



Road Safety Assessment

US 29 (Wade Hampton Boulevard)
East Lee Road to Watson Road
MP 11.3 – MP 12.1

January 2024

Quality information

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1. Introduction

1.1 Background

US 29 (Wade Hampton Boulevard) is located in Greenville County, South Carolina. It is a north / south principal arterial (7-lane divided) within the project limits and provides a direct connection between Greenville and Spartanburg, South Carolina. The portion of US 29 that is being analyzed spans from mile post (MP) 11.3 (near East Lee Road) to MP 12.1 (near Watson Road). The roadway provides access to commercial sites, schools, and residential developments. According to data provided by the South Carolina Department of Transportation (SCDOT), 311 crashes have been reported over the past five years in this section of Wade Hampton Boulevard between January 2018 to December 2022.

1.2 Objective

The purpose of a road safety assessment is to examine the safety of a roadway by an independent, multi-disciplinary team. The team identifies areas of concern based on crash data analysis and observations in the field. After the field visit, the team categorizes potential areas of improvement along the study corridor and identifies responsibility for implementation.

This report along with the 'Conceptual Improvement Plans' for safety improvements, which include both corridor-wide and location-specific recommendations, are considered high level conceptual alternatives that include both short-term, mid-term, and long-term improvements, and their estimated costs to implement. This document and the proposed improvements should be used as a planning level tool for all agencies and stakeholders for consideration if a project is to be programmed and funded in the future. Additionally, if future projects are programmed based on this document, as scoping, designs and budgets are proposed, the concepts depicted in this report may be revised, altered, removed, or delayed based on the scope, design, and budget of that potential project. The owner of this RSA report, SCDOT, also does not guarantee any future project nor any specific countermeasure as shown. Past, present, and future collaboration with all stakeholders is appreciated and will go a long way in helping make South Carolina roads safer for all users.



RSA Team discussing the US 29 corridor near East Lee Road.

1.3 Road Safety Assessment Team Summary

The multidisciplinary team for the US 29 (Wade Hampton Boulevard) Road Safety Assessment consisted of engineers from AECOM, SCDOT, Greenville County, GPATS, and FHWA. First responder representation consisted of SC Highway Patrol (SCHP), Greenville County, and the Wade Hampton Fire Department. The team and stakeholders met on Wednesday, April 26, 2023 and Thursday, April 27, 2023.



RSA Team Pre-Assessment Meeting

Table 1 indicates the invited RSA team and stakeholders, as well as meeting attendance at the various stages of the RSA. Sign-in sheets for the meetings are located in **Appendix A**.

Table 1 – RSA Attendance List

Name	Agency	Pre-RSA Meeting 4/26/23	Afternoon Field Meeting 4/26/23	Morning Field Meeting 4/27/23	Post-RSA Meeting 4/27/23
RSA TEAM					
Eugene Taylor	SCDOT HQ	✓	✓	✓	✓
Robbie Amick	SCDOT HQ	✓	✓	✓	✓
Todd Oswald	SCDOT HQ	✓	✓	✓	✓
Joel Smith	SCDOT D3	✓	✓	✓	✓
Ryan Eckenrode	AECOM	✓	✓	✓	✓
Emily Swearingen	AECOM	✓	✓	✓	✓
Jacob Nelson	AECOM	✓	✓		✓
Christian Herrygers	AECOM	✓	✓		✓
Bronson Smith	SCHP				
Carolyn Fisher	FHWA				
Eric Hall	SCDOT				
Brandon Wilson	SCDOT				
Shawn Salley	SCDOT				
STAKEHOLDERS					
Frank Mansbach	Bike Walk GVL	✓			
Keith Brockington	GPATS	✓	✓		
Asangwua Ikein	GPATS	✓		✓	✓
Tyler Stone	Greenville County	✓			
Kurt Walters	Greenville County				
Hesha Gamble	Greenville County				
Robert May	Greenville County Sheriff	✓			
Amy Johnson Ely	Palmetto Cycling Coalition				
Christopher Madden	SCDOT Maintenance				
James Woodward	SCDOT Maintenance				
Tony Thompson	SCDOT Maintenance				
Matthew Franks	SCHP	✓			
JB Cannon	SCHP			✓	
John McWhorter	SCHP				
Randy Edwards	Wade Hampton Fire Dept	✓			

2. Relevant Data Review

2.1 Site Characteristics

US 29 (Wade Hampton Boulevard) is a seven (7) lane divided north/south principal arterial located in Greenville County, South Carolina. The corridor consists of several modes of transportation to serve the commuter, commercial, and residential traffic. The speed limit within the study area is 45 miles per hour (mph). The corridor can be classified as rolling terrain and spans for approximately 0.8 miles from E Lee Road to Watson Road near the town of Taylors, South Carolina.

Figure 1 shows a map of the entire study area. There are four (4) traffic signals located within the study area. These locations are listed below from south to north:

1. US 29 (Wade Hampton Boulevard) & S-166 (E Lee Road)
2. US 29 (Wade Hampton Boulevard) & Vance Street
3. US 29 (Wade Hampton Boulevard) & Tappan Drive
4. US 29 (Wade Hampton Boulevard) & S-711 (N Watson Road) / Watson Road

A speed study was conducted along the corridor in the southbound direction on March 29, 2023 and in the northbound direction on March 30, 2023. The southbound study results indicated an 85th percentile speed of 49 mph and the northbound study results showed an 85th percentile speed of 50 mph. These speeds are approximately 4-5 mph over the posted speed limit of 45 mph.



Looking northbound along US 29 south of Tappan Drive



Figure 1 – Study Area – US 29 (Wade Hampton Boulevard)

2.2 Crash Data

Crash data of this section of roadway was obtained by SCDOT over a five-year period from January 1, 2018 to December 31, 2022 with a full summary in **Appendix B**. There were over 311 crashes along this corridor during this time period. There were five (5) collisions resulting in a fatality. Based on this data, the predominant type of crash were angle collisions comprising 45% (140 crashes) of all crashes followed by rear end crashes at 31% (97 crashes). There were nine (9) pedestrian crashes on the corridor during the study period.

