

Feasibility Study

I-795/ US 117 from I-40 to Goldsboro

Sampson, Duplin and Wayne Counties

**Divisions 3 and 4
FS-1304A**



**Feasibility Studies Unit
Program Development Branch
N.C. Department of Transportation**

Documentation Prepared by
ICA Engineering, Inc.

A handwritten signature in black ink, reading "Mark L. Reep".

Mark L. Reep, P.E.
Project Manager
ICA Engineering, Inc.

A handwritten signature in blue ink, reading "Derrick W. Lewis".

Derrick W. Lewis, P.E.
Feasibility Studies Unit Head
Feasibility Studies Unit, NCDOT

A handwritten signature in black ink, reading "Lynnise M. Hawes".

Lynnise M. Hawes, P.E.
Feasibility Studies Engineer
Feasibility Studies Unit, NCDOT

July 2015

Table of Contents

1.0	Introduction.....	1
2.0	Purpose and Need	1
3.0	Existing Conditions.....	3
4.0	Description of Alternatives	4
5.0	Proposed Improvements.....	7
6.0	Traffic and Safety	12
7.0	Evaluation of Alternatives	15
8.0	Human and Natural Environment Issues	19
9.0	User Benefits.....	20
10.0	Recommendations.....	21

Figures

Figure 1:	Project Vicinity Map	2
Figure 2.1	Alternatives 1 – 4	5
Figure 2.2	Alternatives 1 & 1A.....	6
Figure 2.3	Alternative 2	8
Figure 2.4	Alternatives 3	9
Figure 2.5	Alternatives 4 & 4A.....	10
Figures 3.1-3.4	Alternatives 1/1A, 2, 3, 4/4A Segment Maps.....	Appendix

Tables

Table 1:	Average Daily Traffic Volumes (vehicles/day).....	13
Table 2:	Levels of Service Definitions for Signalized Intersections	13
Table 3:	Crash Statistics.....	14
Table 4:	Comparison of Alternatives	18
Table 5:	Federally Protected Species Listed for Duplin, Sampson and Wayne Counties	20
Table 6:	User-Benefit Costs (Alternative 1 Freeway Upgrades).....	20
Table A1:	Segments Evaluated for Phased Improvements	A1
Table A2:	2014 and 2035 Intersection LOS and Delays	A3
Table A3:	2035 Freeway and Ramp LOS.....	A4
Table A4:	Construction and Right of Way Costs By Segment.....	A8

I-795/ US 117 from I-40 to Goldsboro

Sampson, Duplin and Wayne Counties Divisions 3 and 4 FS-1304A

1.0 Introduction

This feasibility study evaluates freeway upgrades for I-795/ US 117 from I-40 west of Faison, Sampson County to US 70 in Goldsboro, Wayne County. See Figure 1 for the project location. The project corridor is approximately 24 miles long. This proposed I-795 extension is located along the US 117 portion of the North Carolina Department of Transportation's (NCDOT's) Strategic Highway Corridor 50 from Wilson to Wilmington.

