

**Table 1**  
**TRIP-GENERATION SUMMARY (UPDATE) (2/15/19)**

	Residential Trips <sup>a</sup>	Residential Transit Reduction <sup>b</sup>	Retail/Restaurant		Total New Trips
			5,000 sf	Transit Reduction <sup>d</sup>	
Weekday Morning Peak Hour:					
Entering	5	-4	7	-3	5
<u>Exiting</u>	<u>10</u>	<u>-6</u>	<u>5</u>	<u>-2</u>	<u>7</u>
Total	15	-10	12 <sup>c</sup>	-5 <sup>d</sup>	12
Weekday Evening Peak Hour:					
Entering	11	-7	26	-8	22
<u>Exiting</u>	<u>9</u>	<u>-6</u>	<u>13</u>	<u>-7</u>	<u>9</u>
Total	20	-13	39 <sup>e</sup>	-15 <sup>f</sup>	31
Saturday Midday Peak Hour:					
Entering	15	-10	32	-11	26
<u>Exiting</u>	<u>9</u>	<u>-6</u>	<u>22</u>	<u>-10</u>	<u>15</u>
Total	24	-16	54 <sup>e</sup>	-21 <sup>f</sup>	41

Source: *Institute of Transportation Engineers – Trip Generation 10th Edition.*

<sup>a</sup>Based on ITE trip generation rates for LUC 252 applied to 74 apartments.

<sup>b</sup>Based on 65% percent transit usage for residential use.

<sup>c</sup>Based on ITE LUC 820 applied to 5,000 sf retail space – selected points.

<sup>d</sup>Based on 38% percent transit usage for retail use.

<sup>e</sup>Based on ITE trip generation rates for LUC 931 applied to 5,000 sf quality restaurant space.

<sup>f</sup>Based on 38% percent transit usage for restaurant use.

Institute of Transportation Engineers (ITE)  
 Trip Generation, 10th Edition  
 Land Use Code (LUC) 252 - Senior Adult Housing - Attached

Average Vehicle Trips Ends vs: Dwelling Units  
 Independent Variable (X): 74

<b>R<sup>2</sup></b>	<b>0.99</b>	<b>AVERAGE WEEKDAY DAILY</b> T = 4.02 * (X)-25.37 T = 4.02 * 74 -25.370 T = 272.11 T = 272 with 50% ( 136 vph) entering and 50% ( 136 vph) exiting. vehicle trips	<b>AVERAGE WEEKDAY DAILY</b> T = 3.70 * (X) T = 3.70 * 74 T = 273.80 T = 274 with 50% ( 137 vph) entering and 50% ( 137 vph) exiting. vehicle trips
<b>0.98</b>	<b>WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC</b> T = 0.20 * (X) -0.18 T = 0.20 * 74 -0.18 T = 14.62 T = 15 with 35% ( 5 vph) entering and 65% ( 10 vph) exiting. vehicle trips	<b>WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC</b> T = 0.20 * (X) T = 0.20 * 74 T = 14.80 T = 15 with 35% ( 5 vph) entering and 65% ( 10 vph) exiting. vehicle trips	
<b>0.96</b>	<b>WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC</b> T = 0.24 * (X)+2.26 T = 0.24 * 74 +2.26 T = 20.02 T = 20 with 54% ( 11 vph) entering and 46% ( 9 vph) exiting. vehicle trips	<b>WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC</b> T = 0.26 * (X) T = 0.26 * 74 T = 19.24 T = 19 with 55% ( 10 vph) entering and 45% ( 9 vph) exiting. vehicle trips	
<b>0.99</b>	<b>SATURDAY DAILY</b> T = 3.97 * (X)-60.09 T = 3.97 * 74 -60.09 T = 233.69 T = 234 with 50% ( 117 vph) entering and 50% ( 117 vph) exiting. vehicle trips	<b>SATURDAY DAILY</b> T = 3.23 * (X) T = 3.23 * 74 T = 239.02 T = 240 with 50% ( 120 vph) entering and 50% ( 120 vph) exiting. vehicle trips	
<b>0.99</b>	<b>SATURDAY MIDDAY PEAK HOUR OF GENERATOR</b> T = 0.35 * (X)-1.67 T = 0.35 * 74 -1.67 T = 24.23 T = 24 with 62% ( 15 vph) entering and 38% ( 9 vph) exiting. vehicle trips	<b>SATURDAY MIDDAY PEAK HOUR OF GENERATOR</b> T = 0.33 * (X) T = 0.33 * 74 T = 24.42 T = 24 with 62% ( 15 vph) entering and 38% ( 9 vph) exiting. vehicle trips	

**Institute of Transportation Engineers (ITE)  
Trip Generation, 10th Edition  
Land Use Code (LUC) 931 - Quality Restaurant**

Average Vehicle Trips Ends vs: 1000 SF Gross Floor Area  
Independent Variable (X): 5

**AVERAGE WEEKDAY DAILY**

$$T = 83.84 * (X)$$

$$T = 83.84 * 5$$

$$T = 419.20$$

$$T = 420 \text{ vehicle trips}$$

with 50% ( 210 vpd) entering and 50% ( 210 vpd) exiting.

