

TRAFFIC STATEMENT
for
JOSE FLORES

Proposed Two-Family Dwelling
Block 89, Lot 21
156 Main Street (CR 659)
Township of West Orange
Essex County, New Jersey



JOHN R. HARTER
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N.J. License No. 41033



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Professional Engineer
N.J. License No. 57657

N.J. P.E. Cert. of Authorization No. 0450854633

December 5, 2023

C:\pwworking\projectwise\tpd-c3d\d2243310\GECA 00001 Traffic Statement 2023-12-05.docx//fd

Atlantic TPD, LLC (ATDE) has prepared this Traffic Statement in support of the application to construct a two-family dwelling at 156 Main Street (CR 659) in the Township of West Orange, Essex County, New Jersey. The subject property is shown on **Figure 1** (Site Location Map) in the **Appendix**.

The subject property is currently undeveloped and is located along southbound Main Street (CR 659). Land uses along Main Street (CR 659) in the site vicinity are predominantly residential with on-street and private driveways along both sides of the roadway.

**Existing
Condition**

Under future conditions, the Applicant proposes to construct a two-family house on the vacant Main Street (CR 659) parcel consisting of two 3-bedroom residential units. Access to the property will be provided via a driveway that can accommodate parking for a total of 4 vehicles.

**Proposed
Condition**

The study has been performed to evaluate the proposed two-family house from a traffic engineering perspective. Accordingly, this Traffic Statement includes the following:

- A review of existing roadway and traffic conditions in the vicinity of the site, including roadway geometrics;
- Projection of the volume of traffic expected to be generated by the proposed two-family dwelling; and
- An evaluation of the Site Plan focusing on access and parking supply.

EXISTING CONDITIONS

EXISTING SUBJECT PROPERTY

The subject property is located along southbound Main Street (CR 659) approximately 120 feet north of its intersection with Charles Street. The following characteristics describe the subject property and the surrounding area:

- › Located in the R-5 (Two Family Dwelling) zone, where two-family dwellings are permitted.
- › Designated as Lot 21 in Block 89 in the Township of West Orange, Essex County, New Jersey.
- › The subject property is currently undeveloped with sidewalk and on-street parking provided in each direction of Main Street (CR 659).
- › Land uses in the site vicinity are a mix of residential and commercial along the Main Street (CR 659) corridor.

EXISTING ROADWAY NETWORK

The subject property has frontage along southbound Main Street (CR 659). The following is a description of the adjacent roadway network:

Main Street (CR 659)

- › Classified as an Urban Minor Arterial under Essex County jurisdiction.
- › Designated as a north/south roadway within the vicinity of the site.
- › Provides 1 travel lane in each direction with 8-foot shoulders used for on-street parking.
- › Sidewalks are provided on both sides of the roadway.
- › Based on the appended NJDOT Straight Line Diagram, the posted speed limit is 25 miles per hour within the vicinity of the subject property.
- › Has an Average Annual Daily Traffic (AADT) of approximately 14,000 vehicles according to 2012 New Jersey Department of Transportation (NJDOT) historical data.

- › Classified as a local roadway under Township jurisdiction.
- › Designated as an east/west roadway within the vicinity of the site.
- › Provides 1 travel lane in each direction with parking permitted on both sides of the roadway.
- › Sidewalks are provided on each side of the roadway.
- › Speed limit is not posted within the vicinity of the site but is assumed to be 25 miles per hour.

PROPOSED DEVELOPMENT TRAFFIC CHARACTERISTICS

TRIP GENERATION

The next step in the evaluation procedure is to project the volume of future traffic that would be generated as a result of the proposed house.

The trip generation was calculated based on data published by the Institute of Transportation Engineers (ITE) in the 11th Edition of the *Trip Generation Manual* using ITE Land Use Code 215: "Single-Family Attached Housing" based on the number of dwelling units. The ITE trip generation printouts are provided in the **Appendix**.

Table 1 provides the weekday morning, weekday evening and Saturday afternoon peak hour trip generation for the proposed two-family dwelling.

Table 1
ITE Trip Generation
Proposed Two-Family Dwelling

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday MD Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Residential Development	0	1	1	1	1	2	1	2	3

As shown in **Table 1**, the proposed two-family dwelling is projected to generate a de minimis traffic volume of only 3 vehicle trips during any of the study peak hours. This translates to 1 additional vehicle entering and exiting the home every 20 minutes during the peak hours.

The ITE defines a "significant" increase in traffic as 100 or more peak hour vehicular trips. The traffic generated as a result of the proposed development falls well below this threshold. **Based on the ITE trip generation projections, the proposed two-family home was calculated to not significantly impact the adjacent roadway network.**

SITE ACCESS AND CIRCULATION

An evaluation has been made of the appended Site Plan for the proposed two-family dwelling prepared by Sandra Caceres, PE, dated May 31, 2023. In particular, the evaluation has been made focusing on site access and parking. The following items summarize our review:

Site Access

- › Under future conditions, access to the residential dwelling is proposed via a single driveway along southbound Main Street (CR 659).
- › The proposed site driveway design is similar to other residential driveways located along the County roadway in the site vicinity.

