# Figure V-I: Sample Data Page

Land Use → **Waterport/Marine Terminal (010)** ← ITE Land Use Code

**Average Vehicle Trip Ends vs: Berths**
**On a: Weekday** ← Independent Variable

Sample Size

Average size of independent variable

Number of Studies: 7
Average Number of Berths: 3
Directional Distribution: 50% entering, 50% exiting

Percent of total trip ends entering and exiting site during indicated time period

## Trip Generation per Berth

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 171.52 | 38.60 - 338.57 | 130.72 |

## Data Plot and Equation

Weighted Trip Generation Rate— The weighted average number of trip ends per one unit of independent variable (in this example, per berth).

Minimum and maximum trip generation rates from the entire range of studies reported.

The standard deviation estimates the difference among trip generation rates in all studies for a land use and independent variable.



T = Average Vehicle Trip Ends
X = Number of Berths

× Actual Data Points          —— Fitted Curve          ----- Average Rate

Dependent Variable

Fitted Curve Equation: T = 298.56(X) - 417.40

$R^2 = 0.58$
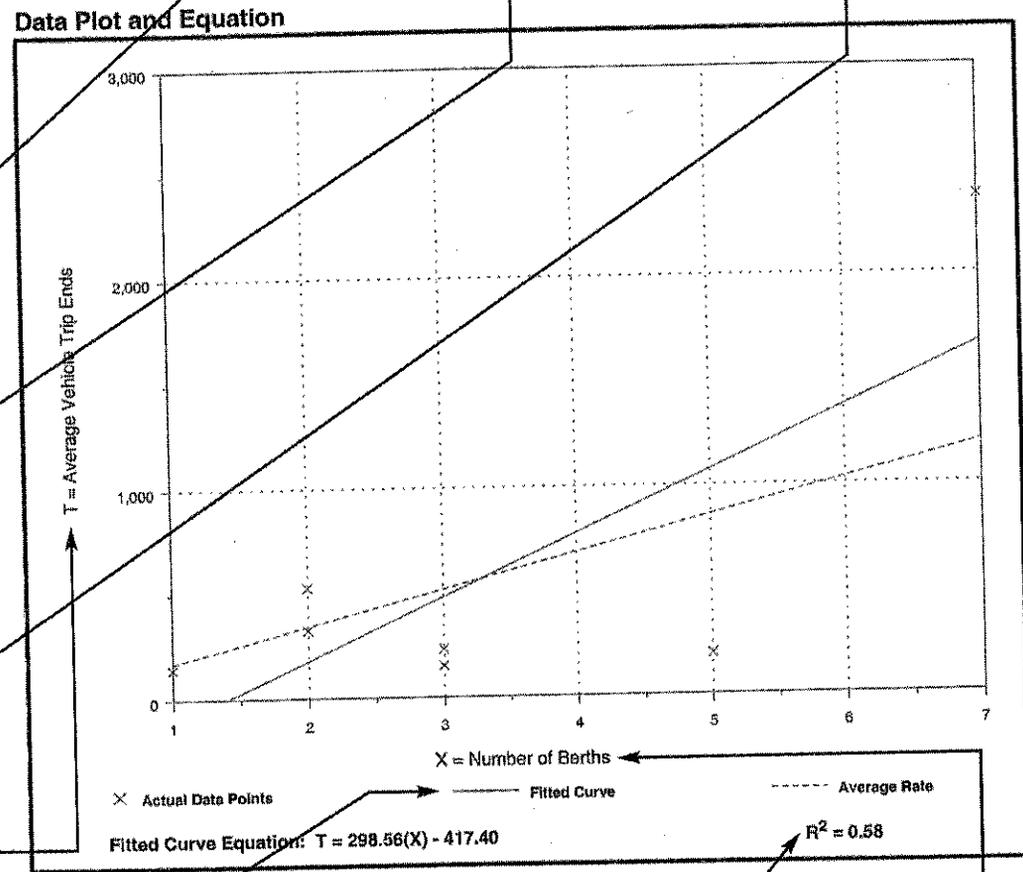
Best fit regression equation; expresses the optimal mathematical relationship between two or more related variables. If the variables are related linearly, the equation will have the following format: T = aX + b. In a logarithmic relationship, the equation will have the following format: Ln(T) = a Ln(X) + b.

Measure of correlation between 2 variables, expressed on a scale of 0 to +1. The closer to +1 the $R^2$ is, the better the correlation between the variables.

Independent Variable
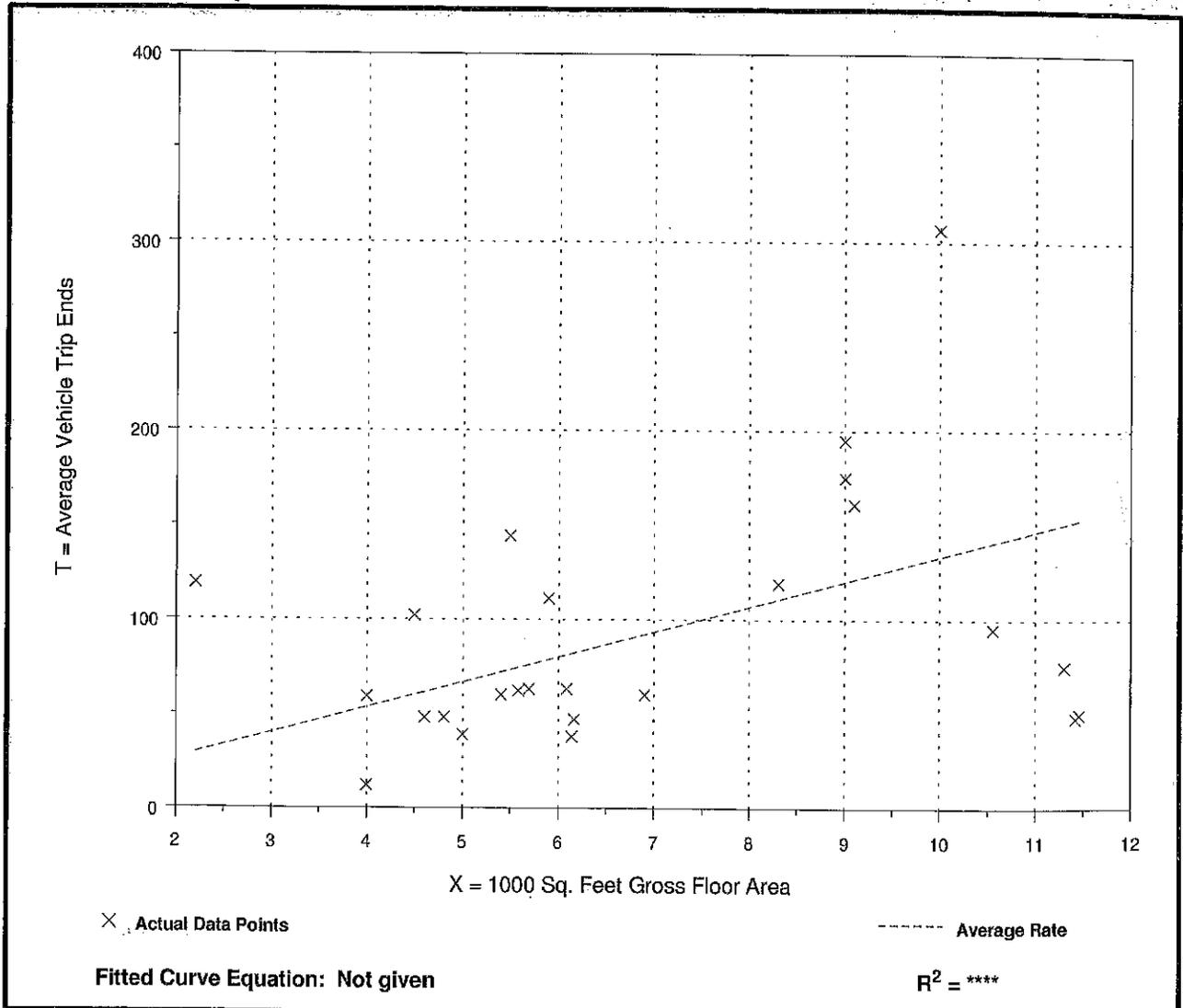
# High-Turnover (Sit-Down) Restaurant
## (932)

**Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area**
**On a: Weekday,**
**A.M. Peak Hour of Generator**

Number of Studies: 25
Average 1000 Sq. Feet GFA: 7
Directional Distribution: 53% entering, 47% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 13.33 | 3.00  -  54.09 | 9.44 |

## Data Plot and Equation



X  Actual Data Points

------ Average Rate

**Fitted Curve Equation: Not given**

$R^2 = $ ****

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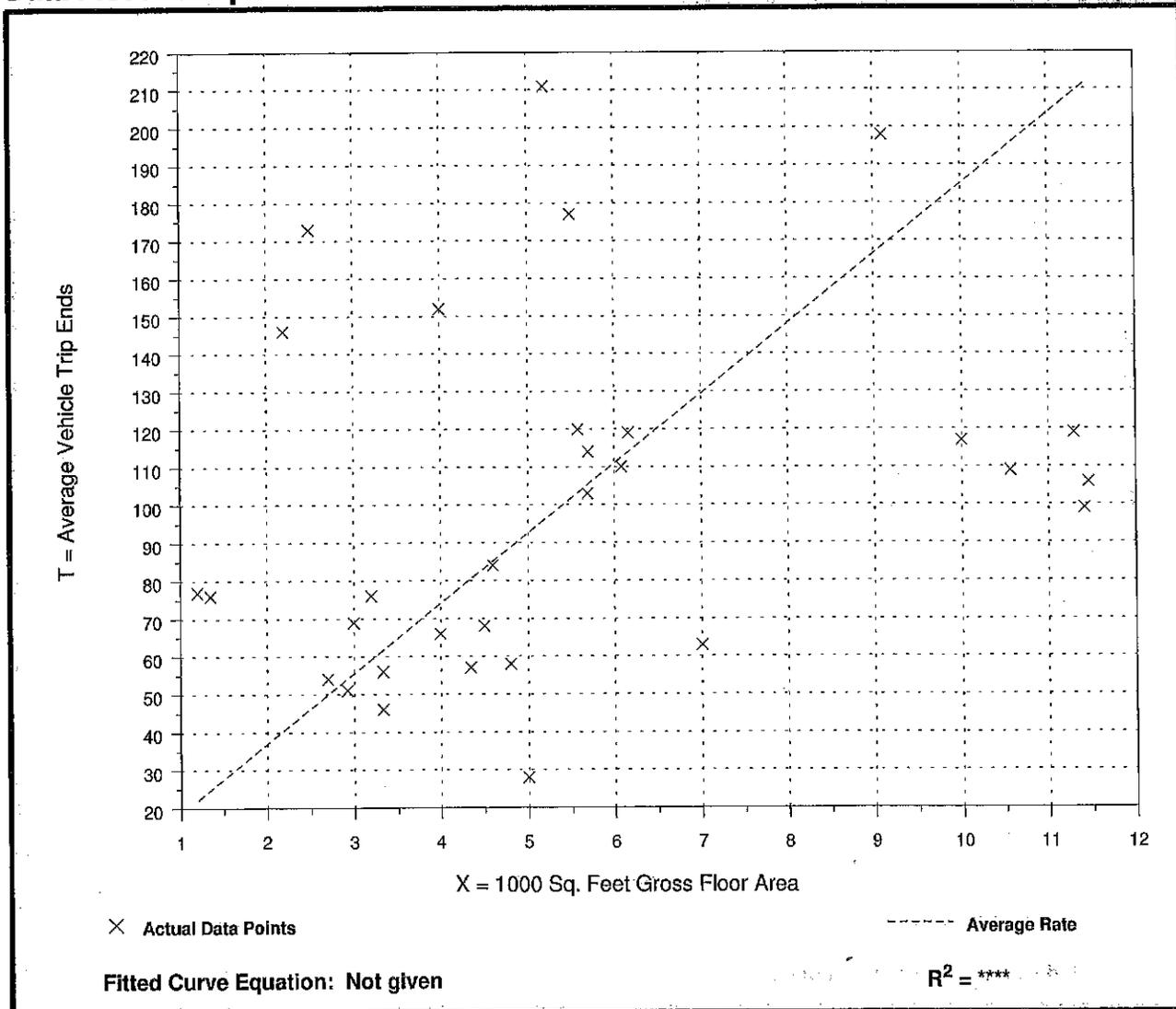## (932)

**Average Vehicle Trip Ends vs:** 1000 Sq. Feet Gross Floor Area
**On a:** Weekday,
P.M. Peak Hour of Generator

Number of Studies: 31
Average 1000 Sq. Feet GFA: 5
Directional Distribution: 54% entering, 46% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 18.49 | 5.60  -  69.20 | 13.32 |

