860 WEAVER DAIRY ROAD DEVELOPMENT

TRAFFIC IMPACT STUDY - *DRAFT*

Prepared for:

The Town of Chapel Hill
Public Works Department - Engineering

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November 2024

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1

Introduction

Thomas & Hutton plans to develop a parcel of land located at 860 Weaver Dairy Road in the southeast quadrant of NC 86 and I-40 in Chapel Hill, North Carolina (Figure 1). The project is planned to consist of approximately 197 single-family homes, 525 mid-rise multifamily homes, and a hotel with 90 rooms. The anticipated full buildout of the development is 2026.

Project Background

Based on the conceptual site plan (Figure 2), the development will be accessed via two (2) new connections:

- Access #1: full- movement access on Weaver Dairy Road, approximately 2,100 feet east of Kingston Drive.
- Access #2: site access from Old University Station Road at Adair Drive.

Based on the scoping discussions with Town of Chapel Hill staff, the following intersections were included in the study area and analyzed for existing and future conditions, where appropriate:

- Martin Luther King Jr. Boulevard (NC 86) at Eubanks Road (SR 1727)
- Martin Luther King Jr. Boulevard (NC 86) at Perkins Drive
- Martin Luther King Jr. Boulevard (NC 86) at Weaver Dairy Road (SR 1733)
- Martin Luther King Jr. Boulevard (NC 86) at Westminster Drive
- Perkins Drive at ABC Driveway/Adair Drive
- Weaver Dairy Road (SR 1733) at Perkins Drive
- Weaver Dairy Road (SR 1733) at Old University Station Road
- Weaver Dairy Road (SR 1733) at Shopping Center Driveway
- Weaver Dairy Road (SR 1733) at Kingston Drive/Vilcom Center Drive
- Weaver Dairy Road (SR 1733) at Site Access #1
- Weaver Dairy Road (SR 1733) at Silo Drive

- Weaver Dairy Road (SR 1733) at Sunrise Road (SR 1732)
- Weaver Dairy Road (SR 1733) at High School Drive
- Old University Station Road at Adair Drive at Site Access #2

The Town of Chapel Hill requires that future year analysis of the traffic conditions be conducted for the projected build year plus one (+1). Additionally, operational impacts to the network with and without the STIP Project No. I-3306A in place were assessed. Therefore, the AM and PM peak hour analysis was performed under the following seven (7) scenarios:

- Existing (2024) Conditions
- No-Build (2027) Conditions – with STIP I-3306A
- No-Build (2027) Conditions – without STIP I-3306A
- Build (2027) Conditions – with STIP I-3306A
- Build (2027) Conditions – without STIP I-3306A
- Build (2027) Conditions – with STIP I-3306A – with Improvements
- Build (2027) Conditions – without STIP I-3306A – with Improvements

VHB Engineering NC, P.C. was retained by the Town of Chapel Hill to analyze the potential traffic impacts of the proposed development and to identify any necessary roadway improvements. This Traffic Impact Analysis (TIA) summarizes trip generation, distribution, traffic assignment, and traffic analyses for the proposed development. The assumptions agreed upon by the North Carolina Department of Transportation (NCDOT) and the Town of Chapel Hill in order to complete this TIA are outlined in Appendix A.

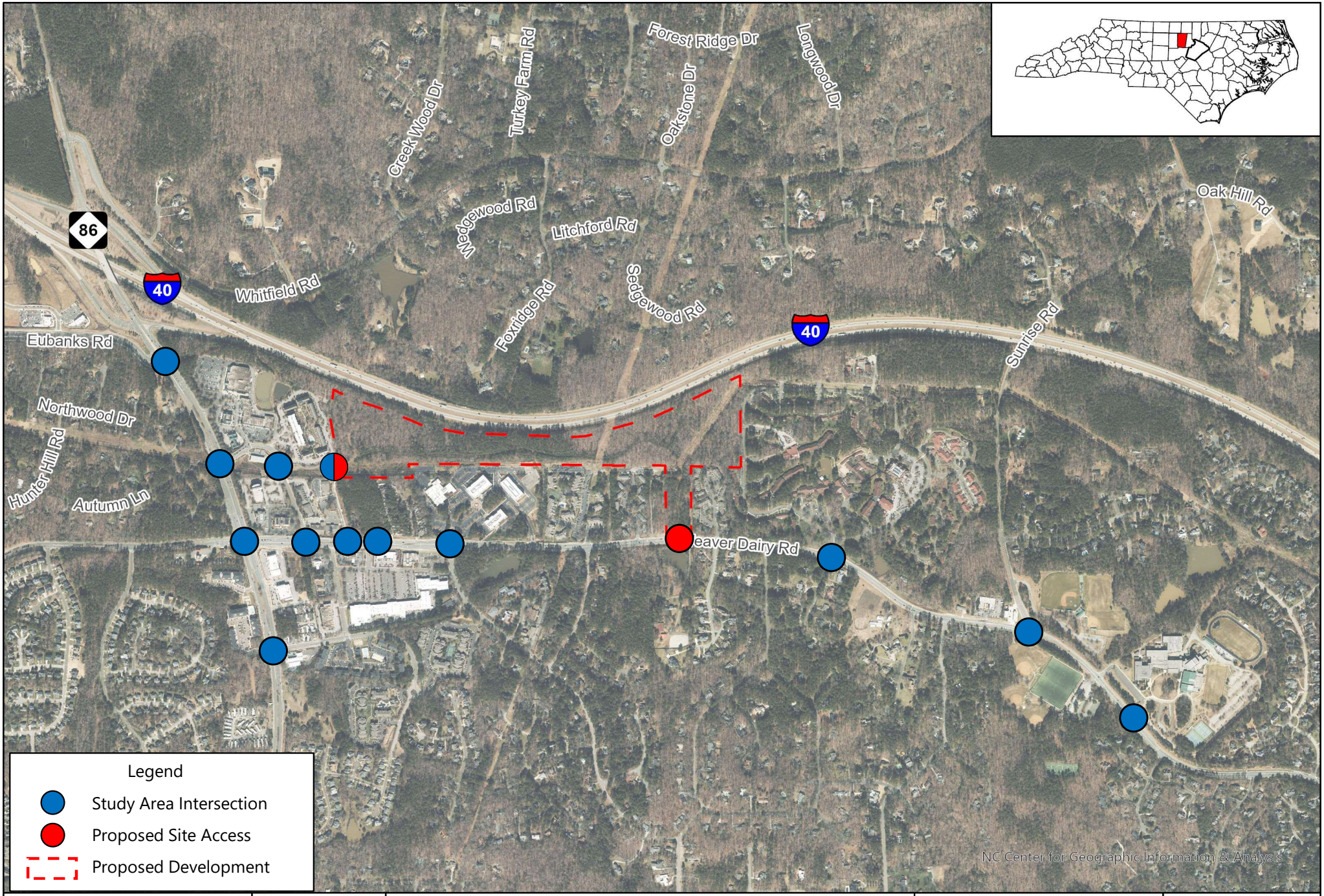
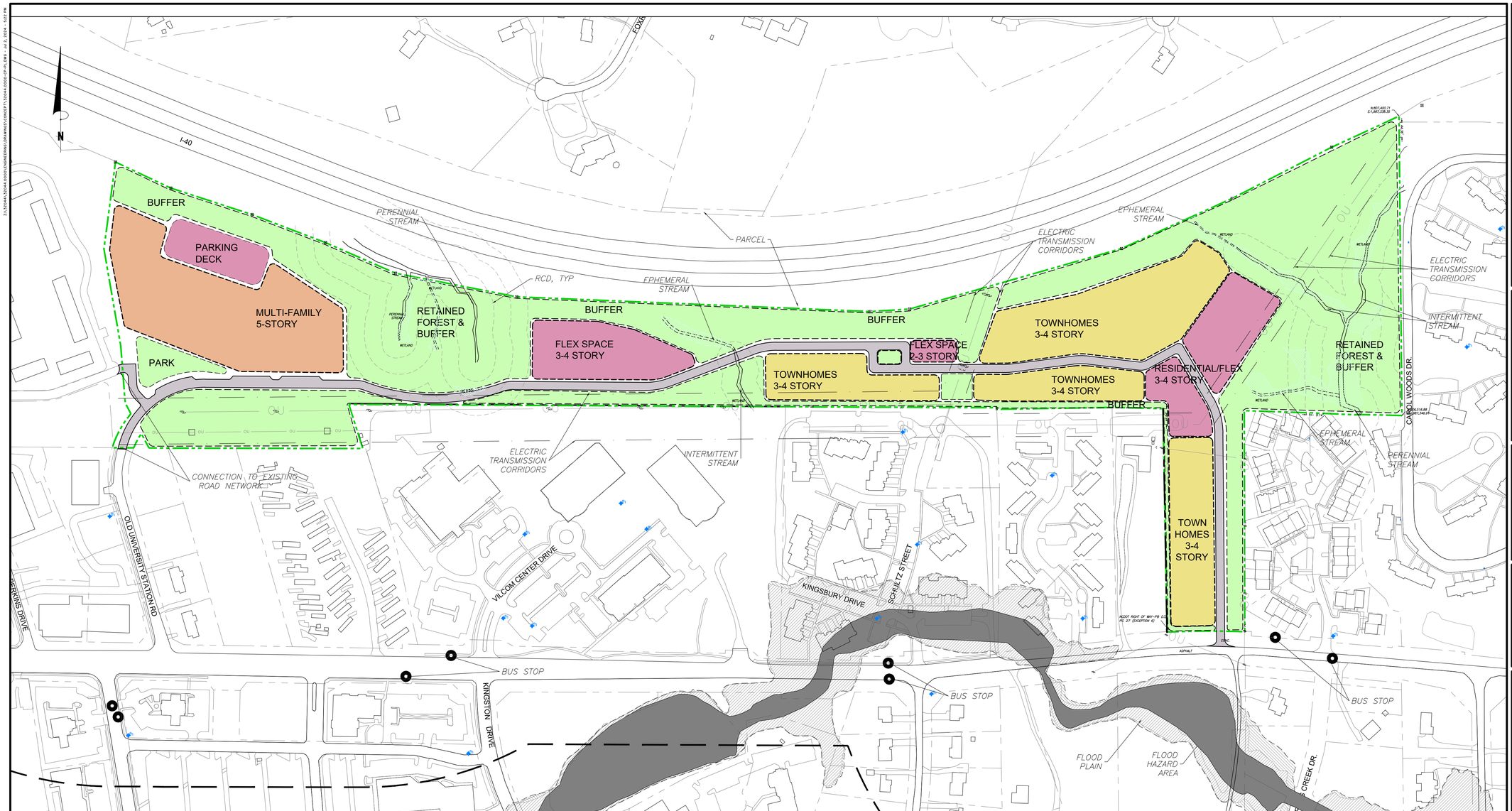


Figure 1
Vicinity Map

860 Weaver Dairy Road
Traffic Impact Analysis
Chapel Hill, NC



1 CP1.1 CONCEPT PLAN
SCALE: 1" = 150'

LEGEND

- MULTI-FAMILY RESIDENTIAL
- LOWER DENSITY RESIDENTIAL
- FLEX SPACE
- FOREST TO REMAIN, PLANTED BUFFERS
- PARKS
- MAIN CIRCULATION

NO.	REVISIONS	BY	DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 1302 WENDI L. RAMSDEN 7/2/24

THOMAS & HUTTON
2510 Meridian Parkway • Suite 100
Durham, NC 27713 • 919.682.0368
www.thomasandhutton.com

CONCEPT PLAN

860 WEAVER DAIRY ROAD

PROJECT LOCATION:
860 WEAVER DAIRY ROAD
CHAPEL HILL

CLIENT/OWNER:
CONTRACT PURCHASER:
LAND PLANNING & ENTITLEMENTS
157 EAST FRANKLIN STREET
CHAPEL HILL, NC 27514

150 0 75 150
GRAPHIC SCALE:
1 INCH = 150 FEET

DATUM: HORIZ.: VERT.:

JOB NO:	32044.0000
DATE:	7-2-2024
DRAWN:	
DESIGNED:	
REVIEWED:	
APPROVED:	
SCALE:	1" = 150'

CP1.1

2

Existing (2024) Conditions

This section describes the existing roadways in the vicinity of the proposed development. Average annual daily traffic (AADT) data for the surrounding roadway network were obtained from NCDOT. The most recent AADT counts from NCDOT are for 2023 on the study area roadways. Table 1 summarizes the functional classification, cross-section, AADT, speeds, presence of sidewalks, and on-street parking status of the primary roads within the study area network.

Martin Luther King Jr. Boulevard (NC 86)

- Martin Luther King Jr. Boulevard (NC 86) is a major four to six-lane median-divided cross-section in the study area. The posted speed limit along Martin Luther King Jr. Boulevard (NC 86) is 45 miles per hour (mph) north of Perkins Drive and 35 miles per hour (mph) south of Perkins Drive.
- The land uses along Martin Luther King Jr. Boulevard (NC 86) are mixed with residential, institutional, and commercial within the study area.
- According to the NCDOT, the 2023 AADT on Martin Luther King Jr. Boulevard (NC 86) was 26,500 vehicles per day (vpd) north of Weaver Dairy Road (SR 1733), and the 2023 AADT on Martin Luther King Jr. Boulevard (NC 86) was 23,000 vehicles per day (vpd) south of Weaver Dairy Road (SR 1733).

Weaver Dairy Road (SR 1733)

- Weaver Dairy Road (SR 1733) is a four-lane divided roadway west of Kingston Drive and three-lane divided roadway with a center median turning lane east of Kingston Drive with a posted speed limit of 35 mph within the study area.
- The land uses along Weaver Dairy Road (SR 1733) are mixed with residential, institutional, and commercial within the study area.

- According to the VHB counts, the 2024 AADT on Weaver Dairy Road (SR 1733) was 13,347 vehicles per day (vpd) west of Kingston Drive.

Perkins Drive

- Perkins Drive is a two-lane divided roadway with no posted speed limit within the study area. The portion of the Perkins Drive is a two-lane undivided roadway between Adair Drive and Weaver Dairy Road (SR 1733).
- The land uses along Perkins Drive are primarily commercial within the study area.
- No AADT information was available on Perkins Drive in the study area.

Eubanks Road

- Eubanks Road is a primarily a two-lane facility with auxiliary turn lanes at major intersections with 35 mph posted speed limit within the study area.
- The land uses along Eubanks Road are primarily residential and commercial within the study area.
- According to the NCDOT, the 2023 AADT on Eubanks Road was 14,000 vehicles per day (vpd) in the study area.

Westminster Drive

- Westminster Drive is a two-lane divided roadway with 25 mph posted speed limit within the study area.
- The land uses along Westminster Drive are primarily residential within the study area.
- No AADT information was available on Westminster Drive in the study area.

Adair Drive

- Adair Drive is a two-lane undivided roadway with no posted speed limit within the study area.
- The land uses along Adair Drive are primarily residential within the study area.
- No AADT information is available on Adair Drive in the study area.

Old University Station Road

- Old University Station Road is a two-lane undivided roadway with no posted speed limit within the study area.
- The land uses along Old University Station Road are primarily commercial within the study area.
- No AADT information is available on Old University Station Road in the study area.

Kingston Drive

- Kingston Drive is a two-lane divided roadway with a posted speed limit of 25 mph within the study area.
- The land uses along Kingston Drive are primarily residential within the study area.
- No AADT information is available on Kingston Drive in the study area.

Silo Drive

- Silo Drive is a two-lane undivided roadway with a posted speed limit of 20 mph north of Weaver Diary Road (SR 1733) and no posted limit south of Weaver Diary Road (SR 1733) within the study area.
- The land uses along Silo Drive are primarily residential within the study area.
- No AADT information is available on Silo Drive in the study area.

