

# MEMORANDUM

**TO:** Mr. Chad E. Branen, P.E.  
Civil Engineer/Principal  
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206 Elm Street  
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**FROM:** Scott W. Thornton, P.E.  
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**DATE:** April 1, 2022

**RE:** 8869

**SUBJECT:** Revised Traffic Assessment - Proposed Warehouse Development  
Methuen, Massachusetts

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Vanasse & Associates, Inc. (VAI) has prepared a revised Traffic Assessment to document existing conditions and to determine the vehicle trip generation associated with a proposed warehouse development to be located at 46 Old Ferry Road in Methuen, Massachusetts.

## **PROJECT DESCRIPTION**

The Project will entail the construction of a 150,976 square feet (sf) warehouse development to be located at 46 Old Ferry Road in Methuen, Massachusetts. Access to the project site will be provided by way of one (1) new roadway that will intersect the terminus of Old Ferry Rod from the west. The Project site is bounded by areas of open and wooded space and residential properties to the north and west; and areas of open and wooded space to the south and east. At present, the Project site is partially excavated and includes areas of open space. Old Ferry Road provides access to a number of industrial properties including a fencing contractor and concrete batch processing plant.



Imagery ©2019 Google Map Data ©2021 Google

## **EXISTING CONDITIONS**

The following describes the roadways expected to be impacted by the project.

### **Pleasant Valley Street (Route 113)**

Pleasant Valley Street is a two-lane urban minor arterial and traverses the study area in a general east-west direction and provides two 12-foot-wide travel lanes that are separated by a double-yellow centerline with marked shoulders. The posted speed limit is 30 miles per hour (mph) on Pleasant Valley Street. Illumination is provided at the intersection of Pleasant Valley Street and Old Ferry Road. The land use along pleasant Valley Street consists of the residential and commercial properties.

### **Old Ferry Road**

Old Ferry Road is a two-way private roadway and traverses the study area in a general north-south direction and then continues west with towards the Project site. There are no pavement markings on Old Ferry Road and land use consists of the Project site, commercial properties, and areas of open and wooded space.

## **PROJECT-GENERATED TRAFFIC**

As proposed, the Project will entail the construction of a warehouse building. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)<sup>1</sup> for a similar land use as that proposed were used. ITE Land Use Code (LUC) 150, *Warehousing* was used to develop the traffic characteristics of the Project.

**Table 1**  
**TRIP GENERATION SUMMARY**

Time Period/Direction	Warehouse Vehicle Trips
<i>Average Weekday:</i>	
Entering	139
<u>Exiting</u>	<u>139</u>
Total	278
<i>Weekday Morning Peak Hour:</i>	
Entering	32
<u>Exiting</u>	<u>10</u>
Total	42
<i>Weekday Evening Peak Hour:</i>	
Entering	12
<u>Exiting</u>	<u>33</u>
Total	45

<sup>a</sup>Based on ITE LUC 150, Warehousing and 150,976 sf.

<sup>1</sup>*Trip Generation*, 11<sup>th</sup> Edition; Institute of Transportation Engineers; Washington, DC; 2021.

## **Project-Generated Traffic-Volume Summary**

As can be seen in Table 1, the Project is expected to generate approximately 278 vehicle trips on an average weekday (two-way, 24-hour volumes), with 42 vehicle trips (32 vehicles entering and 10 exiting) expected during the weekday morning peak-hour, and 45 vehicle trips (12 vehicles entering and 35 exiting) expected during the weekday evening peak-hour.

## **RECOMMENDATION AND CONCLUSIONS**

VAI has prepared a traffic assessment consisting of a review of existing conditions and expected project vehicle trip generation. Project-related traffic increases are expected to be modest (less than one additional vehicle trip per minute during the peak hours). These increases are minimal in nature and should not be noticed beyond the site driveway and the Old Ferry Road intersection with Pleasant Valley Street.

If you have any questions on this information, feel free to contact me at [sThornton@rdva.com](mailto:sThornton@rdva.com).