Most crashes occurred during daylight conditions totaling 232 crashes. The most prevalent crash type is non-injury or property damage only (PDO) at 71% of crashes. This is followed by a possible injury at 19% of crashes. The remaining crashes fall into the injury categories of non-incapacitating injury at 7%, fatality at 2%, and incapacitating injury at 1%.

Over the past five years, Wednesday accounts for the highest number of crashes at 55 total crashes. This road safety assessment was conducted in the month of April, which had 26 crashes during the study period. The month with the highest number of crashes is November at 33 crashes. The RSA field review was conducted on Wednesday April 26, 2023 (afternoon peak), and Thursday April 27, 2023 (morning peak).

Collision diagrams were available for some intersections along the corridor and were provided by SCDOT. These collision diagrams can be found in **Appendix C**.

2.3 Volume Data

Average annual daily traffic (AADT) data was obtained over ten years between 2013 to 2022 using SCDOT count stations located within the limits of the study corridor. There was one (1) SCDOT count station (Station 153) along Wade Hampton Boulevard located just to the south of the study corridor near W Lee Road / Cherokee Drive just south of MP 11.3.

Figure 2 shows the historical AADT data based on information obtained from SCDOT along US 29 (Wade Hampton Boulevard). It should be noted that daily heavy truck percentage is approximately 5%. **Figure 3** shows location of count station 153 and designated transit stops.

