8 MONUMENT SQUARE, LEOMINSTER, MA 01453 PHONE: (978) 534-1234 CIVIL ENGINEERS & LAND SURVEYORS

Valerie Oorthuys – Planning Director **Stow Planning Board** 380 Great Road Stow, Massachusetts 01775

October 31, 2023

RE:

**Bransfield Tree Company** 63 & 65 White Pond Road Major Modification

- Earth Removal Special Permit
- Contractors Yard and Erosion Control Special Permit
- Site Plan Approval

Dear Ms. Oorthuys,

Hannigan Engineering, Inc. is in receipt of comments from Places Associates, Inc. dated September 8, 2023 along with public comments relative to the proposed modification of a Special Permit for Contractor's Yard at 63 and 65 White Pond Road in Stow, Massachusetts. We offer the following responses to their comments:

Comment#1:

The industrial floor drain holding tank cannot be located on the plans as stated in the cover letter. A detail is shown but it is not a floor holding tank with lining, leak detection, pipe penetration boots, vent, pump out insertion and alarm system including a warning alarm and high water alarm, It should also clearly indicate where the alarm panel will be located and the responsible party for the maintenance of the system.

Response:

The proposed industrial holding tank is located behind the proposed building. The tank detail has been updated to comply with 314 CMR 18.08.

Comment#2a:

Drainage: The drainage system design relies heavily on overland flows to function as designed. Pavement grindings will compact well and minimize dust but generally remains permeable. Given the high permeability of the soils on site, it is likely that the only runoff making its way to the basin will be from the roof and paved parking area except under high intensity rains and rain on frozen ground. It will be imperative that the flow paths do not get blocked by contractor materials or snowbanks etc. The plan should clearly identify areas where no storage is allowed.

Response:

The site grading has been modified to direct surface flows to appropriate drainage areas or structures. Storage and Access have been demarcated on the plan to prevent the storage of materials from interfering with the intended flow paths.

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Comment#2b: Drainage: The Time of Concentration (Pre & Post) to the Elizabeth Brook is not correct. Portions of the front of the site drain onto White Pond Road and then to a depression on the n/f J. Melone property. The tributary areas (Pre & Post) are not reflective of the depression behind the carports on the northerly property line (elev. 206 located in P 105).

Response:

The depression on the land of Melone is part of a natural swale system that discharges to the Bordering Vegetated Wetland along the southerly property line that ultimately flows to Elizabeth Brook. Provided with this submittal is copy of the topographic plan showing the connection prior to the work implemented by the applicant. The drainage analysis is based on changes in site conditions from the time of the original approval to the proposed condition depicted on the site plan.

Additionally, the depression located behind the carports would be eliminated. Additional grading and drainage infrastructure has been incorporated to ensure proper drainage within this area.

Comment#2c:

Drainage: The proposed basin is proposed to have pea stone along the bottom. We agree with this and would also support the use of 3/4"-1-1/2" stone if it is more economical. We would not recommend any substitution of larger stone for the bottom.

**Response:** 

Acknowledged.

Comment#3:

The plans show a sidewalk across the frontage of the site. Two sidewalk details are provided, one with curbing and one without. The plans do not indicate any grading for either the sidewalk along White Pond Road or adjacent to the building, implying that the sidewalk is on grade, without a curb. We recommend that the plans clearly label the need for a curb to improve pedestrian safety and that sidewalk have a 1.5% cross slope for drainage.

Response:

Spot shots have been emphasized within the revised submittal. It is noted that the nomenclature of TC=## and FC=## have been utilized to mark the Top of Curb (TC) and Face of Curb (FC) for the purposes of grading adjacent to the building.

Additional information relative to grading has been provided along White Pond Road. It is the intent that this sidewalk will be flush with the existing grade with a landscape strip between the sidewalk and White Pond Road.

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Comment#4:

The proposed septic system leaching field is in an area currently in use for access and storage. It is our recommendation that the system be designed for H20 loading and once installed and completed, be protected with bollards.

Response:

It is noted that the area of the proposed septic system has never been intended to be utilized as an area for storage. Concrete blocks have been noted on the site plan to be placed around the subsurface sewage disposal field to ensure that the area is not utilized in this manner. Additionally, the septic system design plan calls out H-20 loading materials for its construction.

