

**MEMORANDUM**

To: Jesse Hannahs, PE, Traffic Engineer City of Marysville  
From: Zach Wieben, PE  
Subject: Ross Short Plat  
Traffic Analysis for City of Marysville  
Date: July 5, 2021  
Project: GTC #21-051



This memorandum provides trip generation, trip distribution and traffic mitigation fee calculations for the Ross Short Plat. The site is located on the west side of 55<sup>th</sup> Avenue NE, north 116<sup>th</sup> Street NE. The development is proposed to construct 12 single-family detached units. The site currently has two single-family detached units. This report has therefore been analyzed for 10 net new single family detached units. A site vicinity map is included in Figure 1.



**Figure 1: Site Vicinity Map**

**1. TRIP GENERATION**

Trip generation calculations for the Ross Short Plat are based on data published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10<sup>th</sup> Edition + Supplement (2020)*. The average trip generation rates for ITE Land Use Code 210, Single-Family Detached Housing, have been utilized for the trip generation calculations. The trip generation of the 10 net new residential units is summarized in Table 1.

**Table 1: Trip Generation Summary**

10 New Single-Family Units	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
Generation Rate	9.44 trips per unit			0.74 trips per unit			0.99 trips per unit		
Splits	50%	50%	100%	25%	75%	100%	63%	37%	100%
Trips	47	47	94	1	6	7	6	4	10

The Ross Short Plat is anticipated to generate approximately 94 net new average daily trips with 7 net new AM peak-hour trips and 10 net new PM peak-hour trips.

**2. TRIP DISTRIBUTION AND ASSIGNMENT**

The City of Marysville threshold for level of service is 25 PM peak-hour trips. Additionally, the City of Marysville has an interlocal agreement with Snohomish County that requires Snohomish County intersections impacted with 3 directional peak-hour trips to be identified.

The trip distribution for the development is based on the City of Marysville’s distribution for the 116<sup>th</sup> Street NE subarea. Approximately 71% of the development trips are expected to travel to and from the south on 51<sup>st</sup> Avenue NE with the remaining 29% of the development trips traveling to and from the north.

The development does not generate 25 PM peak-hour trips and therefore analysis of impacts to City of Marysville intersections is not required. The development generates more than 3 directional peak-hour trips, but is not anticipated to impact any intersections beyond 51<sup>st</sup> Avenue NE at 108<sup>th</sup> Street NE, which is not a Snohomish County key intersection, with 3 directional peak-hour trips. The development will therefore not impact any Snohomish County key intersections with 3 directional peak-hour trips.

**3. TRAFFIC MITIGATION FEES**

The City of Marysville assesses traffic mitigation fees per unit for residential developments. Additionally, the City of Marysville and Snohomish County have an interlocal agreement for the

payment of traffic mitigation fees for impacts to Snohomish County roadways. The City of Marysville also has an understanding with WSDOT for the payment of traffic mitigation fees.

### **3.1. City of Marysville**

The City of Marysville collects traffic mitigation fees for single-family units based on the number of units. The City of Marysville traffic mitigation fee is \$6,300 per unit. The Ross Short Plat development will consist of 10 net new units and result in City of Marysville traffic mitigation fees of \$63,000.

### **3.2. Snohomish County**

The City of Marysville and Snohomish County have an interlocal agreement that provides for the payment of traffic mitigation for impacts to Snohomish County roadways by City of Marysville developments. Traffic mitigation fees are based on predetermined area impacts or impacts to actual improvement projects. According to Section 3(a)2 of the *Snohomish County Traffic Worksheet and Traffic Study Requirements for Developments in the City of Marysville*, City of Marysville developments are only required to pay traffic mitigation fees for improvements in the Transportation Needs Report impacted with three directional peak-hour trips. The Ross Shot Plat development does not impact any collection projects with 3 directional peak-hour trips and therefore Snohomish County traffic mitigation fees should not be required for the Ross Short Plat.

### **3.3. Washington State Department of Transportation**

The Ross Short Plat will not impact any WSDOT intersection with 10 PM peak-hour trips and therefore WSDOT traffic mitigation fees should be required for the Ross Short Plat development.