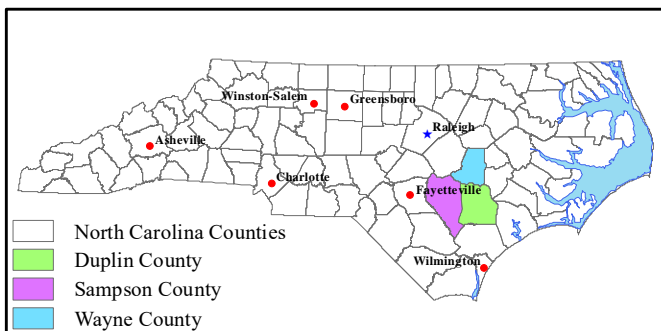
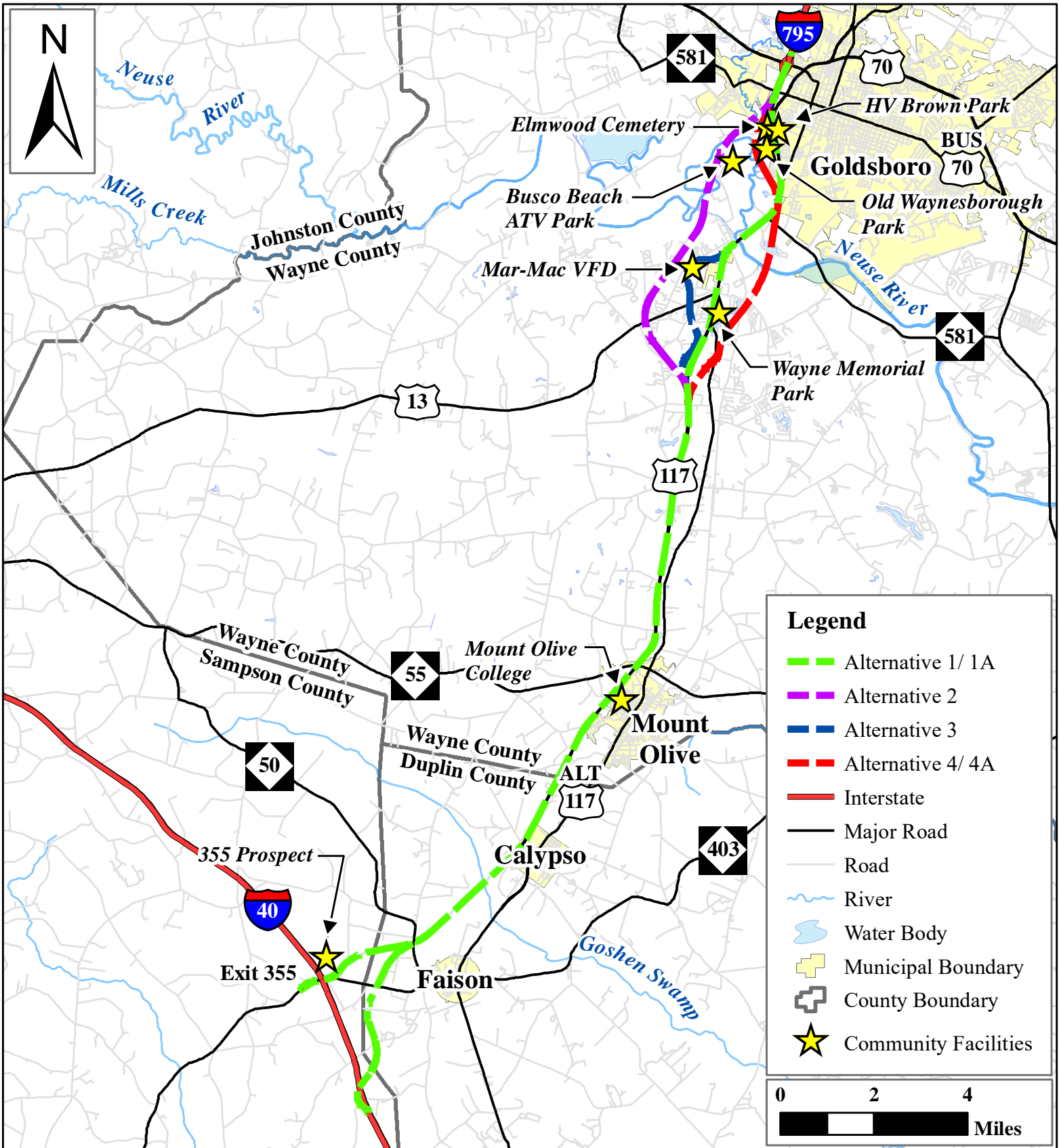
I-795 is an interstate spur that follows the US 117 corridor from I-95 near Wilson to US 70 in Goldsboro, a length of approximately 25 miles. There are no other interstates in eastern North Carolina, east of I-95 and I-40. The extension of I-795 southward along the US 117 corridor would connect cities and industrial centers that are important to national defense, economic growth, and job creation. The US 70 Corridor Commission, NCDOT, and local leaders have partnered to request assistance from Congressional delegates and the US Department of Transportation (USDOT) in designating the corridor as a High Priority Interstate Corridor. An independent study evaluated the economic development potential for extending I-795 from Goldsboro to I-40 and upgrading US 70 to a freeway from Raleigh to the Port at Morehead City. In 2004, the US 117 South Corridor Feasibility Study proposed a freeway on new location to connect the freeway north of NC 581 with US 117 south of Goldsboro.

This feasibility study identifies potential alignments and is the initial step in the planning and design process for this project. It is not the product of exhaustive environmental or design investigations. Its purpose is to describe the proposed project, including costs, and to identify potential problems that may require consideration in the future planning and design phase.

2.0 Purpose and Need

The US 117 corridor is a major north-south corridor in eastern North Carolina and is planned as a future freeway in the NCDOT Strategic Highway Corridor System. Within Wayne County, Goldsboro and Seymour Johnson Air Force Base are the primary employment centers. The majority of significant commercial development in the county is located within Goldsboro, primarily along transportation corridors such as US 70 and US 117.

The purpose of the project is to complete a missing freeway link in the I-795 corridor and join I-40 with I-95. This will enhance north-south mobility and interstate connectivity through this region of eastern North Carolina. The extended interstate corridor would connect cities and industrial centers that are important to national defense, economic growth, and job creation. In addition, it would accommodate regional traffic growth as well as traffic growth on US 117 between Goldsboro and Wilson.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT BRANCH
 FEASIBILITY STUDIES UNIT

Figure 1 - Project Vicinity Map
FS-1304A
I-795/ US 117 from I-40 to Goldsboro
Sampson, Duplin and Wayne Counties

There are four roadway projects in the current 2012-2020 *State Transportation Improvement Program* (STIP) and the Draft 2015-2025 STIP near the study area. These include:

- R-5719 – SR 1135 (Country Club Road), Wayne County, upgrade at-grade intersection to interchange. Right of way acquisition in fiscal year (FY) 2019 and construction in FY 2021.
- U-5796 – SR 1120 (Oberry Road), Wayne County, upgrade at-grade intersection to interchange. Right of way acquisition in FY 2017 and construction in FY 2019.
- R-2554 – Goldsboro Bypass, Wayne County, from west of NC 581 in Wayne County to east of SR 1323 (Promise Land Road) in Lenoir County, four-lane divided freeway on new location. R-2554 is currently under construction.
- B-4838 – replace Bridge No. 20 over SCL Railroad in Wayne County. Right of way acquisition in FY 2017 and construction in FY 2019.

3.0 Existing Conditions

The project begins in Sampson County west of Faison at the I-40/ US 117 interchange (Exit 355) and travels northeast through the corner of Duplin County to NC 55 in Wayne County near Mount Olive. From there, it heads north to connect with existing I-795 west of Goldsboro. Throughout the project corridor, existing US 117 is a four-lane divided facility. Current land uses between I-40 and US 117A primarily consist of undeveloped and agricultural land with pockets of rural residential uses. An exception occurs in Mount Olive where residential development becomes denser along the east side of US 117. There is commercial development at the US 117/ NC 55 interchange. Mount Olive College is located east of US 117 and south of NC 55 (see Figure 1). Land uses from US 117A north to Goldsboro become more urban in nature with dense residential development, numerous businesses and community facilities such as churches, cemeteries and parks.