Parking

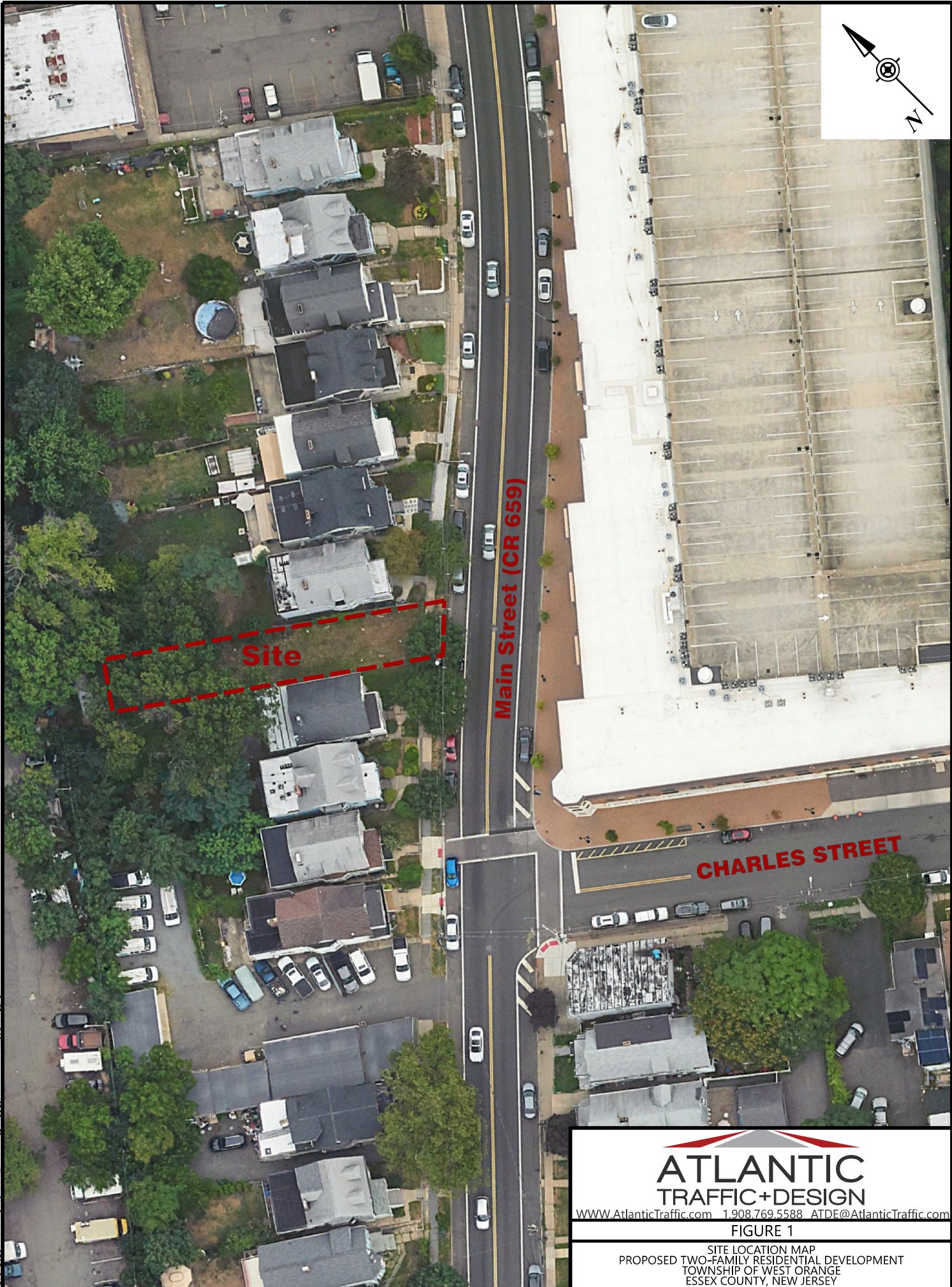
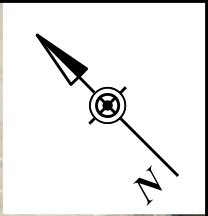
- › The New Jersey Residential Site Improvement Standards (RSIS) provides the following parking standards: 1.8 parking stalls per 1-bedroom unit, 2 parking stalls per 2-bedroom unit and 2.1 parking stalls per 3-bedroom unit be satisfied; therefore, 5 parking stalls are required.
- › The proposed Lot 21 would accommodate a total of 4 vehicles, which does not meet the Township requirement based on RSIS.
- › Parking projections for the Application were prepared utilizing average rates of maximum parking demand data calculated by the ITE as contained within the 6th Edition of *Parking Generation*. Specifically, parking generation projections were prepared using ITE Land Use Code 215: "Single-Family Attached Housing" for the proposed two-family dwelling and are provided in the **Appendix**.
- › **Based on the parking demand data compiled by the ITE, a maximum of 3 parked vehicles are projected based on actual parking demand data.** Therefore, the proposed driveway parking supply of 4 vehicles is expected to be sufficient for the anticipated needs of the Application.

In summary, the proposed two-family dwelling would generate a de minimis volume of traffic and would not have a significant impact on the adjacent roadway network. The vehicle trips translate to 1 additional vehicle entering and exiting the site along Main Street (CR 659) every 20 minutes.

Site access is proposed via 1 driveway along southbound Main Street (CR 659). The proposed driveway parking supply was designed to accommodate 4 vehicles, which does not meet the Township requirement of 5 parking spaces. However, based on ITE research, a maximum of only 3 parked vehicles was calculated which can be accommodated.

