

October 10, 2023

RE: Johns Creek Retail Development –Trip Generation Memo

A development is proposed in the southwest quadrant of the intersection of McGinnis Ferry Road and Johns Creek Parkway behind Delta Community bank. This lot is currently vacant with full access to both roads via the bank driveways. This memo describes the proposed land uses and the trip generation associated with it.

Site Description and Project Trips



Figure 1: Aerial view of the proposed development

The proposed development is outlined in red in the illustrated aerial view in Figure 1. The site plan in Figure 2 shows the land uses and the square footage associated with them. The trip generation estimates are based on the average rates and equations provided in the Institute of Transportation Engineers (ITE) Manual, 11th Edition.

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Planning & Zoning

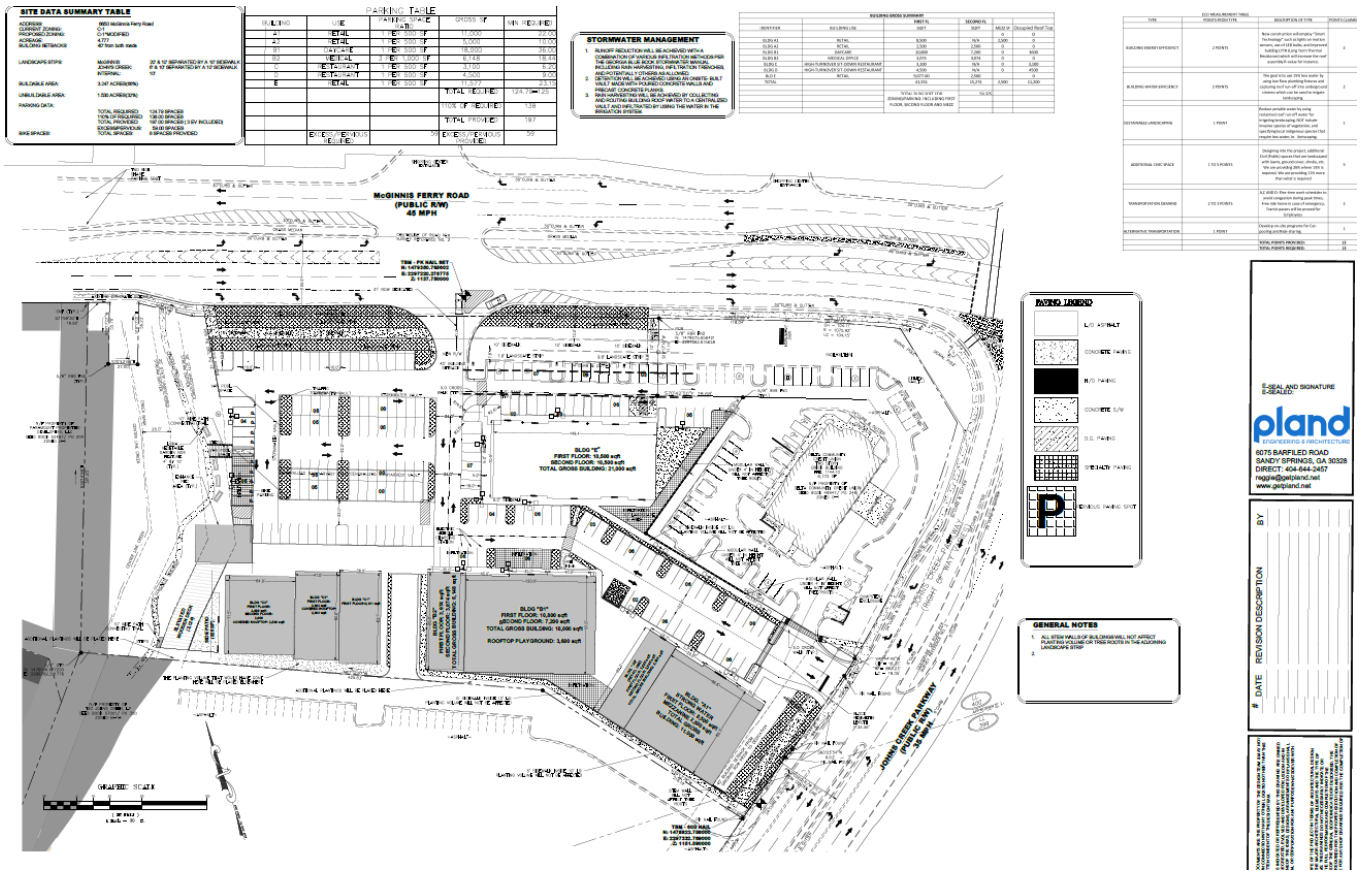


Table 1 shows the proposed land uses and the associated square footages.

Table 1: Land Use Information

Building	Land Use	Total Square Footage		Total Square Footage
		First Floor	Second Floor/Mezzanine	
A1	Retail	8,500 SF	2,500 SF	11,000 SF
A2	Retail	2,500 SF	2,500 SF	5,000 SF
B1	Daycare Center	10,800 SF	7,200 SF	18,000 SF
B2	Medical Office	3,074 SF	3,074 SF	6,148 SF
C1	Medical Office	3,161 SF	-	3,161 SF
C2	High-Turnover (Sit-down) Restaurant	3,303 SF	-	3,303 SF
C3	High-Turnover (Sit-down) Restaurant	4,580 SF	2,000 SF	6,580 SF
E	Retail	10,500 SF	10,500 SF	21,000 SF

Table 2 illustrates the results of the trip generation analysis based on the ITE Manual, 11th Edition.

