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# TRAFFIC IMPACT ANALYSIS

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## SHORT TRIP GENERATION MEMO

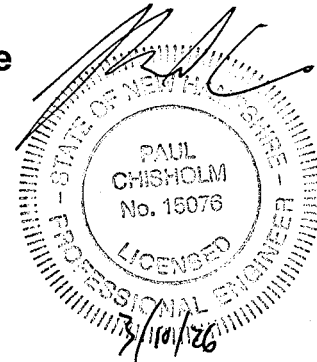
For

## PAGE ROCK TOWNHOMES

Map 15; Lots 235 & 236  
3 Page Road  
Londonderry, New Hampshire

March 20, 2025  
Last Revised: March 10, 2026

KNA Project No. 21-0113-1



Prepared For: Page Rock, LLC  
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# **Table of Contents**

## **PROJECT NARRATIVE**

- **DESCRIPTION OF SITE**
- **DESCRIPTION OF ROADWAYS**
- **SIGHT DISTANCE**
- **TRIP GENERATION**
- **SUMMARY**

## **APPENDIX**

- **USGS LOCATION AND TAX MAP AERIAL EXHIBITS**
- **DRIVEWAY SIGHT DISTANCE PLAN & PROFILE**
- **ITE TRIP GENERATION LAND USE CODE 215**
- **SNHPC TRAFFIC COUNTS**

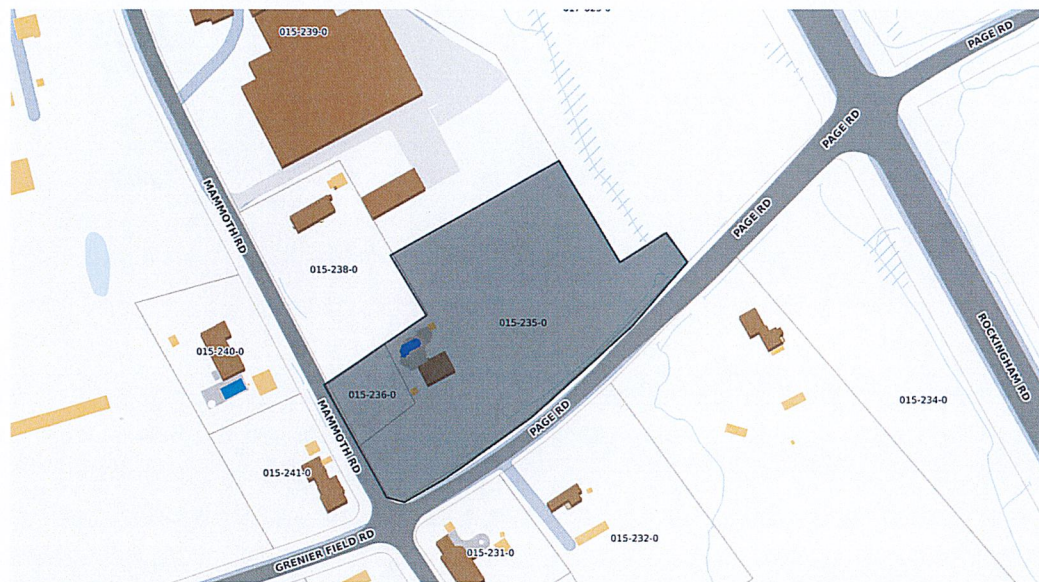
November 5, 2025

Town of Londonderry  
Planning Department  
268B Mammoth Road  
Londonderry, NH 03054

**Subject: Page Rock Townhomes  
Short Form Traffic Impact Assessment**  
Map 15; Lot 235  
3 Page Road, Londonderry, New Hampshire  
KNA Job No. 21-0113-1

On behalf of Page Rock, LLC (Owner & Applicant), Keach-Nordstrom Associates, Inc. respectfully submits the following short Traffic Impact Analysis (TIA), in accordance with the Town of Londonderry Site Plan Regulations Section 3.14.

The project proposes to develop the site to accommodate a 12-unit townhouse development consisting of two (2) buildings of six (6) units each. Site work will include the erection of the two townhouse buildings, installation of a new driveway, and construction of the appropriate utilities and required stormwater management provisions.



The resulting traffic density falls under the “short” TIA criteria, since the project is anticipated to generate substantially less than 1,000 ADT and 100 PHT. As such, this TIA will include a description of the site, roadways, proposed driveway sight distance, and ITE trip generation with reasonable localized distribution analysis.

The project location map to the left was prepared using Town of Londonderry GIS mapping.

(Please also refer to additional USGS and Tax Map exhibits contained in the TIA appendix)

*Civil Engineering*

*Land Surveying*

*Landscape Architecture*

**DESCRIPTION OF SITE:**

The lot is located at 3 Page Road and is approximately 3-acres in total area. The property has frontage along Page Road and Mammoth Road. It is currently developed with an existing 2-story single-family house, two sheds, and a driveway, which provides site access from Page Road.

**DESCRIPTION OF ROADWAYS:**

According to the New Hampshire Department of Transportation (NHDOT), Page Road is classified as a major collector while Mammoth Road is classified as a local road. The proposed townhouse development will be accessed by a driveway off Mammoth Road. Page Road directs traffic to Rockingham Road (NH Route 28) and Grenier Field Road while Mammoth Road primarily directs traffic to Rockingham Road. Rockingham Road and Page Road will be the primary focus of this report. Please refer to Table 1.0: Roadway Summary below for more information regarding each roadway.