Comment#5:

We noted 8 different contractors in addition to Bransfield Tree on the site. It is unclear as to whether any of these other contractors will have access to the bays and bathroom facilities in the proposed building. From the Planning Board permits perspective, it could have an impact on the amount of parking needed to support the building. Typically, workers will arrive in their own vehicles, leaving in a company vehicle resulting in a higher parking demand than 1 per employee. If there are more than 25 people potentially using the facilities, then the water system is considered a "public water supply" and would have to be re-located to where the well radius had only passive uses in it.

Response:

The building is to be utilized primarily by Bransfield Tree Company, with the potential of additional tenants renting the building space,. Only occupants of the building will be allowed to utilize the building facilities. This is limited to the 24-people. This is currently being reviewed with the Stow Board of Health relative to compliance under their purview.

The tenants elsewhere on the site are transient in nature and will utilize the property purely for the purposes of outdoor storage. They will not be permitted within the building nor utilize any of the domestic services within the building.

Comment#6:

The application indicated that there would be no change in the proposed traffic generated between the initial 1.5 acre site development and the current proposal with at least 9 companies using the site. We disagree, the more intense use of the site with multiple companies presents the potential for more traffic and should be addressed accordingly for both passenger vehicles as well as company vehicles

Response:

An updated traffic review has been performed utilizing ITE Trip Generation Manuals which outline anticipated trips generated by an intended use. Based on the current ITE Trip Generation Manual 11th Edition- Land Use 180 -Specialty Trade Contractor, it is expected that the daily trips per day would be 75 trips per day, with 15 trips during the morning peak hour and 16 trips during the afternoon peak hour based on the permissible 24-employee count on the property. Thus, below the 100 trip per day threshold.

It is acknowledged that there will be multiple tenants on the property, utilizing the remaining land for storage of materials. Due to the variable nature of this use, the number of trips generated by the other tenants is highly and is not anticipated to generate an additional 25 trips on a daily basis.

Comment#7:

We note that the site plan does not show any site lighting around the new building, even on the building. It is recommended that the Board require building lighting and product cut sheets so they can assess whether the lighting is sufficient/excessive and in compliance with the Zoning By-laws. The applicant should also clarify the interior site lighting for compliance and any limitations on the use of the electrical outlets around the site for lighting.

Response:

A site lighting and photometric plan has been provided with the revised submittal although there will be electrical supply outlets on the outside of the building, these are not intended for use by the site tenants.

Comment#8:

The area adjacent to the parking spaces on the southerly side of the building indicates that it will be landscaped lawn. Given the proximity to pavement and the use of the site, consideration should be given to naturalizing the area with a conservation mix or other less water dependent vegetation.

Response:

A wildflower seed mix has been proposed along the southerly landscaped area near the septic system. Due to the importance of the septic system and it's longevity, the demarcated septic area will remain as lawn to allow for proper visual inspection and maintenance of the septic field.

Comment#9:

Dumpsters should be placed on concrete pads, where feasible, and should be covered and subject to inspections.

Response:

An enclosed dumpster pad has been provided on the plan. This pad will not be covered as, a standard top loading commercial dumpster is typically emptied using a refuse vehicle that lifts the dumpster over the cab to dispose of the waste. Any covering would inhibit this function.

Comment#10:

The O&M Plan and Long-Term Pollution Prevention Plan are very generic. We recommend that these items be beefed up to be specific to this site and the concerns about groundwater protection. We recommend that the Board consider a condition prohibiting the use of pesticides (LTPPP no. 6) except as after all non-chemical methods have been attempted and only applied by a licensed professional specific to the pest.

Response:

The Operation and Maintenance Plan has been updated to provide sitespecific site criteria. It is noted that the applicant and landowner is a licensed pesticide and herbicide applicator and performs such work as part of their business. As such additional verbiage relative to the a licensed applicator has been added to the Operation and Maintenance Plan

Hannigan Engineering, Inc. is providing this information for your consideration in the approval of this Site Development Plan. Hannigan Engineering, Inc would like to thank the Planning staff, and the Board for its continued cooperation during the review of this project

Sincerely,

HANNIGAN ENGINEERING, INC.