Table 2: ITE Trip Generation Results

Land Use Information	Reduction %	Project Trips			Equation Used ¹	In / Out Distribution
		Total	Inbound	Outbound		
822 - Strip Retail Plaza (<40k) (Building A1,A2 & E)					37,000	1000 S.F.
Daily		2,015	1,008	1,007	T = 54.45(X)	50% / 50%
AM Peak Hour		87	52	35	T = 2.36(X)	60% / 40%
PM Peak Hour		244	122	122	T = 6.59(X)	50% / 50%
932- High-Turnover (Sit-Down) Restaurant (Building C2 & C3)					9,883	1000 S.F.
Daily		1,059	530	529	T = 107.20(X)	50% / 50%
AM Peak Hour		95	48	47	T = 9.57(X)	51% / 49%
PM Peak Hour		89	54	35	T = 9.05(X)	61% / 39%
Reductions for Pass-By Trips						
Daily	43%	455	228	227		
AM Peak Hour	43%	41	21	20		
PM Peak Hour	43%	38	19	19		
Net New External Vehicle Trips						
Daily		604	302	302		
AM Peak Hour		54	27	27		
PM Peak Hour		51	35	16		
565 - Day Care Center (Building B1)					18,000	1000 S.F.
Daily		74	37	37	T = 4.09(X)	50% / 50%
AM Peak Hour		14	7	7	T = 0.78(X)	53% / 47%
PM Peak Hour		14	7	7	T = 0.79(X)	47% / 53%
Reductions for Pass-By Trips						
Daily	44%	33	16	17		
AM Peak Hour	44%	6	3	3		
PM Peak Hour	44%	6	3	3		
Net New External Vehicle Trips						
Daily		41	21	20		
AM Peak Hour		8	4	4		
PM Peak Hour		8	4	4		
720 - Medical Office (Building B2 & C1)					9,309	1000 S.F.
Daily		292	146	146	T = 42.97(X) - 108.1	50% / 50%
AM Peak Hour		28	22	6	T = e^(0.9LN(X)+1.34)	79% / 21%
PM Peak Hour		35	11	24	T = 4.07(X) - 3.17	30% / 70%
Total Net New External Vehicle Trips						
Daily		2,952	1,477	1,475		
AM Peak Hour		177	105	72		
PM Peak Hour		338	172	166		

From Table 2 it can be observed that the total proposed development generates 2,952 daily trips (1,477 inbound and 1,475 outbound). It is expected to generate 177 AM Peak hour trips (105 inbound and 72 outbound) and 338 PM peak hour trips (172 inbound and 166 outbound).

If you have any questions/ concerns/ comments, please feel free to reach out to me at 205.222.1034 or email me at sameer@loweengineers.com.

Sincerely,



Sameer Patharkar, PE
Traffic Engineer

Attachments

High-Turnover (Sit-Down) Restaurant (932)

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

Setting/Location: General Urban/Suburban

Number of Studies: 50

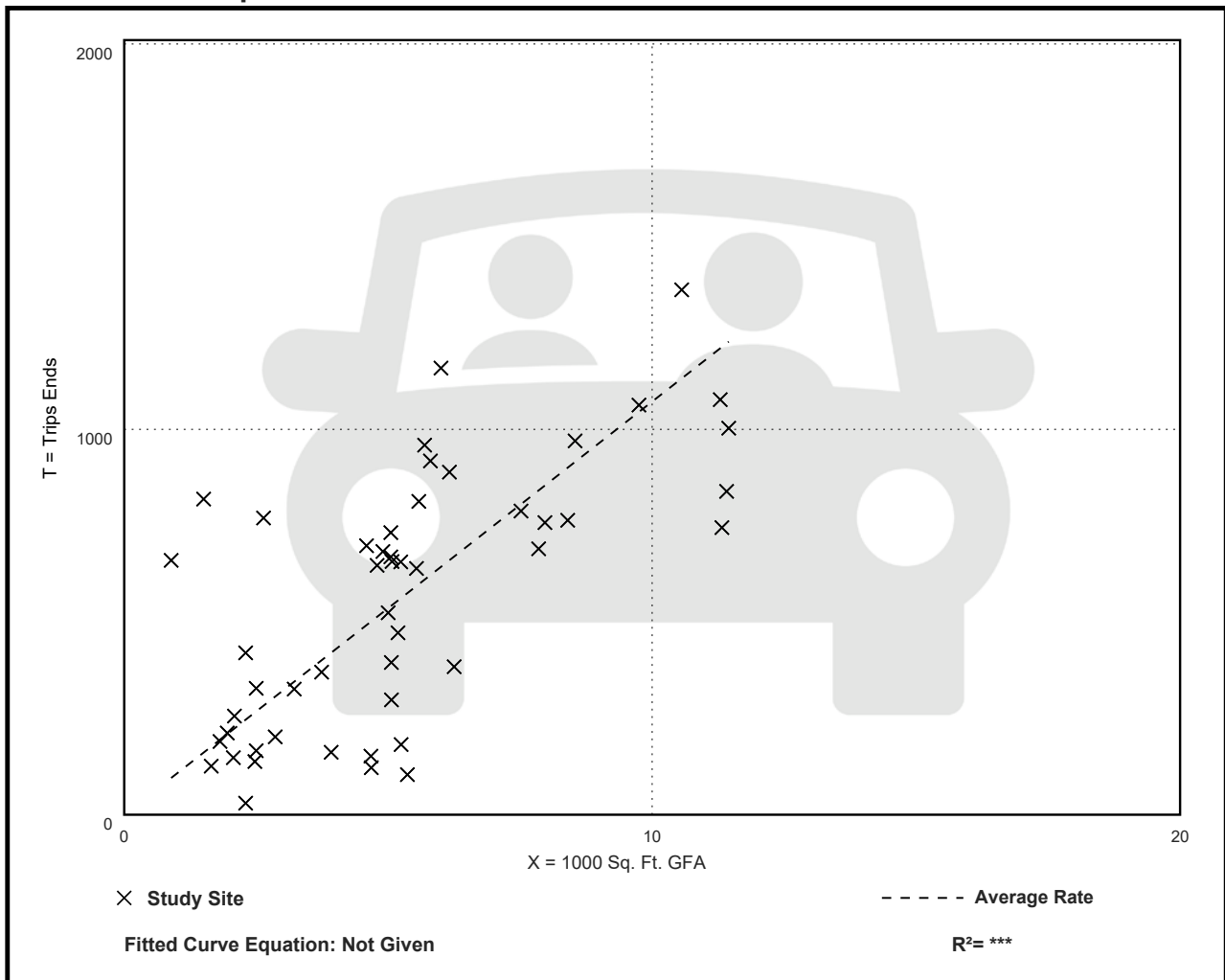
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
107.20	13.04 - 742.41	66.72