## Data Plot and Equation



X  Actual Data Points

------ Average Rate

**Fitted Curve Equation:  Not given**

$R^2 = ****$

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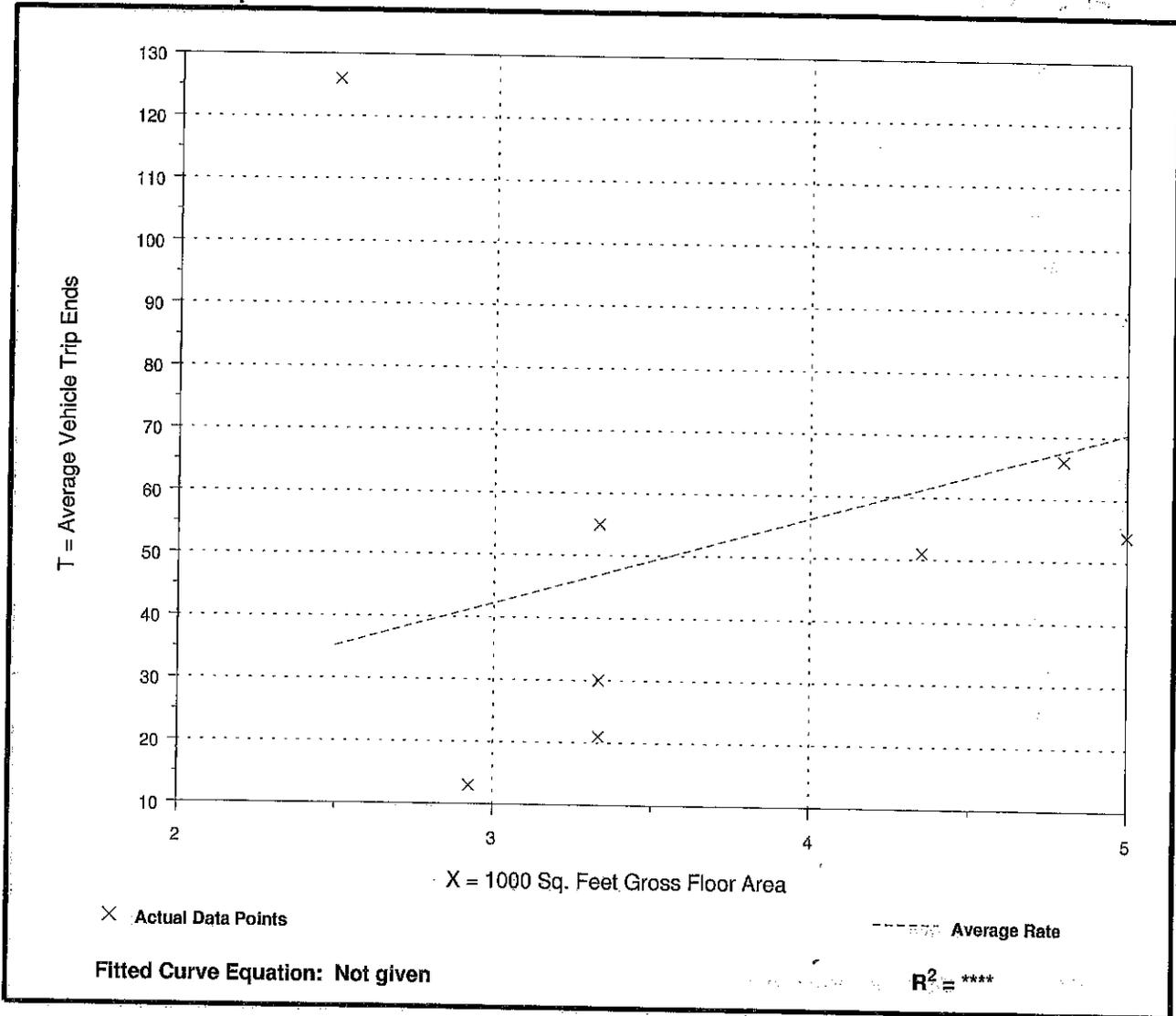## (932)

**Average Vehicle Trip Ends vs:** 1000 Sq. Feet Gross Floor Area
**On a:** Saturday,
Peak Hour of Generator

Number of Studies: 8
Average 1000 Sq. Feet GFA: 4
Directional Distribution: 53% entering, 47% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 14.07 | 4.44 - 50.40 | 12.19 |

## Data Plot and Equation



**X** Actual Data Points

- - - - - Average Rate

**Fitted Curve Equation: Not given**

$R^2 = ****$

# Fast-Food Restaurant without Drive-Through Window
## (933)

**Average Vehicle Trip Ends vs:   1000 Sq. Feet Gross Floor Area**
**On a:   Weekday,**
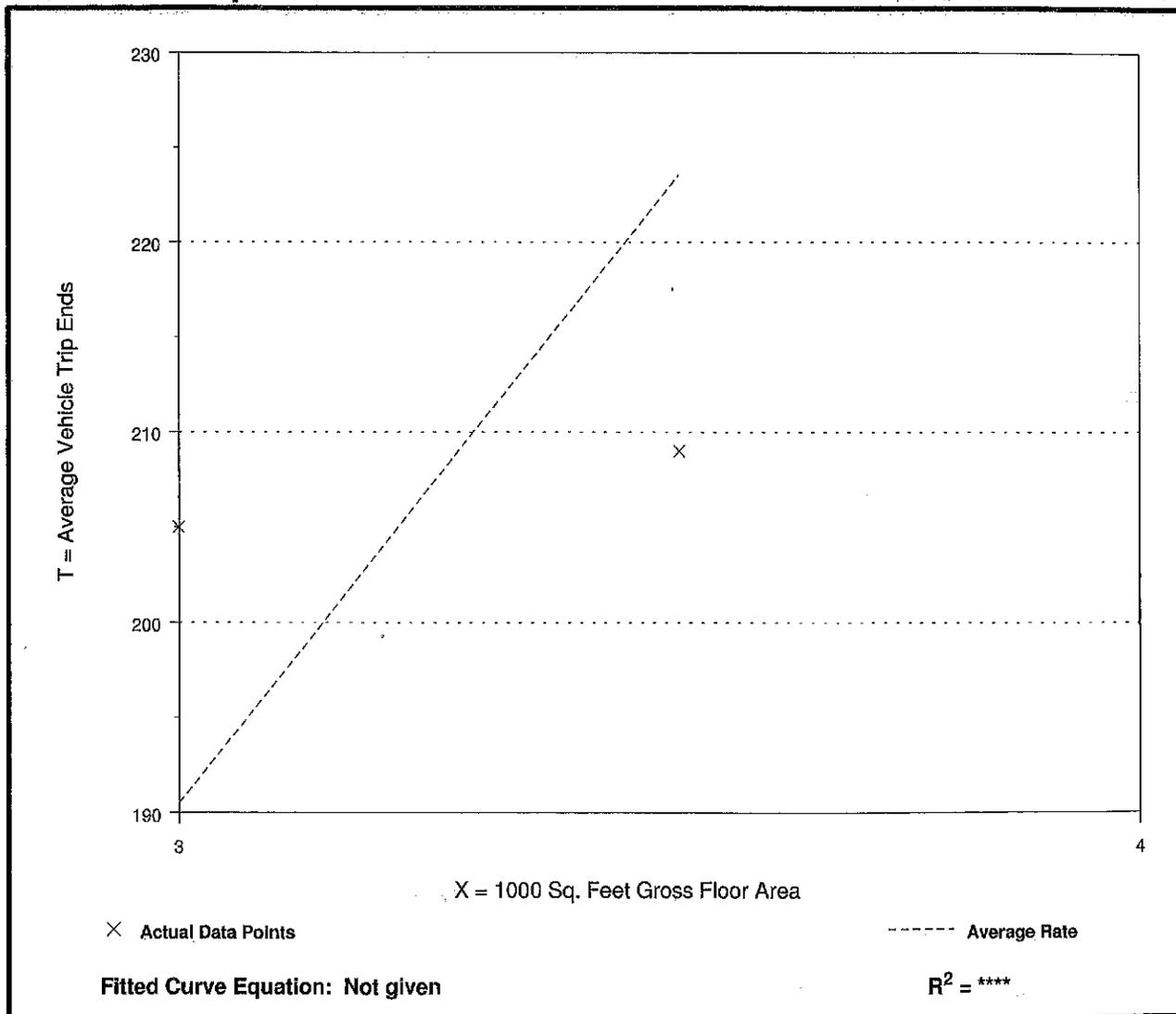**A.M. Peak Hour of Generator**

Number of Studies:   2
Average 1000 Sq. Feet GFA:   3
Directional Distribution:   52% entering, 48% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|:---:|:---:|:---:|
| 63.50 | 59.38   -   68.33 | * |

