DOLAN&DEAN
CONSULTING ENGINEERS, LLC

181 WEST HIGH STREET
SOMERVILLE, NJ 08876
908 927 0100 p
908 927 0181 f
www.dolandean.com

TRAFFIC IMPACT STATEMENT

FOR

230 BELMONT DRIVE

PROPOSED WAREHOUSE

BLOCK 517.05, LOT 35.12
TOWNSHIP OF FRANKLIN
SOMERSET COUNTY, NEW JERSEY

MAY 28, 2020

ELIZABETH DOLAN, P.E.
NJ LICENSE NO. 37071

GARY W. DEAN, P.E., P.P.
NJ LICENSE NO. 33722

EIC\lrc
Somerset\Franklin\Belmont 230\Documents\Documents\2020-05-28 TIS

INTRODUCTION

An 152,175 square foot warehouse is proposed at 230 Belmont Drive in Franklin Township, Somerset County, New Jersey. The building will contain 8,823 square feet of ancillary office space, thus providing 143,350 square feet of warehouse area. The new warehouse will be constructed on land that is currently vacant. Access is proposed via two full-movement driveways located along Belmont Drive.

Dolan & Dean Consulting Engineers, LLC (D&D) has been retained by the applicant to prepare a Traffic Impact Statement to address trip generation characteristics of the warehouse, and to review access, on site circulation, and parking.

EXISTING CONDITIONS

The site is a 22.08-acre parcel designated as Lot 35.12 in Block 517.05 in the M-1 Light Manufacturing District, where warehouses are permitted. As shown on appended Figure 1, the site is located on the eastern side of Belmont Drive, north of School House Road and south of Pierce Street. The subject property is currently undeveloped.

Belmont Drive is a local roadway, operating between Campus Drive to the north and School House Road to the south. Land uses along the roadway include industrial uses similar to the proposed warehouse. Between Pierce Street and School House Road, the speed limit is 45 miles per hour and NO STOPPING OR STANDING signs are posted on both sides of Belmont Drive. The roadway has a paved width of approximately 40 feet and provides one lane per direction of travel.

Belmont Drive and Pierce Street form a four-leg intersection. STOP signs are present on all approaches.

Belmont Drive intersects School House Road from the north to form a three-leg intersection controlled by a STOP sign on the Belmont Drive approach to the intersection.

Pierce Street and School House Road are local east-west roadways. Both roads intersect with Cottontail Lane and Randolph Road to the west, and Elizabeth Avenue and Cedar Grove Lane to the east, affording access to I-287.

TRAFFIC CHARACTERISTICS OF THE WAREHOUSE

Data compiled by the Institute of Transportation Engineers (ITE) is typically used to forecast trip generation for new development. Based on review of the 10th Edition of the ITE Trip Generation Manual, Land Use 150 – "Warehousing" is applicable to the proposed warehouse. Recently the ITE released a supplement for the 10th Edition which provides truck trip generation rates for specific land uses, including warehouses.

Note that the ITE definition of "Warehousing" acknowledges that warehouses include ancillary office space. Therefore, the ITE rates are applied to the total proposed building area.

Trip generation calculations are appended and summarized below.

TABLE I
TRIP GENERATION PROJECTIONS
152,175 SF WAREHOUSE

Vehicle Type	Morning Peak Hour			Evening Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Cars	32	9	41	10	31	41
Trucks	2	1	3	2	3	5
Total	34	10	44	12	34	46

As shown, the peak hour trip generation is relatively low. During all other hours, volumes entering/exiting the site will be lower, than the volumes shown in Table I.

In the ITE Manual of Transportation Engineering Studies, guidelines are provided for the preparation of traffic impact studies for new developments. The ITE recommends that

traffic studies be performed when a development generates 100 or more trips during an hour. Similarly, the NJDOT State Highway Access Management Code defines "significant" traffic as 100 or more trips in an hour. The proposed development will generate less than 100 trips in any hour, and therefore the volume of traffic generated will produce a minimal impact on the adjacent roadway system.

SITE ACCESS & CIRCULATION

The plan prepared by Bohler Engineering was reviewed in regard to site access, on-site circulation, parking and loading.