Christopher M. Anderson Vice-President, Engineering illiam D. Hannigan, PE

J:\My Documents\PROJECTS\3100+\3136-Money Brook Farm\Planning Board\Peer Review\3136-Review Comment Response 2023.10.31.docx



# Wetland Buffer Zone Planting Plan

# Zone A

- Approx. 7500 sq ft. Mostly steep, well drained site, mostly sunny exposure.
- · Planting goal is to densely populate entire area with a selection of New England native, densely foliated, evergreen trees to effectively screen conservation land from yard activities year round while increasing native forest habitat for wildlife.
- Install: 65 Eastern Red Cedar and 50 Black Spruce dispersed in natural patterns throughout zone. Both these species stay under 40' tall and retain all their low foliage without needing ongoing pruning maintenance making them the best choice to maintain screening and wildlife value ad infinitum.
- · Manage invasive plants in zone while encouraging existing ground cover plants: Northern Dewberry, Virginia Creeper, and Pennsylvania Sedge to dominate understory.

# Zone B

- Approx. 6500 sq ft. Mostly Flat, Well Drained, Mixed sun and shade.
- · Planting Goal is to populate area with shade tolerant, native New England, facultative wetland plants to colonize area below water capture infrastructure and increase native habitat for wildlife.
  - · Install: 3 Florida Dogwood, 12 Witch hazel, 18 Red Twig Dogwood, 12 Highbush Blueberry, 24 Winterberry.
- · Manage invasive plants in zone while encouraging existing ground cover plants: Virginia Creeper and Poison Ivy.

# Zono C

- Approx. 3000 sq ft. Mostly Flat, Well Drained, Mixed sun and shade.
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- · Install: 12 Winged Sumac, 3 Witch hazel, 9 Red Twig Dogwood, 9 Highbush Blueberry, 9 Winterberry.
- · Manage invasive plants in zone while encouraging existing ground cover plants: Virginia Creeper, Wild Strawberry, and Poison Ivy.

# Land Use: 180 Specialty Trade Contractor

### **Description**

A specialty trade contractor is a business primarily involved in providing contract repairs and services to meet industrial or residential needs. This land use includes businesses that provide the following services: plumbing, heating and cooling, machine repair, electrical and mechanical repair, industrial supply, roofing, locksmith, weed and pest control, and cleaning.

### **Additional Data**

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 2010s in Texas.

### **Source Numbers**

889, 890



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

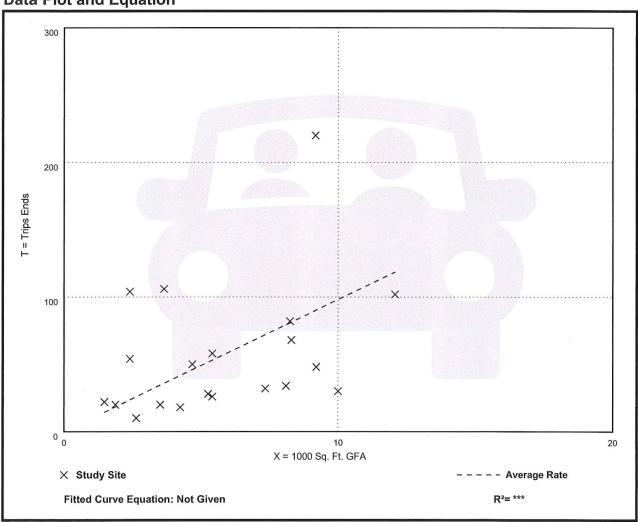
Setting/Location: General Urban/Suburban

Number of Studies: 20 Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 50% entering, 50% exiting

# Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.82	3.00 - 43.33	8.56





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.

