

TECHNICAL MEMORANDUM

DATE: July 28, 2025
To: Tony Morse – Town of Bluffton
CC: James Nakashian – My Nash Realty Corp
From: **DRAFT**
REFERENCE: **121 BURNT CHURCH ROAD –TRAFFIC ASSESSMENT**

This memo documents a traffic assessment for a proposed 4,464 square foot development to satisfy the Town of Bluffton ordinances. The site is located on the east side at 121 Burnt Church Road in the Town of Bluffton, South Carolina. The site is planned to be served by one access approximately 260 feet south of Fernlakes Drive. The site is currently vacant.

The site plan is provided as **Attachment 1**. The building size and general layout is not anticipated to change from the current configuration.

General Site Description

The development is planned to include a 4,464 square foot building. The location of the proposed development is shown in **Figure 1**.

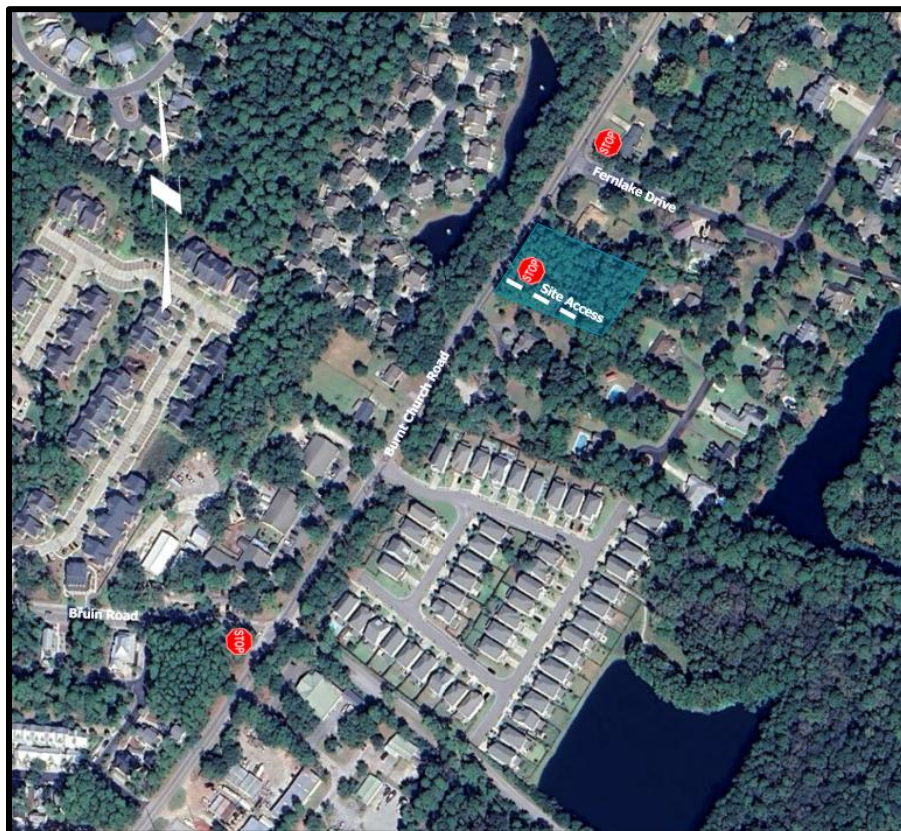


Figure 1 – Project Location

Burnt Church Traffic Memo

The parcel's current zoning is residential - single family. The future zoning would need to be considered as nonsingle-family structure. The proposed land use is expected to be a retail land use, the end user is unknown at this time. Future additional land use is not expected. The site access to Burnt Church Road is expected to only serve the proposed development with no interconnection.

There are no current SCDOT projects in the area that would impact operations of the roadways in the immediate vicinity.

Trip Generation

The trip generation potential of the proposed redevelopment was estimated based on the most recent edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. Since the end users of the building are not yet confirmed, a general retail category is applied. The trip generation estimates applied land use code (LUC) 822 – Strip Retail Plaza for the proposed use. The ITE land use code description is as follows, the trip generation worksheets are included as **Attachment 2**.

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building. The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database.

The trip generation estimates for the weekday daily, the weekday AM peak-hour of the adjacent street, and the weekday PM peak-hour of the adjacent street time periods are shown in **Table 1**.