## **4. CONCLUSIONS**

The Ross Short Plat development is anticipated to consist of 12 constructed single-family detached units. There are two existing single-family units on-site that will be removed and credited towards the development's net trip generation calculations. The development is anticipated to generate approximately 94 net new average daily trips with 7 net new AM peak-hour trips and 10 net new PM peak-hour trips. The development is not anticipated to significantly impact any City of Marysville intersections, Snohomish County arterials, or WSDOT intersections. The City of Marysville traffic mitigation fees will be \$63,000 for the 10 new units. The development will not significantly impact Snohomish County arterials or WSDOT intersections and therefore should not be required to pay Snohomish County or WSDOT traffic mitigation fees.

# Attachments

# Single-Family Detached Housing (210)

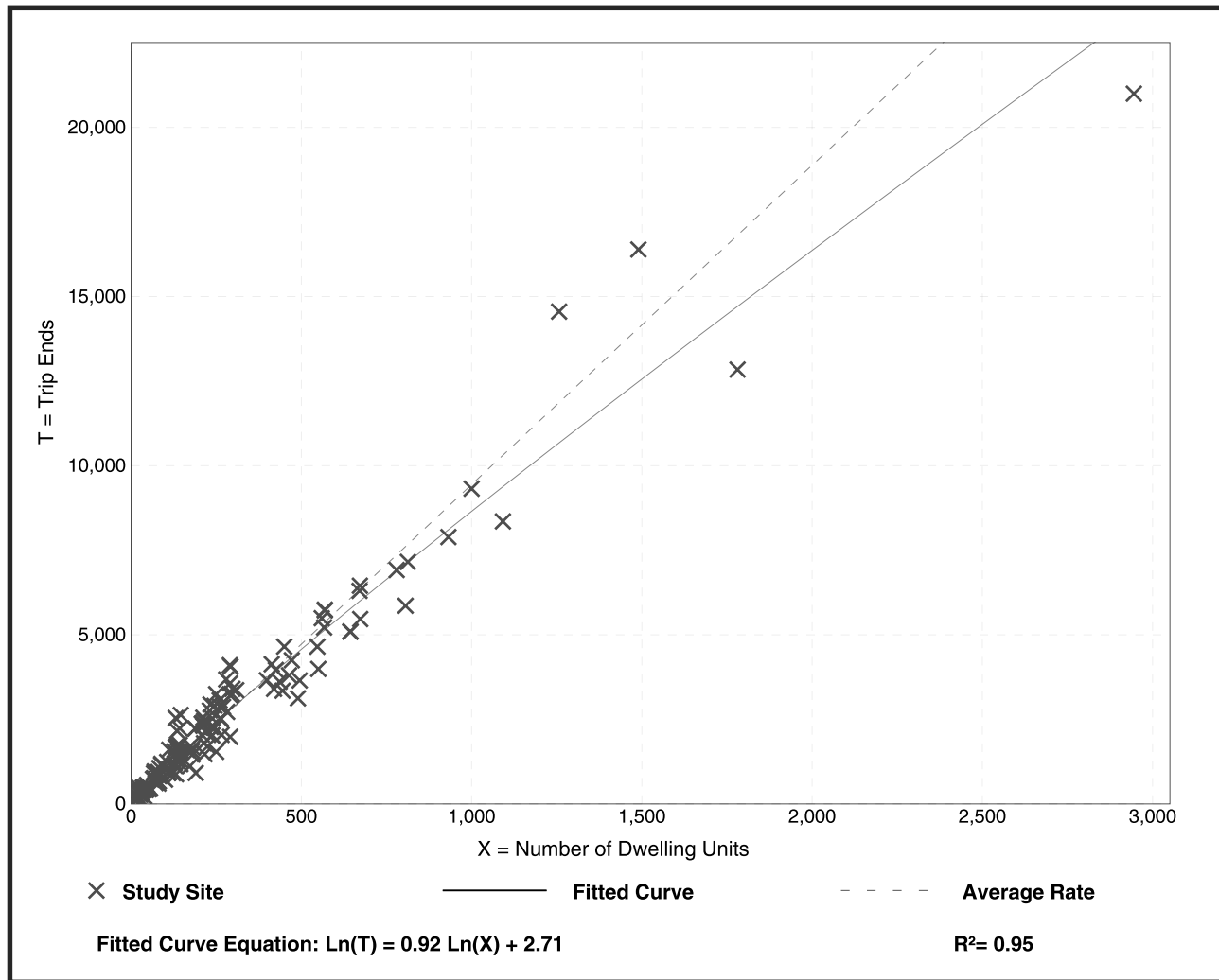
**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 159  
Avg. Num. of Dwelling Units: 264  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