Technical Appendix

A | Site Location Map



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12/27/2023 9:46:14 AM gp_florez 1138 3 F1604

Main Street (CR 659)

CHARLES STREET

Site

ATLANTIC
TRAFFIC+DESIGN

WWW.AtlanticTraffic.com 1.908.769.5588 ATDE@AtlanticTraffic.com

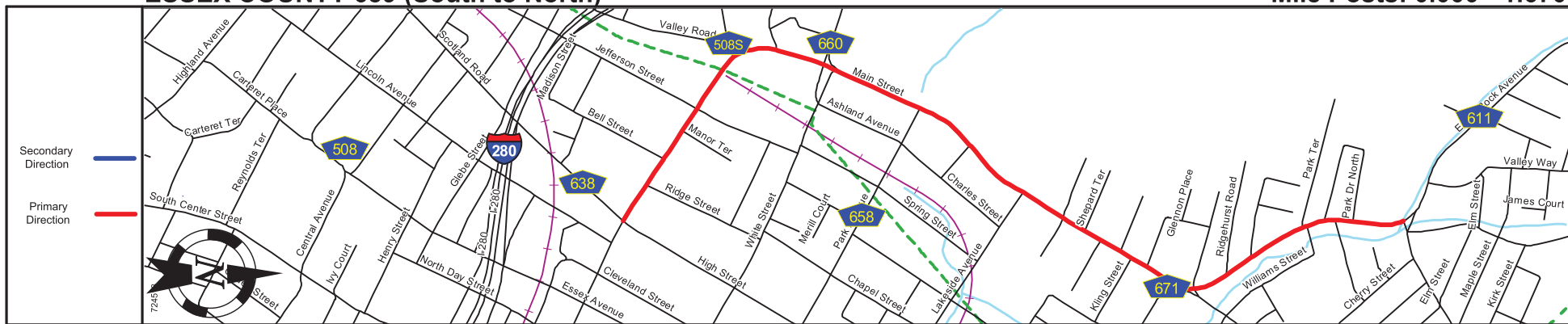
FIGURE 1

SITE LOCATION MAP
PROPOSED TWO-FAMILY RESIDENTIAL DEVELOPMENT
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

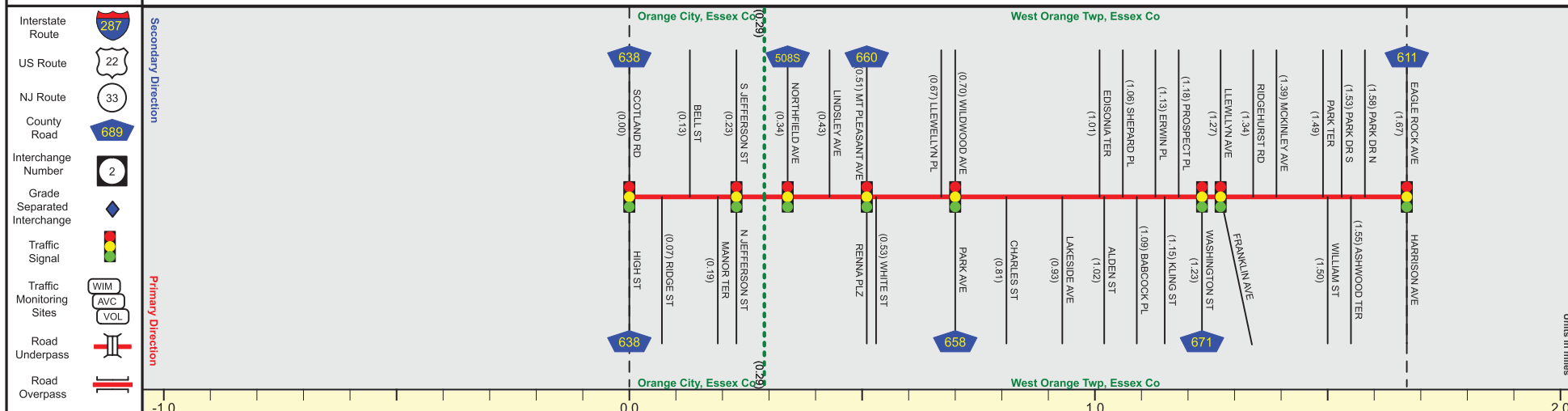
B | NJDOT Straight Line Diagram

ESSEX COUNTY 659 (South to North)

Mile Posts: 0.000 - 1.670



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



Street Name	Main Street
Jurisdiction	County
Functional Class	Urban Principal Arterial
Federal Aid - NHS Sy	NHS
Control Section	STP
Speed Limit	25
Number of Lanes	4
Med. Type	None
Med. Width	0
Pavement	48
Shoulder	0
Traffic Volume	
Traffic Sta. ID	
Structure No.	
Enlarged Views	

