

APPENDIX 4

TRIP GENERATION DATA

Project: Stonebridge - Phases 10-12 Date: June 20, 2007

Proj # 15056

Trip Generation

Land Use Type	Quantity	Units	AM Peak Hour			PM Peak Hour		
			Entering	Exiting	Total	Entering	Exiting	Total
PHASE 10 NORTH								
210: Single Detached Housing Peak Hour of Adjacent Street Traffic	104	units	$T=0.7(X)+9.43$ 25% 75% 100% 21 62 82			$T=e^{(0.9*LN(X)+0.53)}$ 63% 37% 100% 70 41 111		
230: Townhouse Peak Hour of Adjacent Street Traffic	199	units	$T=e^{(0.80*LN(X)+0.26)}$ 17% 83% 100% 15 74 90			$T=e^{(0.82*LN(X)+0.32)}$ 67% 33% 100% 71 35 106		
SUBTOTAL			36	136	76	141	76	
PHASE 10 SOUTH								
520: Elementary School Peak Hour of Adjacent Street Traffic	500	students	$T=e^{(1.11*LN(X)-1.73)}$ 55% 45% 100% 97 79 176			$T=30\%*e^{(1.08*LN(X)-1.90)}$ 45% 55% 100% 17 20 37		
SUBTOTAL			97	79	20	17	20	
PHASE 11								
210: Single Detached Housing Peak Hour of Adjacent Street Traffic	125	units	$T=0.7(X)+9.43$ 25% 75% 100% 24 73 97			$T=e^{(0.9*LN(X)+0.53)}$ 63% 37% 100% 83 48 131		
230: Townhouse Peak Hour of Adjacent Street Traffic	53	units	$T=e^{(0.80*LN(X)+0.26)}$ 17% 83% 100% 5 26 31			$T=e^{(0.82*LN(X)+0.32)}$ 67% 33% 100% 24 12 36		
SUBTOTAL			30	98	60	106	60	
PHASE 12								
210: Single Detached Housing Peak Hour of Adjacent Street Traffic	101	units	$T=0.7(X)+9.43$ 25% 75% 100% 20 60 80			$T=e^{(0.9*LN(X)+0.53)}$ 63% 37% 100% 68 40 108		
230: Townhouse Peak Hour of Adjacent Street Traffic	185	units	$T=e^{(0.80*LN(X)+0.26)}$ 17% 83% 100% 14 70 84			$T=e^{(0.82*LN(X)+0.32)}$ 67% 33% 100% 67 33 100		
SUBTOTAL			34	130	73	135	73	
TOTAL			196	444	229	399	229	

Single-Family Detached Housing (210)