Table 1 – ITE Trip Generation Estimates

Land Use	ITE LUC	Size	Unit	Daily Traffic	AM Peak			PM Peak		
					Enter	Exit	Total	Enter	Exit	Total
Strip Retail Plaza (<40k)	822	4.464	ksf	418	10	7	17	22	22	44
Daily Trips: $T = 42.20(X) + 229.68$ (50% In; 50% Out) AM Peak Hour Trips: $\ln(T) = 0.66 \ln(X) + 1.84$ (60% In; 40% Out) PM Peak Hour Trips: $\ln(T) = 0.71 \ln(X) + 2.72$ (50% In; 50% Out)										

Roadway Conditions and Access Potential

Burnt Church Road is a 2-lane SCDOT roadway that currently serves approximately 7,200 vehicles a day. Based on the Beaufort County Functional Classification Map, Burnt Church Road is considered a Major Collector. The posted speed limit near the development is 35 mph. Traffic data from the SCDOT count station located on Burnt Church Road is provided in **Attachment 3**. Based on the SCDOT data, volumes on Burnt Church Road have remained relatively constant over the past 10 years.

Burnt Church Traffic Memo

The trips expected to be generated by the proposed development should not create operational issues along the mainline of Burnt Church Road. The Transportation Research Board's Highway Capacity Manual (HCM) utilizes a term "level of service" to measure how traffic operates in intersections and on roadway segments. There are currently six levels of service ranging from A to F. Level of service "A" represents the best conditions and Level of Service "F" represents the worst.

An undivided 2-lane collector can be expected to operate as an LOS C with daily traffic ranging from 6,350 to 8,600 vehicles a day. Considering the current daily traffic of 7,200, the traffic along Burnt Church Road is not expected to exceed 8,600 vehicles with the proposed development.

The current SCDOT ARMS Manual requires 220 feet spacing for a full access along roads with a 35 mph speed limit. The conceptual site plan appears to meet the spacing criteria.

Since Burnt Church Road is SCDOT owned, an encroachment permit application will need to be submitted to SCDOT. All SCDOT standards and guidelines for the driveway design will need to be followed and provided in the application process.

Conclusions

The proposed development plans provide a 4,464 square foot building with one access point. The development could be expected to generate 418 trips per day. The peak hour trips could be expected to be 17 trips in the morning peak hour and 44 trips in the afternoon peak hour.

A Traffic Impact Study should not be necessary based on the size of development and the potential impact. If you have any questions or concerns, please feel free to email or call the number below.

Sincerely,

Access Engineering LLC



Jeff Ingham, P.E., PTOE, RSP2

Traffic Engineer

843-819-0270

Jingham@accesstrafficsc.com

Attachment 1 – Conceptual Site Plan

Attachment 2 – ITE trip generation

Attachment 3 – SCDOT traffic count data

Attachment 1

Attachment 2

Land Use: 822

Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

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 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

Strip Retail Plaza (<40k) (822)