The southern 17.5-mile portion of existing US 117 from I-40 to US 117A is a four-lane divided roadway with limited control of access. Access is limited to interchanges and at-grade intersections. There are two interchanges (I-40 and NC 55) and 12 at-grade intersections. The intersection at SR 1120 (Oberry Road) is the only one with a signal. The rest have stop signs along the crossing road.

There are plans in place for a 200-acre industrial development in the northeastern quadrant of the existing I-40/ US 117 interchange (Exit 355). The Sampson County Economic Development Commission refers to this area as the *355 Prospect*. Grants totaling more than \$1.5 million have been approved to provide water system infrastructure to serve the future industry. During a July 30, 2014 meeting, Sampson County officials expressed their concerns that the reconfiguration of the existing interchange would inhibit and/ or exclude development. They requested NCDOT consider an alternative that would provide a new interchange instead of reconfiguring the existing one. In response to the request, NCDOT developed an alternative (Alternative 1A) that proposes a new interchange south of Exit 355. It should be noted that Duplin County officials and the Eastern Carolina Rural Planning Organization (ECRPO) are opposed to the proposed new interchange. They are concerned about impacts it would have on agri-businesses and farming communities in the area. See *Section 7.0, Evaluation of Alternatives* for a more detailed discussion.

The northern 6.5 miles of existing US 117 from US 117A to north of NC 581 (Ash Street) in Goldsboro is a four-lane divided roadway with no control of access. It has numerous driveways, two at-grade railroad crossings (controlled by crossing gates), and 22 at-grade intersections. Nine intersections have traffic signals and 13 are controlled by stop signs. This portion of the project corridor has the most adjacent development, has numerous engineering and environmental constraints, and requires the most extensive upgrades.

There are numerous Federal Emergency Management Agency (FEMA) buyout properties located near the northern terminus of project corridor along existing US 117 and in the surrounding areas west of US 117. These are properties purchased by state or local governments with FEMA funds following disasters. The intention is to remove people from harm's way by buying the property and clearing any structures. By law, the property, which is now public property, must always remain open space land.

The project crosses the North Carolina Railroad (NCR), which leases its freight operating rights to Norfolk Southern Railway (NS), as well as CSX. In a July 29, 2014 memorandum, the NCDOT Rail Division recommended that only grade-separated structures be considered at all the existing and proposed crossings of the tracks. The northernmost crossing [south of NC 581 (Ash Street)] is the NCR/ NS mainline from Raleigh to Goldsboro that continues to New Bern and Morehead City. Just south is an NCR/ NS track known as the "Old Main Line" that serves mostly as an interchange track with CSX. The rail line parallel to, and east of, US 117 is the CSX AC-line.

4.0 Description of Alternatives

A four-lane median divided freeway is proposed with a variable-width median within an approximate 300-foot corridor. Bridges are being considered over major river or stream crossings. A 70 mile per hour (mph) roadway design speed is anticipated. Interchanges or grade separations are proposed at major road crossings and railroad crossings.

Six alternatives have been evaluated. Each alternative has been divided into segments to allow for incremental phases of the project to be considered for future funding. Descriptions of the alternatives are provided below. Segment locations, lengths, interchanges, grade separations, and major structures are described in Table A1 and shown on Figures 3.1 – 3.4 of the Appendix.

Alternative 1 would consist of freeway upgrades to existing US 117 from I-40 near Faison (Exit 355) to NC 581 (Ash Street) (see Figures 2.1 and 2.2). The existing US 117/ I-40 interchange would be reconfigured with this alternative.

Alternative 1A would consist of a freeway on new location from a proposed interchange with I-40, south of SR 1903 (David Bright Road) and north of SR 1904 (Pine Ridge Road) to existing US 117 just north of NC 50. It would then upgrade existing US 117 to NC 581 (Ash Street) (see Figures 2.1 and 2.2). Alternative 1A would also include a service road on new location west of existing US 117 from the proposed US 13 connector to existing US 13. As previously discussed, Alternative 1A was developed in response to a request from Sampson County officials to consider an alternative that would not interfere with proposed development at the existing I-40/ US 117 interchange (Exit 355).

