

# TRAFFIC REPORT

*Prepared for*

**PROPOSED EVENT FACILITY  
211 PULPIT ROCK ROAD  
WOODSTOCK, CT**

**January 2024**

*Prepared for*

Woodstock Sustainable Farms

*Prepared by*

**Killingly Engineering Associates**  
*Civil Engineering & Surveying*



Normand Thibeault Jr., P.E.  
CT License #22834



## ***Introduction***

Killingly Engineering Associates, LLC (KEA) has submitted special permit application to the Town of Woodstock on behalf of Woodstock Sustainable Farms, for a proposed event and wedding facility with activity on 3 parcels of land with access from Pulpit Rock Road in Woodstock. The main parcel of 28.87 acres of land with the address of 211 Pulpit Rock Road is the home of the applicant which is located over 1,500 feet from Pulpit Rock Road. Aside from the home there are multiple barns and out buildings that are utilized for agricultural purposes. The two additional parcels are generally undeveloped aside from a fenced paddock area and a gravel parking area. The property is well screened as a result of an elevation change of 150' from Pulpit Rock Road, as well as by a well-developed forested overstory. The resulting elevation change affords incredible views over Woodstock and into abutting towns which naturally lends itself to the proposed use(s).

## ***Entrance to Property***

The site is accessible by a gravel driveway that is approximately 40' wide at the Pulpit Rock Road interface. Pulpit Rock Road is 16' wide at the site entrance and sightlines are 150' to the east and 250' to the west. For the posted speed limit of 15 miles per hour, the required sightline is 80' per CTDOT & AASHTO. The plans demonstrate that there is sufficient turning radius for a but to enter the driveway. The driveway with eventually transitions to 14' and there are generous grassed shoulders on each side to allow for passage of 2-way traffic.

## ***Pulpit Rock Road***

KEA utilized The Institute of Traffic Engineers (ITE) Trip Generation Manual to estimate daily and peak trips along Pulpit Rock Road. The manual presents a summary of the trip generation data that have been voluntarily collected and submitted to ITE. The trip generation database includes both vehicle and person trip generation for urban, suburban and rural settings. The uses are categorized in numbered land use sections; this report selects use number 210 for single family detached homes.

The ITE Trip Generation Guide does not include a land use category for wedding venues. It is, therefore, desirable to establish a standard methodology to project the trip generation rates and the trip distribution assumptions. A wedding is a single event at a pre-established time. All of the wedding party and wedding guests will be in attendance at the ceremony. Therefore, the trip generation rate will be typically be based on the attendance at venue to be used for the ceremony; in this case, 50 attendees maximum. The wedding party and vendors represent additional numbers above and beyond those attending the wedding, they arrive an hour or more before the ceremony and in limousines, catering vehicles etc... These attendees will add to the total number of vehicles but not to the peak hourly rate. The guests will arrive during the one-hour period before the ceremony. Many of the wedding guests travel together as couples, families or groups of friends with an average of 2 to 2.5 guests per vehicle. We have conservatively utilized 2 people per vehicle for our summation.

## ***Trip Generation***

Based upon a review of the Town of Woodstock GIS mapping and assessor's database, we counted a total of 32 residences along Pulpit Rock Road and we've assumed that half of the residences travel east along the 1,200 feet of gravel roadway to the paved surface interface and half travel to the west. During a site inspection on January 10, 2024, we noted 3 vehicles

travelling east over the 30-minute inspection and no vehicles travelling west. All of these vehicles turned south on Meehan Road. Measurements of road widths taken on that same day after heavy rains and snow melt show the road to be substantially 15' to 17' in width. As a result of the heavy rains and runoff, there were 2 areas where the road width was reduced to approximately 13'. We noted that there was sufficient sightline approaching these areas from the east and west so there was opportunity to safely pass if necessary.

For the single-family homes, the ITE trip generation utilizes an average rate of 9.57 trips per day per dwelling on a weekday (approximately 5 trips each way). For 16 residences, this translates to 153 trips per day. The average trips per day is slightly greater on a Saturday with a factor of 10.09 trips per dwelling or 161 trips per day. Sunday trips are slightly less with 8.78 trips per day per dwelling or 140 trips per day.

ITE also provides factors for peak traffic generation. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour is between 4:00 PM and 6:00 PM. AM peak hour utilizes a factor of 0.75 which calculates to a peak hour of 12 trips, and the PM factor of 1.01 calculates to an afternoon/evening peak of 16 trips for the peak hour. The time of the peak hour on weekends is not specifically defined but for Saturdays the peak hour factor is 0.94 (15 vehicles per hour) and for Sundays the peak hour factor is 0.86 (14 vehicles per hour).

For weekend events of 50 persons, we could expect the peak hour to be 20-25 trips. Event days which are typically weekends would result in an additional 20-30 vehicles (40 to 60 trips) over the course of the event.

**ITE TRIP GENERATION PAGES**



# Land Use: 210

## Single-Family Detached Housing

### Description

Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.

### Additional Data

The peak hour of the generator typically coincides with the peak hour of the adjacent street traffic.

The sites were surveyed from the late 1960s to the mid-1990s throughout the United States and Canada.

