TRIP GENERATION ANALYSIS
Zoning Change
CASABELLA BLOCK E LOT 1

It is proposed that the zoning of a 5-acre parcel on Wickham Road in Brevard County be changed from Neighborhood Commercial (NC) to multifamily residential to allow the development of up to 30 townhomes units. **Figure 1** depicts the site location and **Figure 2** depicts the conceptual plan of the townhomes. Under the existing zoning designation, the parcel has a FAR (Floor Area Ratio) of 0.75. The most intense allowable use would then be a retail commercial project with a total of 163,350 square feet (5 acres x 43,560 square feet x 0.75).

Trip Generation Comparison

The following table is a comparison of the trip generation for the most intense allowable uses for the existing and proposed zoning. The trip generation of the existing and proposed uses of the parcel was calculated with the use of data from the 11th Edition of the ITE Trip Generation Manual. As can be seen, the proposed zoning change will result in 6,911 less daily trips, 135 less A.M. peak hour trips and 554 less P.M. peak hour trips to be added to the area roadways. As per Brevard County Guidelines, a Traffic Impact Analysis (TIA) will be required if a development generates more than 1,000 daily trips or 100 P.M. peak hour trips. The proposed zoning change will not add any new trips to the area roadways and, therefore, a TIA is not required for the rezoning.

Trip Generation Analysis

ITE Code	Land Use	Size*	Daily		A.M. Peak Hour **		P.M. Peak Hour**	
			Rate	Trips	Rate	Total	Rate	Total
Existing Zoning/Neighborhood Commercial with 0.75 FAR								
820	Shopping Center (>150 KSF)	163.350 KSF	61.89	10.109	1.41	230	3.70	804
		Total Trips		10,109	--	230	--	804
		Pass-by Trips (29% AM)		2,932	---	81	---	233
		New Net Trips		7,127	---	149	---	571
Proposed Zoning Multifamily Residential								
215	Single Family Detached (Townhomes)	30 DU	7.20	216	0.47	14	0.57	17
New Net Trip decrease (-) Due to Zoning Change				(-)6,911	--	(-)135	--	(-)554