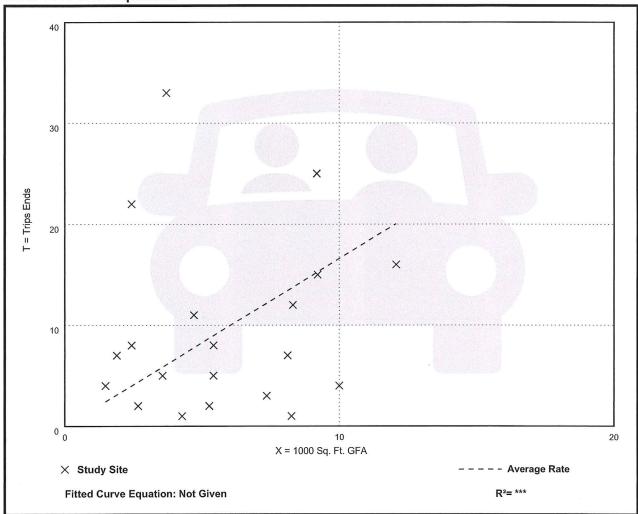
Setting/Location: General Urban/Suburban

Number of Studies: 20 Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 74% entering, 26% exiting

# Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.66	0.12 - 9.17	2.00



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.

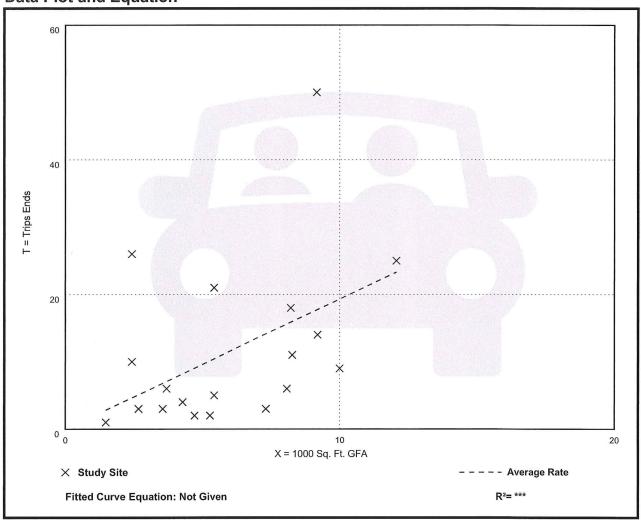
Setting/Location: General Urban/Suburban

Number of Studies: 19 Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 32% entering, 68% exiting

# Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.93	0.38 - 10.83	1.98





Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

**AM Peak Hour of Generator** 

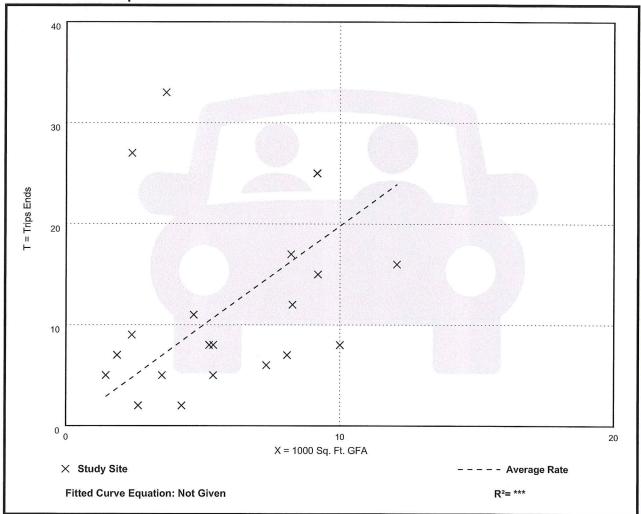
Setting/Location: General Urban/Suburban

Number of Studies: 20 Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 77% entering, 23% exiting

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Average Rate	Range of Rates	Standard Deviation
1.98	0.47 - 11.25	2.08



Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

**PM Peak Hour of Generator** 

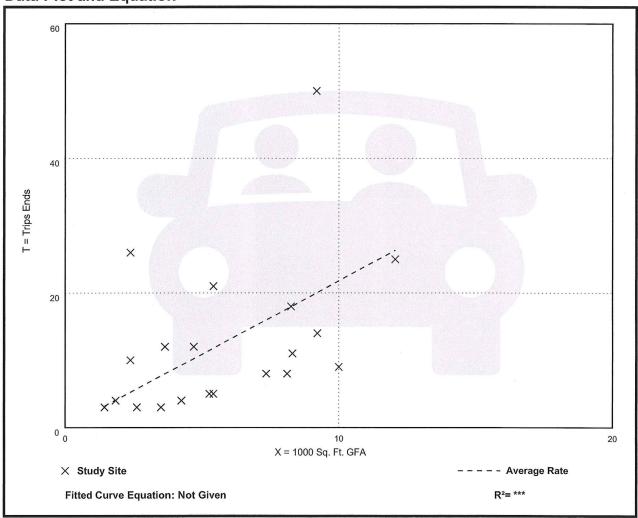
Setting/Location: General Urban/Suburban