The number of vehicles and the number of residents have a high correlation with average weekday vehicle trip ends. The use of these variables is limited, however, because the number of vehicles and residents is often difficult to obtain or predict. The number of dwelling units is generally used as the independent variable of choice because it is usually readily available, easy to project, and has a high correlation with average weekday vehicle trip ends.

This land use includes data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there is a wide variation in trips generated within this category. As expected, dwelling units that were larger in size, more expensive, or farther away from the central business district (CBD) had a higher rate of trip generation per unit than those smaller in size, less expensive, or closer to the CBD. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Single-family detached units have the highest trip generation rate per dwelling unit of all residential uses, because they are the largest units in size and have more residents and more vehicles per unit than other residential land uses; they are generally located farther away from shopping centers, employment areas, and other trip attractors than are other residential land uses; and they generally have fewer alternate modes of transportation available, because they are typically not as concentrated as other residential land uses.

### Source Numbers

1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 16, 19, 20, 21, 26, 34, 35, 36, 38, 40, 71, 72, 84, 91, 98, 100, 105, 108, 110, 114, 117, 119, 157, 167, 177, 187, 192, 207, 211, 246, 275, 283, 293, 300, 319, 320, 357, 384, 435

# Single-Family Detached Housing (210)

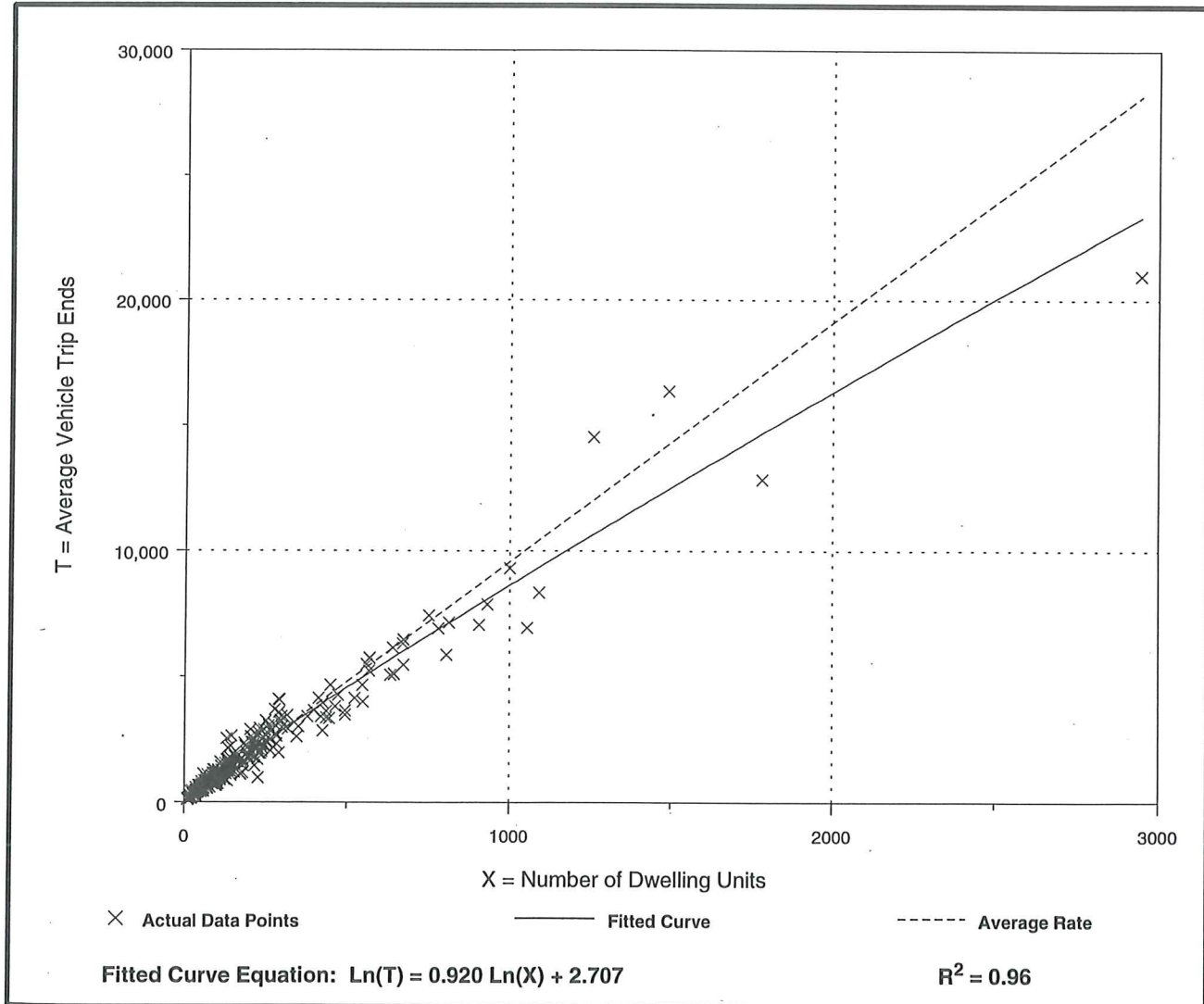
Average Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Number of Studies: 348  
Avg. Number of Dwelling Units: 198  
Directional Distribution: 50% entering, 50% exiting

## Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.57	4.31 - 21.85	3.69

## Data Plot and Equation



# Single-Family Detached Housing (210)

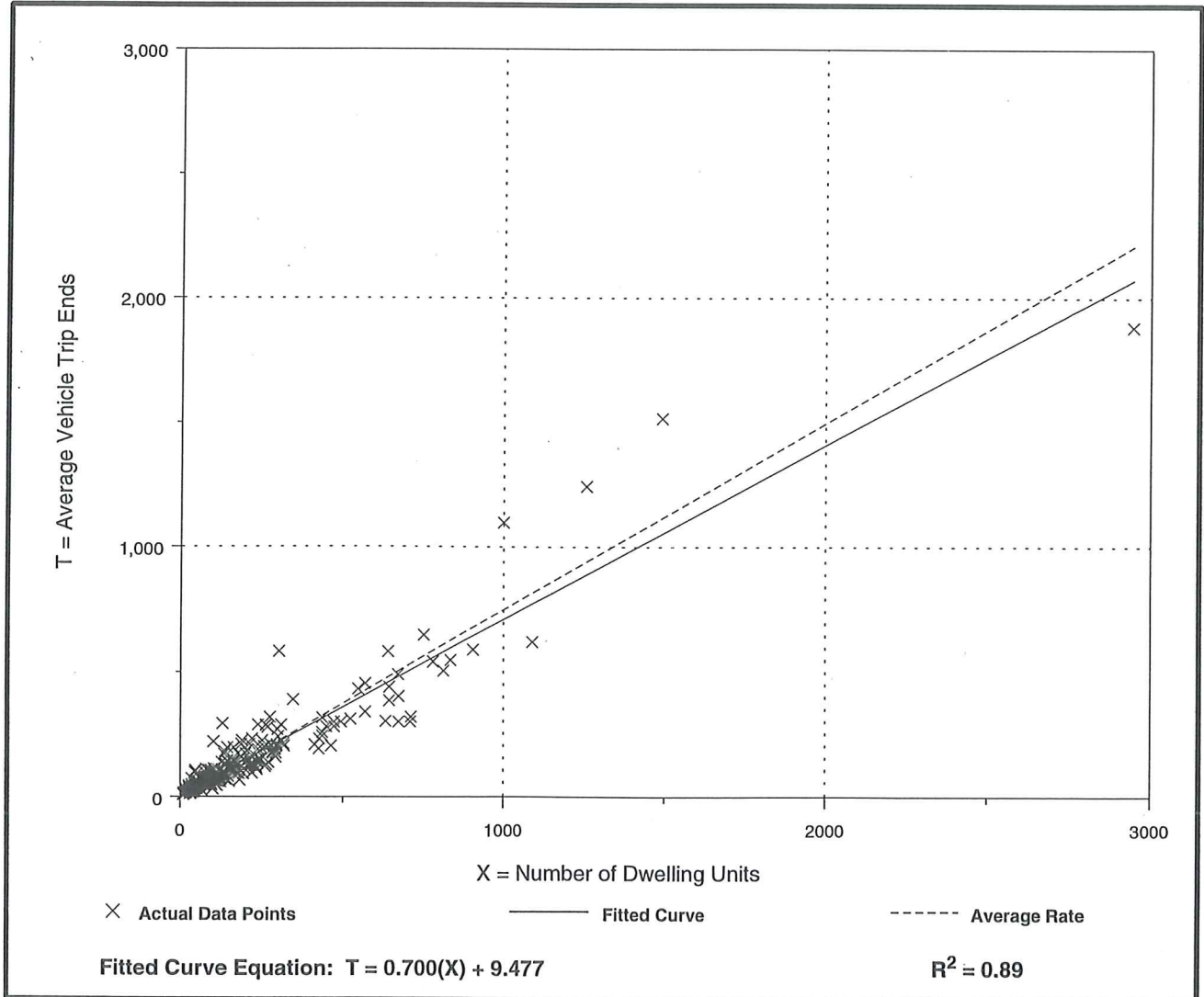
**Average Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

Number of Studies: 271  
 Avg. Number of Dwelling Units: 202  
 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)