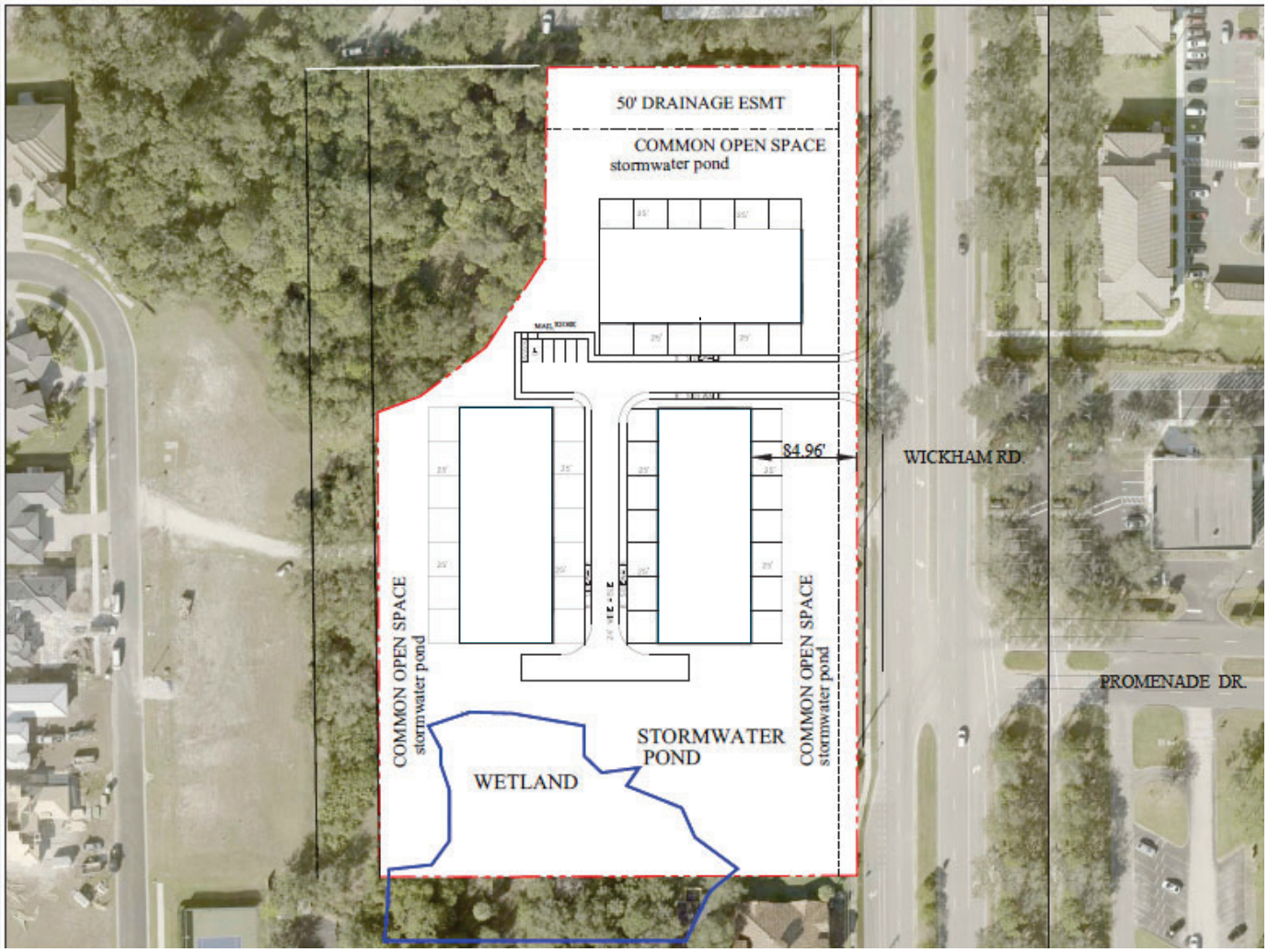
* KSF = 1,000 Sq Ft, DU= Dwelling Unit
** Based Upon ITE Equations: (Trip Generation, sheets attached)

TPD #6074
04/09/2025

Casabella Townhomes
Project № 6074
Figure 1

Site Location

N
NTS



Casabella Townhomes
Project № 6074
Figure 2

Proposed Site Plan

N
NTS

Evaluation of Adjacent Roadway

The adjacent roadway segment of Wickham Road is an urban principal arterial. It is a multilane highway with a daily traffic volume of 27,500 vehicles and a speed limit of 45 mph. Wickham Road has a Maximum Acceptable Volume (MAV) of 39,800 based upon its adopted LOS standard. A capacity analysis of Wickham Road based upon daily traffic conditions revealed satisfactory traffic operating conditions with excess traffic capacity available.

Daily
Existing Capacity Analysis

Roadway Segment	#of Lns	LOS	MAV*	Daily Volume	Excess Capacity Available	V/C
Wickham Road						
Pineda Causeway to Jodan Blass Drive	4LD	D	39,800	27,500	12,300	0.69

**Capacity at Adopted LOS*

Conclusions

The proposed zoning change of Casabella Block E Lot 1 from neighborhood commercial to multifamily residential will result in less traffic added to the area roadways resulting in favorable traffic conditions. Furthermore, the proposed zoning will not require the conduct of a traffic study as per Brevard County Guidelines.

Trip Generation Sheets

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Shopping Center (>150k)
(820)