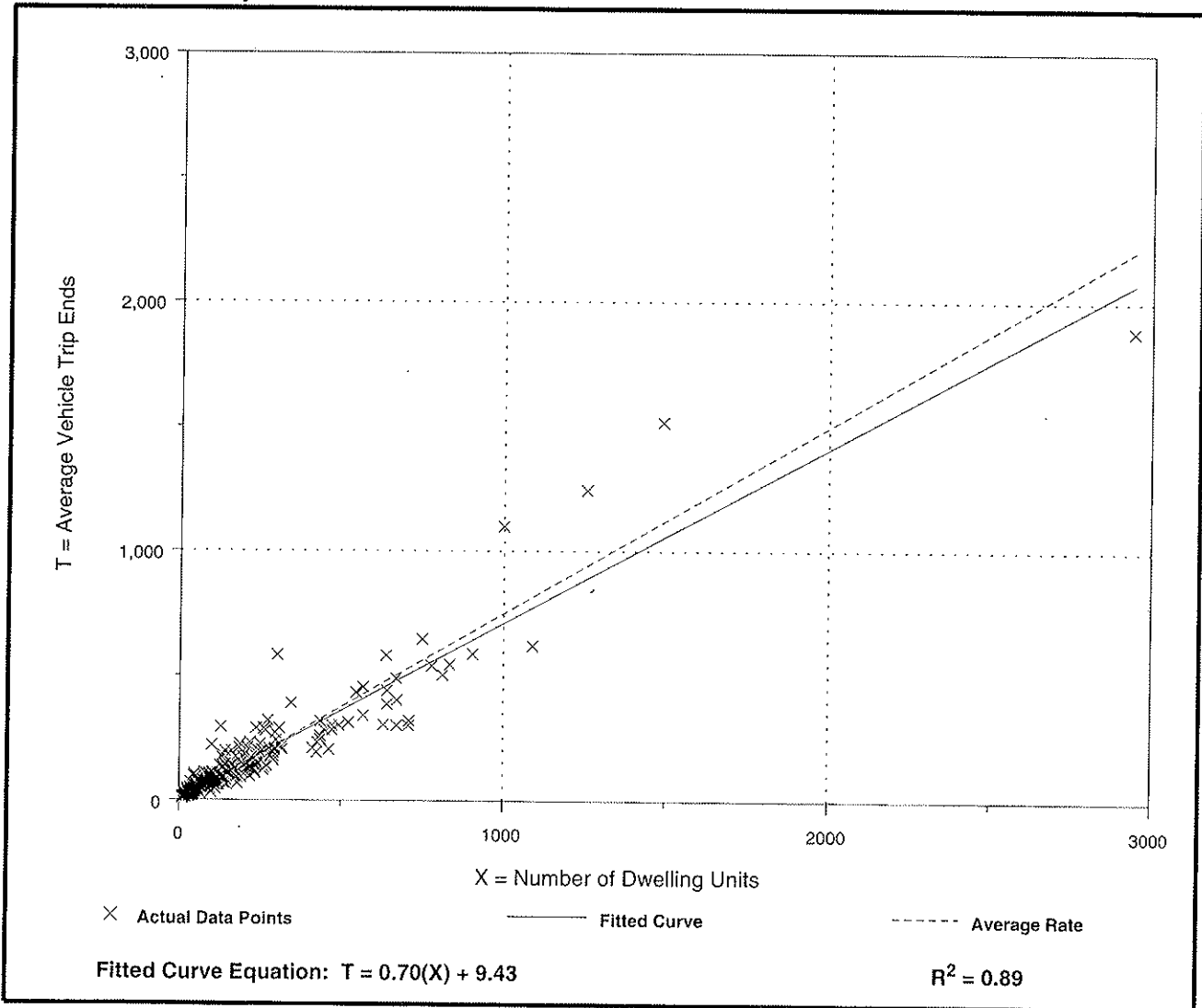
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 274
 Avg. Number of Dwelling Units: 201
 Directional Distribution: 25% entering, 75% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.75	0.33 - 2.27	0.90

Data Plot and Equation



Single-Family Detached Housing (210)