Number of Studies: 20 Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 38% entering, 62% exiting

# Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.18	0.85 - 10.83	1.88





Vehicle Trip Ends vs: Employees
On a: Weekday

Setting/Location: General Urban/Suburban

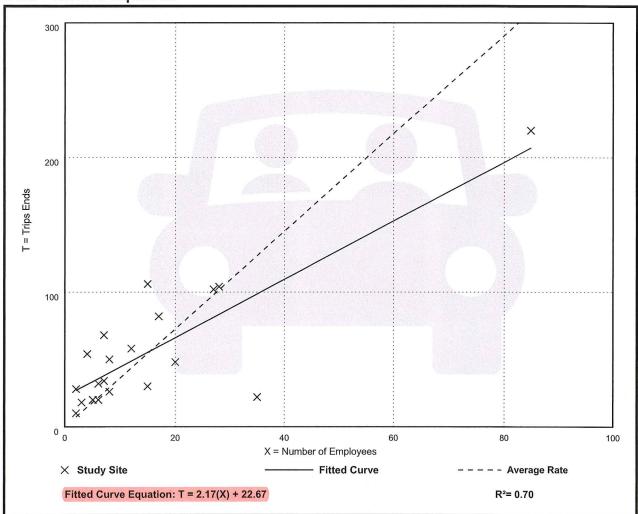
Number of Studies: 20 Avg. Num. of Employees: 16

Directional Distribution: 50% entering, 50% exiting

# Vehicle Trip Generation per Employee

Average	Rate	Range of Rates	Standard Deviation
3.63	3	0.63 - 14.00	2.37

# **Data Plot and Equation**



Employee Count:24 ; 2.17(24) +22.67=74.75 Trips



Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

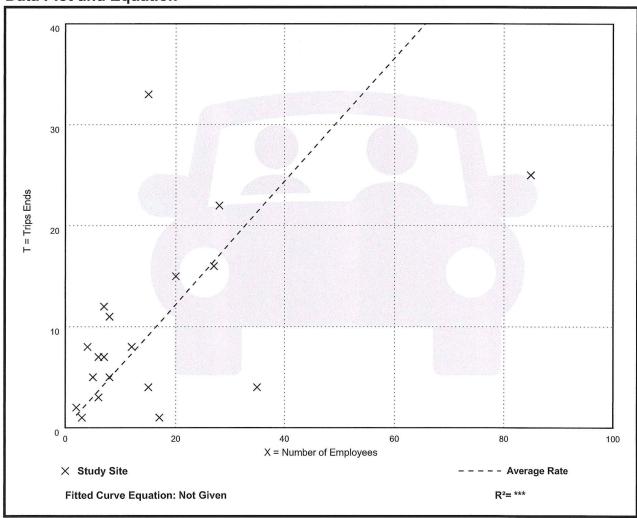
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# Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.61	0.06 - 2.20	0.55





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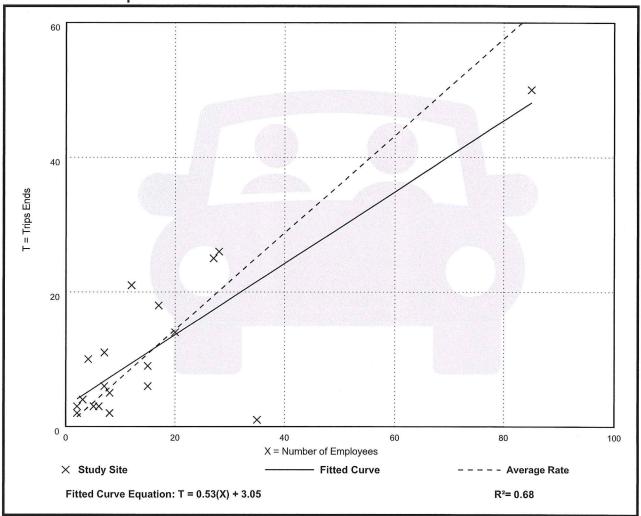
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# Vehicle Trip Generation per Employee