## Data Plot and Equation

*Caution - Use Carefully - Small Sample Size*



X = 1000 Sq. Feet Gross Floor Area

✕  Actual Data Points                    - - - - -  Average Rate

**Fitted Curve Equation: Not given**                    $R^2 = ****$

# Fast-Food Restaurant without Drive-Through Window
## (933)

**Average Vehicle Trip Ends vs:** 1000 Sq. Feet Gross Floor Area
**On a:** Weekday,
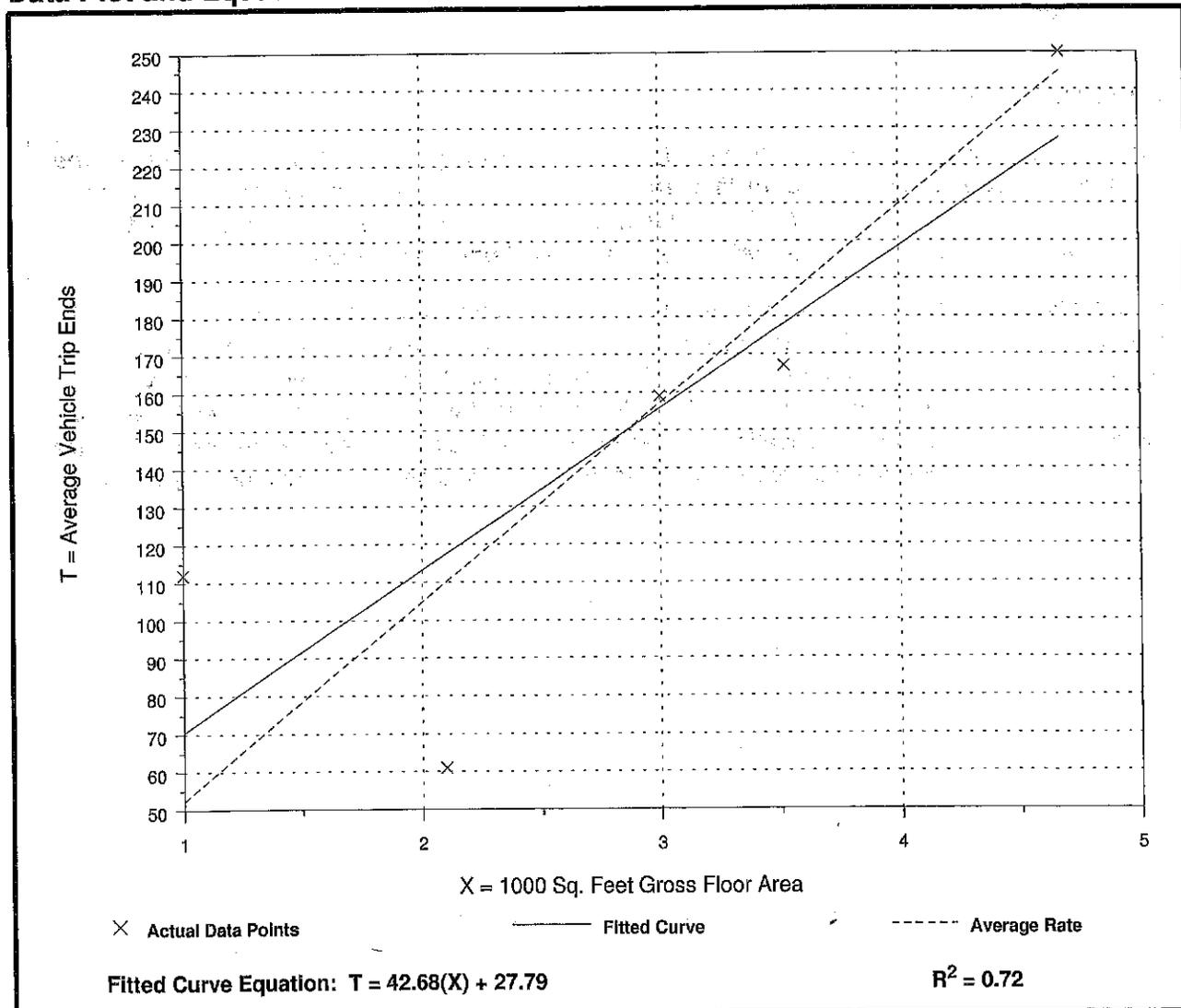P.M. Peak Hour of Generator

Number of Studies: 5
Average 1000 Sq. Feet GFA: 3
Directional Distribution: 51% entering, 49% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 52.40 | 29.05 - 112.00 | 19.86 |

## Data Plot and Equation

*Caution - Use Carefully - Small Sample Size*



X = 1000 Sq. Feet Gross Floor Area

T = Average Vehicle Trip Ends

X Actual Data Points          Fitted Curve          - - - - - Average Rate

**Fitted Curve Equation: T = 42.68(X) + 27.79**          $R^2 = 0.72$

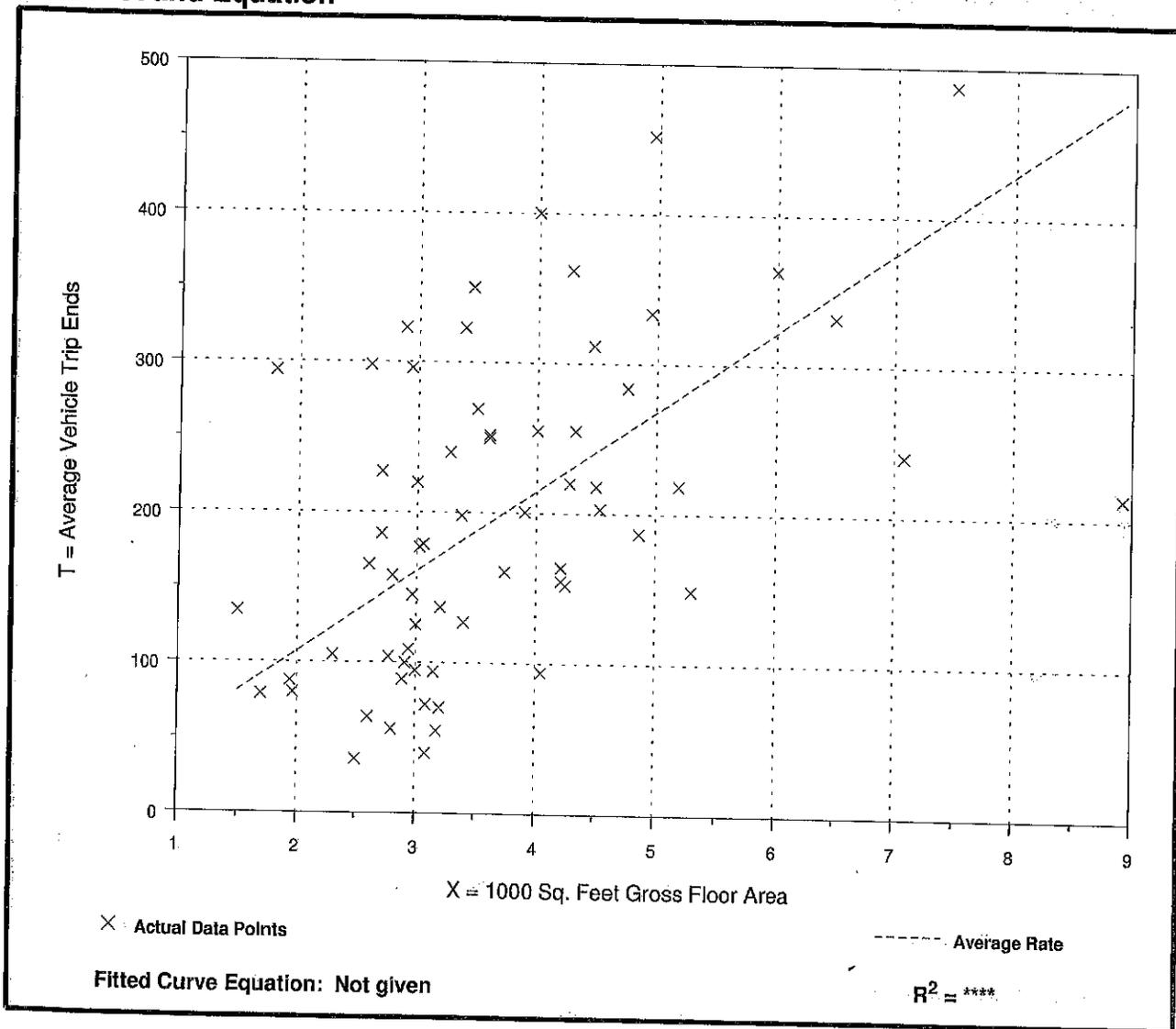# Fast-Food Restaurant with Drive-Through Window
## (934)