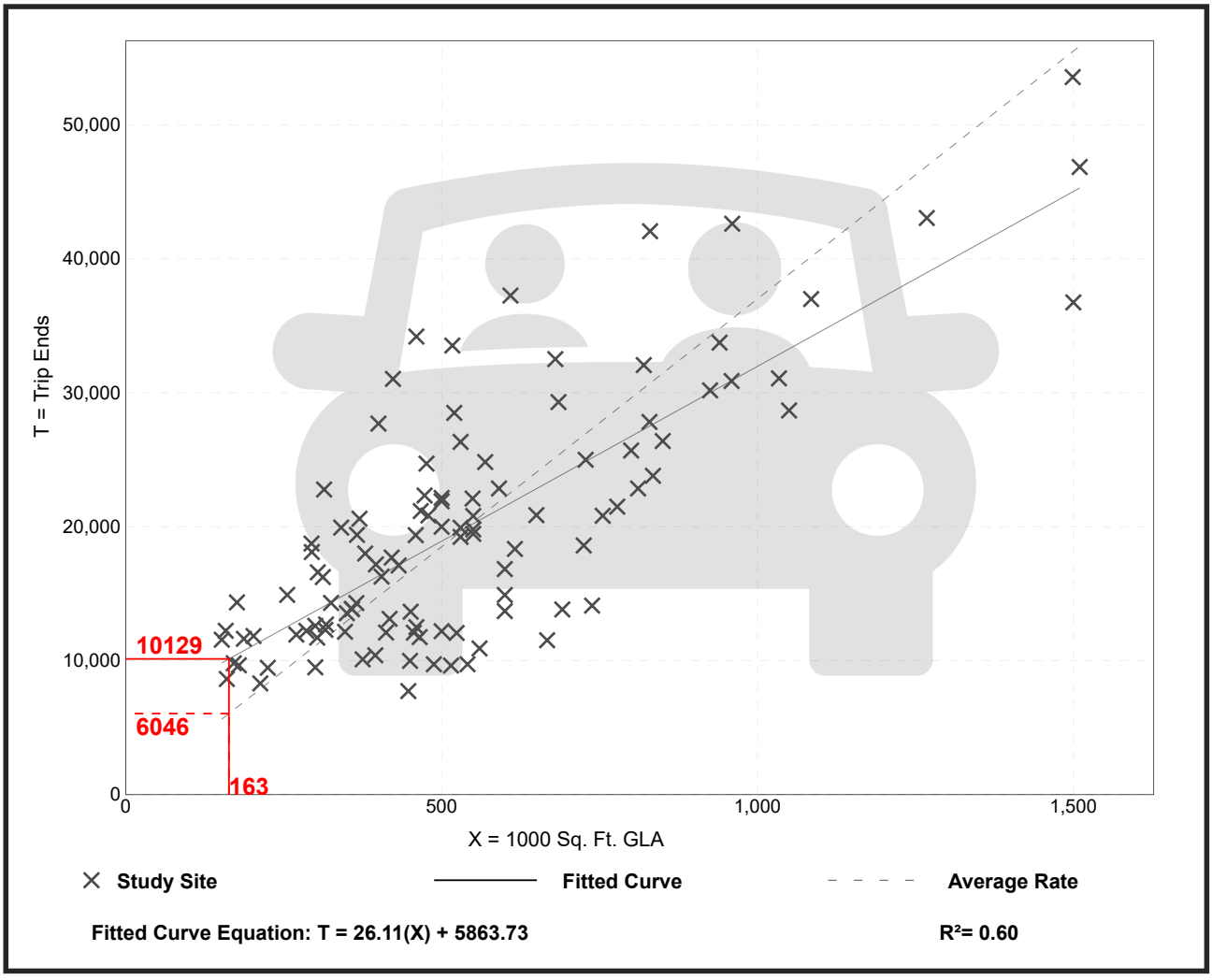
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 108
Avg. 1000 Sq. Ft. GLA: 538
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.01	17.27 - 81.53	12.79