SRI = 07000659__

Date last inventoried: July 2011

C | ITE Trip Generation Printouts

Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 31

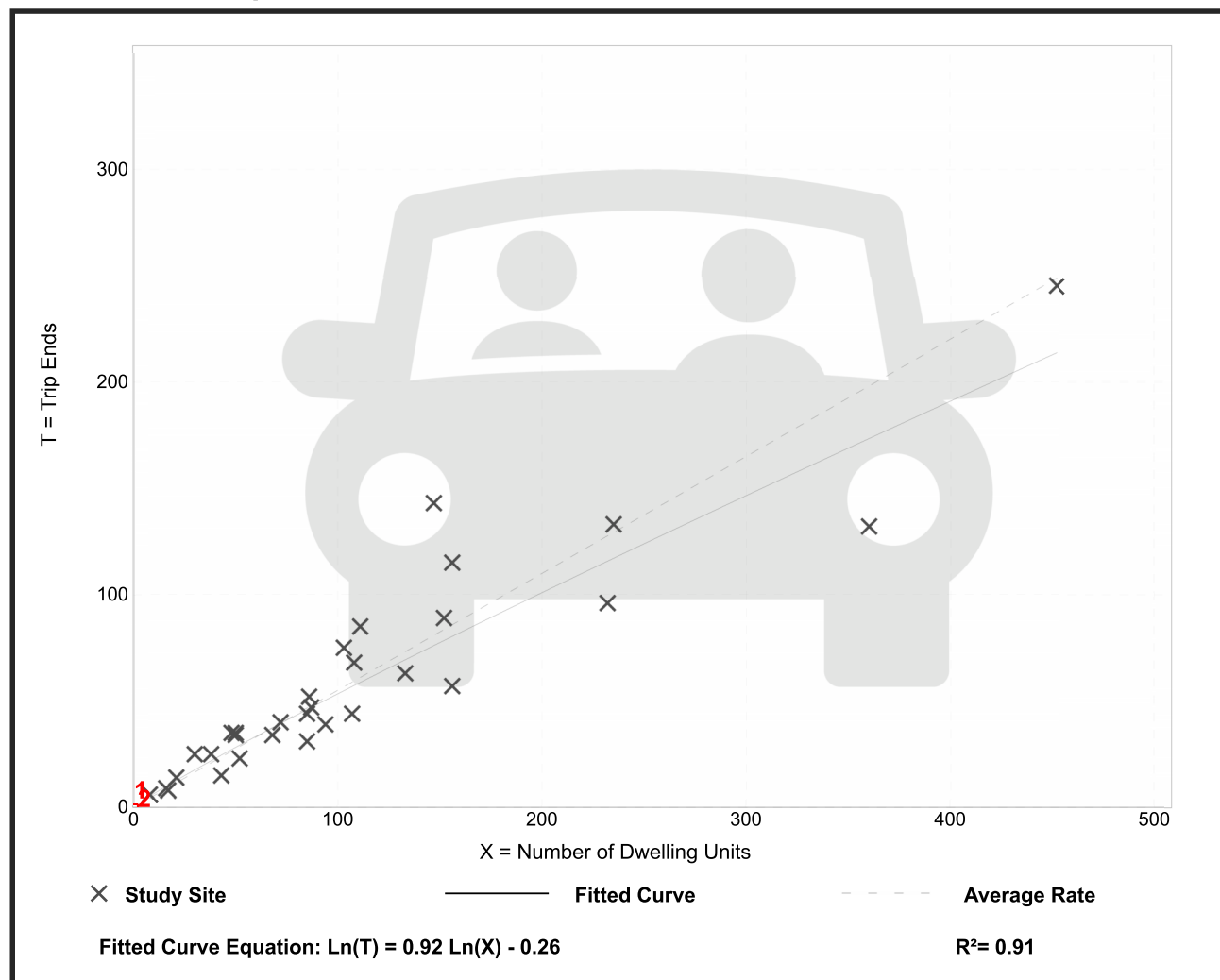
Avg. Num. of Dwelling Units: 110

Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.55	0.35 - 0.97	0.16

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 34

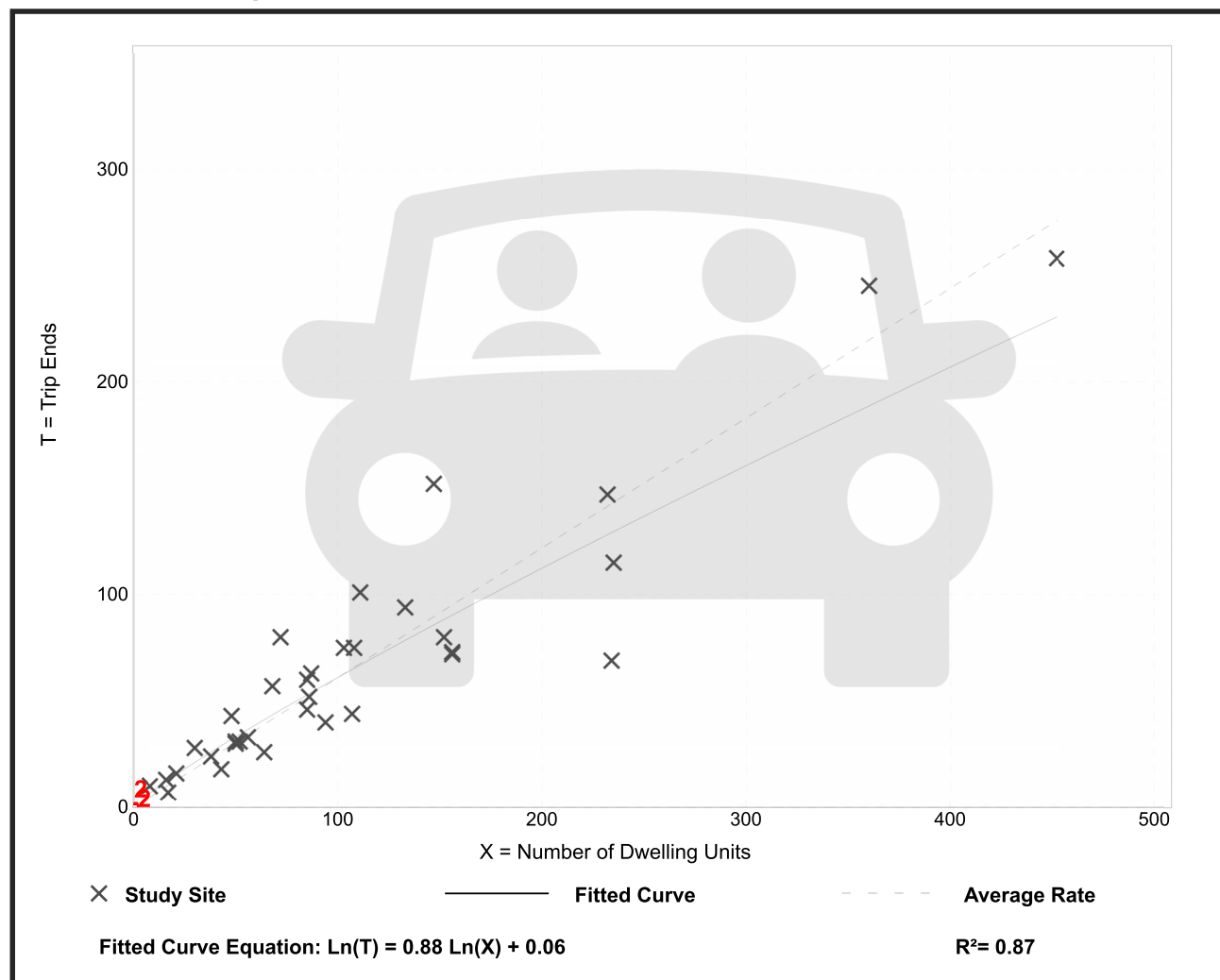
Avg. Num. of Dwelling Units: 110

Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.61	0.29 - 1.25	0.18

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 7

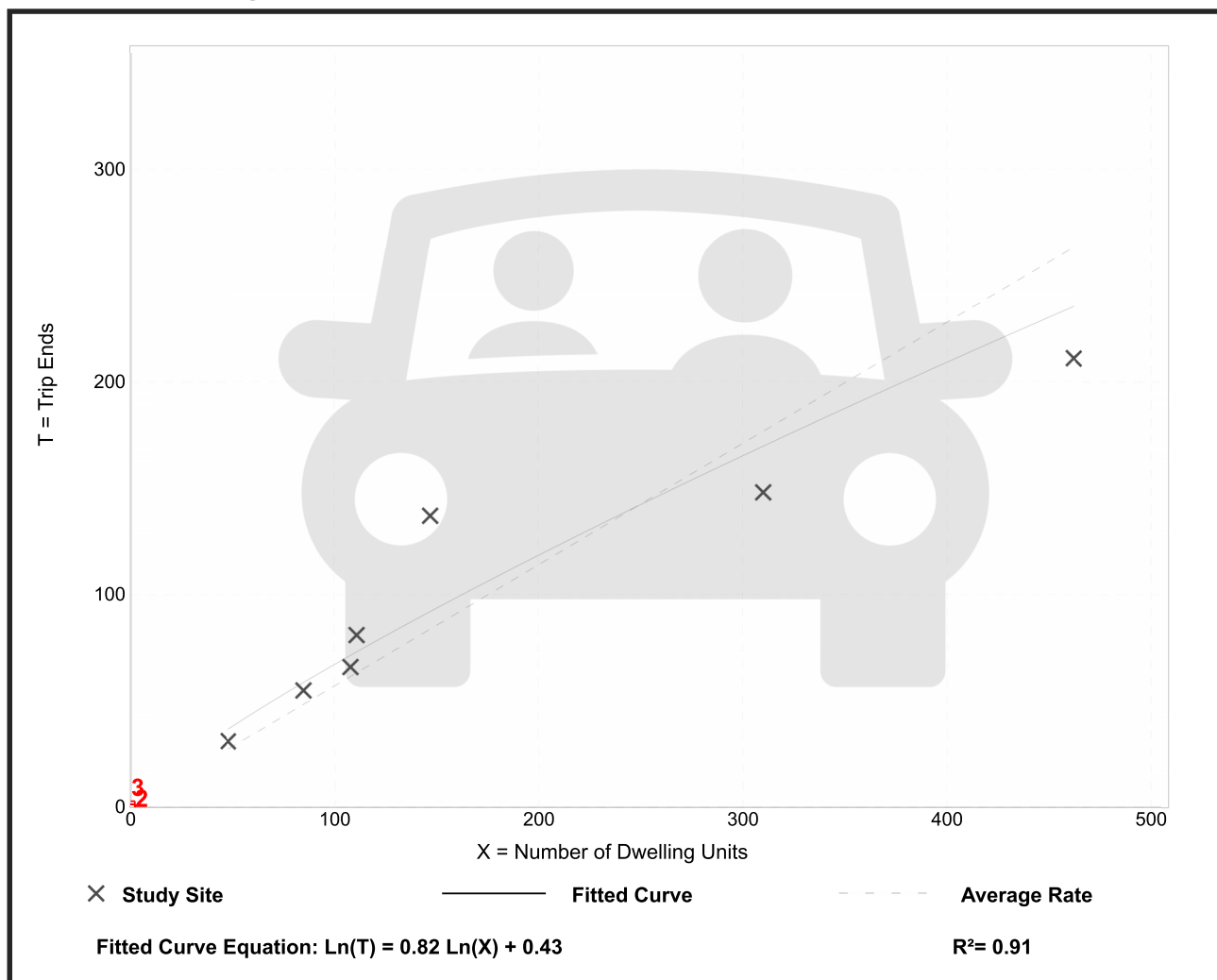
Avg. Num. of Dwelling Units: 182

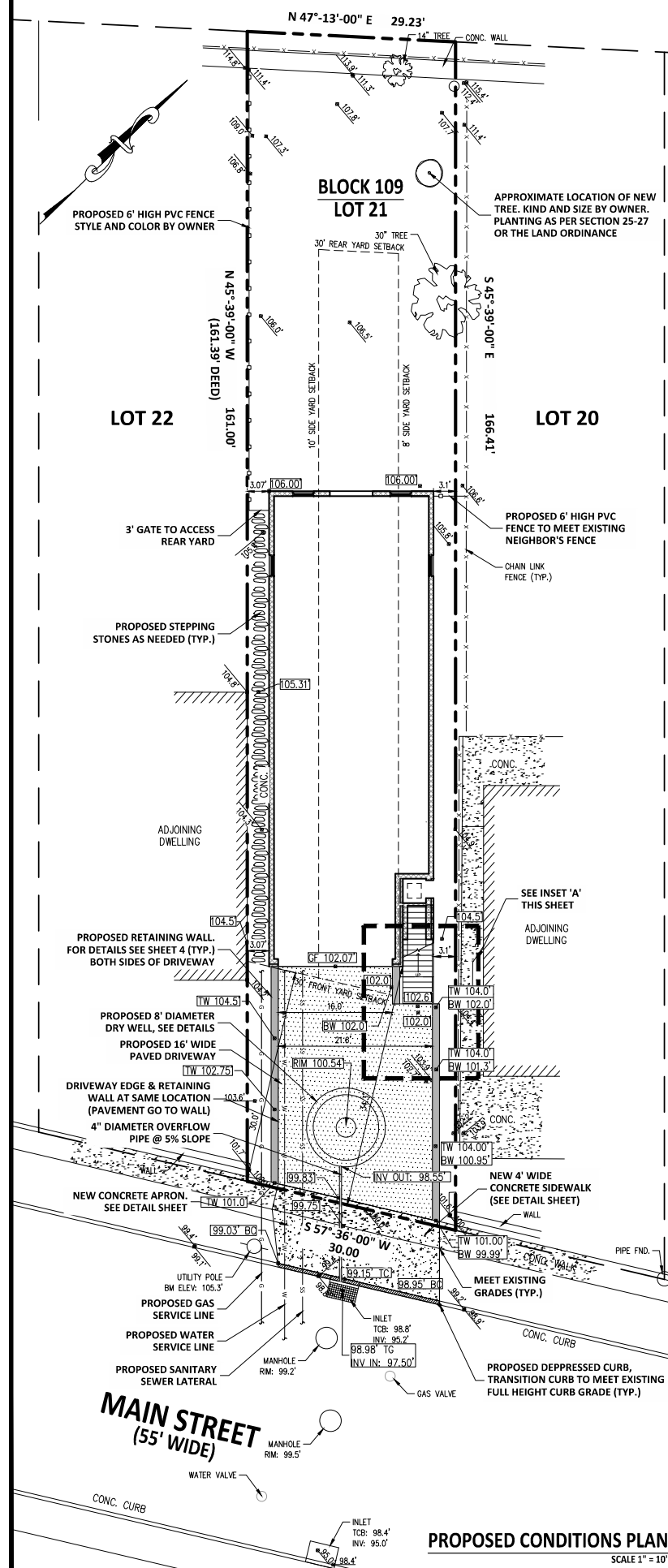
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.46 - 0.93	0.17