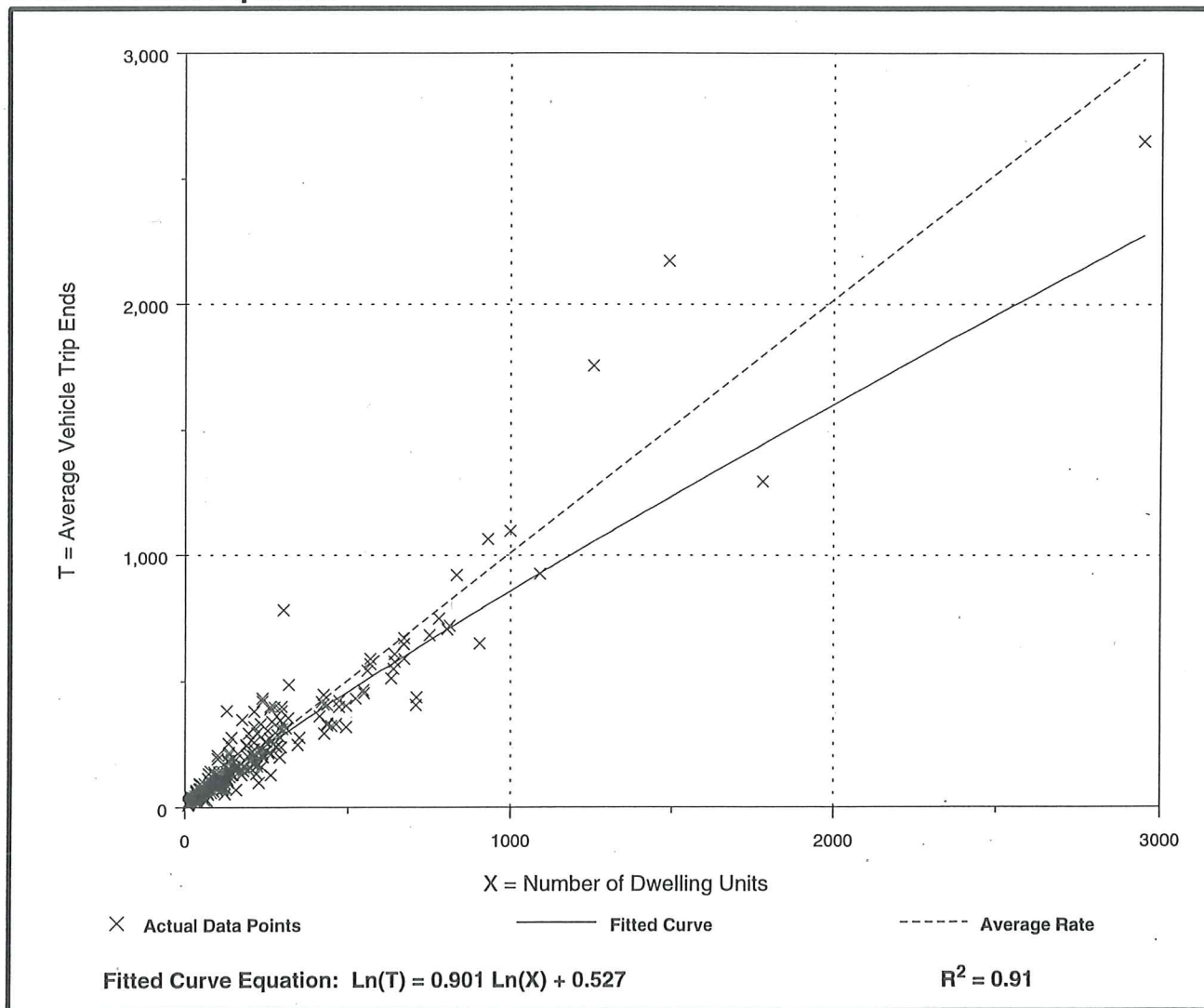
**Average Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

Number of Studies: 294  
 Avg. Number of Dwelling Units: 216  
 Directional Distribution: 64% entering, 36% 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