Data Plot and Equation



Fitted Curve Equation: T = 26.11(X) + 5863.73

R^2= 0.60

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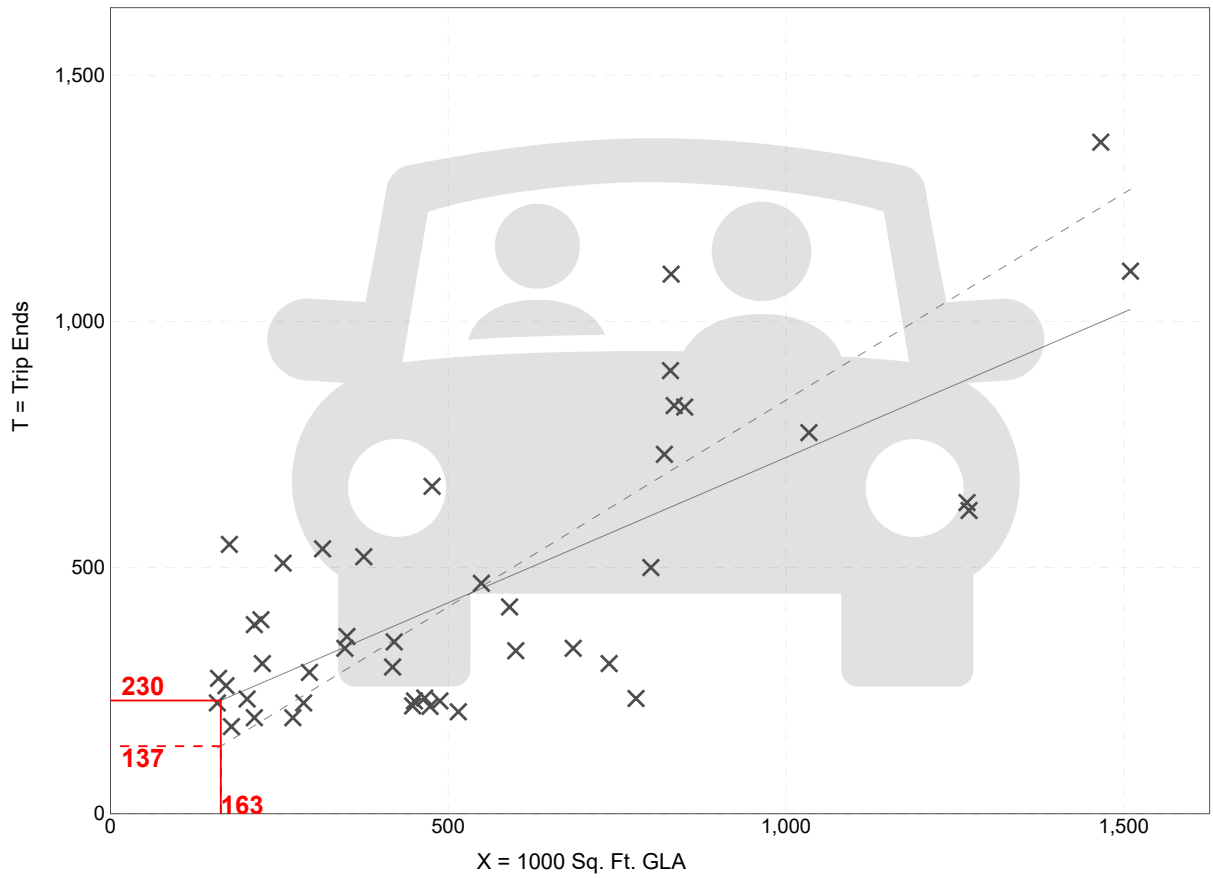
Shopping Center (>150k)
(820)

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: 44
Avg. 1000 Sq. Ft. GLA: 546
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.84	0.30 - 3.11	0.42