**I-795/ US 117 from I-40 to Goldsboro
Sampson, Duplin, & Wayne Counties
FS-1304A - Alternatives 1-4**

Subject To Change - February 2015

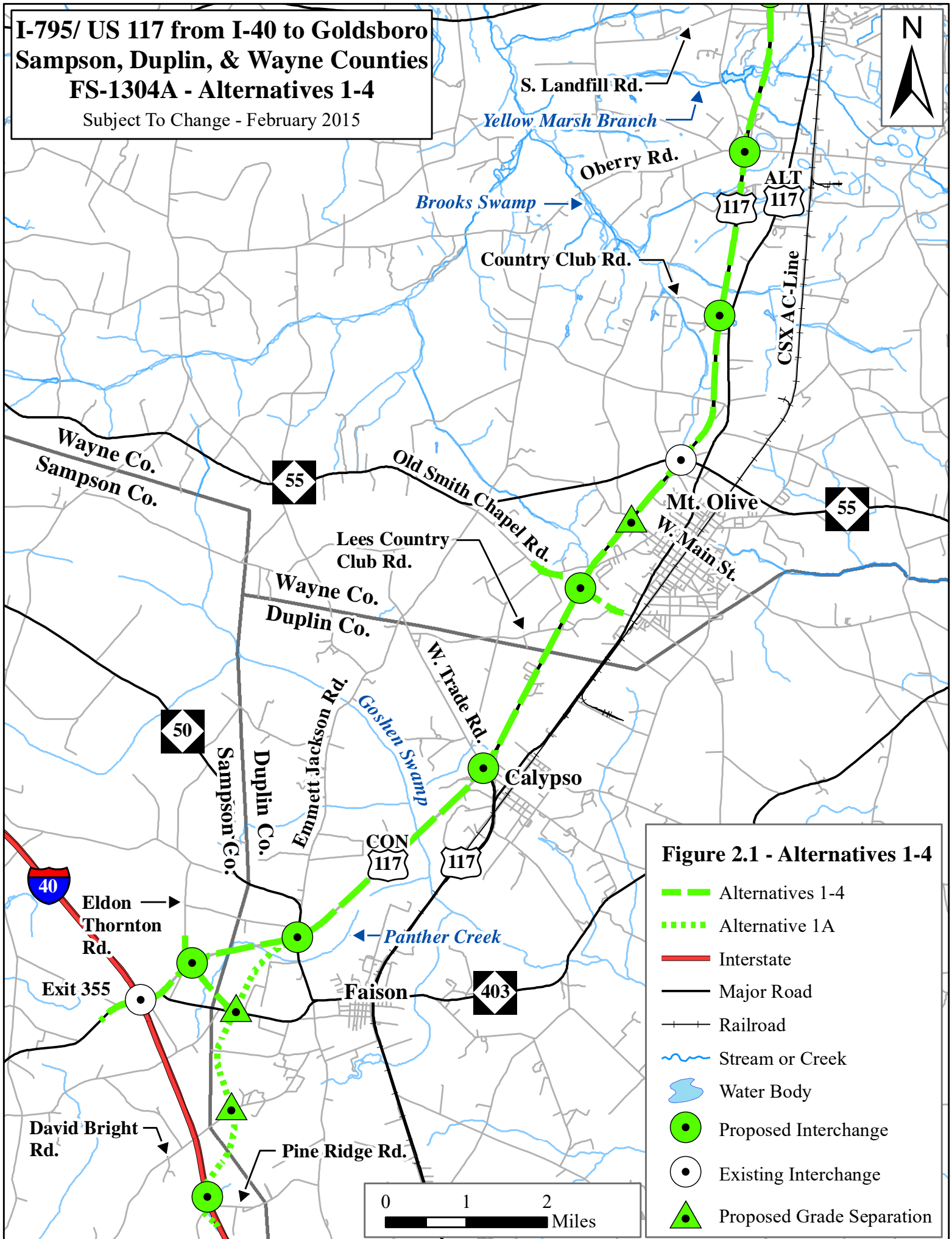
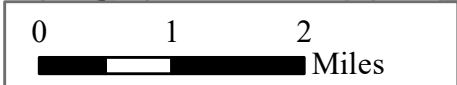


Figure 2.1 - Alternatives 1-4

- Alternatives 1-4
- - - Alternative 1A
- Interstate
- Major Road
- +— Railroad
- ~ Stream or Creek
- Water Body
- Proposed Interchange
- Existing Interchange
- ▲ Proposed Grade Separation



