

Land Use: 150 Warehousing

Description

A warehouse is primarily devoted to the storage of materials, but it may also include office and maintenance areas. High-cube transload and short-term storage warehouse (Land Use 154), high-cube fulfillment center warehouse (Land Use 155), high-cube parcel hub warehouse (Land Use 156), and high-cube cold storage warehouse (Land Use 157) are related uses.

Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the 13 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:30 a.m. and 12:30 p.m. and 3:00 and 4:00 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, and Texas.

Source Numbers

184, 331, 406, 411, 443, 579, 583, 596, 598, 611, 619, 642, 752, 869, 875, 876, 914, 940

Warehousing (150)

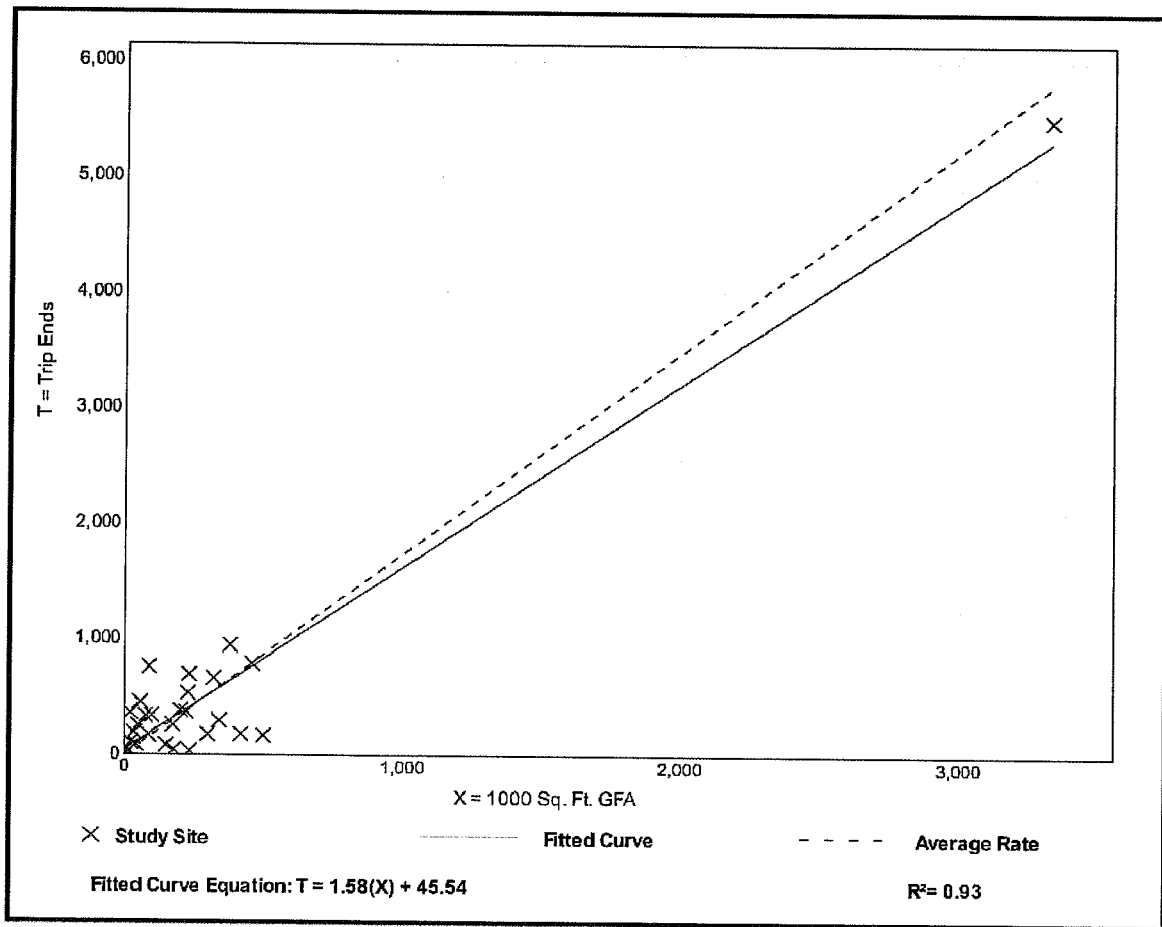
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 29
1000 Sq. Ft. GFA: 285
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.74	0.15 - 16.93	1.55