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

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: 37

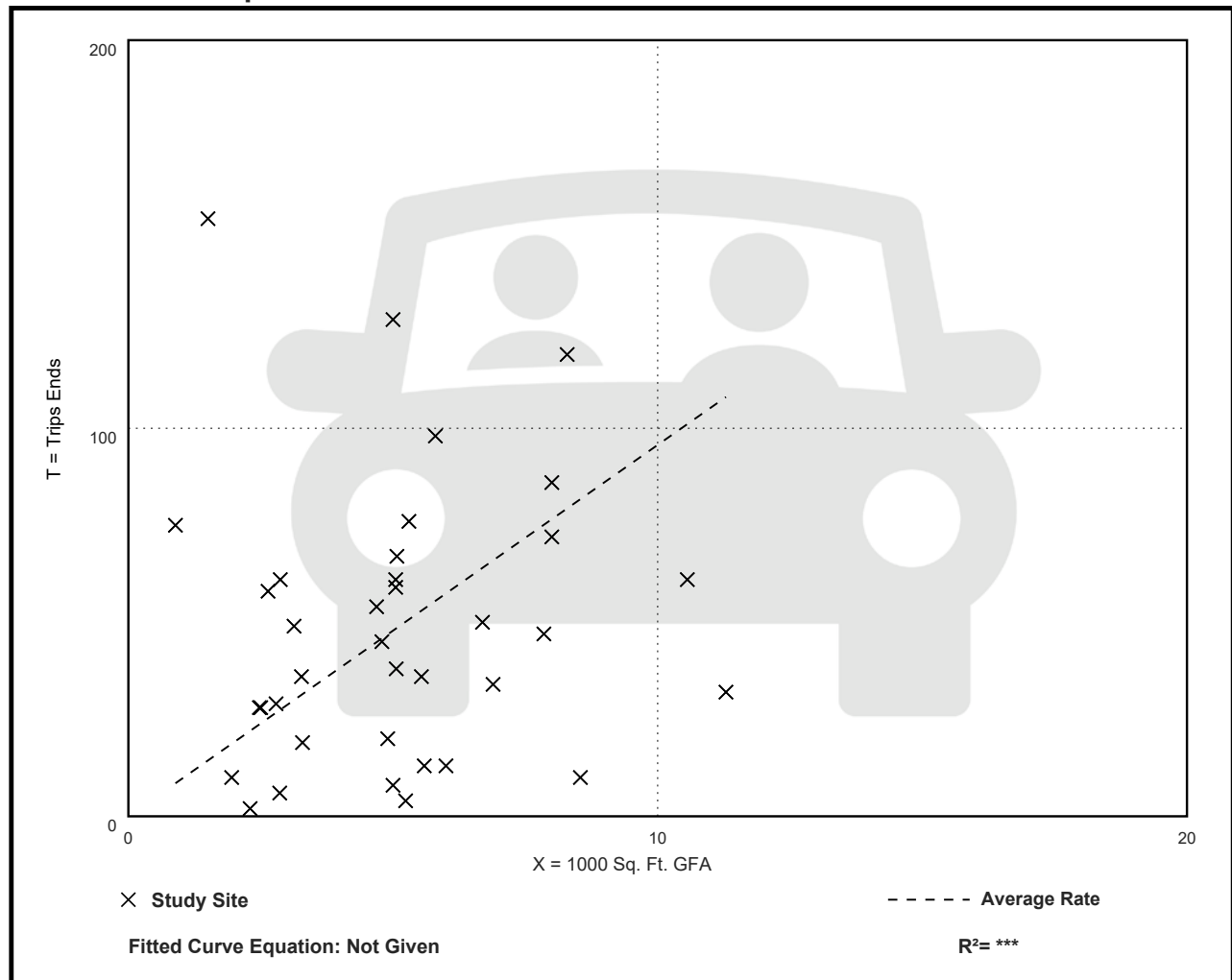
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.57	0.76 - 102.39	11.61

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 104

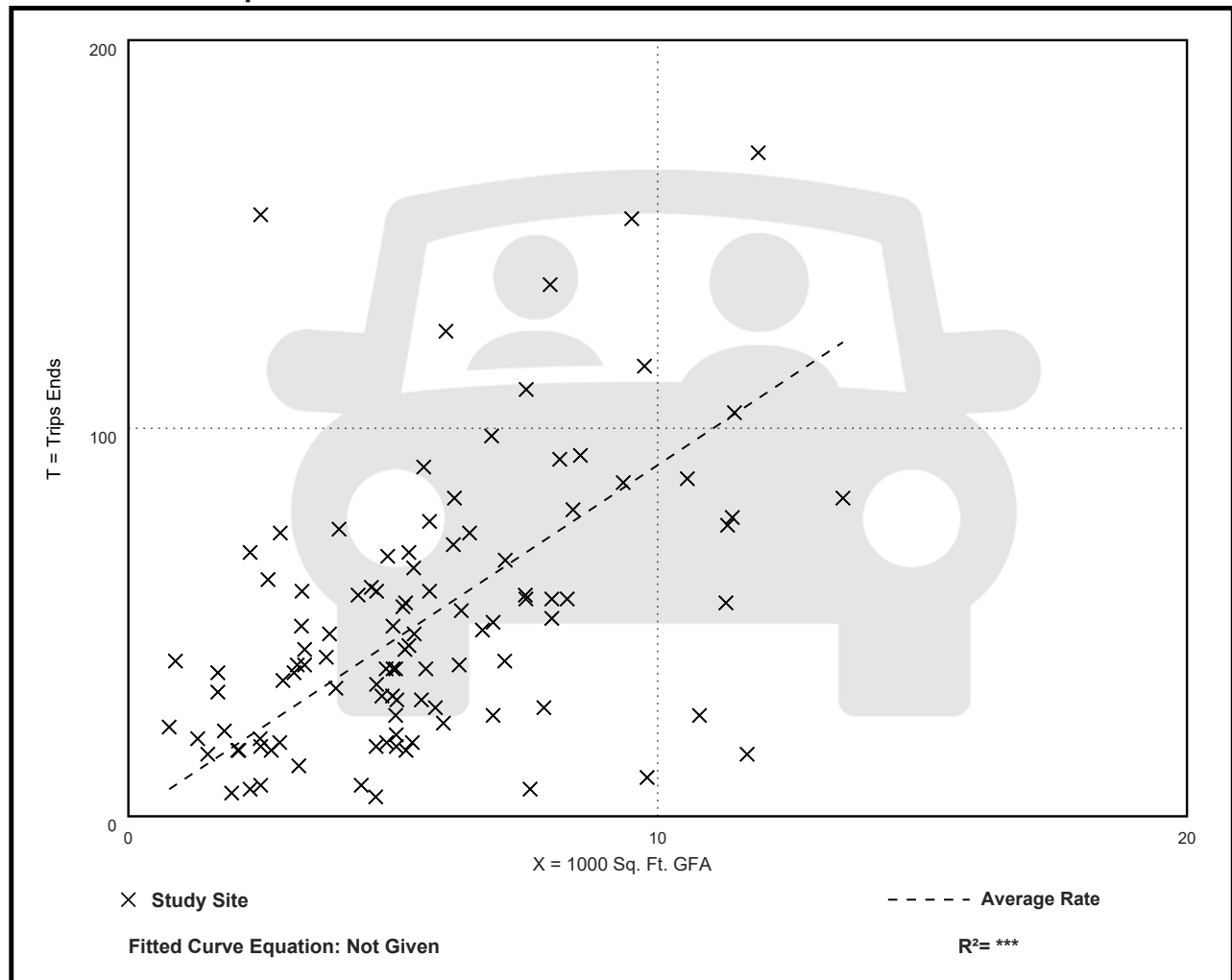
Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.05	0.92 - 62.00	6.18

