

TECHNICAL MEMORANDUM

To: Mike Wolfe, PE
Assistant City Engineer

From: Mac Hall, PE

Re: **Anderson Powersports**
2801 N. Highway 95

Date: August 2024



Background:

Anderson Powersports proposes constructing a new dealership at 2801 N. Highway 95 in Lake Havasu City, AZ. The new dealership will have a 31,100-square-foot showroom with 82,000 square feet of inventory storage. This development will have a minor impact on the surrounding improved streets (See attached Construction Plans). The Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, Recreations Vehicle Sales code 842, charts, and formulas were utilized to determine the number of trips generated by the proposed land use on an average weekday, AM Peak Hour, and PM Peak Hour. The peak hour trip rates used in this analysis are for the peak hours of the adjacent street traffic, typically between 7:00 – 9:00 a.m. and 4:00 – 6:00 p.m.

Design Guidance:

The following section best describes the proposed land use in detail as defined in the ITE Trip Generation, 11th Edition.

Land Use Code: 842 – Recreational Vehicle Sales

This land use is described in Trip Generation, 11th Edition, in the following manner:

“A recreational vehicle (RV) sales dealership is a free-standing facility that specializes in the sales of new RVs. Recreational vehicle services, parts and accessories sales, and substantial used RV sales may also be available. Some RV dealerships may also include boat sales and servicing. Automobile sales (new) (Land Use 840) and automobile sales (used) (Land Use 841) are related uses.”

The independent variable used to predict the average daily trips for this development was the total gross floor area of the showroom.

Trip Generation Rates (ITE 11th Addition)

Land Use	Independent Variable	Weekday			A.M. Peak Hour			P.M. Peak Hour		
		Enter	Exit	Multiplier	Enter	Exit	Multiplier	Enter	Exit	Multiplier
Recreational Vehicle Sales (842)	Gross Floor Area (1000 SF)	50%	50%	4.47	54%	46%	0.61	37%	63%	0.51

Site Trip Generation (ITE 11th Addition))

Land Use	Independent Variable	Weekday			A.M. Peak Hour			P.M. Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Mini Warehouse (151)	1.52	78	77	155	14	12	26	9	15	24

As anticipated, the Maximum Potential Trip generation rates for this type of development were significantly low, which will have a minor impact on the surrounding improved streets. The total AM/PM Peak Hour Trips do not exceed 100 trips. See Appendix A for trip calculations.



Appendix A

Trip Generation Calculations

Recreational Vehicle Sales (842)

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

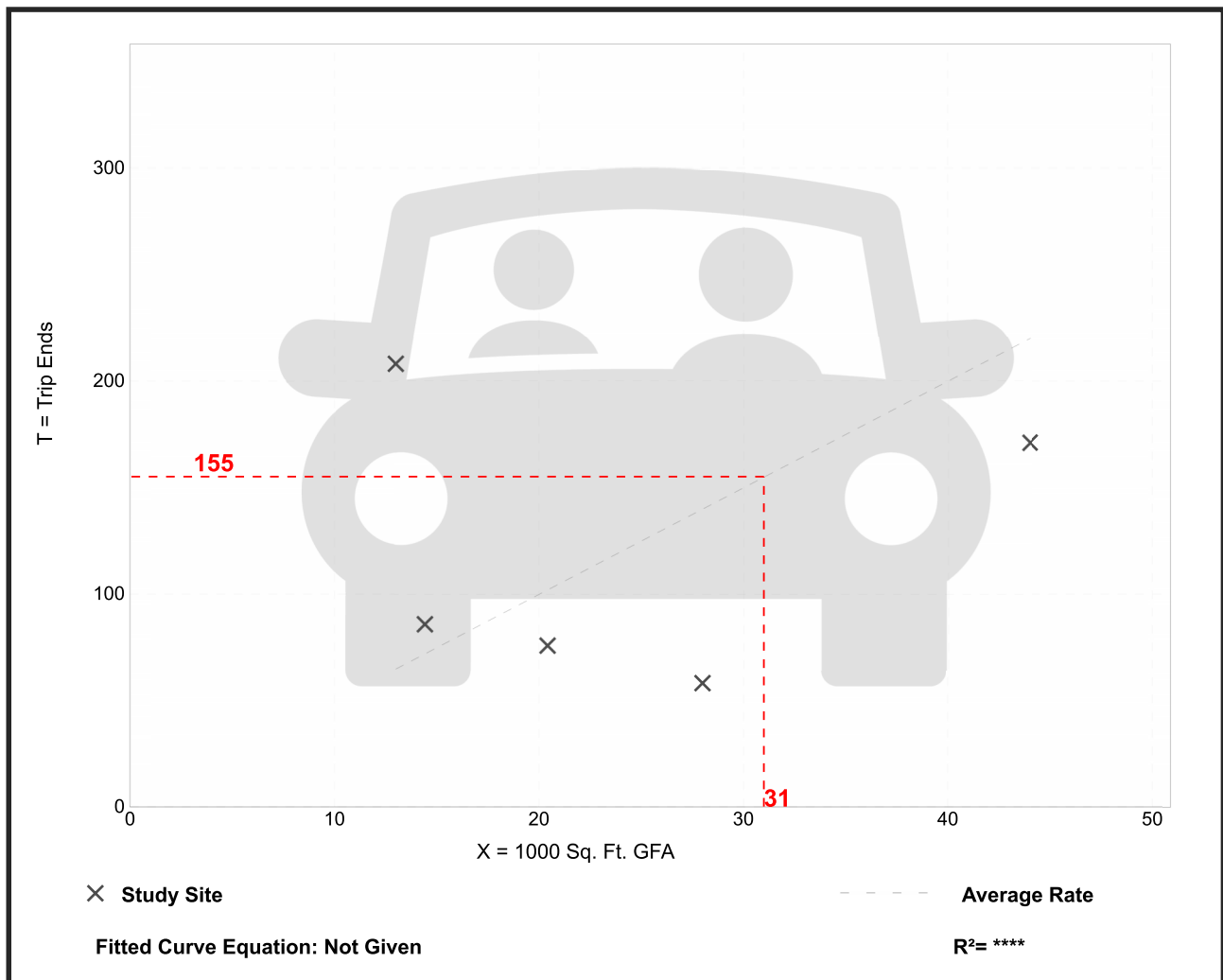
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 24
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
5.00	2.07 - 16.00	4.47