Data Plot and Equation



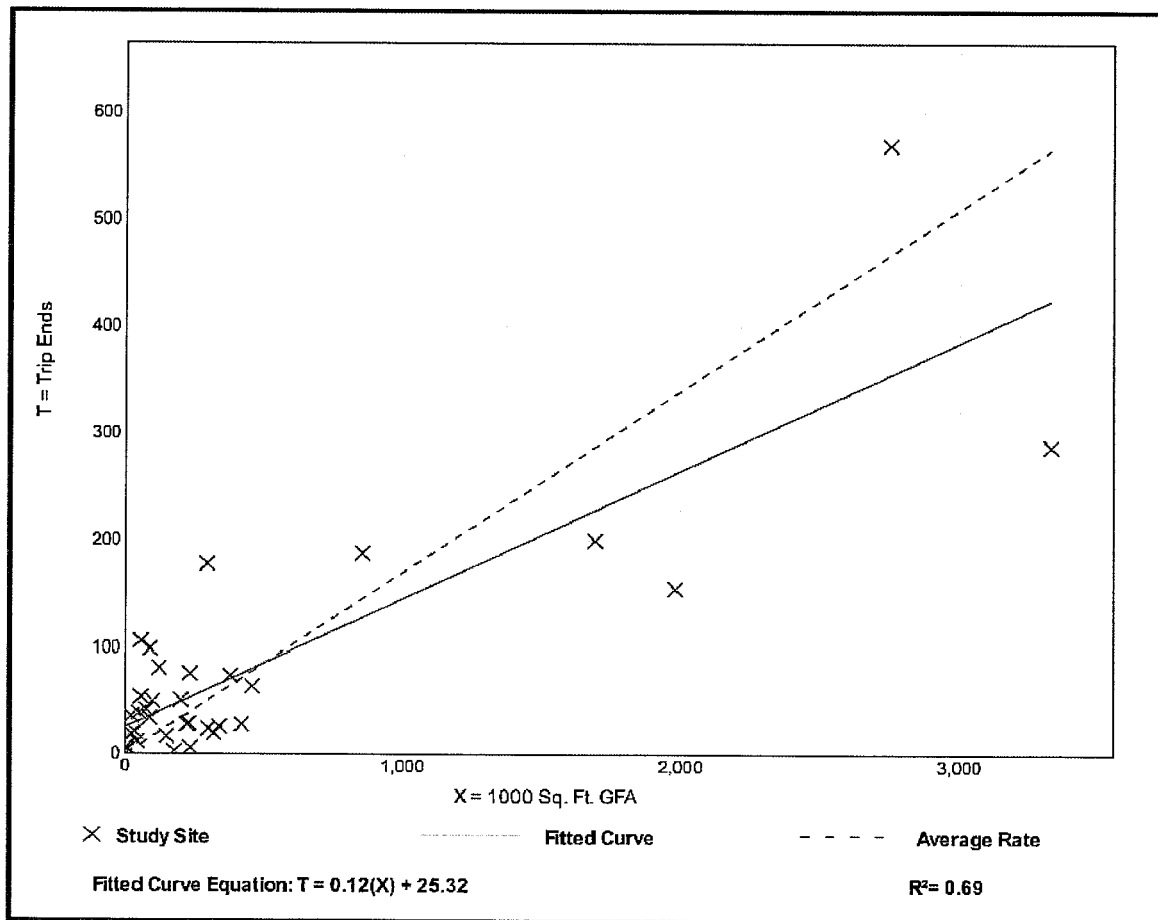
Warehousing (150)

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: 34
 1000 Sq. Ft. GFA: 451
 Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.20

Data Plot and Equation



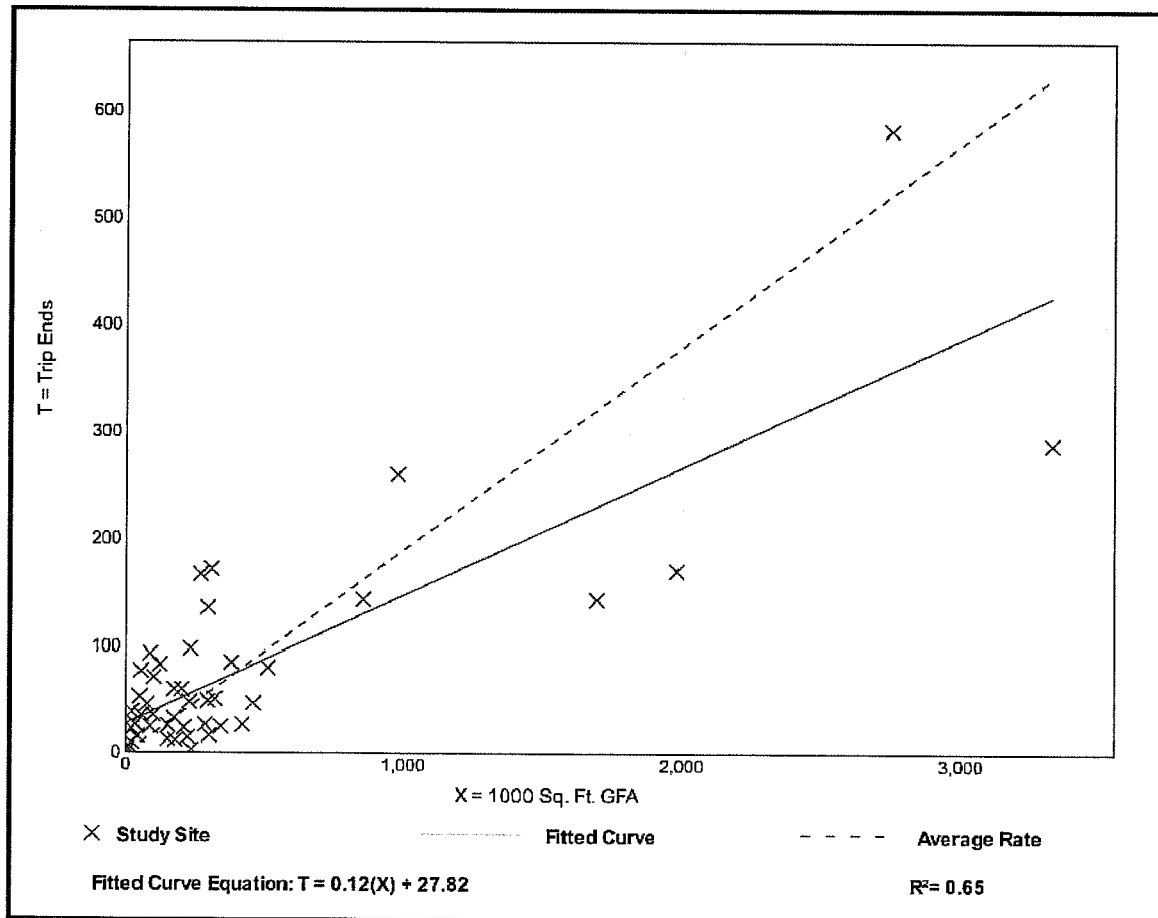
Warehousing (150)

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: 47
 1000 Sq. Ft. GFA: 400
 Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 1.80	0.18

Data Plot and Equation



Warehousing (150)