- Two full-movement driveways are proposed to intersect Belmont Drive from the west:
  - The north driveway will provide access for trucks and has been designed with 50-foot radii and a 36-foot width to accommodate tractor trailer movements.
  - The southern driveway will provide access to passenger vehicle parking areas and will measure 36 feet in width.
- The truck court will provide 28 loading bays and 57 trailer parking spaces, on either side of a 75-foot two-way circulation aisle.
- Parking for 119 passenger vehicles is proposed on the south and east sides of the proposed warehouse.

The site plan has been designed in accordance with recognized design guidelines, to promote safe and efficient ingress, egress and on-site circulation for passenger vehicles and tractor trailers.

Ample parking is provided for all vehicle types. The 5th Edition of the Parking Generation Manual by the ITE indicates an average demand of 59 spaces for the proposed 152,175 square foot warehouse. The Ordinance requires 96 spaces, whereas 119 spaces are proposed.

Technical Appendix

PROPOSED WAREHOUSE
TOWNSHIP OF FRANKLIN
SOMERSET COUNTY, NEW JERSEY

FIGURE 1

DOLAN&DEAN
CONSULTING ENGINEERS, LLC

SITE LOCATION MAP

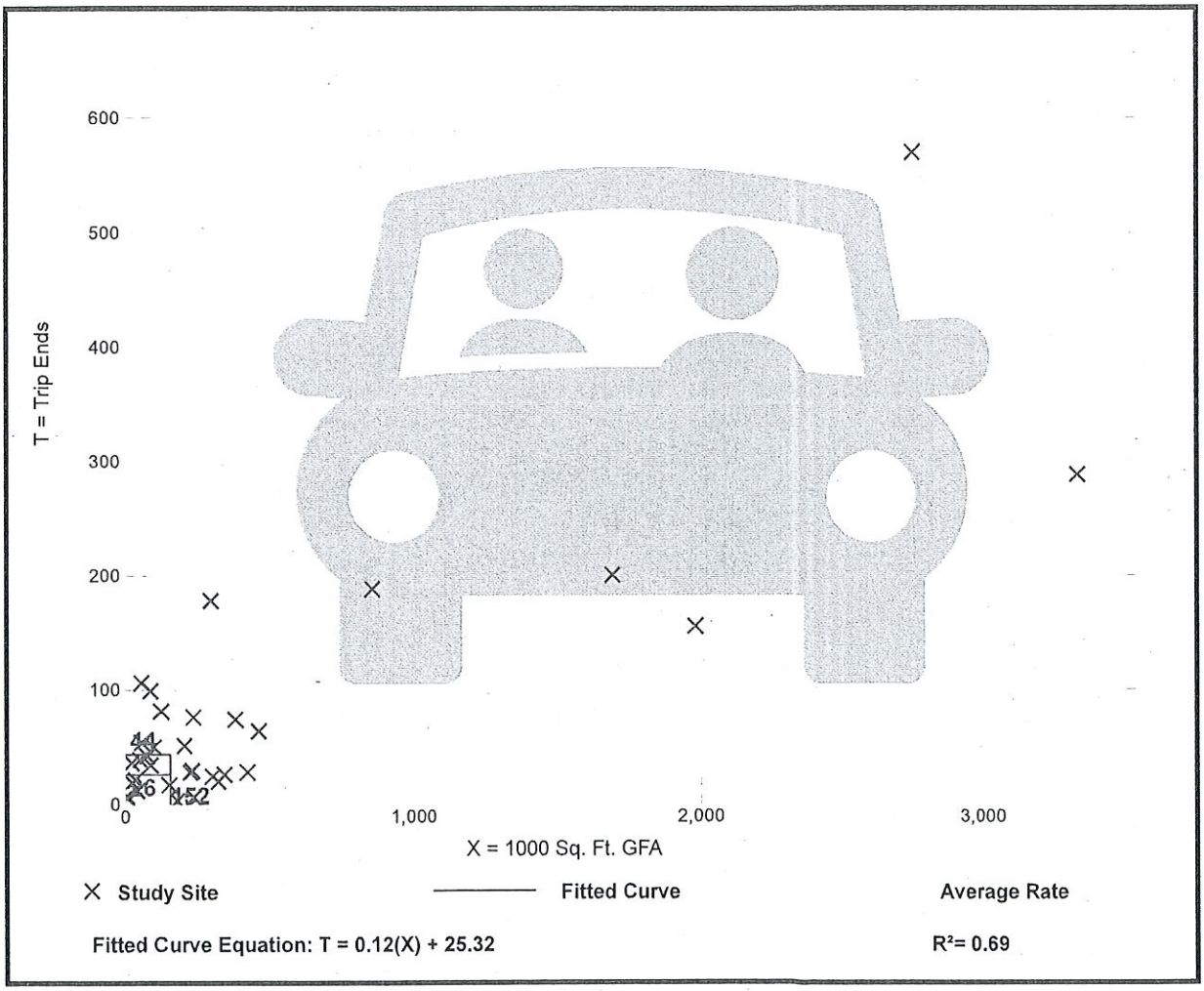
Warehousing
(150)