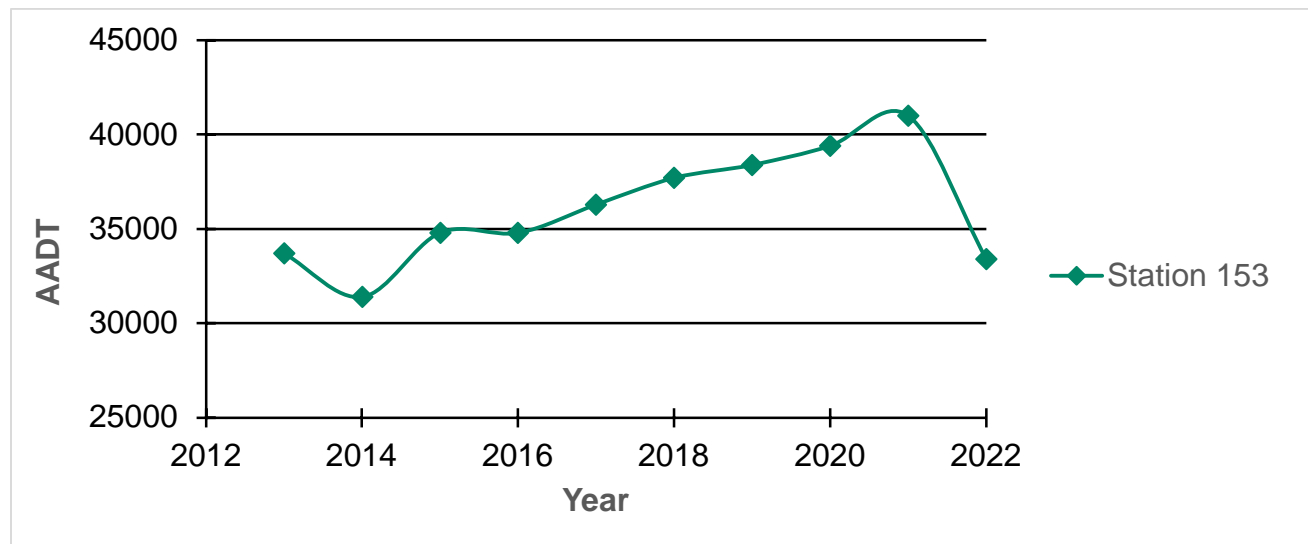


Figure 2 – US 29 (Wade Hampton Boulevard) AADT Data

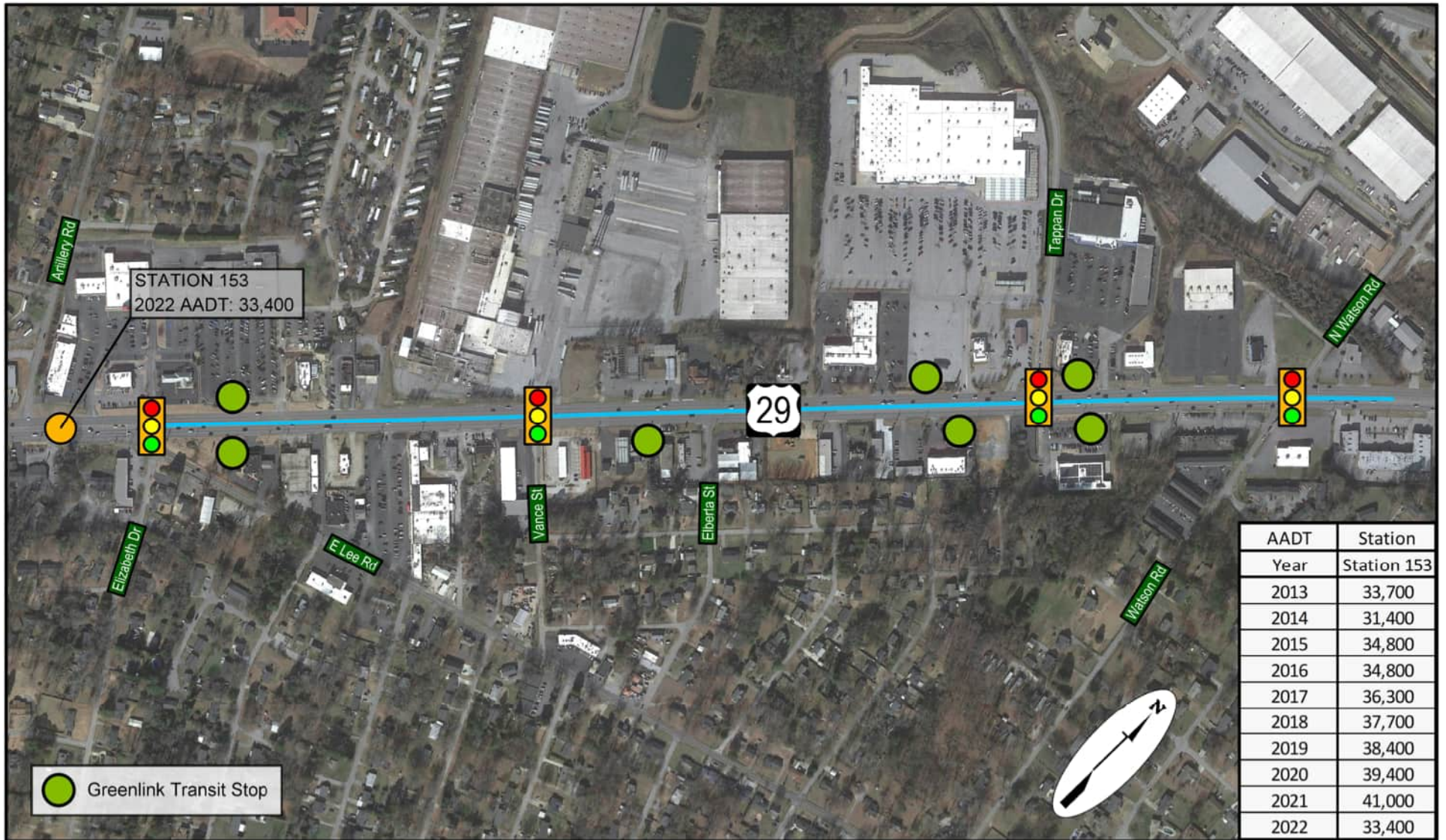


Figure 3 – SCDOT Traffic Count Locations & Greenlink Transit Stops

2.4 Planned Improvements & Recent Studies

A Road Safety Assessment for a section of US 29 from MP 8.6 (Karen Drive) to MP 11.3 (East Lee Road), directly adjoining the segment studied in this report, was completed in 2020. The recommendations from the 2020 RSA are currently in the implementation process as part of an ongoing SCDOT project. The recommendations from this project being implemented at the intersection of US 29 and East Lee Road are listed below:

- Install crosswalks crossing all approaches, improving pedestrian visibility.
- Install nearside signal head on E Lee Road approach.
- Install a 3-section head over each through travel lane along Wade Hampton Boulevard.
- Install ADA compliant ramps on all corners of the intersection.
- Implement protected only left turns on northbound and southbound Wade Hampton Boulevard.
- Convert Elizabeth Drive to right in / right-out access by installing median along E Lee Road.

The items on this list will be examined and coordinated with any new improvements detailed in the current Road Safety Assessment from East Lee Road to Watson Road.

The South Carolina Pedestrian and Bicycle Safety Action Plan (PBSAP) identified a portion of the corridor (US 29 from Vance Street to Watson Road) as a high-crash roadway segment and identified potential high level corridor wide countermeasures.

The relevant data from these documents can be found in **Appendix D**.

2.5 Long Term Vision

This report recommends feasibility studies to evaluate a systemic solution using the superstreet design. Innovative solutions like superstreets reduce the number of conflict points at the main intersection, eliminates thru and left turn movements from the minor cross streets, reduce signal phases, increases progression and efficiency along the major approaches, and improves overall safety for the motorist and pedestrians. This recommendation was accepted by representatives from the Greenville-Pickens Area Transportation Study (GPATS) during the pre-assessment meeting. As a result of this design moving forward, new development should also encourage interconnectivity between parcels in their designs.

3. Findings and Recommendations

This section details improvements to the corridor, as well as intersection and segment specific recommendations. A conceptual design was developed in conjunction with this report and can be found in **Appendix E**. The costs presented in the following sections represent the materials cost which was developed by obtaining the average cost of each pay item over the last 3 years. These estimates do not include additional costs such as right of way acquisition or utility relocation. For the estimated cost of full programmed projects including design and implementation (short term, mid-term, long term), see Tables 3, 4, and 5.

3.1 Positive Measures

- US 29 is currently operating under capacity for a 6-lane divided roadway based on average volumes and visual inspection during field review.
- Pavement markings along US 29 in the study area are in good condition.
- Corridor functions well as an arterial and moves a significant number of vehicles.
- Synchro Green adaptive timing system in place on US 29. Detection devices are currently being replaced.
- Lighting was present and appeared adequate along the corridor.

3.2 Corridor Wide Considerations

Short Term – Install crosswalks on unsignalized side street crossings (1 unsignalized street crossing at Elberta Street).

- Anticipated Cost to Implement: **\$800**

Short Term – Install dashed edge lines at all side roads and median openings.

- Anticipated Cost to Implement: **\$500**

Short Term – Install left turn arrows and “ONLY” in all left turn bays along corridor (Approx. 9 turn bays)

- Anticipated Cost to Implement: **\$4,500**

Short Term – Install an educational wrap on signal cabinets along the corridor to deliver safety related messaging to pedestrians and cyclists. See Appendix E for a sample wrap design developed by SCDOT.

- Anticipated Cost to Implement: **\$4,000**

Short Term – Trim vegetation, landscaping, and trees in right of way to improve sight distance.

- Anticipated Cost to Implement: **\$10,000**

Mid Term – Perform study to ensure all existing lighting along corridor is operational and functioning as expected.

- Anticipated Cost to Implement: **\$20,000**

Mid Term – If lighting study confirms need for additional lighting, install lighting in identified locations along US 29.

- Anticipated Cost to Implement: **\$50,000**

Mid Term – Implement leading pedestrian intervals (LPI) at each signal along the corridor.

- Anticipated Cost to Implement: **\$30,000**

Mid Term – Install ADA compliant ramps at all intersections along corridor where not present (24 total ramps).

- Anticipated Cost to Implement: **\$43,600**

Mid Term – Implement audible pedestrian signal alert equipment at each signal along the corridor.

- Anticipated Cost to Implement: **\$30,000**

Mid Term – Install sidewalk from East Lee Road to Watson Road on both sides of roadway (Approximately 8,600 feet of total sidewalk).

- Anticipated Cost to Implement: **\$345,500**

Mid Term – Consider superstreet for this section. Perform traffic analysis to determine feasibility.

- Anticipated Cost to Implement: **\$30,000**

Long Term – Construct superstreet design if deemed feasible by the traffic study.