## Data Plot and Equation



*Trip Generation Manual, 10th Edition* • Institute of Transportation Engineers

# Single-Family Detached Housing (210)

**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

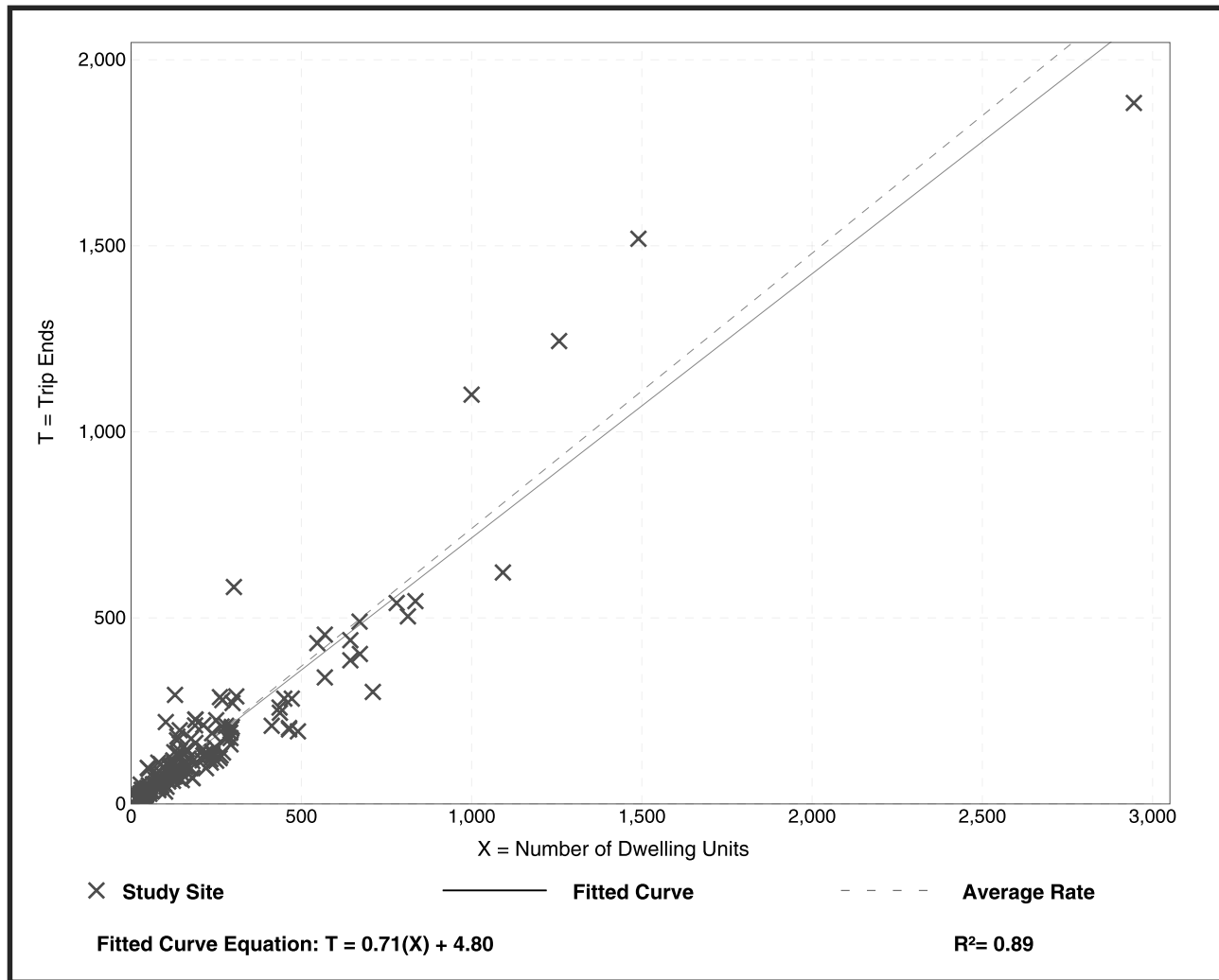
**Setting/Location: General Urban/Suburban**

Number of Studies: 173  
 Avg. Num. of Dwelling Units: 219  
 Directional Distribution: 25% entering, 75% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