Data Plot and Equation



Fitted Curve Equation: T = 0.59(X) + 133.55

R^2= 0.56

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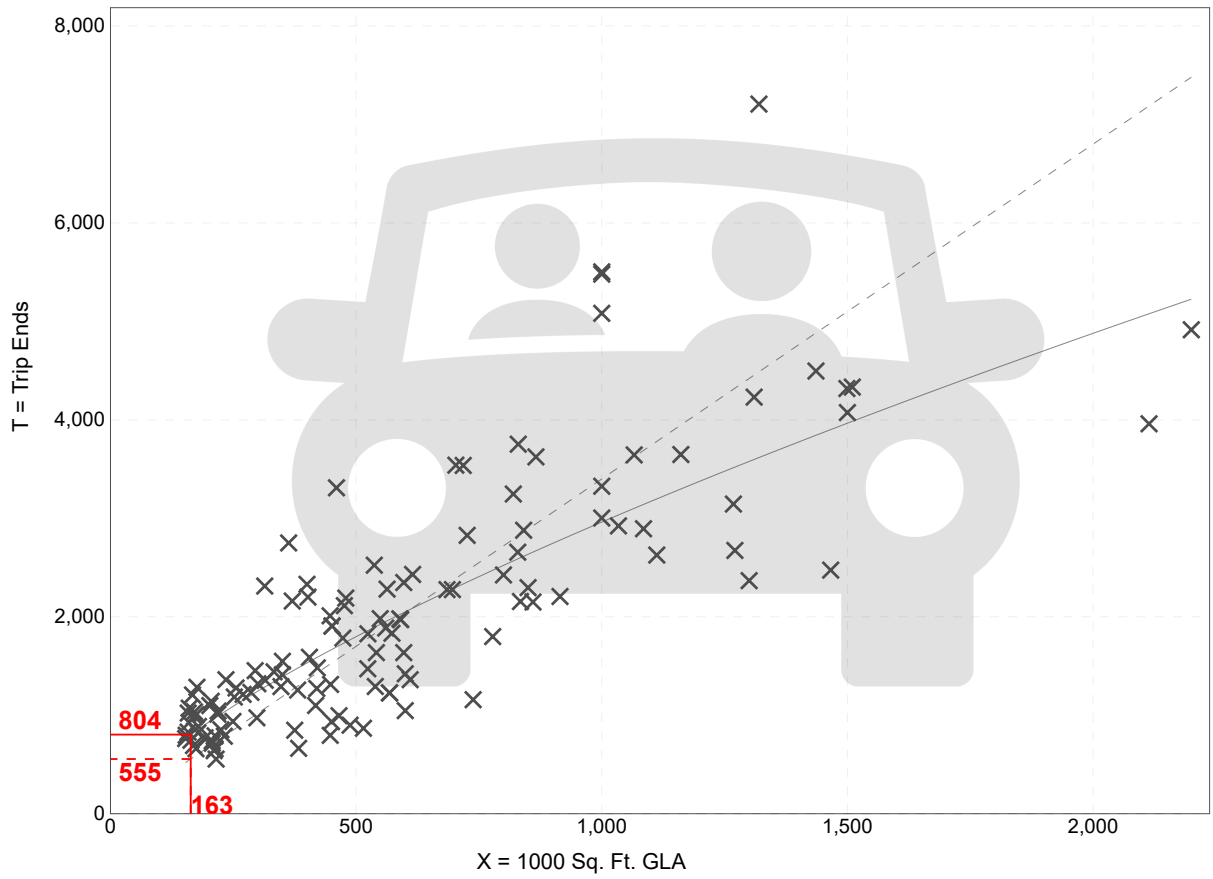
Shopping Center (>150k)
(820)

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: 126
Avg. 1000 Sq. Ft. GLA: 581
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.40	1.57 - 7.58	1.26

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.72 Ln(X) + 3.02 **R^2= 0.70**

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Vehicle Pass-By Rates by Land Use

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

Land Use Code	820								
Land Use	Shopping Center (> 150k)								
Setting	General Urban/Suburban								
Time Period	Weekday PM Peak Period								
# Data Sites	8 Sites with GLA between 150 and 300k				16 Sites with GLA between 300 and 900k				
Average Pass-By Rate	29% for Sites with GLA between 150 and 300k				19% for Sites with GLA between 300 and 900k				
	Pass-By Characteristics for Individual Sites								
		Survey		Pass-By	Non-Pass-By Trips			Adj Street Peak	
GLA (000)	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source
213	Florida	1990	312	28	31	41	72	—	33
225	Illinois	1994	264	35	32	33	65	1970	24
227.9	Kentucky	1993	—	34	35	31	66	—	34
235	Kentucky	1993	211	35	29	36	65	2593	2
255	Iowa	1994	222	23	38	39	77	3706	24
256	Connecticut	1994	208	27	51	22	73	3422	24
293	Illinois	1994	282	24	70	6	76	4606	13
294	Pennsylvania	1994	213	24	48	18	76	4055	24
350	Massachusetts	1994	224	18	45	37	82	2112	24
361	Virginia	1994	315	17	54	29	83	2034	24
375	North Carolina	1994	214	29	48	23	71	2053	24
413	Texas	1994	228	28	51	21	72	589	24
418	Maryland	1994	281	20	50	30	80	5610	24
450	California	1994	321	23	49	28	77	2787	24
476	Washington	1994	234	25	53	22	75	3427	24
488	Texas	1994	257	12	75	13	88	1094	13
560	Virginia	1994	437	19	49	32	81	3051	24
581	Colorado	1994	296	18	53	29	82	2939	24
598	Colorado	1994	205	17	55	28	83	3840	24
633	Texas	1994	257	10	64	26	90	—	24
667	Illinois	1994	200	16	53	31	84	2770	24
738	New Jersey	1994	283	13	75	12	87	8059	24
800	California	1994	205	21	51	28	79	7474	24
808	California	1994	240	13	73	14	87	4035	24