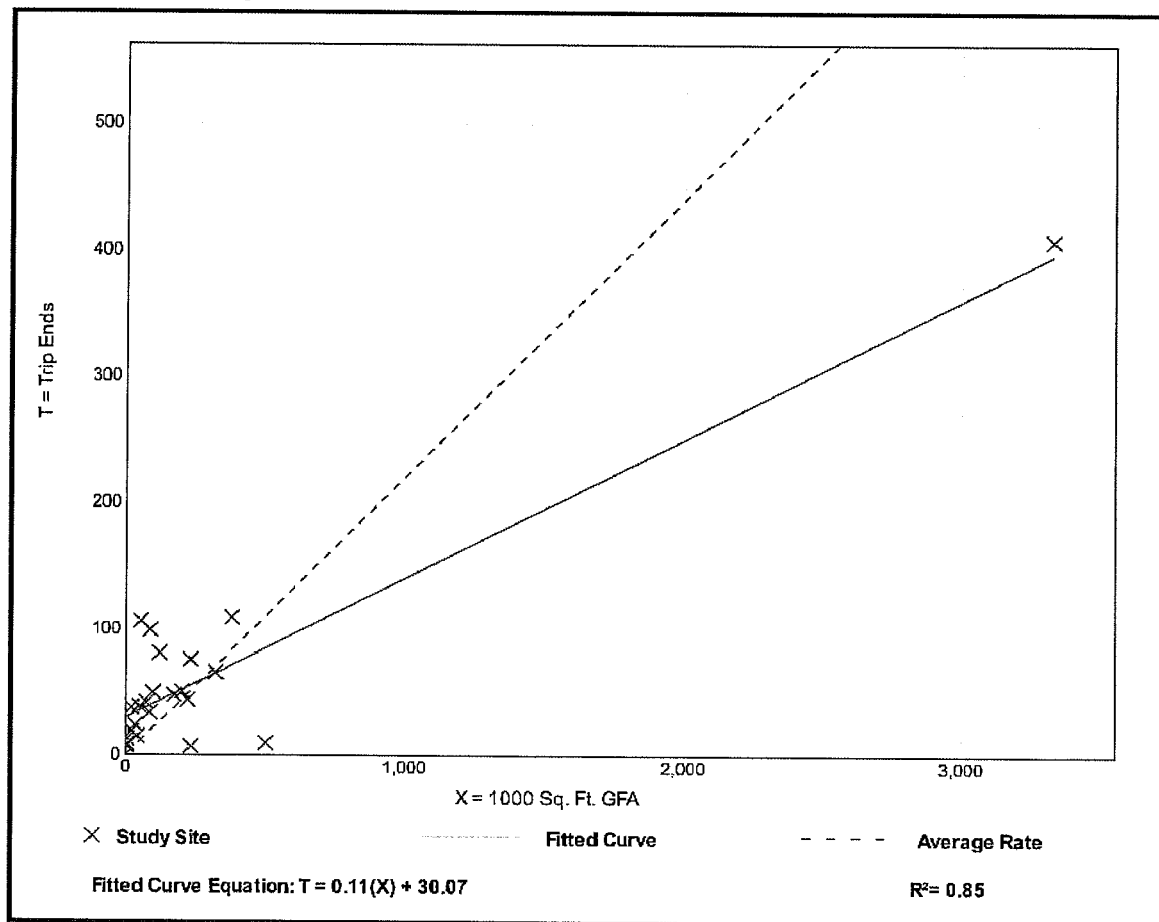
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 23
 1000 Sq. Ft. GFA: 274
 Directional Distribution: 65% entering, 35% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.22	0.02 - 2.08	0.28

Data Plot and Equation



Warehousing (150)

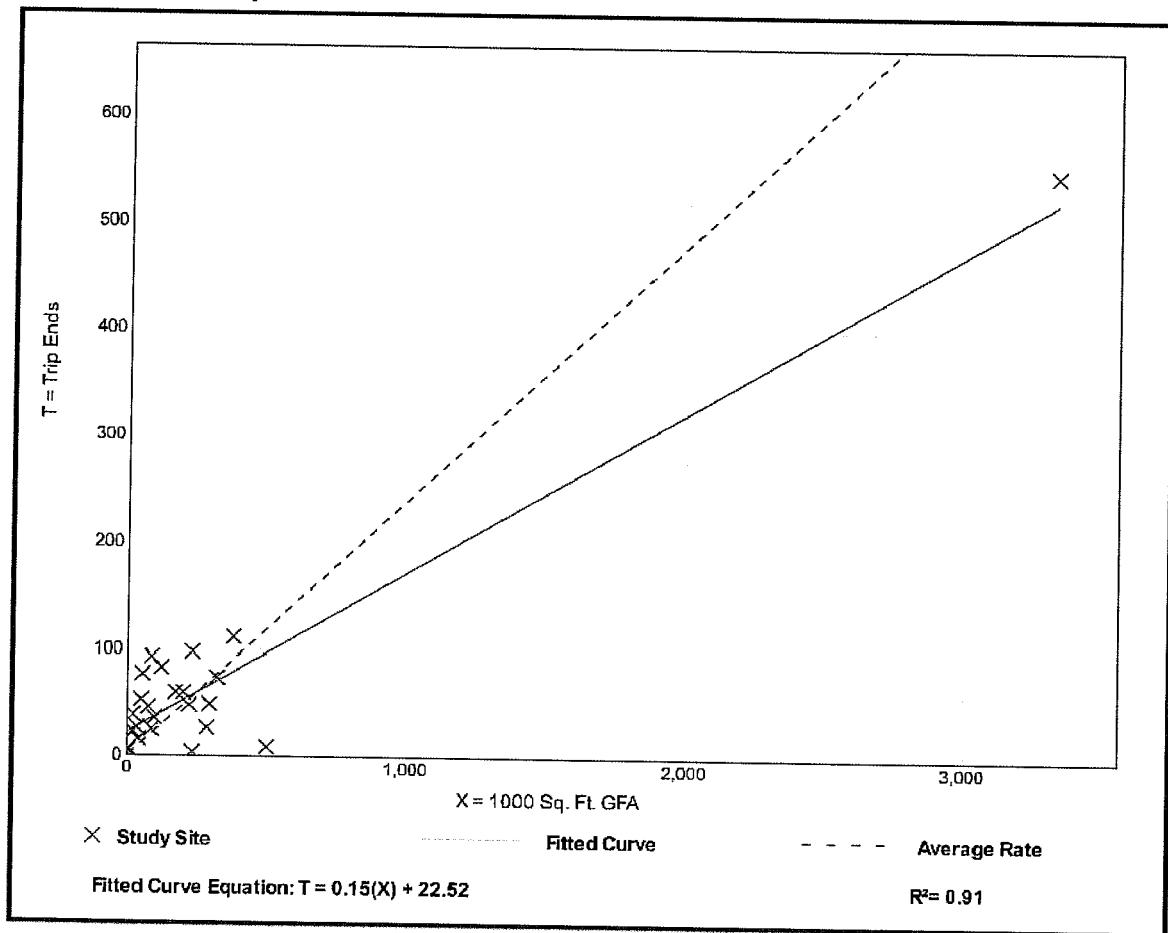
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 25
1000 Sq. Ft. GFA: 275
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.24	0.02 - 1.80	0.24