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$T = 0.73 * (X)$$

$$T = 0.73 * 5$$

$$T = 3.65$$

$$T = 4 \text{ vehicle trips}$$

Dirctional Distribution Not Available

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$T = 7.80 * (X)$$

$$T = 7.80 * 5$$

$$T = 39.00$$

$$T = 39 \text{ vehicle trips}$$

with 67% ( 26 vph) entering and 33% ( 13 vph) exiting.

**SATURDAY DAILY**

$$T = 90.04 * (X)$$

$$T = 90.04 * 5$$

$$T = 450.20$$

$$T = 450 \text{ vehicle trips}$$

with 50% ( 225 vpd) entering and 50% ( 225 vpd) exiting.

**SATURDAY MIDDAY PEAK HOUR OF GENERATOR**

$$T = 10.68 * (X)$$

$$T = 10.68 * 5$$

$$T = 53.40$$

$$T = 54 \text{ vehicle trips}$$

with 59% ( 32 vph) entering and 41% ( 22 vph) exiting.

# AM Reference

## Graph Look Up

Query

DATA SOURCE: ITE-TGM 10th Edition

SEARCH BY LAND USE CODE: 820

LAND USE CATEGORY: (800-899) Retail

LAND USE: 820 - Shopping Center

INDEPENDENT VARIABLE (IV): 1000 Sq. Ft. GLA

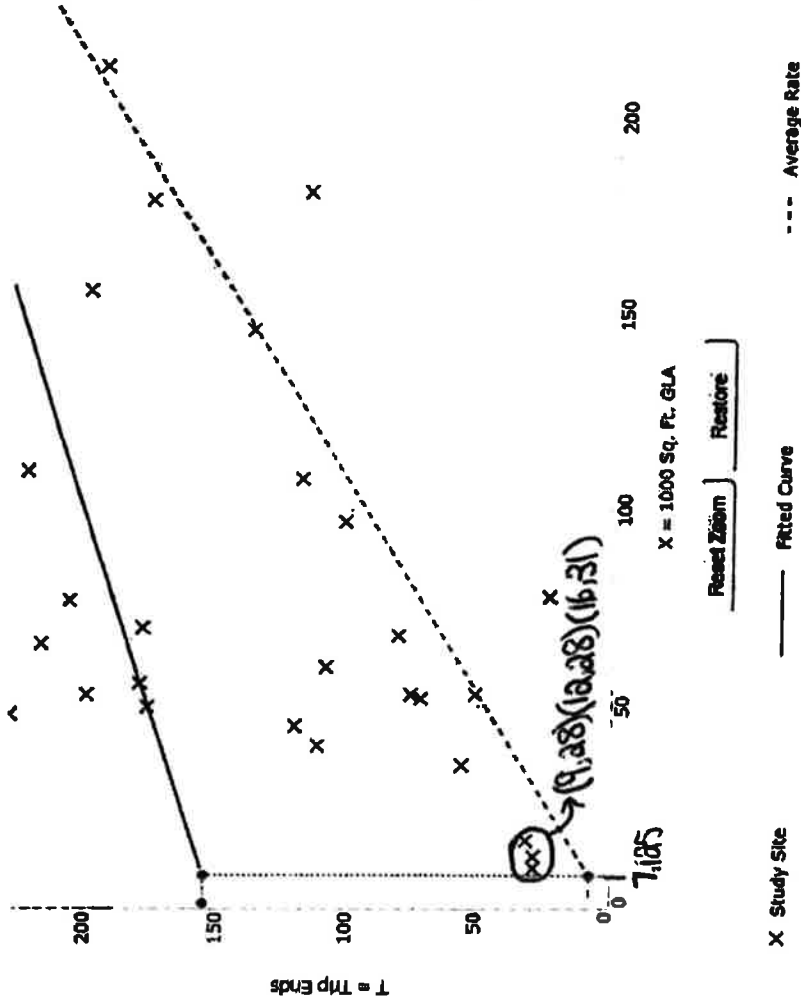
TIME PERIOD: Weekday, Peak Hour of Adjacent Street Traffic