Single-Family Attached Housing
(215)

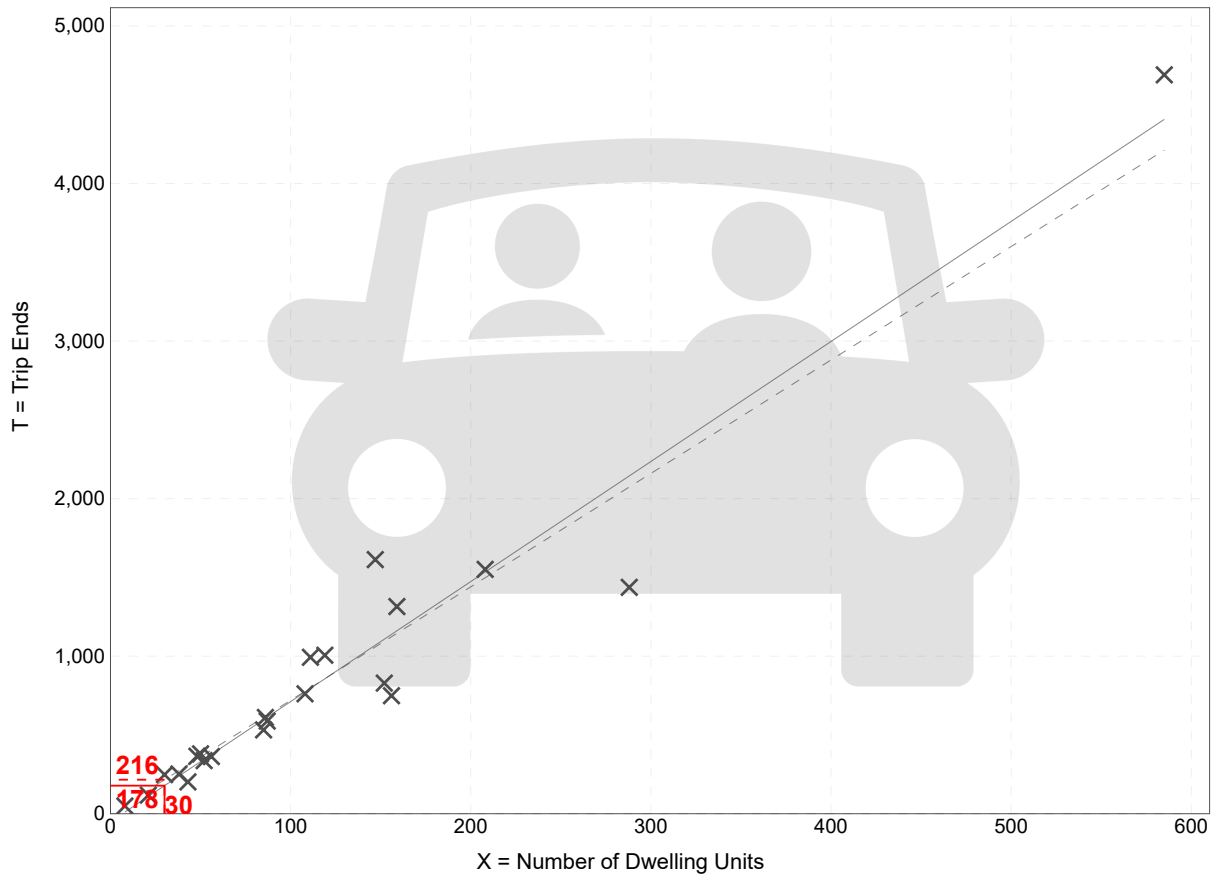
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 120
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.20	4.70 - 10.97	1.61