Data Plot and Equation



Warehousing (150)

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

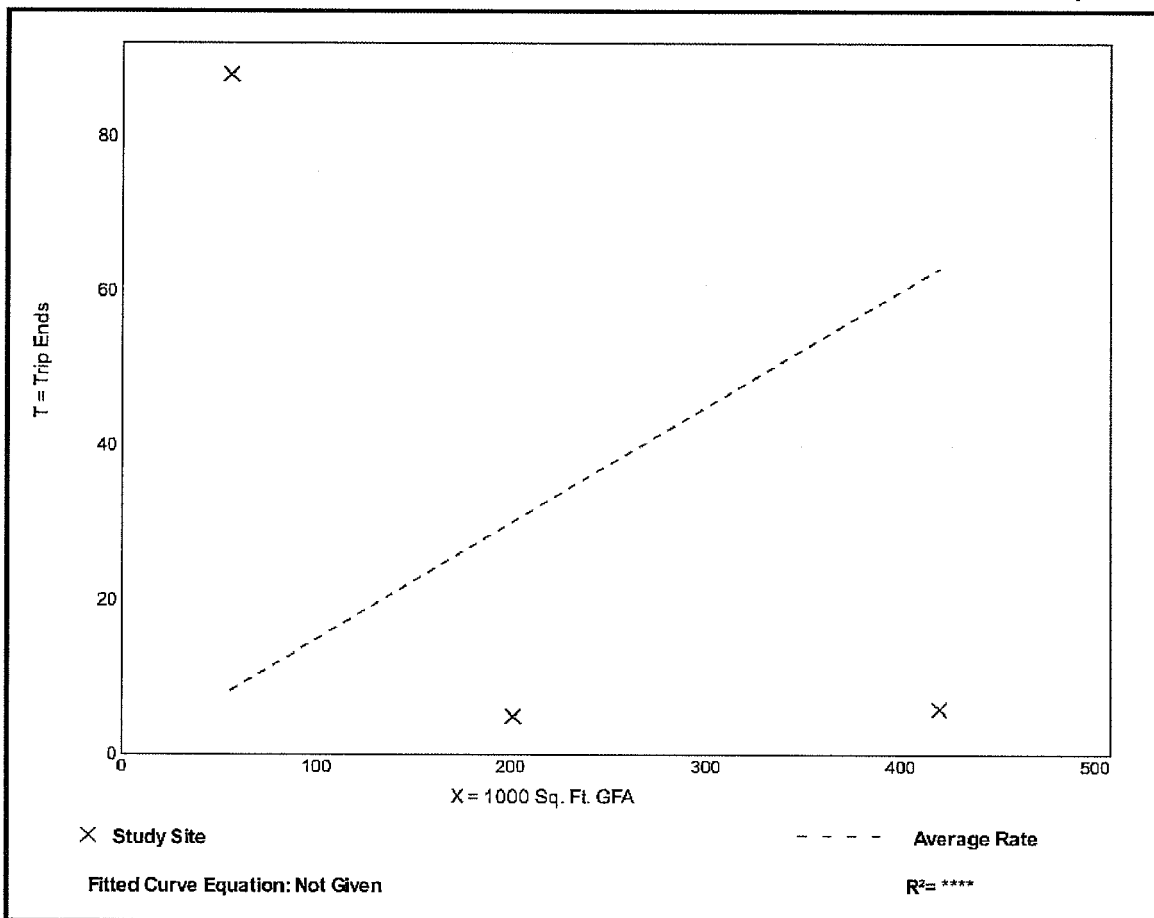
Setting/Location: General Urban/Suburban
Number of Studies: 3
1000 Sq. Ft. GFA: 226
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.15	0.01 - 1.58	1.12

Data Plot and Equation

Caution – Small Sample Size



Warehousing (150)