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0.72	0.03 - 2.50	0.45



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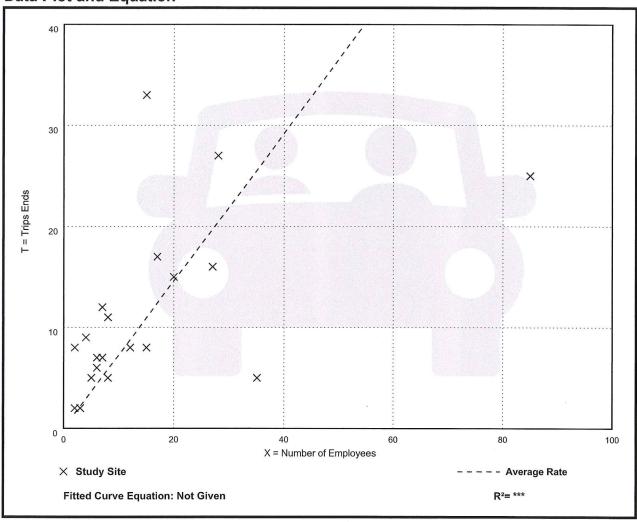
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0.73	0.14 - 4.00	0.60





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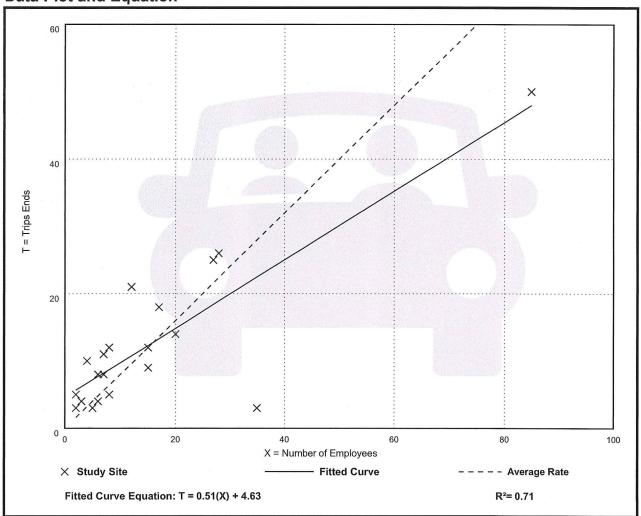
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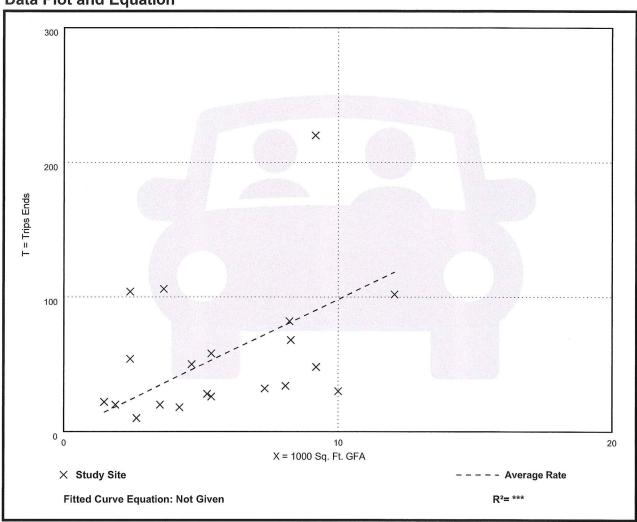
