APPENDIX G

TRIP GENERATION MEMORANDUM

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SAN LUIS OBISPO

January 3, 2019

Brooke Doi
Shea Homes
2 Ada, Suite 200
Irvine, CA 92618

Subject: Mission Foothills Shopping Center – Trip Generation Analysis

Dear Ms. Doi:

At your request, LSA has prepared this analysis of trip generation for the proposed redevelopment of the Mission Foothills Shopping Center (project) located between Los Alisos Boulevard and State Route 241 (SR-241) in Mission Viejo. The purpose of this analysis is to determine the potential trip generation of the proposed project and whether the project would require a more detailed traffic analysis.

As shown in Figure 1 (all figures attached), the existing Mission Foothills Shopping Center consists of an in-line commercial retail center and four pad buildings. One of the pad buildings (Building 4) is 11,375 square feet (sf) and has eight suites. Another pad building (Building 1) is 7,800 sf and has four suites. Two of the pad buildings (Buildings 2 and 3) house restaurants. At this time, most of the in-line commercial center, most of the 11,375 sf building, and half of the 7,800 sf building are currently vacant. The project would demolish the in-line commercial center, would retain the two restaurant pads, would reoccupy the 7,800 sf building and the 11,375 sf building, and would construct new residential dwellings on land previously occupied by the commercial center and parking lot. Both of the existing access driveways on Los Alisos Boulevard would be unaltered by the project.

As shown on Figure 2, the existing commercial center would be replaced with a residential development consisting of two parts: 44 single-family dwellings and 61 attached townhomes. A third residential project (under separate application) would construct 60 multifamily dwellings on a currently vacant portion of the commercial center's lot.

LSA examined the trip generation potential of the proposed project by referencing trip generation rates found in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition (2017). Trip generation rates for shopping centers (land use 820) include a mixture of uses, including restaurants. LSA applied the shopping center trip rate rather than separately calculating the restaurants' trip generation in order to provide a conservative analysis.

Table A provides a comparison between the trip generation of the proposed project and the trip generation of the uses being replaced. Table A considers two scenarios. In the existing condition, only approximately 11,300 sf is currently occupied in the commercial building being demolished. As a result, construction of residential dwellings would result in more trips in and out of the center's

Table A: Trip Generation Comparison

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Single Family Detached Housing (210)		DU	9.44	0.19	0.56	0.74	0.62	0.37	0.99
Multifamily Housing (Low Rise) (220)	–	DU	7.32	0.11	0.35	0.46	0.35	0.21	0.56
Shopping Center (820)	–	TSF	37.75	0.58	0.36	0.94	1.83	1.98	3.81
Trip Generation									
Proposed Project									
Single Family	44	DU	415	8	25	33	28	16	44
Townhomes	61	DU	447	7	21	28	21	13	34
Total Residential	105	DU	862	15	46	61	49	29	78
Existing Use									
Currently Occupied Commercial (820)	11.3[2]	TSF	427	7	4	11	21	22	43
Currently Constructed Commercial (820)	99.5[3]	TSF	3,756	58	36	94	182	197	379
Proposed Project Minus Occupied Commercial Uses			**435**	**8**	**42**	**50**	**28**	**7**	**35**
Proposed Project Minus General Plan Commercial Uses			**-2,894**	**-43**	**10**	**-33**	**-133**	**-168**	**-301**

[1] Trip rates are referenced from the 10th Edition of the *Trip Generation Manual* (Institute of Transportation Engineers 2017).
[2] Currently occupied commercial space in the building being replaced
[3] Estimated total commercial space being replaced
ADT = average daily trips
DU = dwelling units
TSF = total square feet

driveways than occur today. However, the estimated 50 additional a.m. peak-hour trips and 35 additional p.m. peak-hour trips are below the City's thresholds for requiring additional traffic analysis (i.e., greater than 50 peak-hour trips). In addition, the roadway infrastructure was constructed and functioned with the higher trip generation of the occupied commercial center.

Table A also examines the effect of the proposed residential development in the General Plan horizon. At some time in the future, the vacant commercial development could be reoccupied and generate traffic accordingly. As Table A shows, the trip generation potential of the currently constructed commercial space to be replaced is much higher than the trip generation potential of the residential development replacing it. The residential development is estimated to generate 33 fewer trips in the a.m. peak hour and 301 fewer trips in the p.m. peak hour.

Conclusion

LSA analyzed trip generation for the proposed residential development and the adjacent residential development that would replace the majority of the commercial uses in the Mission Foothills Shopping Center. Because the commercial space is mostly vacant today, the residential development would generate more traffic than is currently experienced at the commercial center driveways. However, the trip generation potential of the commercial space being replaced is greater than the trip generation potential of the residential development proposed to replace it. The residential development is estimated to generate 33 fewer trips in the a.m. peak hour and 301 fewer trips in the p.m. peak hour.

Because the project would not generate more than 50 new a.m. or p.m. peak-hour trips in the existing condition and generates fewer trips than the uses being replaced in the General Plan horizon, LSA does not believe the proposed project meets the criteria for requiring additional analysis.

Please let us know if you have any questions or if we can be of further assistance.

Sincerely,

LSA Associates, Inc.