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

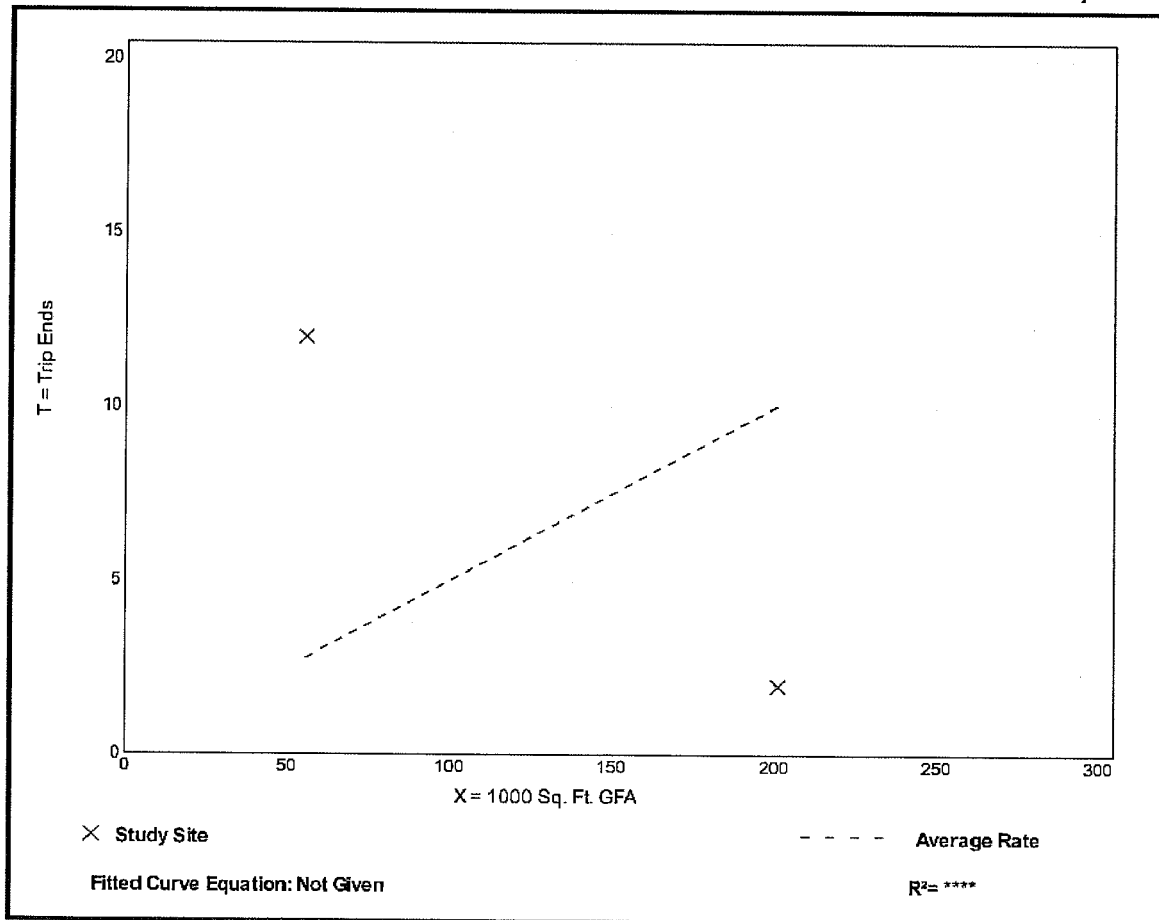
Setting/Location: General Urban/Suburban
 Number of Studies: 2
 1000 Sq. Ft. GFA: 129
 Directional Distribution: 64% entering, 36% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.05	0.01 - 0.22	*

Data Plot and Equation

Caution – Small Sample Size



Warehousing (150)

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

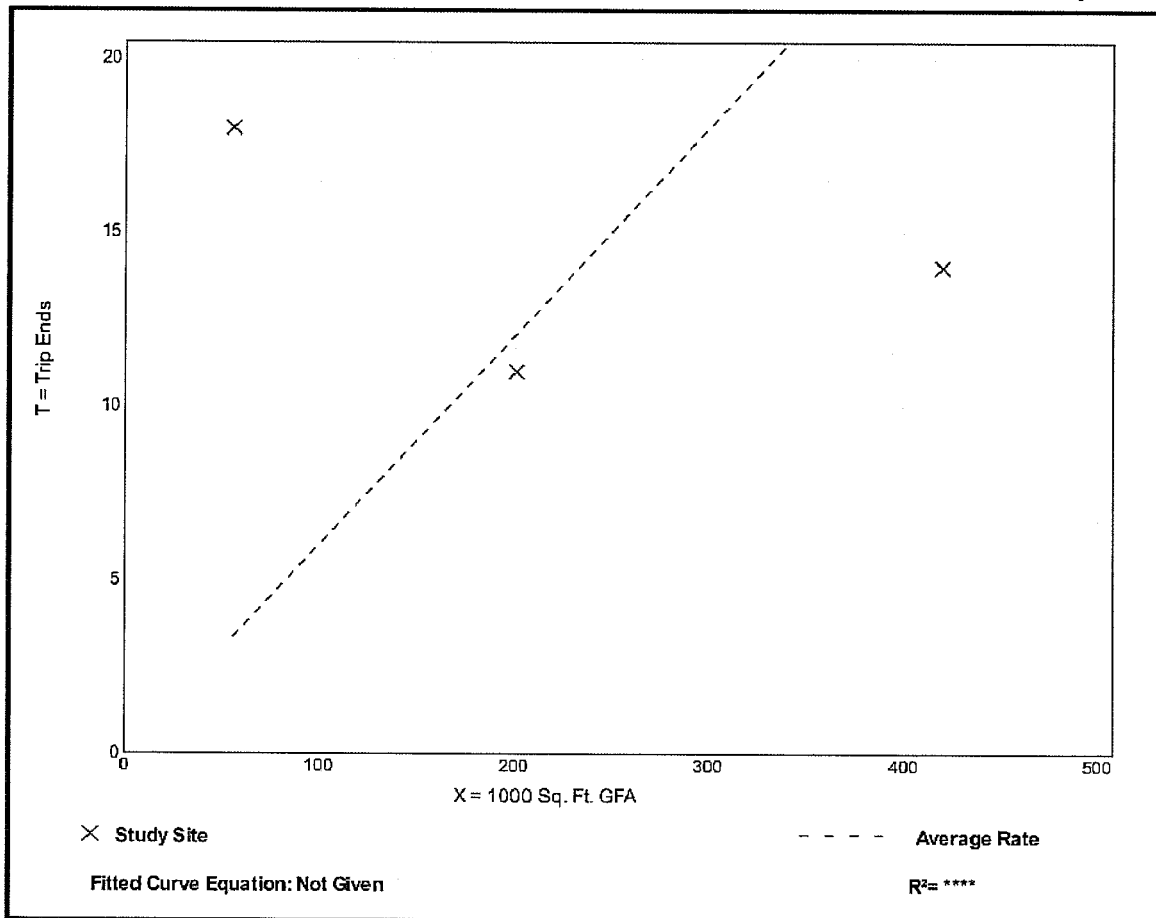
Setting/Location: General Urban/Suburban
Number of Studies: 3
1000 Sq. Ft. GFA: 226
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.06	0.03 - 0.32	0.23

Data Plot and Equation

Caution – Small Sample Size



Warehousing (150)