Sunrise Road (SR 1732)

- Sunrise Road (SR 1732) is a two-lane divided roadway with a posted speed limit of 35 mph within the study area.
- The land uses along Sunrise Road (SR 1732) are primarily residential within the study area.
- According to the NCDOT, the 2023 AADT along Sunrise Road (SR 1732) was 2,900 vpd.

Figure 3 provides a schematic diagram of the existing roadways near the proposed development, including the intersection geometrics.

Table 1 Existing Study Area Roadways

Road Name	Functional Classification	Study Area Cross-Section	Recent AADT (vpd)	Speed Limit (mph)	Sidewalk (Y/N/S)	On-Street Parking (Y/N/S)
Martin Luther King Jr. Boulevard (NC 86)	Principal Arterial	Four-Lane Divided	26,500-28,500	35	S	N
Weaver Dairy Road (SR 1733)	Minor Arterial	Two- and Four-Lane Undivided TWLTL	15,000	35	S	N
Eubanks Road (SR 1727)	Major Collector	Two- and Four-Lane Divided	14,000	35	S	N
Perkins Drive	Local	Two-Lane Undivided	N/A	25	Y	N
Kingston Drive	Local	Two-Lane Undivided	N/A	25	S	N
Silo Drive	Local	Two-Lane Undivided	N/A	20	N	N
Sunrise Road (SR 1732)	Local	Two-Lane Undivided	2,900	35	S	N

S – Some Sidewalk/On-Street Parking Present
** NCDOT Urban Functional Classification Map*

Intersections

Table 2 shows all study area intersections analyzed for this study. Additionally, the table provides information regarding traffic control and pedestrian amenities at each intersection.

Table 2 Study Intersections

Intersection	Traffic Control	Signal Inv No.	Signal Operation	Cross-walk	Ped Signals (#)
Martin Luther King Jr. Boulevard (NC 86) at Eubanks Road (SR 1727)	Signal	07-1452	Fully Actuated	S	Yes
Martin Luther King Jr. Boulevard (NC 86) at Perkins Drive	Signal	07-1742	Fully Actuated	N, E	Yes
Martin Luther King Jr. Boulevard (NC 86) at Weaver Dairy Road (SR 1733)	Signal	07-0958	Fully Actuated	All	Yes
Martin Luther King Jr. Boulevard (NC 86) at Westminster Drive	Signal	07-1552	Fully Actuated	All	Yes
Perkins Drive at ABC Driveway/Adair Drive	TWSC[1]	N/A	N/A	N, S, W	No
Weaver Dairy Road (SR 1733) at Perkins Drive	TWSC	N/A	N/A	N, E	No
Weaver Dairy Road (SR 1733) at Old University Station Road	TWSC	N/A	N/A	N	No
Weaver Dairy Road (SR 1733) at Shopping Center Driveway	TWSC	N/A	N/A	S	No
Weaver Dairy Road (SR 1733) at Kingston Drive/Vilcom Center Drive	Signal	07-1823	Fully Actuated	All	Yes
Weaver Dairy Road (SR 1733) at Silo Drive	Signal	07-2074	Fully Actuated	All	Yes
Weaver Dairy Road (SR 1733) at Sunrise Road (SR 1732)	Signal	07-1549	Fully Actuated	N, W	Yes
Weaver Dairy Road (SR 1733) at High School Drive	Signal	07-1802	Fully Actuated	N, E	Yes

[1]*TWSC – Two-Way Stop Control*

Bicycle Routes and Sidewalks

Separated bicycle lanes are present along the major routes within the study area. Pedestrian facilities are present along most of the study area roadways, but the network of facilities is not complete. Figure 4 illustrates the locations of pedestrian and bicycle facilities in the area.

Transit Routes

Currently, Chapel Hill Transit (CHT) offers bus service within the study area. CHT has three (3) bus routes through the study area. GoTriangle also serves the study area with one (1) bus route. The Orange-Chapel Hill Connector (OCH) has a bus service with one (1) bus route in the study area. The Safe Route T (Thursday to Saturday) does not operate during UNC Winter Break, Spring Break or Summer Break. Table 3 and Figure 5 provide additional detail about the area transit service.

Table 3 Adjacent Transit Route Information

Route	Headways (Min)			Study Area Stops	Destinations
	AM Peak	PM Peak	Off-Peak		
NS (Weekdays)	8	10	20	Martin Luther King Jr. Boulevard (NC 86) at Perkins Drive (ID: 3606 and 3402) Martin Luther King Jr. Boulevard (NC 86) at Weaver Dairy Road Martin Luther King Jr. Boulevard (NC 86) at Westminster Drive Martin Luther King Jr. Boulevard (NC 86) at Rigsbee	UNC Campus, YMCA, Chapel Hill High School, UNC Hospital, Southern Community Park
NS (Weekend)	80	80	80	Martin Luther King Jr. Boulevard (NC 86) at Perkins Drive (ID: 3606 and 3402) Martin Luther King Jr. Boulevard (NC 86) at Weaver Dairy Road Martin Luther King Jr. Boulevard (NC 86) at Westminster Drive Martin Luther King Jr. Boulevard (NC 86) at Rigsbee	UNC Campus, YMCA, Chapel Hill High School, UNC Hospital, Southern Community Park
OCH				Martin Luther King Jr. Boulevard (NC 86) at Perkins Drive (ID: 3606 and 3402)	UNC Campus, Durham Tech, Orange County Courthouse, UNC Hospitals
T	60	60	65	Martin Luther King Jr. Boulevard (NC 86) at Westminster Drive Martin Luther King Jr. Boulevard (NC 86) at Rigsbee Banks Drive at Weaver Dairy Road Weaver Dairy Road at Vilcom Campus Weaver Dairy Road at Timberlyne Road Weaver Dairy Road at Essex Drive Weaver Dairy Road at Steeplechase Road Weaver Dairy Road at Sunset Lane Westminster Drive at Banks Drive	UNC Campus, YMCA, UNC Hospital, East Chapel Hill High School, Town Hall
T (Safe Ride)	N/A	N/A	30	Martin Luther King Jr. Boulevard (NC 86) at Westminster Drive Martin Luther King Jr. Boulevard (NC 86) at Rigsbee Westminster Drive at Banks Drive	UNC Campus, YMCA, Timberlyne Shopping Center
420 [GoTriangle]	45	45	N/A	Martin Luther King Jr. Boulevard (NC 86) at Perkins Drive (ID: 3606 and 3402)	Hillsborough, UNC Campus, UNC Hospitals

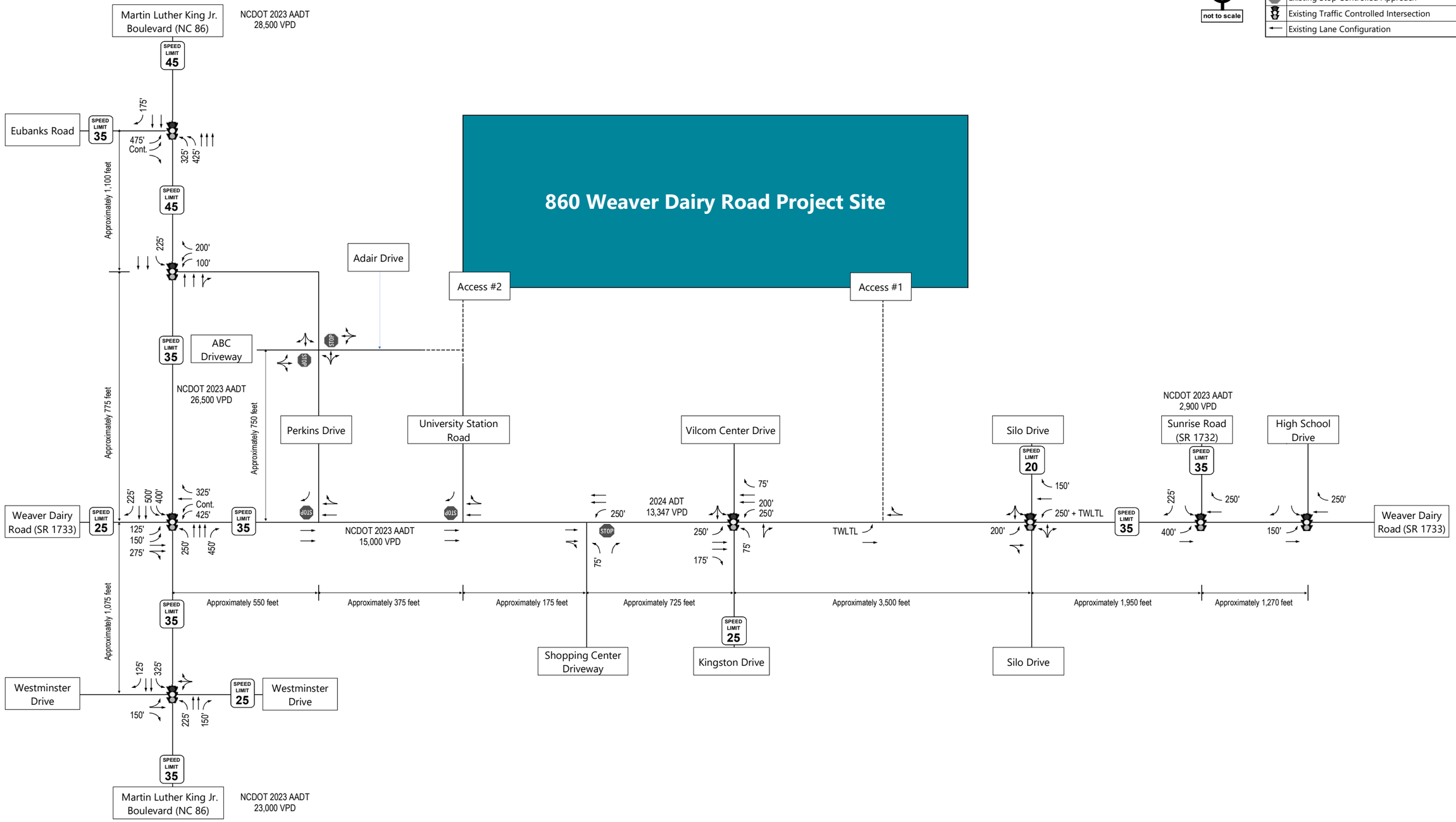
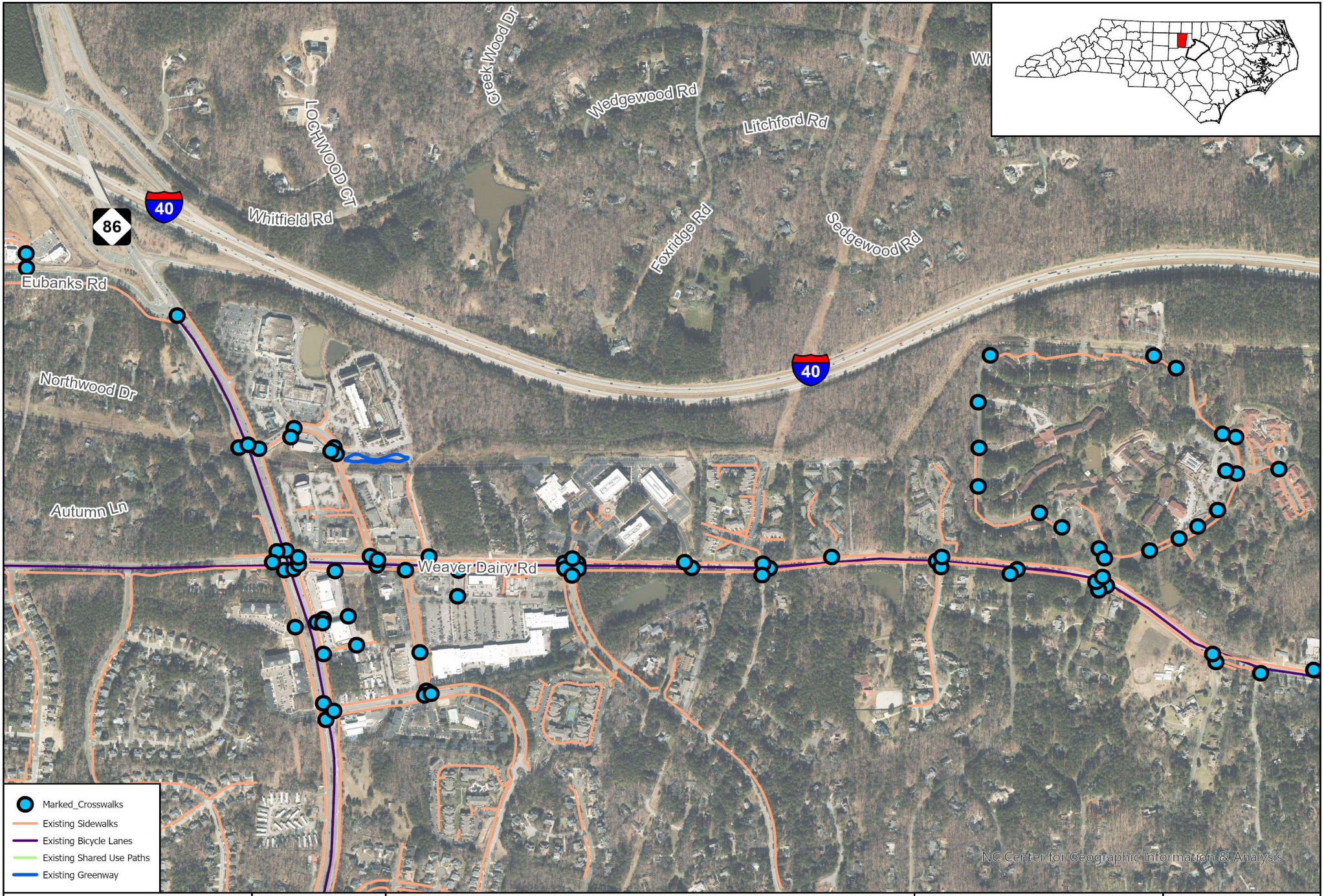