- Anticipated Cost to Implement: **\$10,000,000**

In Sections 3.2.1 to 3.2.11, all modifications to turn lanes and signal phasing requires a traffic study.

3.2.1 US 29 at East Lee Road

Concerns

- Signalized intersection that was studied as part of a previous RSA along this corridor.
- Side streets operate as split phase.
- Few vehicles making the westbound right turn from East Lee Road.
- No existing pedestrian accommodations.

Considerations

Short Term – Install 6" mini-skip lines guiding southbound left turning vehicles through the movement.

- Anticipated Cost to Implement: **\$200**

Short Term – Install ladder crosswalks.

- Anticipated Cost to Implement: **Implementation in progress as part of previous US 29 RSA (MP 8.6 to MP 11.3). RSA completed in 2020, project is currently in design phase (Project ID P037885).**

Mid Term – Implement lead / lag signal phasing for the northbound and southbound left turn approaches.

- Anticipated Cost to Implement: **Implementation in progress as part of previous US 29 RSA (MP 8.6 to MP 11.3). RSA completed in 2020, project is currently in design phase (Project ID P037885).**

Mid Term – Install pedestrian signals.

- Anticipated Cost to Implement: **Implementation in progress as part of previous US 29 RSA (MP 8.6 to MP 11.3). RSA completed in 2020, project is currently in design phase (Project ID P037885).**

Mid Term – Install nearside signal head on southbound US 29 approach.

- Anticipated Cost to Implement: **\$2,000**

Mid Term – Install bus pullout north of intersection for the southbound traveling bus route. Relocate existing bus shelter and provide access with sidewalk.

- Anticipated Cost to Implement: **\$45,000**

Mid Term – Remove channelized right turn from East Lee Road onto US 29 and repurpose as a pedestrian landing.

- Anticipated Cost to Implement: **Part of US 29 RSA currently in design phase.**

Long Term – Realign East Lee Road approach and remove split phasing from signal.

- Anticipated Cost to Implement: **\$1,000,000+**

A concept displaying the Short and Mid Term considerations are shown in **Figure 4**.



Looking southbound along US 29 towards East Lee Road. Vehicles approach intersection heading downhill and would likely benefit from a nearside signal head.

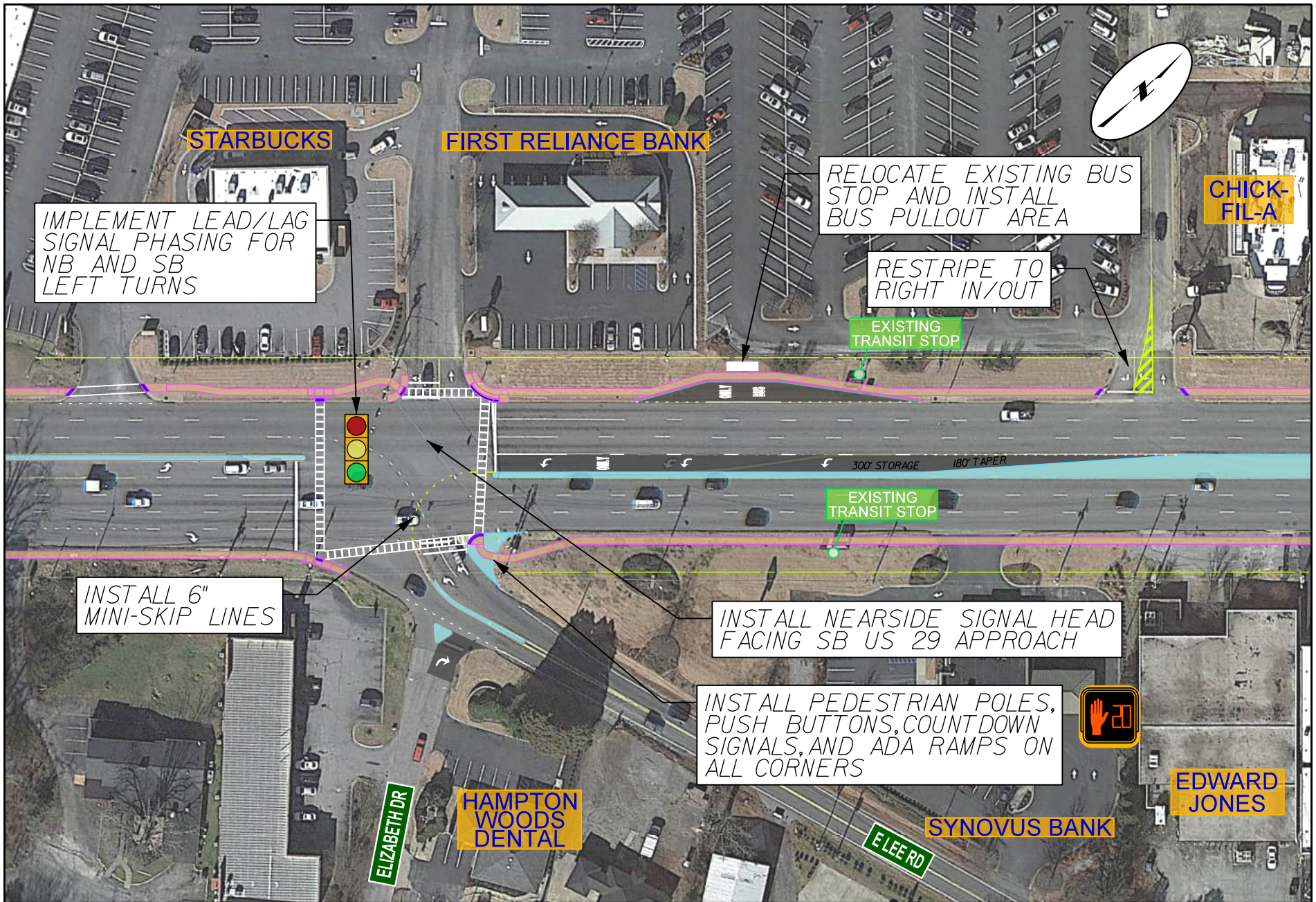


Figure 4 - US 29 at East Lee Road

3.2.2 US 29 from East Lee Road to Vance Street

Concerns

- A significant amount of the crashes occurring in the region are angle type crashes which are likely due to vehicles making left turns.
- High density of access points present in this region.
- No right turn lanes into major developments are present.