Data Plot and Equation



Fitted Curve Equation: T = 7.62(X) - 50.48

R^2= 0.94

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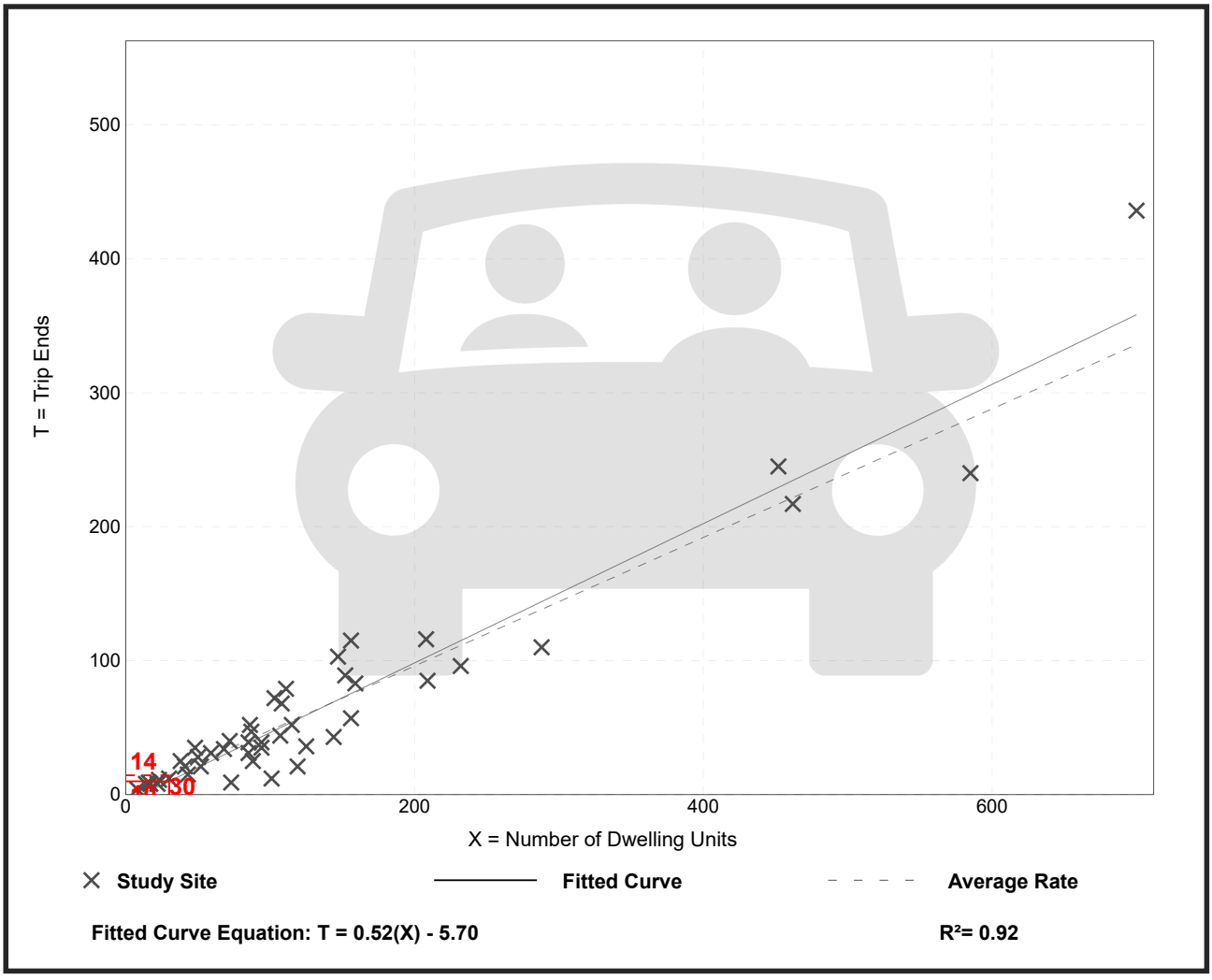
Single-Family Attached Housing
(215)