## Data Plot and Equation



*Trip Generation Manual, 10th Edition* • Institute of Transportation Engineers

# Single-Family Detached Housing (210)

**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

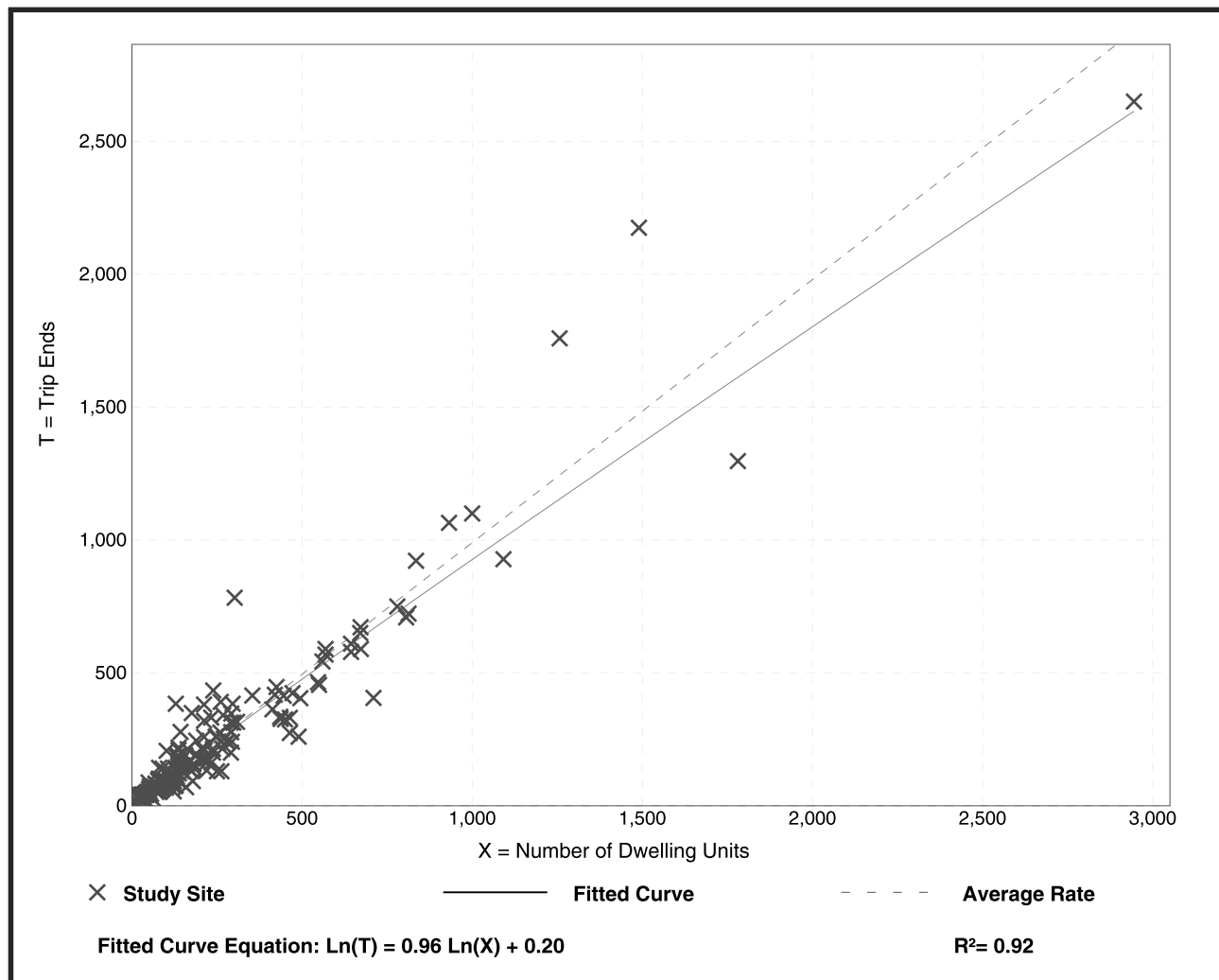
**Setting/Location: General Urban/Suburban**

Number of Studies: 190  
 Avg. Num. of Dwelling Units: 242  
 Directional Distribution: 63% entering, 37% exiting