**I-795/ US 117 from I-40 to Goldsboro
Sampson, Duplin, & Wayne Counties
FS-1304A - Alternatives 1 & 1A**

Subject To Change - February 2015

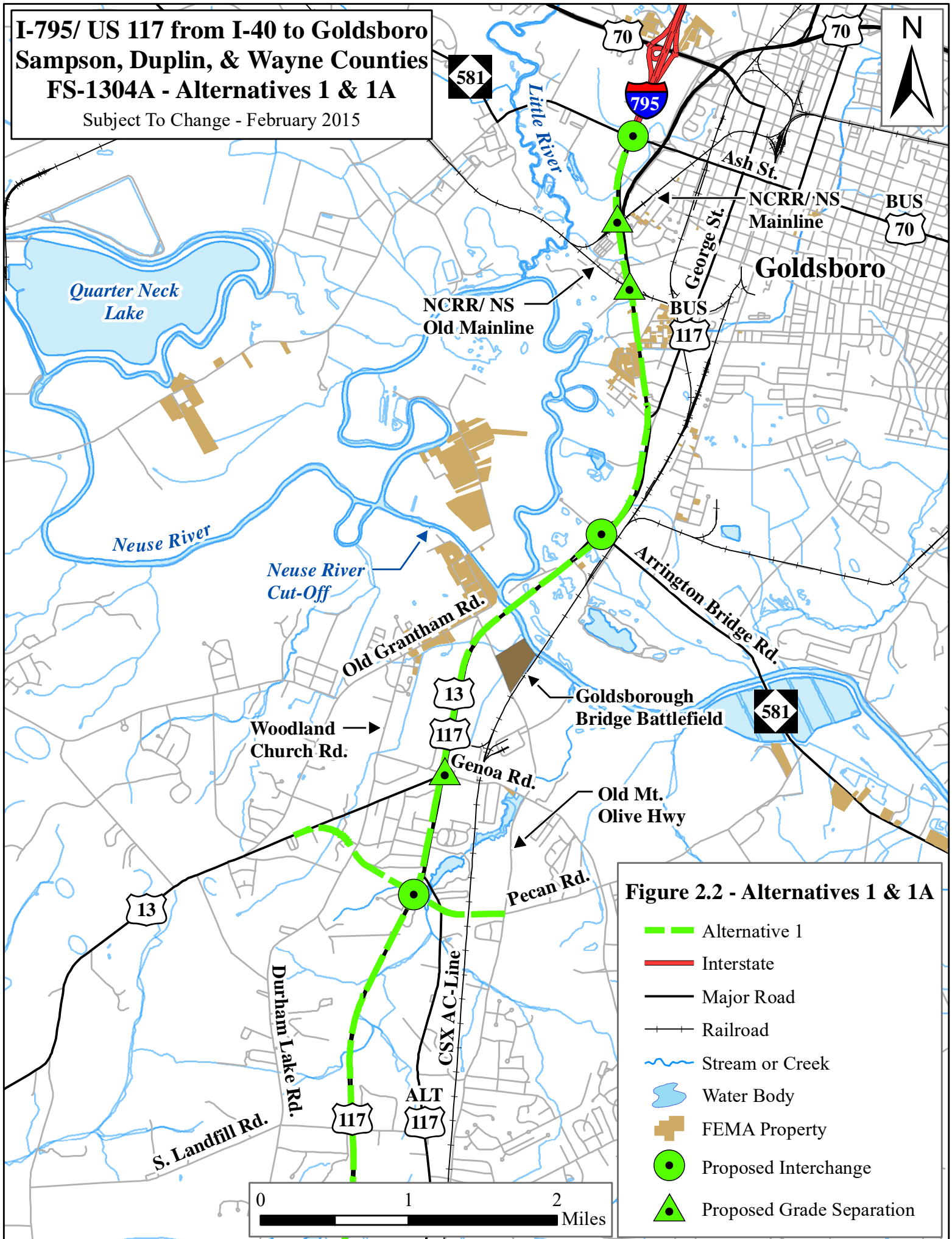


Figure 2.2 - Alternatives 1 & 1A

- Alternative 1
- Interstate
- Major Road
- Railroad
- ~ Stream or Creek
- Water Body
- FEMA Property
- Proposed Interchange
- ▲ Proposed Grade Separation

Alternative 2 would consist of freeway upgrades to existing US 117 from I-40 near Faison (Exit 355) to approximately 1.5 miles south of US 117A. It would then extend on new location west of existing US 117 to NC 581 (Ash Street). In the Goldsboro area, Alternative 2 follows the preferred route (Alternative 10) from the US 117 South Corridor Feasibility Study and is shown on the Goldsboro Area 2040 Metropolitan Transportation Plan Update (see Figures 2.1 and 2.3).

Alternative 3 would upgrade existing US 117 to a freeway from I-40 near Faison (Exit 355) to approximately 1.5 miles south of US 117A. It would then extend on new location west of existing US 117 to SR 1926 (Old Mount Olive Highway) where it would rejoin existing US 117 and continue to NC 581 (Ash Street) (see Figures 2.1 and 2.4).