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

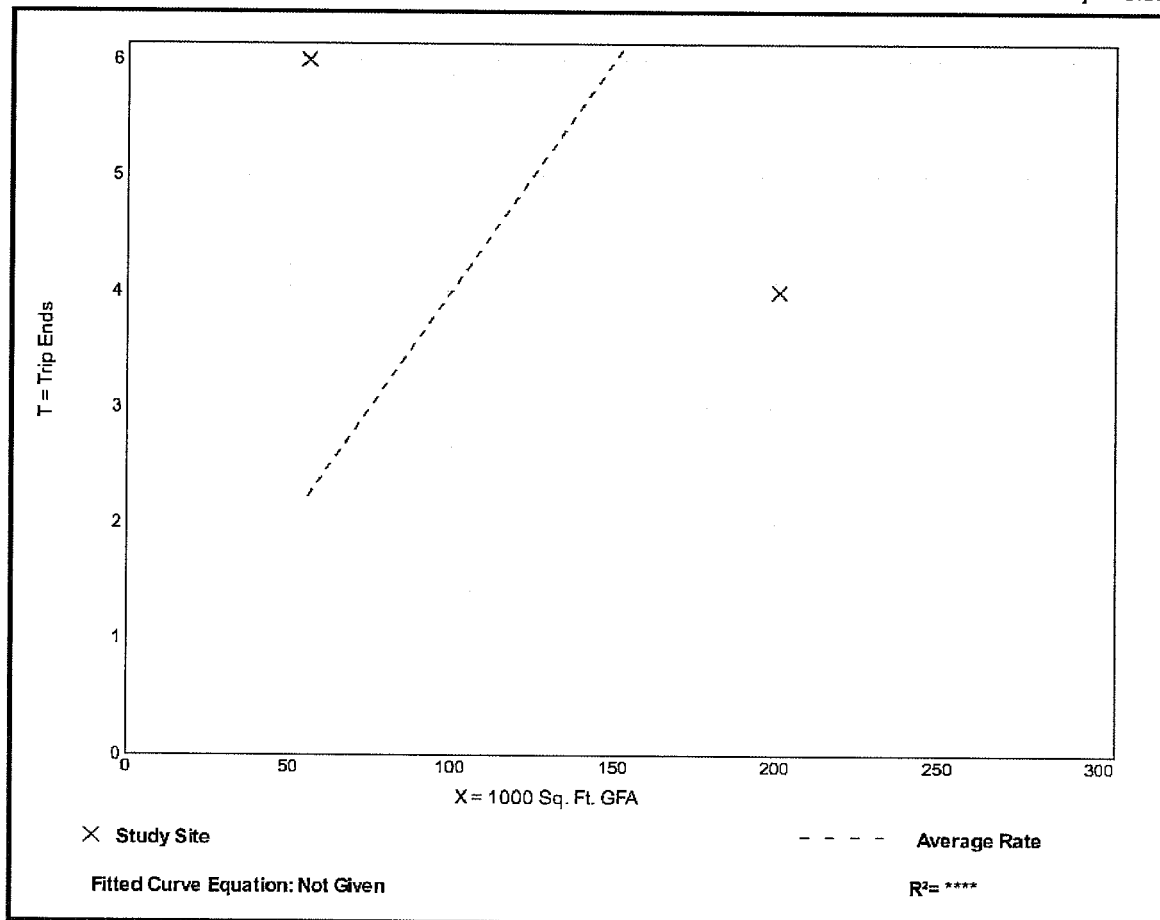
Setting/Location: General Urban/Suburban
 Number of Studies: 2
 1000 Sq. Ft. GFA: 129
 Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.04	0.02 - 0.11	*

Data Plot and Equation

Caution – Small Sample Size



Warehousing (150)

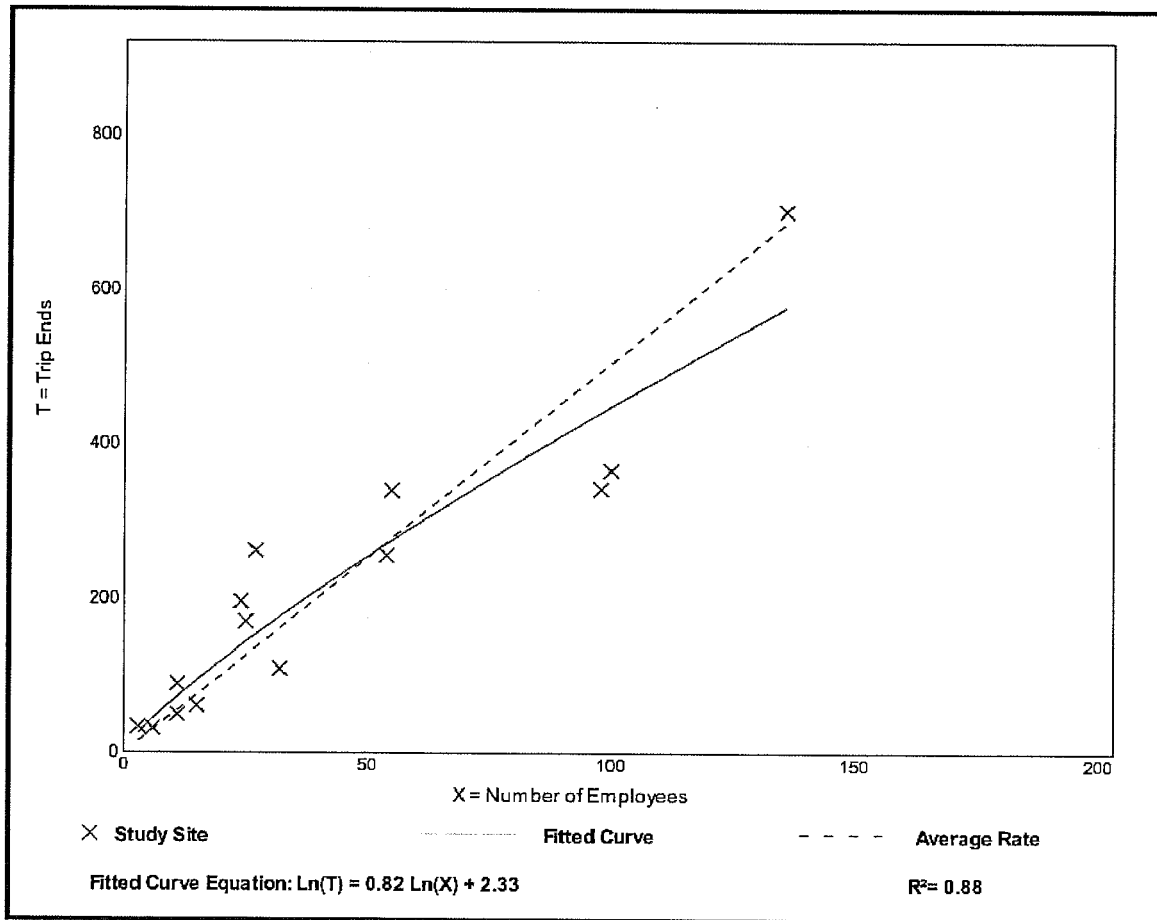
Vehicle Trip Ends vs: Employees
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 14
Avg. Num. of Employees: 43
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
5.05	3.44 - 11.33	1.77