Figure 3
Existing (2024) Lane Geometrics and Traffic Control

860 Weaver Dairy Road TIA
Chapel Hill, NC



Scale

0 500 1,000 Feet

Figure 4
Existing Pedestrian and Bicycle Facilities

860 Weaver Dairy Road
Traffic Impact Analysis
Chapel Hill, NC

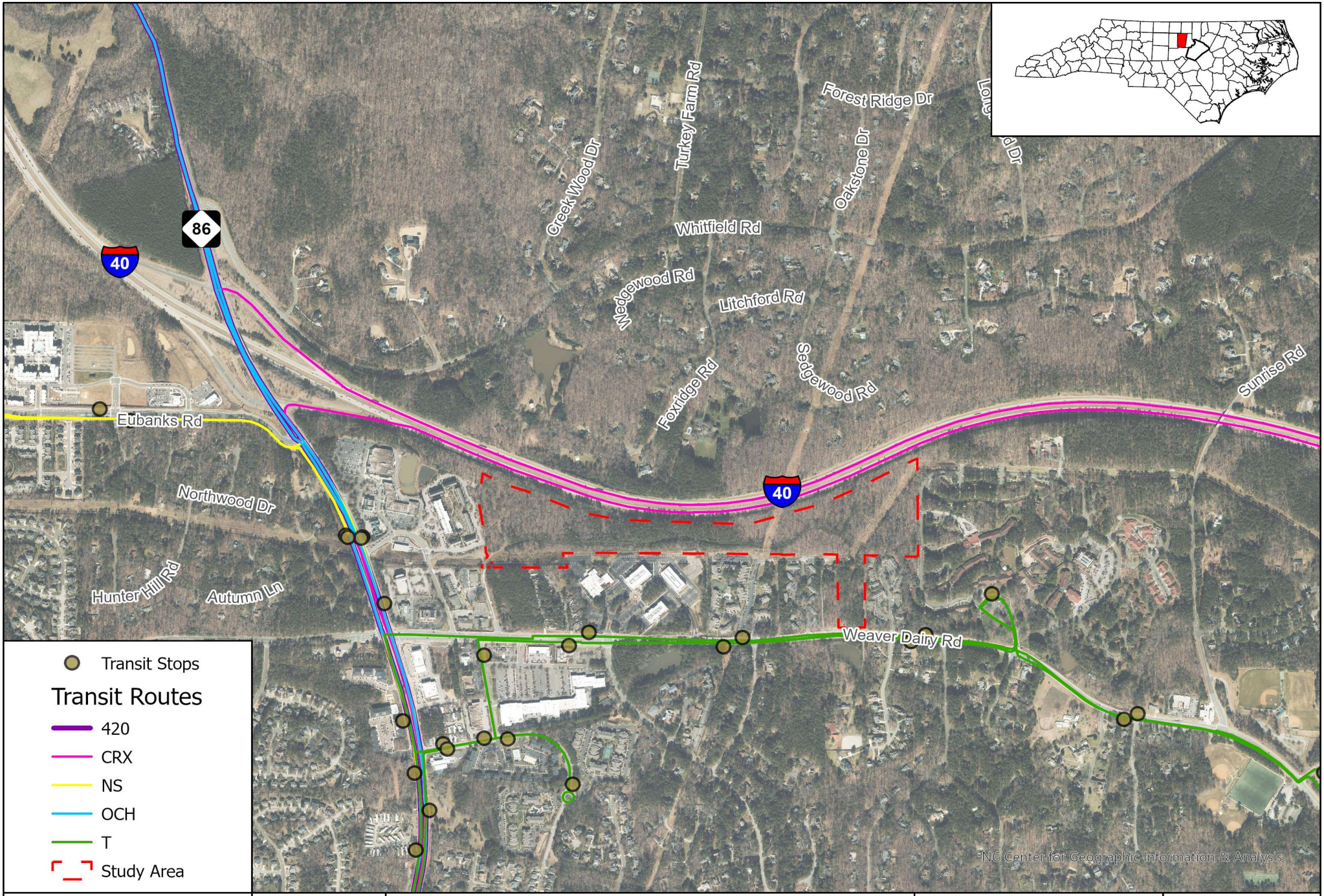


Figure 5
Existing Area Transit Service

860 Weaver Dairy Road
Traffic Impact Analysis
Chapel Hill, NC

Existing Turning Movement Data

Intersection turning movement counts were collected by VHB on October 16 and 17, 2024 during typical AM and PM peak periods (7:00 AM – 9:00 AM, 4:00 PM – 6:00 PM) at the study area intersections while local area schools were in session. Table 4 summarizes the schedule used to obtain the turning movement count data. A detailed summary of all traffic counts can be found in Appendix B. The existing peak hour turning movement volumes are shown in Figure 6. Note that a four-vehicle minimum per movement was applied to the Synchro analysis for all scenarios based on NCDOT Congestion Management guidance.

Table 4 Weekday Peak Hour Turning Movement Count Schedule

Intersection	Time Period	Data Collection Date
Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Martin Luther King Jr. Boulevard (NC 86) & Weaver Dairy Road (SR 1733)	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Martin Luther King Jr. Boulevard (NC 86) & Westminster Drive	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Perkins Drive & ABC Driveway/Adair Drive	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Weaver Dairy Road (SR 1733) & Perkins Drive	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Weaver Dairy Road (SR 1733) & Old University Station Road	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Shopping Center Driveway & Weaver Dairy Road (SR 1733)	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Kingston Drive/Vilcom Center Drive & Weaver Dairy Road (SR 1733)	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Silo Drive & Weaver Dairy Road (SR 1733)	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Weaver Dairy Road (SR 1733) & Sunrise Road (SR 1732)	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Weaver Dairy Road (SR 1733) & High School Drive	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Thurs, Oct 17, 2024 Wed, Oct 16, 2024
Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024
Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive	7:00 AM – 9:00 AM 4:00 PM – 6:00 PM	Wednesday October 16, 2024

LEGEND	
——	Existing Roadway
----	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Traffic Controlled Intersection
	Existing Lane Geometric
XX	AM Peak Hour Turning Movement
(XX)	PM Peak Hour Turning Movement

not to scale

860 Weaver Dairy Road Project Site

Martin Luther King Jr. Boulevard (NC 86)

Eubanks Road

Adair Drive

ABC Driveway

Access #2

Access #1

Perkins Drive

University Station Road

Vilcom Center Drive

Silo Drive

Sunrise Road (SR 1732)

High School Drive

Weaver Dairy Road (SR 1733)

Shopping Center Driveway

Kingston Drive

Silo Drive

Westminster Drive

Westminster Drive

Martin Luther King Jr. Boulevard (NC 86)

Figure 6
Existing (2024) Peak Hour Turning Movement Volumes

860 Weaver Dairy Road TIA
Chapel Hill, NC

Measure of Effectiveness (MOEs) Descriptions

The *Town of Chapel Hill TIA Guidelines* lists measures of effectiveness that should be reported for traffic impact studies. Table 5 lists the reported measures which include intersection delay, level of service (LOS), and maximum queue lengths within the analysis area. Certain measures area applicable at the intersection level whereas others are corridor or system-wide measures.

Table 5 Summary of Analysis Program Used and MOE Reported

Type	Software	MOE
Intersection	Synchro	Intersection LOS
		Intersection Average Delay per Vehicle
		Approach Average Delay per Vehicle
		Approach LOS
		95th Percentile Queue Length
	SimTraffic	Maximum Observed Queue Length
Roadway Segments	N/A	Daily Volume/Capacity Analysis

Level of Service Criteria

Peak hour level of service (LOS) measures the adequacy of the intersection geometrics and traffic controls of a particular intersection or approach for the given turning volumes. Levels of service range from A through F, based on the average control delay experienced by vehicles traveling through the intersection during the peak hour. Control delay represents the portion of total delay attributed to traffic control devices (e.g., signals or stop signs). The engineering professional generally accepts LOS D as an acceptable operating condition for signalized intersections in urban areas and LOS C for rural areas.

At unsignalized intersections, LOS E is generally considered acceptable only if the side street encounters the delay. Nevertheless, side streets sometimes function at LOS F during peak traffic periods; however, the traffic volume often does not warrant a traffic signal to assist side street traffic. Table 6 provides a general description of various levels of service categories and delay ranges.

Table 6 Level of Service Description for Intersections

Level of Service	Description	Signalized Intersection	Unsignalized Intersection
A	Little or no delay	<= 10 sec.	<= 10 sec.
B	Short traffic delay	10-20 sec.	10-15 sec.
C	Average traffic delay	20-35 sec.	15-25 sec.
D	Long traffic delay	35-55 sec.	25-35 sec.
E	Very long traffic delay	55-80 sec.	35-50 sec.
F	Unacceptable delay	> 80 sec.	> 50 sec.

Level of Service Analysis

Intersection levels of service analyses were performed for the typical weekday AM and PM peak hour using *Synchro/SimTraffic Professional Version 11*. Existing signal plans were obtained from the NCDOT online signal plan library and coordinated signal timings were obtained from the Town of Chapel Hill. The traffic signal plans, and signal timings can be found in Appendix C. A summary of the findings for the Existing (2024) scenario LOS analysis can be found in Table 7, and the full *Synchro* output can be found in Appendix D.

As reported in Table 7, all the existing stop-controlled approaches operate at LOS C or better during both peak hours, except for the northbound stop-controlled approach of Weaver Dairy Road (SR 1733) at Shopping Center Driveway, which operates at LOS D during the AM peak hour and LOS F during PM peak hour. All the signalized intersections operate at LOS D or better during both peak hours.

Table 7 Existing (2024) LOS Results

ID	Intersection and Approach	Traffic Control	Existing (2024)	
			AM	PM
1	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**	Signalized	**C (21.6)**	**C (22.1)**
	Eastbound		D-43.3	D-45.9
	Northbound		B-14.6	B-17.9
	Southbound		B-15.7	B-18.8
2	**Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive**	Signalized	**A (8.9)**	**C (27.1)**
	Westbound		D-42.2	C-34.6
	Northbound		A-7.7	C-23.3
	Southbound		A-6.6	C-32.0
3	**Martin Luther King Jr. Boulevard (NC 86) & Weaver Dairy Rd (SR 1733)**	Signalized	**C (25.4)**	**D (47.9)**
	Eastbound		D-52.0	E-69.9
	Westbound		D-39.6	F-101.7
	Northbound		B-12.8	B-15.8
	Southbound		C-22.0	D-38.5
4	**Martin Luther King Jr. Boulevard (NC 86) & Westminster Drive**	Signalized	**B (13.0)**	**C (24.0)**
	Eastbound		C-29.5	D-36.5
	Westbound		E-55.9	E-70.8
	Northbound		B-12.7	C-26.1
	Southbound		A-6.0	A-8.6
5	**Perkins Drive & ABC Driveway/Adair Drive**	Unsignalized	---	---
	Eastbound		A-9.4	A-9.9
	Westbound		A-9.3	A-9.6
7	**Weaver Dairy Rd (SR 1733) & Perkins Drive**	Unsignalized	---	---
	Southbound		B-10.5	B-14.3
8	**Weaver Dairy Rd (SR 1733) & Old University Station Road**	Unsignalized	---	---
	Southbound		B-10.3	B-13.5
9	**Weaver Dairy Rd (SR 1733) & Shopping Center Driveway**	Unsignalized	---	---
	Northbound		D-27.4	F-75.2
10	**Weaver Dairy Rd (SR 1733) & Kingston Drive/Vilcom Center Drive**	Signalized	**A (6.9)**	**A (9.5)**
	Eastbound		A-6.1	A-6.0
	Westbound		A-5.6	A-7.5
	Northbound		B-14.6	B-17.4
	Southbound		B-13.3	C-24.2
12	**Weaver Dairy Rd (SR 1733) & Silo Drive**	Signalized	**A (7.1)**	**B (14.4)**
	Eastbound		A-4.2	A-6.0
	Westbound		A-9.1	B-17.9
	Northbound		C-22.6	C-28.6
	Southbound		C-22.8	D-36.4
13	**Weaver Dairy Rd (SR 1733) & Sunrise Road (SR 1732)**	Signalized	**B (11.9)**	**B (16.0)**
	Eastbound		A-6.2	A-6.5
	Westbound		B-16.9	C-22.7
	Southbound		C-20.5	B-19.7
14	**Weaver Dairy Rd (SR 1733) & High School Drive**	Signalized	**C (25.5)**	**C (28.1)**
	Eastbound		D-36.4	A-7.9
	Westbound		B-15.0	C-31.4
	Southbound		C-25.5	D-44.5

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay

3

No-Build (2027) Conditions

Background Growth and Development

As indicated during the TIA scoping process, an annual growth rate of one point twenty-five percent (1.25%) was applied to all the movements to project the ambient growth between the base year (2024) and the future year (2027). In addition, one background development in the vicinity of the study area was included under the future year conditions:

- Carraway Village (formally the Edge)

Carraway Village : Located on the north side of Eubanks Road and just west of Martin Luther King Jr. Boulevard (NC 86), between 600,000 and 837,000 sq. ft. of mixed-use development under phase II construction, was a background traffic generator for this study. A traffic analysis report (previously known as the Edge Development) was prepared by HNTB in 2013. As indicated in the HNTB TIA, the development is projected to generate 549 trips on a typical weekday (325 entering, 224 exiting) occurring in the AM peak hour and 774 trips (343 entering, 431 exiting) in the PM peak hour. Only the uncompleted/ unoccupied portions of Carraway Village development were included in the analysis.

The assumptions of background volume development and the summary of site generated trips and its committed developments from the background development are shown in Appendix E. The No-Build (2027) AM and PM peak hour volumes with the background approved development trips, with and without the NCDOT STIP I-3306A project, are shown in Figure 7 and Figure 8, respectively.

STIP I-3306A

The NCDOT STIP project I-3306A, the proposed improvement at Eubanks Road along Martin Luther King Jr. Boulevard (NC 86) south of the I-40/ NC 86 Interchange was reviewed for the analysis. Of the two proposed designed alternatives, I-3306A-4B was included in the No-Build (2027) Conditions analysis based on I-3306A public meeting summary held on January 24, 2019.

The two proposed designed alternatives for the STIP I-3306A are shown in Appendix G. The resulting No-Build (2027) Conditions – with STIP I-3306A AM and PM peak hour volumes are shown in Figure 7.

Level of Service Analysis – with STIP I-3306A

Intersection levels of service analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 11*. A summary of the findings for the No-Build (2027) Conditions – with STIP I-3306A scenario LOS analysis can be found in Table 8, and the full *Synchro* output can be found in Appendix D.

As reported in the No-Build (2027) Conditions – with STIP I-3306A analysis, all the stop-controlled approaches operate at LOS C or better during both peak hours, except for the northbound stop-controlled approach for Weaver Dairy Road (SR 1733) at Shopping Center Driveway LOS D during the AM peak hour and LOS F during PM peak hour. All the signalized intersections operate at LOS D or better during both peak hours, except for the intersection of Martin Luther King Jr. Boulevard (NC 86) and Weaver Dairy Road (SR 1733), which is expected to degrade to LOS E during the PM peak hour.

Table 8 No-Build (2027) – with STIP I-3306A LOS Results

ID	Intersection and Approach	Traffic Control	No-Build with STIP I-3306A (2027)	
			AM	PM
19	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**	Signalized	**B (17.5)**	**B (16.1)**
	Eastbound		C-23.5	C-21.1
	Northbound		B-14.0	B-15.6
	Southbound		B-14.7	B-13.2
2	**Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive**	Signalized	**B (17.9)**	**D (35.6)**
	Westbound		D-50.5	D-50.0
	Northbound		B-12.4	C-29.8
	Southbound		B-18.7	D-40.4
3	**Martin Luther King Jr. Boulevard (NC 86) & Weaver Dairy Rd (SR 1733)**	Signalized	**C (25.8)**	**E (55.7)**
	Eastbound		D-51.7	E-75.3
	Westbound		D-38.4	F-122.9
	Northbound		B-14.2	B-18.0
	Southbound		C-22.6	D-43.7
4	**Martin Luther King Jr. Boulevard (NC 86) & Westminster Drive**	Signalized	**B (13.2)**	**C (24.7)**
	Eastbound		C-29.1	D-41.5
	Westbound		E-55.8	F-83.2
	Northbound		B-13.5	C-26.4
	Southbound		A-5.8	A-7.8
5	**Perkins Drive & ABC Driveway/Adair Drive**	Unsignalized	---	---
	Eastbound		A-9.5	B-10.0
	Westbound		A-9.4	A-9.7
7	**Weaver Dairy Rd (SR 1733) & Perkins Drive**	Unsignalized	---	---
	Southbound		B-10.8	B-14.9
8	**Weaver Dairy Rd (SR 1733) & Old University Station Road**	Unsignalized	---	---
	Southbound		B-10.5	B-13.9
9	**Weaver Dairy Rd (SR 1733) & Shopping Center Driveway**	Unsignalized	---	---
	Northbound		D-31.1	F-109.7
10	**Weaver Dairy Rd (SR 1733) & Kingston Drive/Vilcom Center Drive**	Signalized	**A (8.9)**	**A (9.8)**
	Eastbound		A-8.0	A-6.1
	Westbound		A-6.1	A-7.6
	Northbound		C-23.5	B-18.5
	Southbound		C-20.2	C-26.3
12	**Weaver Dairy Rd (SR 1733) & Silo Drive**	Signalized	**A (8.8)**	**B (15.9)**
	Eastbound		A-5.7	A-6.6
	Westbound		B-10.8	C-20.5
	Northbound		C-25.5	C-28.6
	Southbound		C-25.5	D-36.6
13	**Weaver Dairy Rd (SR 1733) & Sunrise Road (SR 1732)**	Signalized	**B (12.4)**	**B (18.1)**
	Eastbound		A-6.7	A-7.1
	Westbound		B-17.5	C-27.0
	Southbound		C-20.8	B-20.0
14	**Weaver Dairy Rd (SR 1733) & High School Drive**	Signalized	**C (32.4)**	**C (33.7)**
	Eastbound		D-52.2	A-8.3
	Westbound		B-15.7	C-34.7
	Southbound		C-27.7	E-58.8