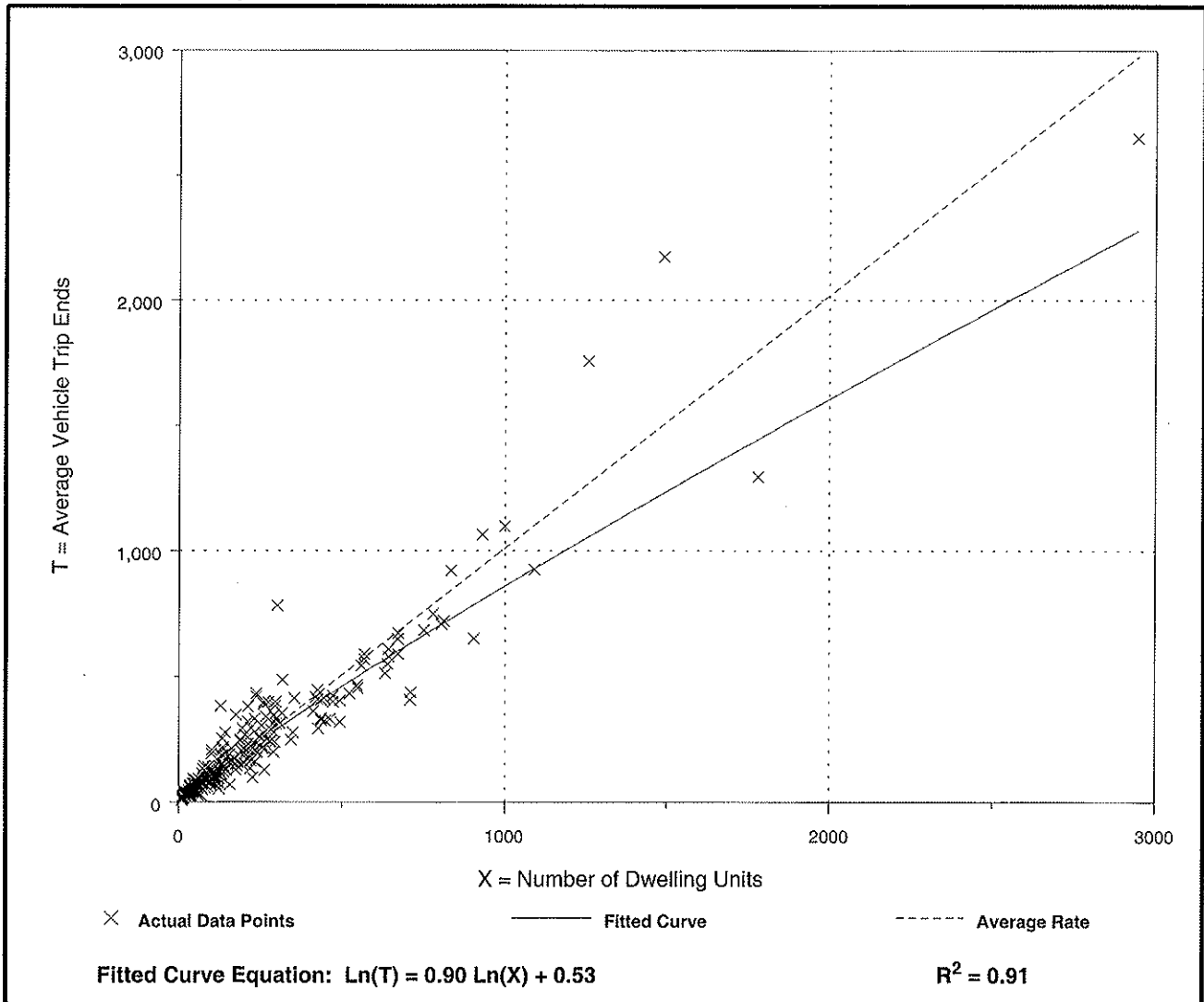
Average Vehicle Trip Ends vs: Dwelling Units
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.

Number of Studies: 302
 Avg. Number of Dwelling Units: 214
 Directional Distribution: 63% entering, 37% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.01	0.42 - 2.98	1.05

Data Plot and Equation



Residential Condominium/Townhouse (230)