**Table 1.0: Roadway Summary**

Road Name	Classification	Proximity to Site	SNHPC AADT
Rockingham Road (NH Route 28)	Minor Arterial	Northeast	12,700 (2021)
Page Road	Major Collector	Southwest	4,600 (2023)
Mammoth Road	Local	Northwest	2,100 (2021)

\*AADT is based on Southern New Hampshire Planning Commission (SNHPC) traffic counts

**ROCKINGHAM ROAD:**

Rockingham Road is an existing, paved, two (2) lane public minor arterial road, which runs through Londonderry, New Hampshire. It connects to several surrounding towns including Manchester and Derry and provides access to South Willow Street in Manchester and the Interstate 93 interchange in Londonderry.

The SNHPC data collection point is located approximately 0.5 miles south of the Page Road intersection adjacent to the project site. This collection point provides an Average Annual Daily Traffic (AADT) count of 12,700 vehicles per day (VPD), which was collected in 2021.

**PAGE ROAD:**

Page Road, which begins at the intersection of Grenier Field Road and Mammoth Road, is an existing, paved, two (2) lane public major collector road, which runs through Londonderry, New Hampshire. It connects to Rockingham Road and the city of Manchester via Grenier Field Road and Harvey Road.

There is an SNHPC data collection point located on Page Road directly in front of the project site. The AADT for this point indicates a traffic volume of 4,600 VPD in study year 2023.

**MAMMOTH ROAD:**

Mammoth Road, which begins and ends on Rockingham Road, to the north and south, is an existing, paved, two (2) lane public local road, exclusively located in Londonderry.

There is an NHDOT data collection point located on Mammoth Road south of the project site, between Weymouth Road and Foxglove Street. The AADT for this segment indicates a traffic volume of 2,100 VPD in study year 2021.

**SIGHT DISTANCE:**

Safe sight distance at the proposed driveway location was evaluated in accordance with the current Town of Londonderry Site Plan Regulations. The driveway location was evaluated to meet or exceed the required all season safe sight distance requirements. Please refer to the sight distance plan & profile drawings included in this TIA report appendix.

**TRIP GENERATION:**

This TIA relies on empirical data provided by the Institute of Transportation Engineers (ITE) in their publication entitled Trip Generation Manual (12<sup>th</sup> edition) under Land Use Code 215: Single-Family Attached Housing in order to derive estimates of site generated traffic volumes (ITE Land Use Code 215 references data contained in TIA Appendix).

Trip Generation Calculation:	6.57 vehicles per day (vpd) x 12 units = <u>78.84 VPD</u> (weekday rate with 50% entering & 50% exiting)
AM Peak (Weekday)	0.57 vehicles per hour (vph) x 12 units = <u>6.84 VPH</u> (weekday rate with 23% entering & 77% exiting)
PM Peak (Weekday)	0.52 vehicles per hour (vph) x 12 units = <u>6.24 VPH</u> (weekday rate with 62% entering & 38% exiting)
Peak Hour (Saturday)	0.47 vehicles per hour (vph) x 12 units = <u>5.64VPH</u> (Saturday rate with 48% entering & 52% exiting)

Based on the above calculations, the proposed development is anticipated to generate the following traffic volumes at full build-out and occupancy:

- A weekday average of 79 vpd with 40 vpd entering and 40 vpd exiting;
- A weekday AM peak average of 7 vph with 2 vph entering and 5 vph exiting;
- A weekday PM peak average of 6 vph with 4 vph entering and 2 vph exiting; and
- A Saturday peak hour average of 6 vph.

**TRIP DISTRIBUTION:**

The proposed development will utilize existing roads and will not create any new road(s). This TIA assumes that the worst-case scenario of 79 vpd (Saturday average daily traffic) will be added to the surrounding roadways. The results are as follows:

Rockingham Road:

$$\frac{79 \text{ vpd}}{(12,700 \text{ vpd})} \times 100 = \mathbf{0.62\%}$$

Page Road:

$$\frac{79 \text{ vpd}}{(4,600 \text{ vpd})} \times 100 = \mathbf{1.72 \%}$$

Mammoth Road:

$$\frac{79 \text{ vpd}}{(2,100 \text{ vpd})} \times 100 = \mathbf{3.76\%}$$

Overall, the additional daily traffic increase to adjacent roadways will be less than one (1) percent to Rockingham Road and approximately two (4) percent to Mammoth Road. These minor increases are anticipated to be negligible. Additionally, the proposed development will generate substantially less than 1,000 average daily trips and 100 peak hour trips. Therefore, due to the minor nature of this project and negligible traffic increases, specific onsite traffic counts and peak hour distribution analysis were not performed as part of this “Short Form” TIA.

**SUMMARY:**

Although the proposed development will slightly increase local traffic, this minor quantitative increase is unlikely to adversely impact existing local traffic operations.