SETTING/LOCATION: General Urban/Suburban

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 7.13 Calculate

### Data Plot and Equation



**DATA STATISTICS**

1000 Sq. Ft. GLA

Time Period: Weekday

Peak Hour of Adjacent Street Traffic One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Trip Type: Vehicle

Number of Studies: 84

Avg. 1000 Sq. Ft. GLA: 351

Average Rate: 0.94

Range of Rates: 0.18 - 23.74

Standard Deviation: 0.87

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

$R^2$ : 0.50

Directional Distribution: 62% entering, 38% exiting

Calculated Trip Ends: Average Rate: 7 (Total); 4 (Entry); 3 (Exit)

Fitted Curve: 155 (Total); 96 (Entry); 59 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.  
 Hover the mouse pointer on data points to view X and T values.

3.11 2.33 1.93       $Ave = 2.46 \times 5 = 12$  rate

Query

DATA SOURCE: ITE-TGM 10th Edition

SEARCH BY LAND USE CODE: 620

LAND USE CATEGORY: (900-889) Retail

LAND USE: 820 - Shopping Center

INDEPENDENT VARIABLE (IV): 1000 Sq. Ft. GLA

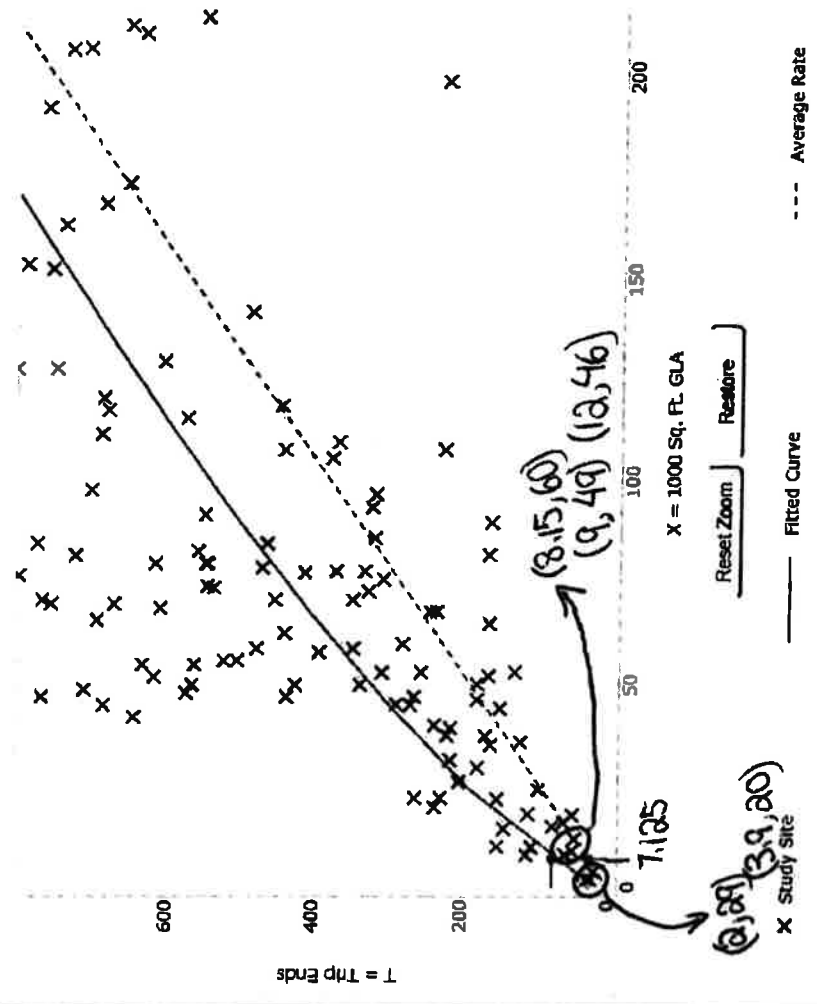
TIME PERIOD: Weekday, Peak Hour of Adjacent Street Traffic

SETTING/LOCATION: General Urban/Suburban

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 7.13

Data Plot and Equation



**DATA STATISTICS**

1000 Sq. Ft. GLA

Time Period: Weekday

Peak Hour of Adjacent Street Traffic

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Trip Type: Vehicle

Number of Studies: 261

AVG. 1000 Sq. Ft. GLA: 327

Average Rate: 3.81

Range of Rates: 0.74 - 18.69

Standard Deviation: 2.04

Fitted Curve Equation:  $Ln(T) = 0.74 Ln(X) + 2.89$

$R^2$ : 0.82

Directional Distribution: 46% entering, 52% exiting

Calculated Trip Ends: Average Rate: 27 (Total), 13 (Entry), 14 (Exit)

Fitted Curve: 77 (Total), 37 (Entry), 40 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.  
 Hover the mouse pointer on data points to view X and T values.