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay

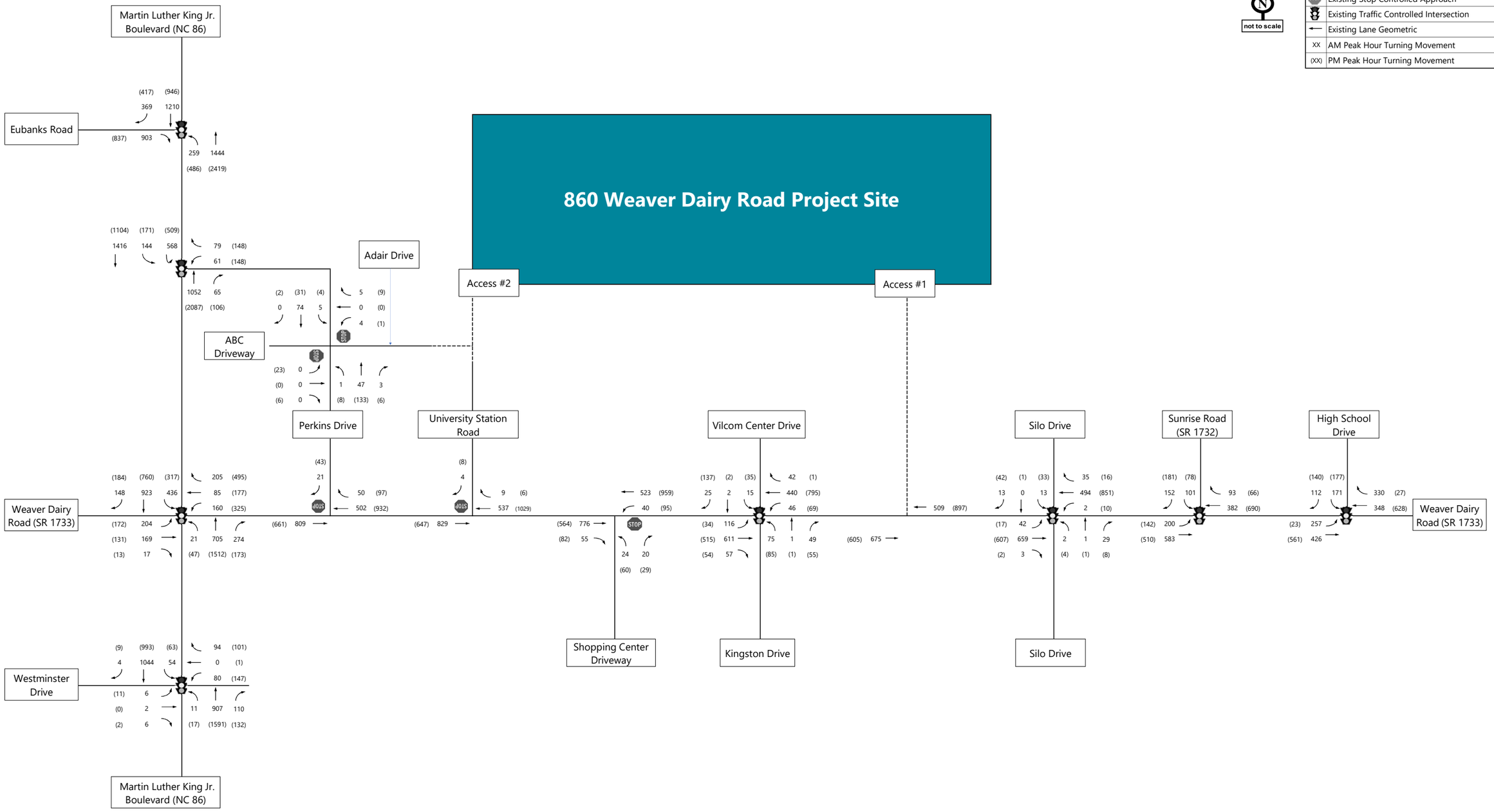


Figure 7
No-Build (2027) Peak Hour Turning Movement Volumes – with STIP I-3306A

860 Weaver Dairy Road TIA
Chapel Hill, NC

Level of Service Analysis – without STIP I-3306A

Intersection levels of service analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 11*. A summary of the findings for the No-Build (2027) Conditions – without STIP I-3306A scenario LOS analysis can be found in Table 9, and the full *Synchro* output can be found in Appendix D.

As reported in the No-Build (2027) Conditions – without STIP I-3306A analysis, all the stop-controlled approaches operate at LOS C or better during both peak hours, except for the northbound stop-controlled approach for Weaver Dairy Road (SR 1733) at Shopping Center Driveway LOS D during the AM peak hour and LOS F during PM peak hour. All the signalized intersections operate at LOS D or better during both peak hours.

Table 9 No-Build (2027) – without STIP I-3306A LOS Results

ID	Intersection and Approach	Traffic Control	No-Build without STIP I-3306A (2027)	
			AM	PM
1	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**	Signalized	**C (23.6)**	**C (21.8)**
	Eastbound		D-38.1	D-50.1
	Northbound		B-16.2	B-11.1
	Southbound		C-20.7	C-23.2
2	**Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive**	Signalized	**A (4.9)**	**B (18.1)**
	Westbound		D-42.7	D-39.4
	Northbound		A-5.1	B-17.1
	Southbound		A-1.4	B-14.9
3	**Martin Luther King Jr. Boulevard (NC 86) & Weaver Dairy Rd (SR 1733)**	Signalized	**C (23.7)**	**D (54.3)**
	Eastbound		D-52.5	E-75.3
	Westbound		D-38.2	F-122.9
	Northbound		B-13.9	B-17.0
	Southbound		B-17.9	D-40.1
4	**Martin Luther King Jr. Boulevard (NC 86) & Westminster Drive**	Signalized	**B (13.0)**	**C (25.9)**
	Eastbound		C-29.1	D-41.5
	Westbound		E-55.8	F-83.2
	Northbound		B-13.5	C-26.4
	Southbound		A-5.4	B-11.3
5	**Perkins Drive & ABC Driveway/Adair Drive**	Unsignalized	---	---
	Eastbound		A-9.5	B-10.0
	Westbound		A-9.4	A-9.7
7	**Weaver Dairy Rd (SR 1733) & Perkins Drive**	Unsignalized	---	---
	Southbound		B-10.8	B-14.9
8	**Weaver Dairy Rd (SR 1733) & Old University Station Road**	Unsignalized	---	---
	Southbound		B-10.5	B-13.9
9	**Weaver Dairy Rd (SR 1733) & Shopping Center Driveway**	Unsignalized	---	---
	Northbound		D-31.1	F-109.7
10	**Weaver Dairy Rd (SR 1733) & Kingston Drive/Vilcom Center Drive**	Signalized	**A (6.9)**	**A (9.8)**
	Eastbound		A-6.1	A-6.1
	Westbound		A-5.5	A-7.6
	Northbound		B-15.4	B-18.5
	Southbound		B-14.0	C-26.3
12	**Weaver Dairy Rd (SR 1733) & Silo Drive**	Signalized	**A (8.8)**	**B (15.9)**
	Eastbound		A-5.7	A-6.6
	Westbound		B-10.8	C-20.5
	Northbound		C-25.5	C-28.6
	Southbound		C-25.5	D-36.6
13	**Weaver Dairy Rd (SR 1733) & Sunrise Road (SR 1732)**	Signalized	**B (12.4)**	**B (18.1)**
	Eastbound		A-6.7	A-7.1
	Westbound		B-17.5	C-27.0
	Southbound		C-20.8	B-20.0
14	**Weaver Dairy Rd (SR 1733) & High School Drive**	Signalized	**C (32.4)**	**C (33.7)**
	Eastbound		D-52.2	A-8.3
	Westbound		B-15.7	C-34.7
	Southbound		C-27.7	E-58.8

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay

LEGEND	
——	Existing Roadway
----	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Traffic Controlled Intersection
←—	Existing Lane Geometric
XX	AM Peak Hour Turning Movement
(XX)	PM Peak Hour Turning Movement

not to scale

860 Weaver Dairy Road Project Site

Martin Luther King Jr. Boulevard (NC 86)

Eubanks Road

Adair Drive

ABC Driveway

Access #2

Access #1

Perkins Drive

University Station Road

Vilcom Center Drive

Silo Drive

Sunrise Road (SR 1732)

High School Drive

Weaver Dairy Road (SR 1733)

Shopping Center Driveway

Kingston Drive

Silo Drive

Westminster Drive

Martin Luther King Jr. Boulevard (NC 86)

Weaver Dairy Road (SR 1733)

Figure 8
No-Build (2027) Peak Hour Turning Movement Volumes – without STIP I-3306A

860 Weaver Dairy Road TIA
Chapel Hill, NC

4

Build (2027) Conditions

Thomas & Hutton plans to develop a parcel of land located at 860 Weaver Dairy Road in the southeast quadrant of NC 86 and I-40 in Chapel Hill, North Carolina. The project is planned to consist of approximately 197 single-family homes, 525 mid-rise multifamily homes, and a hotel with 90 rooms. The anticipated full buildout of the development is 2026.

Trip Generation

Trip Generation was conducted based on the most appropriate corresponding trip generation codes included in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition and the suggested method of calculation in the NCDOT's "Rate vs. Equation" spreadsheet. The proposed development is anticipated to build up to 197 single-family homes, 525 mid-rise multifamily homes and a hotel with 90 rooms. Trip generation estimates were developed using ITE Land Use Code (LUC) 310 (Hotel), 221 (Multifamily Mid-Rise Housing), 215 (Single-Family Attached Housing). To be conservative, no walking or bicycling reductions will be applied.

Table 10 summarizes the trip generation results for the proposed 860 Weaver Dairy development for typical weekday AM and PM peak hours. The proposed development is projected to generate up to 4,427 daily site trips with 354 trips (95 entering, 259 exiting) occurring in the AM peak hour and 353 trips (209 entering, 144 exiting) in the PM peak hour.

Table 10 Trip Generation Results

Land Use Code[1]	Land Use	Unit	ADT	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Total Site Trips[2]									
215	Single-Family Attached Housing	197 du	1,451	24	73	97	67	47	114
221	Multifamily Housing (Mid-Rise) Not Close to Rail	525 du	2,458	50	169	219	125	80	205
310	Hotel	90 rooms	552	21	17	38	20	19	39
Development Total			*4,461*	*95*	*259*	*354*	*212*	*146*	*358*
Trip Reduction Due to Internal Capture[3]									
215	Single-Family Attached Housing	197 du	5	0	0	0	0	1	1
221	Multifamily Housing (Mid-Rise) Not Close to Rail	525 du	7	0	0	0	0	1	1
310	Hotel	90 rooms	22	0	0	0	3	0	3
Development Total			*34*	*0*	*0*	*0*	*3*	*2*	*5*
Total External Site Trips									
215	Single-Family Attached Housing	197 du	1,446	24	73	97	67	46	113
221	Multifamily Housing (Mid-Rise) Not Close to Rail	525 du	2,451	50	169	219	125	79	204
310	Hotel	90 rooms	530	21	17	38	17	19	36
Development Total			*4,427*	*95*	259	354	*209*	*144*	*353*
Total External Site Trips - 3% Transit Reduction									
215	Single-Family Attached Housing	197 du	1,403	23	71	94	65	45	110
221	Multifamily Housing (Mid-Rise) Not Close to Rail	525 du	2,377	49	164	212	121	77	198
310	Hotel	90 rooms	514	20	16	37	16	18	34
Development Total			*4,294*	*92*	*251*	*343*	*202*	*140*	*342*

Notes:

1. Land Use Code and trip generation rates are determined based on *ITE Trip Generation, 11th Edition*
2. Total site trips are determined based on the suggested method in the NCDOT Rate vs Equation Spreadsheet
3. Internal capture was based on NCHRP 684 method and NCDOT IC calculation spreadsheet
4. Unconstrained pass-by trips are calculated based on *ITE Trip Generation Handbook, 3rd Edition.* The final projections are not expected to exceed 10% of adjacent street volumes.

It should be noted that the proposed site trips and distribution remain the same between the Build (2027) Conditions – with STIP I-3306A and Build (2027) Conditions – without STIP I-3306A. The peak hour trip distribution percentages can be found in Figure 9 and the peak hour site trips can be found in Figure 10 for both the Build (2027) Conditions – with STIP I-3306A and Build (2027) Conditions – without STIP I-3306A.

Trip Distribution and Assignment

The generated non-pass-by site trips will be distributed in accordance with the existing traffic patterns ad land uses in the vicinity of the study area as follows:

- Martin Luther King Jr. Boulevard (NC 86) from/to the south – 17%
- Martin Luther King Jr. Boulevard (NC 86) from/to the north – 37%
- Eubanks Road (SR 1727) from/to the north – 5%
- Kingston Drive from/to the south – 3%
- Sunrise Road (SR 1732) from/to the south – 7%
- High School Drive from/to the north – 3%
- Weaver Dairy Road (SR 1733) from/to the east – 20%
- Weaver Dairy Road (SR 1733) from/to the west – 8%

The total non-pass-by site trip percentages referenced above are shown in Figure 9, and the resulting site trips are shown in Figure 10.