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:	34
Avg. 1000 Sq. Ft. GFA:	451
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	0.20

Data Plot and Equation



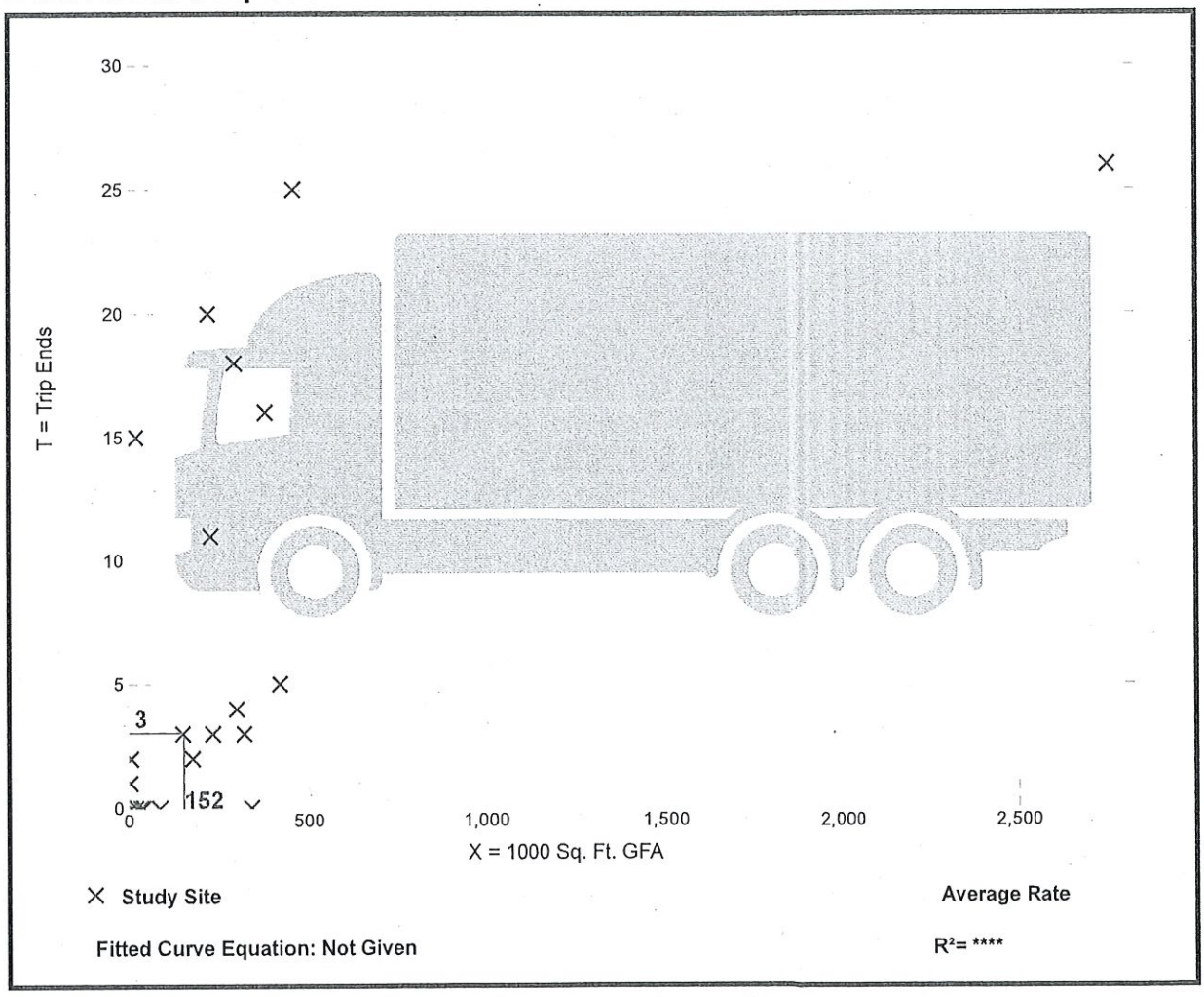
Warehousing
(150)