**Average Vehicle Trip Ends vs:** 1000 Sq. Feet Gross Floor Area
**On a:** Weekday,
A.M. Peak Hour of Generator

Number of Studies: 65
Average 1000 Sq. Feet GFA: 4
Directional Distribution: 51% entering, 49% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 53.61 | 12.96 - 163.33 | 26.27 |

## Data Plot and Equation



X Actual Data Points

------ Average Rate

**Fitted Curve Equation: Not given**

$R^2 = ****$

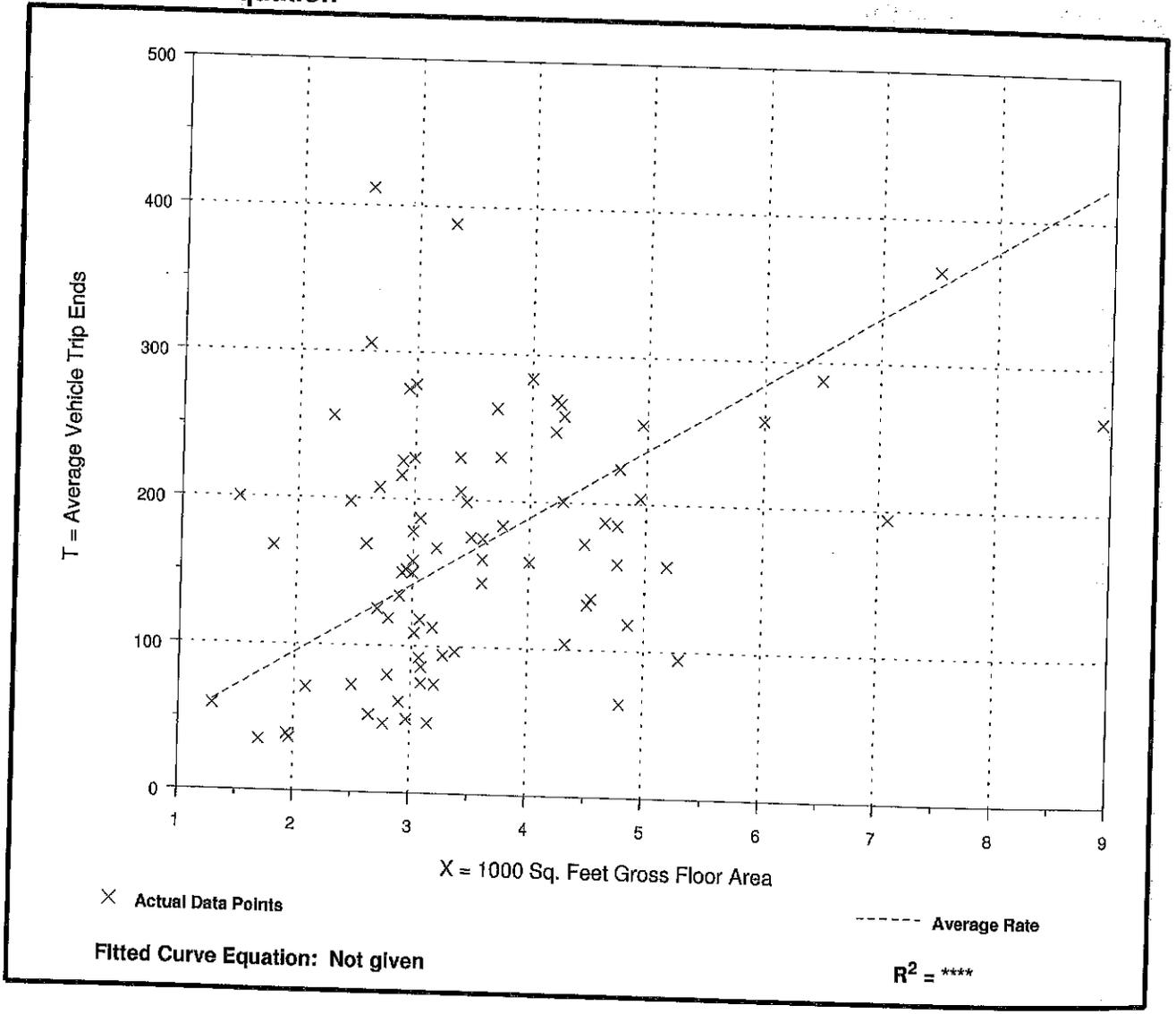# Fast-Food Restaurant with Drive-Through Window
## (934)

**Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area**
**On a: Weekday,**
**P.M. Peak Hour of Generator**

Number of Studies: 81
Average 1000 Sq. Feet GFA: 4
Directional Distribution: 52% entering, 48% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 47.30 | 13.33 - 158.46 | 25.52 |