Considerations

Mid Term – Install concrete median from East Lee Road to Vance Street.

- Anticipated Cost to Implement: **\$137,000**

A concept displaying the Mid Term considerations are shown in **Figure 5**.



Looking northbound along US 29 near Hampton Village Shopping Center. Multiple driveways along this segment with no significant access management measures in place.

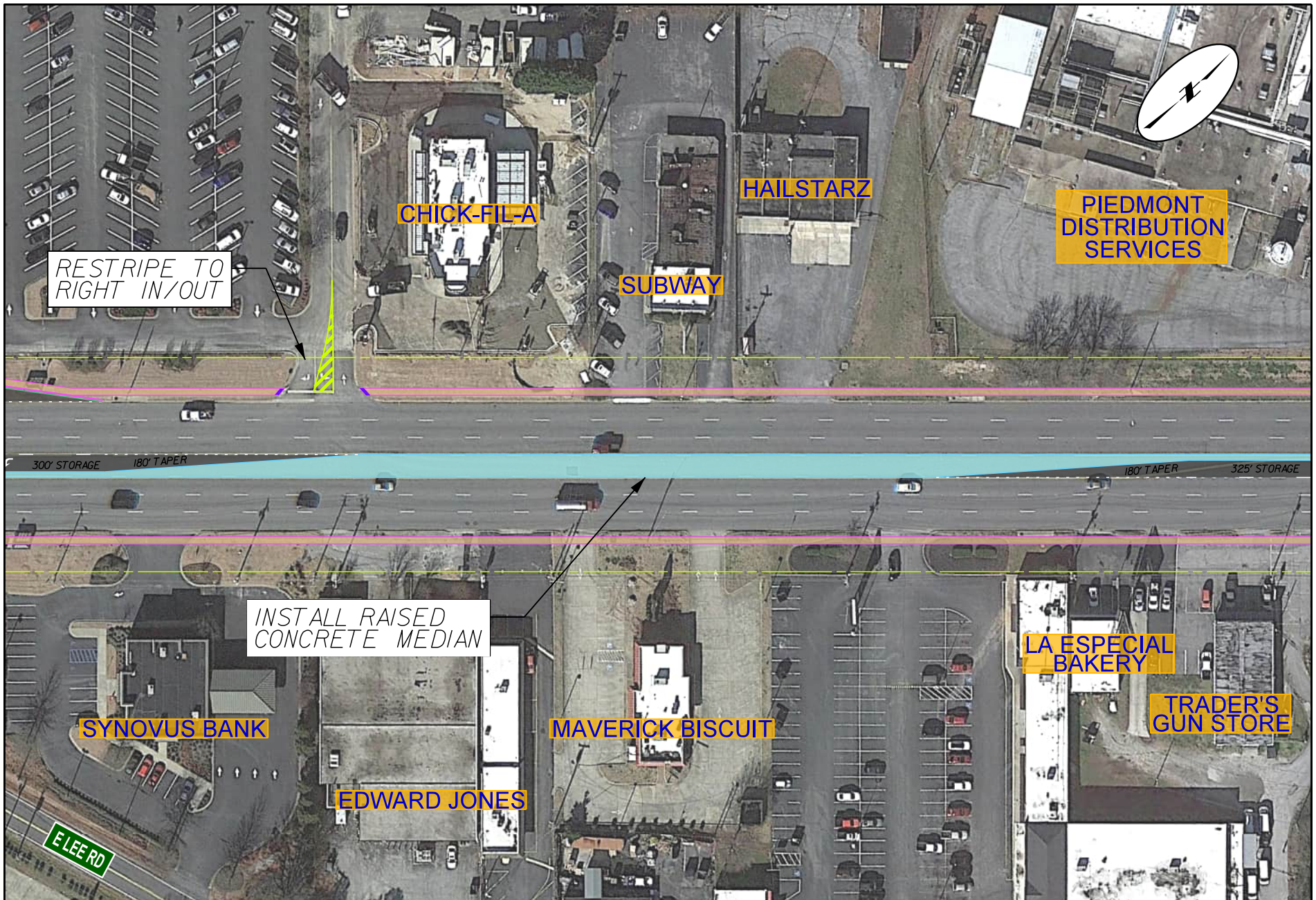


Figure 5 - US 29 from East Lee Road to Vance Street

3.2.3 US 29 at Vance Street

Concerns

- Numerous driveways on eastern side of US 29.
- There was one (1) pedestrian related injury crash.
- Drainage issues on eastbound approach from Hampton Park were observed.
- Width of asphalt on eastbound approach from Hampton Park is excessive and should be condensed to safely provide pedestrian crossing areas.
- No pedestrian accommodations present.

Considerations

Short Term – Install ladder crosswalks on all approaches.

- Anticipated Cost to Implement: **\$6,500**

Short Term – Install backplates on existing signal heads (10 total backplates).

- Anticipated Cost to Implement: **\$3,500**

Short Term – Install R10-11 signs on side streets indicating “No right turn on red”.

- Anticipated Cost to Implement: **\$1,000**

Mid Term – Install pedestrian signals for all crossings (8 total signals).

- Anticipated Cost to Implement: **\$18,000**

Mid Term – Install 3-section flashing yellow arrows over northbound and southbound left turn lanes (2 signal heads).

- Anticipated Cost to Implement: **\$5,000**

Mid Term – Close one (1) driveway into shopping center at intersection on northbound approach.

- Anticipated Cost to Implement: **\$3,500**

Mid Term – Reduce width of eastbound approach on Hampton Park by providing a raised curb radius to better define intersection and approach.

- Anticipated Cost to Implement: **\$10,000**

Mid Term – Repair Hampton Park approach to drain properly and is free of standing water. Install catch basin and improve curb radius.

- Anticipated Cost to Implement: **\$15,000**

A concept displaying the Short and Mid Term considerations are shown in **Figure 6**.



Drainage issues on westbound approach of intersection



Driveway at intersection. Shopping center has multiple access points.

