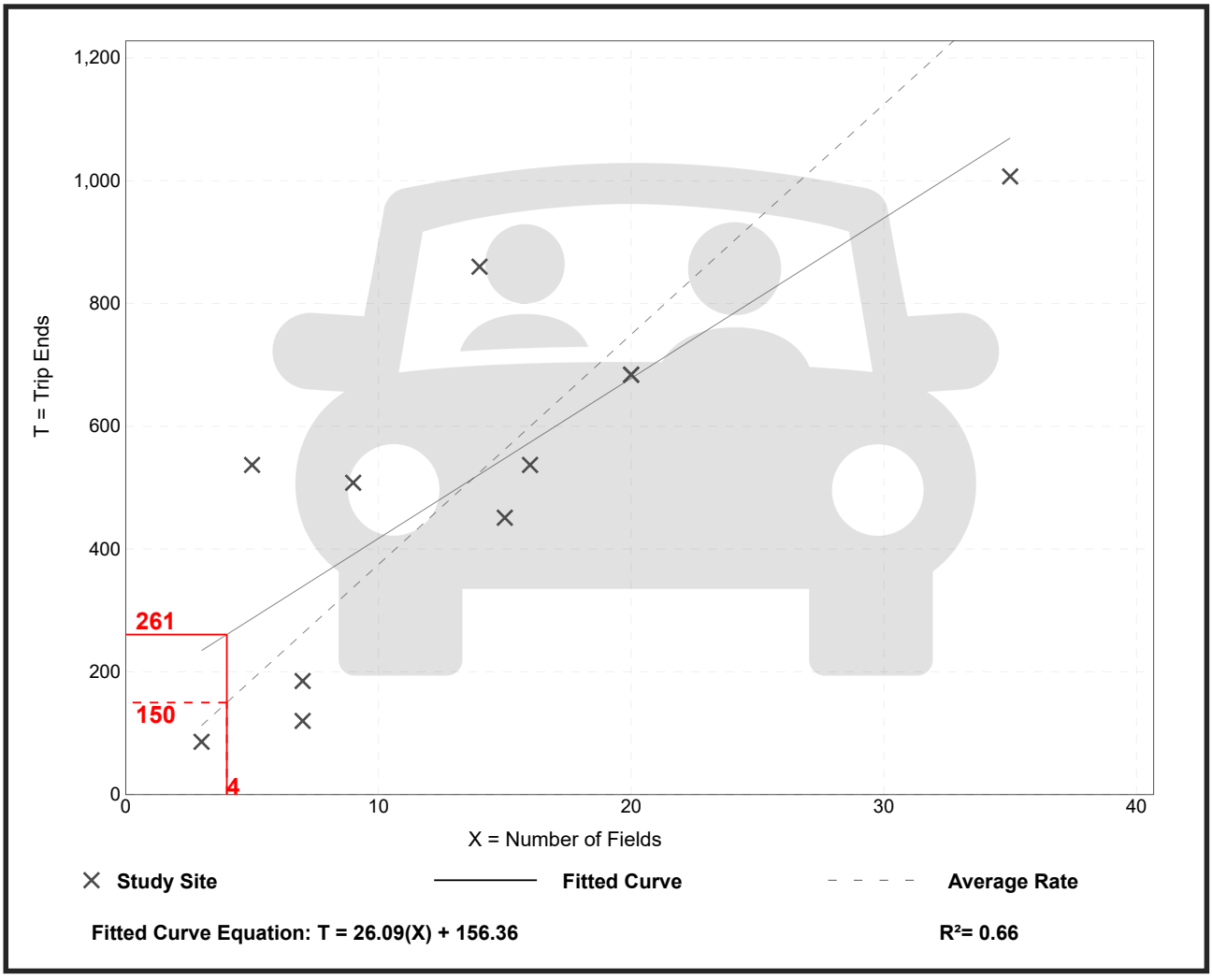
Vehicle Trip Ends vs: **Fields**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 11
Avg. Num. of Fields: 14
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
37.48	17.14 - 107.40	17.87

Data Plot and Equation



Fitted Curve Equation: T = 26.09(X) + 156.36

R^2= 0.66

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Land Use: 710
General Office Building

Description

A general office building is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building houses multiple tenants that can include, as examples, professional services, insurance companies, investment brokers, a banking institution, a restaurant, or other service retailers. A general office building with a gross floor area of 10,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), medical-dental office building (Land Use 720), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.

Additional Data

If two or more general office buildings are in close physical proximity (within a close walk) and function as a unit (perhaps with a shared parking facility and common or complementary tenants), the total gross floor area or employment of the paired office buildings can be used for calculating the site trip generation. If the individual buildings are isolated or not functionally related to one another, trip generation should be calculated for each building separately.