Data Plot and Equation





LEGEND

- EXISTING BOUNDARY LINE
- PROPOSED SETBACK LINE
- EXISTING CURB
- EXISTING FENCE
- EXISTING SPOT ELEVATION
- PROPOSED ROOF DRAIN PIPE
- PROPOSED SPOT ELEVATION
- PROPOSED WATER SERVICE LINE
- PROPOSED SANITARY SEWER LINE
- PROPOSED GAS LINE
- PROPOSED 6" HIGH PVC FENCE
- NEW TREE

Diagram details: The legend shows various line styles and symbols. A dashed line represents an existing boundary. A solid line with a dashed offset represents a proposed setback. A solid line with a dashed offset and a small rectangle represents an existing curb. A solid line with a dashed offset and a small rectangle represents an existing fence. A solid line with a dashed offset and a small rectangle represents an existing spot elevation. A solid line with a dashed offset and a small rectangle represents a proposed roof drain pipe. A solid line with a dashed offset and a small rectangle represents a proposed spot elevation. A solid line with a dashed offset and a small rectangle represents a proposed water service line. A solid line with a dashed offset and a small rectangle represents a proposed sanitary sewer line. A solid line with a dashed offset and a small rectangle represents a proposed gas line. A solid line with a dashed offset and a small rectangle represents a proposed 6" high PVC fence. A solid line with a dashed offset and a small rectangle represents a new tree.