14.5      7.36      AVE - 7.25      X S = 36  
 5.12      5.44      Rate

# Saturday Reference

## Graph Look Up

Query Filter

DATA SOURCE: ITE-TGM 10th Edition

SEARCH BY LAND USE CODE: 820

LAND USE CATEGORY: (800-899) Retail

LAND USE: 820 - Shopping Center

INDEPENDENT VARIABLE (IV): 1000 Sq. Ft. GLA

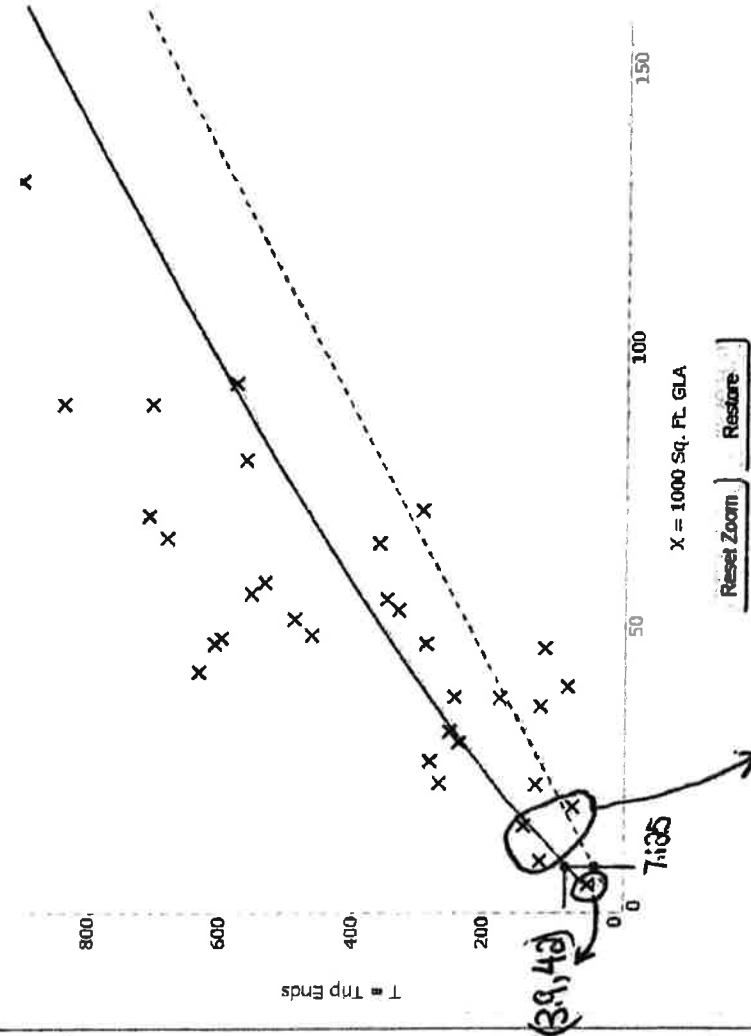
TIME PERIOD: Saturday, Peak Hour of Generator

SETTING/LOCATION: General Urban/Suburban

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 7.13

Data Plot and Equation



**DATA STATISTICS**

Independent Variable: 1000 Sq. Ft. GLA

Time Period: Saturday

Peak Hour of Generator: General Urban/Suburban

Setting/Location: General Urban/Suburban

Trip Type: Vehicle

Number of Studies: 119

Avg. 1000 Sq. Ft. GLA: 416

Average Rate: 4.50

Range of Rates: 1.42 - 15.10

Standard Deviation: 1.88

Fitted Curve Equation:  $Ln(T) = 0.79 Ln(X) + 2.79$

R<sup>2</sup>: 0.87

Directional Distribution: 52% entering, 48% exiting

Calculated Trip Ends: Average Rate: 32 (Total); 17 (Entry), 15 (Exit) Fitted Curve: 77 (Total), 40 (Entry), 37 (Exit)

X Study Site  Fitted Curve  Average Rate

(8.15, 116) (14, 141)

(18, 66)

Use the mouse wheel to Zoom Out or Zoom In. Hover the mouse pointer on data points to view X and T values.

0.76      10.07      9.68 x 5 = 48  
 14.23      3.66      rate