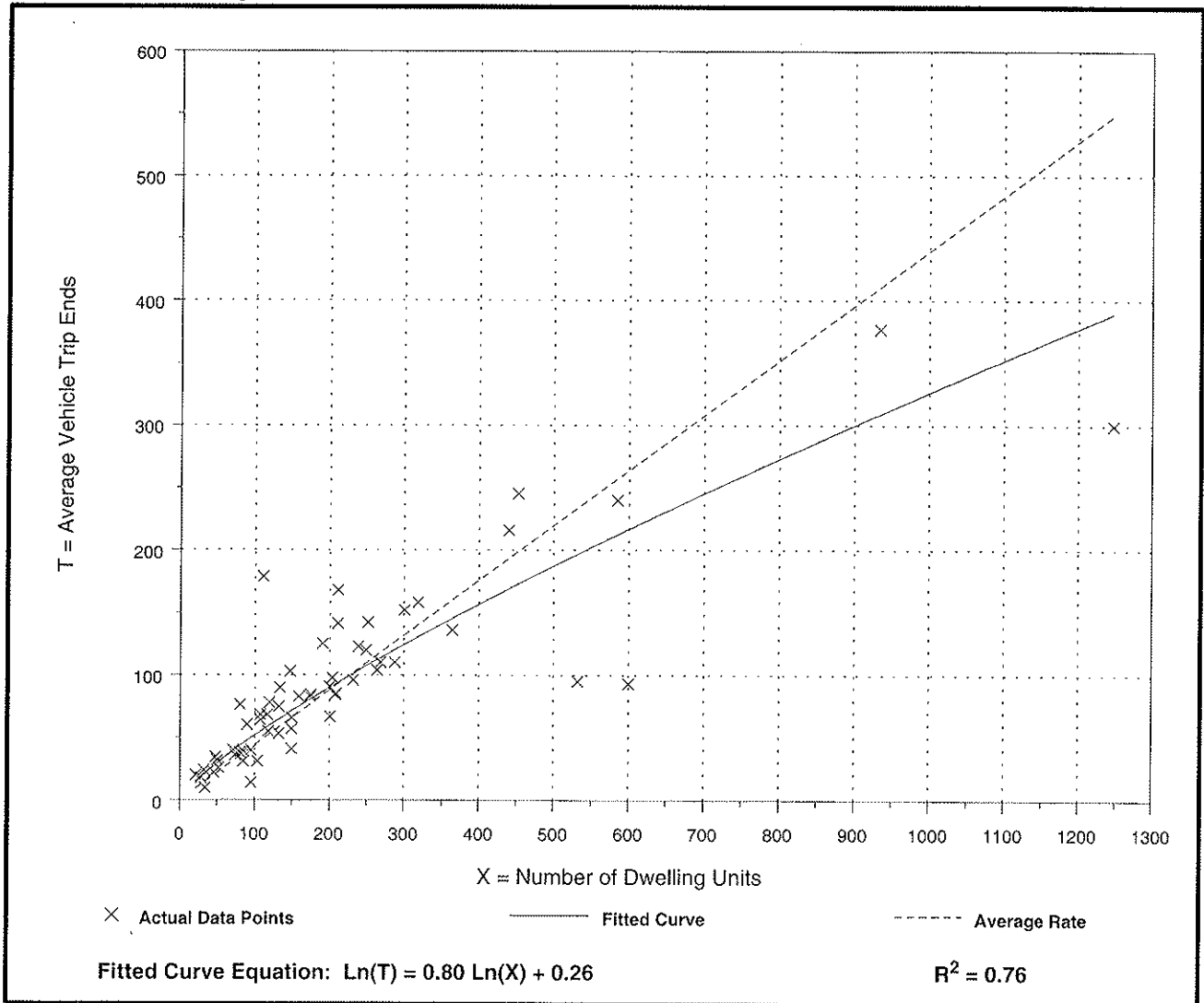
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 59
 Avg. Number of Dwelling Units: 213
 Directional Distribution: 17% entering, 83% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.61	0.69

Data Plot and Equation



Residential Condominium/Townhouse (230)