3.2.4 US 29 from Vance Street to Tappan Drive

Concerns

- Significant number of angle crashes in this area.
- There were three (3) pedestrian related fatal crashes on this section of US 29.

Considerations

Mid Term – Install concrete median from Vance Street to Tappan Drive. Left turns are to be permitted at Elberta Street and the Wal-Mart shopping center driveway.

- Anticipated Cost to Implement: **\$130,000**

A concept displaying the Mid Term considerations are shown in **Figure 7**.



Section of US 29 just south of Tappan Drive. Pedestrian (red icon, outlined in green) and vehicle fatal crashes (red icon, no outline) and angles occurred in this section.



Many opportunities are present for conflicts between vehicles and pedestrians within this segment.



Figure 7 - US 29 from Vance Street to Tappan Drive

3.2.5 US 29 at Tappan Drive

Concerns

- Significant number of angle and rear end crashes at this intersection.
- Permissive signal phasing on all approaches.
- Driveways located near the intersection.
- Wheel paths of trucks have damaged curb and formed ruts on the northwest quadrant of the intersection.
- No backplates present on the existing signal heads.
- No pedestrian accommodations present.
- There are four (4) bus stops at this intersection. Currently one stop is present on each quadrant.

Considerations

Short Term – Install backplates on signal heads (9 total backplates, backplate is present on 1 existing signal head).

- Anticipated Cost to Implement: **\$3,200**

Short Term – Install R10-11 signs on side streets indicating “No right turn on red”.

- Anticipated Cost to Implement: **\$1,000**

Short Term – Install ladder crosswalks on all approaches.

- Anticipated Cost to Implement: **\$6,500**

Mid Term – Install pedestrian signals for all crossings (8 total signals).

- Anticipated Cost to Implement: **\$18,000**

Mid Term – Install 3-section flashing yellow arrows over northbound and southbound left turn lanes (2 signal heads).

- Anticipated Cost to Implement: **\$5,000**

Mid Term – Conduct traffic study to determine if protected-permitted phasing for the northbound and southbound left turns are warranted. Install 4-section flashing yellow arrow signal heads if warranted.

- Anticipated Cost of study: **\$3,000**
- Anticipated Cost of Installation: **\$5,000**

Mid Term – Increase curb radius for southbound right turn approach to accommodate truck turning path and remove pedestrian ramp from path of turning trucks.

- Anticipated Cost to Implement: **\$40,000**
- Note that although right of way impacts are not expected, a bus shelter and multiple utilities on the quadrant would be impacted including a drainage structure, signal equipment, electric, communications, and others.

Mid Term – Combine bus stops on the same side of US 29 and place each on the far side of the intersection.

- Anticipated Cost to Implement: **Coordination required with GreenLink.**

A concept displaying the Short Term and Mid Term considerations are shown in **Figure 8**.



Tire tracking for southbound right turn



Looking northbound along US 29 toward Tappan Dr

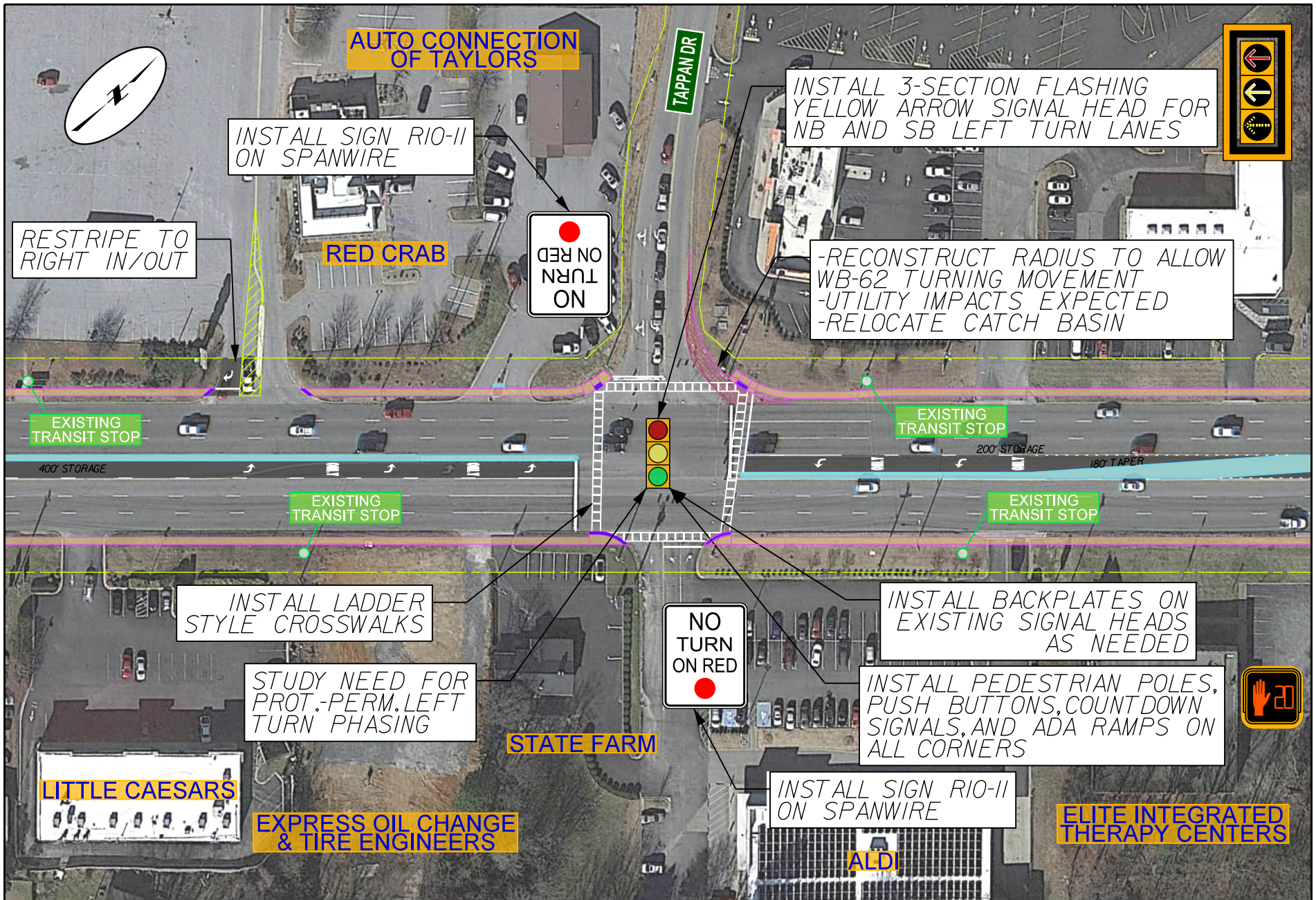


Figure 8 - US 29 at Tappan Drive

3.2.6 US 29 from Tappan Drive to Watson Road

Concerns

- Some angle and rear end crashes occurred within this segment near the existing driveways.