Data Plot and Equation



Warehousing (150)

Vehicle Trip Ends vs: Employees

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: 14

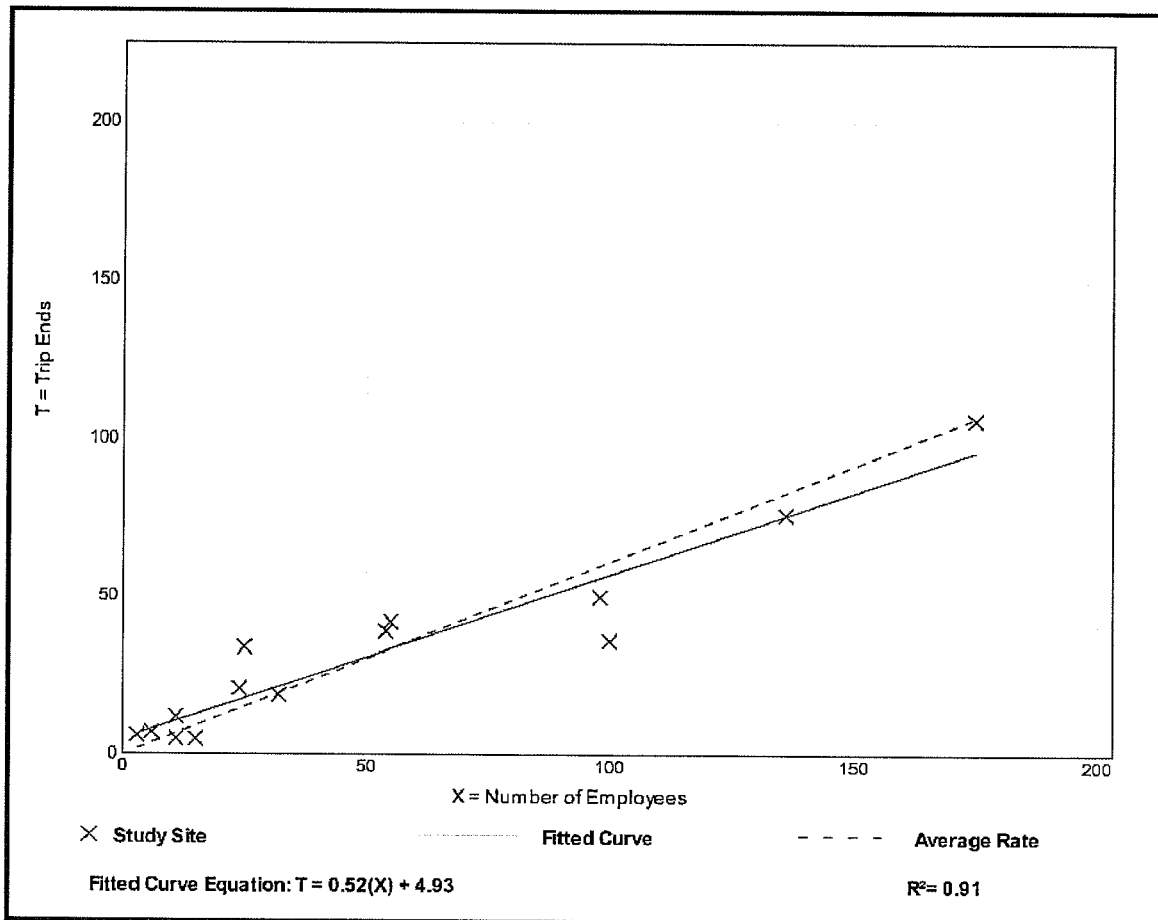
Avg. Num. of Employees: 53

Directional Distribution: 72% entering, 28% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.61	0.33 - 2.00	0.23