GENERAL NOTES

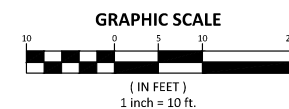
1. ALL WORK SHALL BE DONE BETWEEN THE HOURS OUTLINED UNDER THE LOCAL ORDINANCE.
2. ALL INFORMATION SHOWN OR NOTED FOR EXISTING FACILITIES, GRADES, ROADWAYS AND MATERIALS ARE APPROXIMATE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL INFORMATION THAT MAY AFFECT HIS WORK. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXISTS PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. CONTRACTOR'S OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDE BUT ARE NOT LIMITED TO CONSTRUCTION MEANS & METHODS, SEQUENCE, TECHNIQUES AND PROCEDURES NECESSARY FOR PERFORMING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
4. ALL GRADING OPERATIONS SHALL PROVIDE FOR POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES AND SHALL ELIMINATE PONDING AREAS.
5. ALL EXISTING DEBRIS SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH MUNICIPAL AND LOCAL UTILITY COMPANY REQUIREMENTS.
6. THE CONTRACTOR IS NOT PERMITTED TO STOCKPILE EXCAVATED MATERIALS OVER ANY UTILITY LINES. THE STOCKPILED MATERIALS SHOULD BE PLACED SUFFICIENTLY AWAY FROM THE EDGE OF ANY EXCAVATION TO PREVENT CAVING OF THE TRENCH WALL AND TO PERMIT ADEQUATE ACCESS ALONG THE TRENCH.
7. ANY EXISTING IMPERVIOUS SURFACES NOT TO REMAIN SHALL BE RESTORED WITH A MINIMUM OF 5" TOPSOIL SEED AND MULCH.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL MATERIALS EXCAVATED OF WHATEVER NATURE AT HIS OWN EXPENSE. THE CONTRACTOR MUST NOT DEPOSIT THE EXCESS MATERIALS WITHIN MUNICIPAL PROPERTY LIMITS WITHOUT EXPRESS PERMISSION FROM THE MUNICIPALITY. MATERIALS MUST BE DISPOSED IN ACCORDANCE WITH APPROVED NJDOT, NJDEP METHODS AND MEANS.
9. ALL LANDSCAPED AREAS WILL BE MAINTAINED WITH EITHER GRASS OR GROUND COVERED.



156 MAIN STREET
BLOCK 89, LOT 21
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY 07052

DATE:	MAY 31, 2023	
No.:	SC21-06	
DRAWN:	CDA	
SCALE:	1" = 10'	
SHEET No.:	2 OF 4	

REV.	DATE	DESCRIPTION
1	6/02/23	PER PLANNER'S COMM



E | ITE Parking Generation Printouts

Single-Family Attached Housing - Not Close to Rail Transit (215)