Alternative 4 would upgrade existing US 117 to a freeway from I-40 near Faison (Exit 355) to approximately 1.5 miles south of US 117A. It would then extend on new location east of existing US 117 to just north of NC 581 (Arrington Bridge Road) where it would rejoin existing US 117 and continue to NC 581 (Ash Street) (see Figures 2.1 and 2.5).

Alternative 4A would upgrade existing US 117 to a freeway from I-40 near Faison (Exit 355) to approximately 1.5 miles south of US 117A. It would then extend on new location east of existing US 117 to just north of NC 581 (Arrington Bridge Road) and west of existing US 117 to NC 581 (Ash Street) (see Figures 2.1 and 2.5). Alternative 4A was developed in response to a request from Wayne County officials in correspondence dated September 17, 2014.

5.0 Proposed Improvements

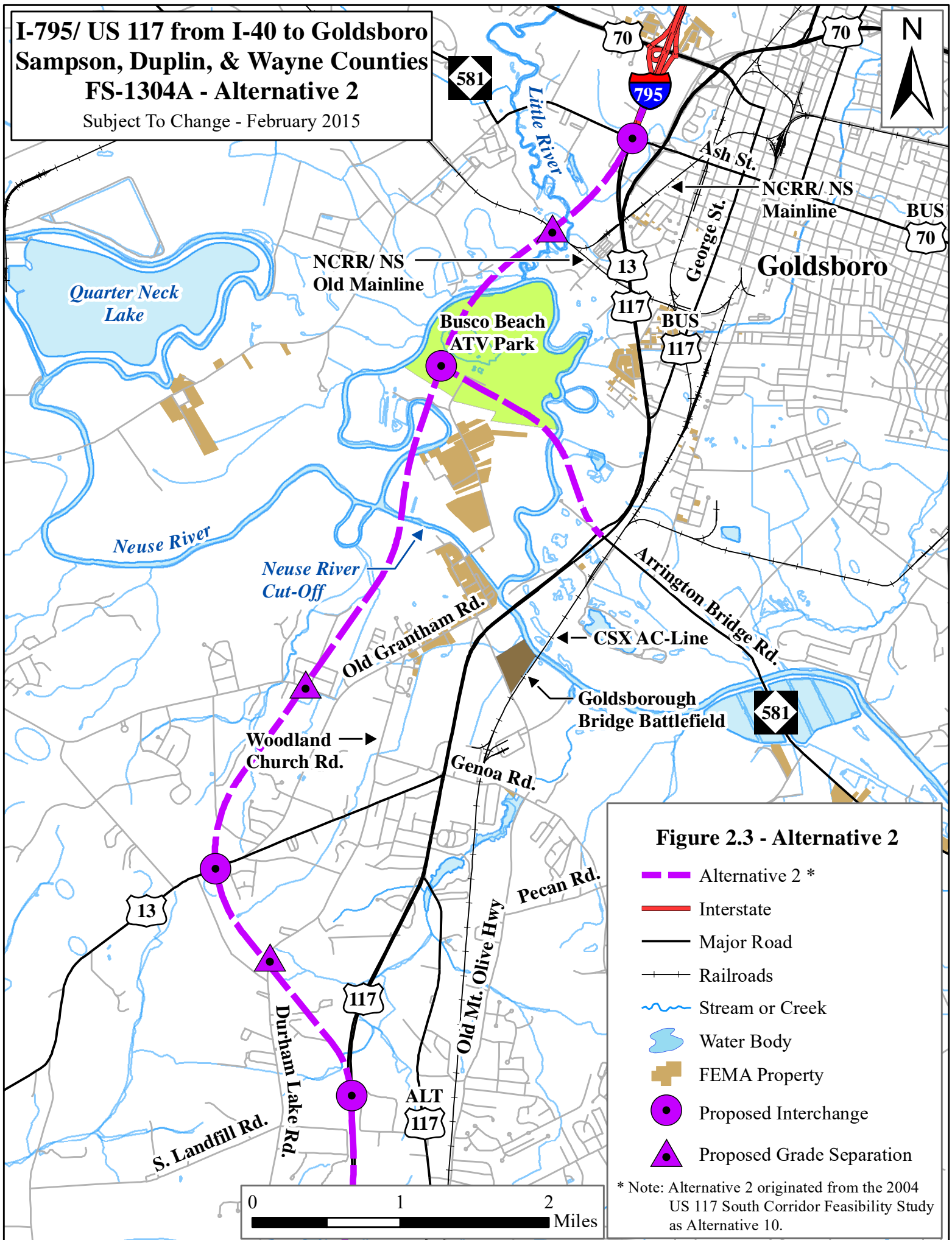
The differences between alternatives occur along the northern portion of the corridor from NC 581 (Ash Street) to south of US 117A due to the extent of adjacent development, numerous engineering and environmental constraints, and extensive needs for upgrades. Along the southern portion of the corridor from south of US 117A to I-40, the proposed improvements are the same for all alternatives except Alternative 1A. This alternative provides a new I-40/ US 117 interchange south of the existing one. The following key elements for each alternative are proposed to meet the transportation needs while minimizing effects on the human and natural environment.

