

MEMORANDUM

TO: Mr. Chad E. Branen, P.E.
Civil Engineer/Principal
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FROM: Scott W. Thornton, P.E.
Vanasse & Associates, Inc.
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DATE: April 1, 2022

RE: 8869

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

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)¹ 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

^aBased on ITE LUC 150, Warehousing and 150,976 sf.

¹*Trip Generation*, 11th 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.

Attachment

- Trip generation calculations

APPENDIX

TRIP GENERATION CALCULATIONS

Warehousing (150)

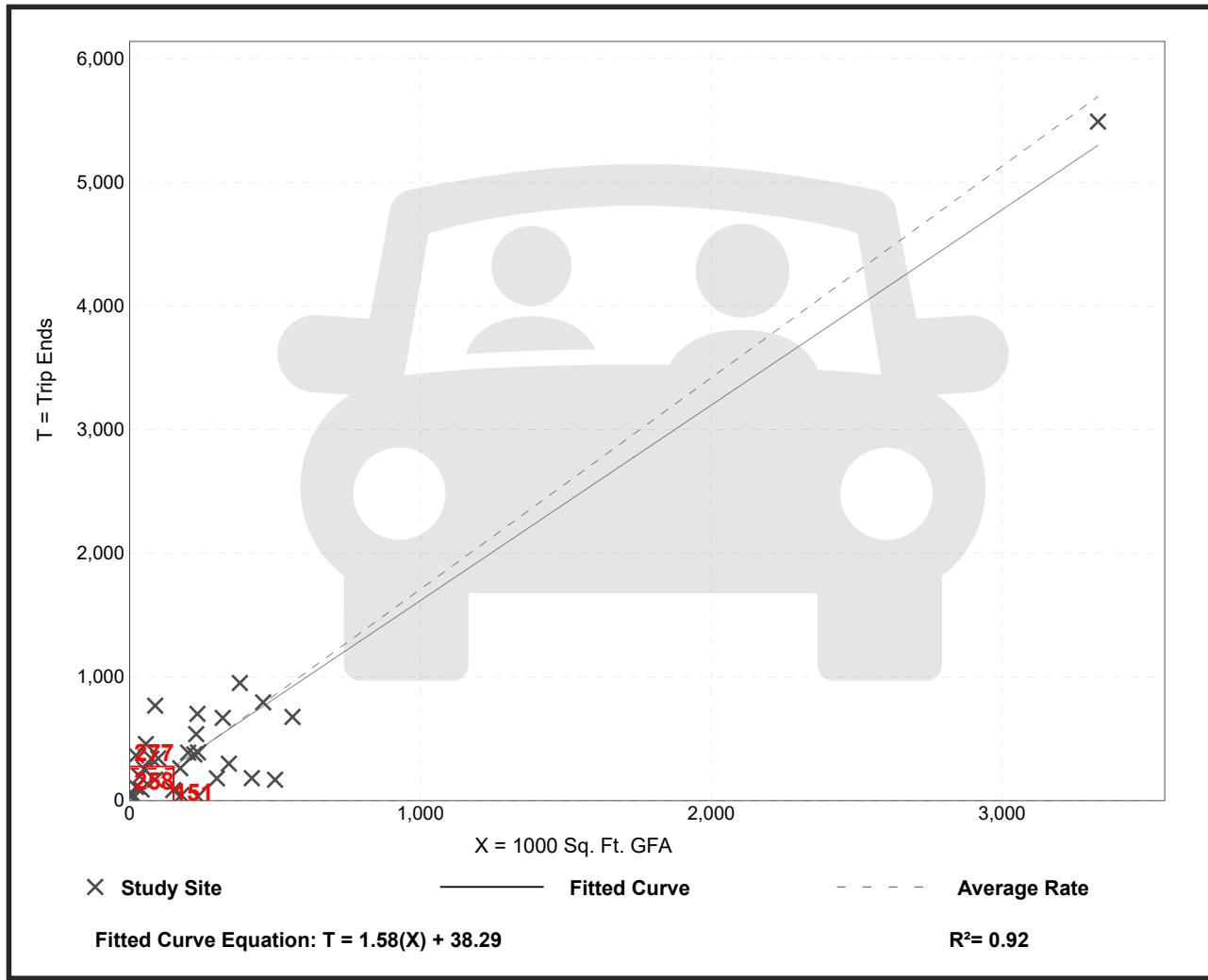
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