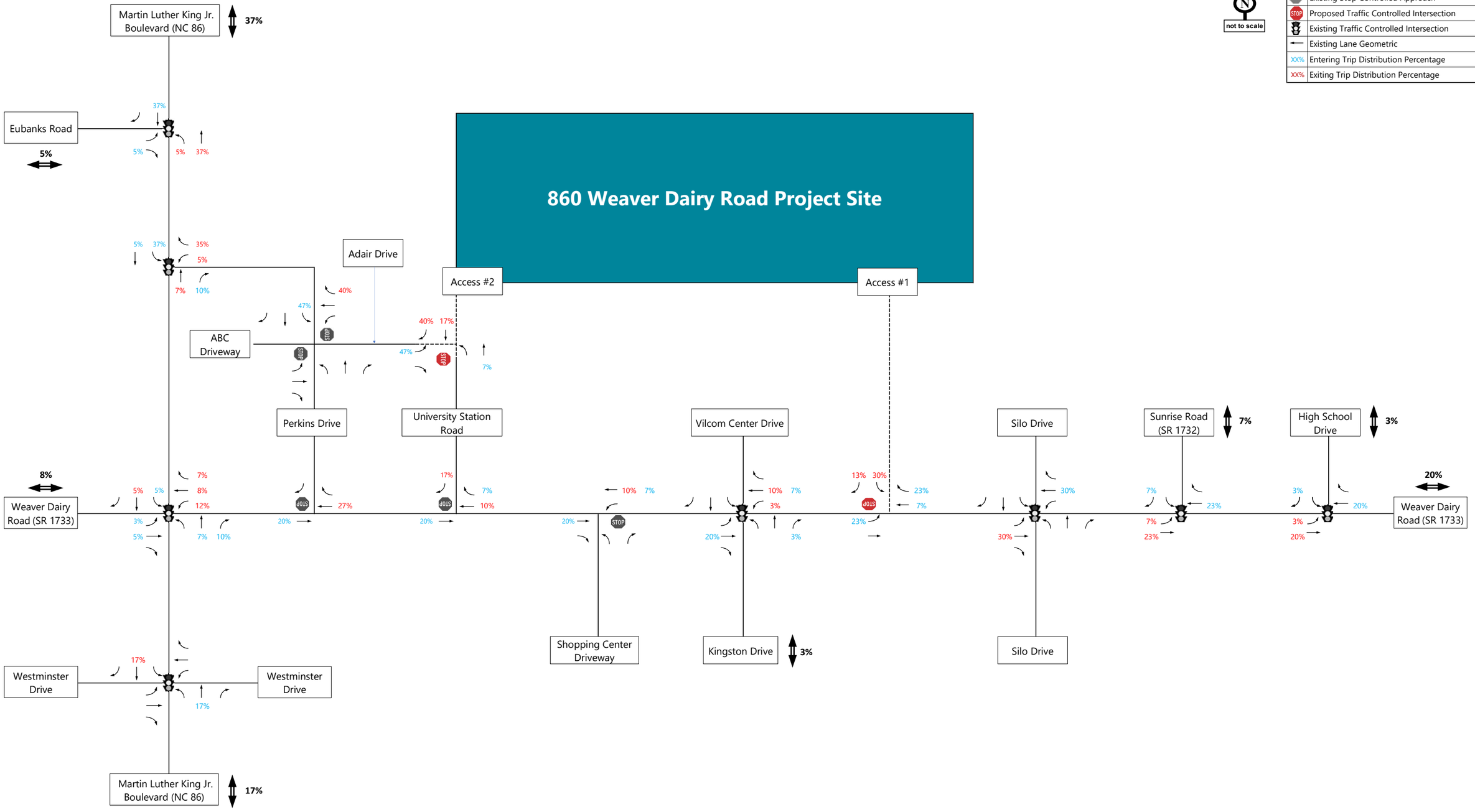


Figure 9
Site Trip Distribution Percentages

860 Weaver Dairy Road
Traffic Impact Analysis
Chapel Hill, NC

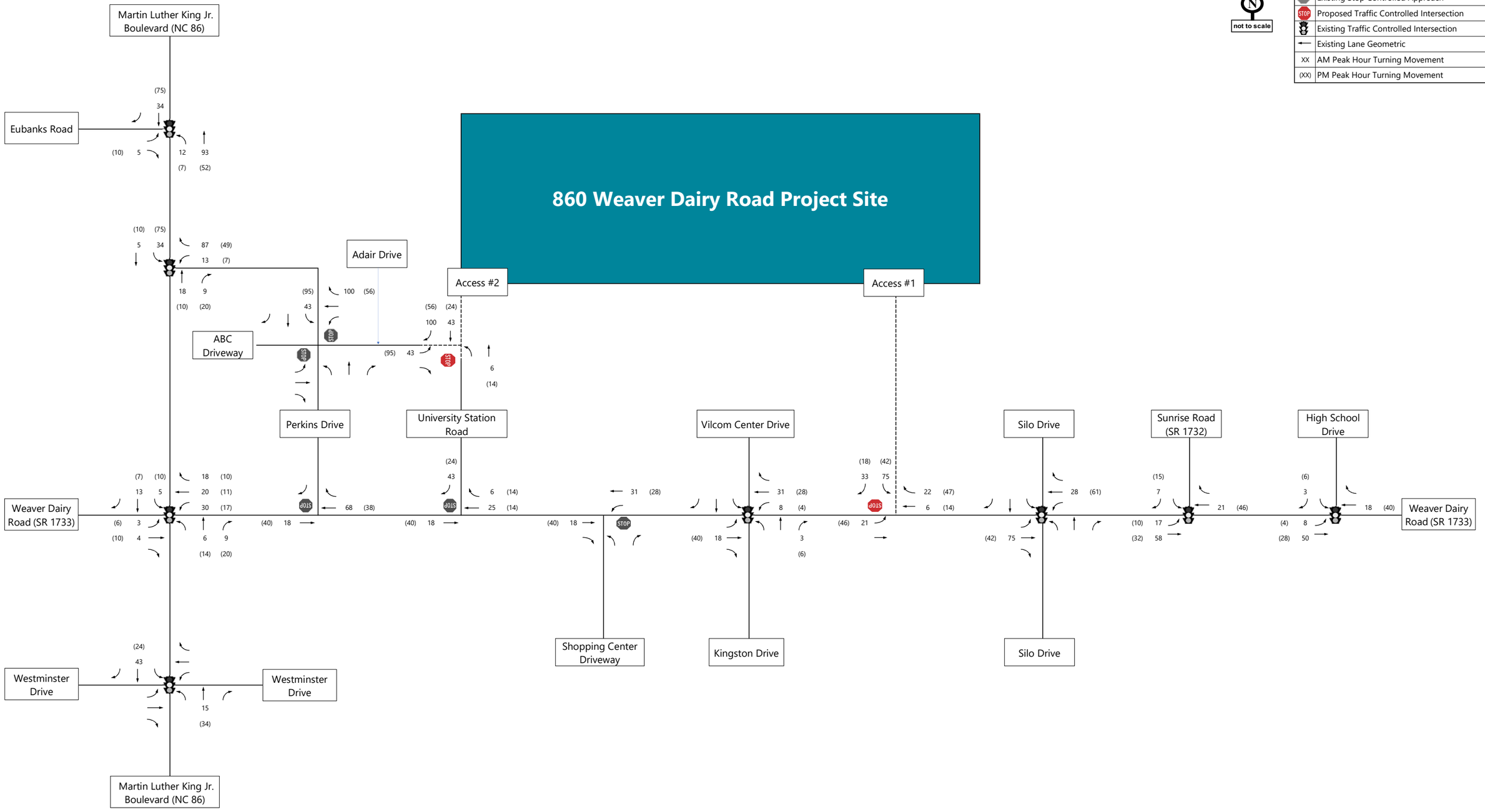


Figure 10
AM and PM Peak Hour Site Generated Trips

860 Weaver Dairy Road TIA
Chapel Hill, NC

Signal Warrant Analysis

If a traffic signal was recommended for an intersection that is not currently signalized or is not proposed to be signalized under Build (2027) Conditions, then AM and PM peak hour turning movements were reviewed to determine if a peak hour signal warrant was expected to be met.

Manual of Uniform Traffic Control Devices (MUTCD) peak hour warrants were reviewed for the Weaver Dairy (SR 1733) and Site Access #1 intersection. The hourly volumes were obtained from the hourly volume, speed, class count and the site trips were derived from ITE hourly guidance for multifamily developments. As shown in Table 11 below, the Weaver Dairy Road at Site Driveway #1 intersection meets the peak hour warrant. Appendix F contains additional information relating to the warrant analysis.

Table 11 Signal Warrant Analysis - Weaver Dairy Road at Site Driveway #1

	Existing (2023)					No-Build (2034)					Build (2034)				
Time	Major	Minor	Meet Warrant?			Major	Minor	Meet Warrant?			Major	Minor	Meet Warrant?		
Period	Total	High Vol	1	2	3	Total	High Vol	1	2	3	Total	High Vol	1	2	3
6:00	235	0	No	No	No	244	0	No	No	No	259	46	No	No	No
7:00	776	0	No	No	No	805	0	No	No	No	825	117	Yes	Yes	Yes
8:00	1210	0	No	No	No	1256	0	No	No	No	1276	114	Yes	Yes	Yes
9:00	877	0	No	No	No	910	0	No	No	No	945	46	No	No	No
10:00	783	0	No	No	No	813	0	No	No	No	843	32	No	No	No
11:00	856	0	No	No	No	889	0	No	No	No	926	22	No	No	No
12:00	922	0	No	No	No	957	0	No	No	No	999	32	No	No	No
13:00	961	0	No	No	No	997	0	No	No	No	1044	24	No	No	No
14:00	858	0	No	No	No	891	0	No	No	No	921	24	No	No	No
15:00	1111	0	No	No	No	1153	0	No	No	No	1195	27	No	No	No
16:00	1286	0	No	No	No	1335	0	No	No	No	1399	24	No	No	No
17:00	1343	0	No	No	No	1394	0	No	No	No	1527	34	No	No	No
18:00	1027	0	No	No	No	1066	0	No	No	No	1219	26	No	No	No
# Hours Meeting Warrant:			**0**	**0**	**0**	-	-	**0**	**0**	**0**	-	-	**2**	**2**	**2**
# Hours Needed:			**8**	**4**	**1**	-	-	**8**	**4**	**1**	-	-	**8**	**4**	**1**
Meeting Warrant?			**No**	**No**	**No**	-	-	**No**	**No**	**No**	-	-	**No**	**No**	**Yes**

Sight Distance Analysis

The driveway along Weaver Dairy (SR 1733) is on a tangent section allowing for adequate sight distance for drivers. Site Access #2 is proposed to connect to the stub out at Adair Drive and Perkins Road. Any landscaping or signs within the development site triangles should be removed to further improve visibility for drivers.

Special Analysis/Issues Related to Project

Based on discussions with the Town of Chapel Hill staff, there are no special issues associated with this project, and no special analyses needed beyond the ones included within this report.

Level of Service Analysis – with STIP I-3306A

Intersection LOS analyses were performed for the typical weekday AM, and PM peak hours using *Synchro/SimTraffic Professional Version 11*. The calculated Build (2027) – with I-3306A peak hour turning movement volumes are depicted in Figure 11. The coordinated signal timings analyzed within the No-Build (2027) – with I-3306A scenario were maintained for the Build (2027) – with

I-3306A analysis. A summary of the findings for the Build (2027) – with I-3306A scenario LOS analyses can be found in Appendix D.

As reported in Table 12, all the stop-controlled approaches will operate at LOS C or better during both peak hours, except for the northbound stop-controlled approach for Weaver Dairy Road (SR 1733) at Shopping Center Driveway, which will operate at LOS D during the AM peak hour and LOS F during PM peak hour, and the southbound stop-controlled approach for Weaver Dairy Road (SR 1733) and Site Access 1, which will operate at LOS F during both peak hours. All the signalized intersections operate at LOS D or better during both peak hours.

Table 12 Build (2027) – with STIP I-3306A LOS Results

ID	Intersection and Approach	Traffic Control	Build with STIP I-3306A (2027)	
			AM	PM
19	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**	Signalized	**B (17.8)**	**B (16.4)**
	Eastbound		C-23.7	C-21.2
	Northbound		B-14.1	B-15.6
	Southbound		B-15.1	B-13.7
2	**Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive**	Signalized	**C (20.1)**	**D (39.4)**
	Westbound		D-50.7	D-50.8
	Northbound		B-14.0	C-33.2
	Southbound		B-19.9	D-44.6
3	**Martin Luther King Jr. Boulevard (NC 86) & Weaver Dairy Rd (SR 1733)**	Signalized	**C (27.0)**	**D (54.6)**
	Eastbound		D-51.9	E-75.4
	Westbound		D-39.3	F-111.3
	Northbound		B-14.9	B-19.2
	Southbound		C-23.8	D-47.2
4	**Martin Luther King Jr. Boulevard (NC 86) & Westminster Drive**	Signalized	**B (13.0)**	**C (25.1)**
	Eastbound		C-29.2	D-41.5
	Westbound		E-55.8	F-83.2
	Northbound		B-13.5	C-27.3
	Southbound		A-5.7	A-7.7
5	**Perkins Drive & ABC Driveway/Adair Drive**	Unsignalized	---	---
	Eastbound		B-10.4	B-12.9
	Westbound		A-9.2	A-9.9
6	**Old University Station Road at Adair Drive & Site Access 2**	Unsignalized	---	---
	Eastbound		A-9.3	A-9.4
7	**Weaver Dairy Rd (SR 1733) & Perkins Drive**	Unsignalized	---	---
	Southbound		B-10.8	C-15.4
8	**Weaver Dairy Rd (SR 1733) & Old University Station Road**	Unsignalized	---	---
	Southbound		B-10.8	B-14.9
9	**Weaver Dairy Rd (SR 1733) & Shopping Center Driveway**	Unsignalized	---	---
	Northbound		D-25.6	F-138.6
10	**Weaver Dairy Rd (SR 1733) & Kingston Drive/Vilcom Center Drive**	Signalized	**A (7.0)**	**A (9.9)**
	Eastbound		A-6.1	A-6.0
	Westbound		A-5.6	A-7.6
	Northbound		B-15.7	B-19.7
	Southbound		B-14.3	C-28.1
11	**Weaver Dairy Rd (SR 1733) & Site Access 1**	Unsignalized	---	---
	Southbound		F-95.7	F-211.6
12	**Weaver Dairy Rd (SR 1733) & Silo Drive**	Signalized	**A (9.1)**	**B (18.2)**
	Eastbound		A-6.4	A-7.1
	Westbound		B-10.8	C-24.4
	Northbound		C-26.7	C-28.6
	Southbound		C-26.8	D-36.6
13	**Weaver Dairy Rd (SR 1733) & Sunrise Road (SR 1732)**	Signalized	**B (12.9)**	**C (22.0)**
	Eastbound		A-7.5	A-7.6
	Westbound		B-18.2	D-35.2
	Southbound		C-20.8	C-20.2
14	**Weaver Dairy Rd (SR 1733) & High School Drive**	Signalized	**D (37.2)**	**D (38.8)**
	Eastbound		E-62.0	A-8.7
	Westbound		B-16.0	D-40.2
	Southbound		C-29.0	E-69.1

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay

LEGEND	
——	Existing Roadway
----	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Traffic Controlled Intersection
←—	Existing Lane Geometric
XX	AM Peak Hour Turning Movement
(XX)	PM Peak Hour Turning Movement

not to scale

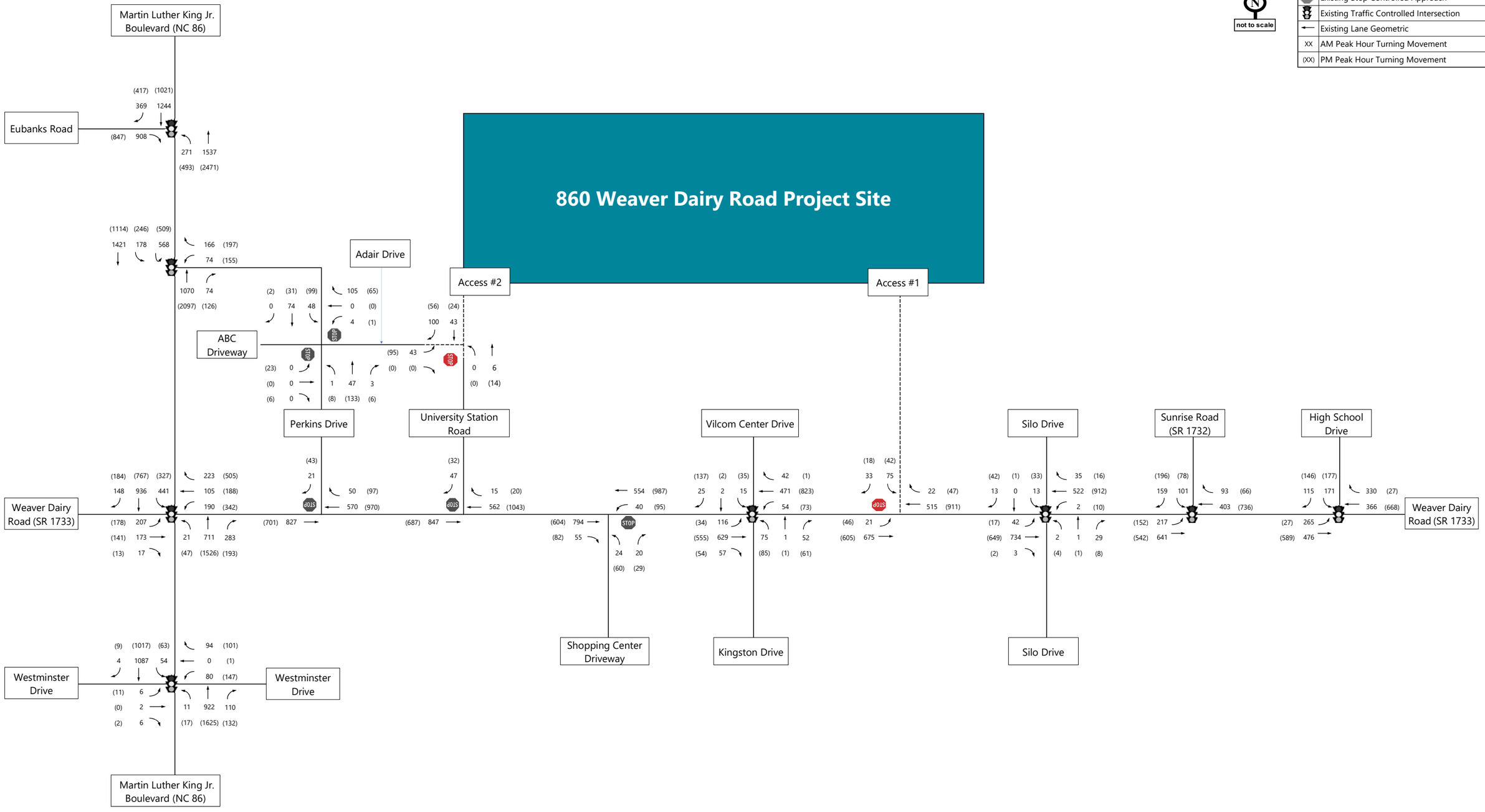


Figure 11
Build (2027) Peak Hour Turning Movement Volumes – with STIP I-3306A

860 Weaver Dairy Road TIA
Chapel Hill, NC

Level of Service Analysis – without STIP I-3306A

Intersection LOS analyses were performed for the typical weekday AM, and PM peak hours using *Synchro/SimTraffic Professional Version 11*. The calculated Build (2027) – without I-3306A peak hour turning movement volumes are depicted in Figure 12. The coordinated signal timings analyzed within the No-Build (2027) – without I-3306A scenario were maintained for the Build (2027) – without I-3306A analysis. A summary of the findings for the Build (2027) – without I-3306A scenario LOS analyses can be found in Appendix D.