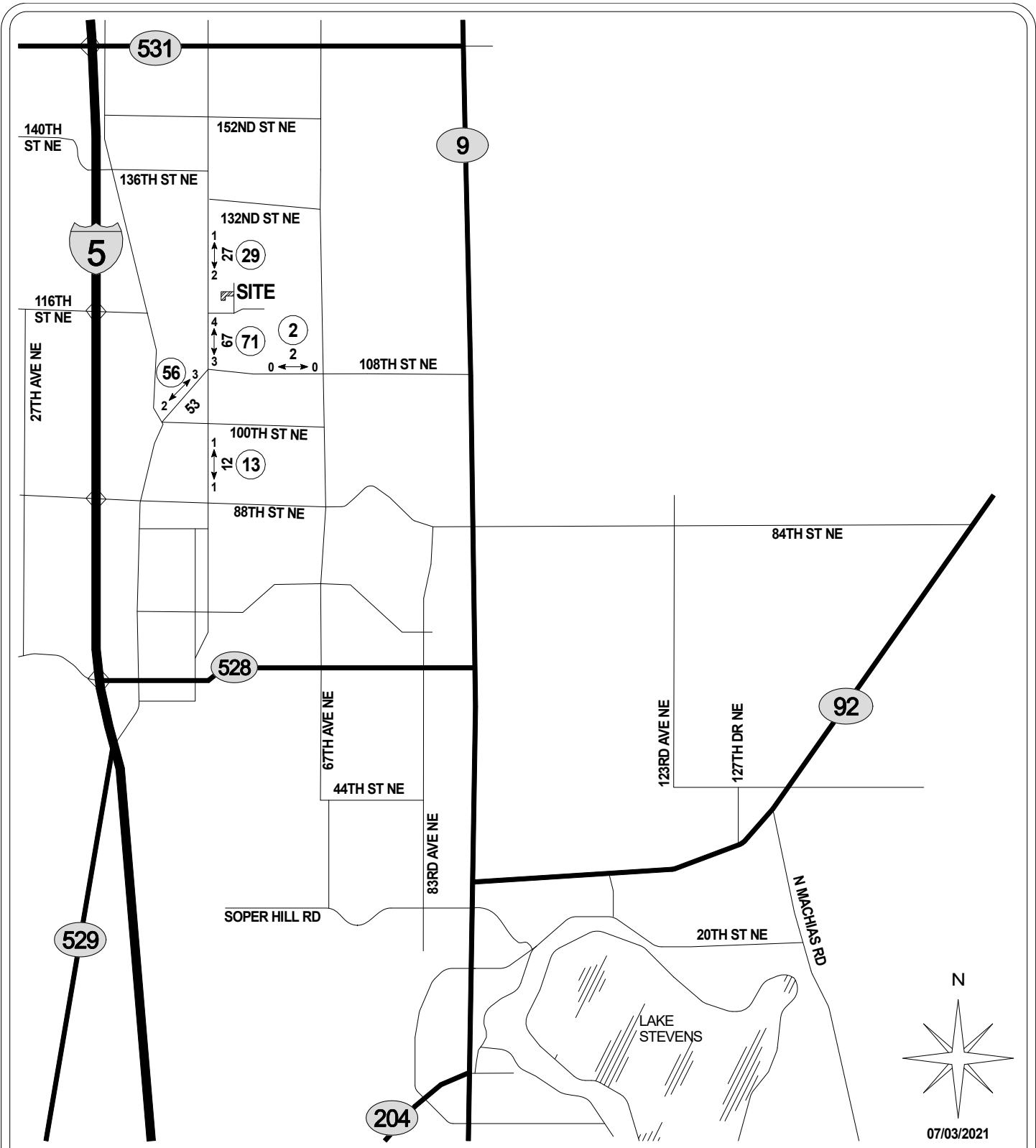
## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

## Data Plot and Equation



*Trip Generation Manual, 10th Edition* • Institute of Transportation Engineers



GIBSON TRAFFIC CONSULTANTS

TRAFFIC IMPACT STUDY  
GTC #21-051

ROSS SHORT PLAT  
10 NEW SINGLE-FAMILY UNITS

**LEGEND**

AWDT  
PM ← → PEAK

NEW DAILY TRIPS  
NEW PM PEAK-HOUR TRIPS



TRIP DISTRIBUTION %

**FIGURE 1**  
**DEVELOPMENT**  
**TRIP DISTRIBUTION**  
**PM PEAK-HOUR**

CITY OF MARYSVILLE