Data Plot and Equation



Day Care Center (565)

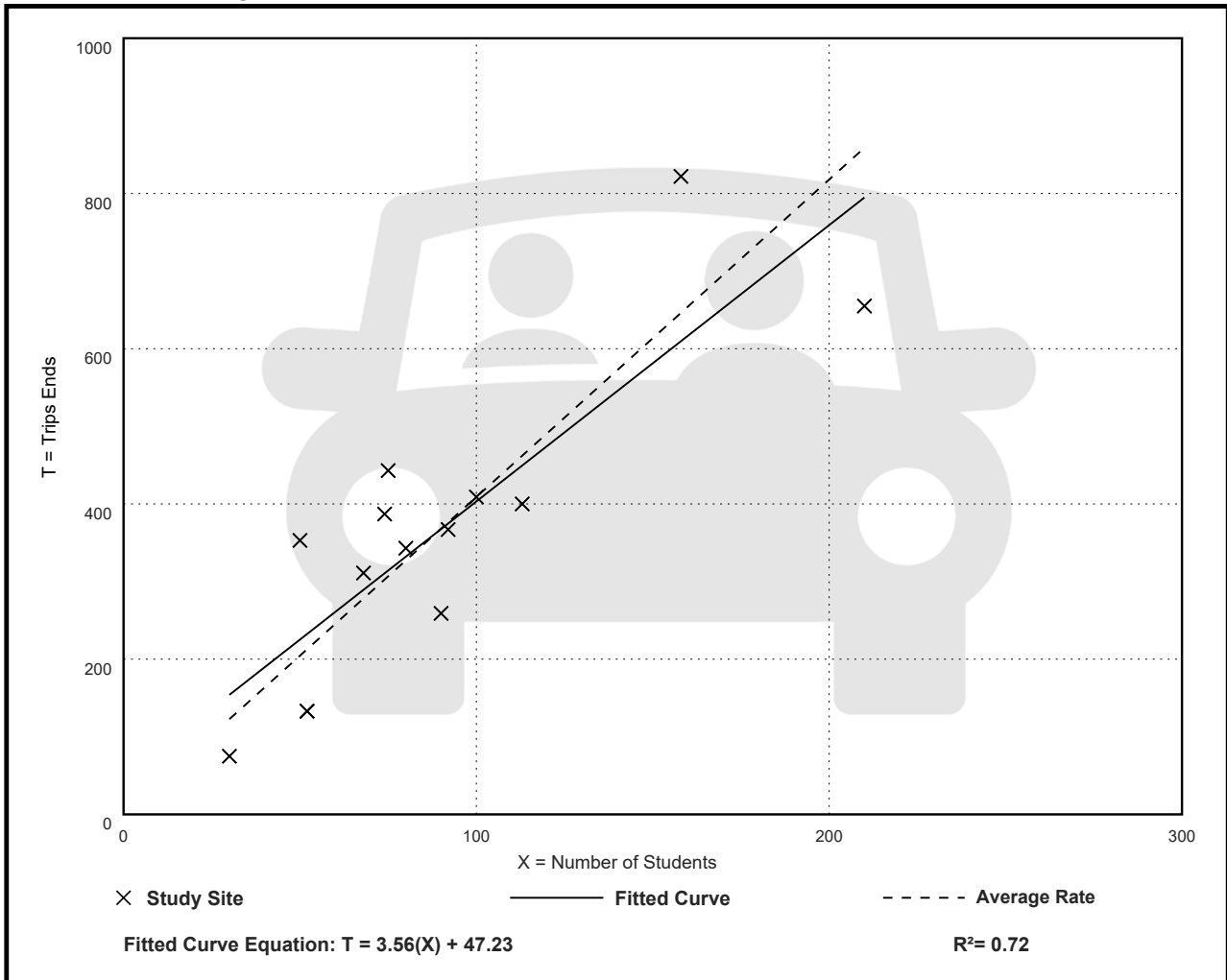
Vehicle Trip Ends vs: Students
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 14
Avg. Num. of Students: 89
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
4.09	2.50 - 7.06	1.21

Data Plot and Equation



Day Care Center (565)