As reported in Table 13, all the stop-controlled approaches will operate at LOS C or better during both peak hours, except for the northbound stop-controlled approach for Weaver Dairy Road (SR 1733) at Shopping Center Driveway, which will operate at LOS D during the AM peak hour and LOS F during PM peak hour, and the southbound stop-controlled approach for Weaver Dairy Road (SR 1733) and Site Access 1, which will operate at LOS F during both peak hours. All the signalized intersections operate at LOS D or better during both peak hours.

Table 13 Build (2027) – without STIP I-3306A LOS Results

ID	Intersection and Approach	Traffic Control	Build without STIP I-3306A (2027)	
			AM	PM
1	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**	Signalized	**C (24.0)**	**C (22.8)**
	Eastbound		D-38.3	D-50.3
	Northbound		B-17.4	B-12.2
	Southbound		C-21.2	C-24.6
2	**Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive**	Signalized	**A (7.0)**	**C (22.3)**
	Westbound		D-44.2	D-40.3
	Northbound		A-6.1	B-17.5
	Southbound		A-2.0	C-25.4
3	**Martin Luther King Jr. Boulevard (NC 86) & Weaver Dairy Rd (SR 1733)**	Signalized	**C (24.6)**	**D (53.1)**
	Eastbound		D-52.9	E-75.4
	Westbound		D-39.2	F-111.3
	Northbound		B-14.4	B-18.0
	Southbound		B-18.4	D-43.5
4	**Martin Luther King Jr. Boulevard (NC 86) & Westminster Drive**	Signalized	**B (12.9)**	**C (26.5)**
	Eastbound		C-29.2	D-41.5
	Westbound		E-55.8	F-83.2
	Northbound		B-13.5	C-27.3
	Southbound		A-5.4	B-11.9
5	**Perkins Drive & ABC Driveway/Adair Drive**	Unsignalized	---	---
	Eastbound		B-10.4	B-12.9
	Westbound		A-9.2	A-9.9
6	**Old University Station Road at Adair Drive & Site Access 2**	Unsignalized	---	---
	Eastbound		A-9.3	A-9.4
7	**Weaver Dairy Rd (SR 1733) & Perkins Drive**	Unsignalized	---	---
	Southbound		B-11.2	C-15.4
8	**Weaver Dairy Rd (SR 1733) & Old University Station Road**	Unsignalized	---	---
	Southbound		B-11.2	B-14.9
9	**Weaver Dairy Rd (SR 1733) & Shopping Center Driveway**	Unsignalized	---	---
	Northbound		D-33.4	F-138.6
10	**Weaver Dairy Rd (SR 1733) & Kingston Drive/Vilcom Center Drive**	Signalized	**A (7.0)**	**A (9.9)**
	Eastbound		A-6.1	A-6.0
	Westbound		A-5.6	A-7.6
	Northbound		B-15.7	B-19.7
	Southbound		B-14.3	C-28.1
11	**Weaver Dairy Rd (SR 1733) & Site Access 1**	Unsignalized	---	---
	Southbound		F-95.7	F-211.6
12	**Weaver Dairy Rd (SR 1733) & Silo Drive**	Signalized	**A (9.1)**	**B (18.2)**
	Eastbound		A-6.4	A-7.1
	Westbound		B-10.8	C-24.4
	Northbound		C-26.7	C-28.6
	Southbound		C-26.8	D-36.6
13	**Weaver Dairy Rd (SR 1733) & Sunrise Road (SR 1732)**	Signalized	**B (12.9)**	**C (22.0)**
	Eastbound		A-7.5	A-7.6
	Westbound		B-18.2	D-35.2
	Southbound		C-20.8	C-20.2
14	**Weaver Dairy Rd (SR 1733) & High School Drive**	Signalized	**D (37.2)**	**D (38.8)**
	Eastbound		E-62.0	A-8.7
	Westbound		B-16.0	D-40.2
	Southbound		C-29.0	E-69.1

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay

LEGEND	
——	Existing Roadway
----	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Traffic Controlled Intersection
←—	Existing Lane Geometric
XX	AM Peak Hour Turning Movement
(XX)	PM Peak Hour Turning Movement

not to scale

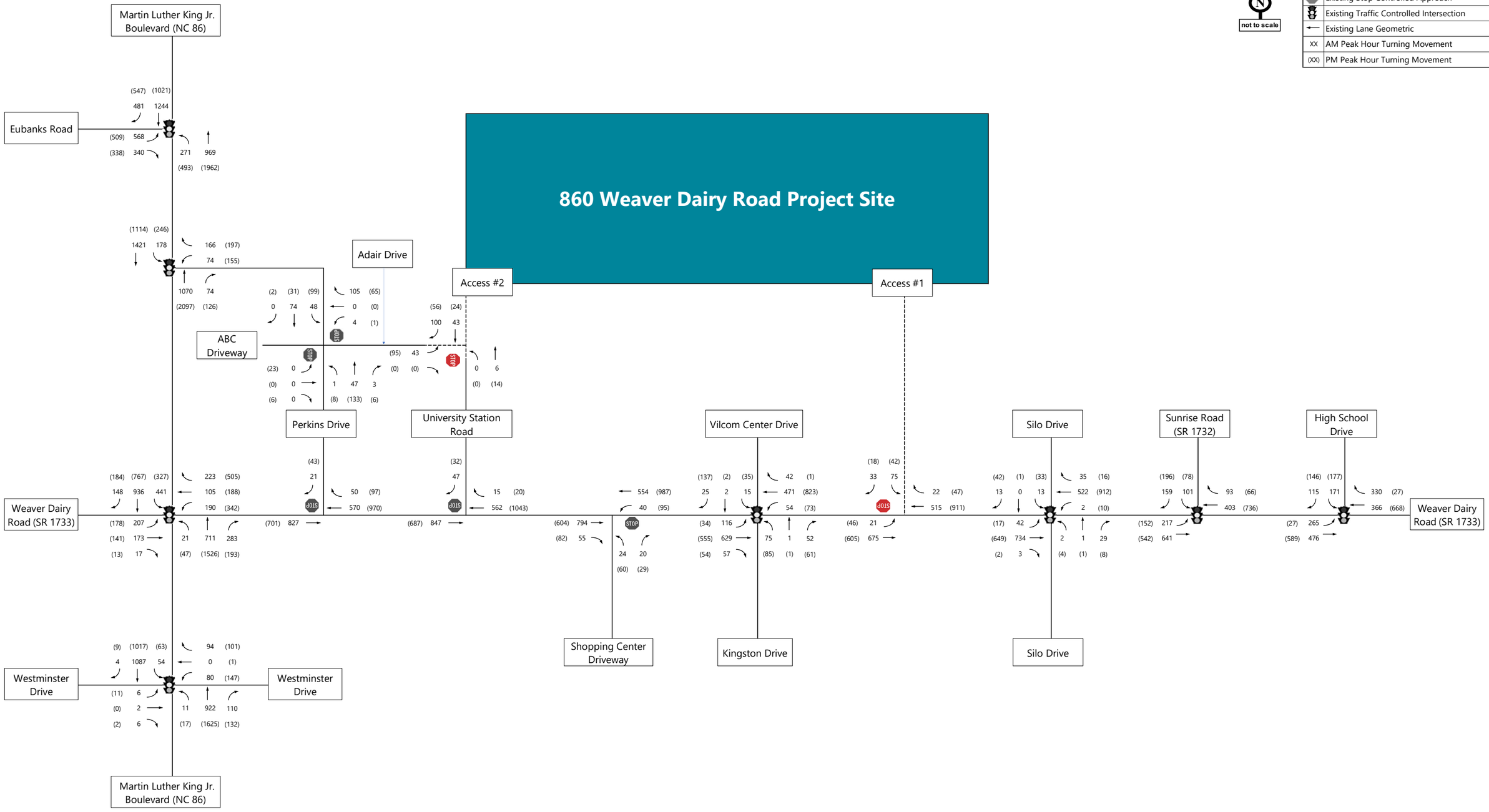


Figure 12
Build (2027) Peak Hour Turning Movement Volumes – without STIP I-3306A

860 Weaver Dairy Road TIA
Chapel Hill, NC

5

Findings and Conclusions

The proposed development is expected to impact operations at multiple study intersections under Build (2027) conditions. In addition, to vehicular impacts, the site's non-motorized users will need to have proper multimodal connections to the surrounding pedestrian and bicycle infrastructure. To improve operations and connectivity at these locations, the following improvements should be considered and were analyzed within the Build (2027) with Improvements scenarios. The proposed intersection configurations are shown in Figure 13 and Figure 14. The multimodal improvement recommendations are shown in Figure 15.

Martin Luther King Jr. Boulevard (NC 86) at Perkins Drive

The existing signalized intersection is projected to operate at LOS C during the AM peak hour and LOS D during the PM peak hour under Build (2027) – with STIP I-3306A. The intersection is projected to operate at LOS A during the AM peak hour and LOS C during the PM peak hour under Build (2027) – without STIP I-3306A conditions.

To improve operations at this location, the following offsite improvement should be considered and was analyzed within the Build (2027) – with STIP I-3306A with improvements and Build (2027) – without STIP I-3306A with improvements scenarios:

- Signal Timing Improvements

An additional improvement should be considered and was analyzed within the Build (2027) – without STIP I-3306A with improvements scenario:

- Extend the storage of the existing southbound left-turn lane to maximize storage, with appropriate deceleration and taper. Modifying the existing median will allow for approximately 500 feet of full storage.

Martin Luther King Jr. Boulevard (NC 86) at Weaver Dairy Road (SR 1733)

The existing signalized intersection is projected to operate at LOS C during the AM peak hour and LOS D during the PM peak hour under Build (2027) – with STIP I-3306A and Build (2027) – without STIP I-3306A conditions.

The existing westbound right-turn lane has significant queuing, spilling back into the adjacent unsignalized intersections under all studied scenarios. Additional improvements such as a dual westbound right-turn lane were explored, however was not feasible due to right-of-way and property impacts and may negatively impact future BRT plans. To improve operations at this location, the following offsite improvement should be considered and was analyzed within the Build (2027) – with STIP I-3306A with improvements and Build (2027) – without STIP I-3306A with improvements scenarios:

› Signal Timing Improvements

Perkins Drive at ABC Driveway / Adair Drive:

The existing stop-controlled approaches are projected to operate at acceptable LOS during the AM and PM peak hours under Build (2027) – with STIP I-3306A and Build (2027) – without STIP I-3306A conditions. To improve operations at this location, the following offsite improvement should be considered and was analyzed within the Build (2027) – with STIP I-3306A with improvements and Build (2027) – without STIP I-3306A with improvements scenarios:

› Restripe pavement for an exclusive southbound left-turn lane with a minimum of 100 feet of full storage with appropriate deceleration and taper.

Weaver Dairy Road (SR 1733) at Shopping Center Driveway

To improve multimodal accommodations at this location and provide a connection for residents accessing the retail destinations along Weaver Dairy Road, the following offsite improvement should be considered:

› If right-of-way allows, construct a sidewalk along the east side of Old University Station Road between Weaver Dairy Road and the site, per Town approval.

Weaver Dairy Road (SR 1733) at Shopping Center Driveway

To improve multimodal accommodations at this location, the following offsite improvement should be considered:

› Coordinate with NCDOT to create an enhanced pedestrian crossing at this location. This would include at a minimum a high-visibility painted crosswalk across Weaver Dairy Road (SR 1733). This may also include enhancements such as a pedestrian hybrid beacon and a raised monolithic refuge island.

Weaver Dairy Road (SR 1733) at Site Access 1

The stop-controlled driveway is projected to operate at LOS F during the AM and PM peak hours under Build (2027) – with STIP I-3306A and Build (2027) – without STIP I-3306A conditions. The following lane configurations and traffic control are recommended with the driveway for Site Access 1:

- Provide one ingress lane and two egress lanes at the full movement driveway. Provide a minimum of 100 feet of full storage for an exclusive southbound right-turn lane along the driveway.
- Construct an exclusive westbound right-turn lane with a minimum of 100 feet of full storage with appropriate deceleration and taper.
- Modify existing pavement markings to create an exclusive eastbound left-turn lane with a minimum of 150 feet of full storage that transitions back into the two-way, left-turn lane markings.
- Signalize the intersection based on NCDOT approval.
- Provide multimodal accommodations along both sides of the driveway.
- Provide pedestrian accommodations at the Site Access, including sidewalk, high-visibility painted crosswalks on all approaches, pedestrian count-down heads, and curb ramps that meet ADA requirements per NCDOT guidelines.

Old University Station Road at Adair Drive & Site Access 2

The stop-controlled approach is projected to operate at LOS A during the AM and PM peak ours under Build (2027) – with STIP I-3306A and Build (2027) – without STIP I-3306A conditions. The following lane configurations are recommended with the driveway for Site Access 2:

- Provide one ingress lane and one egress lane at the full movement driveway.
- Extend existing greenway into the site.
- Provide multimodal accommodations along both sides of the driveway.

The summary LOS results are shown in Table 14. Figure 13 and Figure 14 show the recommended lane geometrics and traffic control for the Build (2027) – with STIP I-3306A and Build (2027) – without STIP I-3306A scenarios. Figure 15 shows the multimodal recommendations associated with the proposed development. The queue analysis results from SimTraffic for the Build (2027) – with STIP I-3306A with Improvements and Build (2027) – without STIP I-3306A without Improvements scenarios are shown in Table 15.