# Single-Family Detached Housing (210)

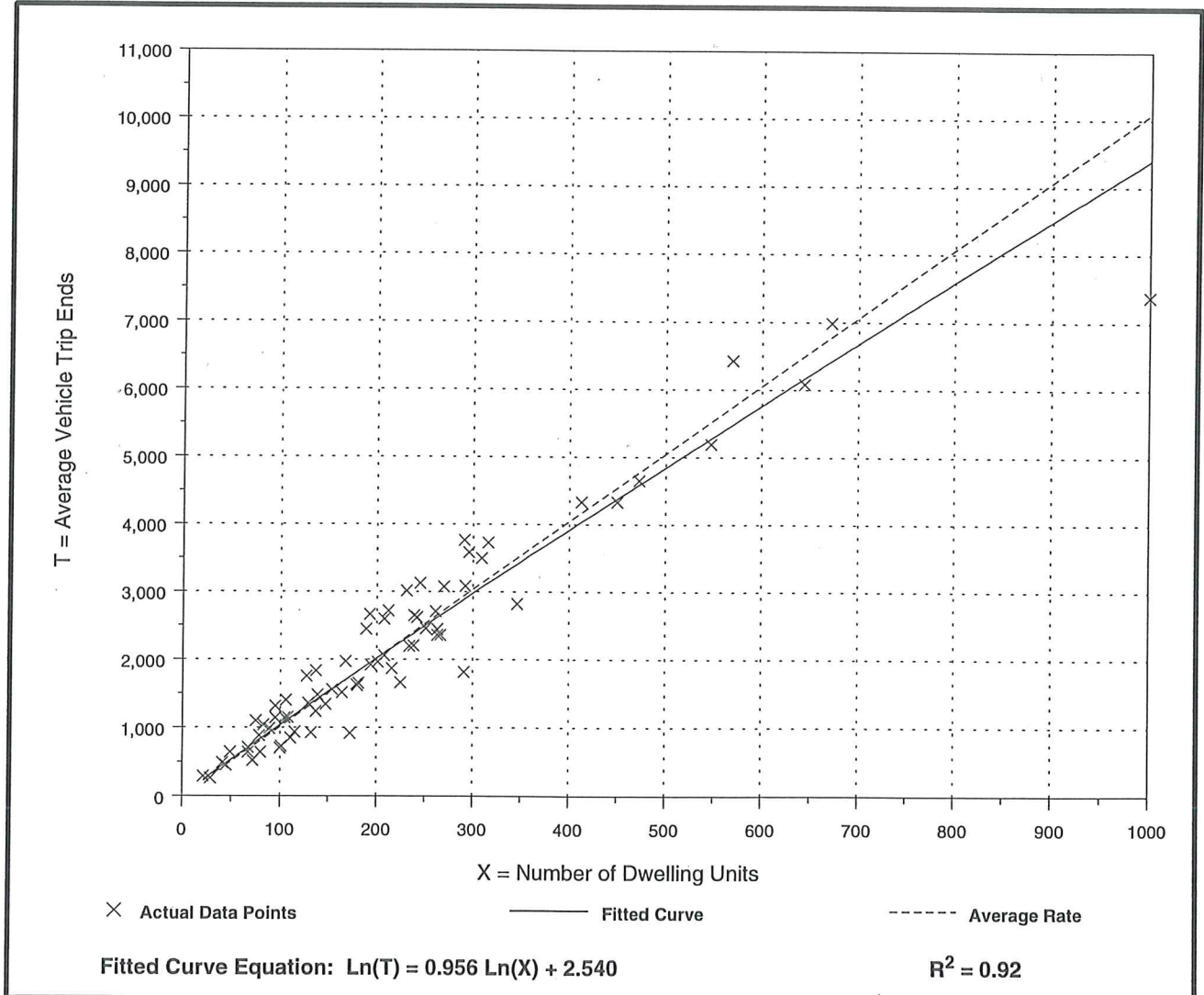
**Average Vehicle Trip Ends vs: Dwelling Units**  
**On a: Saturday**

Number of Studies: 72  
Avg. Number of Dwelling Units: 217  
Directional Distribution: 50% entering, 50% exiting

## Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
10.09	5.32 - 14.72	3.67

## Data Plot and Equation



# Single-Family Detached Housing (210)

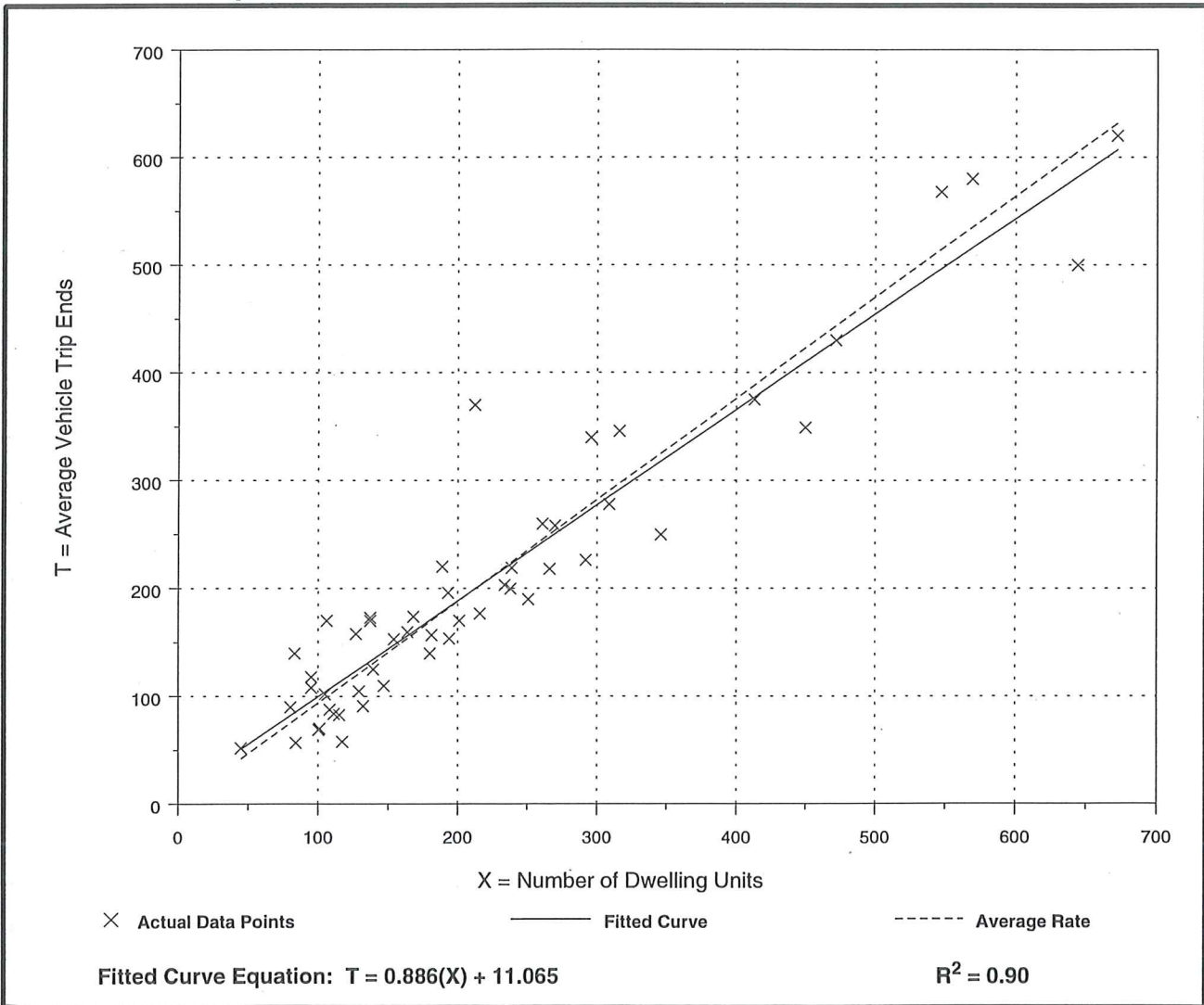
**Average Vehicle Trip Ends vs: Dwelling Units**  
**On a: Saturday,**  
**Peak Hour of Generator**