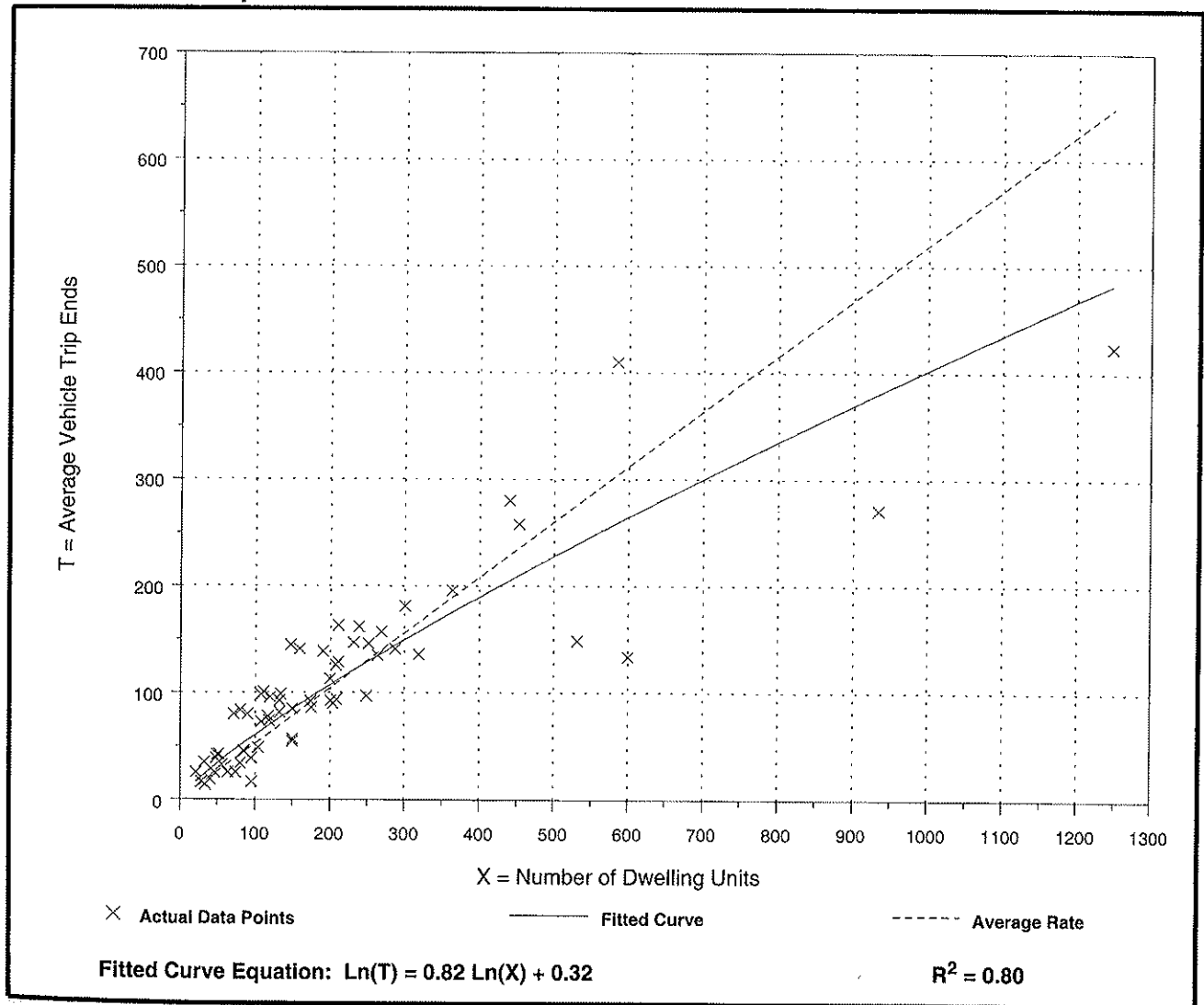
Average Vehicle Trip Ends vs: Dwelling Units
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.

Number of Studies: 62
 Avg. Number of Dwelling Units: 205
 Directional Distribution: 67% entering, 33% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.52	0.18 - 1.24	0.75

Data Plot and Equation



Elementary School (520)