Table 14 Summary of LOS Results

ID	Intersection and Approach	Traffic Control	Existing (2024)		No-Build with STIP I-3306A (2027)		No-Build without STIP I-3306A (2027)		Build with STIP I-3306A (2027)		Build with STIP I-3306A (2027) with Improvements		Build without STIP I-3306A (2027)		Build without STIP I-3306A (2027) with Improvements	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**	Signalized	**C (21.6)**	**C (22.1)**	---	---	**C (23.6)**	**C (21.8)**	---	---	---	---	**C (24.0)**	**C (22.8)**	**C (24.0)**	**C (23.5)**
	Eastbound		D-43.3	D-45.9	---	---	D-38.1	D-50.1	---	---	---	---	D-38.3	D-50.3	D-38.3	D-50.3
	Northbound		B-14.6	B-17.9	---	---	B-16.2	B-11.1	---	---	---	---	B-17.4	B-12.2	B-17.5	B-13.5
	Southbound		B-15.7	B-18.8	---	---	C-20.7	C-23.2	---	---	---	---	C-21.2	C-24.6	C-21.2	C-24.6
19	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**	Signalized	---	---	**B (17.5)**	**B (16.1)**	---	---	**B (17.8)**	**B (16.4)**	**B (17.8)**	**B (16.4)**	---	---	---	---
	Eastbound		---	---	C-23.5	C-21.1	---	---	C-23.7	C-21.2	C-23.7	C-21.2	---	---	---	---
	Northbound		---	---	B-14.0	B-15.6	---	---	B-14.1	B-15.6	B-14.1	B-15.6	---	---	---	---
	Southbound		---	---	B-14.7	B-13.2	---	---	B-15.1	B-13.7	B-15.1	B-13.7	---	---	---	---
2	**Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive**	Signalized	**A (8.9)**	**C (27.1)**	**B (17.9)**	**D (35.6)**	**A (4.9)**	**B (18.1)**	**C (20.1)**	**D (39.4)**	**C (20.1)**	**D (38.8)**	**A (7.0)**	**C (22.3)**	**A (7.1)**	**C (22.0)**
	Westbound		D-42.2	C-34.6	D-50.5	D-50.0	D-42.7	D-39.4	D-50.7	D-50.8	D-50.7	D-50.8	D-44.2	D-40.3	D-43.2	D-40.3
	Northbound		A-7.7	C-23.3	B-12.4	C-29.8	A-5.1	B-17.1	B-14.0	C-33.2	B-14.1	C-32.0	A-6.1	B-17.5	A-7.0	B-16.1
	Southbound		A-6.6	C-32.0	B-18.7	D-40.4	A-1.4	B-14.9	B-19.9	D-44.6	B-19.9	D-44.6	A-2.0	C-25.4	A-1.8	C-27.0
3	**Martin Luther King Jr. Boulevard (NC 86) & Weaver Dairy Rd (SR 1733)**	Signalized	**C (25.4)**	**D (47.9)**	**C (25.8)**	**E (55.7)**	**C (23.7)**	**D (54.3)**	**C (27.0)**	**D (54.6)**	**C (26.4)**	**D (46.2)**	**C (24.6)**	**D (53.1)**	**C (24.9)**	**D (44.2)**
	Eastbound		D-52.0	E-69.9	D-51.7	E-75.3	D-52.5	E-75.3	D-51.9	E-75.4	D-52.6	E-76.0	D-52.9	E-75.4	D-52.9	E-75.4
	Westbound		D-39.6	F-101.7	D-38.4	F-122.9	D-38.2	F-122.9	D-39.3	F-111.3	D-39.1	F-82.7	D-39.2	F-111.3	D-39.3	F-82.7
	Northbound		B-12.8	B-15.8	B-14.2	B-18.0	B-13.9	B-17.0	B-14.9	B-19.2	B-14.7	C-25.1	B-14.4	B-18.0	B-14.2	C-22.9
	Southbound		C-22.0	D-38.5	C-22.6	D-43.7	B-17.9	D-40.1	C-23.8	D-47.2	C-22.6	C-34.7	B-18.4	D-43.5	B-19.3	C-30.6
4	**Martin Luther King Jr. Boulevard (NC 86) & Westminster Drive**	Signalized	**B (13.0)**	**C (24.0)**	**B (13.2)**	**C (24.7)**	**B (13.0)**	**C (25.9)**	**B (13.0)**	**C (25.1)**	**B (13.1)**	**C (25.5)**	**B (12.9)**	**C (26.5)**	**B (12.9)**	**C (27.2)**
	Eastbound		C-29.5	D-36.5	C-29.1	D-41.5	C-29.1	D-41.5	C-29.2	D-41.5	C-29.2	D-41.5	C-29.2	D-41.5	C-29.2	D-41.5
	Westbound		E-55.9	E-70.8	E-55.8	F-83.2	E-55.8	F-83.2	E-55.8	F-83.2	E-55.8	F-83.2	E-55.8	F-83.2	E-55.8	F-83.2
	Northbound		B-12.7	C-26.1	B-13.5	C-26.4	B-13.5	C-26.4	B-13.5	C-27.3	B-13.5	C-27.3	B-13.5	C-27.3	B-13.5	C-27.3
	Southbound		A-6.0	A-8.6	A-5.8	A-7.8	A-5.4	B-11.3	A-5.7	A-7.7	A-5.9	A-8.8	A-5.4	B-11.9	A-5.5	B-13.8
5	**Perkins Drive & ABC Driveway/Adair Drive**	Unsignalized	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Eastbound		A-9.4	A-9.9	A-9.5	B-10.0	A-9.5	B-10.0	B-10.4	B-12.9	B-10.4	B-12.9	B-10.4	B-12.9	B-10.4	B-12.9
	Westbound		A-9.3	A-9.6	A-9.4	A-9.7	A-9.4	A-9.7	A-9.2	A-9.9	A-9.2	A-9.9	A-9.2	A-9.9	A-9.2	A-9.9
6	**Old University Station Road at Adair Drive & Site Access 2**	Unsignalized	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Eastbound		---	---	---	---	---	---	A-9.3	A-9.4	A-9.3	A-9.4	A-9.3	A-9.4	A-9.3	A-9.4
7	**Weaver Dairy Rd (SR 1733) & Perkins Drive**	Unsignalized	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Southbound		B-10.5	B-14.3	B-10.8	B-14.9	B-10.8	B-14.9	B-10.8	C-15.4	B-10.8	C-15.4	B-11.2	C-15.4	B-11.2	C-15.4
8	**Weaver Dairy Rd (SR 1733) & Old University Station Road**	Unsignalized	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Southbound		B-10.3	B-13.5	B-10.5	B-13.9	B-10.5	B-13.9	B-10.8	B-14.9	B-10.8	B-14.9	B-11.2	B-14.9	B-11.2	B-14.9
9	**Weaver Dairy Rd (SR 1733) & Shopping Center Driveway**	Unsignalized	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Northbound		D-27.4	F-75.2	D-31.1	F-109.7	D-31.1	F-109.7	D-25.6	F-138.6	D-25.6	F-138.6	D-33.4	F-138.6	D-33.4	F-138.6
10	**Weaver Dairy Rd (SR 1733) & Kingston Drive/Vilcom Center Drive**	Signalized	**A (6.9)**	**A (9.5)**	**A (8.9)**	**A (9.8)**	**A (6.9)**	**A (9.8)**	**A (7.0)**	**A (9.9)**	**A (7.0)**	**A (9.9)**	**A (7.0)**	**A (9.9)**	**A (7.0)**	**A (9.9)**
	Eastbound		A-6.1	A-6.0	A-8.0	A-6.1	A-6.1	A-6.1	A-6.1	A-6.0	A-6.1	A-6.0	A-6.1	A-6.0	A-6.1	A-6.0
	Westbound		A-5.6	A-7.5	A-6.1	A-7.6	A-5.5	A-7.6	A-5.6	A-7.6	A-5.6	A-7.6	A-5.6	A-7.6	A-5.6	A-7.6
	Northbound		B-14.6	B-17.4	C-23.5	B-18.5	B-15.4	B-18.5	B-15.7	B-19.7	B-15.7	B-19.7	B-15.7	B-19.7	B-15.7	B-19.7
	Southbound		B-13.3	C-24.2	C-20.2	C-26.3	B-14.0	C-26.3	B-14.3	C-28.1	B-14.3	C-28.1	B-14.3	C-28.1	B-14.3	C-28.1
11	**Weaver Dairy Rd (SR 1733) & Site Access 1**	Unsignalized	---	---	---	---	---	---	---	---	**B (12.8)**	**B (12.3)**	---	---	**B (12.8)**	**B (12.3)**
	Eastbound		---	---	---	---	---	---	---	---	B-14.6	A-7.0	---	---	B-14.6	-0.8
	Westbound		---	---	---	---	---	---	---	---	A-9.3	B-14.5	---	---	A-9.3	--14.5
	Southbound		---	---	---	---	---	---	F-95.7	F-211.6	B-18.1	C-33.2	F-95.7	F-211.6	B-18.1	C-32.5
12	**Weaver Dairy Rd (SR 1733) & Silo Drive**	Signalized	**A (7.1)**	**B (14.4)**	**A (8.8)**	**B (15.9)**	**A (8.8)**	**B (15.9)**	**A (9.1)**	**B (18.2)**	**A (9.1)**	**B (18.2)**	**A (9.1)**	**B (18.2)**	**A (9.1)**	**B (18.2)**
	Eastbound		A-4.2	A-6.0	A-5.7	A-6.6	A-5.7	A-6.6	A-6.4	A-7.1	A-6.4	A-7.1	A-6.4	A-7.1	A-6.4	A-7.1
	Westbound		A-9.1	B-17.9	B-10.8	C-20.5	B-10.8	C-20.5	B-10.8	C-24.4	B-10.8	C-24.4	B-10.8	C-24.4	B-10.8	C-24.4
	Northbound		C-22.6	C-28.6	C-25.5	C-28.6	C-25.5	C-28.6	C-26.7	C-28.6	C-26.7	C-28.6	C-26.7	C-28.6	C-26.7	C-28.6
	Southbound		C-22.8	D-36.4	C-25.5	D-36.6	C-25.5	D-36.6	C-26.8	D-36.6	C-26.8	D-36.6	C-26.8	D-36.6	C-26.8	D-36.6
13	**Weaver Dairy Rd (SR 1733) & Sunrise Road (SR 1732)**	Signalized	**B (11.9)**	**B (16.0)**	**B (12.4)**	**B (18.1)**	**B (12.4)**	**B (18.1)**	**B (12.9)**	**C (22.0)**	**B (12.9)**	**C (22.0)**	**B (12.9)**	**C (22.0)**	**B (12.9)**	**C (22.0)**
	Eastbound		A-6.2	A-6.5	A-6.7	A-7.1	A-6.7	A-7.1	A-7.5	A-7.6	A-7.5	A-7.6	A-7.5	A-7.6	A-7.5	A-7.6
	Westbound		B-16.9	C-22.7	B-17.5	C-27.0	B-17.5	C-27.0	B-18.2	D-35.2	B-18.2	D-35.2	B-18.2	D-35.2	B-18.2	D-35.2
	Southbound		C-20.5	B-19.7	C-20.8	B-20.0	C-20.8	B-20.0	C-20.8	C-20.2	C-20.8	C-20.2	C-20.8	C-20.2	C-20.8	C-20.2
14	**Weaver Dairy Rd (SR 1733) & High School Drive**	Signalized	**C (25.5)**	**C (28.1)**	**C (32.4)**	**C (33.7)**	**C (32.4)**	**C (33.7)**	**D (37.2)**	**D (38.8)**	**D (37.2)**	**D (38.8)**	**D (37.2)**	**D (38.8)**	**D (37.2)**	**D (38.8)**
	Eastbound		D-36.4	A-7.9	D-52.2	A-8.3	D-52.2	A-8.3	E-62.0	A-8.7	E-62.0	A-8.7	E-62.0	A-8.7	E-62.0	A-8.7
	Westbound		B-15.0	C-31.4	B-15.7	C-34.7	B-15.7	C-34.7	B-16.0	D-40.2	B-16.0	D-40.2	B-16.0	D-40.2	B-16.0	D-40.2
	Southbound		C-25.5	D-44.5	C-27.7	E-58.8	C-27.7	E-58.8	C-29.0	F-69.1	C-29.0	F-69.1	C-29.0	F-69.1	C-29.0	F-69.1