Number of Studies: 51  
 Avg. Number of Dwelling Units: 224  
 Directional Distribution: 54% entering, 46% exiting

## Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.50 - 1.75	0.99

## Data Plot and Equation



# Single-Family Detached Housing (210)

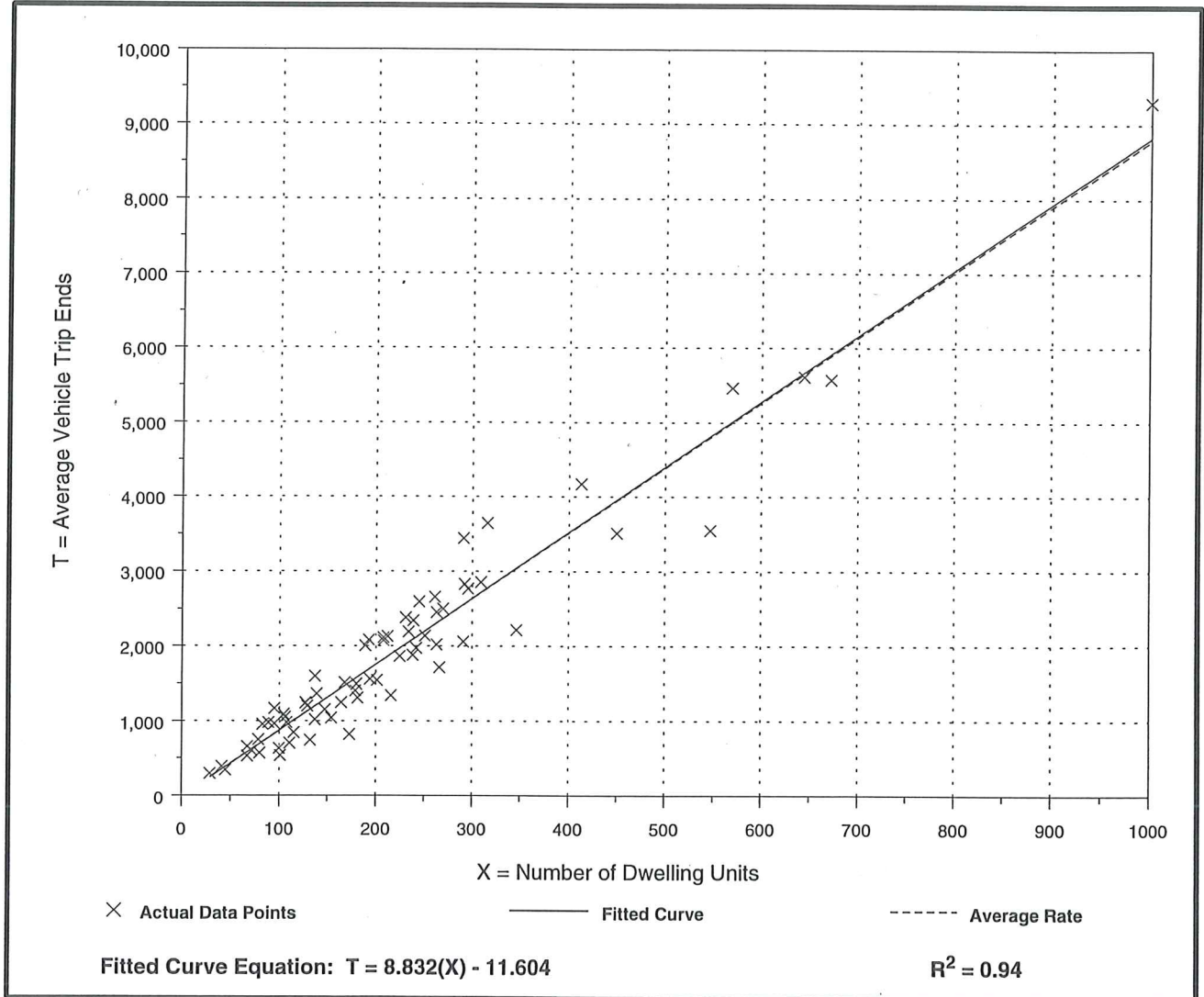
Average Vehicle Trip Ends vs: Dwelling Units  
On a: Sunday