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

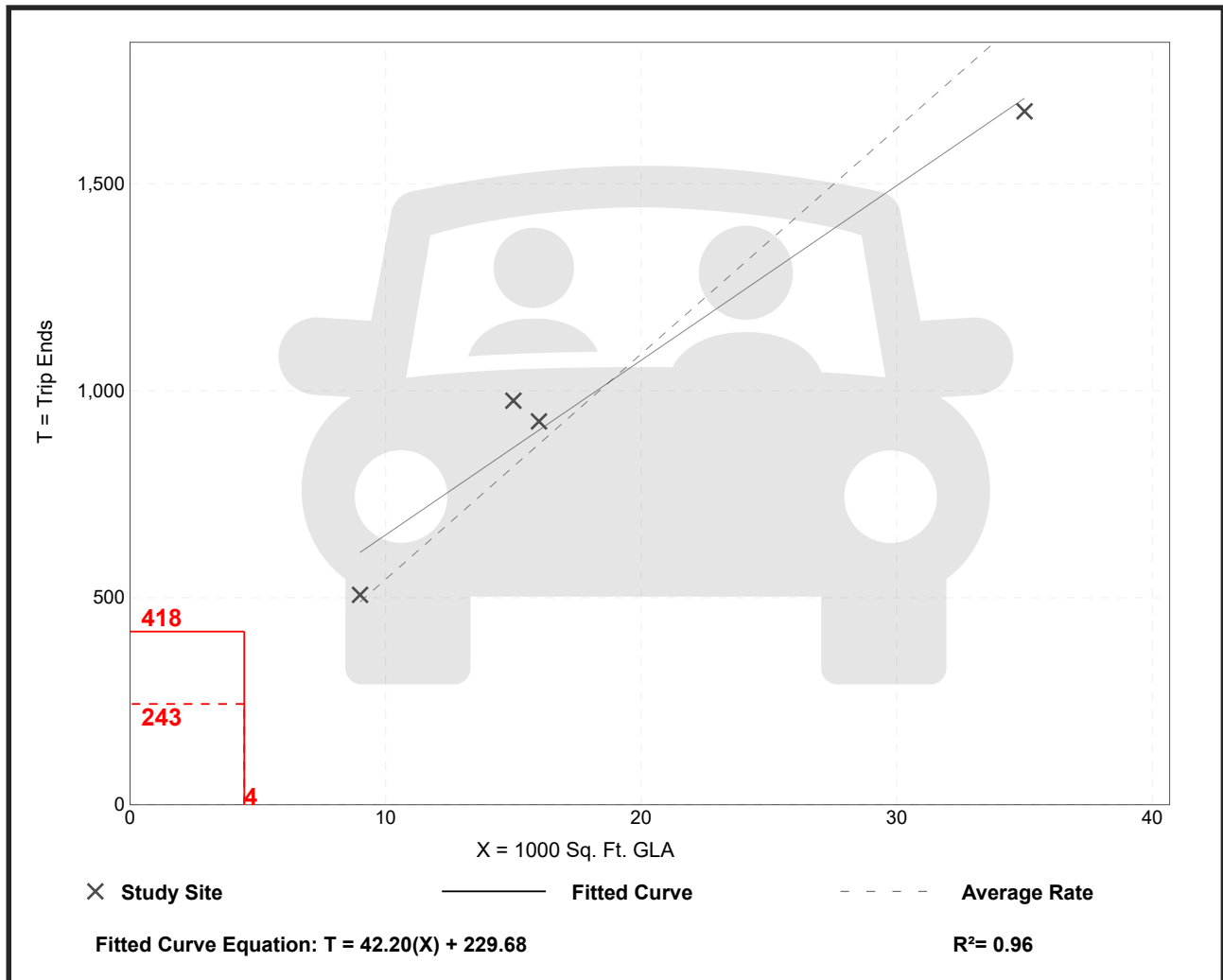
Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GLA: 19
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation

Caution – Small Sample Size



Strip Retail Plaza (<40k) (822)

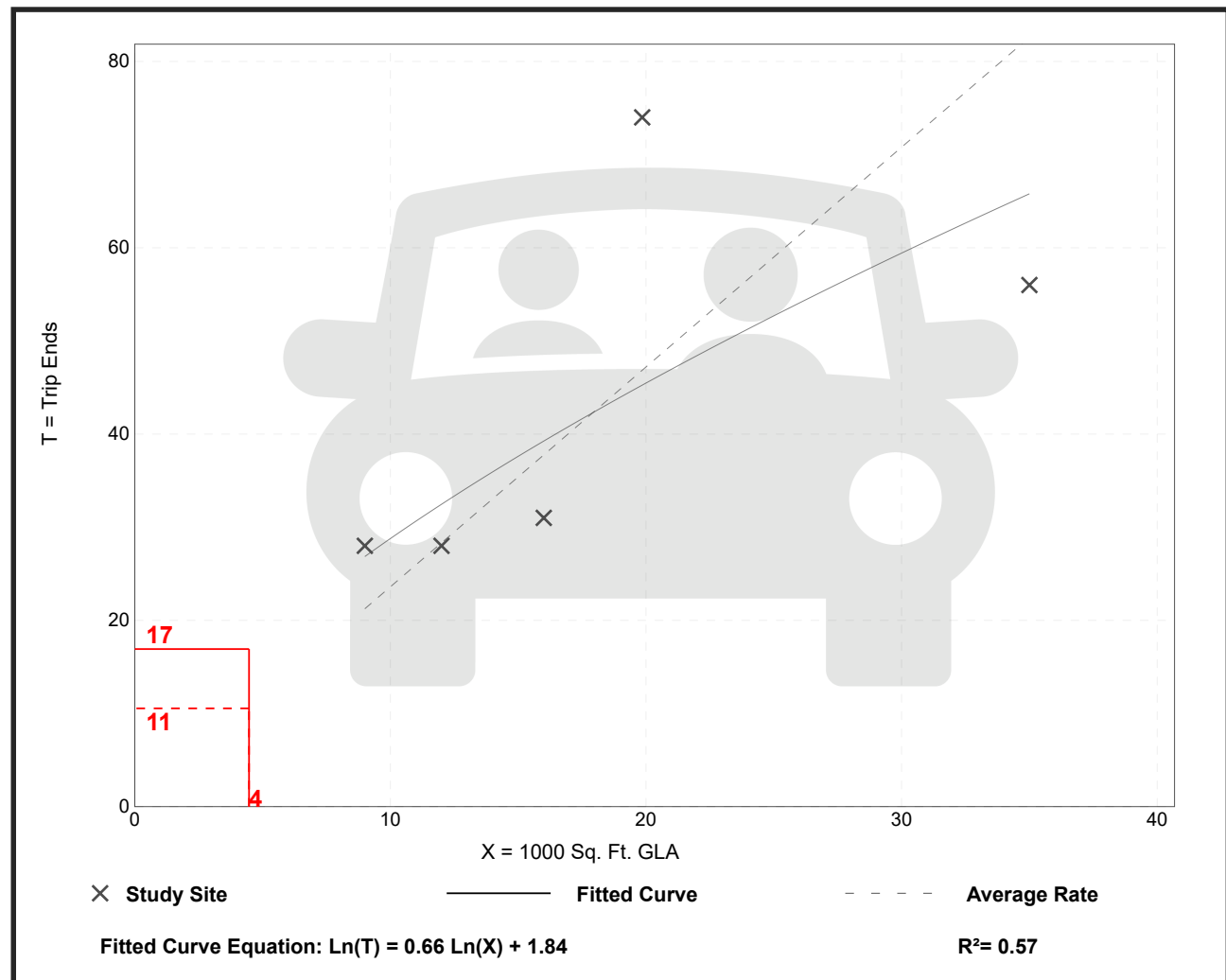
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GLA: 18
 Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation

Caution – Small Sample Size



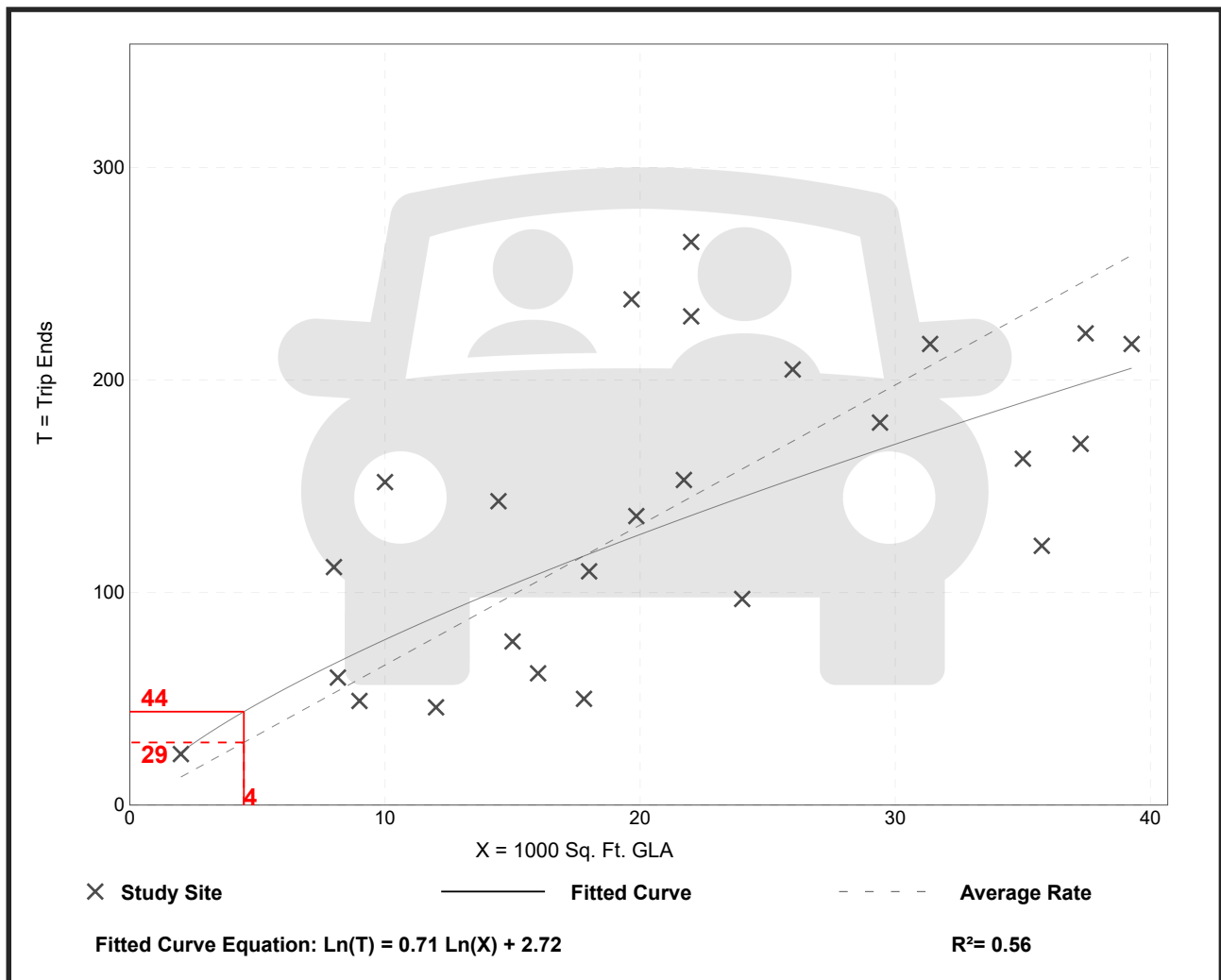
Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
 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: 25
 Avg. 1000 Sq. Ft. GLA: 21
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Attachment 3