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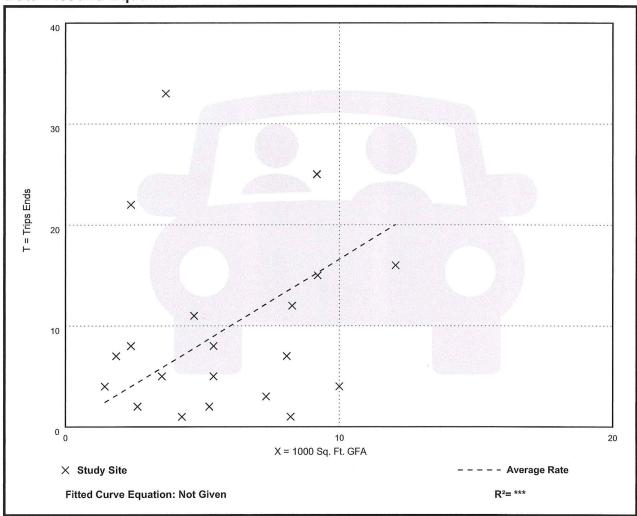
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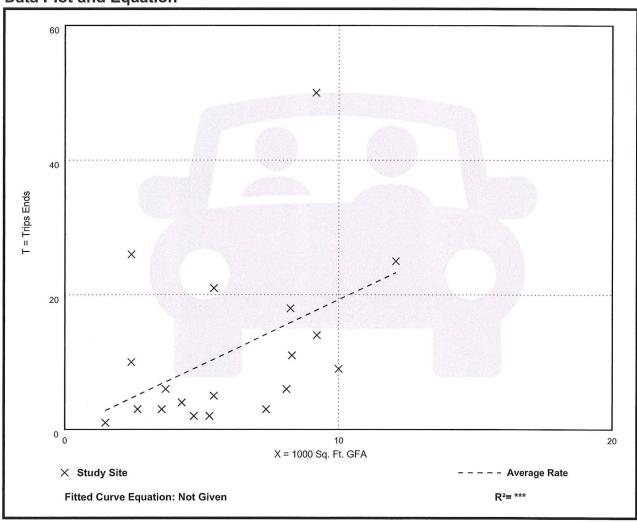
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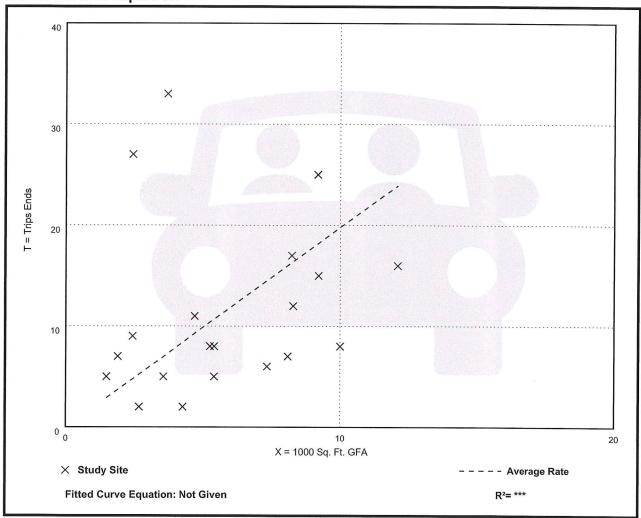
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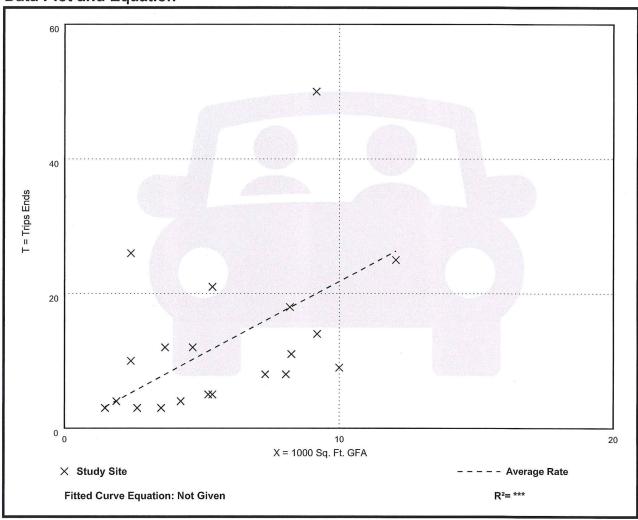