Arthur Black
Associate/Transportation Planner

Attachments: Figure 1: Existing Site Plan
Figure 2: Future Site Plan
ITE *Trip Generation*, Tenth Edition data sheets

FIGURE 1

LSA

N

0 65 130
FEET

Mission Foothills Center
Existing Site and Utilization

I:\SHO1704\G\Existing Site.cdr (3/13/2018)

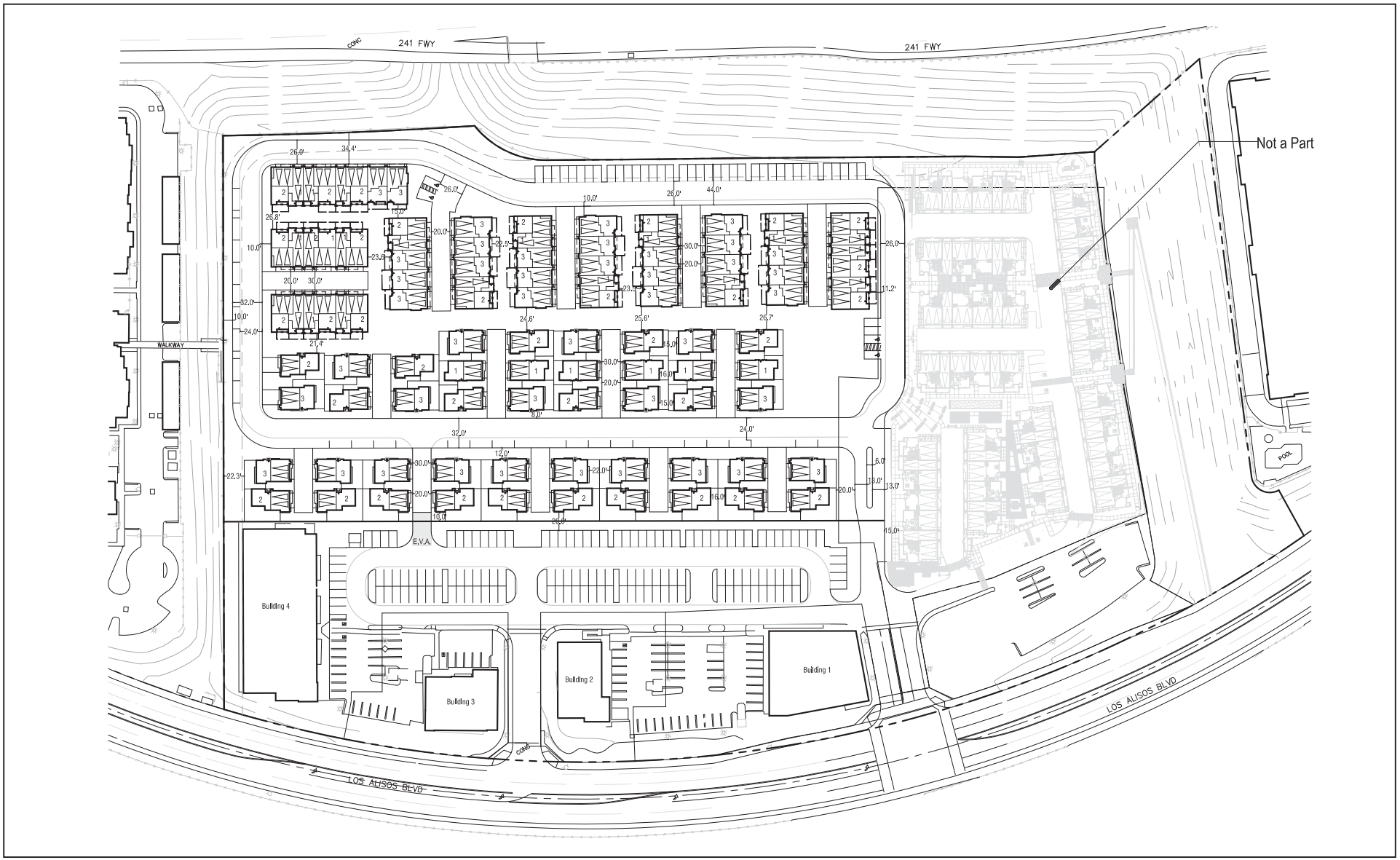

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FIGURE 2

N

0 62.5 125
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SOURCE: WHA

I:\SHO1704\G\Future Site Plan.cdr (9/6/2018)

Mission Foothills Center
Future Site Plan

Shopping Center
(820)