000000070341 - 07-0341

- S-163 : S- 120 (BRUIN RD) TO US 278 (FORDING ISLAND RD)

County: BEAUFORT

LRS section: 07070016300N

Functional class: 5U - Major Collector (Urban)

Coordinates: 32.24717139, -80.84521268

Site Data



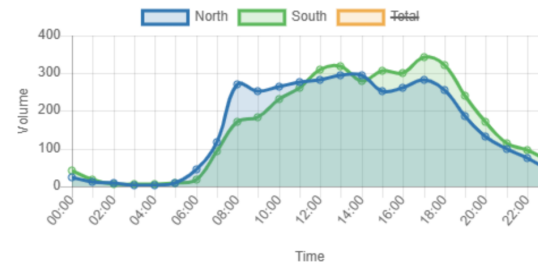
Count History

Year	Month	Count type	Duration	Count	ADT
2023	June	Class	48 hours	15,343	7,672
2021	June	Class	48 hours	15,104	7,552
2019	January	Class	48 hours	13,216	6,608

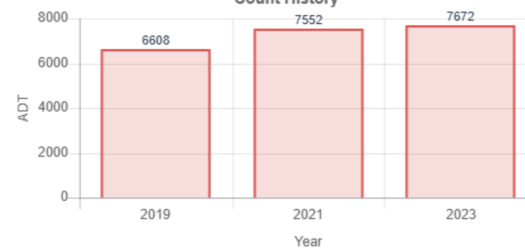
Annual Statistics

Data Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AADT	8,000	7,400	7,300	7,300	6,600	6,100	7,000	7,200	7,000	7,200
SU AADT	-	-	-	-	329	193	398	409	438	451
CU AADT	-	-	-	-	35	144	40	41	38	39
K-Factor	-	-	-	-	0.090	0.090	0.080	0.080	0.090	0.090
D-Factor	-	-	-	-	0.570	0.570	0.530	0.530	0.550	0.550

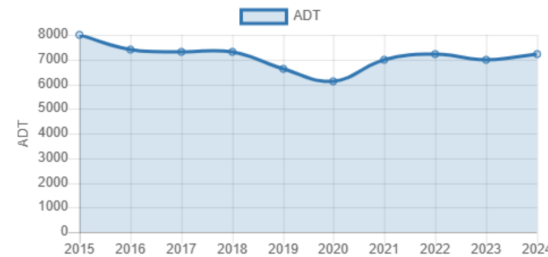
Average Hourly Volume



Count History



ADT Trend



Vehicle Classification 2023

1. Motorcycles 2 axes, 2 or 3 wheels.		0.12%
2. Passenger cars 2 axes. Can have 1- or 2-axle trailers.		62.34%
3. Pickups, panels, vans 2-axle, 4-tire single units. Can have 1- or 2-axle trailers.		30.73%
4. Buses 2- or 3-axle, full length.		0.52%
5. Single-unit trucks 2-axle, 6-tire, (dual rear tires), single-unit trucks.		5.25%
6. Single-unit trucks 3-axle, single-unit trucks.		0.45%
7. Single-unit trucks 4 or more axle, single-unit trucks.		0.05%
8. Single-trailer trucks 3- or 4-axle, single-trailer trucks.		0.27%
9. Single-trailer trucks 5-axle, single-trailer trucks.		0.25%
10. Single-trailer trucks 6 or more axle, single-trailer trucks.		0.02%
11. Multi-trailer trucks 5 or less axle, multi-trailer trucks.		0.01%
12. Multi-trailer trucks 6-axle, multi-trailer trucks.		0%
13. Multi-trailer trucks 7 or more axle, multi-trailer trucks.		0%