Vehicle Trip Ends vs: Students

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: 75

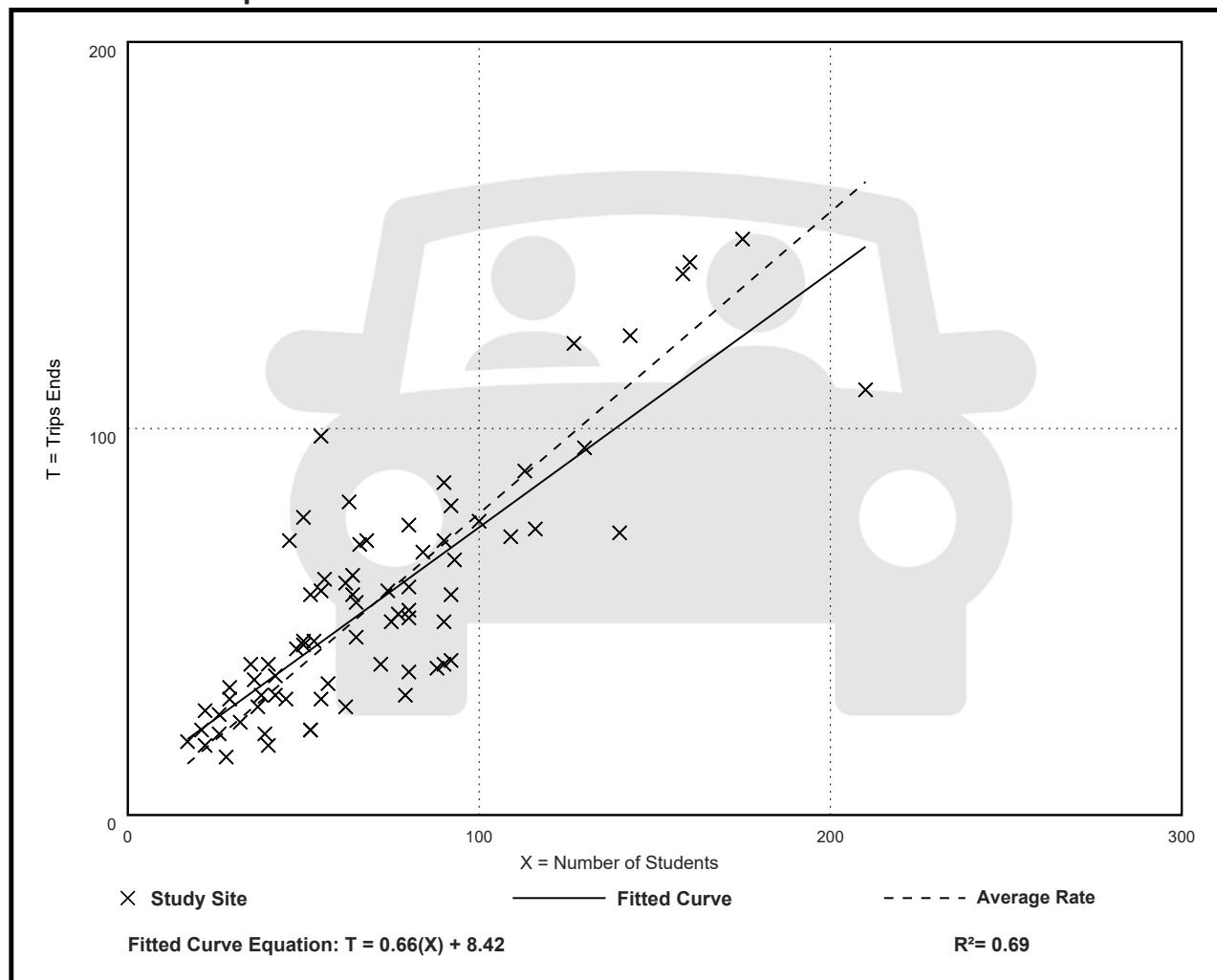
Avg. Num. of Students: 71

Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.78	0.39 - 1.78	0.25

Data Plot and Equation



Day Care Center (565)

Vehicle Trip Ends vs: Students

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: 75

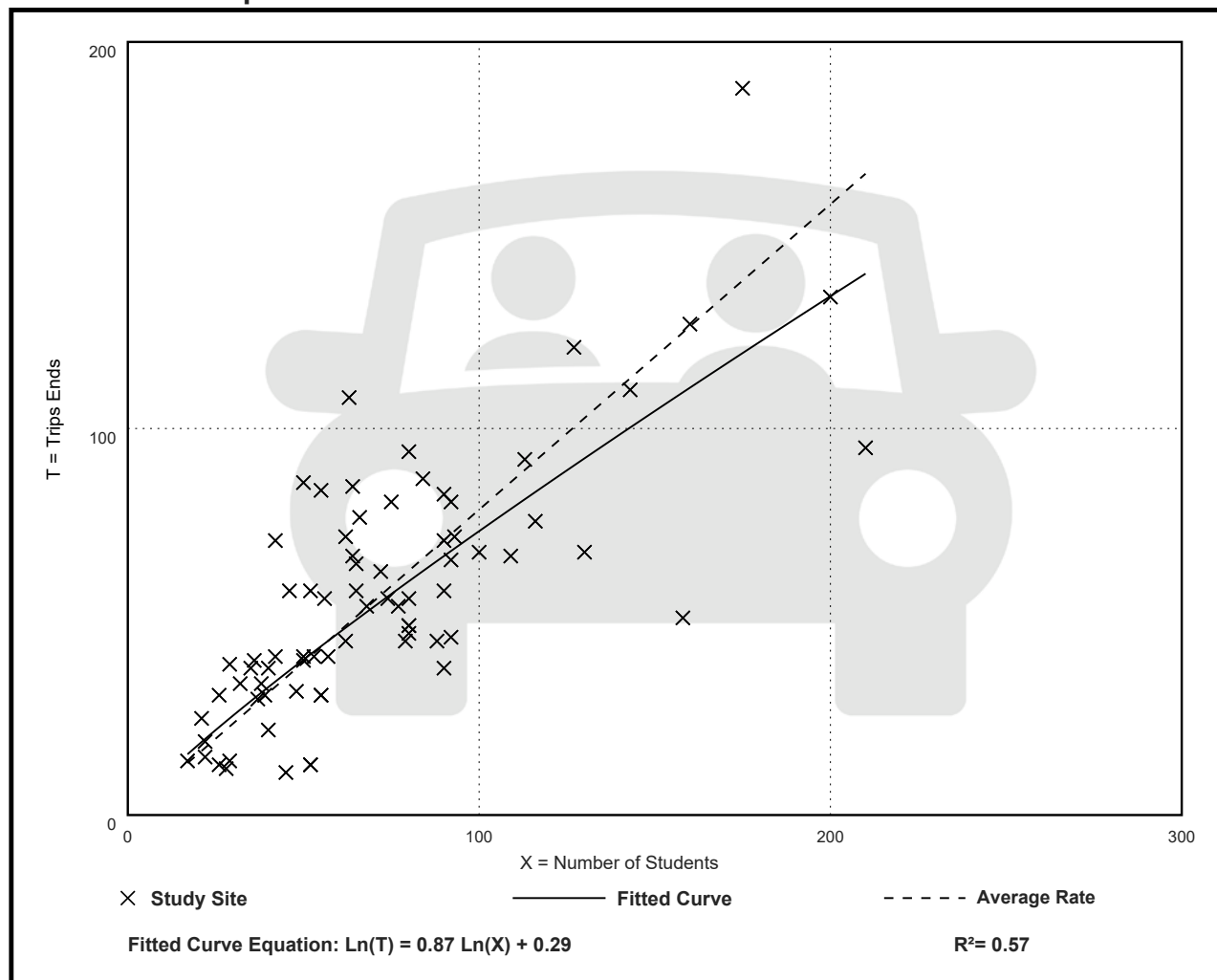
Avg. Num. of Students: 72

Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.79	0.24 - 1.72	0.30

Data Plot and Equation



Clinic (630)