## Data Plot and Equation



X = 1000 Sq. Feet Gross Floor Area

T = Average Vehicle Trip Ends

✕ Actual Data Points

----- Average Rate

Fitted Curve Equation: Not given

$R^2 = ****$

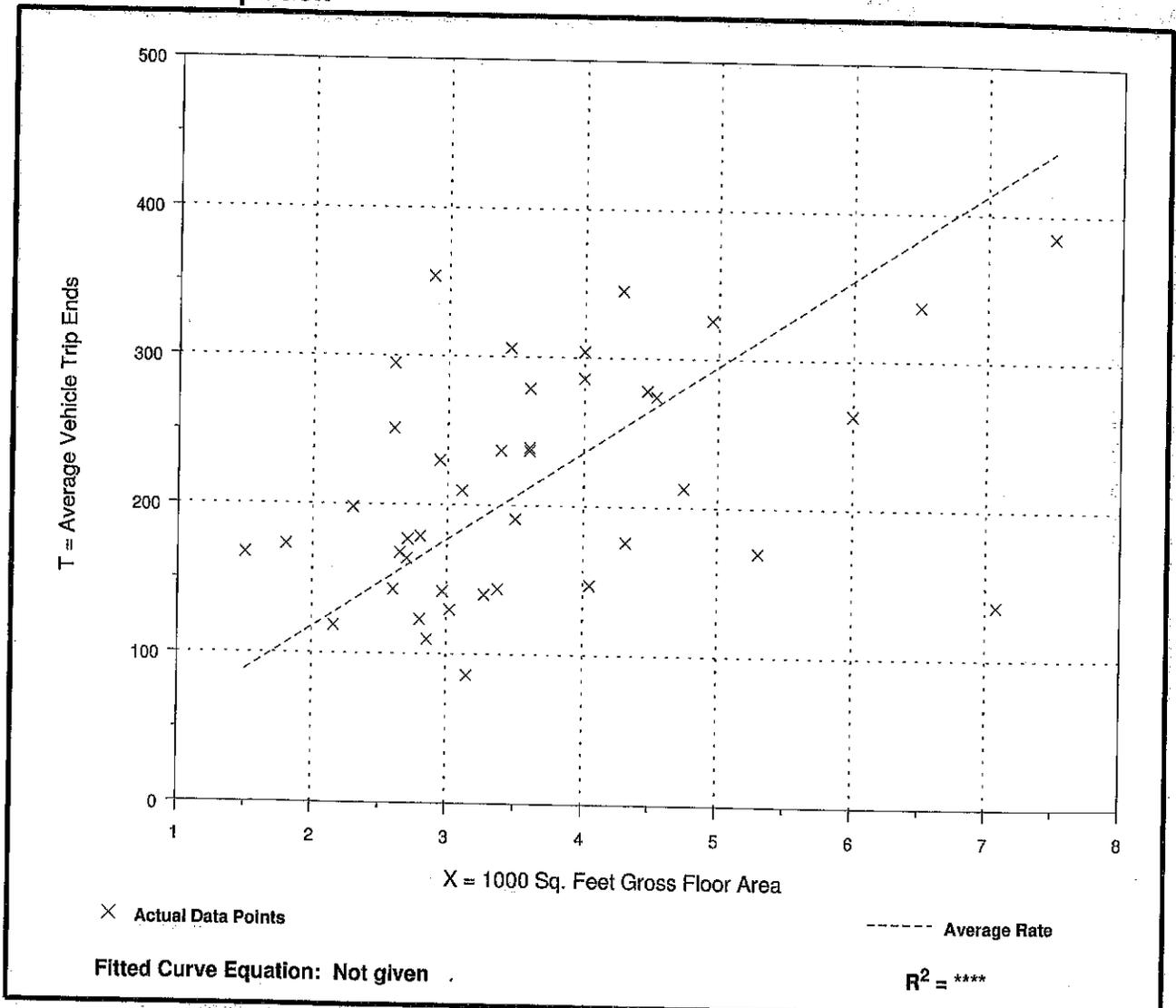# Fast-Food Restaurant with Drive-Through Window
## (934)

**Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area**
**On a: Saturday,**
**Peak Hour of Generator**

Number of Studies: 41
Average 1000 Sq. Feet GFA: 4
Directional Distribution: 51% entering, 49% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 59.00 | 19.21 - 122.49 | 22.89 |

## Data Plot and Equation



X = 1000 Sq. Feet Gross Floor Area

X  Actual Data Points

------ Average Rate

Fitted Curve Equation: Not given        $R^2$ = ****

# Fast-Food Restaurant with Drive-Through Window and No Indoor Seating (935)
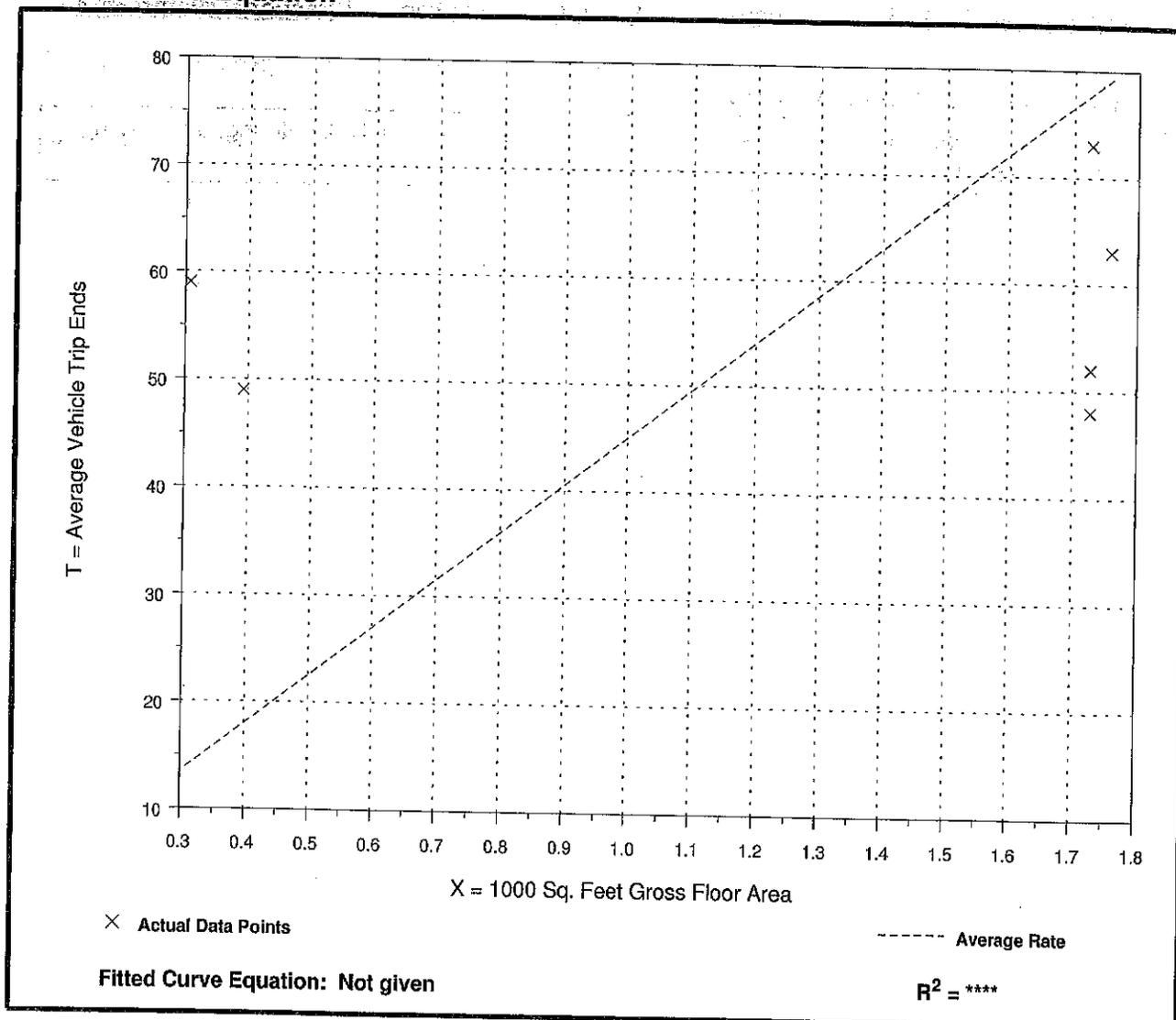
**Average Vehicle Trip Ends vs:** 1000 Sq. Feet Gross Floor Area
**On a:** Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 6
Average 1000 Sq. Feet GFA: 1
Directional Distribution: 51% entering, 49% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 44.99 | 27.78 - 191.56 | 38.88 |