Truck 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: 21
Avg. 1000 Sq. Ft. GFA: 309
Directional Distribution: 52% entering, 48% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.02	0.00 - 0.69	0.05

Data Plot and Equation



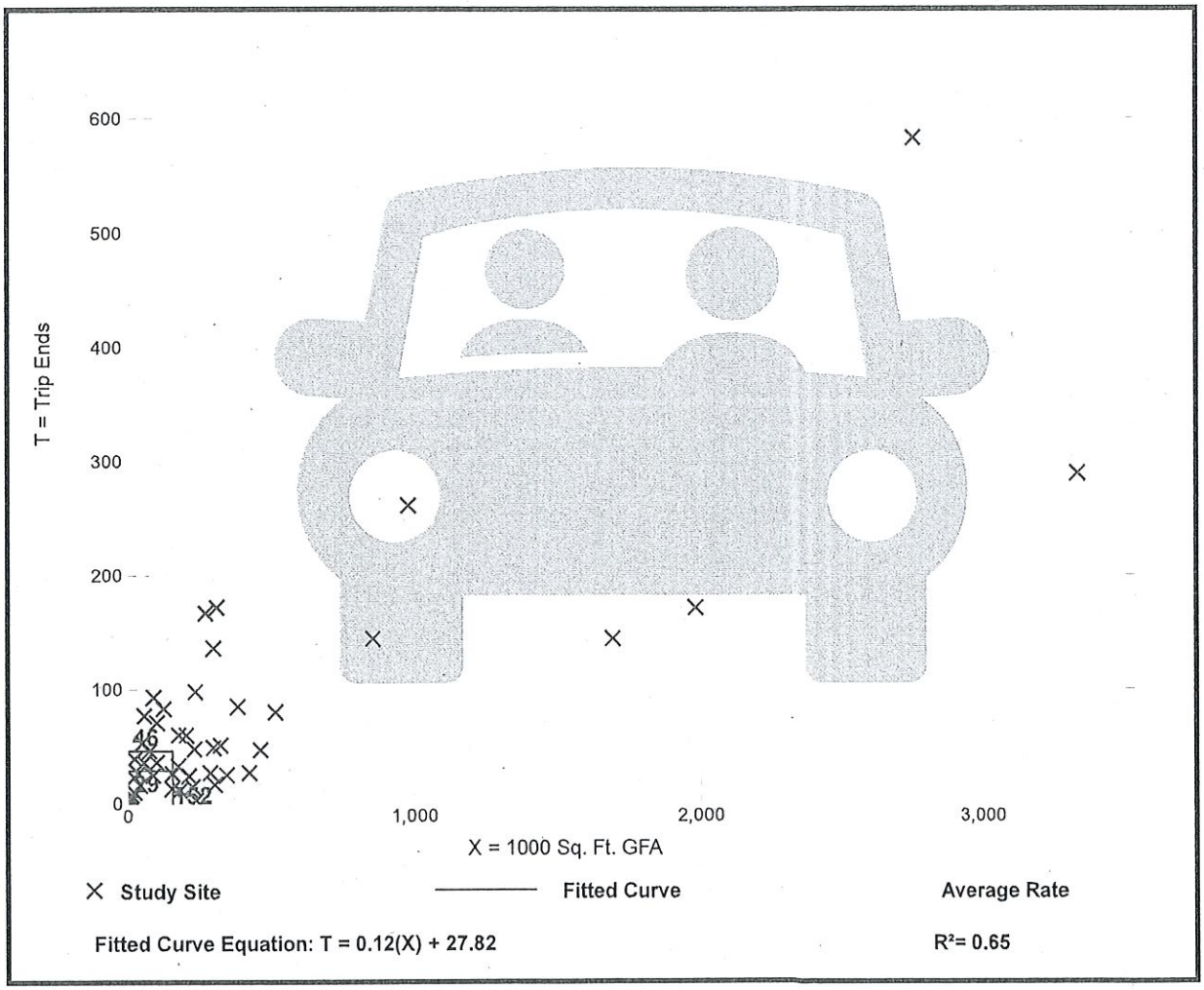
Warehousing
(150)