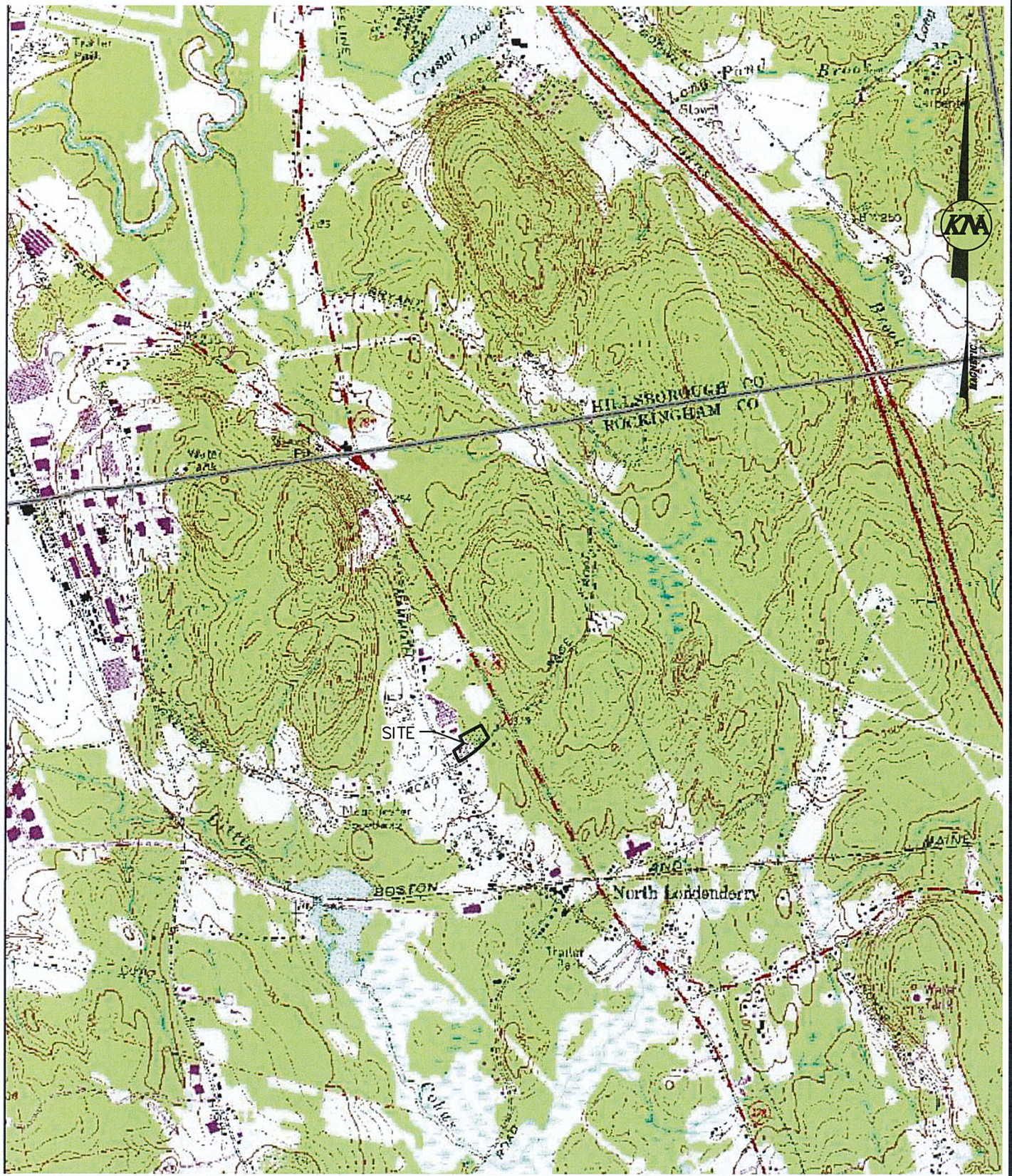
# APPENDIX

USGS Location and Tax Map Aerial Exhibits

Driveway Sight Distance Plan & Profile

ITE Trip Generation Land Use Code 215

SNHPC Traffic Counts



Civil Engineering Land Surveying Landscape Architecture  
 10 Commerce Park North, Suite 3B, Bedford, NH 03110  
 Phone (603) 627-2881

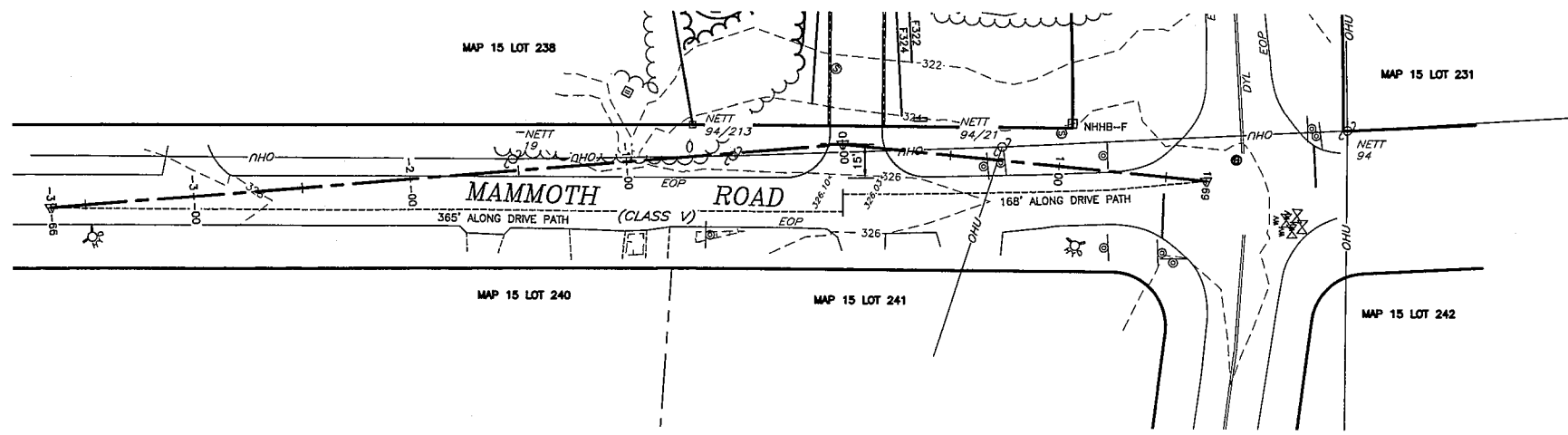
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**PAGE ROCK TOWNHOMES**  
 MAP 15; LOT 235 - 3 PAGE ROAD - LONDONDERRY, NH

DATE: NOVEMBER 5, 2025

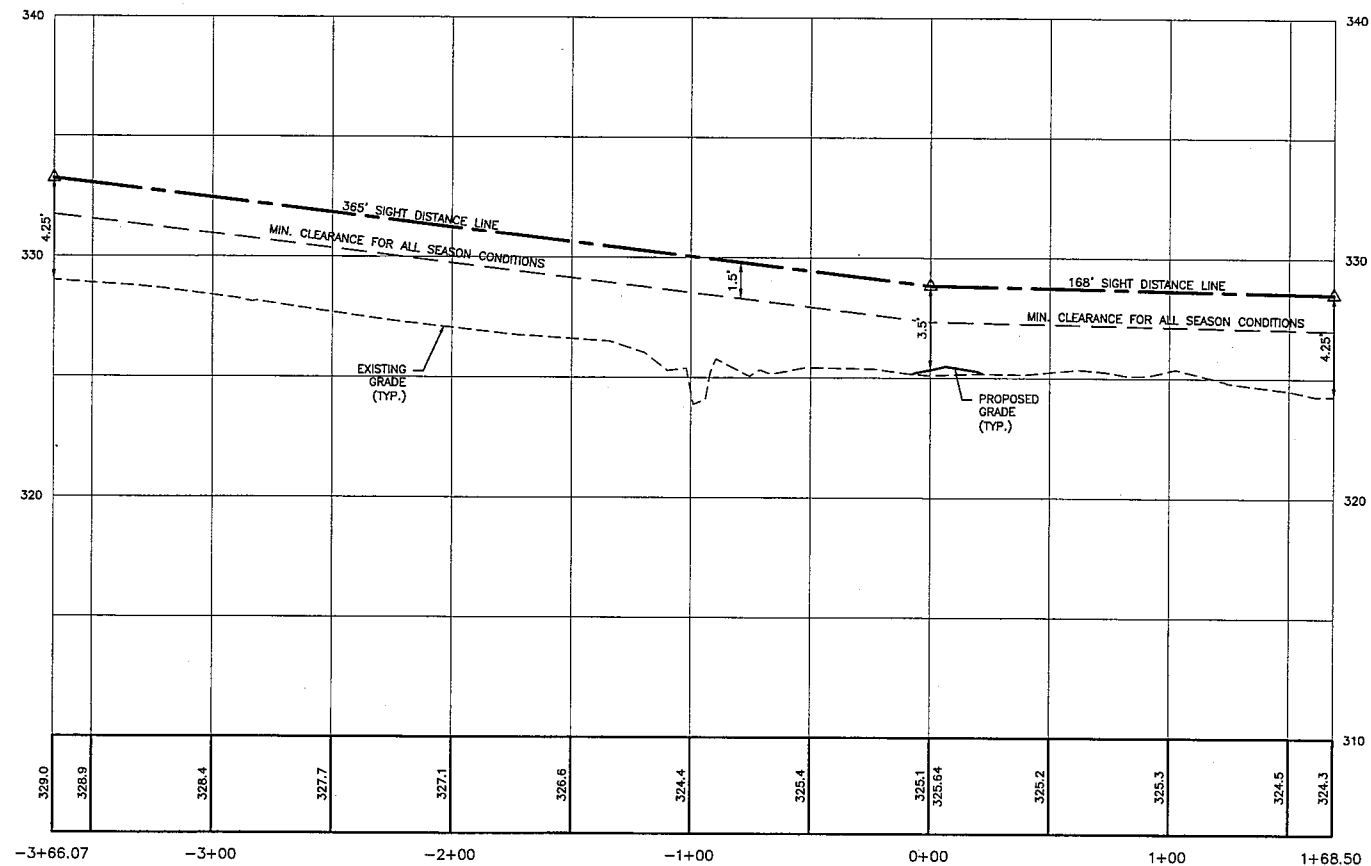
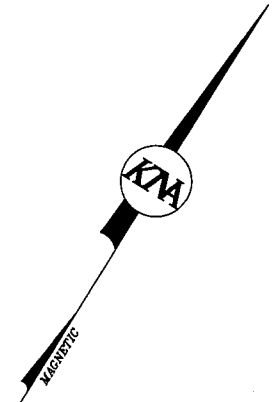
JOB. NO. 21-0113-1

SCALE: 1" = 2000'

SHEET 1 OF 1

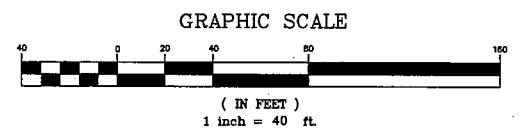


**SIGHT DISTANCE PLAN**  
SCALE: 1" = 40'



**SIGHT DISTANCE PROFILE**  
SCALE: 1" = 40' (HORIZ.)  
1" = 4' (VERT.)

- SIGHT DISTANCE NOTES:**
1. THE PURPOSE OF THIS PLAN IS TO ILLUSTRATE THE AVAILABLE SIGHT DISTANCE AT THE PROPOSED DRIVEWAY AND HARVEY ROAD.
  2. THE CONTRACTOR SHALL REMOVE ALL OBSTRUCTIONS BETWEEN THE DRIVEWAY AND THE SIGHT LINES TO ACHIEVE VISIBILITY.
  3. THE OWNER SHALL MAINTAIN SIGHT LINES VISIBILITY AND REMOVE ALL OBSTRUCTIONS BETWEEN THE DRIVEWAY AND THE SIGHT LINES TO ACHIEVE VISIBILITY.



**LEGEND**

□ NHB-F	NH HWY BOUND FOUND	—	PROPERTY LINE
□ GB-F	GRANITE BOUND FOUND	—	R.O.W. LINE
○ IP-F	IRON PIPE FOUND	—	OVERHEAD UTILITIES
○ IR-S	IRON ROD SET	—	EDGE OF PAVEMENT
⊙	BENCHMARK	—	10' CONTOUR
⊙	SIGN	—	2' CONTOUR
⊙	DRAINAGE MANHOLE	—	STONEWALL
⊙	CATCH BASIN	—	BUILDING SETBACK
⊙	WATER VALVE	—	WETLAND BUFFER
⊙	HYDRANT	—	LANDSCAPE BUFFER
⊙	SEWER MANHOLE	—	PROPOSED TREELINE
⊙	FLARED END SECTION	—	PROPOSED EOP
⊙	UTILITY POLE	—	PROPOSED BIT. CURB
⊙	WELL	—	PROPOSED RET. WALL
		—	PROPOSED 2' CONTOUR
		—	PROPOSED SWALE

BENCHMARK DATA			REVISIONS			
LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154187.05, E:1053618.44	ELEV.=325.59 (NAVD88)	BENCHMARK #3 - MAGNAIL SET	2	2/20/26	ENGINEERING REVS	PCM

KEACH-NORDSTROM ASSOCIATES, INC. HEREBY CERTIFIES THAT THE ALL SEASON SAFE SIGHT DISTANCE, AS REQUIRED BY THE TOWN OF LONDONDERRY, IS ACHIEVED UPON COMPLETION OF THE IMPROVEMENTS SHOWN ON THIS PLAN.

*[Signature]*  
PROFESSIONAL ENGINEER

3/4/26  
DATE




<b>LOT 235 OWNER/APPLICANT:</b> PAGE ROCK, LLC 5 HUTCHINGS DRIVE, SUITE 5D HOLLIS, N.H. 03049	<b>LOT 236 OWNER:</b> PAGE ROCK, LLC PO BOX 1675 HOLLIS, N.H. 03049
<b>SIGHT DISTANCE PLAN &amp; PROFILE</b> <b>PAGE ROCK TOWNHOMES</b>	
MAP 15 LOTS 235 & 236 3 PAGE ROAD LONDONDERRY, NEW HAMPSHIRE ROCKINGHAM COUNTY	
<b>PROJ. NO:</b> 21-0113-1	<b>DATE:</b> MARCH 20, 2025
<b>SCALE:</b> 1" = 40'	<b>FILE NO.:</b>
<b>SHEET NO. 11 OF 22</b>	

**KMA**  
KEACH-NORDSTROM ASSOCIATES, INC.  
Civil Engineering Land Surveying Landscape Architecture  
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



Property Information	
Property ID	015-235-0
Location	3 PAGE RD
Owner	PAGE ROCK LLC

  
**MAP FOR REFERENCE ONLY  
NOT A LEGAL DOCUMENT**  
 Town of Londonderry, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.  
 Geometry updated 08/08/2024  
 Data updated 03/31/2023

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

# Single-Family Attached Housing (215)

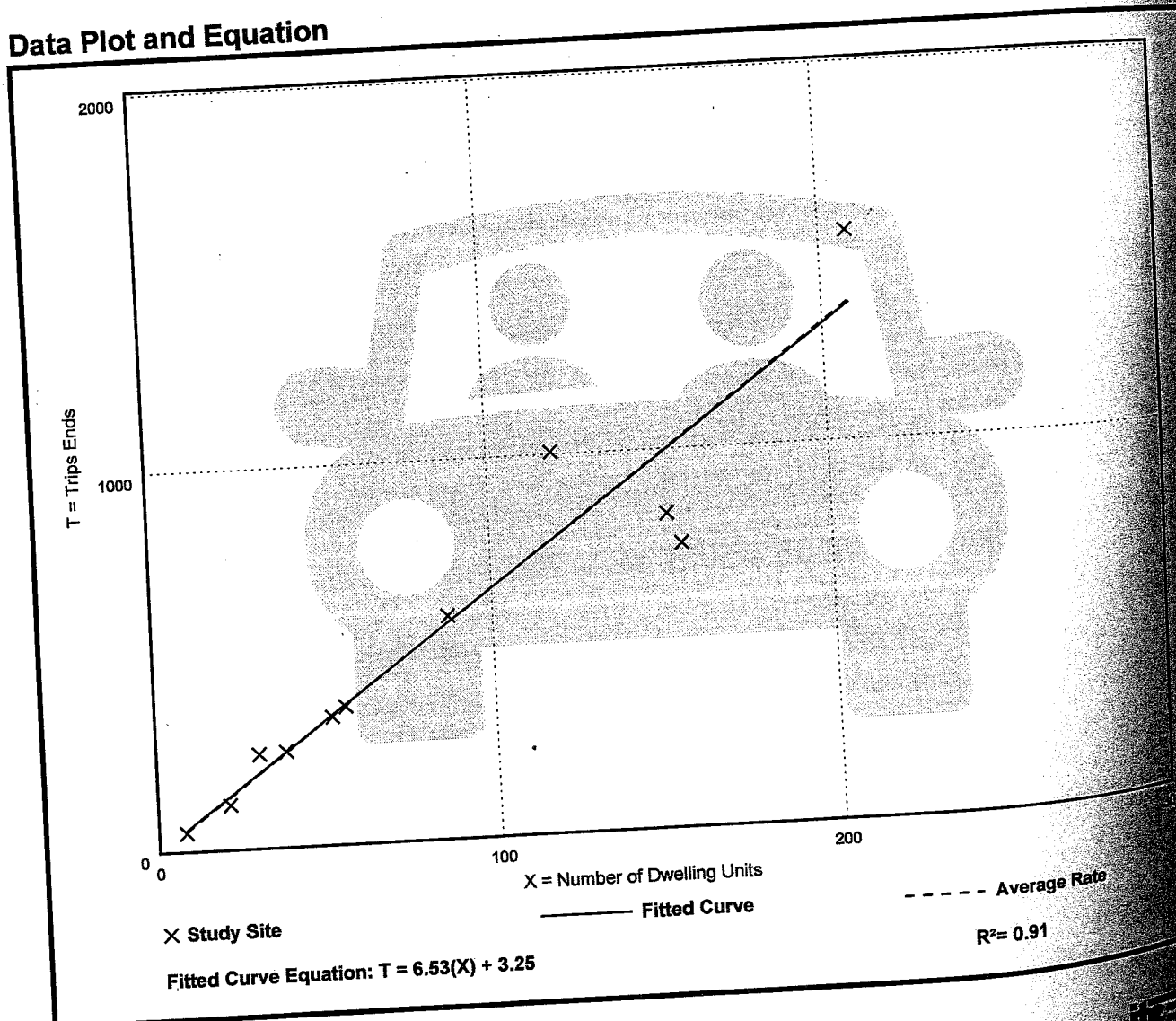
Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 11  
Avg. Num. of Dwelling Units: 84  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.57	4.80 - 8.45	1.28

## Data Plot and Equation



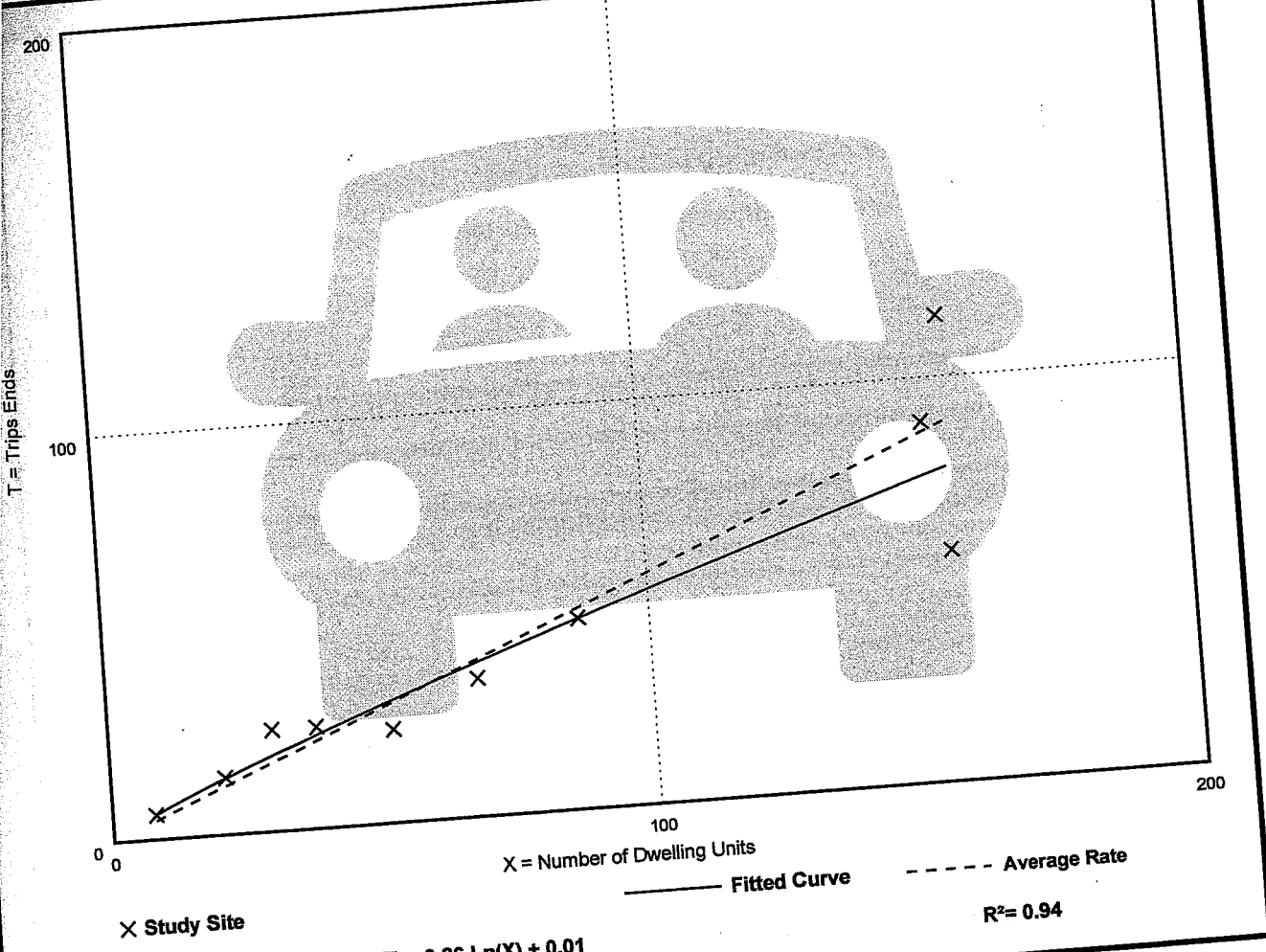
# Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units  
 On a: Weekday,  
 AM Peak Hour of Generator

Setting/Location: General Urban/Suburban  
 Number of Studies: 10  
 Avg. Num. of Dwelling Units: 77  
 Directional Distribution: 23% entering, 77% exiting

Average Trip Generation per Dwelling Unit		
Average Rate	Range of Rates	Standard Deviation
0.57	0.37 - 0.83	0.15

## Plot and Equation



# Single-Family Attached Housing (215)

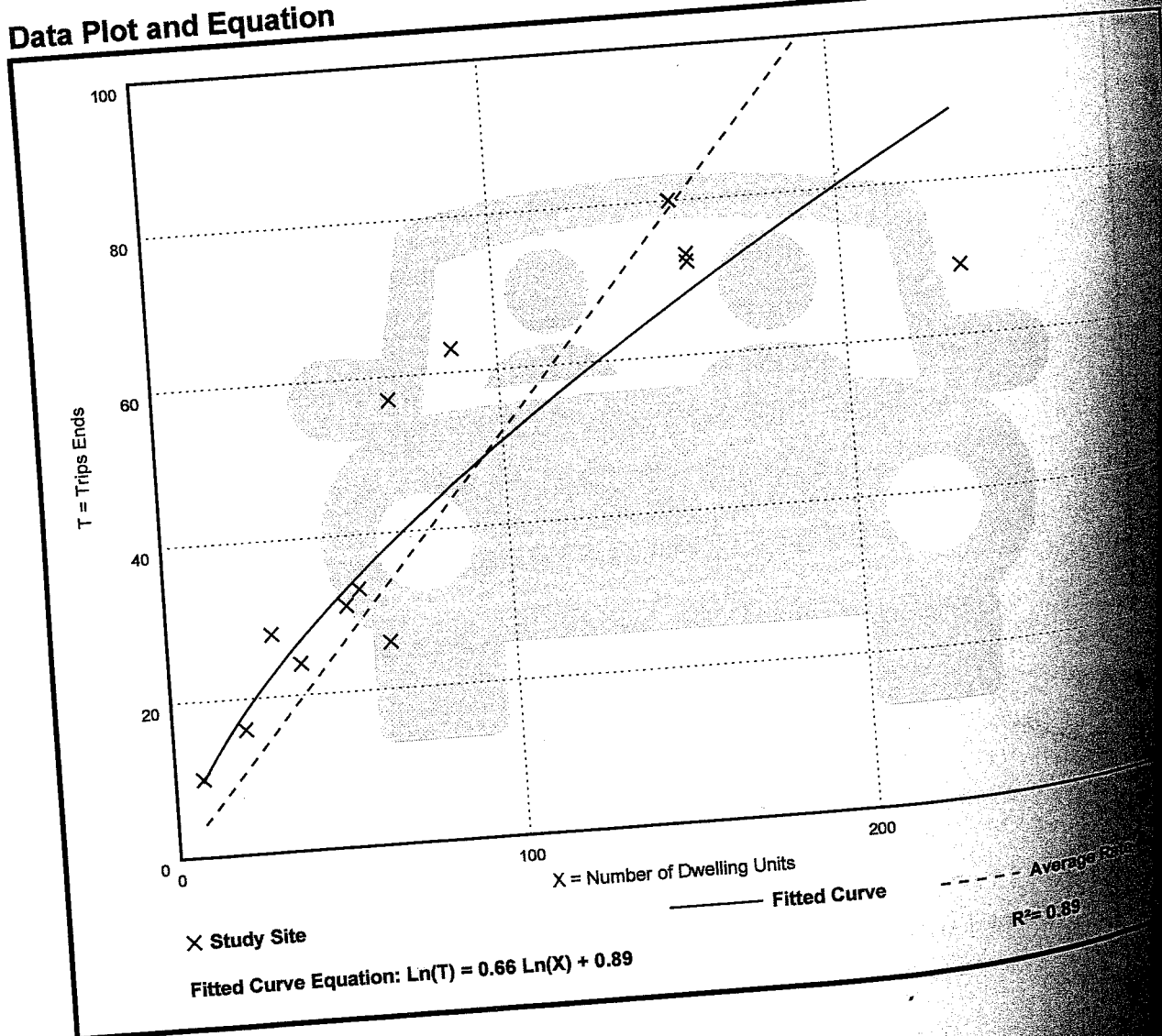
Vehicle Trip Ends vs: Dwelling Units  
 On a: Weekday,  
 PM Peak Hour of Generator

Setting/Location: General Urban/Suburban  
 Number of Studies: 13  
 Avg. Num. of Dwelling Units: 86  
 Directional Distribution: 62% entering, 38% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.52	0.29 - 1.25	0.19

## Data Plot and Equation



# Single-Family Attached Housing (215)

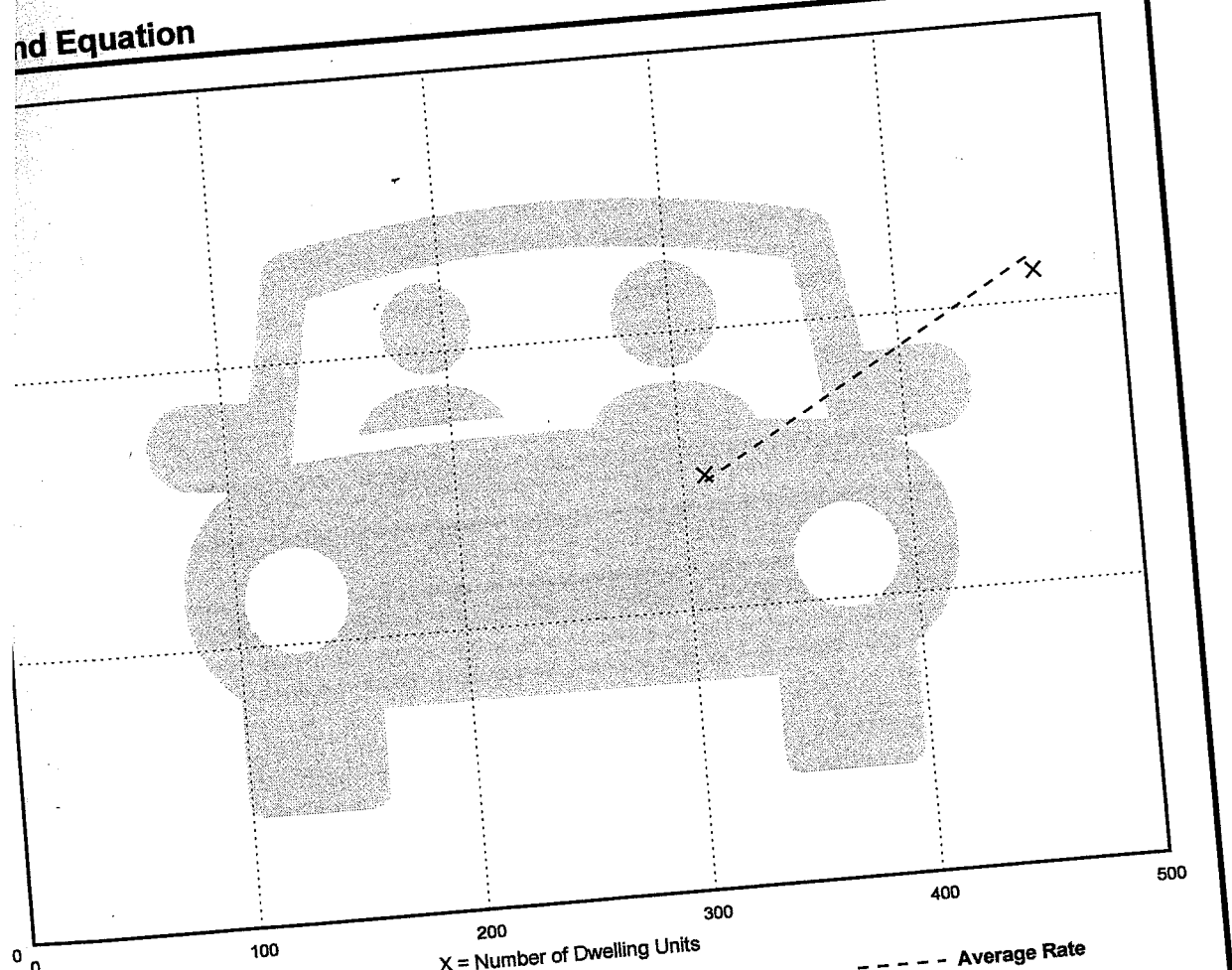
Vehicle Trip Ends vs: Dwelling Units  
 On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban  
 Number of Studies: 2  
 Avg. Num. of Dwelling Units: 386  
 Directional Distribution: 48% entering, 52% exiting

Generation per Dwelling Unit		Standard Deviation
Rate	Range of Rates	***
47	0.46 - 0.48	

Caution - Small Sample Size

Fitted Curve Equation



X Study Site

Fitted Curve Equation: Not Given

## SNHPC TRAFFIC COUNTS:

Most Recent AADT: 12,700	
Count Location	NH 28 ROCKINGHAM RD SOUTH OF B&M RAILRD (NORTH OF SANBORN RD)
Municipality	Londonderry
Count ID	82269069
2023 AADT	
2022 AADT	
2021 AADT	12,700
2020 AADT	
2019 AADT	
2018 AADT	12,400
2017 AADT	
2016 AADT	
2015 AADT	13,000
<a href="#">Zoom to</a>	...

Most Recent AADT: 4,600	
Count Location	PAGE RD EAST OF MAMMOTH RD
Municipality	Londonderry
Count ID	269552
2023 AADT	4,600
2022 AADT	
2021 AADT	
2020 AADT	
2019 AADT	
2018 AADT	
2017 AADT	
2016 AADT	3,700
2015 AADT	
2014 AADT	
<a href="#">Zoom to</a>	...

Most Recent AADT: 2,100	
Count Location	MAMMOTH RD NORTH OF B&M RAILRD SOUTH OF FOXGLOVE ST
Municipality	Londonderry
Count ID	82269068
2023 AADT	
2022 AADT	
2021 AADT	2,100
2020 AADT	
2019 AADT	
2018 AADT	1,500
2017 AADT	
2016 AADT	
2015 AADT	2,100
<a href="#">Zoom to</a>	...