Data Plot and Equation

Caution – Small Sample Size



Recreational Vehicle Sales (842)

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

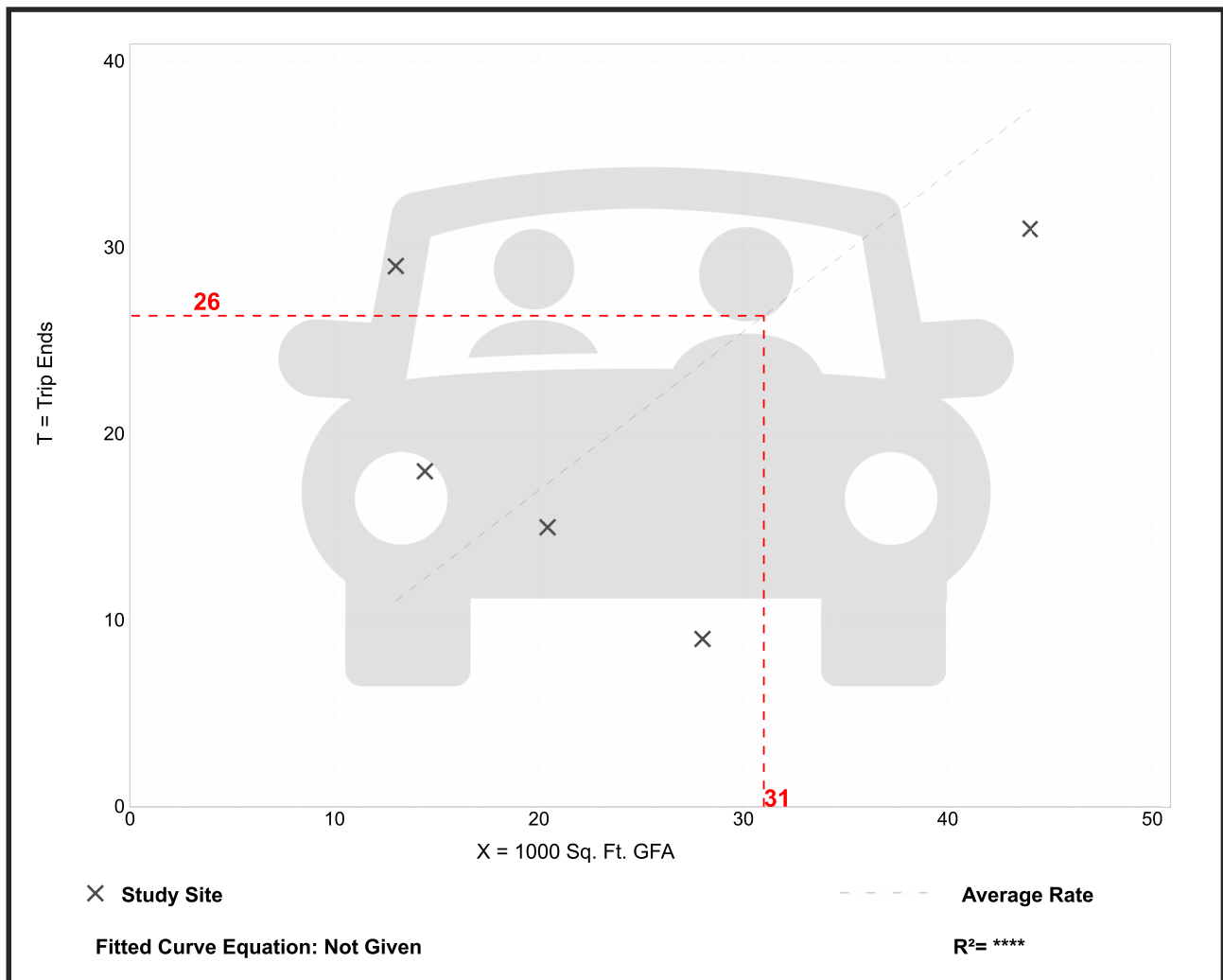
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 24
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.85	0.32 - 2.23	0.61

Data Plot and Equation

Caution – Small Sample Size



Recreational Vehicle Sales (842)

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

Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 24
Directional Distribution: 37% entering, 63% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.77	0.46 - 2.08	0.54

Data Plot and Equation

Caution – Small Sample Size