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



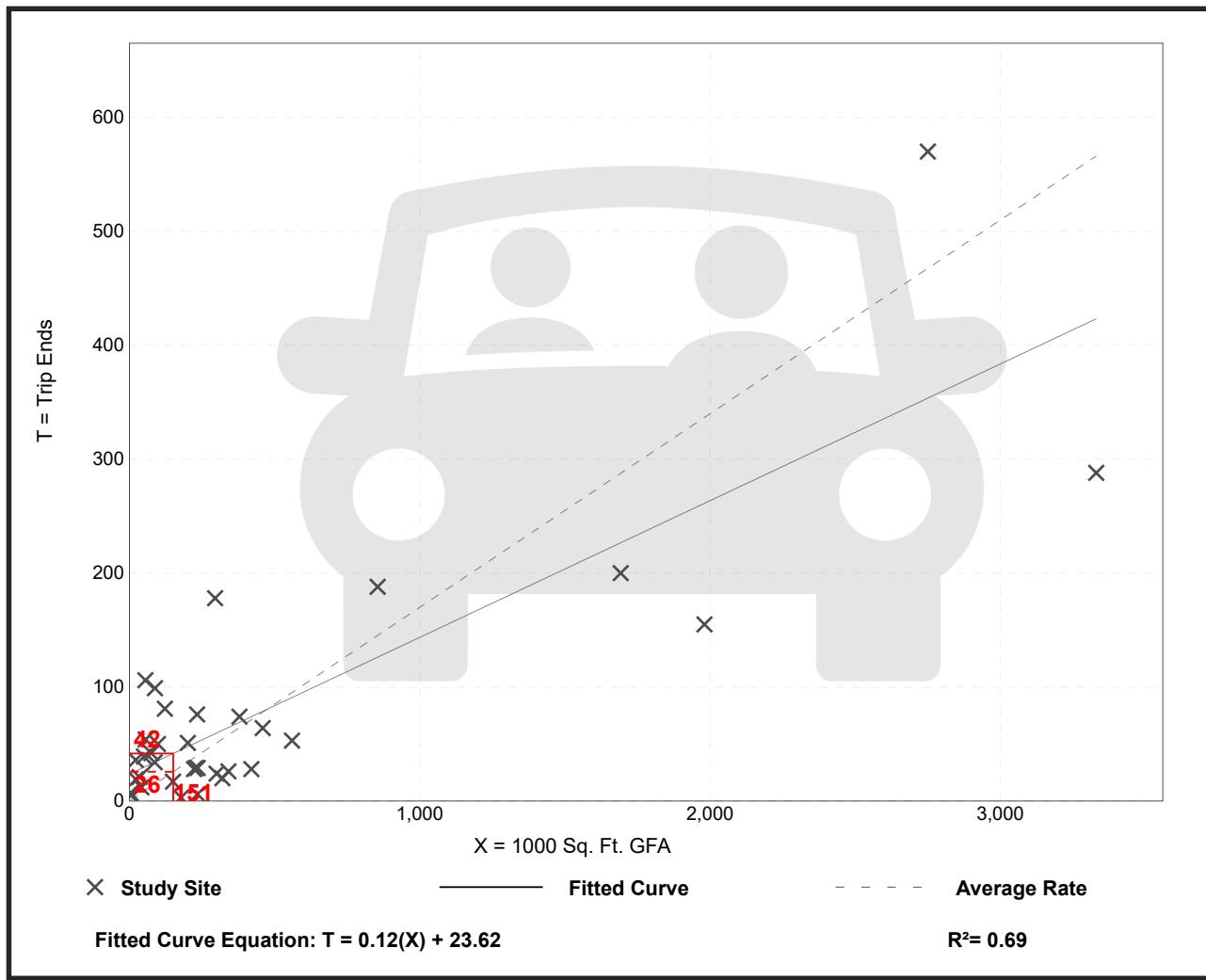
Warehousing (150)

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