Number of Studies: 68  
Avg. Number of Dwelling Units: 221  
Directional Distribution: 50% entering; 50% exiting

## Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
8.78	4.74 - 12.31	3.33

## Data Plot and Equation



# Single-Family Detached Housing (210)

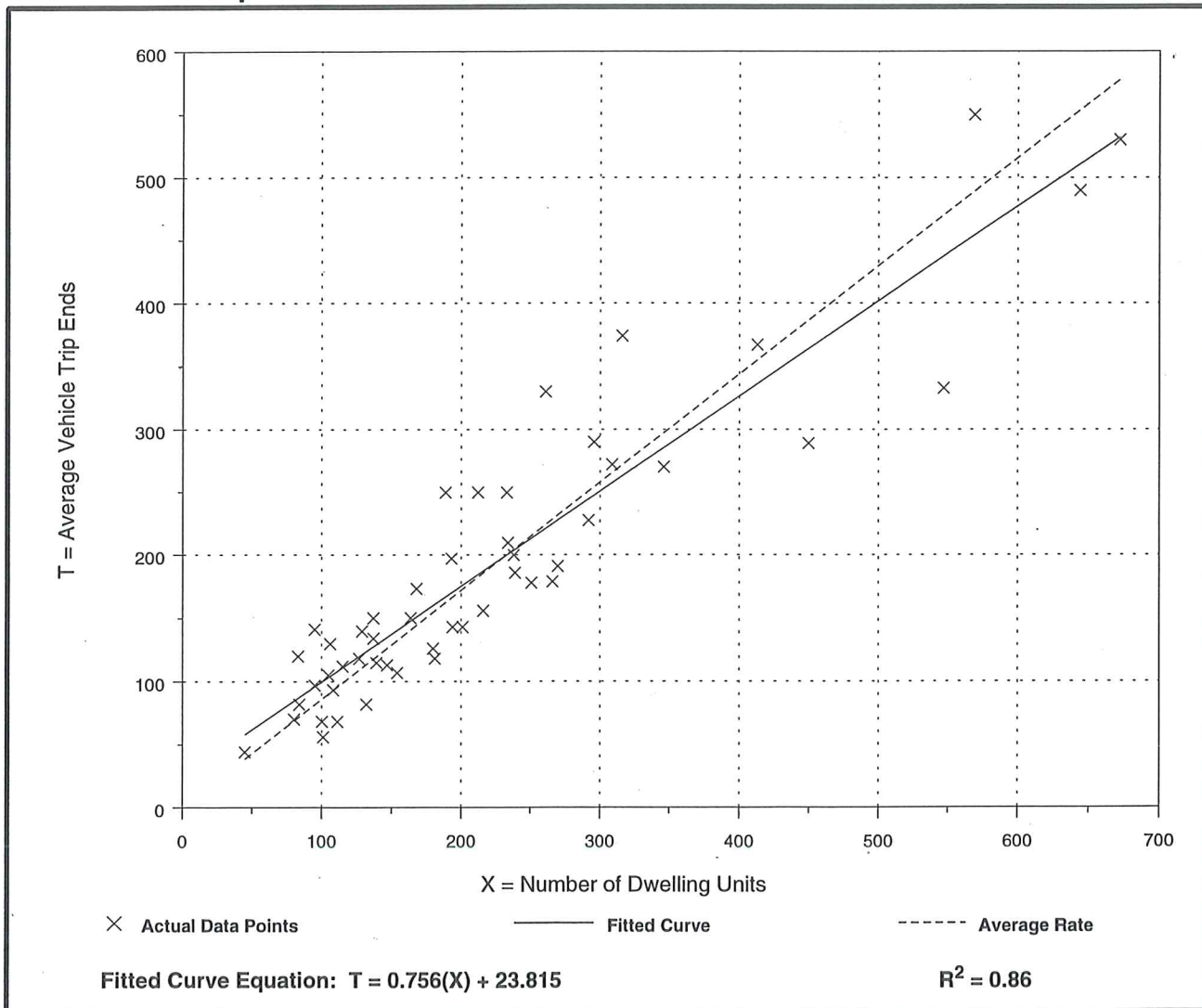
**Average Vehicle Trip Ends vs: Dwelling Units**  
**On a: Sunday,**  
**Peak Hour of Generator**

Number of Studies: 50  
 Avg. Number of Dwelling Units: 221  
 Directional Distribution: 53% entering, 47% exiting

## Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.86	0.55 - 1.48	0.95

## Data Plot and Equation

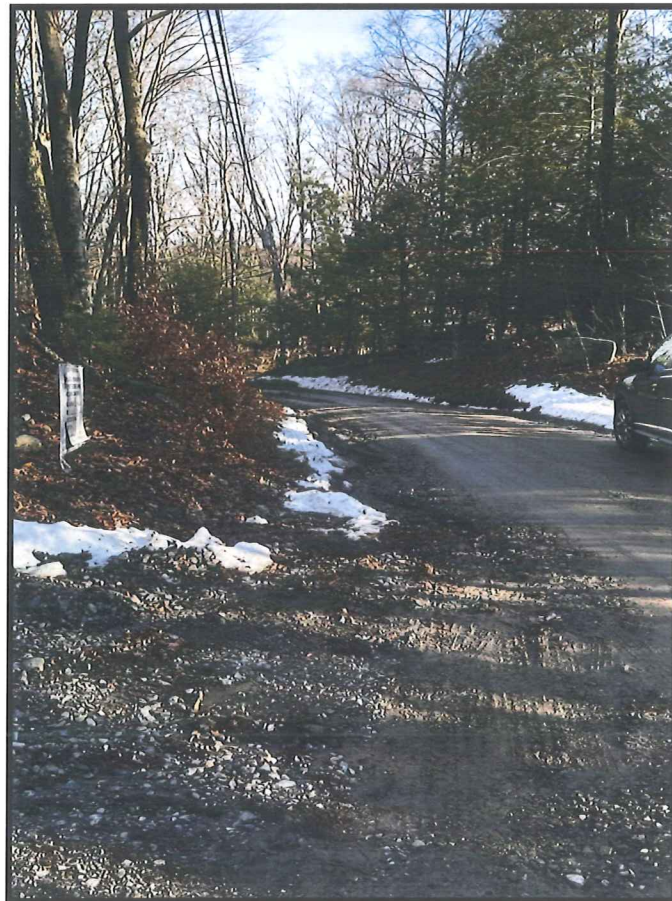


**PHOTOS**



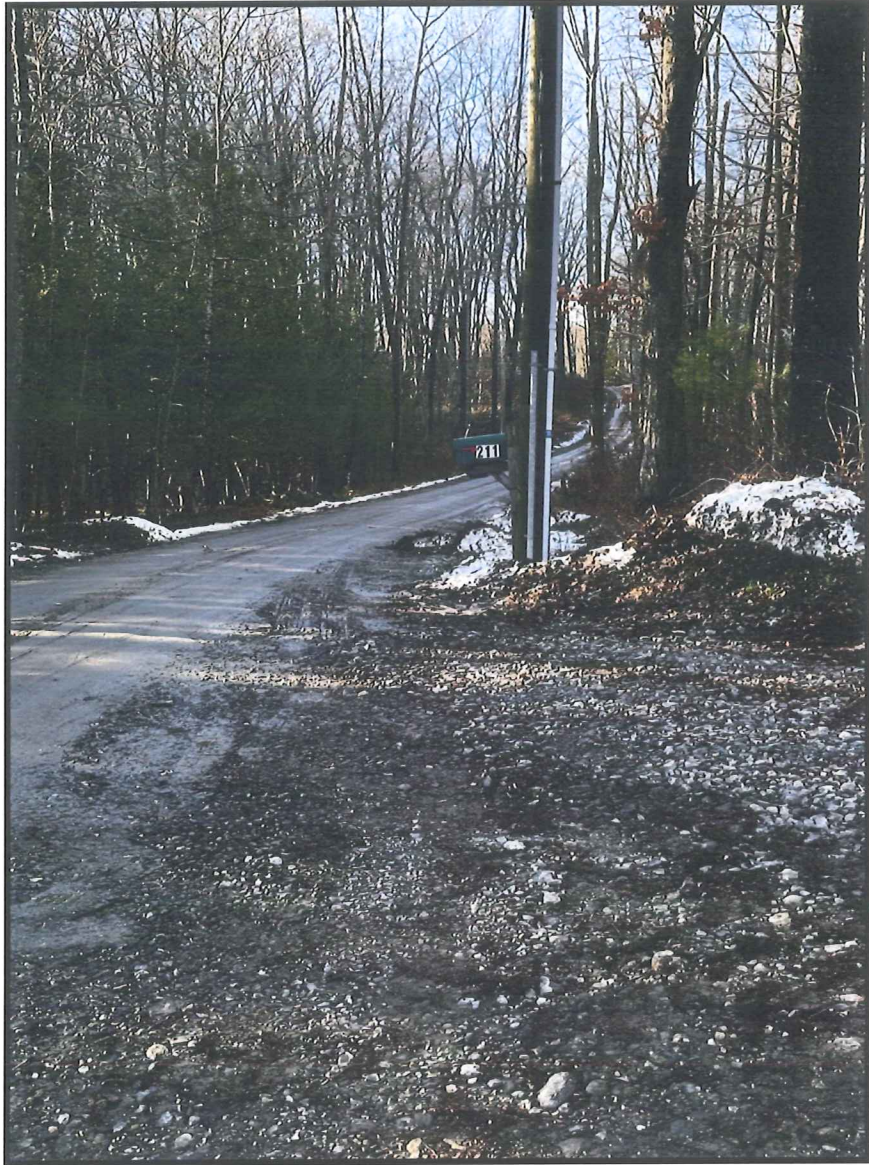


**Photo 1: Driveway Entrance**



**Photo 2: Sightline East**





**Photo 3: Sightline West**