### Attachment

- Trip generation calculations

## APPENDIX

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### TRIP GENERATION CALCULATIONS

# Warehousing (150)

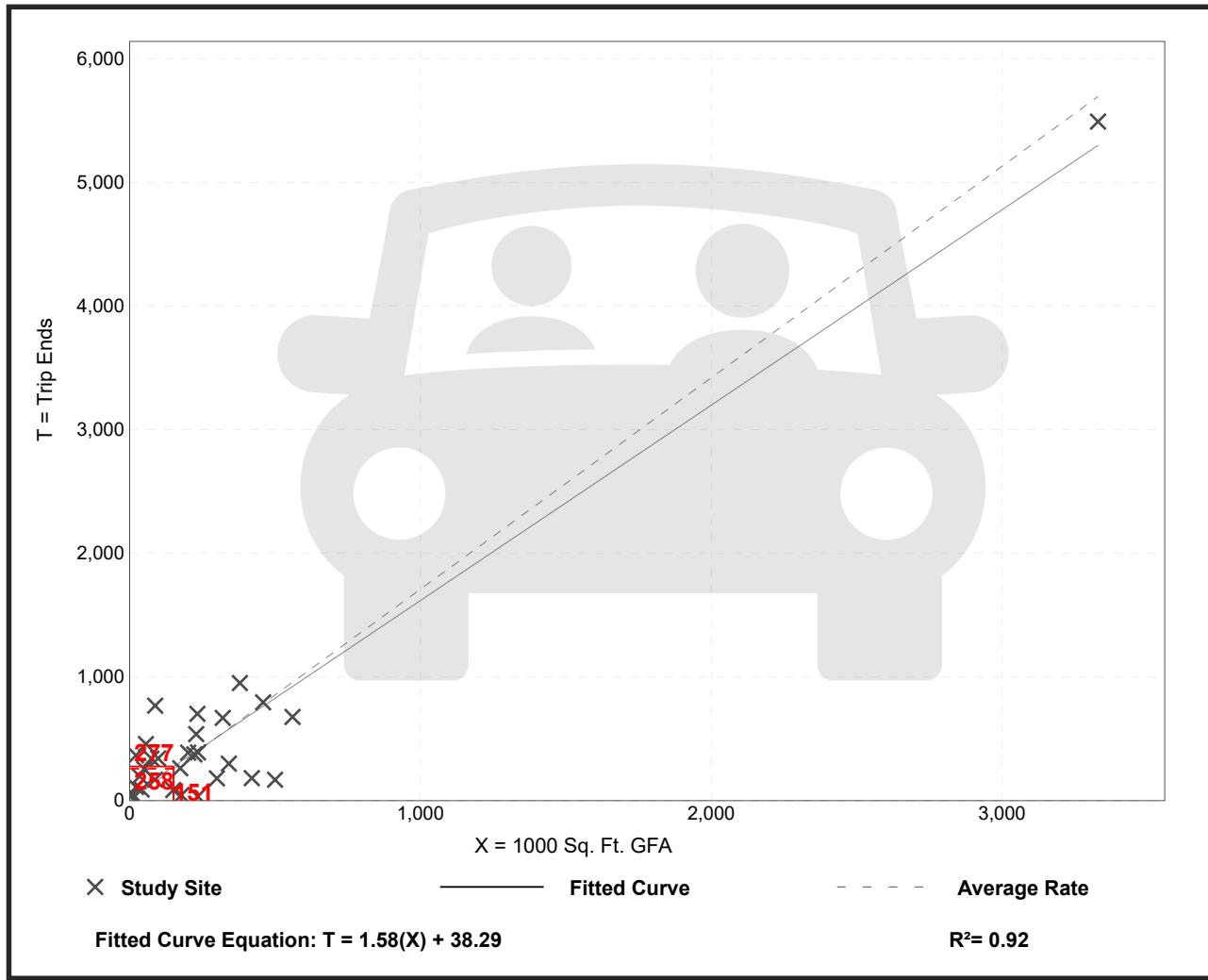
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday**

**Setting/Location:** General Urban/Suburban  
Number of Studies: 31  
Avg. 1000 Sq. Ft. GFA: 292  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.71	0.15 - 16.93	1.48

## Data Plot and Equation



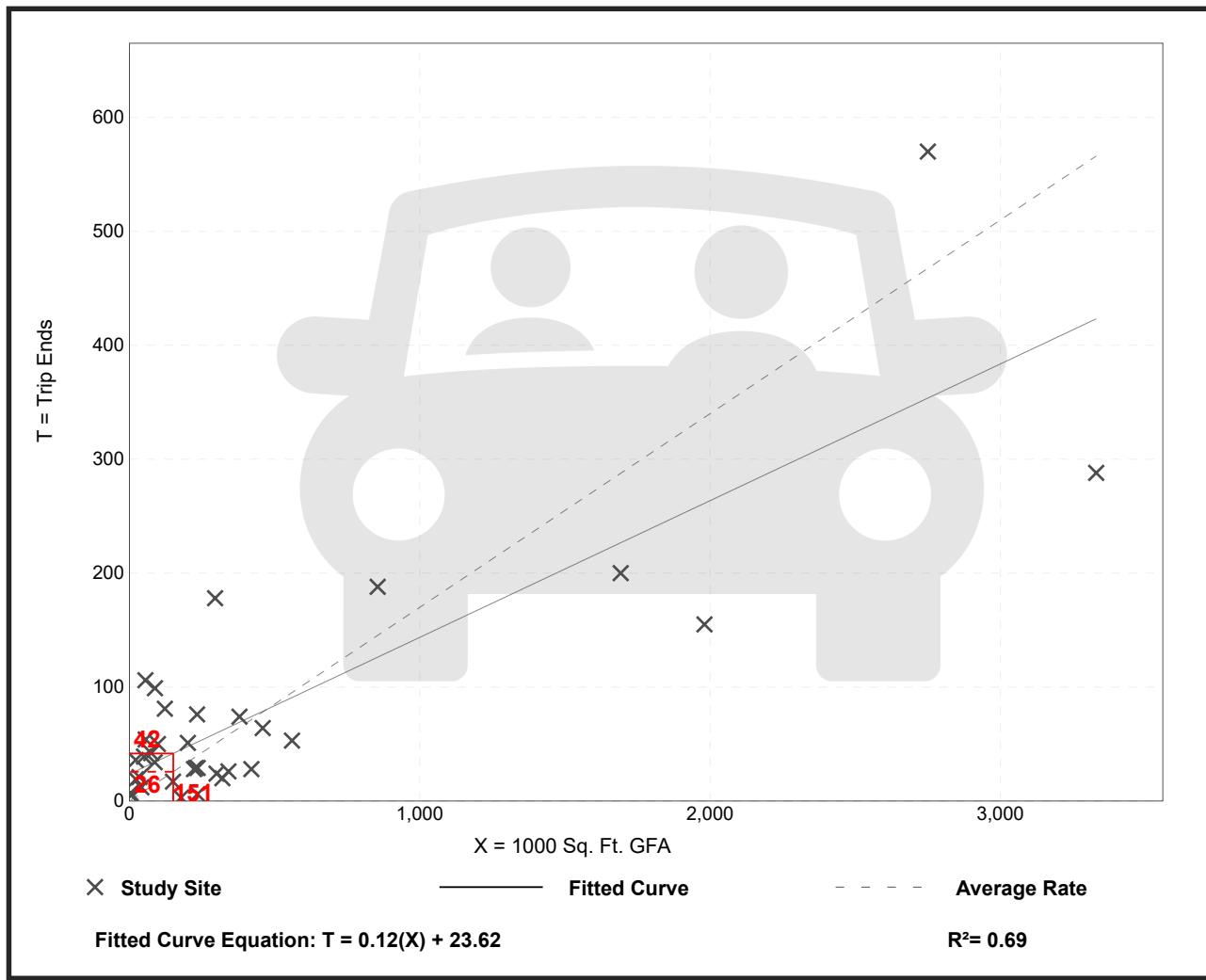
# Warehousing (150)

**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: 36  
Avg. 1000 Sq. Ft. GFA: 448  
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	0.19

## 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: 49  
 Avg. 1000 Sq. Ft. GFA: 400  
 Directional Distribution: 28% entering, 72% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

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

## Data Plot and Equation