## Data Plot and Equation



X  Actual Data Points

- - - - - Average Rate

**Fitted Curve Equation:** Not given          $R^2 =$ ****

# Coffee/Donut Shop without Drive-Through Window
## (936)

**Average Vehicle Trip Ends vs:** 1000 Sq. Feet Gross Floor Area
**On a:** Weekday,
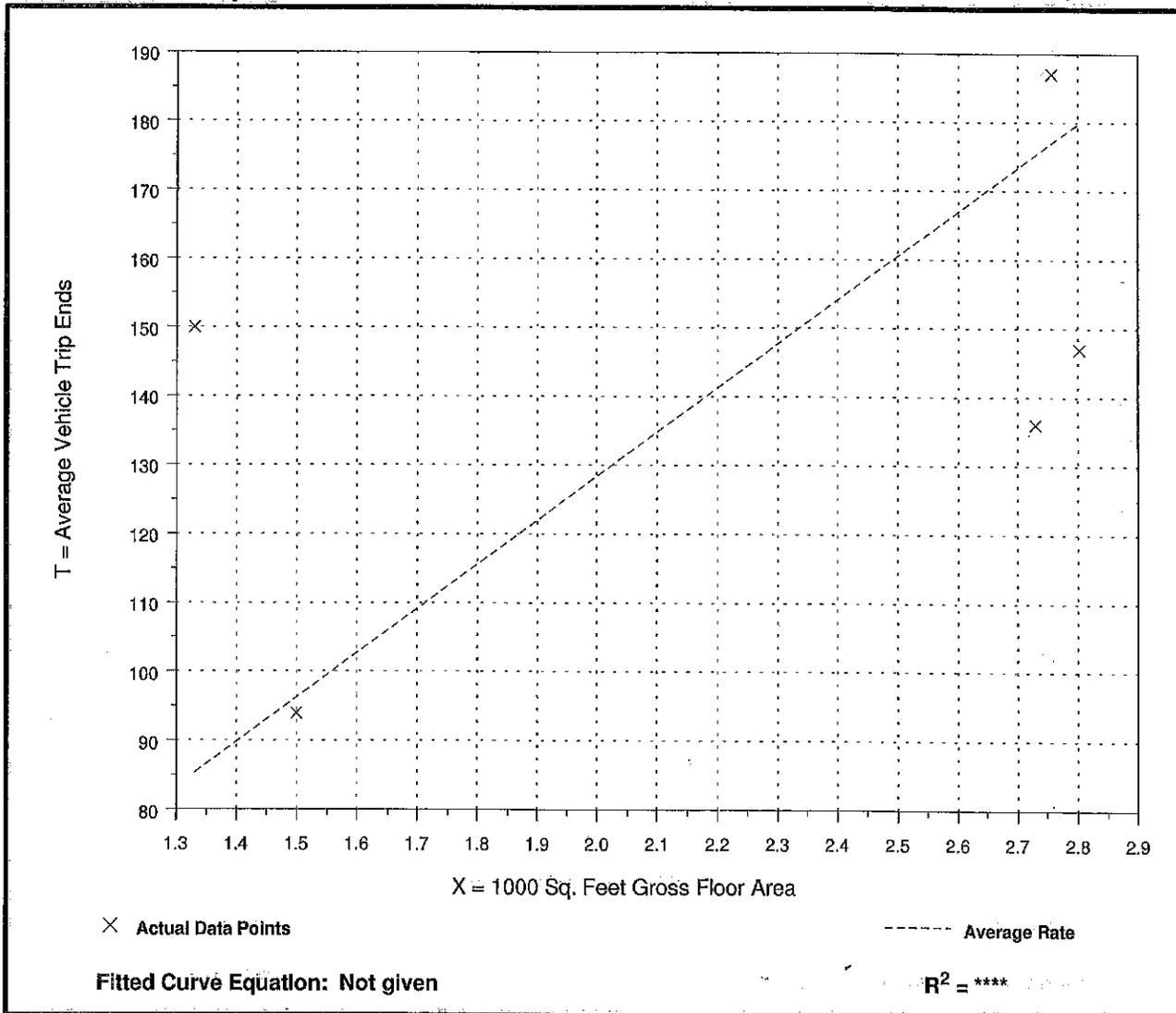A.M. Peak Hour of Generator

Number of Studies: 5
Average 1000 Sq. Feet GFA: 2
Directional Distribution: 51% entering, 49% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 64.21 | 49.82  -  112.78 | 21.09 |

## Data Plot and Equation

*Caution - Use Carefully - Small Sample Size*



X = 1000 Sq. Feet Gross Floor Area

X  Actual Data Points

- - - - - -  Average Rate

**Fitted Curve Equation: Not given**

$R^2 = ****$

# Coffee/Donut Shop without Drive-Through Window
## (936)

**Average Vehicle Trip Ends vs:** 1000 Sq. Feet Gross Floor Area
**On a:** Weekday,
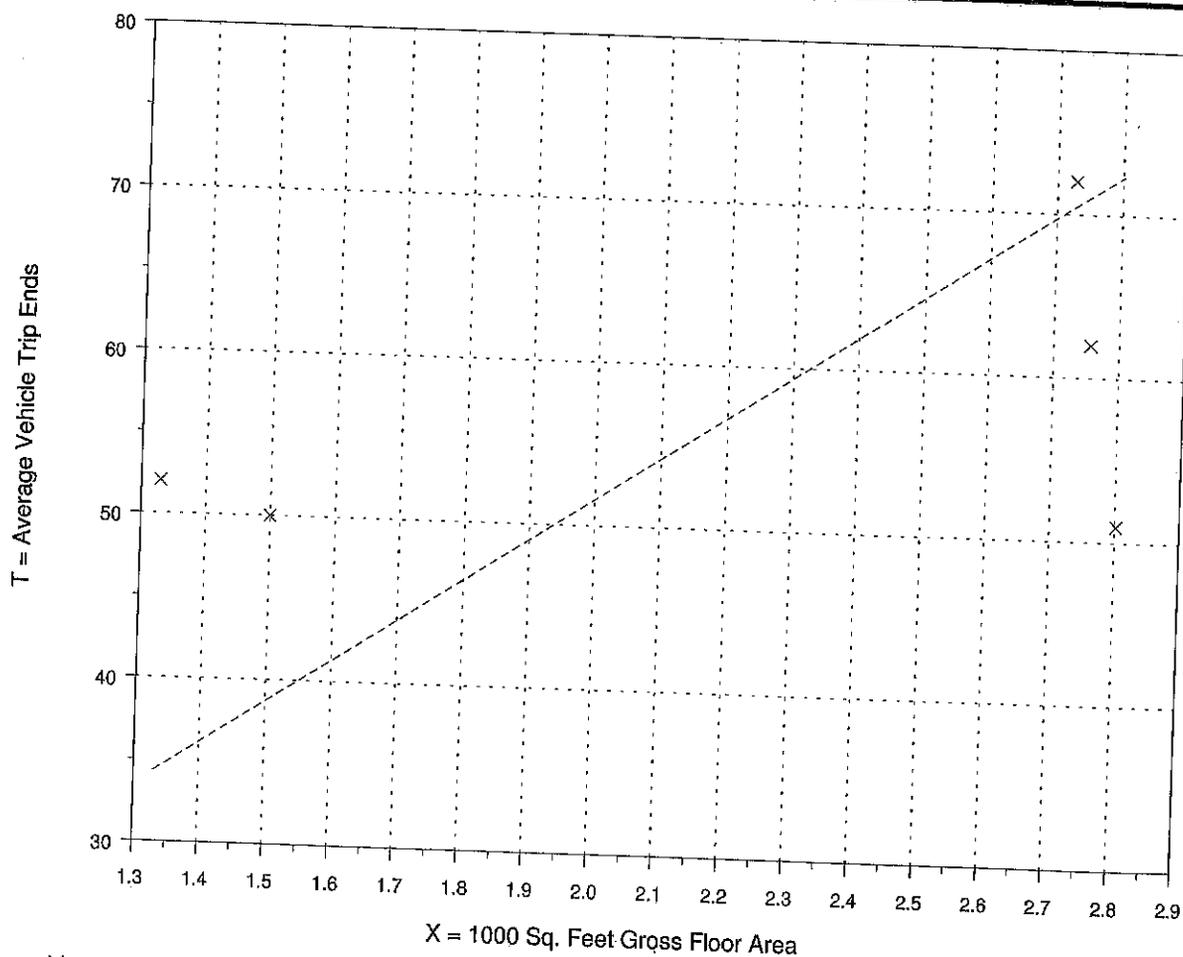P.M. Peak Hour of Generator