Peak Period Parking Demand vs: Dwelling Units

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

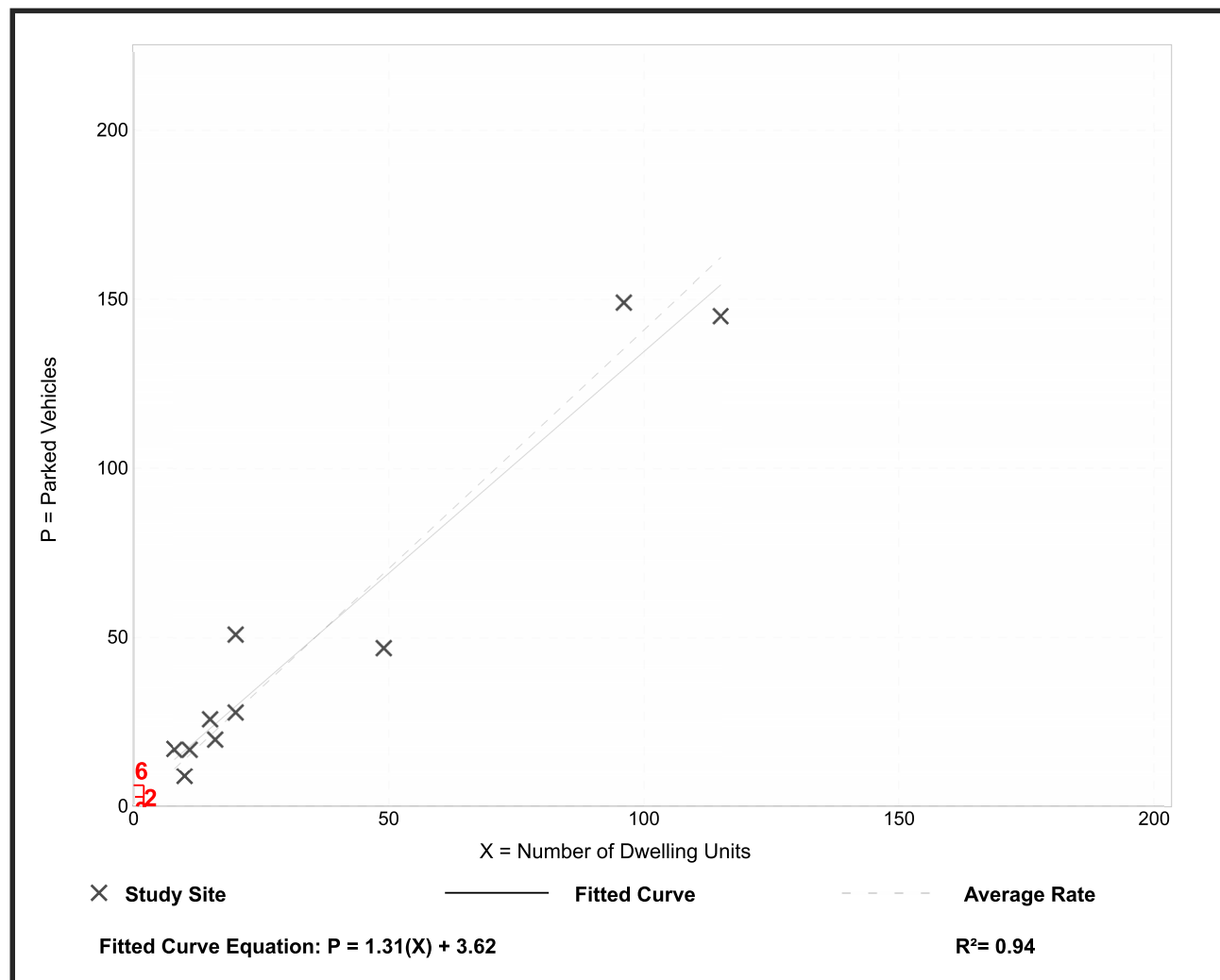
Number of Studies: 10

Avg. Num. of Dwelling Units: 36

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.41	0.90 - 2.55	1.26 / 2.27	***	0.39 (28%)

Data Plot and Equation



Parking Generation Manual, 6th Edition • Institute of Transportation Engineers

Single-Family Attached Housing - Not Close to Rail Transit (215)

Peak Period Parking Demand vs: Dwelling Units

On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 2

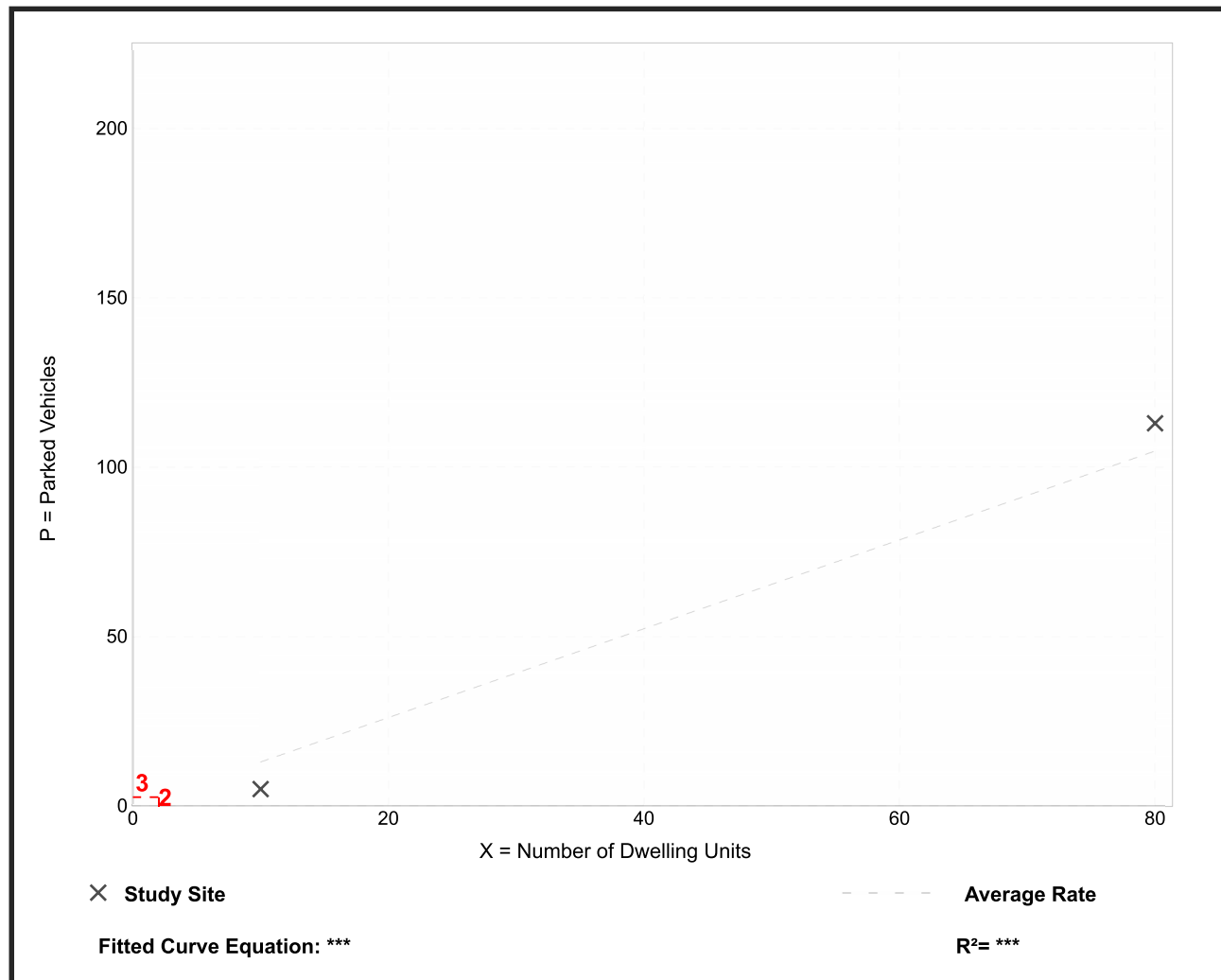
Avg. Num. of Dwelling Units: 45

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.31	0.50 - 1.41	*** / ***	***	***

Data Plot and Equation

Caution – Small Sample Size



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