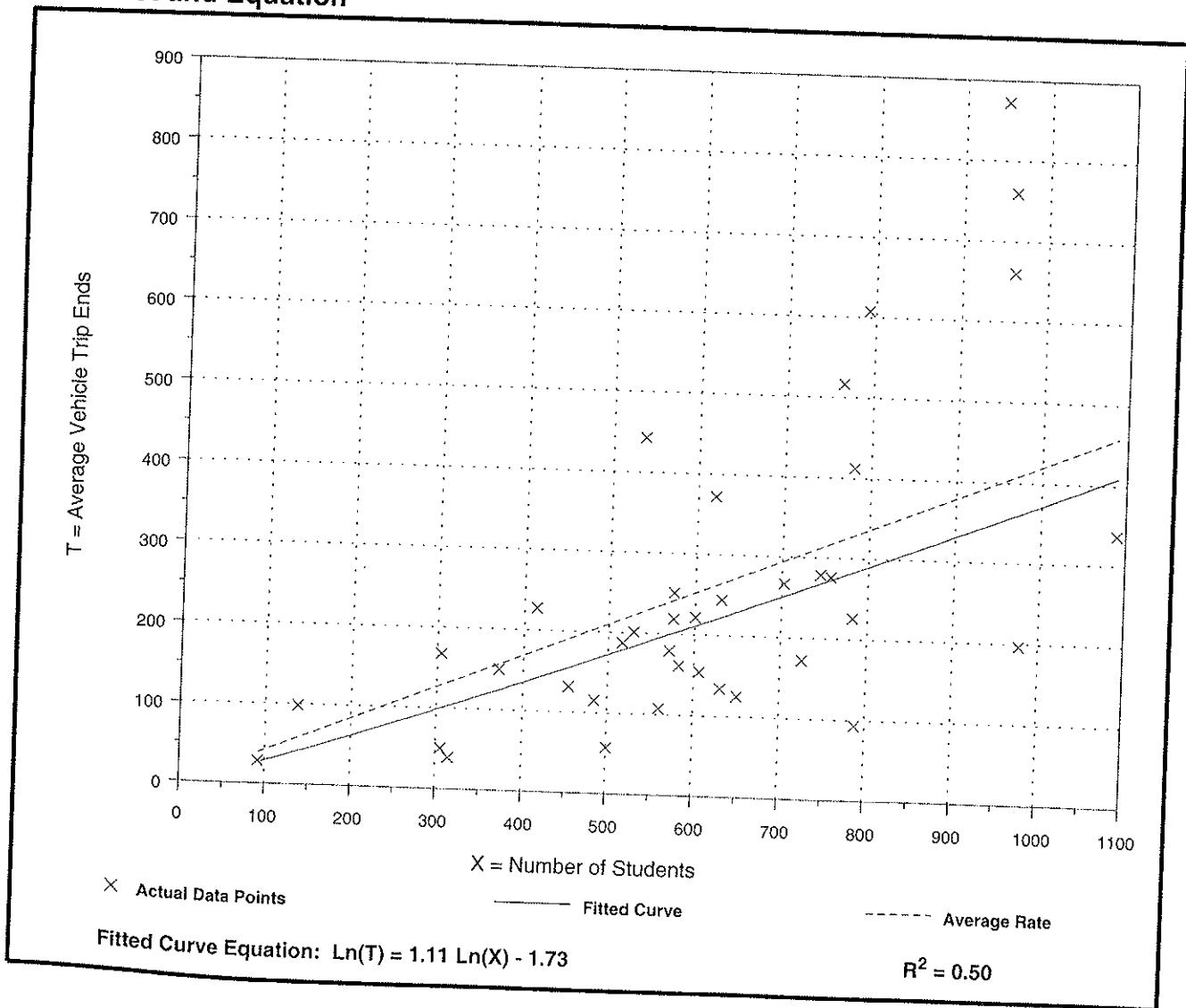
Average Vehicle Trip Ends vs: Students
On a: Weekday,
A.M. Peak Hour

Number of Studies: 38
 Average Number of Students: 614
 Directional Distribution: 55% entering, 45% exiting

Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.42	0.11 - 0.92	0.68

Data Plot and Equation



Elementary School (520)