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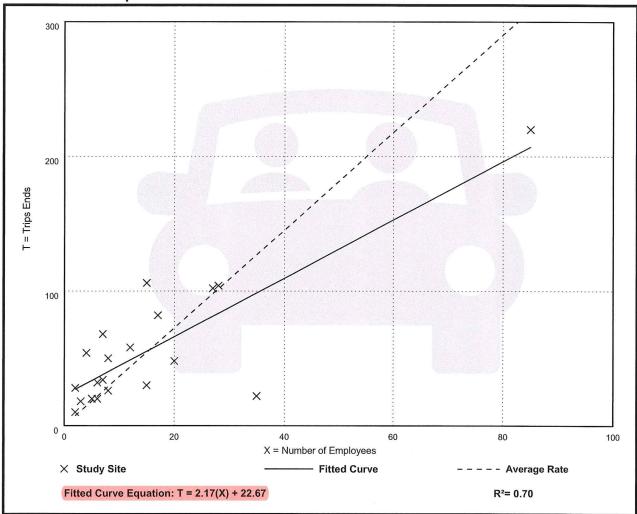
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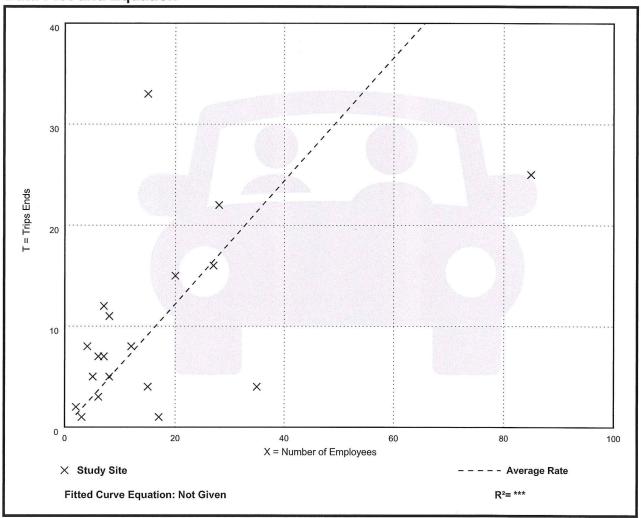
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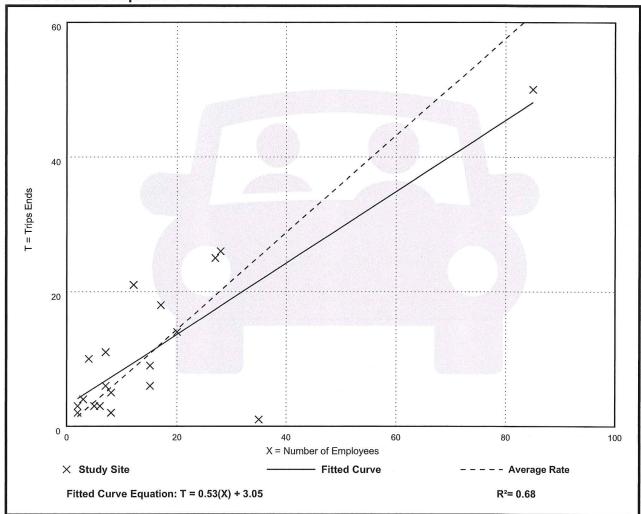
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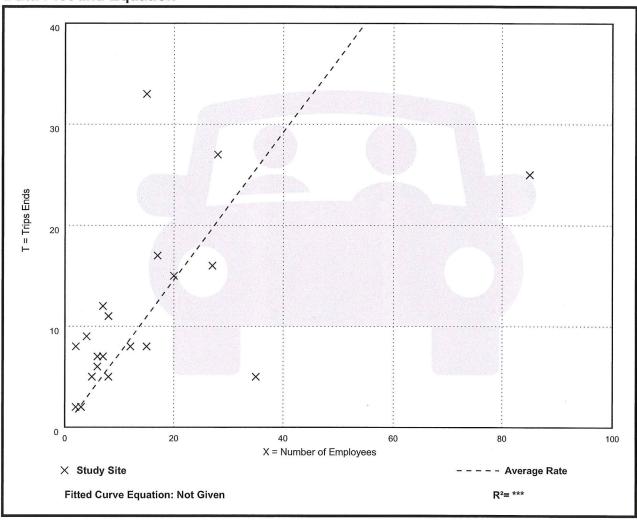
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