For study sites with reported gross floor area and employees, an average employee density of 3.3 employees per 1,000 square feet GFA (or roughly 300 square feet per employee) has been consistent through the 1980s, 1990s, and 2000s. No sites counted in the 2010s reported both GFA and employees.

The average building occupancy varies considerably within the studies for which occupancy data were provided. The reported occupied gross floor area was 88 percent for general urban/suburban sites and 96 percent for the center city core and dense multi-use urban sites.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The average numbers of person trips per vehicle trip at the eight center city core sites at which both person trip and vehicle trip data were collected are as follows:

- 2.8 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 2.9 during Weekday, AM Peak Hour of Generator
- 2.9 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 3.0 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 18 dense multi-use urban sites at which both person trip and vehicle trip data were collected are as follows:

- 1.5 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.5 during Weekday, AM Peak Hour of Generator
- 1.5 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.5 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 23 general urban/suburban sites at which both person trip and vehicle trip data were collected are as follows:

- 1.3 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.3 during Weekday, AM Peak Hour of Generator
- 1.3 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.4 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, Colorado, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New York, Ontario (CAN)Pennsylvania, Texas, Utah, Virginia, and Washington.

Source Numbers

161, 175, 183, 184, 185, 207, 212, 217, 247, 253, 257, 260, 262, 273, 279, 297, 298, 300, 301, 302, 303, 304, 321, 322, 323, 324, 327, 404, 407, 408, 419, 423, 562, 734, 850, 859, 862, 867, 869, 883, 884, 890, 891, 904, 940, 944, 946, 964, 965, 972, 1009, 1030, 1058, 1061

General Office Building
(710)

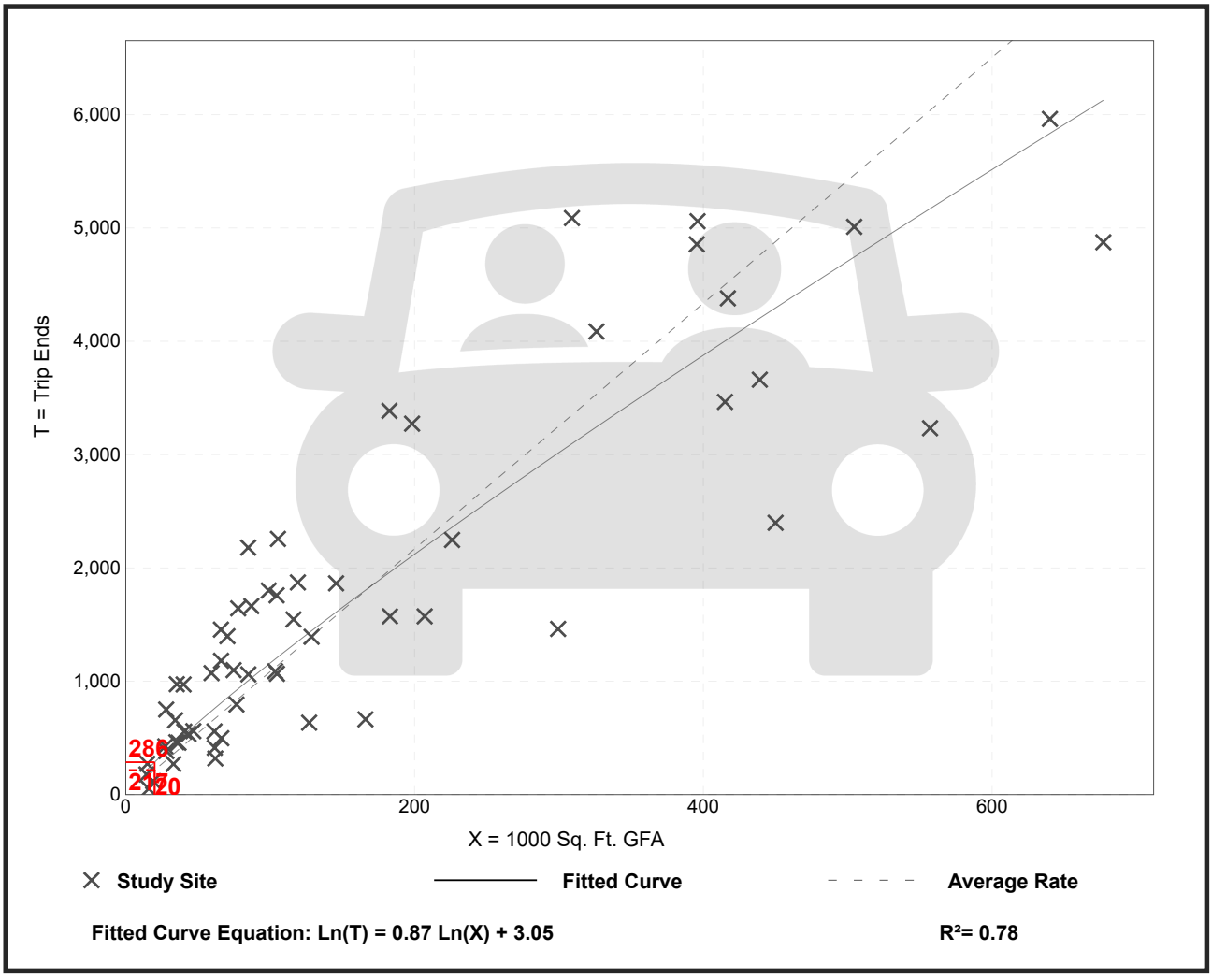
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 59
Avg. 1000 Sq. Ft. GFA: 163
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
10.84	3.27 - 27.56	4.76

Data Plot and Equation



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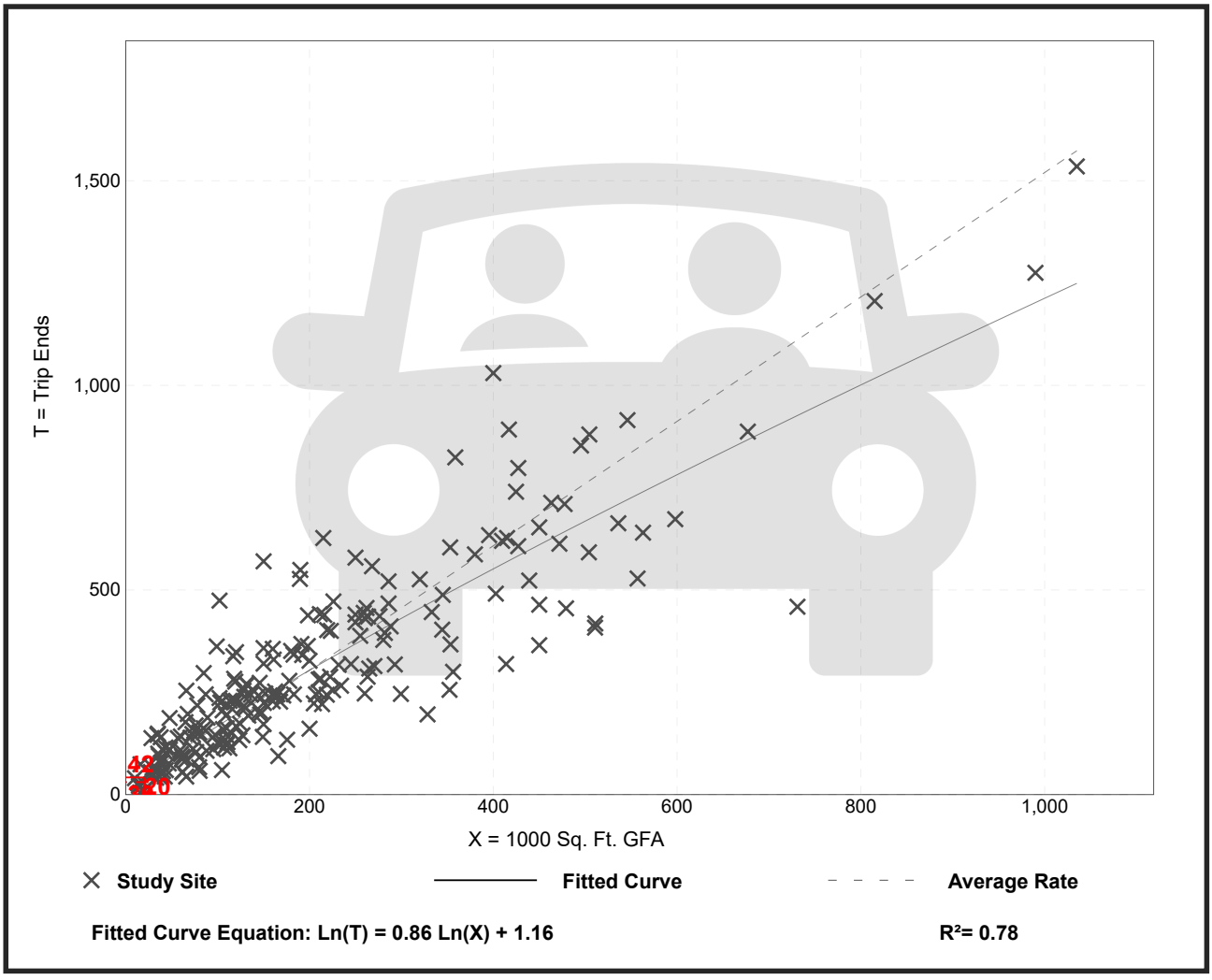
General Office Building
(710)

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: 221
Avg. 1000 Sq. Ft. GFA: 201
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.52	0.32 - 4.93	0.58

Data Plot and Equation



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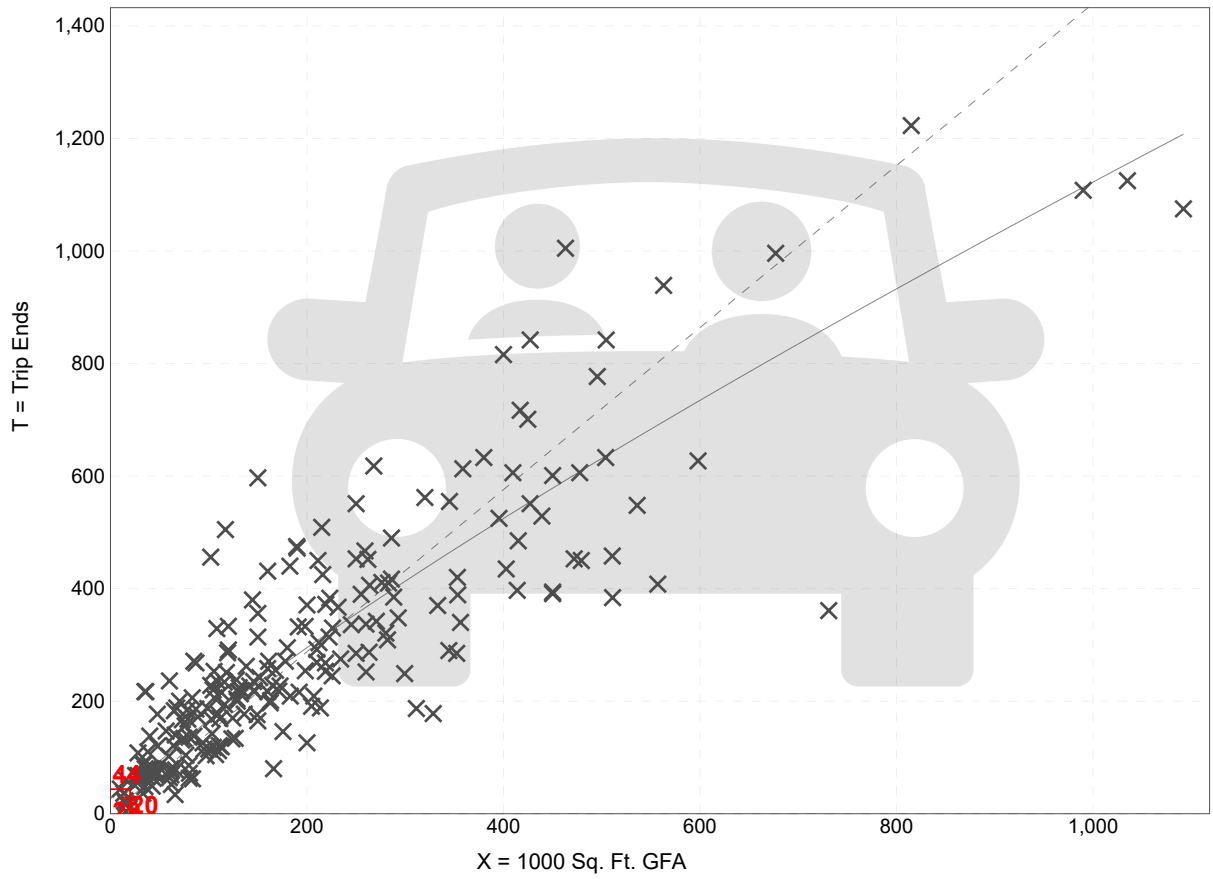
General Office Building
(710)

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: 232
Avg. 1000 Sq. Ft. GFA: 199
Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.44	0.26 - 6.20	0.60

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.83 Ln(X) + 1.29 **R^2= 0.77**

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General Office Building
(710)

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

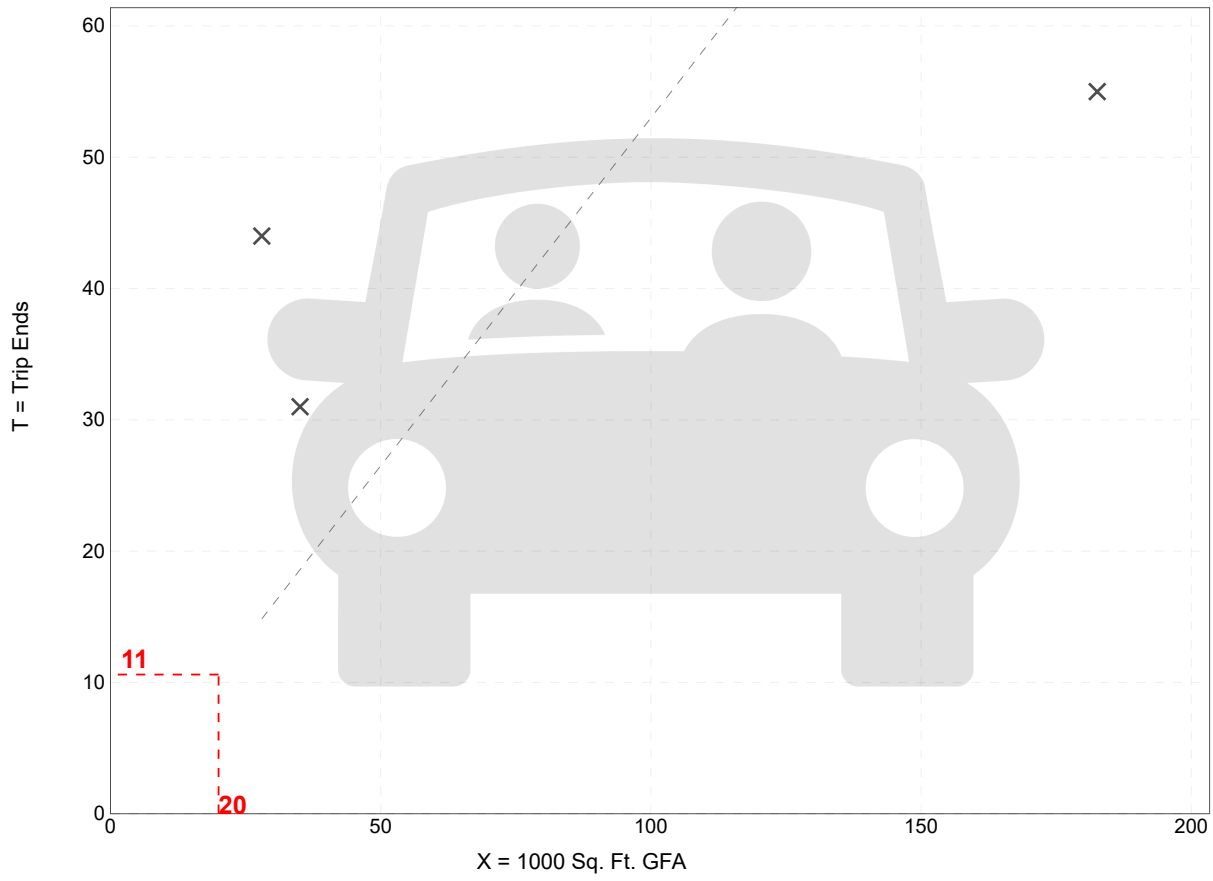
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 82
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.53	0.30 - 1.57	0.52

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

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

Land Use: 822
Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

Strip Retail Plaza (<40k)
(822)

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

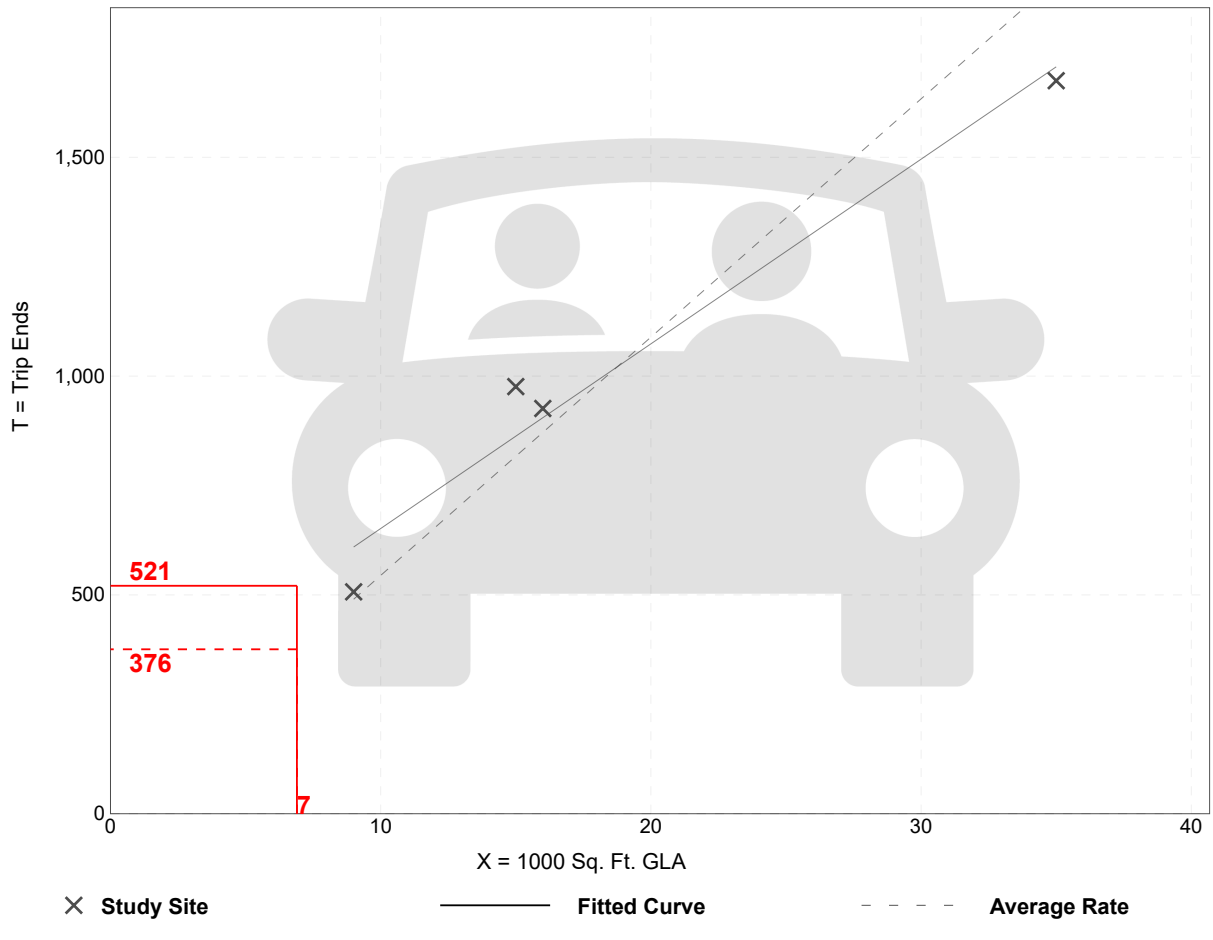
Setting/Location: **General Urban/Suburban**
Number of Studies: 4
Avg. 1000 Sq. Ft. GLA: 19
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 42.20(X) + 229.68

R^2= 0.96

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Strip Retail Plaza (<40k)
(822)

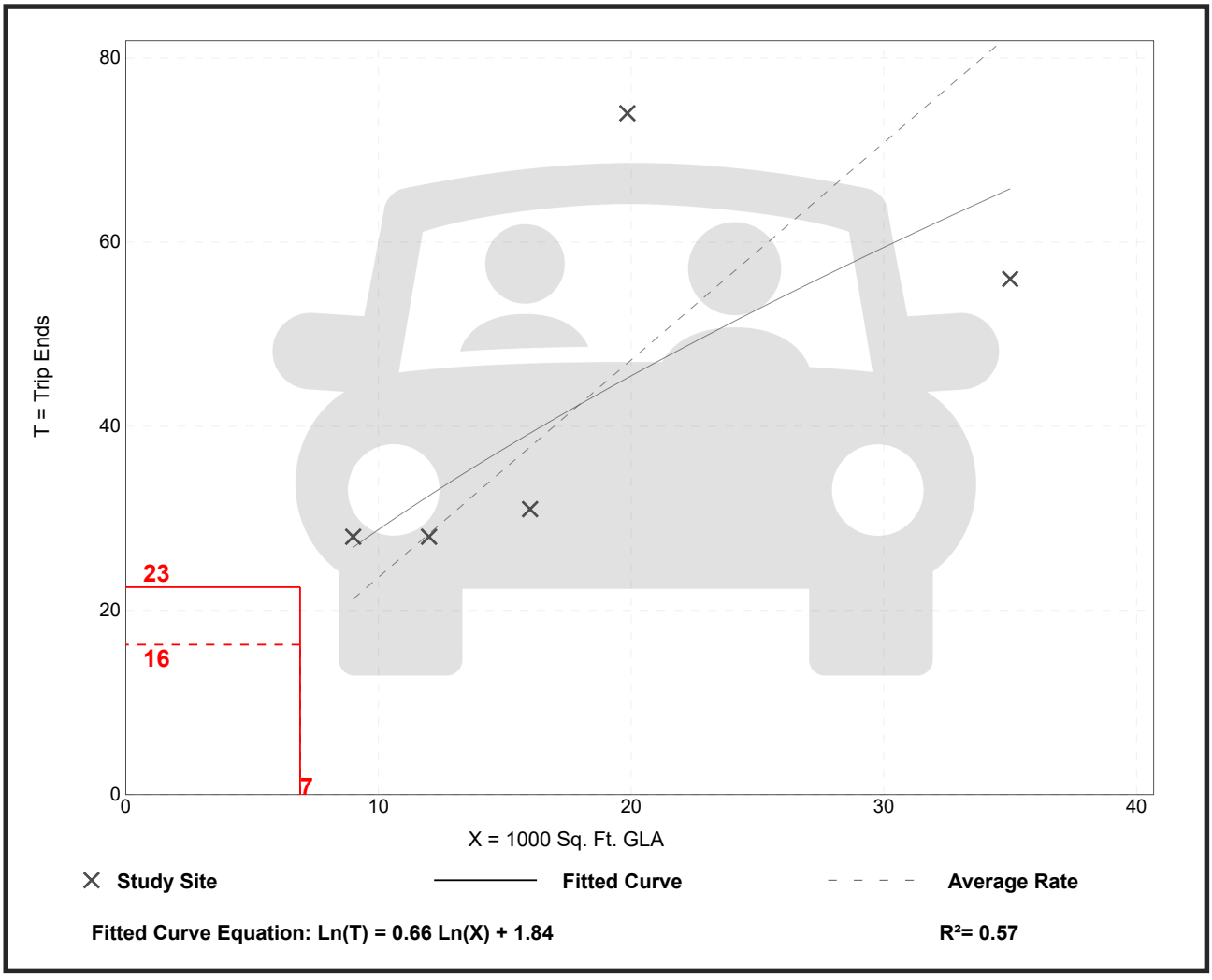
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

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



Fitted Curve Equation: Ln(T) = 0.66 Ln(X) + 1.84

R^2= 0.57

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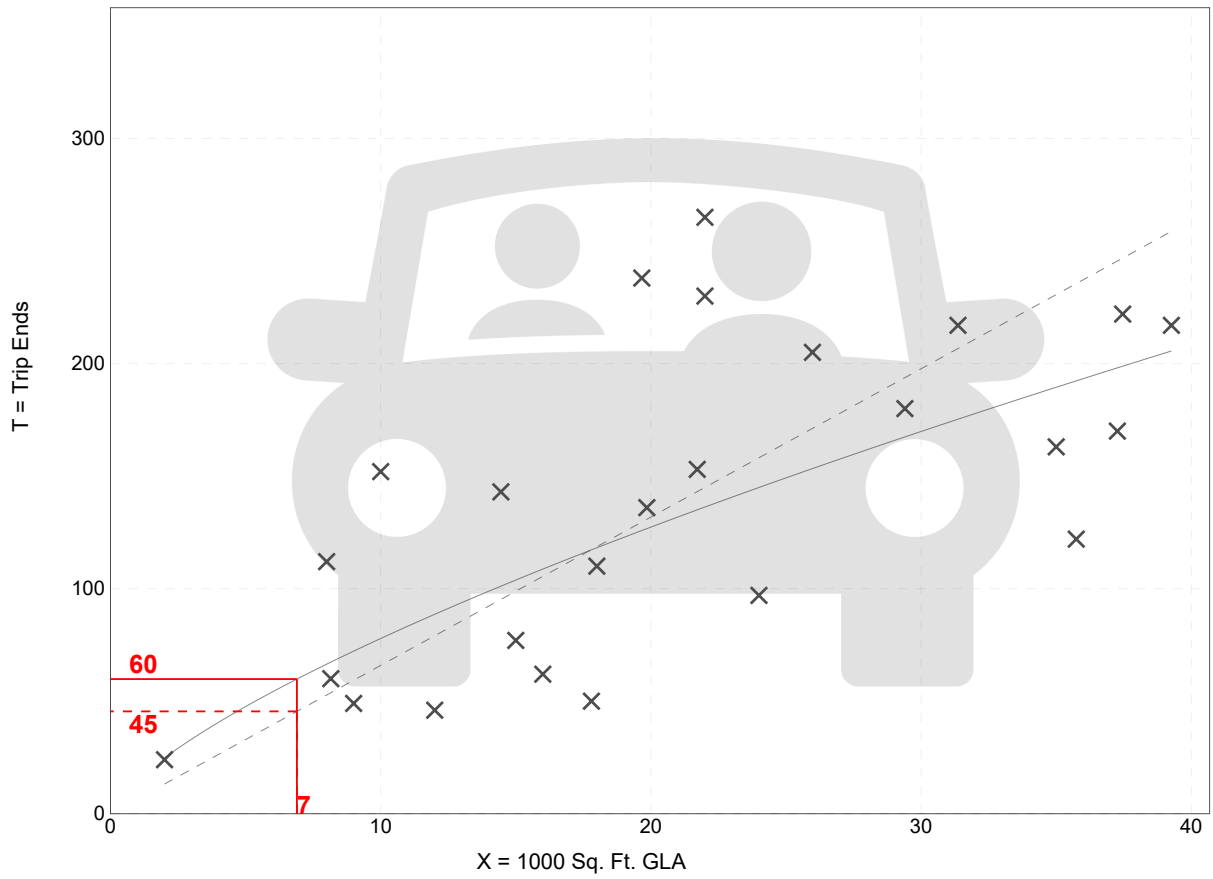
Strip Retail Plaza (<40k)
(822)