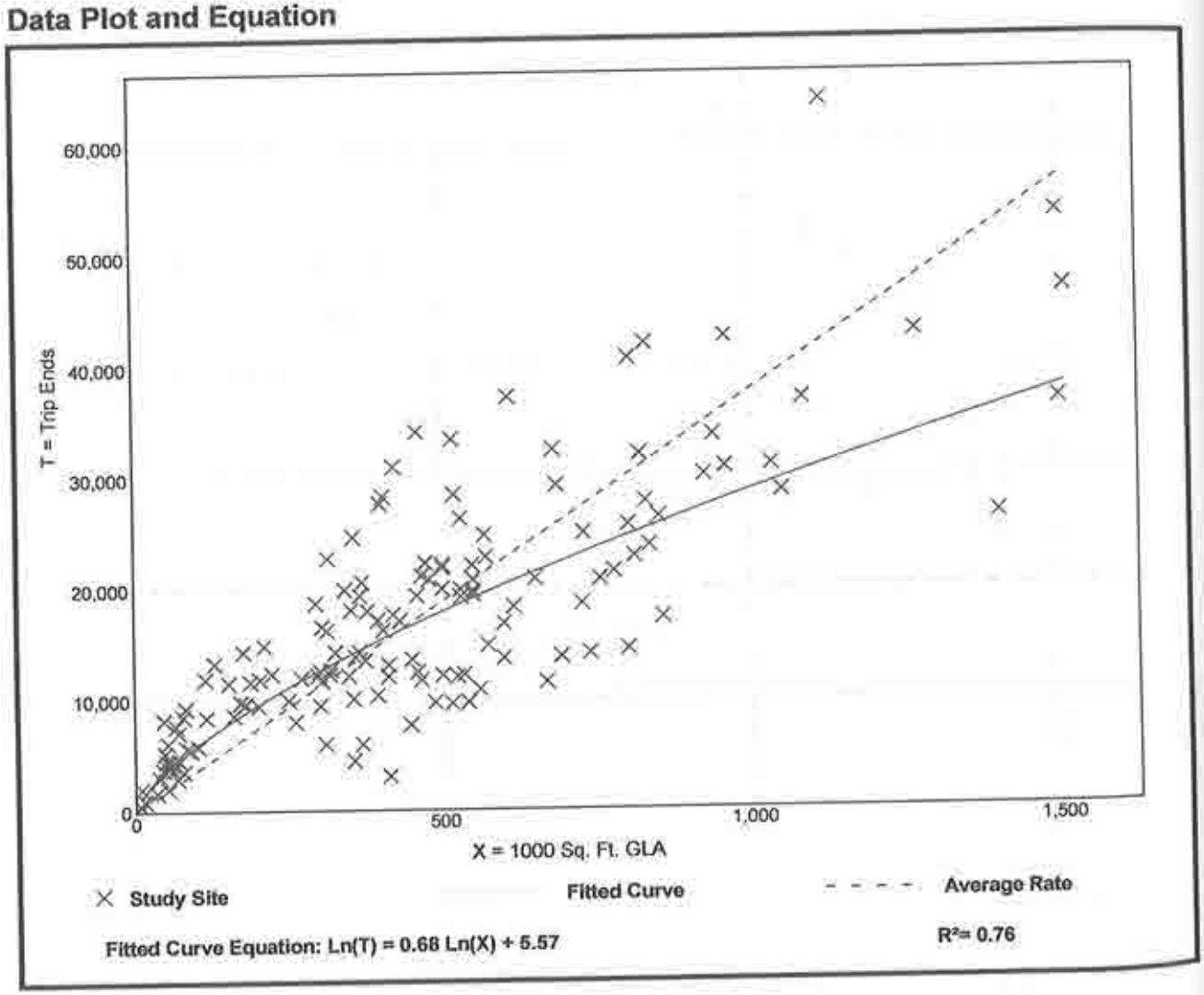
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 147
1000 Sq. Ft. GLA: 453
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.75	7.42 - 207.98	16.41

Data Plot and Equation



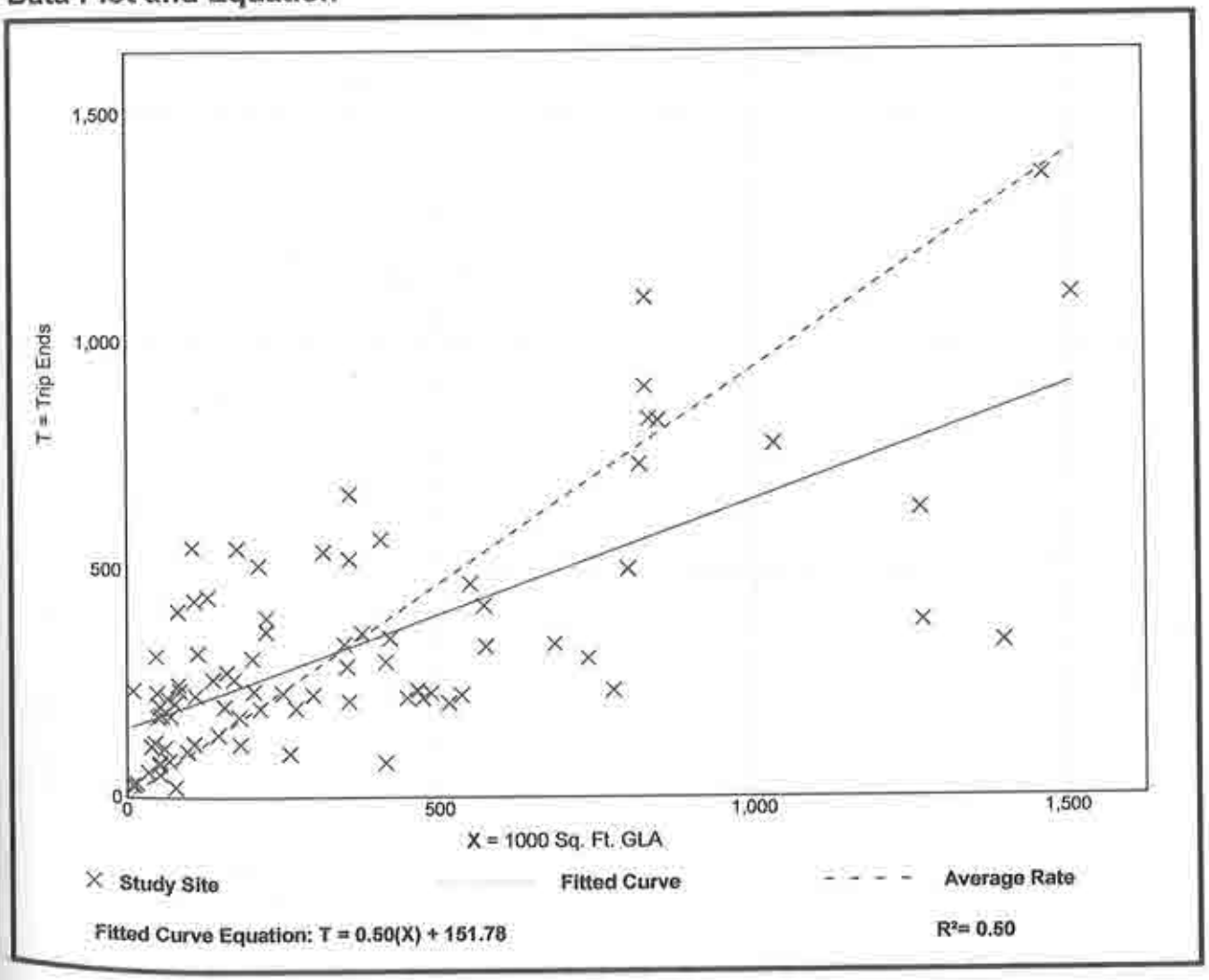
Shopping Center
(820)

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: 84
1000 Sq. Ft. GLA: 351
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

Data Plot and Equation



Fitted Curve Equation: T = 0.50(X) + 151.78

R^2= 0.50

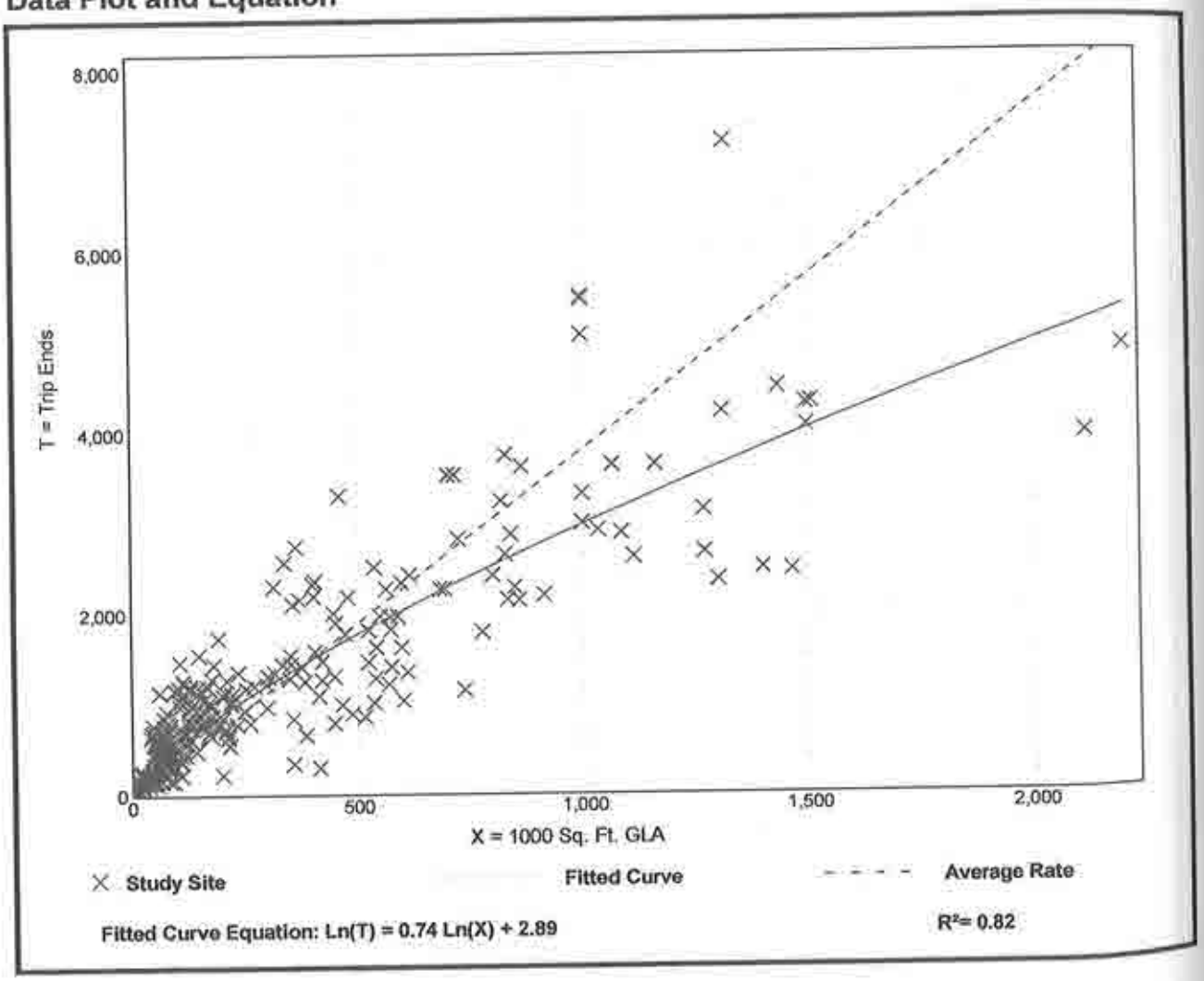
Shopping Center
(820)

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: 261
1000 Sq. Ft. GLA: 327
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

Data Plot and Equation



Single-Family Detached Housing
(210)

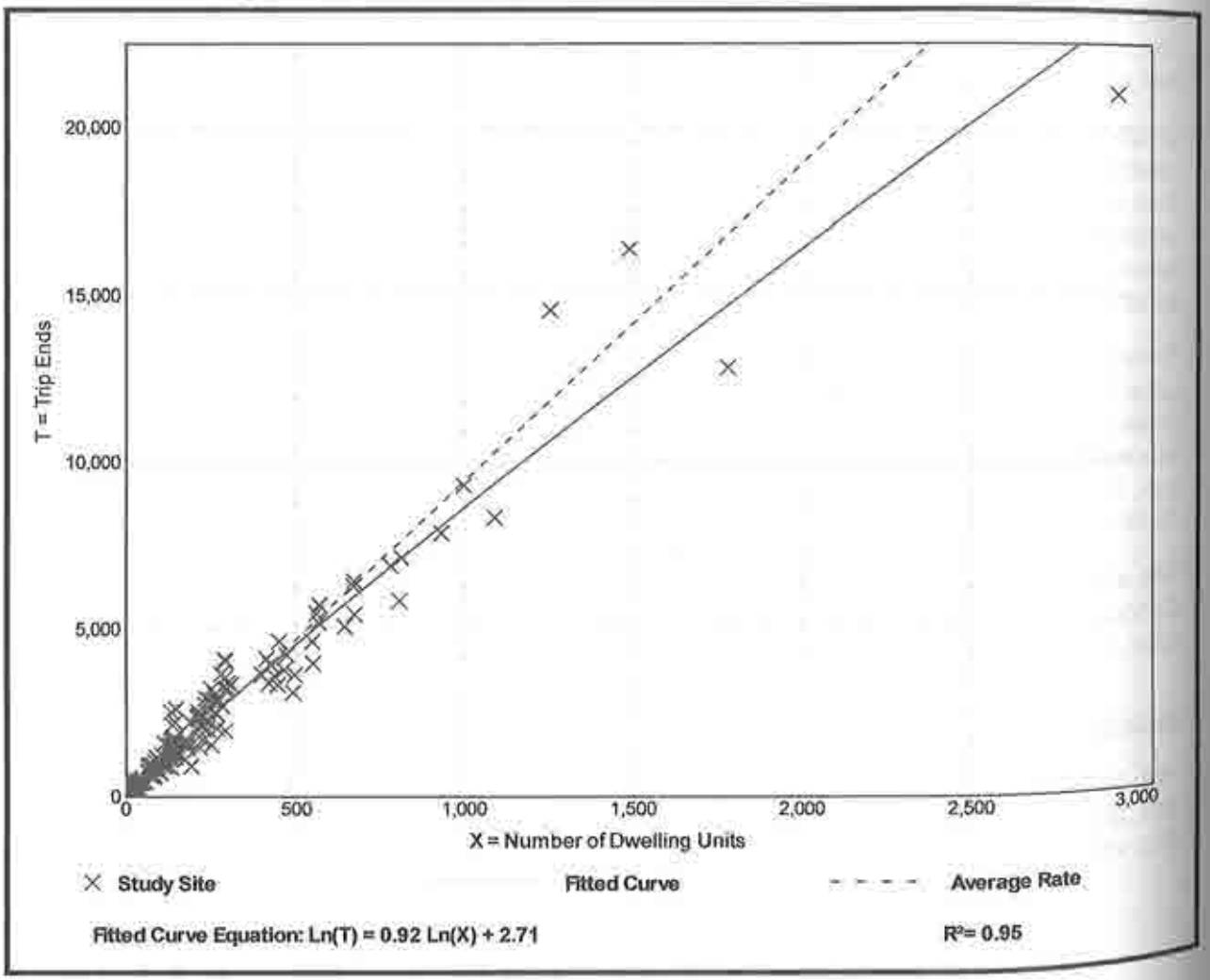
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



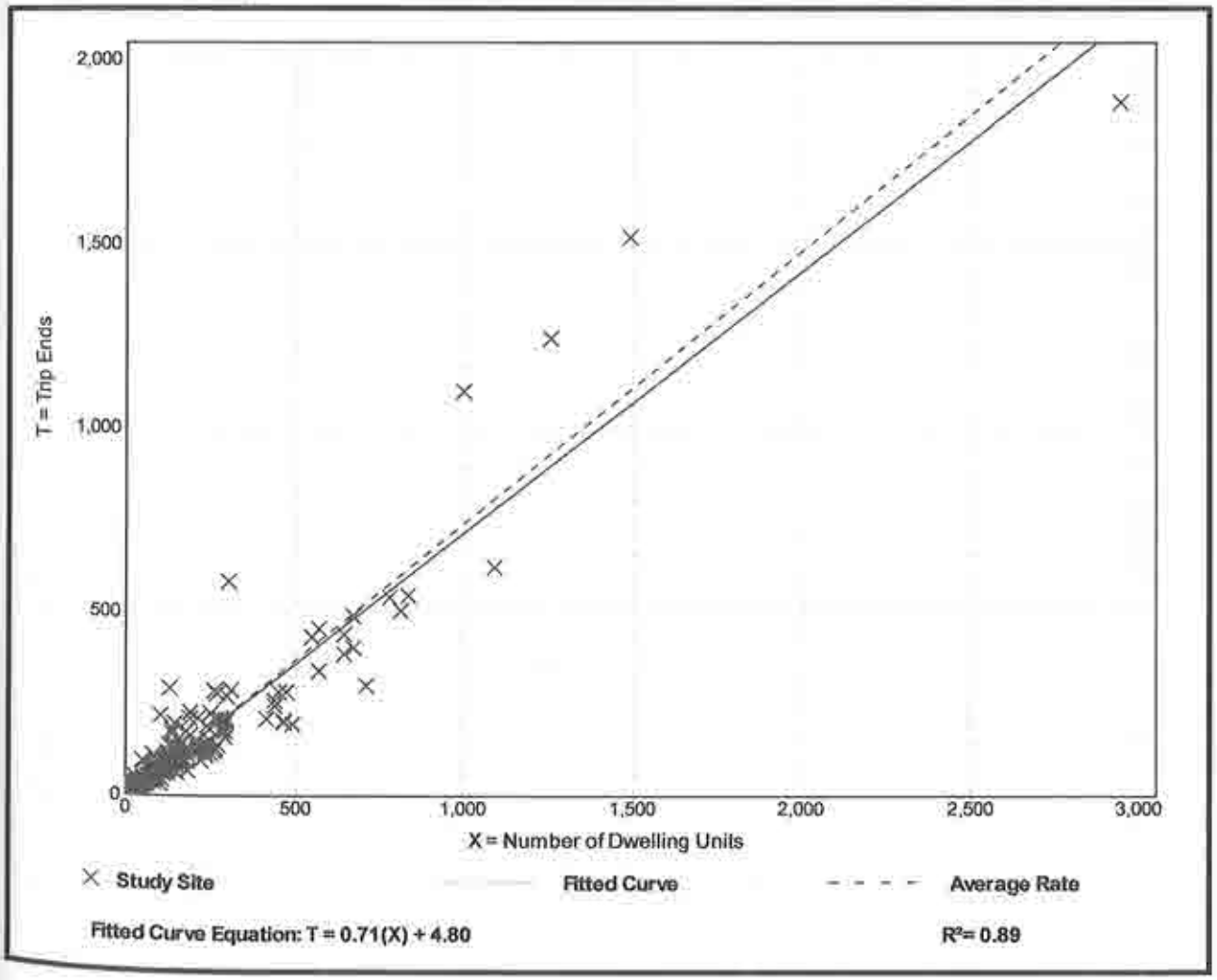
Single-Family Detached Housing
(210)

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:	173
Avg. Num. of Dwelling Units:	219
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



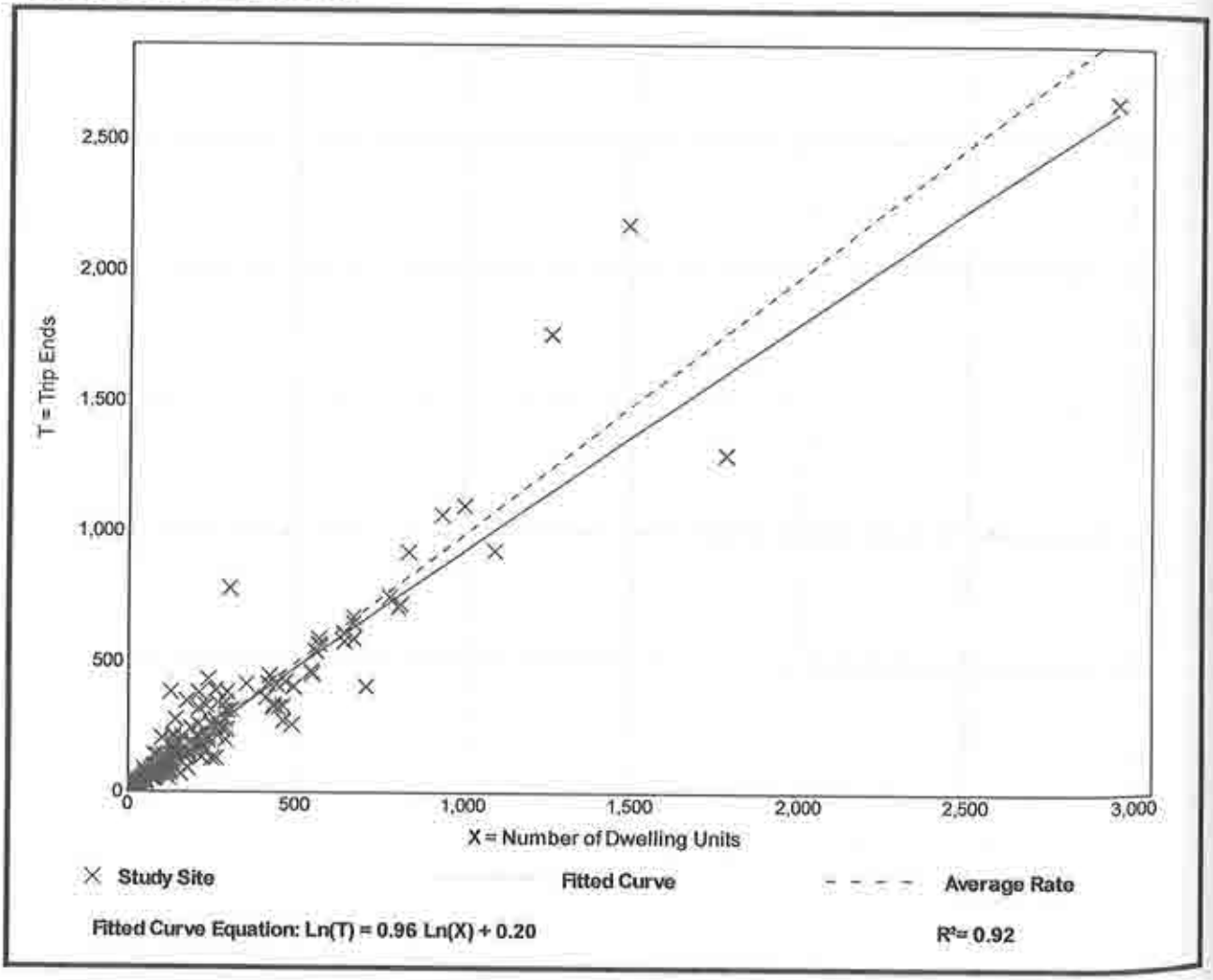
Single-Family Detached Housing
(210)

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: 190
Avg. Num. of Dwelling Units: 242
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.96 Ln(X) + 0.20

R^2= 0.92

Multifamily Housing (Low-Rise)
(220)

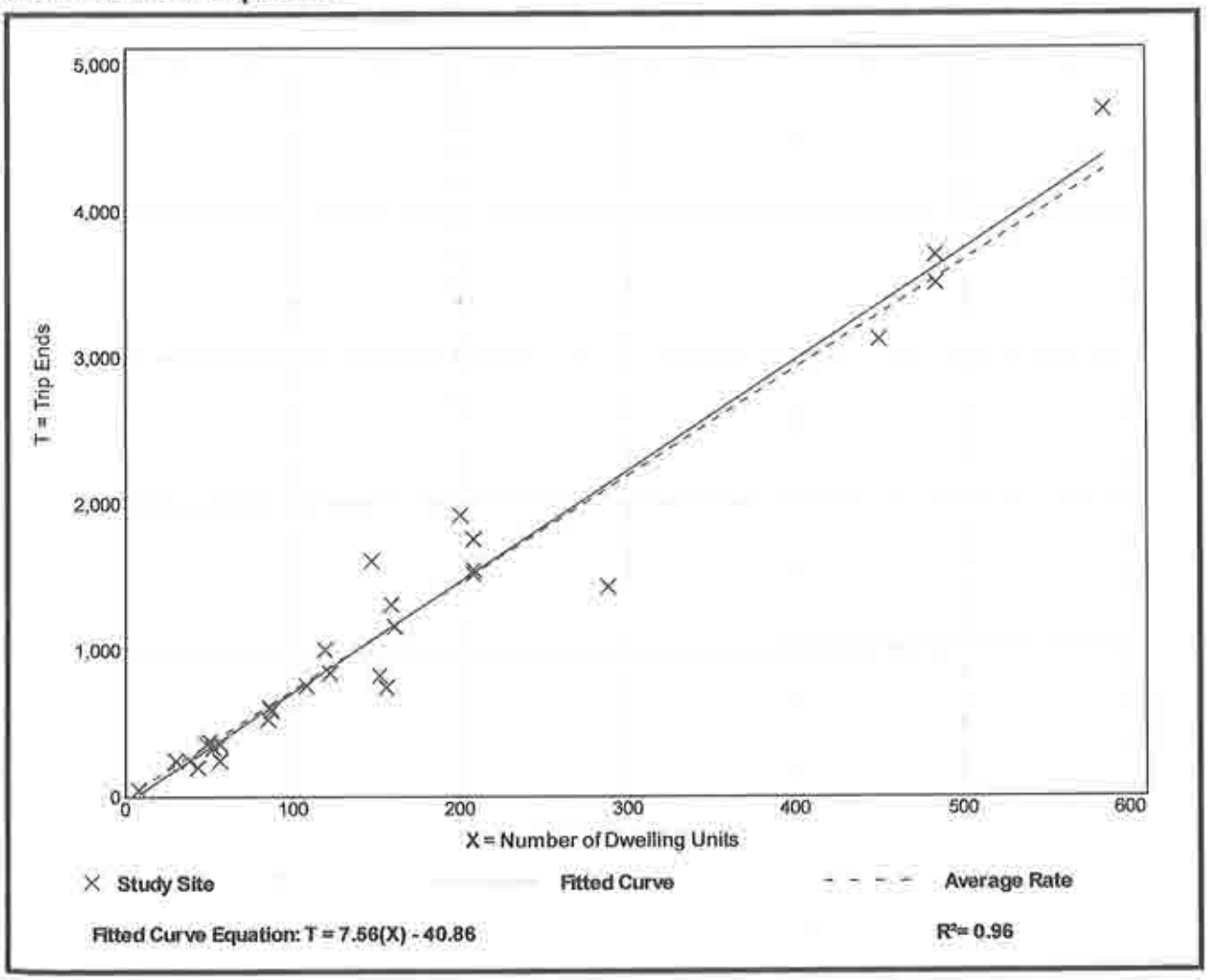
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 29
Avg. Num. of Dwelling Units: 168
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.32	4.45 - 10.97	1.31

Data Plot and Equation



Fitted Curve Equation: T = 7.56(X) - 40.86

R^2= 0.96

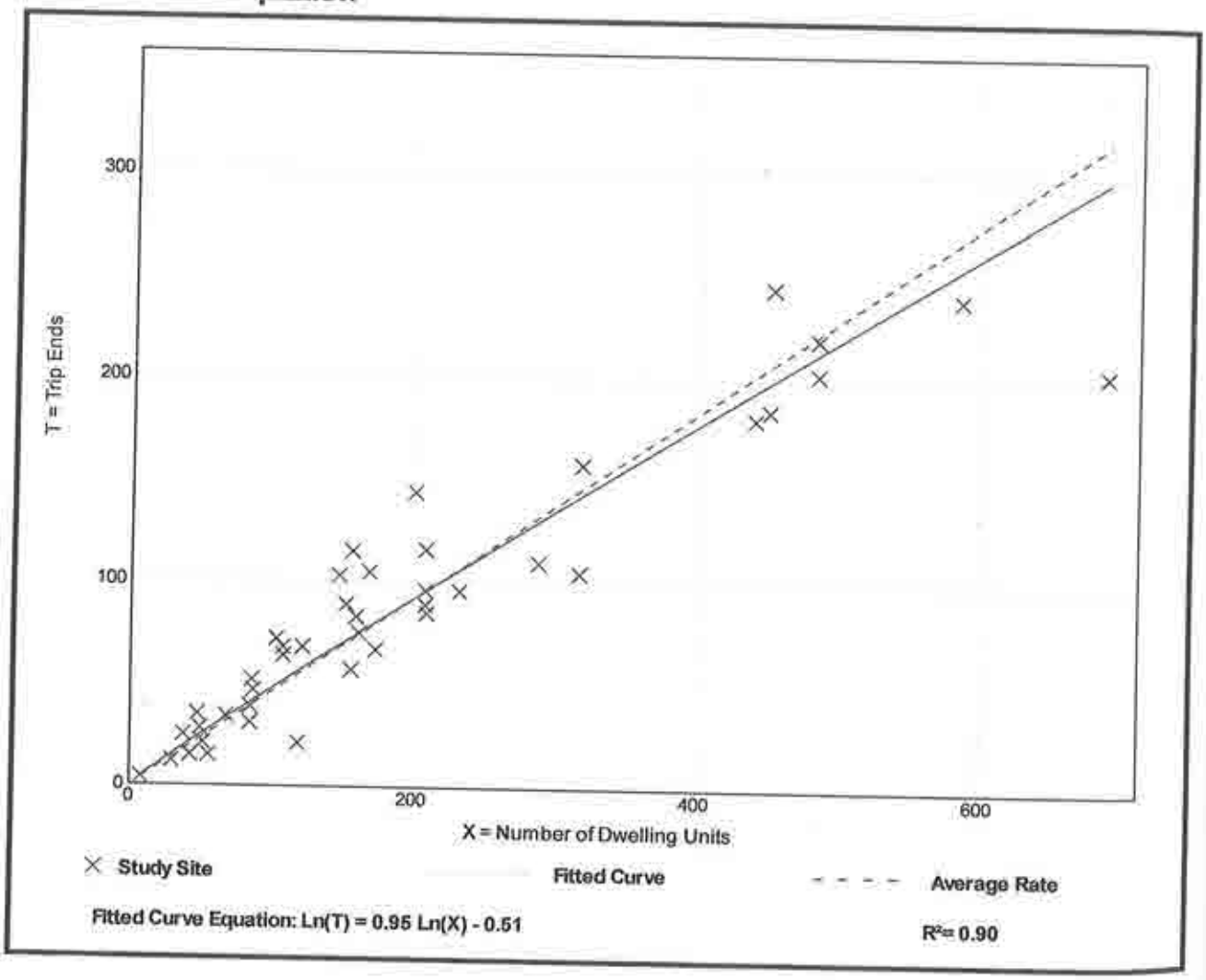
Multifamily Housing (Low-Rise)
(220)

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: 42
Avg. Num. of Dwelling Units: 199
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise)
(220)

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: 50
Avg. Num. of Dwelling Units: 187
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

Data Plot and Equation