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:	46
Avg. Num. of Dwelling Units:	135
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



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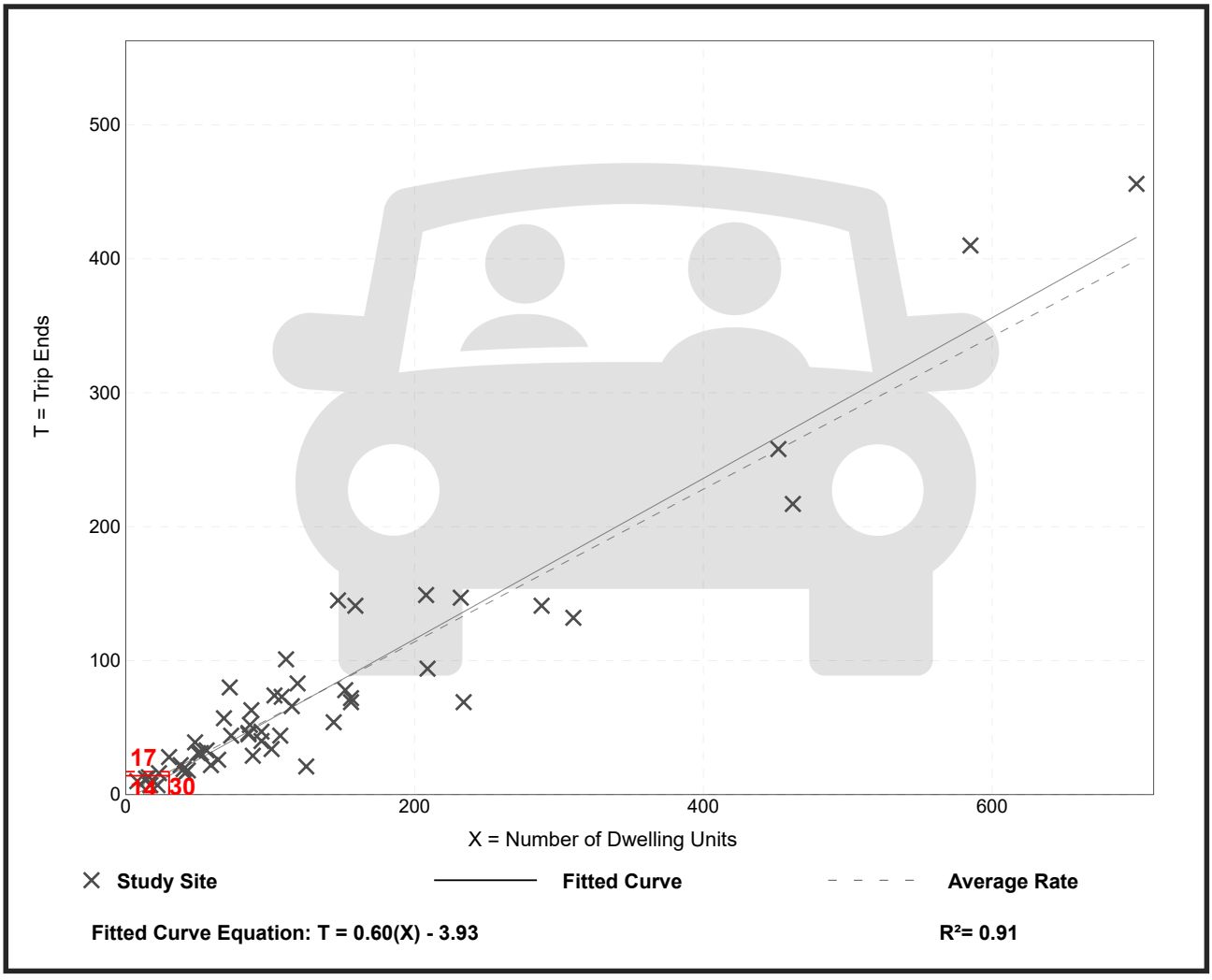
Single-Family Attached Housing
(215)

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:	51
Avg. Num. of Dwelling Units:	136
Directional Distribution:	59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



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