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



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Strip Retail Plaza (<40k)
(822)

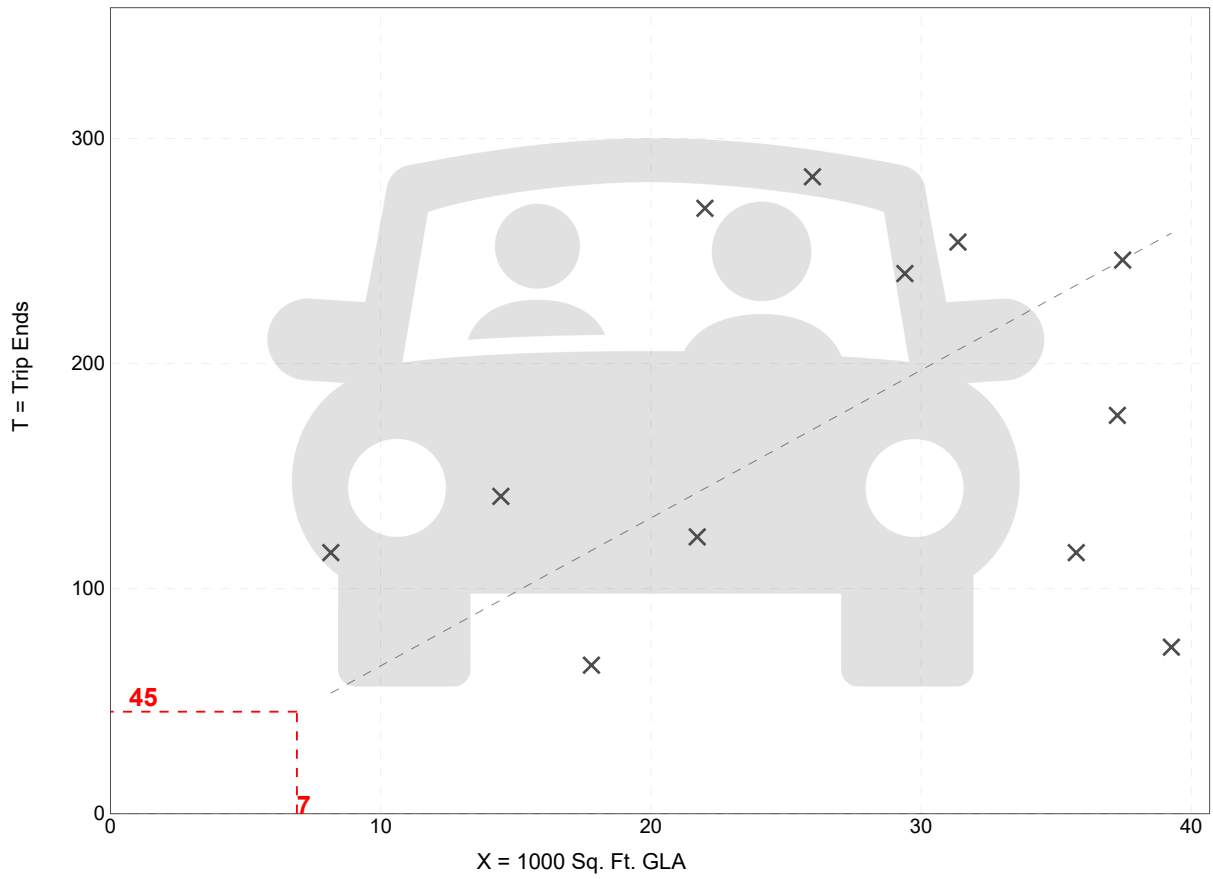
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Saturday, Peak Hour of Generator**

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



Fitted Curve Equation: Not Given

R^2= **

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