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

Setting/Location: General Urban/Suburban

Number of Studies: 9

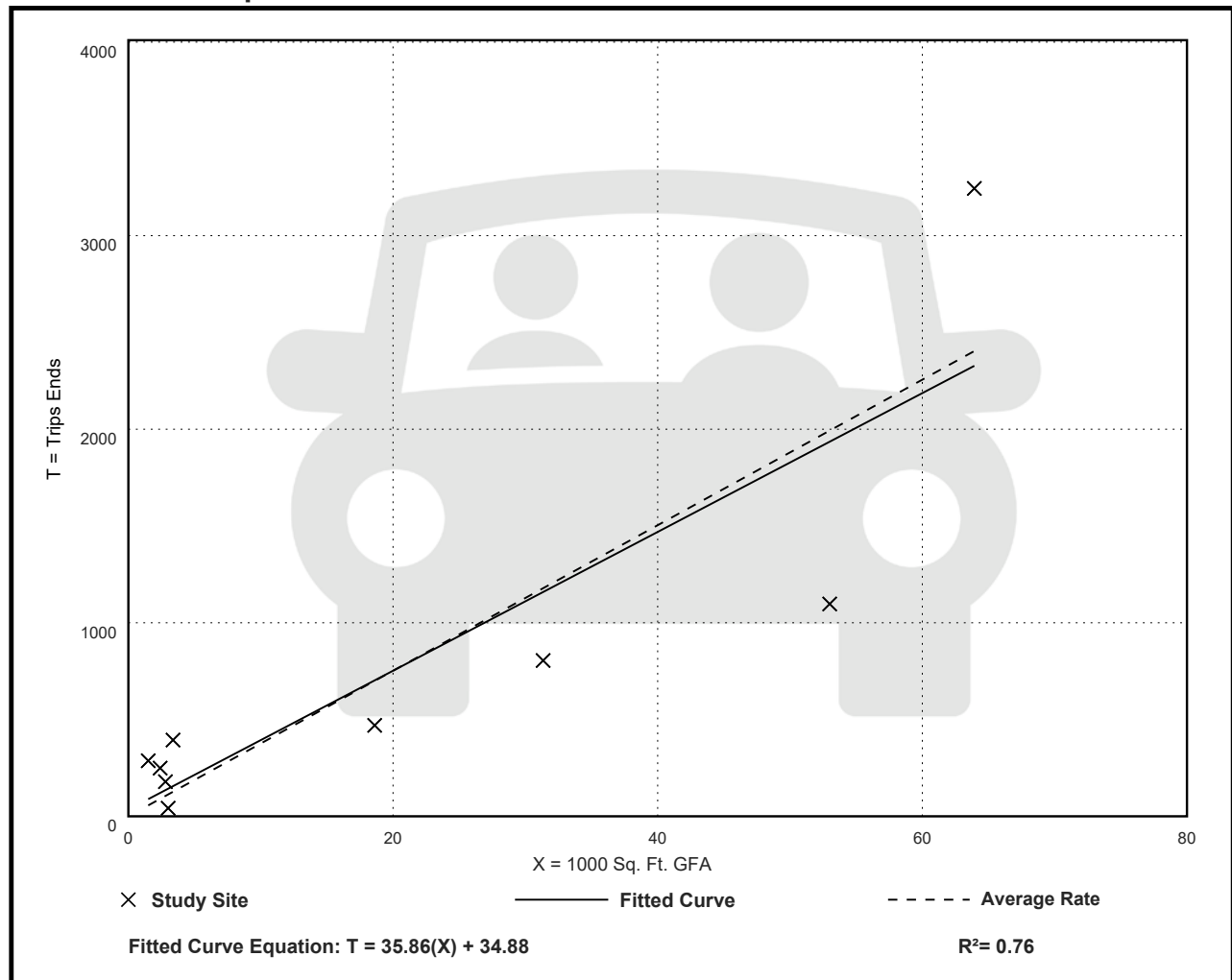
Avg. 1000 Sq. Ft. GFA: 20

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
37.60	13.96 - 191.33	25.52

Data Plot and Equation



Clinic (630)

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: 9

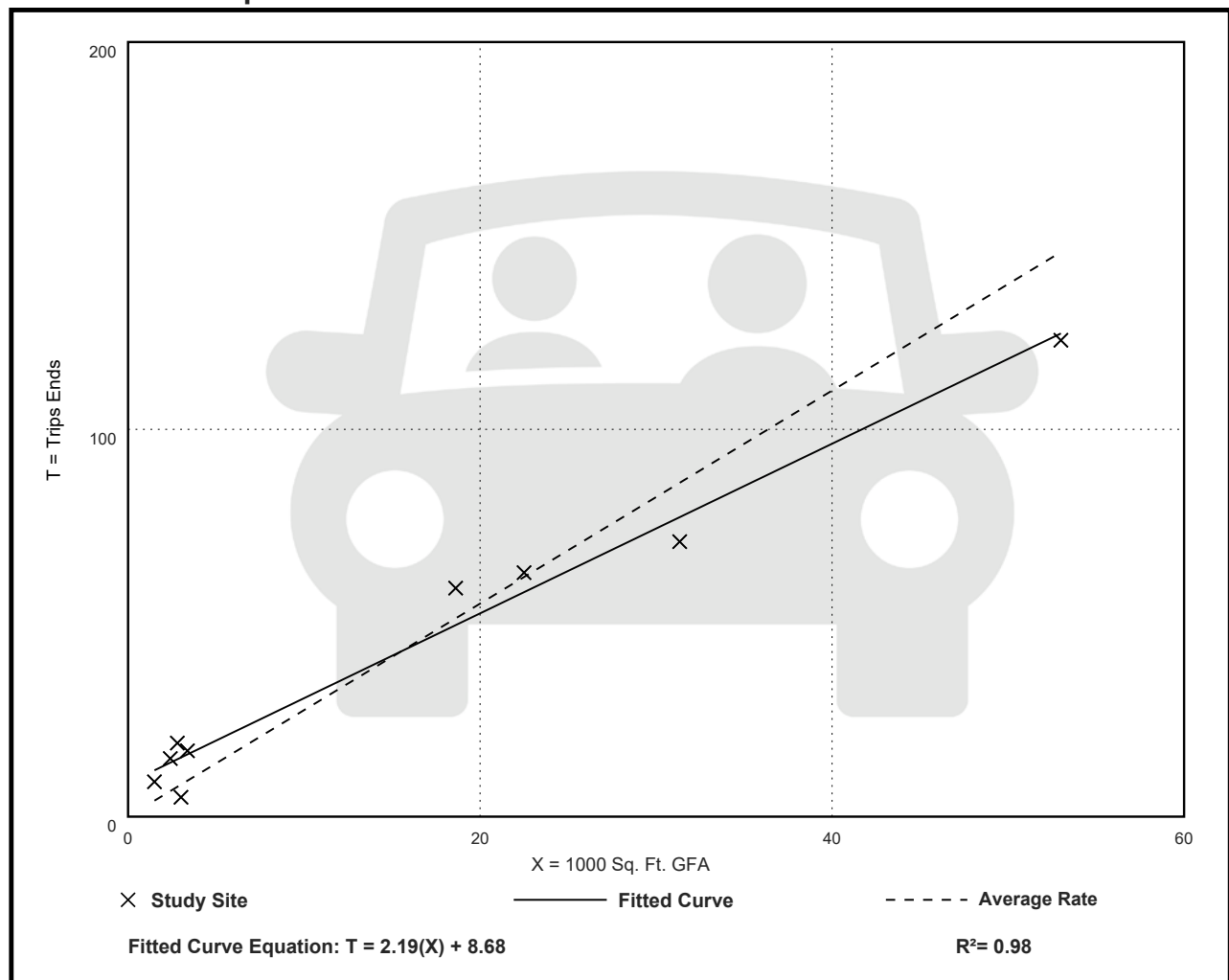
Avg. 1000 Sq. Ft. GFA: 15

Directional Distribution: 81% entering, 19% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.75	1.66 - 6.79	1.04