Southern Portion (I-40 to South of US 117A)

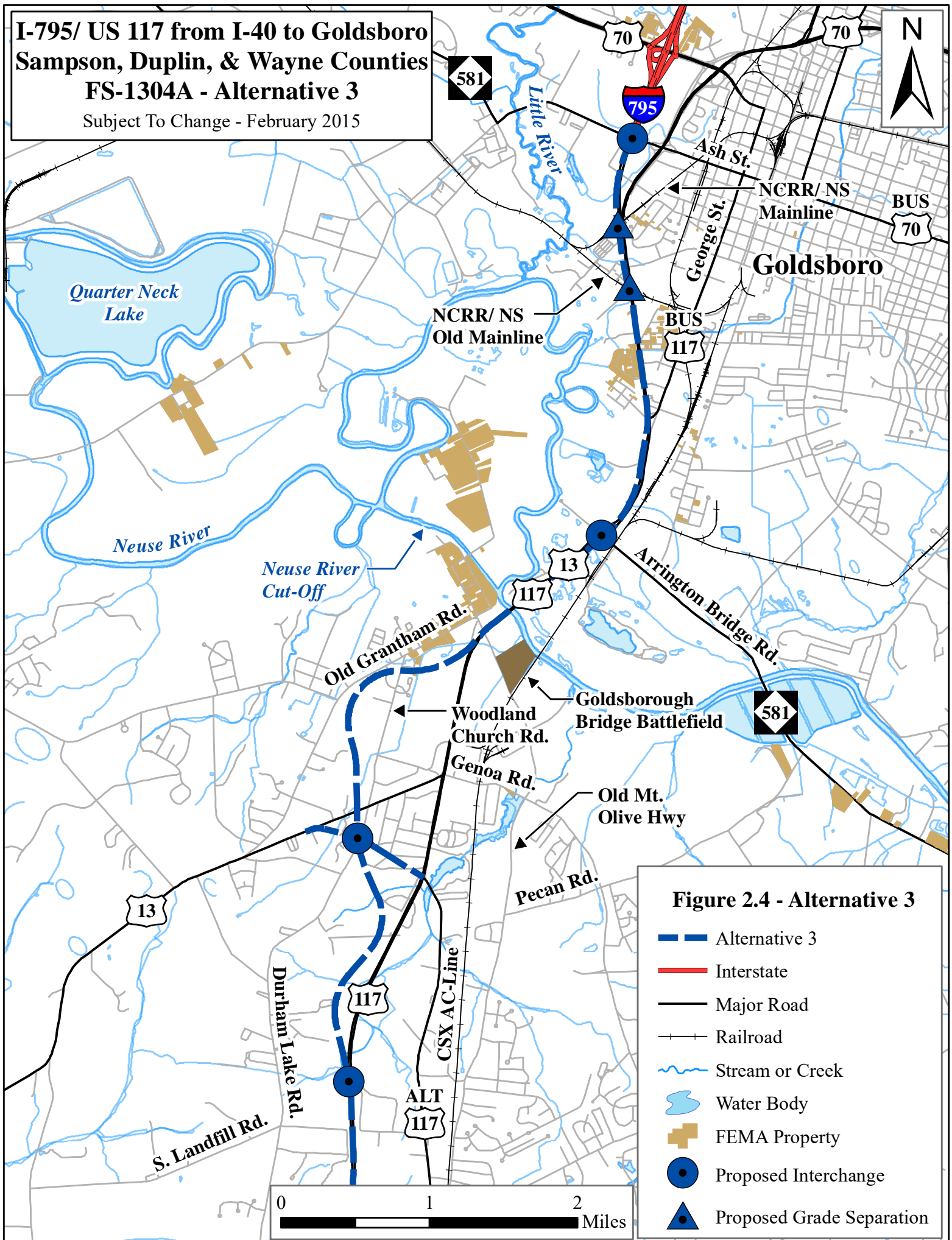
Alternatives 1, 2, 3, 4, and 4A

- The interchange improvements at I-40 (Exit 355) will consider minimizing effects to adjacent properties where future development activities are being planned.
- Interchange and connector improvements are planned to link with NC 50 and NC 403 near the Duplin County/ Sampson County Line.
- An interchange is proposed at I-795/ US 117 and SR 1006 (West Trade Road) in Calypso along with parallel service roads to maintain access to nearby properties.
- An interchange and connector are proposed to link SR 1147 (Old Smith Chapel Road) and SR 1144 (Lees Country Club Road) near Mount Olive.
- A grade separation is proposed at West Main Street in Mount Olive, and will include considerations for bicyclists and pedestrians due to its proximity to Mount Olive College.

I-795/ US 117 from I-40 to Goldsboro
Sampson, Duplin, & Wayne Counties
FS-1304A - Alternative 2
 Subject To Change - February 2015



I-795/ US 117 from I-40 to Goldsboro
Sampson, Duplin, & Wayne Counties
FS-1304A - Alternative 3
 Subject To Change - February 2015



**I-795/ US 117 from I-40 to Goldsboro
Sampson, Duplin, & Wayne Counties
FS-1304A - Alternatives 4 & 4A**

Subject To Change - February 2015

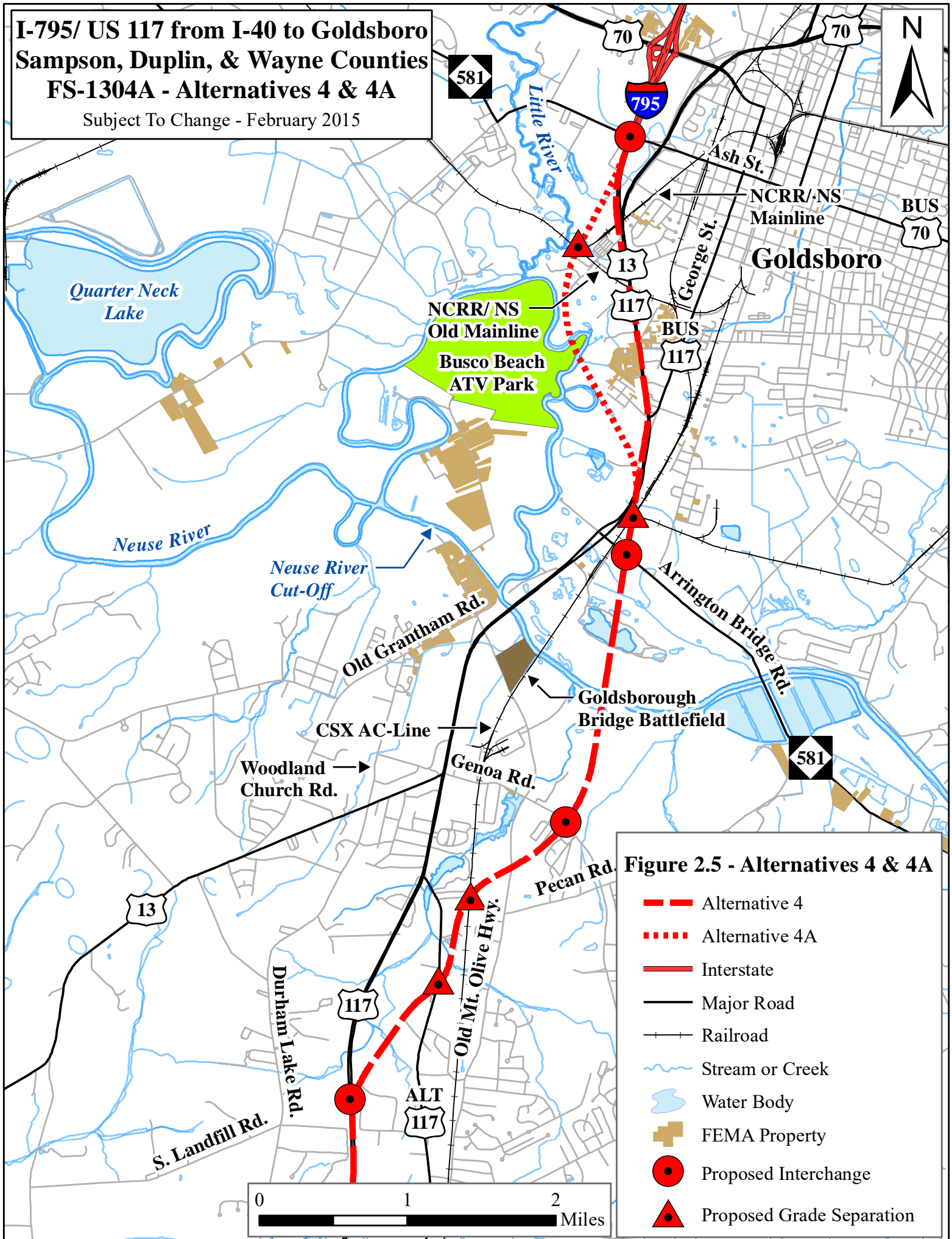
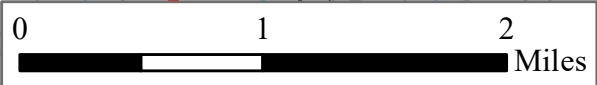


Figure 2.5 - Alternatives 4 & 4A

- - - Alternative 4
- . . . Alternative 4A
- Interstate
- Major Road
- +— Railroad
- ~ Stream or Creek
- Water Body
- + FEMA Property
- Proposed Interchange
- ▲ Proposed Grade Separation



- Reconstruction of the NC 55 interchange is proposed, using a similar configuration to limit the effect on adjacent commercial development.
- Interchanges with SR 1135 (Country Club Road) and SR 1120 (Oberry Road) are likely to be contained within existing right of way that has been reserved for those interchanges.