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay

Table 15 Build (2027) with Improvements SimTraffic Queue Results

ID	Intersection/Movement	Build (2027) - with STIP I-3306A				Build (2027) - without STIP I-3306A			
		Synchro/Sidra 95th		SimTraffic Max Queue		Synchro/Sidra 95th		SimTraffic Max Queue	
		AM	PM	AM	PM	AM	PM	AM	PM
1	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**								
	Eastbound Left-Turn	---	---	---	---	255	323	266	310
	Eastbound Right-Turn	---	---	---	---	268	300	264	285
	Northbound Left	---	---	---	---	163	291	174	318
	Northbound Through	---	---	---	---	160	83	163	350
	Southbound Through	---	---	---	---	557	584	742	561
	Southbound Right-Turn	---	---	---	---	127	332	363	363
19	**Martin Luther King Jr. Boulevard (NC 86) & Eubanks Road**								
	Eastbound Right-Turn	191	169	153	305	---	---	---	---
	Northbound Left-Turn	63	110	110	157	---	---	---	---
	Northbound Through	---	---	---	---	---	---	---	---
	Southbound Through	---	---	501	457	---	---	---	---
	Southbound Through/Right-Turn	242	213	254	259	---	---	---	---
2	**Martin Luther King Jr. Boulevard (NC 86) & Perkins Drive**								
	Westbound Left-Turn	99	220	126	194	28	105	143	194
	Westbound Right-Turn	107	146	149	223	113	224	225	230
	Northbound Through	189	567	270	499	70	379	225	568
	Northbound Through/Right	---	---	288	493	---	---	225	584
	Southbound U-Turn	267	411	316	459	---	---	---	---
	Southbound Left-Turn	183	434	252	496	38	432	159	619
	Southbound Through	277	321	199	418	24	98	107	666
3	**Martin Luther King Jr. Boulevard (NC 86) & Weaver Dairy Rd (SR 1733)**								
	Eastbound Left-Turn	118	142	136	164	119	142	142	162
	Eastbound Through	110	119	129	127	110	119	119	137
	Eastbound Through/Right-Turn	---	---	124	122	---	---	120	133
	Westbound Left-Turn	101	227	126	272	102	227	133	276
	Westbound Through	128	262	146	498	128	262	152	489
	Westbound Right-Turn	106	675	183	425	109	675	197	425
	Northbound Left-Turn	32	67	53	264	29	67	49	298
	Northbound Through	136	461	198	458	89	461	180	499
	Northbound Right-Turn	79	18	195	134	61	17	180	172
	Southbound Left-Turn	170	233	234	276	177	242	250	261
	Southbound Through	333	304	265	276	327	201	262	296
	Southbound Right-Turn	57	38	148	152	37	38	112	194
4	**Martin Luther King Jr. Boulevard (NC 86) & Westminster Drive**								
	Eastbound Left/Through	20	33	36	50	20	33	42	44
	Eastbound Right-Turn	13	12	33	29	13	12	37	34
	Westbound Left/Through/Right	194	393	244	405	194	393	280	401
	Northbound Left-Turn	10	15	39	188	10	15	32	179
	Northbound Through	309	887	295	614	309	887	260	600
	Northbound Right-Turn	76	102	189	250	76	102	166	250
	Southbound Left-Turn	89	127	102	127	90	126	105	141
	Southbound Through	131	81	180	316	112	207	206	324
	Southbound Right-Turn	1	2	33	37	1	6	8	68
5	**Perkins Drive & ABC Driveway/Adair Drive**								
	Eastbound Left/Through/Right	2.5	5	15	31	2.5	5	18	30
	Westbound Left/Through/Right	10	7.5	62	54	10	7.5	61	55
	Northbound Left/Through/Right	0	0	11	17	0	0	9	20
	Southbound Left	2.5	7.5	26	51	2.5	7.5	24	45
	Southbound Through/Right	---	---	2	---	---	---	---	2
6	**Old University Station Road at Adair Drive & Site Access 2**								
	Eastbound Left/Right-Turn	5	10	52	68	5	10	54	59
	Northbound Left/Through	0	0	18	6	0	0	19	6
	Southbound Left/Through/Right	---	---	---	--	---	---	---	---
7	**Weaver Dairy Rd (SR 1733) & Perkins Drive**								
	Eastbound Through	---	---	---	---	---	---	---	---
	Westbound Through/Right-Turn	---	---	---	84	---	---	8	231
	Southbound Right-Turn	2.5	12.5	48	56	2.5	12.5	43	95
8	**Weaver Dairy Rd (SR 1733) & Old University Station Road**								
	Eastbound Through	---	---	---	---	---	---	---	---
	Westbound Through	---	---	---	---	---	---	6	34
	Westbound Through/Right-Turn	---	---	---	84	---	---	---	64
	Southbound Right-Turn	7.5	7.5	53	56	7.5	7.5	51	68
9	**Weaver Dairy Rd (SR 1733) & Shopping Center Driveway**								
	Eastbound Through	---	---	15	12	---	---	2	21
	Eastbound Through/Right-Turn	---	---	4	24	---	---	9	26
	Westbound Left-Turn	5	12.5	58	84	5	12.5	67	110
	Westbound Through	---	---	---	33	---	---	---	130
	Northbound Left-Turn	20	132.5	46	114	25	132.5	54	124
	Northbound Right-Turn	2.5	5	41	94	5	5	41	118
10	**Weaver Dairy Rd (SR 1733) & Kingston Drive/Vilcom Center Drive**								
	Eastbound Left-Turn	36	14	87	87	36	14	98	65
	Eastbound Through	66	56	209	245	66	56	190	223
	Eastbound Right-Turn	17	16	53	52	17	16	46	63
	Westbound Left-Turn	19	23	72	83	19	23	68	89
	Westbound Through	49	91	110	134	49	91	104	143
	Westbound Right-Turn	13	3	57	10	13	3	43	11
	Northbound Left-Turn	47	60	90	99	47	60	90	110
	Northbound Through/Right-Turn	36	46	81	92	36	46	81	119
	Southbound Left/Through/Right	30	127	60	175	30	127	63	176
11	**Weaver Dairy Rd (SR 1733) & Site Access 1**								
	Eastbound Left-Turn	10	28	112	89	10	28	110	109
	Eastbound Through	247	176	277	244	247	176	306	224
	Westbound Through	160	389	223	271	160	389	211	282
	Westbound Right-Turn	10	16	76	150	10	14	100	99
	Southbound Left	48	50	83	75	48	50	87	74
	Southbound Right-Turn	26	29	69	40	26	28	50	35
12	**Weaver Dairy Rd (SR 1733) & Silo Drive**								
	Eastbound Left-Turn	12	8	50	74	12	8	52	44
	Eastbound Through/Right-Turn	230	232	226	263	230	232	220	227
	Westbound Left-Turn	3	6	28	50	3	6	28	34
	Westbound Through	243	769	179	386	243	769	204	337
	Westbound Right-Turn	19	12	43	71	19	12	60	51
	Northbound Left/Through/Right	43	24	76	36	43	24	56	41
	Southbound Left/Through/Right	37	80	54	99	37	80	56	101
13	**Weaver Dairy Rd (SR 1733) & Sunrise Road (SR 1732)**								
	Eastbound Left-Turn	48	55	148	141	48	55	138	145
	Eastbound Through	184	141	227	181	184	141	216	173
	Westbound Through	249	441	245	412	249	441	235	376
	Westbound Right-Turn	24	8	76	205	24	8	77	173
	Southbound Left-Turn	75	61	103	108	75	61	99	118
	Southbound Right-Turn	78	95	152	166	78	95	137	182
14	**Weaver Dairy Rd (SR 1733) & High School Drive**								
	Eastbound Left-Turn	84	12	197	139	84	12	169	125
	Eastbound Through	150	231	260	301	150	231	218	320
	Westbound Through	168	458	209	423	168	458	198	407
	Westbound Right-Turn	70	9	127	129	70	9	140	159
	Southbound Left-Turn	105	109	172	191	105	109	168	174
	Southbound Right-Turn	49	61	116	138	49	61	104	142

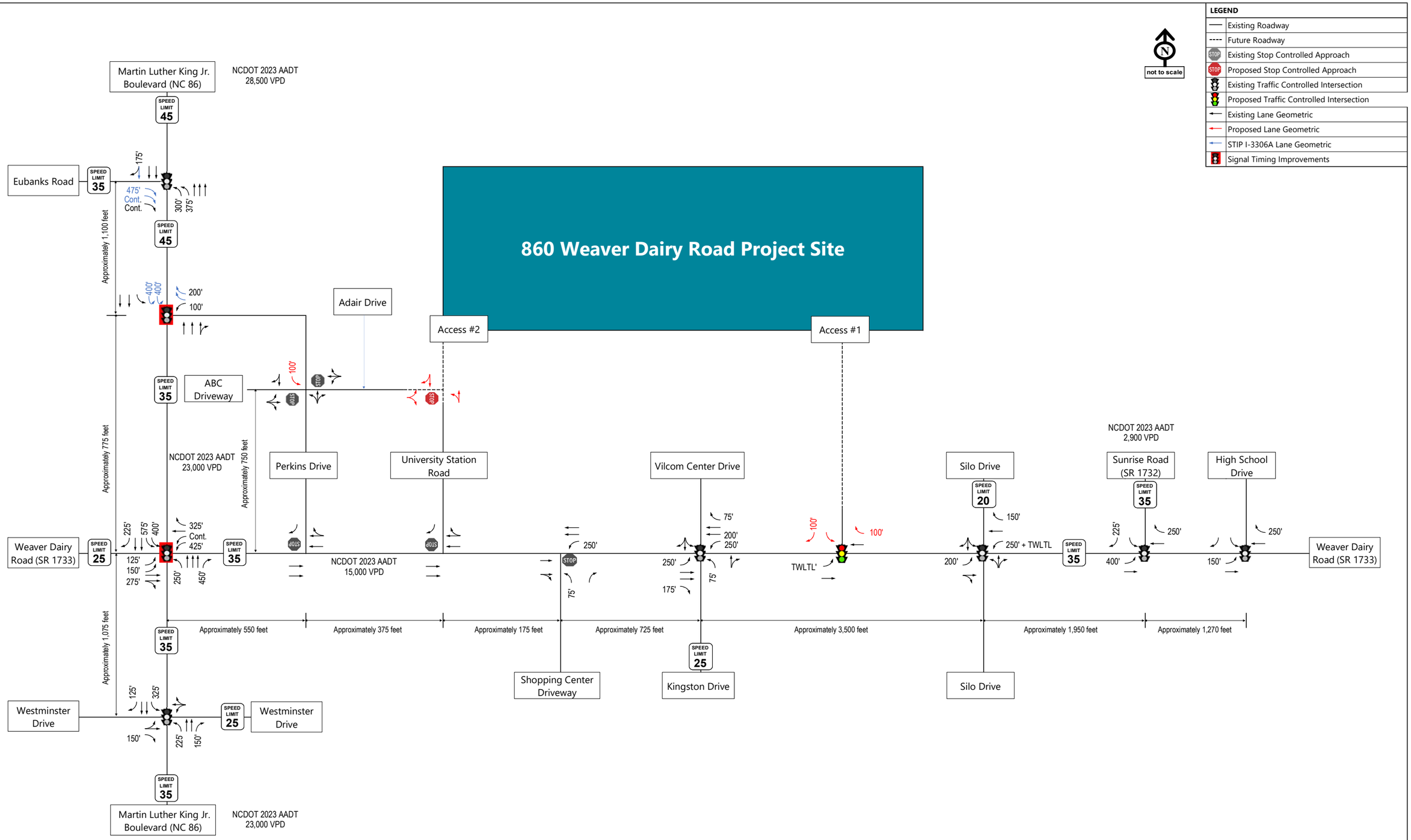


Figure 13
Build (2027) Lane Geometrics and Traffic Control – with STIP I-3306A

860 Weaver Dairy Road TIA
Chapel Hill, NC

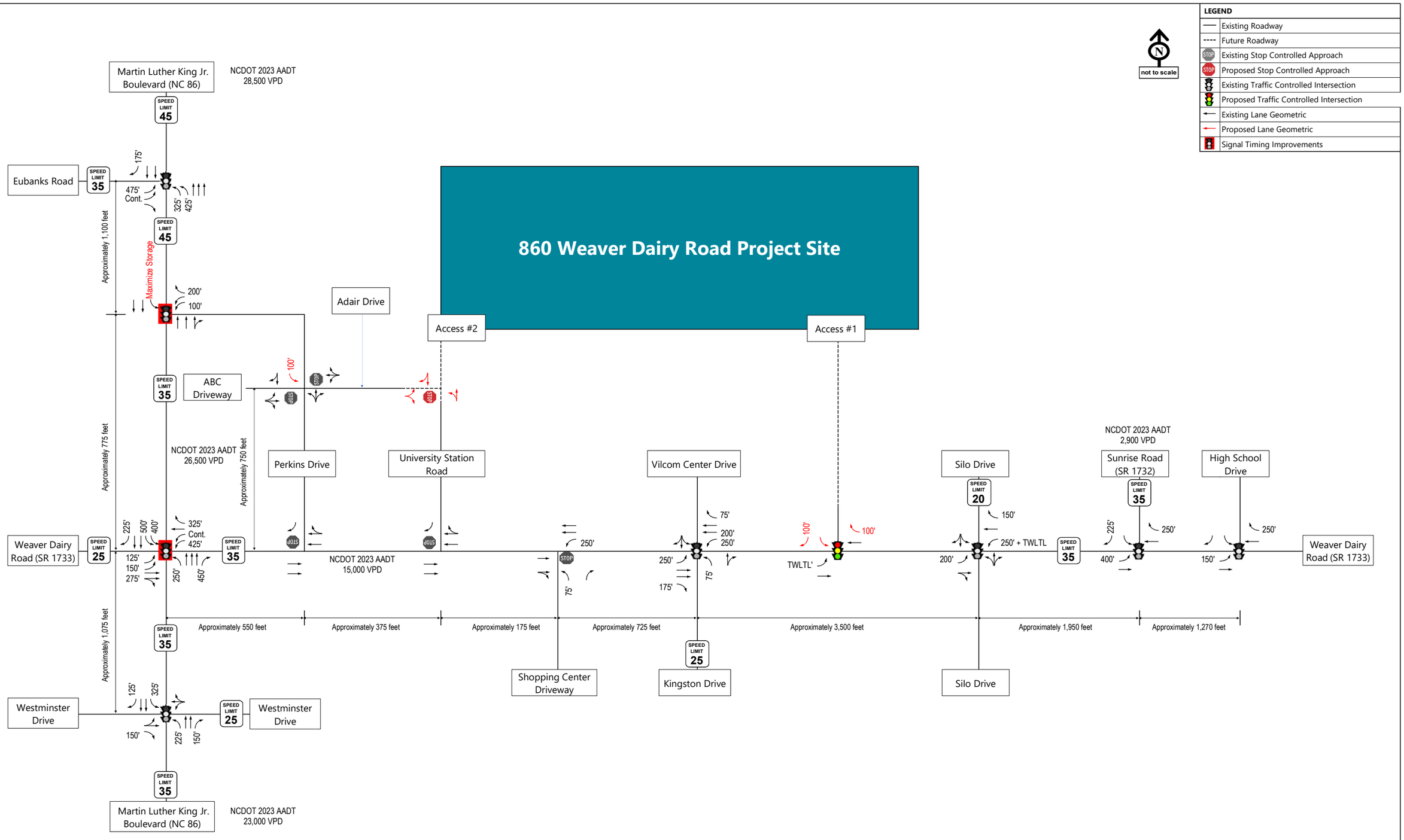
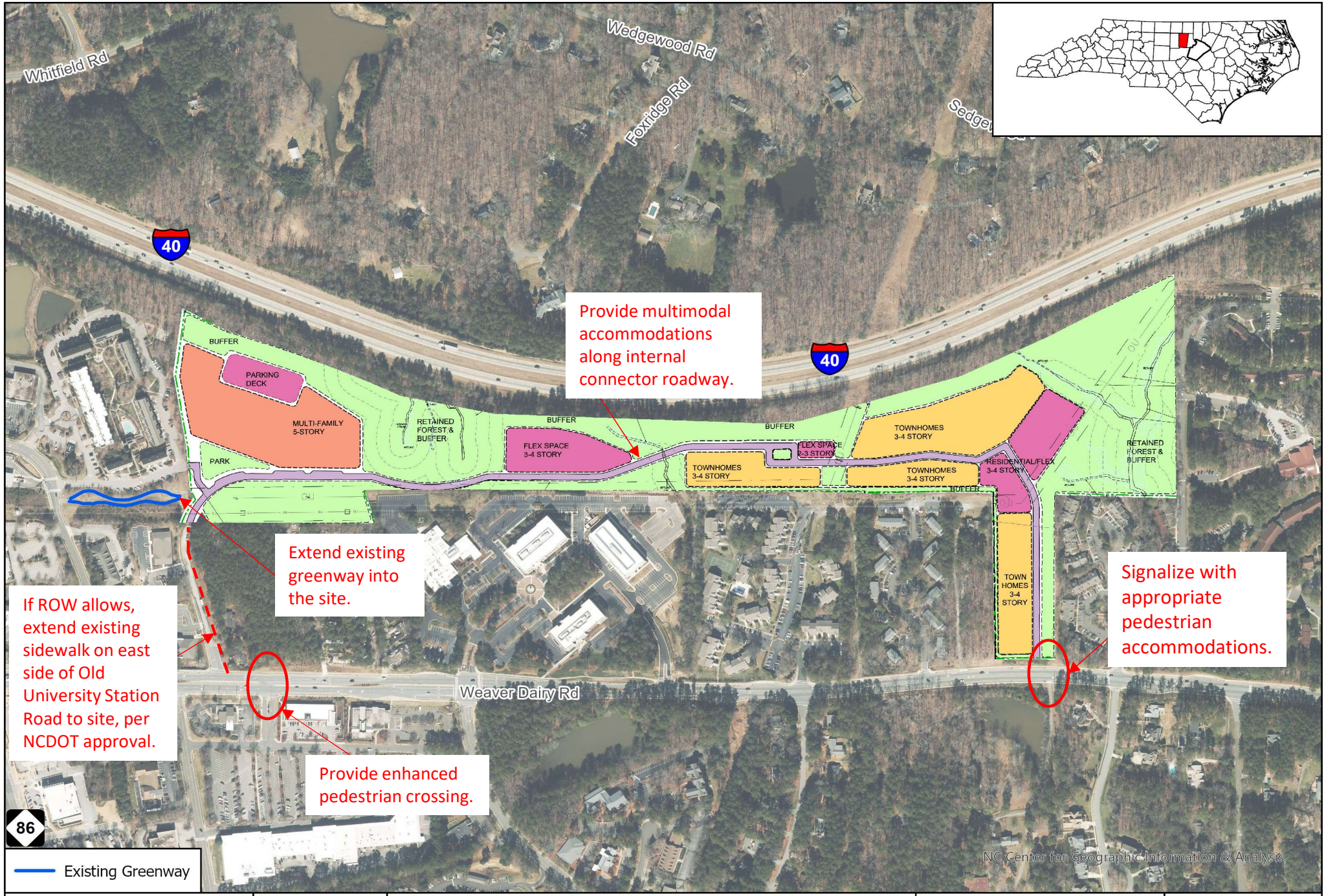


Figure 14
Build (2027) Lane Geometrics and Traffic Control – without STIP I-3306A

860 Weaver Dairy Road TIA
Chapel Hill, NC



Scale
0 250 500 Feet

Figure 15
Build (2027) Multimodal Improvements

860 Weaver Dairy Road
Traffic Impact Analysis
Chapel Hill, NC

vhb