Data Plot and Equation



Clinic (630)

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: 11

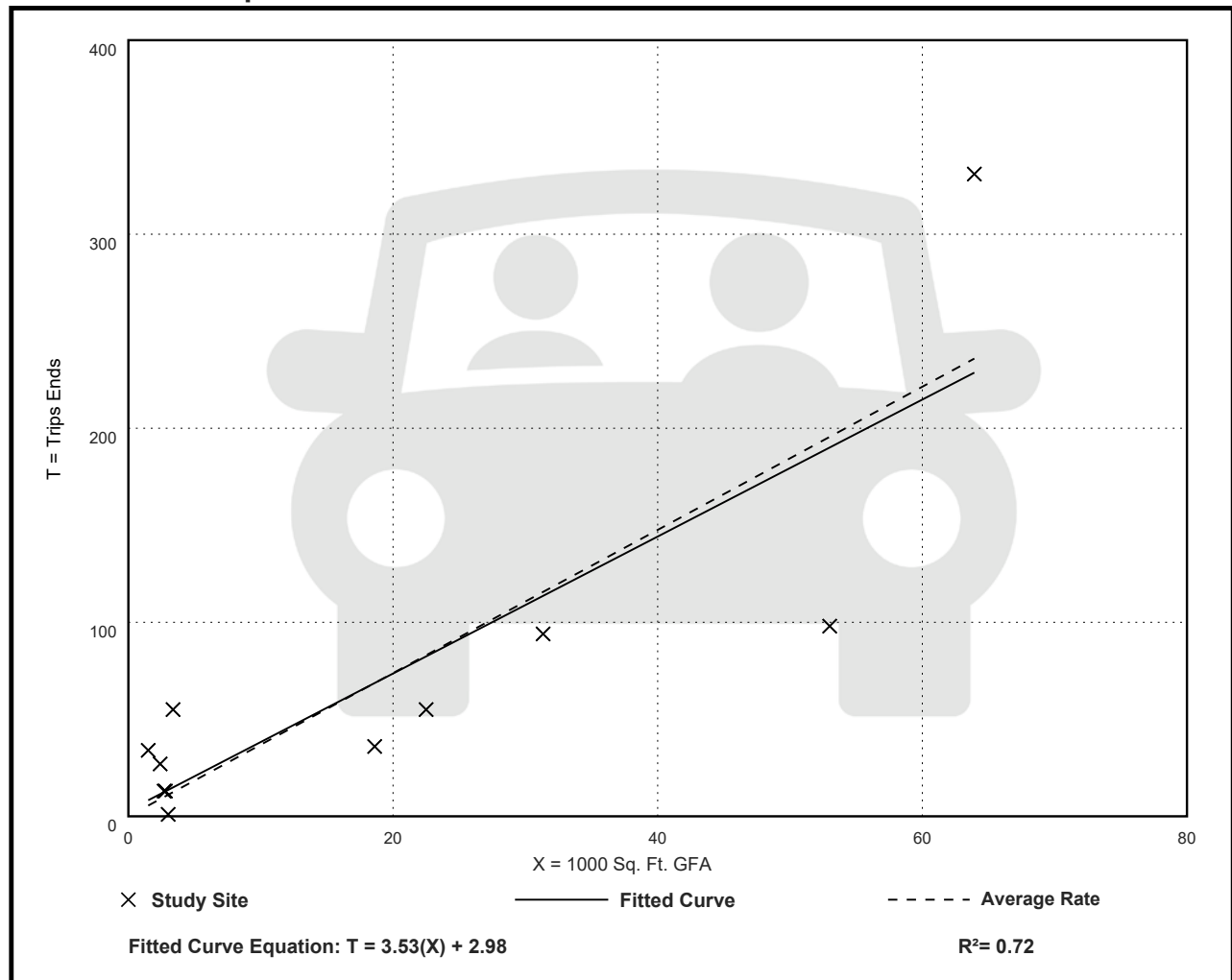
Avg. 1000 Sq. Ft. GFA: 19

Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.69	0.33 - 22.67	3.00

Data Plot and Equation



Medical-Dental Office Building - Stand-Alone (720)