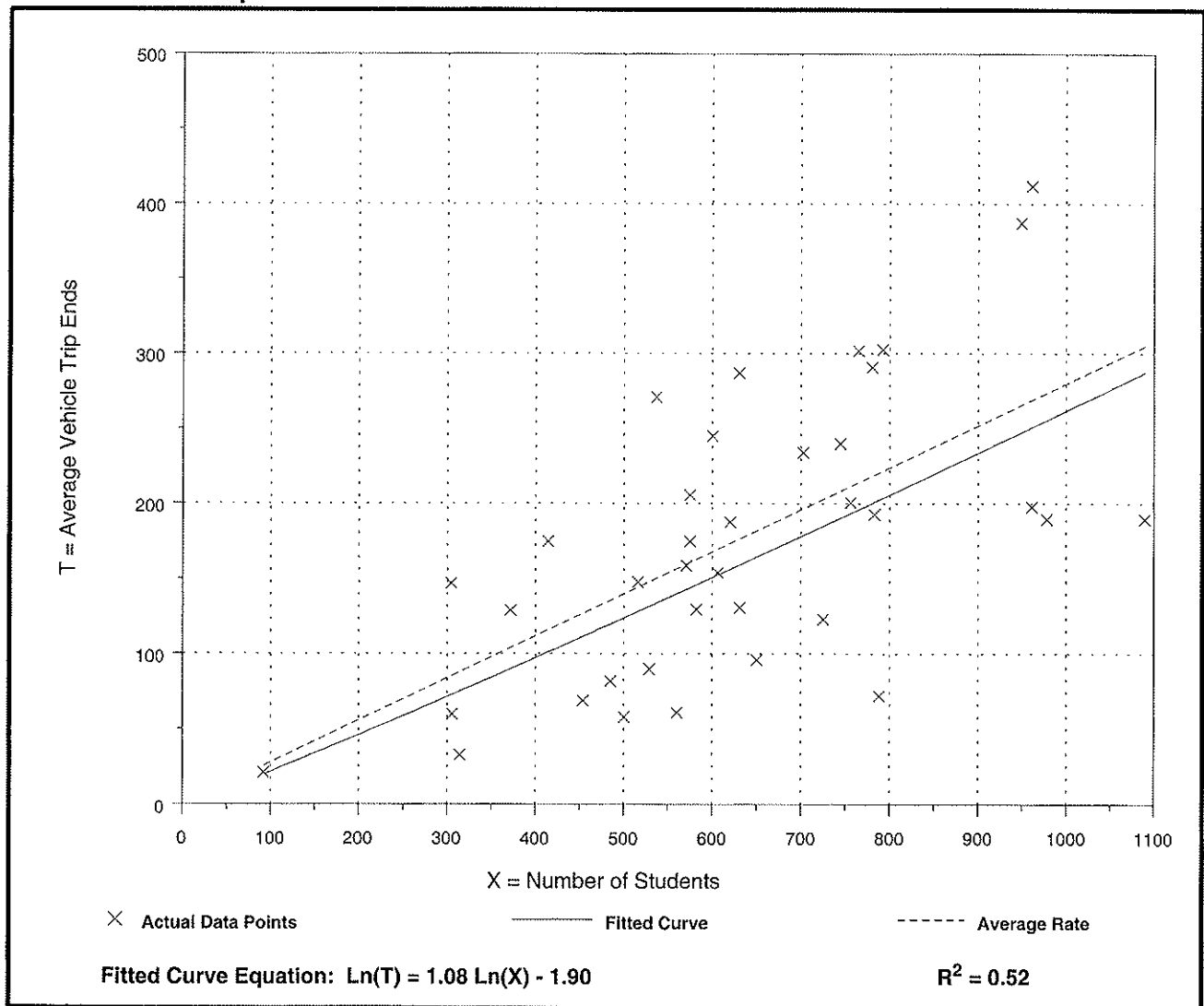
Average Vehicle Trip Ends vs: **Students**
 On a: **Weekday,**
P.M. Peak Hour of Generator

Number of Studies: 37
 Average Number of Students: 627
 Directional Distribution: 45% entering, 55% exiting

Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.28	0.09 - 0.50	0.54

Data Plot and Equation





ELEMENTARY SCHOOL PM REDUCTION FACTOR

* APPLY RATIO OF TRAFFIC @ PM PEAK ON ADJACENT / TRAFFIC @ PM PEAK OF GENERATOR FROM HIGH SCHOOL DATA TO THE TRIPS GENERATED BY THE ELEMENTARY SCHOOL @ PM PEAK OF GENERATOR.

TRIPS GENERATED BY HIGH SCHOOL @ PM PEAK ON ADJACENT STREET = 91 veh/h.

TRIPS GENERATED BY HIGH SCHOOL @ PM PEAK OF GENERATOR:

$$\ln(T) = 0.62 \ln(x) + 1.45$$

$$\Rightarrow \ln(T) = 0.62 \ln(647) + 1.45$$

$$T = 236 \text{ veh/h}$$

$$\therefore \text{PROPORTION} = \frac{91}{236} = 0.385 \approx 0.4$$

APPLY FURTHER REDUCTION OF 10% TO ACCOUNT FOR EARLIER SCHOOL CLOSING.

$$\Rightarrow \text{REDUCTION FACTOR} = 0.4 - 0.1 \\ = 0.3$$