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: 47
Avg. 1000 Sq. Ft. GFA: 400
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 1.80	0.18

Data Plot and Equation



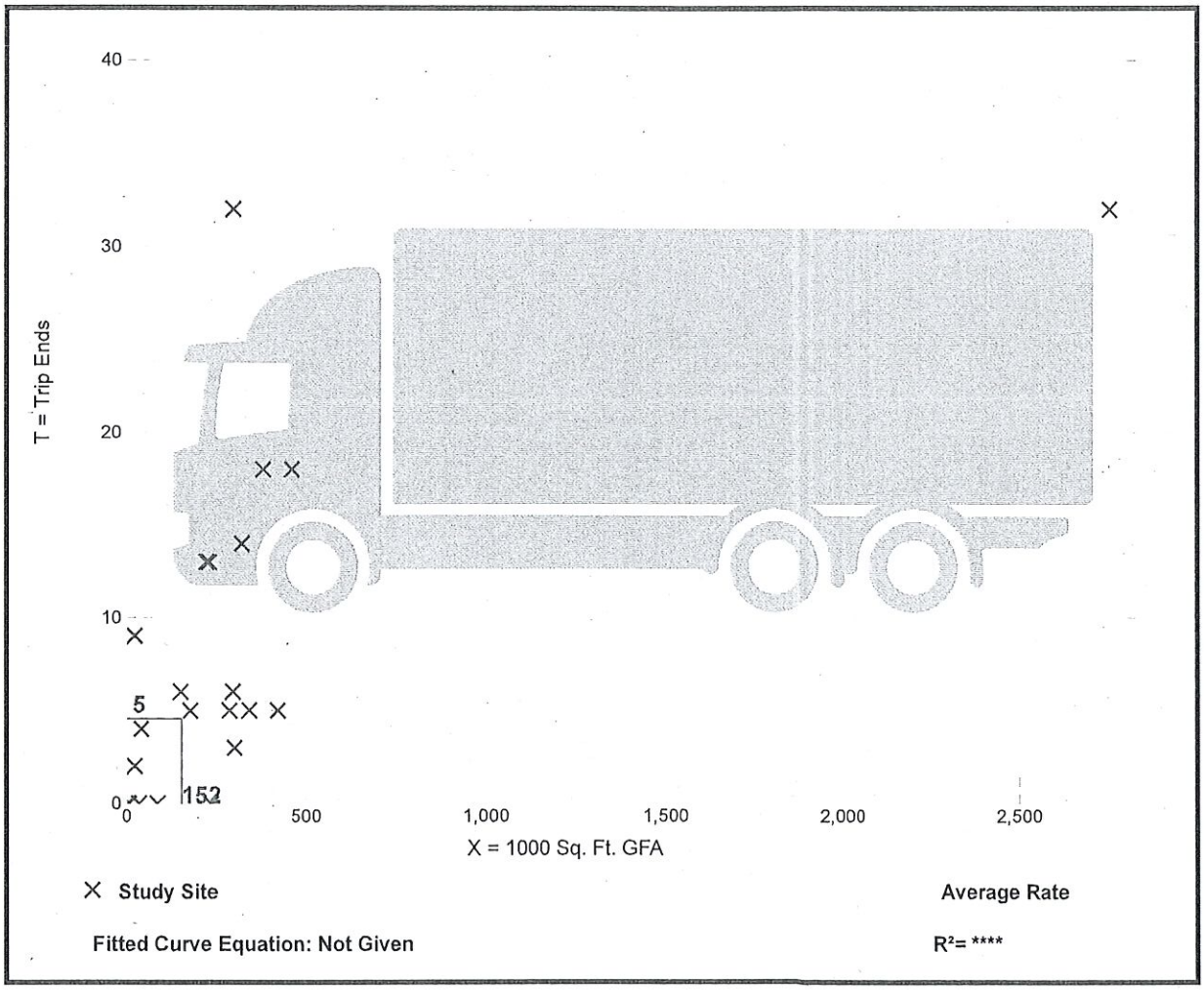
Warehousing
(150)

Truck 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: 23
Avg. 1000 Sq. Ft. GFA: 308
Directional Distribution: 52% entering, 48% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.03	0.00 - 0.42	0.03

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers