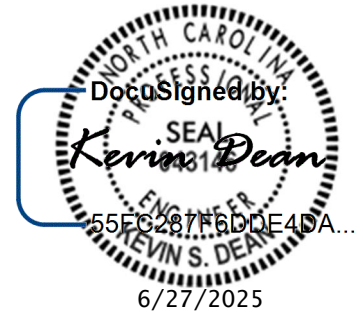


June 27, 2025

Ashley C. Lowery, P.E.  
Division Traffic Engineer  
NCDOT Division 5  
1041 Prison Camp Road  
Durham, NC 27705



**RE: *Signal Warrant Analysis for Rolesville Road at Quarry Road  
The Point (Young Street PUD) – Rolesville, North Carolina***

Ms. Lowery,

This letter summarizes the traffic signal warrant analysis performed for the intersection of Rolesville Road at Quarry Road in Rolesville, North Carolina. This analysis is conducted in association with the portion of The Point development located on the west side of Rolesville Road south of the US 401 Bypass. This portion of the development consists of approximately 750 combined single-family attached and detached residential dwelling units (proposed to be constructed in multiple phases) and will extend Quarry Road west of Rolesville Road. A traffic signal was recommended at this intersection in the *Young Street PUD Traffic Impact Analysis* (Kimley-Horn, June 2019), and this analysis was performed to satisfy the zoning requirement that a traffic signal warrant analysis be performed for this intersection prior to approval of the plat for the 325<sup>th</sup> lot south of the US 401 Bypass.

### ***Guidelines for Traffic Signal Warrant Analysis***

The Manual on Uniform Traffic Control Devices (MUTD) establishes nine traffic signal warrants:

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour Vehicular Volume
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 6 – Coordinated Signal System
- Warrant 7 – Crash Experience
- Warrant 8 – Road Network
- Warrant 9 – Intersection Near a Grade Crossing

Warrant 1 has three conditions: A – Minimum Vehicular Volume, B – Interruption of Continuous Traffic, and C – Combination. As there are very few pedestrians at this intersection and as it is unlikely that students will be walking to Rolesville High School given the distance,

Warrants 4-6, 8, and 9 are not applicable to this location and were not reviewed for this analysis.

***Existing Traffic Conditions***

Rolesville Road is a two-lane undivided roadway with left and right-turn lanes and a posted speed limit of 45 mph in the vicinity of Quarry Road. However, there is a school zone along this section of Rolesville Road with a speed limit of 35 mph. Rolesville High School operates from 7:25 AM to 2:18 PM, so for purposes of this analysis the school zone was assumed to be in effect from 7:00-8:00AM and 2:00-3:00PM. The North Carolina Department of Transportation (NCDOT) annual average daily traffic (AADT) map reported a daily volume of approximately 6,500 vehicles per day (vpd) on Rolesville south of Rolesville High School in 2023.

A 14-hour (6:00 AM to 8:00 PM) turning movement count was collected at the subject intersection on April 15, 2025, while area public schools were in session, and the count data is attached.

***Warrant Analysis Assumptions***

Based on the posted 45 mph speed limit, the 85<sup>th</sup> percentile speed on Rolesville Road was assumed to be greater than 40 mph in the non-school peak hours. During the school peak hours, the 85<sup>th</sup> percentile speed on Rolesville Road was assumed to be less than 40 mph based on the posted 35 mph speed limit. The northbound and southbound approaches of Rolesville Road each consist of an exclusive left-turn lane, a through lane, and an exclusive right-turn lane. Based on current/anticipated striping for the eastbound and westbound approaches of Quarry Road and the low volume of current/anticipated east/west through traffic across Rolesville Road, this analysis assumed single-lane approaches with right-turn volumes omitted on each approach.

Applying the above assumptions, existing and future build traffic volumes were then compared to the MUTCD volume thresholds.

***Existing Volume Warrants***

Based on this analysis, existing volumes at the intersection do not satisfy thresholds for any hours of the eight-hour, four-hour, or peak hour vehicular volume warrants.

***Future Build Volume Warrants***

While other traffic impact analyses recently performed in the study area applied a 2% annual growth rate and accounted for impacts from multiple approved developments, this analysis only applied a 1% annual growth rate to existing volumes up to the study year 2029, and no approved development site traffic was included in order to present a conservative analysis.

Site traffic for the portion of the development south of US 401 Bypass (Phases 1-9 and 14) was generated using data from the 11<sup>th</sup> edition of the *ITE Trip Generation Manual* and is summarized below in [Table 1](#). As shown, these units are expected to generate 5,984 new trips on a typical weekday, with 417 new trips during the AM peak hour and 522 new trips during the PM peak hour. It should be noted that there are approximately 70 attached dwelling units planned directly across from the Rolesville High School entrance that are not connected to the rest of the development. Therefore, these units were not included in the analysis.

<b>Table 1</b> <b>ITE Trip Generation: Phases 1-9, 14</b>							
LUC	Land Use	Intensity	Daily	AM Peak		PM Peak	
			Total	In	Out	In	Out
210	Single Family Detached Housing	251 d.u.	2,354	43	129	149	87
215	Single Family Attached Housing	483 d.u.	3,630	61	184	169	117
<b>Total Net New External Trips</b>			<b>5,984</b>	<b>104</b>	<b>313</b>	<b>318</b>	<b>204</b>

Site traffic distribution was assigned to the study intersection consistent with the June 2019 TIA, which assumed the following distribution:

- 85% from the north via Rolesville Road
- 5% from the south via Rolesville Road
- 55% to the north via Rolesville Road
- 20% to the south via Rolesville Road

As multiple site driveways are provided along Rolesville Road, not all site traffic is expected to enter/exit the site the subject intersection. It is anticipated that approximately 40% of the development traffic will make an eastbound left-turn from the Quarry Road extension onto northbound Rolesville Road.

[Table 2](#) below summarizes the Future Build volume warrant analysis for the intersection of Rolesville Road at Quarry Road. As shown, analysis indicates that the future build volumes are projected to satisfy the Eight-Hour Condition B and Four-Hour vehicular volume warrants at the subject intersection.

Table 2 Future Build Volume Warrant Summary					
End Hour Warrant	8 Hour Warrant			4-Hour	Peak Hour
	1A	1B	1C (Both)		
7:00		Y			
8:00		Y	Y	Y	
9:00	Y	Y	Y	Y	
10:00			Y		
11:00					
12:00					
1:00		Y	Y		
2:00					
3:00		Y			
4:00		Y		Y	
5:00		Y		Y	
6:00					
7:00		Y	Y	Y	
8:00					
9:00					
10:00					
<b>Total</b>	<b>1 hr.</b>	<b>8 hrs.</b>	<b>5 hrs.</b>	<b>5 hrs.</b>	<b>0 hrs.</b>

### Crash Experience Warrant

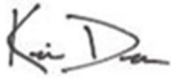
As part of this analysis, crash data was obtained through the NCDOT Traffic Engineering Accident Analysis System (TEEAS) at the intersection of Young Street at Quarry Road for the five-year period between May 2020 and May 2025. There were four reported crashes during that time, all of which were reported as “property-damage only” (PDO) and none of which were reported to include cyclists or pedestrians. Based on this data, the crash experience warrant in MUTCD is not met at this intersection.

### Summary and Conclusions

Based on the data and analysis presented herein, the installation of a traffic signal is warranted at the intersection of Rolesville Road at Quarry Road at full build-out of the southern portion of The Point development. In addition to accommodating vehicular traffic, this signal will help facilitate safer bicycle and pedestrian crossings at the subject intersection. Therefore, it is recommended that a traffic signal be installed at this location.

If you have questions, please feel free to contact me at [kevin.dean@kimley-horn.com](mailto:kevin.dean@kimley-horn.com).

Sincerely,  
KIMLEY-HORN AND ASSOCIATES, INC.  
NC License # F-0102



Kevin Dean, P.E.  
Project Manager

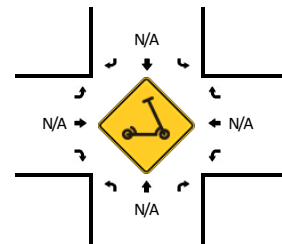
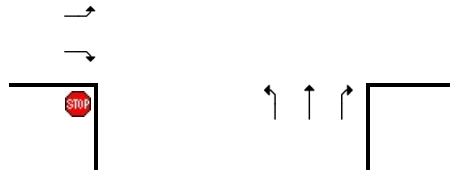
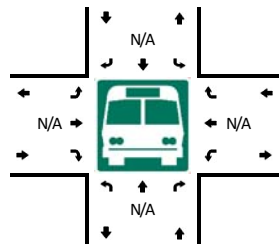
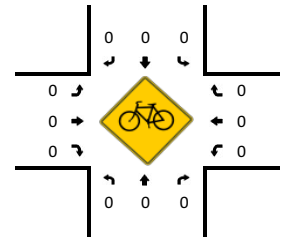
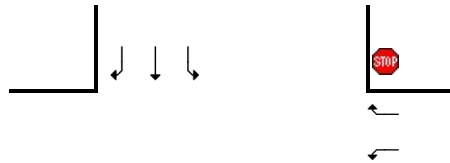
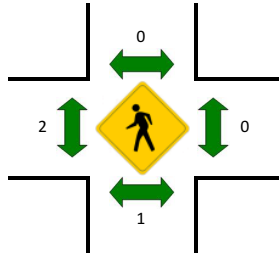
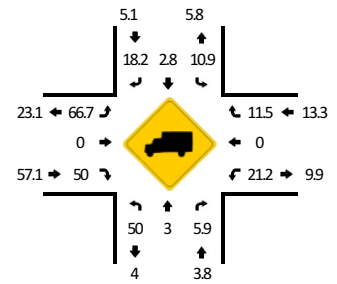
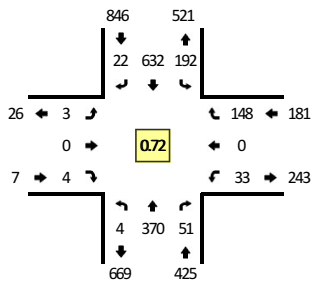
Cc: Michael Elabarger, Town of Rolesville  
Daniel Boulware, P.E., NCDOT District Engineer

LOCATION: Rolesville Rd -- Quarry Rd

CITY/STATE: Rolesville, NC

QC JOB #: 17004901

DATE: Tue, Apr 15 2025

Peak-Hour: 6:45 AM -- 7:45 AM  
Peak 15-Min: 7:00 AM -- 7:15 AM

15-Min Count Period Beginning At	Rolesville Rd (Northbound)				Rolesville Rd (Southbound)				Quarry Rd (Eastbound)				Quarry Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	20	1	0	6	37	0	0	0	0	1	0	3	0	6	0	74	
6:15 AM	0	24	5	0	16	40	1	0	0	0	0	0	0	0	8	0	94	
6:30 AM	1	36	7	0	31	62	5	0	0	0	0	0	5	0	17	0	164	
6:45 AM	0	55	21	0	37	126	5	0	0	0	2	0	5	0	19	0	270	602
7:00 AM	2	110	20	0	82	229	9	0	0	0	2	0	5	0	46	0	505	1033
7:15 AM	1	109	9	0	63	164	3	0	0	0	0	0	21	0	64	0	434	1373
7:30 AM	1	96	1	0	10	113	5	0	3	0	0	0	2	0	19	0	250	1459
7:45 AM	2	72	1	0	8	90	6	0	1	0	2	0	1	0	24	0	207	1396
8:00 AM	2	53	2	0	14	67	10	0	4	0	1	0	2	0	7	0	162	1053
8:15 AM	0	60	1	0	6	61	5	0	2	1	2	0	1	0	13	0	152	771
8:30 AM	1	39	1	0	6	57	3	0	1	0	2	0	5	0	13	0	128	649
8:45 AM	0	58	1	0	10	47	6	0	2	0	3	0	0	0	15	0	142	584
9:00 AM	1	41	1	0	22	56	6	0	1	0	0	0	0	0	7	0	135	557
9:15 AM	0	50	0	0	18	46	3	0	3	0	2	0	1	0	12	0	135	540
9:30 AM	3	50	1	0	6	41	6	0	1	1	1	0	1	0	14	0	125	537
9:45 AM	0	54	1	0	10	33	8	0	2	0	1	0	1	1	10	0	121	516
10:00 AM	0	35	0	0	4	34	4	0	2	0	3	0	1	0	11	0	94	475
10:15 AM	1	36	1	0	13	38	8	0	2	0	3	0	3	0	4	0	109	449
10:30 AM	0	51	1	0	13	43	0	0	4	1	2	0	0	1	17	0	133	457
10:45 AM	0	73	3	0	8	33	4	0	2	0	1	0	2	1	15	0	142	478
11:00 AM	1	33	2	0	11	59	7	0	4	0	2	0	1	0	10	0	130	514
11:15 AM	0	37	1	0	9	50	2	0	4	1	1	0	2	0	8	0	115	520
11:30 AM	1	35	0	0	14	53	5	0	6	0	1	0	1	0	19	0	135	522
11:45 AM	0	27	0	0	15	47	7	0	2	0	3	0	2	0	4	0	107	487
12:00 PM	0	35	4	0	12	30	4	0	6	2	4	0	2	0	10	0	109	466
12:15 PM	2	90	4	0	13	34	6	0	8	0	1	0	2	1	14	0	175	526
12:30 PM	0	34	0	0	12	70	5	0	3	0	1	0	1	0	7	0	133	524
12:45 PM	0	31	0	0	17	72	5	0	5	0	1	0	4	0	13	0	148	565
1:00 PM	0	46	2	0	11	60	3	0	3	0	2	0	1	0	19	0	147	603
1:15 PM	1	30	1	0	17	45	6	0	3	0	2	0	2	0	11	0	118	546
1:30 PM	1	28	3	0	20	57	3	0	3	0	1	0	2	0	16	0	134	547
1:45 PM	0	41	5	0	29	40	2	0	2	0	1	0	3	0	14	0	137	536
2:00 PM	0	46	4	0	22	58	1	0	1	0	0	0	2	1	20	0	155	544
2:15 PM	0	111	22	0	25	62	3	0	4	0	1	0	13	0	60	0	301	727
2:30 PM	0	134	4	0	17	64	4	0	2	1	0	0	11	0	31	0	268	861
2:45 PM	0	74	6	0	22	49	1	0	4	0	0	0	9	0	25	0	190	914
3:00 PM	0	64	4	0	14	47	1	0	5	0	1	0	4	0	16	0	156	915
3:15 PM	0	56	0	0	29	52	3	0	1	0	1	0	4	0	18	0	164	778

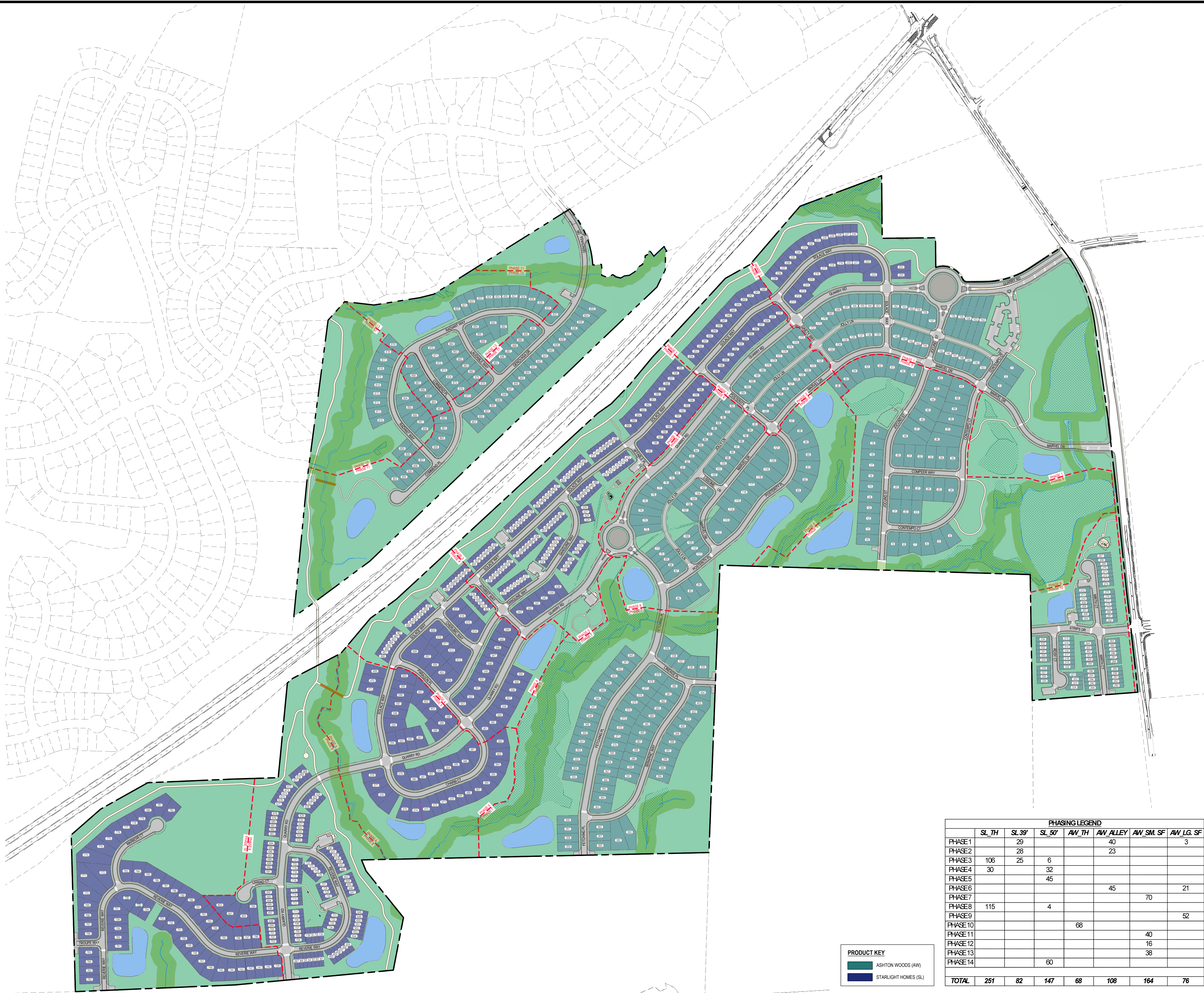
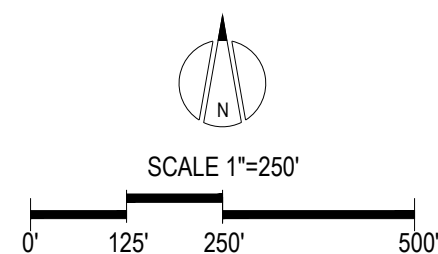
15-Min Count Period Beginning At	Rolesville Rd (Northbound)				Rolesville Rd (Southbound)				Quarry Rd (Eastbound)				Quarry Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:30 PM	0	79	1	0	14	71	5	0	0	0	1	0	1	0	16	0	188	698
3:45 PM	0	75	2	0	16	79	2	0	3	0	3	0	5	0	20	0	205	713
4:00 PM	0	81	1	0	18	103	3	0	2	0	0	0	0	0	23	0	231	788
4:15 PM	0	95	1	0	20	101	2	0	2	1	1	0	6	0	10	0	239	863
4:30 PM	1	82	3	0	24	60	1	0	1	0	0	0	3	0	9	0	184	859
4:45 PM	0	78	6	0	34	71	2	0	4	0	3	0	3	0	16	0	217	871
5:00 PM	0	79	2	0	28	74	0	0	5	0	3	0	4	0	23	0	218	858
5:15 PM	0	93	5	0	31	91	1	0	5	0	1	0	7	0	27	0	261	880
5:30 PM	0	84	1	0	24	96	3	0	2	0	1	0	6	0	23	0	240	936
5:45 PM	2	69	1	0	24	128	0	0	2	0	4	0	4	0	24	0	258	977
6:00 PM	0	62	1	0	13	97	0	0	5	0	1	0	3	0	9	0	191	950
6:15 PM	0	51	2	0	16	54	0	0	3	0	0	0	3	0	12	0	141	830
6:30 PM	0	53	4	0	15	37	0	0	3	0	0	0	1	0	5	0	118	708
6:45 PM	1	73	1	0	10	45	0	0	1	0	0	0	0	0	7	0	138	588
7:00 PM	0	93	5	0	8	28	0	0	0	2	0	0	1	2	8	0	147	544
7:15 PM	0	33	0	0	6	46	0	0	0	0	0	0	2	0	10	0	97	500
7:30 PM	0	23	0	0	13	37	2	0	0	0	0	0	1	0	7	0	83	465
7:45 PM	2	14	0	0	11	36	1	0	3	1	0	0	3	0	9	0	80	407
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	440	80	0	328	916	36	0	0	0	8	0	20	0	184	0	2020	
Heavy Trucks	4	12	8		40	4	8		0	0	4		4	0	20		104	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
Comments:																		

Report generated on 4/21/2025 8:54 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212



P:\2024\_Projects\240601 - Renderings - Ashton Woods Exhibits\240601\_The Point\Sheets\240601\_B\_Pkg.dwg



**PRODUCT KEY**  
ASHTON WOODS (AW)  
STARLIGHT HOMES (SL)

PHASING LEGEND						
	SL_TH	SL_39'	SL_50'	AW_TH	AW_ALLEY	AW_SM_SF
PHASE 1		29			40	3
PHASE 2		28			23	
PHASE 3	106	25	6			
PHASE 4	30		32			
PHASE 5			45			
PHASE 6					45	21
PHASE 7						70
PHASE 8	115		4			
PHASE 9						52
PHASE 10				68		
PHASE 11						40
PHASE 12						16
PHASE 13						38
PHASE 14			60			
TOTAL	251	82	147	68	108	164



1125 Apex Parkway | Apex, NC 27502  
ph: 919.439.0100  
www.peakengineering.com

**THE POINT**  
EAST YOUNG STREET  
ROLESVILLE, NC  
WAKE COUNTY

ASHTON WOODS.  
**STARLIGHT**  
HOMES



## Existing Volumes

[illegible]

## Existing Right-turn Volumes Adjusted

[illegible]

# Young Street PUD: Phases 1-9, 14

## TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS

INTERSECTION NAME: Quarry Road at Rolesville Road

COUNT DATE: 15-Apr-25

INTERSECTION CONDITION: Existing

MAJOR STREET: Rolesville Road

# OF APPROACH LANES: 1

MINOR STREET: Quarry Road/Quarry Road

# OF APPROACH LANES: 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N  
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

			MAJOR ST BOTH APPROACHES	HIGHEST HOUR MINOR ST HIGHEST APPROACH	WARRANT 1, Condition A			WARRANT 1, Condition B			WARRANT 1, Combination Warrant						WARRANT 2	WARRANT 3
					MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	CONDITION A			CONDITION B				
											MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
THRESHOLD VALUES →					350	105		525	53		280	84		420	42			
06:00 AM	TO	07:00 AM	491	13	Y						Y			Y				
07:00 AM	TO	08:00 AM	1,152	29	Y			Y			Y			Y				
08:00 AM	TO	09:00 AM	481	10	Y						Y			Y				
09:00 AM	TO	10:00 AM	431	8	Y						Y			Y				
10:00 AM	TO	11:00 AM	382	11	Y						Y							
11:00 AM	TO	12:00 PM	392	17	Y						Y							
12:00 PM	TO	01:00 PM	452	24	Y						Y			Y				
01:00 PM	TO	02:00 PM	426	11	Y						Y			Y				
02:00 PM	TO	03:00 PM	684	36	Y			Y			Y			Y				
03:00 PM	TO	04:00 PM	596	14	Y			Y			Y			Y				
04:00 PM	TO	05:00 PM	768	12	Y			Y			Y			Y				
05:00 PM	TO	06:00 PM	823	21	Y			Y			Y			Y				
06:00 PM	TO	07:00 PM	527	12	Y			Y			Y			Y				
07:00 PM	TO	08:00 PM	350	9	Y						Y							
08:00 PM	TO	09:00 PM	0	0														
09:00 PM	TO	10:00 PM	0	0														
			7,955	227	0			0			00						0	0
					8 HOURS NEEDED NOT SATISFIED			8 HOURS NEEDED NOT SATISFIED			8 HOURS OF BOTH COND. A AND COND. B NEEDED NOT SATISFIED						4 HRS NEEDED NOT SATISFIED	1 HR NEEDED NOT SATISFIED

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant

Condition A : Minimum Vehicular Volume

Condition B : Interruption of Continuous Traffic

Combination : Combination of Condition A and Condition B

WARRANT 2 -- Four-Hour Vehicular Volume Warrant

WARRANT 3 -- Peak Hour Warrant



**No-Build Traffic Volumes (Existing + Growth)**

[illegible]

## No-Build Right-Turn Volumes Adjusted

[illegible]

# Young Street PUD: Phases 1-9, 14

## TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS

INTERSECTION NAME: Quarry Road at Rolesville Road

COUNT DATE: 15-Apr-25

INTERSECTION CONDITION: No-Build

MAJOR STREET: Rolesville Road

# OF APPROACH LANES: 1

MINOR STREET: Quarry Road/Quarry Road

# OF APPROACH LANES: 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N  
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

			MAJOR ST BOTH APPROACHES	HIGHEST HOUR MINOR ST HIGHEST APPROACH	WARRANT 1, Condition A			WARRANT 1, Condition B			WARRANT 1, Combination Warrant						WARRANT 2	WARRANT 3
					MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	CONDITION A			CONDITION B				
											MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
THRESHOLD VALUES					350	105		525	53		280	84		420	42			
06:00 AM	TO	07:00 AM	511	14	Y						Y			Y				
07:00 AM	TO	08:00 AM	1,199	30	Y			Y			Y			Y				
08:00 AM	TO	09:00 AM	500	10	Y						Y			Y				
09:00 AM	TO	10:00 AM	448	8	Y						Y			Y				
10:00 AM	TO	11:00 AM	398	11	Y						Y							
11:00 AM	TO	12:00 PM	407	17	Y						Y							
12:00 PM	TO	01:00 PM	470	24	Y						Y			Y				
01:00 PM	TO	02:00 PM	443	11	Y						Y			Y				
02:00 PM	TO	03:00 PM	711	37	Y			Y			Y			Y				
03:00 PM	TO	04:00 PM	620	15	Y			Y			Y			Y				
04:00 PM	TO	05:00 PM	800	12	Y			Y			Y			Y				
05:00 PM	TO	06:00 PM	856	22	Y			Y			Y			Y				
06:00 PM	TO	07:00 PM	548	12	Y			Y			Y			Y				
07:00 PM	TO	08:00 PM	365	9	Y						Y							
08:00 PM	TO	09:00 PM	0	0														
09:00 PM	TO	10:00 PM	0	0														
			8,276	232	0			0			00						0	0
					8 HOURS NEEDED NOT SATISFIED			8 HOURS NEEDED NOT SATISFIED			8 HOURS OF BOTH COND. A AND COND. B NEEDED NOT SATISFIED						4 HRS NEEDED NOT SATISFIED	1 HR NEEDED NOT SATISFIED

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant

Condition A : Minimum Vehicular Volume

Condition B : Interruption of Continuous Traffic

Combination : Combination of Condition A and Condition B

WARRANT 2 -- Four-Hour Vehicular Volume Warrant

WARRANT 3 -- Peak Hour Warrant

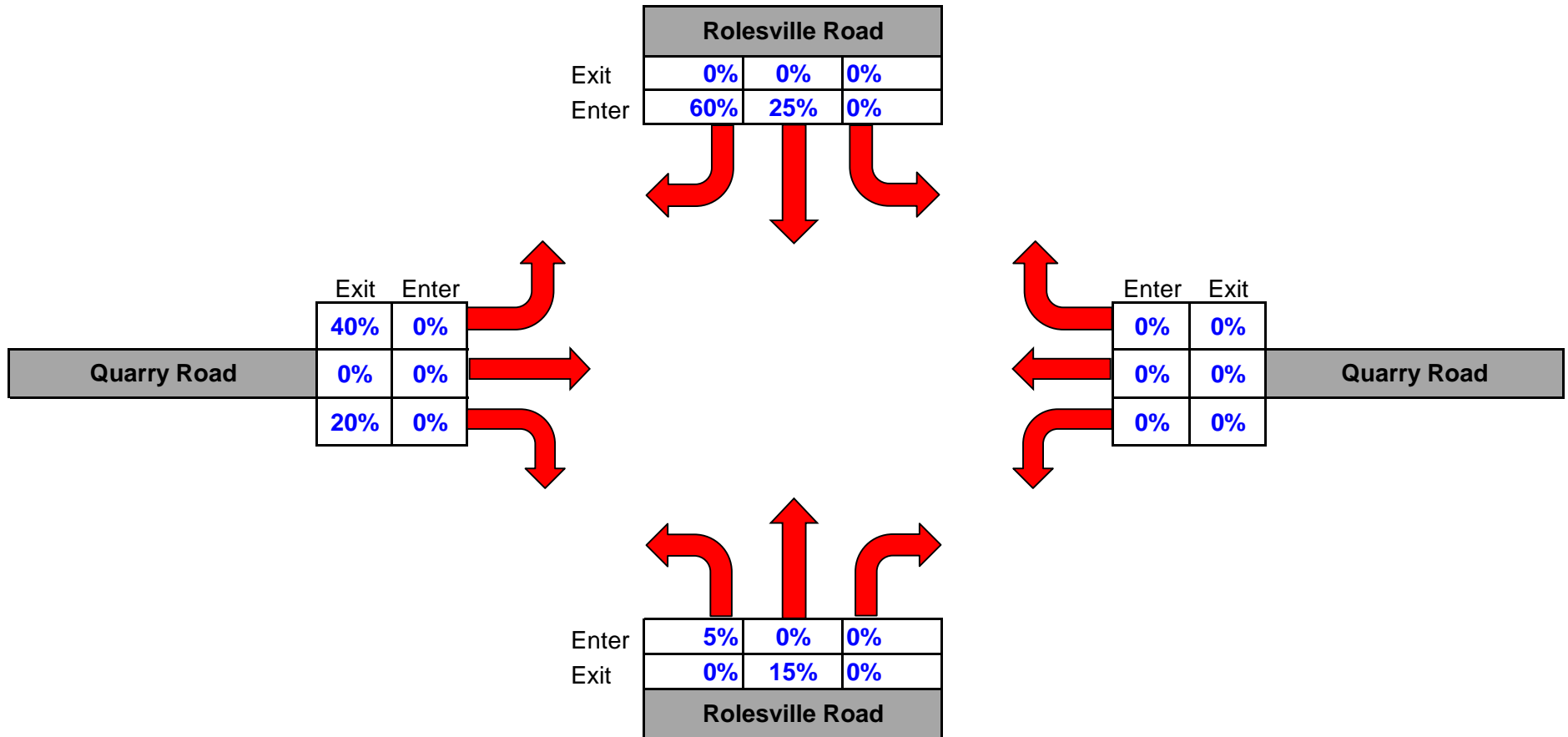


**Young Street PUD: Phases 1-9, 14**  
**Table 1 - Trip Generation: Full Build-out**

Land Use	Intensity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
210 Single Family Detached Housing	251 d.u.	2,354	1,177	1,177	172	43	129	236	149	87
215 Single Family Attached Housing	483 d.u.	3,630	1,815	1,815	245	61	184	286	169	117
<b>Subtotal</b>		<b>5,984</b>	<b>2,992</b>	<b>2,992</b>	<b>417</b>	<b>104</b>	<b>313</b>	<b>522</b>	<b>318</b>	<b>204</b>

Dwelling units are those in Phases 1-9 (south of Rolesville Bypass, not including phase across from Rolesville High School)

## Traffic Distribution





## Site Volumes

[illegible]

### Site Traffic Right-turn Volumes Adjusted

[illegible]

**Build Traffic Volumes (Existing + Growth + Approved Developments + Project Site)**

[illegible]

## Build Right-Turn Volumes Adjusted

[illegible]

# Young Street PUD: Phases 1-9, 14

## TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS

INTERSECTION NAME: Quarry Road at Rolesville Road

COUNT DATE: 15-Apr-25

INTERSECTION CONDITION: Build: School Peaks

MAJOR STREET: Rolesville Road

# OF APPROACH LANES: 1

MINOR STREET: Quarry Road/Quarry Road

# OF APPROACH LANES: 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N  
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

			MAJOR ST BOTH APPROACHES	HIGHEST HOUR MINOR ST HIGHEST APPROACH	WARRANT 1, Condition A			WARRANT 1, Condition B			WARRANT 1, Combination Warrant						WARRANT 2	WARRANT 3			
					MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	CONDITION A			CONDITION B							
											MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET					
THRESHOLD VALUES				→				500	150		750	75		400	120		600	60			
06:00 AM	TO	07:00 AM																			
07:00 AM	TO	08:00 AM	1,277	130	Y				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
08:00 AM	TO	09:00 AM																			
09:00 AM	TO	10:00 AM																			
10:00 AM	TO	11:00 AM																			
11:00 AM	TO	12:00 PM																			
12:00 PM	TO	01:00 PM																			
01:00 PM	TO	02:00 PM																			
02:00 PM	TO	03:00 PM	793	85	Y				Y	Y	Y	Y				Y	Y	Y			
03:00 PM	TO	04:00 PM																			
04:00 PM	TO	05:00 PM																			
05:00 PM	TO	06:00 PM																			
06:00 PM	TO	07:00 PM																			
07:00 PM	TO	08:00 PM																			
08:00 PM	TO	09:00 PM																			
09:00 PM	TO	10:00 PM																			
					0			2			1			2			1	0			
					8 HOURS NEEDED NOT SATISFIED			8 HOURS NEEDED NOT SATISFIED			8 HOURS OF BOTH COND. A AND COND. B NEEDED NOT SATISFIED						4 HRS NEEDED NOT SATISFIED	1 HR NEEDED NOT SATISFIED			

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant

Condition A : Minimum Vehicular Volume

Condition B : Interruption of Continuous Traffic

Combination : Combination of Condition A and Condition B

WARRANT 2 -- Four-Hour Vehicular Volume Warrant

WARRANT 3 -- Peak Hour Warrant



# Young Street PUD: Phases 1-9, 14

## TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS

INTERSECTION NAME: Quarry Road at Rolesville Road

COUNT DATE: 15-Apr-25

INTERSECTION CONDITION: Build: Non-School Peaks

MAJOR STREET: Rolesville Road

# OF APPROACH LANES: 1

MINOR STREET: Quarry Road/Quarry Road

# OF APPROACH LANES: 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N  
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

				MAJOR ST BOTH APPROACHES	HIGHEST HOUR MINOR ST HIGHEST APPROACH	WARRANT 1, Condition A			WARRANT 1, Condition B			WARRANT 1, Combination Warrant						WARRANT 2	WARRANT 3
						MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	CONDITION A			CONDITION B				
												MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
THRESHOLD VALUES						350	105		525	53		280	84		420	42			
06:00 AM	TO	07:00 AM	549	70	Y			Y	Y	Y	Y				Y	Y	Y		
07:00 AM	TO	08:00 AM																	
08:00 AM	TO	09:00 AM	573	118	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
09:00 AM	TO	10:00 AM	509	85	Y				Y		Y	Y	Y	Y	Y	Y	Y		
10:00 AM	TO	11:00 AM	456	68	Y					Y			Y	Y	Y	Y	Y		
11:00 AM	TO	12:00 PM	476	82	Y					Y			Y	Y	Y	Y	Y		
12:00 PM	TO	01:00 PM	544	88	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
01:00 PM	TO	02:00 PM	514	74	Y				Y			Y		Y	Y	Y	Y		
02:00 PM	TO	03:00 PM																	
03:00 PM	TO	04:00 PM	719	73	Y			Y	Y	Y	Y			Y	Y	Y	Y	Y	
04:00 PM	TO	05:00 PM	917	82	Y			Y	Y	Y	Y			Y	Y	Y	Y	Y	
05:00 PM	TO	06:00 PM	913	49	Y			Y			Y			Y	Y	Y	Y		
06:00 PM	TO	07:00 PM	659	88	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
07:00 PM	TO	08:00 PM	446	59	Y				Y		Y			Y	Y	Y	Y		
08:00 PM	TO	09:00 PM	0	0															
09:00 PM	TO	10:00 PM	0	0															
					1			6			4			12			4	0	
					8 HOURS NEEDED NOT SATISFIED			8 HOURS NEEDED NOT SATISFIED			8 HOURS OF BOTH COND. A AND COND. B NEEDED NOT SATISFIED						4 HRS NEEDED SATISFIED	1 HR NEEDED NOT SATISFIED	

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant

Condition A : Minimum Vehicular Volume

Condition B : Interruption of Continuous Traffic

Combination : Combination of Condition A and Condition B

WARRANT 2 -- Four-Hour Vehicular Volume Warrant

WARRANT 3 -- Peak Hour Warrant

# Young Street PUD: Phases 1-9, 14

## TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS

INTERSECTION NAME: Quarry Road at Rolesville Road

COUNT DATE: 15-Apr-25

INTERSECTION CONDITION: Build: CONSOLIDATED

MAJOR STREET: Rolesville Road

# OF APPROACH LANES: 1

MINOR STREET: Quarry Road/Quarry Road

# OF APPROACH LANES: 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N  
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

	MAJOR ST BOTH APPROACHES	HIGHEST HOUR MINOR ST HIGHEST APPROACH	WARRANT 1, Condition A			WARRANT 1, Condition B			WARRANT 1, Combination Warrant						WARRANT 2	WARRANT 3
			MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	CONDITION A			CONDITION B				
									MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
06:00 AM TO 07:00 AM	549	70	Y			Y	Y	Y	Y			Y	Y	Y		
07:00 AM TO 08:00 AM	1,277	130	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
08:00 AM TO 09:00 AM	573	118	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
09:00 AM TO 10:00 AM	509	85	Y				Y		Y	Y	Y	Y	Y	Y		
10:00 AM TO 11:00 AM	456	68	Y				Y		Y			Y	Y	Y		
11:00 AM TO 12:00 PM	476	82	Y				Y		Y			Y	Y	Y		
12:00 PM TO 01:00 PM	544	88	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y		
01:00 PM TO 02:00 PM	514	74	Y				Y		Y			Y	Y	Y		
02:00 PM TO 03:00 PM	793	85	Y			Y	Y	Y	Y			Y	Y	Y		
03:00 PM TO 04:00 PM	719	73	Y			Y	Y	Y	Y			Y	Y	Y	Y	
04:00 PM TO 05:00 PM	917	82	Y			Y	Y	Y	Y			Y	Y	Y	Y	
05:00 PM TO 06:00 PM	913	49	Y			Y			Y			Y	Y	Y		
06:00 PM TO 07:00 PM	659	88	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
07:00 PM TO 08:00 PM	446	59	Y				Y		Y			Y	Y	Y		
08:00 PM TO 09:00 PM	0	0														
09:00 PM TO 10:00 PM																
			1			8			514						5	0
			8 HOURS NEEDED NOT SATISFIED			8 HOURS NEEDED SATISFIED			8 HOURS OF BOTH COND. A AND COND. B NEEDED NOT SATISFIED						4 HRS NEEDED SATISFIED	1 HR NEEDED NOT SATISFIED

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant

Condition A : Minimum Vehicular Volume

Condition B : Interruption of Continuous Traffic

Combination : Combination of Condition A and Condition B

WARRANT 2 -- Four-Hour Vehicular Volume Warrant

WARRANT 3 -- Peak Hour Warrant

### Study Criteria Summary

**County:** WAKE **City:** All and Rural  
**Date:** 05/01/2020 **to** 04/30/2025 **Study:** ROLESVILLE  
**Location:** SR 1003 (Young Street/Rolesville Road) at SR 2305 (Quarry Road)

## Report Details

Acc No	Crash ID	Date	Accident Type				Total Damage	Injuries				Condition			Road		Trfc Ctl	
								F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	106737730	10/21/2021 15:03	REAR END, SLOW OR STOP				\$ 1000	0	0	0	0	1	1	1	2	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	W	Veh Mnvr / Ped Actn:				1	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	5 MPH	Dir:	W	Veh Mnvr / Ped Actn:				4	Obj Strk:					
2	107079761	09/09/2022 14:50	LEFT TURN, DIFFERENT ROADWAYS				\$ 4500	0	0	0	0	1	1	1	1	0	1	1
Unit	1 : 4	Alchl/Drgs:	0	Speed:	15 MPH	Dir:	W	Veh Mnvr / Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	15 MPH	Dir:	NW	Veh Mnvr / Ped Actn:				12	Obj Strk:					
3	107134968	11/01/2022 07:41	REAR END, SLOW OR STOP				\$ 5000	0	0	0	0	2	1	3	1	0	0	
Unit	1 : 2	Alchl/Drgs:	0	Speed:	35 MPH	Dir:	S	Veh Mnvr / Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	S	Veh Mnvr / Ped Actn:				1	Obj Strk:					
4	107628881	02/19/2024 19:20	RIGHT TURN, DIFFERENT ROADWAYS				\$ 2100	0	0	0	0	1	5	1	1	0	1	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	15 MPH	Dir:	N	Veh Mnvr / Ped Actn:				7	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	S	Veh Mnvr / Ped Actn:				8	Obj Strk:					

**Legend for  
Report Details:**

Acc No - Accident Number  
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
Condition: R - Road Surface, L - Ambient Light, W - Weather  
Rd Ch - Road Character  
Rd Ci - Roadway Contributing Circumstances  
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
Alchl/Drgs - Alcohol Drugs Suspected  
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action  
Obj Strk - Object Struck



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**Summary Statistics**

**High Level Crash Summary**

<b>Crash Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	0	0.00
Total Injury Crashes	0	0.00
Property Damage Only Crashes	4	100.00
Night Crashes	1	25.00
Wet Crashes	1	25.00
Alcohol/Drugs Involvement Crashes	0	0.00

**Crash Severity Summary**

<b>Crash Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	0	0.00
Property Damage Only Crashes	4	100.00

**Vehicle Exposure Statistics**

**Annual ADT = 8100**

**Total Vehicle Exposure = 14.79 (MEV)**

<b>Crash Rate</b>	<b>Crashes Per 100 Million Vehicles Entered</b>
Total Crash Rate	27.04
Fatal Crash Rate	0.00
Non Fatal Crash Rate	0.00
Night Crash Rate	6.76
Wet Crash Rate	6.76
EPDO Rate	27.04

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**Miscellaneous Statistics**

Severity Index =	1.00
EPDO Crash Index =	4.00
Estimated Property Damage Total = \$	12600.00

**Accident Type Summary**

<b>Accident Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
LEFT TURN, DIFFERENT ROADWAYS	1	25.00
REAR END, SLOW OR STOP	2	50.00
RIGHT TURN, DIFFERENT ROADWAYS	1	25.00

**Injury Summary**

<b>Injury Type</b>	<b>Number of Injuries</b>	<b>Percent of Total</b>
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	0	0.00
Total Non-Fatal Injuries	0	0.00
Total Injuries	0	0.00

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**Monthly Summary**

<b>Month</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Jan	0	0.00
Feb	1	25.00
Mar	0	0.00
Apr	0	0.00
May	0	0.00
Jun	0	0.00
Jul	0	0.00
Aug	0	0.00
Sep	1	25.00
Oct	1	25.00
Nov	1	25.00
Dec	0	0.00

**Daily Summary**

<b>Day</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Mon	1	25.00
Tue	1	25.00
Wed	0	0.00
Thu	1	25.00
Fri	1	25.00
Sat	0	0.00
Sun	0	0.00

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**Hourly Summary**

<b>Hour</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	1	25.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	0	0.00
1200-1259	0	0.00
1300-1359	0	0.00
1400-1459	1	25.00
1500-1559	1	25.00
1600-1659	0	0.00
1700-1759	0	0.00
1800-1859	0	0.00
1900-1959	1	25.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00



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**Light and Road Conditions Summary**

Condition	Dry	Wet	Other	Total
Day	2	1	0	3
Dark	1	0	0	1
Other	0	0	0	0
Total	3	1	0	4

**Vehicle Type Summary**

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	4	50.00
PICKUP	1	12.50
SPORT UTILITY	3	37.50

**North Carolina Department of Transportation  
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**Yearly Totals Summary**

**Accident Totals**

<b>Year</b>	<b>Total Accidents</b>	<b>Fatal Accidents</b>	<b>Injury Accidents</b>	<b>Property Damage Only Accidents</b>
2020	0	0	0	0
2021	1	0	0	1
2022	2	0	0	2
2023	0	0	0	0
2024	1	0	0	1
2025	0	0	0	0
Total	4	0	0	4

**Injury Totals**

<b>Year</b>	<b>Fatal Injuries</b>	<b>Class A, B, or C Injuries</b>
2020	0	0
2021	0	0
2022	0	0
2023	0	0
2024	0	0
2025	0	0
Total	0	0

**Miscellaneous Totals**

<b>Year</b>	<b>Property Damage</b>	<b>EPDO Index</b>
2020	\$ 0	0.00
2021	\$ 1000	1.00
2022	\$ 9500	2.00
2023	\$ 0	0.00
2024	\$ 2100	1.00
2025	\$ 0	0.00
Total	\$ 12600	4.00

**Type of Accident Totals**

<b>Year</b>	<b>Left Turn</b>	<b>Right Turn</b>	<b>Rear End</b>	<b>Run Off Road &amp;</b>				<b>Other</b>
				<b>Fixed Object</b>	<b>Angle</b>	<b>Side Swipe</b>		
2020	0	0	0	0	0	0		0
2021	0	0	1	0	0	0		0

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Year	Run Off Road &						
	Left Turn	Right Turn	Rear End	Fixed Object	Angle	Side Swipe	Other
2022	1	0	1	0	0	0	0
2023	0	0	0	0	0	0	0
2024	0	1	0	0	0	0	0
2025	0	0	0	0	0	0	0
Total	1	1	2	0	0	0	0

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**Study Criteria**

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
ROLESVILLE				76.8	8.4	8100	

Request Date	Courier Service	Phone No.	Ext.	Fax No.

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
WAKE	92	5	All and Rural		150	05/01/2020	04/30/2025	5.00

Location Text	Requestor
SR 1003 (Young Street/Rolesville Road) at SR 2305 (Quarry Road)	

Included Accidents
107134968
107079761

**Fiche Roads**

Name	Code
SR 1003	40001003
SR 1945	40001945
YOUNG	50033894
ROLESVILLE	50026368
EAGLE ROCK	50009137
AVERETTE	50001307
SR 2305	40002305
QUARRY	50025049

**Intersection Road Combinations**

Name	Code	Code	Name
SR 1003	40001003	40002305	SR 2305
SR 1003	40001003	50025049	QUARRY
SR 1945	40001945	40002305	SR 2305
SR 1945	40001945	50025049	QUARRY
AVERETTE	50001307	40002305	SR 2305
AVERETTE	50001307	50025049	QUARRY
EAGLE ROCK	50009137	40002305	SR 2305
EAGLE ROCK	50009137	50025049	QUARRY
ROLESVILLE	50026368	40002305	SR 2305
ROLESVILLE	50026368	50025049	QUARRY

**06/25/2025**

All data presented in this report comes explicitly from the Traffic Engineering Accident Analysis System based upon various input criteria provided by the report's creator. The onus is strictly upon the user of this report to exercise due diligence in interpreting and further representing this data.

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Intersection Road Combinations			
Name	Code	Code	Name
YOUNG	50033894	40002305	SR 2305
YOUNG	50033894	50025049	QUARRY