Considerations

Mid Term – Install concrete median from Tappan Drive to Watson Road.

- Anticipated Cost to Implement: **\$75,000**

A concept displaying the Short Term and Mid Term considerations are shown in **Figure 9**.



There are seven (7) driveways located within this segment. Some driveways are not aligned with each other which may lead to conflict between left turning vehicles.

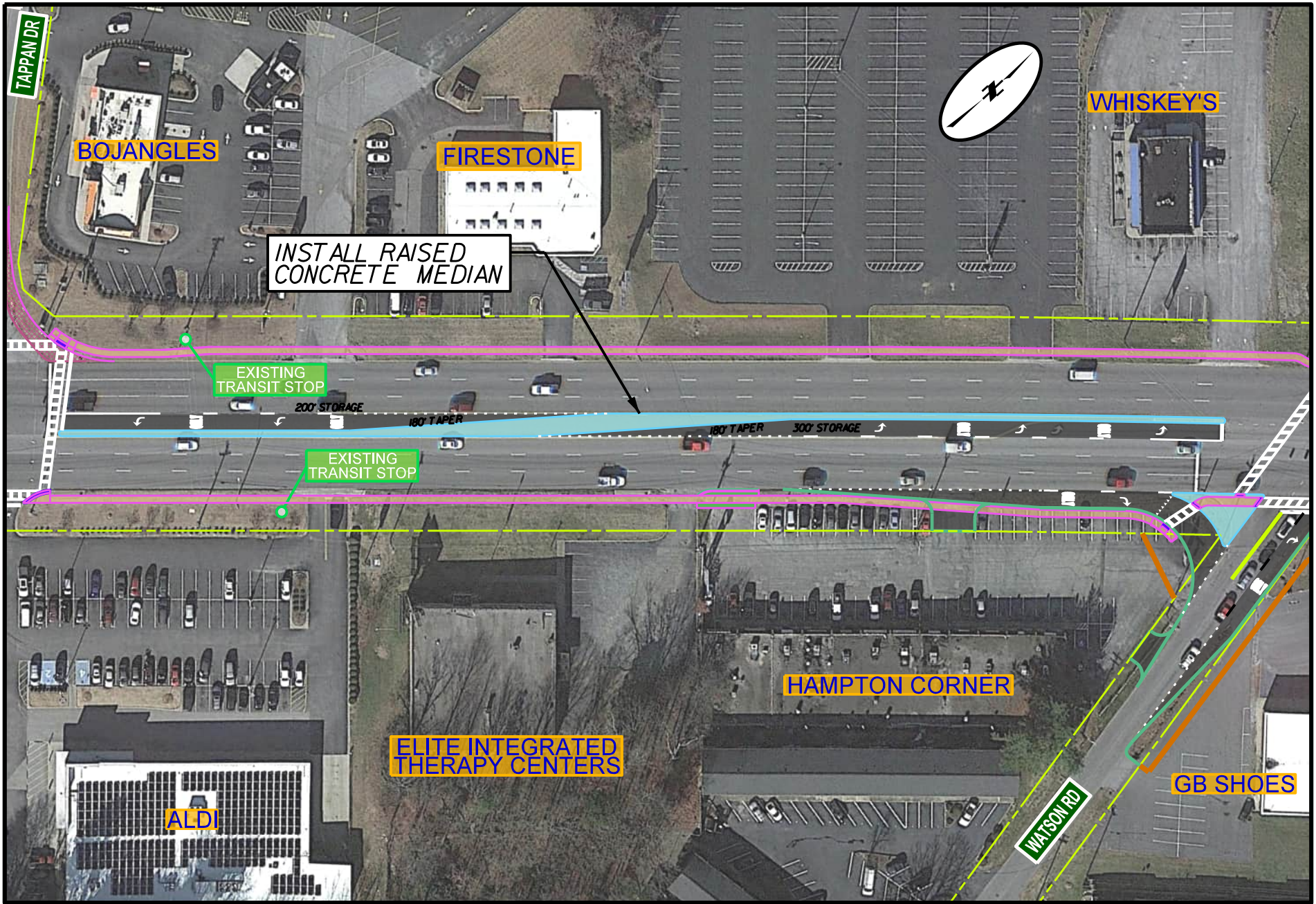


Figure 9 - US 29 from Tappan Drive to Watson Road

3.2.7 US 29 at Watson Road

Concerns

- Watson Road approaches intersection at a skewed angle.
- Long portions of time with no cars passing along US 29 while queues were building along the side streets. Adaptive signal system should provide relief to side street and less wasted green time along US 29.
- No pedestrian accommodations present.
- Driveways located near the intersection.
- Backplates are present on existing signal heads.

Considerations

Short Term – Install ladder crosswalks on all approaches.

- Anticipated Cost to Implement: **\$6,500**

Short Term – Install “No Right Turn on Red” signs on eastbound and westbound approaches.

- Anticipated Cost to Implement: **\$1,000**

Mid Term – Install pedestrian signals for all crossings (8 total signals).

- Anticipated Cost to Implement: **\$18,000**

Mid Term – Install nearside signal head on northbound approach.

- Anticipated Cost to Implement: **\$3,000**

Mid Term – Install 3-section flashing yellow arrows over northbound and southbound left turn lanes (2 signal heads).

- Anticipated Cost to Implement: **\$6,000**

Mid Term – Conduct traffic study to determine if protected-permitted phasing for the northbound and southbound left turns are warranted. Install 4-section flashing yellow arrow signal heads if warranted.