Number of Studies: 5
Average 1000 Sq. Feet GFA: 2
Directional Distribution: 49% entering, 51% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 25.81 | 18.19 - 39.10 | 8.08 |

## Data Plot and Equation

*Caution - Use Carefully - Small Sample Size*



X  **Actual Data Points**

- - - - - **Average Rate**

**Fitted Curve Equation: Not given**

$R^2 = ****$

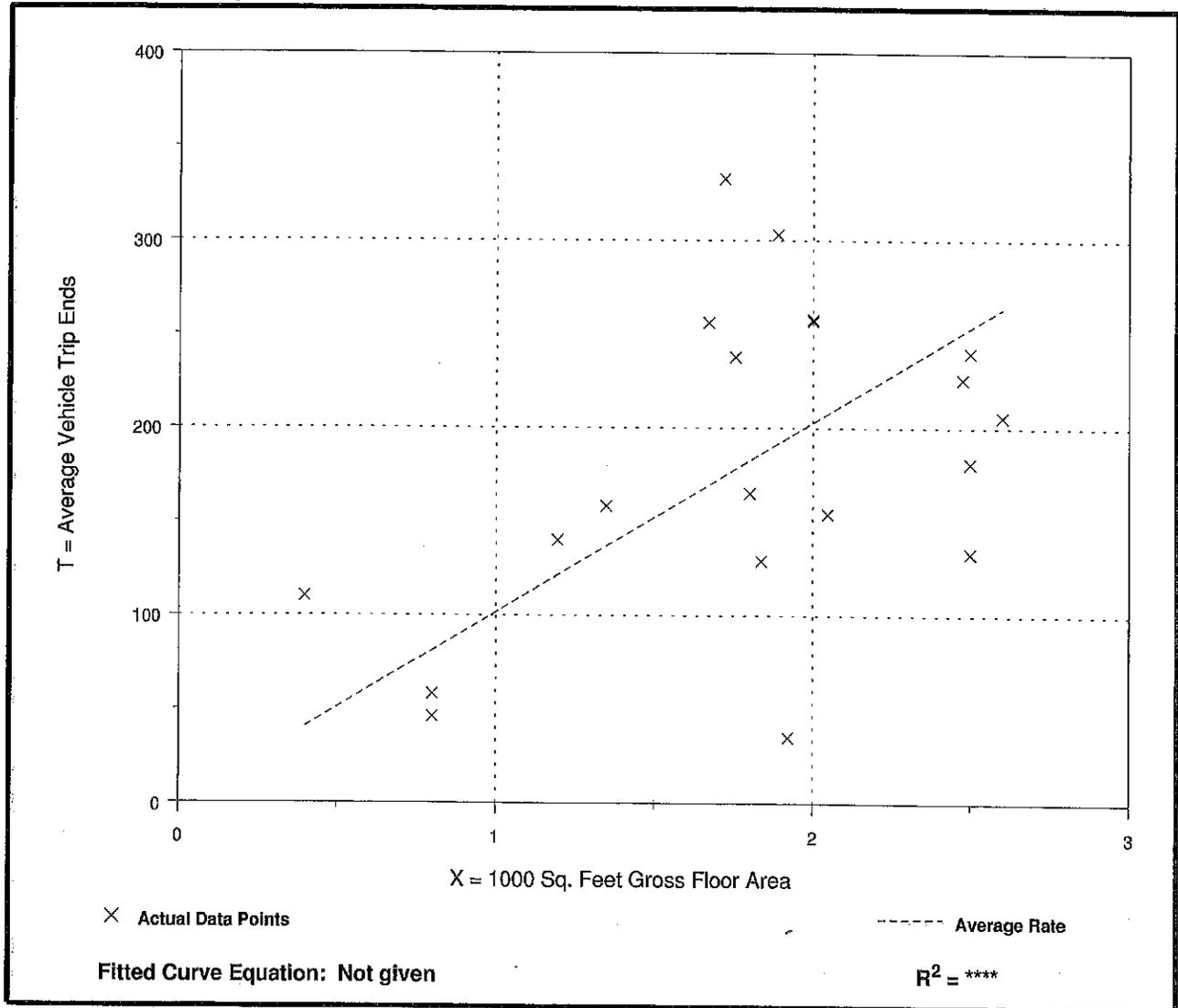# Coffee/Donut Shop with Drive-Through Window
## (937)

**Average Vehicle Trip Ends vs:** 1000 Sq. Feet Gross Floor Area
**On a:** Weekday,
A.M. Peak Hour of Generator

**Number of Studies:** 20
**Average 1000 Sq. Feet GFA:** 2
**Directional Distribution:** 49% entering, 51% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 101.40 | 18.23 - 275.00 | 45.90 |

## Data Plot and Equation



X = 1000 Sq. Feet Gross Floor Area

X  Actual Data Points          ------ Average Rate

**Fitted Curve Equation: Not given**          $R^2 = ****$

# Coffee/Donut Shop with Drive-Through Window
## (937)

**Average Vehicle Trip Ends vs:** **1000 Sq. Feet Gross Floor Area**
**On a:** **Weekday,**
**P.M. Peak Hour of Generator**

Number of Studies: 8
Average 1000 Sq. Feet GFA: 2
Directional Distribution: 51% entering, 49% exiting

## Trip Generation per 1000 Sq. Feet Gross Floor Area

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 36.16 | 2.08 - 60.50 | 19.50 |

## Data Plot and Equation



Fitted Curve Equation: Not given                          $R^2 = ****$