Data Plot and Equation



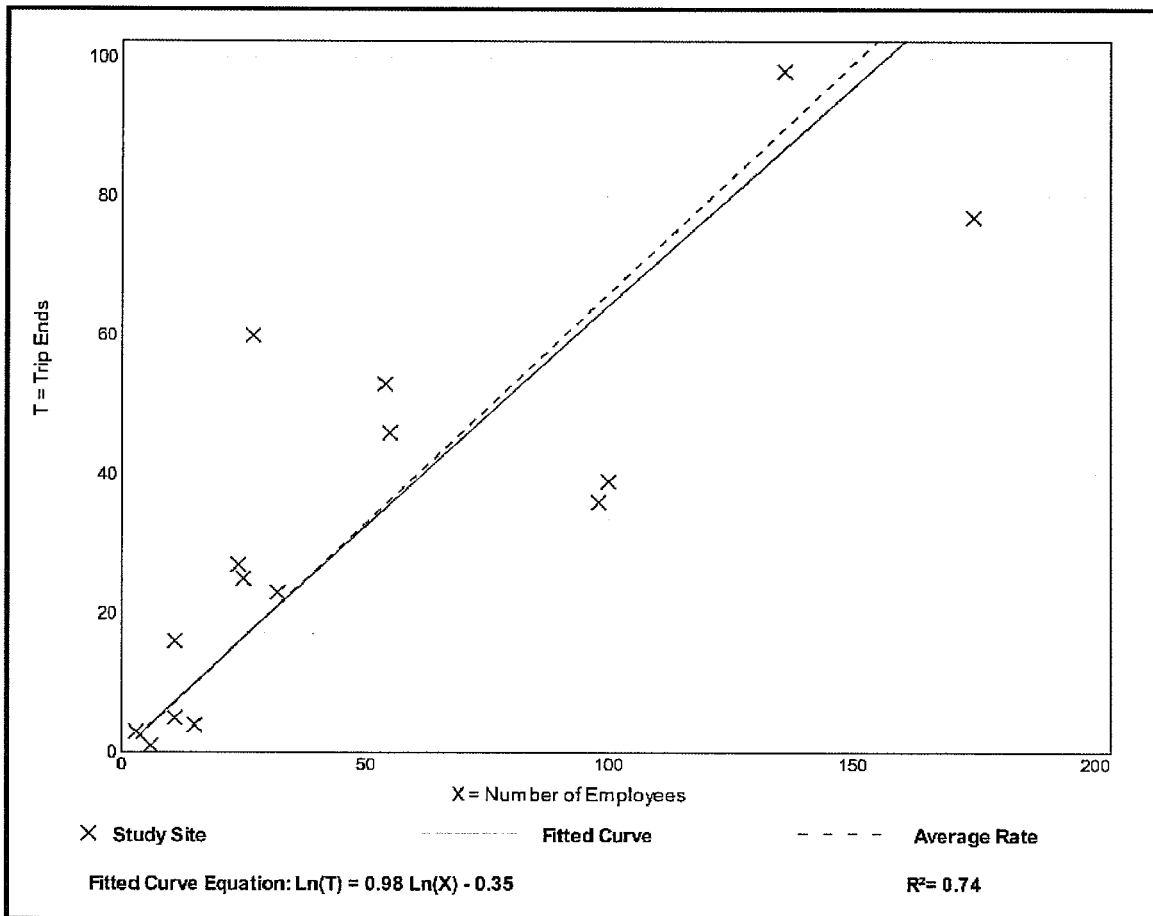
Warehousing (150)

Vehicle Trip Ends vs: Employees
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: 15
 Avg. Num. of Employees: 51
 Directional Distribution: 36% entering, 65% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.66	0.17 - 2.22	0.40

Data Plot and Equation



Warehousing (150)

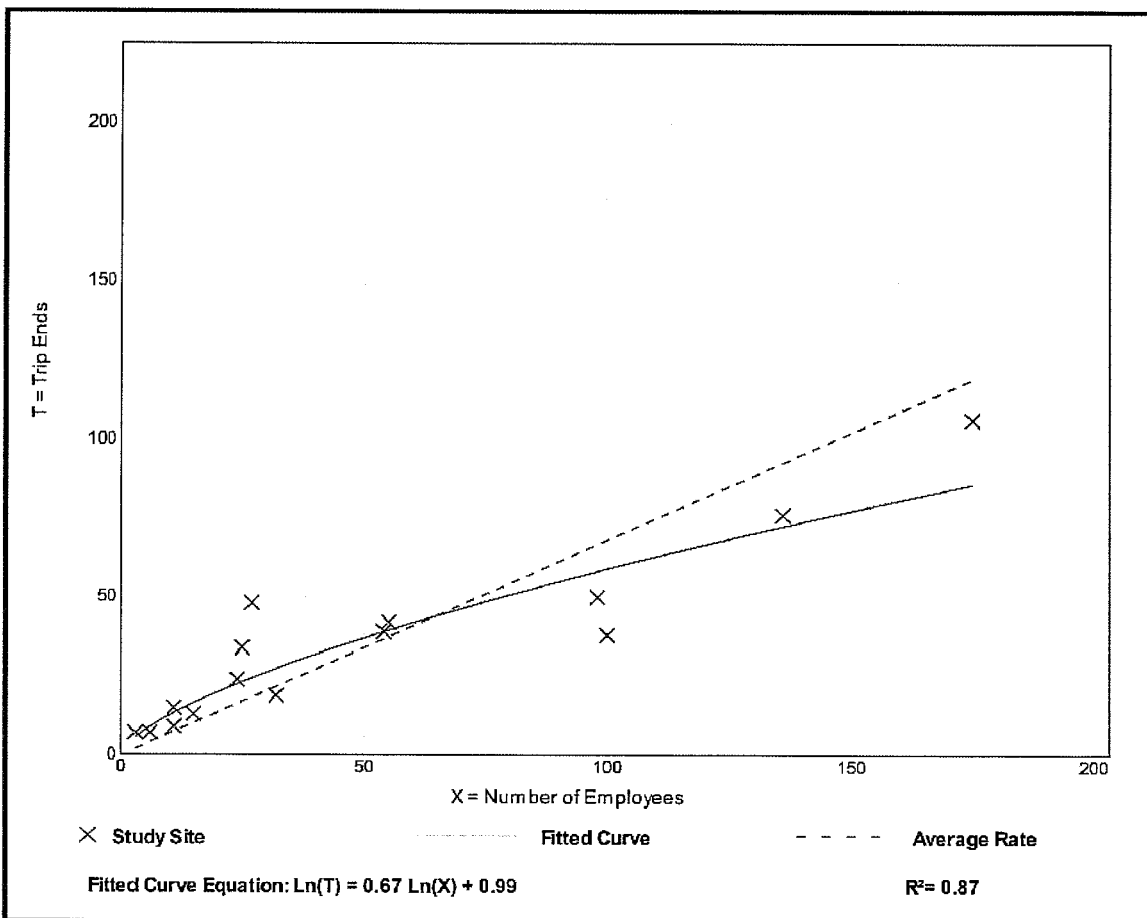
Vehicle Trip Ends vs: Employees
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 15
 Avg. Num. of Employees: 51
 Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.68	0.38 - 2.33	0.33

Data Plot and Equation



Warehousing (150)

Vehicle Trip Ends vs: Employees
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 15
 Avg. Num. of Employees: 51
 Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.68	0.37 - 2.22	0.40

Data Plot and Equation