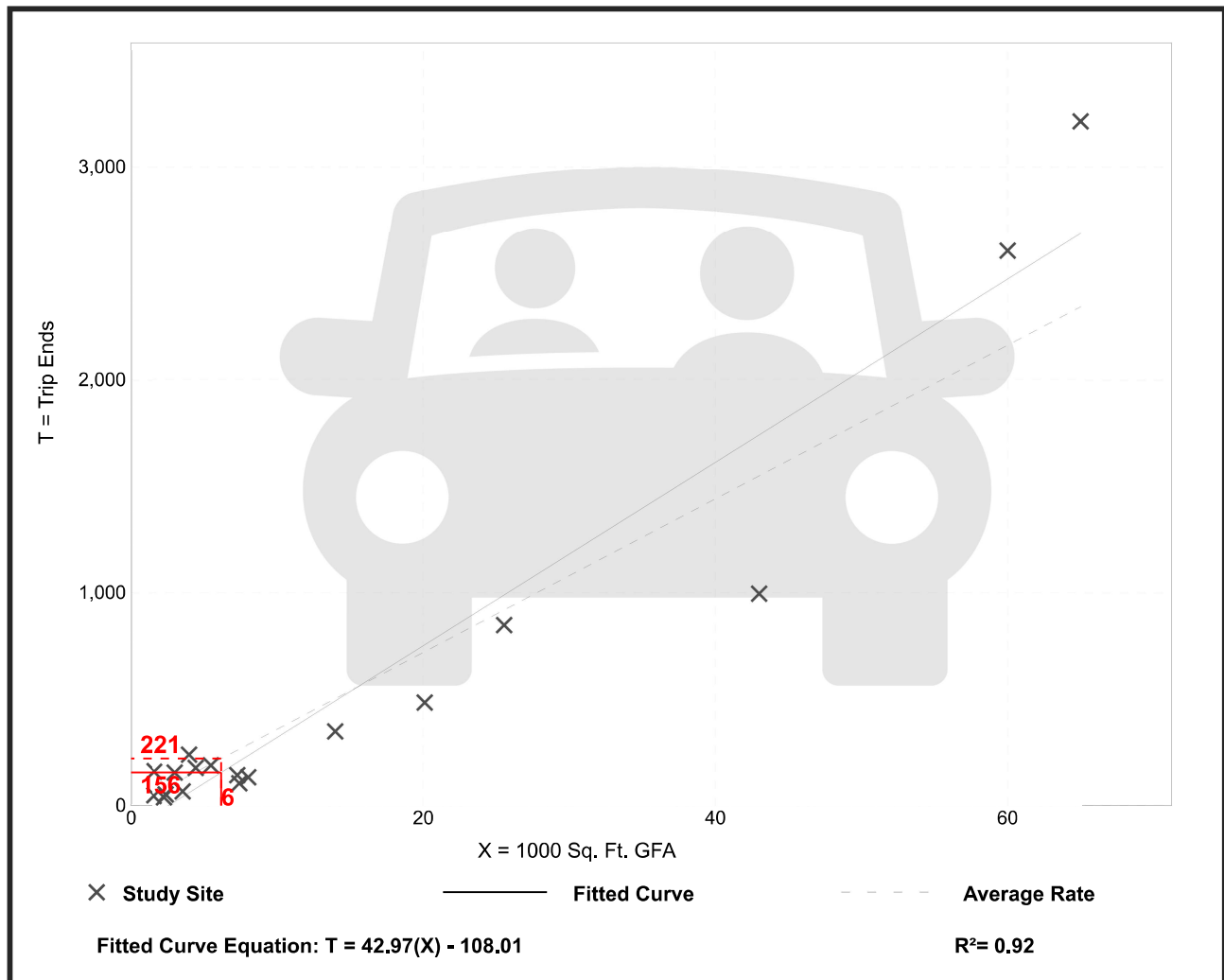
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 18
Avg. 1000 Sq. Ft. GFA: 15
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
36.00	14.52 - 100.75	13.38

Data Plot and Equation



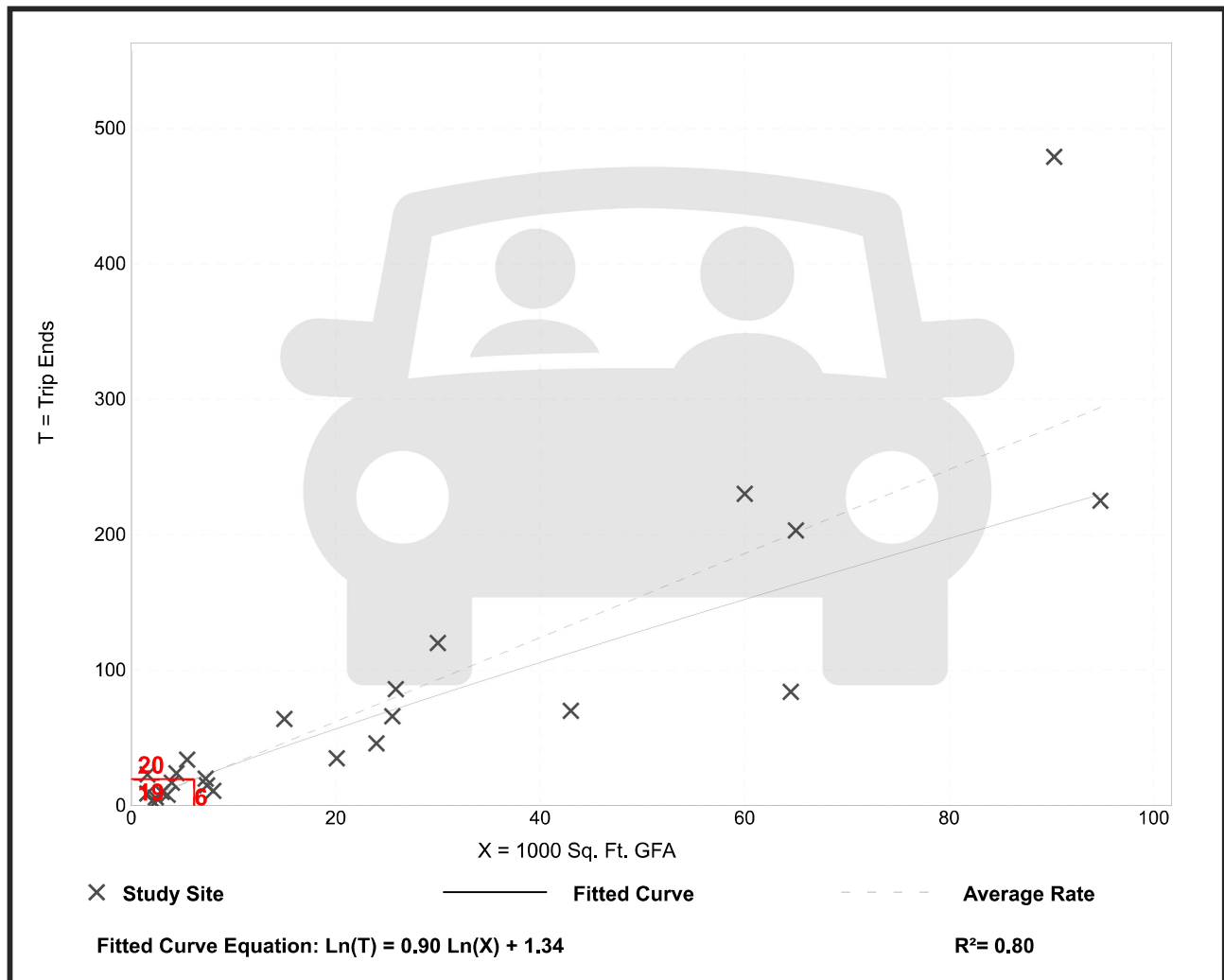
Medical-Dental Office Building - Stand-Alone (720)

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: 24
 Avg. 1000 Sq. Ft. GFA: 25
 Directional Distribution: 79% entering, 21% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.10	0.87 - 14.30	1.49

Data Plot and Equation



Medical-Dental Office Building - Stand-Alone (720)

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: 30
 Avg. 1000 Sq. Ft. GFA: 23
 Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.93	0.62 - 8.86	1.86

Data Plot and Equation