- Anticipated Cost of study: **\$3,000**
- Anticipated Cost of Installation: **\$5,000**

Mid Term – Close two (2) driveways north of intersection. See diagram for location details.

- Anticipated Cost to Implement: **\$7,600**

Mid Term – Close one (1) driveway south of intersection. See diagram for location details.

- Anticipated Cost to Implement: **\$3,000**

Mid Term – Construct a westbound right turn lane from Watson Road onto US 29.

- Anticipated Cost to Implement: **\$60,000 for construction, right of way and business impacts would be an additional cost.**

Mid Term – Construct a northbound right turn lane from US 29 onto Watson Road.

- Anticipated Cost to Implement: **\$60,000 for construction, right of way and business impacts would be an additional cost.**

A concept displaying the Short Term and Mid Term considerations are shown in **Figure 10**.



Looking at the westbound approach of Watson Road. Queues observed on side street. No pedestrian accommodations present are present at intersection.

4. Crash Modification Factor Analysis

Crash modification factors (CMF) can be applied to estimate a change in the number of crashes due to the implementation of a countermeasure. Using the Crash Modification Clearinghouse, a searchable online database with guidance on application, AECOM identified crash modifications with at least a four (4) star rating.

Documentation on the CMFs can be found in **Appendix F**.

4.1 Raised Concrete Median

This section identifies the areas along the corridor in which the installation of a median should be considered. Crashes in the area that would be affected by the installation of the median were counted and the CMF was applied to the yearly average of crashes. The crash modification factor for the installation of a median is 0.61 which means that one can anticipate a 39% reduction in overall crashes. Please note that this crash modification factor is for “ALL” types of crashes and does not address specific types that may have a greater reduction such as right-angle collisions which tend to have a higher severity. Results are presented in **Table 2**.

Table 2 – CMF – Installation of Raised Concrete Median

Installation of Raised Concrete Median					
CMF = 0.61					
	Location	2018-2022 Crashes	Average Crashes per Year	Expected Crashes per Year After Implementation	Reduction of Crashes per Year
1)	From East Lee Rd to Vance St	61	12.2	7.4	4.8
2)	From Vance St to Tappan Dr	78	15.6	9.5	6.1
3)	From Tappan Dr to Watson Rd	30	6	3.7	2.3
	Totals	169	33.8	20.6	13.2

5. Summary of Costs

To help prioritize the improvements, cost summaries are provided at each location categorized into low, medium, and high. Low magnitude improvements are expected to be performed by maintenance staff or be of low cost. Medium magnitude improvements may include minor to moderate new construction and High magnitude improvements are those that would require significant new construction.

Corridor Wide (Section 3.2)

Low	=	\$	19,800
Medium	=	\$	549,100
High	=	\$	10,000,000
Total	=	\$	10,568,900

US 29 at East Lee Road (Section 3.2.1)

Low	=	\$	200
Medium	=	\$	47,000
High	=	\$	1,000,000
Total	=	\$	1,047,200

US 29 from East Lee Road to Vance Street (Section 3.2.2)

Low	=	\$	-
Medium	=	\$	137,000
High	=	\$	-
Total	=	\$	137,000

US 29 at Vance Street (Section 3.2.3)

Low	=	\$	11,000
Medium	=	\$	51,500
High	=	\$	-
Total	=	\$	62,500

US 29 from Vance Street to Tappan Drive (Section 3.2.4)

Low	=	\$	-
Medium	=	\$	130,000
High	=	\$	-
Total	=	\$	130,000

US 29 at Tappan Drive (Section 3.2.5)

Low	=	\$	10,700
Medium	=	\$	71,000
High	=	\$	-
Total	=	\$	81,700

US 29 from Tappan Drive to Watson Road (Section 3.2.6)

Low	=	\$	-
Medium	=	\$	75,000
High	=	\$	-
Total	=	\$	75,000

US 29 at Watson Road (Section 3.2.7)

Low	=	\$	7,500
Medium	=	\$	165,600
High	=	\$	-
Total	=	\$	173,100

Table 3 – Short Term Improvement Costs

Location	Costs	
US 29 at East Lee Road	\$	200
US 29 from East Lee Road to Vance Street	\$	0
US 29 at Vance Street	\$	11,000
US 29 from Vance Street to Tappan Drive	\$	0
US 29 at Tappan Drive	\$	10,700
US 29 from Tappan Drive to Watson Road	\$	0
US 29 at Watson Road	\$	7,500
Corridor Wide	\$	19,800
	Subtotal	\$ 49,200
	Mobilization (20%)	\$ 9,840
	Subtotal	\$ 59,040
	Design (25%)	\$ 14,760
	CEI (10%)	\$ 5,904
	Total	\$ 79,704

Table 4 – Mid Term Improvement Costs

Location	Costs	
US 29 at East Lee Road	\$	47,000
US 29 from East Lee Road to Vance Street	\$	137,000
US 29 at Vance Street	\$	51,500
US 29 from Vance Street to Tappan Drive	\$	130,000
US 29 at Tappan Drive	\$	71,000
US 29 from Tappan Drive to Watson Road	\$	75,000
US 29 at Watson Road	\$	165,600
Corridor Wide	\$	549,100
	Subtotal	\$ 1,226,200
	Mobilization (20%)	\$ 245,240
	Subtotal	\$ 1,471,440
	Design (25%)	\$ 367,860
	CEI (10%)	\$ 147,144
	Total	\$ 1,986,444

Table 5 – Long Term Improvement Costs

Location	Costs	
US 29 at East Lee Road	\$	1,000,000
US 29 from East Lee Road to Vance Street	\$	0
US 29 at Vance Street	\$	0
US 29 from Vance Street to Tappan Drive	\$	0
US 29 at Tappan Drive	\$	0
US 29 from Tappan Drive to Watson Road	\$	0
US 29 at Watson Road	\$	0
Corridor Wide	\$	10,000,000
	Subtotal	\$ 11,000,000
	Mobilization (20%)	\$ 2,200,000
	Subtotal	\$ 13,200,000
	Design (25%)	\$ 3,300,000
	CEI (10%)	\$ 1,320,000
	Total	\$ 17,820,000