The proposed improvements to the southern portion of Alternative 1A are the same as those above with the exception of its terminus at I-40. Instead of improving the existing interchange (Exit 355), Alternative 1A proposes a new interchange to the south between SR 1903 (David Bright Road) and SR 1904 (Pine Ridge Road) (see Figure 2.1). Alternative 1A was developed after consultation with Sampson County officials during a July 30, 2014 meeting. There are plans in progress for industrial development of the land adjacent to the existing I-40/ US 117 interchange in the northeast quadrant. By providing a new interchange, Alternative 1A will preserve the existing one without disrupting future development.

Northern Portion (South of US 117A to NC 581)

Alternative 1 and Alternative 1A

- An interchange and connector south of US 117A are proposed to link US 13 with US 117A, SR 1918 (Pecan Road), and SR 1926 (Old Mount Olive Highway).
- NC 581 (Arrington Bridge Road) is to be raised over the freeway and railroad. A compressed interchange configuration is planned for adequate separation from the railroad, to minimize impacts to FEMA buyout properties, and to reduce environmental impacts.
- A parallel service road is planned along portions of the east side of the freeway to maintain access between NC 581 (Ash Street) and NC 581 (Arrington Bridge Road).
- From the railroad crossings south of NC 581 (Ash Street) to US 117 Business (George Street), the proposed freeway is to be contained in the existing US 117 right of way to minimize impacts to FEMA buyout properties and Old Waynesborough Park. South of Elm Street, the FEMA buyout properties on the west side of US 117 are avoided by following the existing right of way boundary. On the east side of US 117, some additional right of way is required, but a retaining wall appears to allow the improvements to avoid the nearest FEMA property.
- The NC 581 (Ash Street) interchange will accommodate access to downtown Goldsboro, Cherry Hospital, Wayne Correctional Center, a proposed agricultural center, and other nearby facilities.

Alternative 2

- Alternative 2 includes bridges over SR 1219 (Old Grantham Road) and SR 1130 (Durham Lake Road) and interchanges at US 13 and US 117.
- Extensive bridging is proposed to span the Little River and Neuse River floodway and wetland systems.
- An interchange and connector are proposed to join NC 581 (Arrington Bridge Road) while minimizing impacts to FEMA buyout properties.
- The NC 581 (Ash Street) interchange is similar to the concept proposed with Alternatives 1 and 1A to accommodate access to downtown Goldsboro and other nearby facilities.

Alternative 3

- Alternative 3 joins existing US 117 with an interchange south of US 117A.
- An interchange and connector south of US 13 are proposed to link US 13 with US 117 and US 117A.
- An interchange and connector are proposed to link US 13 with US 117A, SR 1918 (Pecan Road), and SR 1926 (Old Mount Olive Highway) south of the Wayne County Fairgrounds.
- Its planned interchange, alignment, and service road improvements between NC 581 (Ash Street) and NC 581 (Arrington Bridge Road) are the same as those described for Alternatives 1 and 1A.

Alternative 4

- Alternative 4 includes bridges over the railroad and US 117A and an interchange with US 117 south of US 117 A.
- An interchange is proposed to link SR 1927 (Genoa Road) with SR 1926 (Mount Olive Highway), US 13, and US 117.
- Bridging is included to span the Neuse River floodway and wetland systems.
- It bridges the railroad, raises NC 581 (Arrington Bridge Road) over the railroad, and includes an interchange east of existing US 117 and the railroad.
- Its planned alignment, interchange, and service road improvements between NC 581 (Ash Street) and US 117 Business (George Street) are the same as those described for Alternatives 1 and 1A.

Alternative 4A

- Alternative 4A includes bridges over the railroad and US 117A and an interchange with US 117 south of US 117 A.
- An interchange is proposed to link SR 1927 (Genoa Road) with SR 1926 (Mount Olive Highway), US 13, and US 117.
- Bridging is included to span the Neuse River floodway and wetland systems in two locations – east of existing US 117, south of NC 581 (Arrington Bridge Road) and again south of NC 581 (Ash Street), west of existing US 117.
- It bridges the railroad, raises NC 581 (Arrington Bridge Road) over the railroad, and includes an interchange east of existing US 117 and the railroad.
- The NC 581 (Ash Street) interchange is similar to the concept proposed with Alternatives 1 and 1A to accommodate access to downtown Goldsboro and other nearby facilities.

6.0 Traffic and Safety

Average Daily Traffic

Existing (2014 year) average daily traffic (ADT) on US 117 ranges from 6,300 vehicles per day (vpd) near NC 50 in Duplin County to 33,400 vpd near NC 581 in Goldsboro. If no improvements are made, future 2035 year traffic is estimated to range from 10,600 to 56,000 vpd in the same locations. If the I-795 freeway improvements are built, future 2035 year traffic is estimated to range from 18,500 to 49,300 vpd. Existing and future year traffic volumes are shown in Table 1 and in the Appendix.

Table 1: Average Daily Traffic Volumes (vehicles/day)

Location	2014 No-Build	2035 No-Build	2035 Build (Alt. 1)
NC 581 to US 13	13,000 – 33,400	24,700 – 56,000	43,600 – 49,300
US 13 to NC 55	13,500 – 17,500	23,000 – 29,400	22,400 – 27,100
NC 55 to NC 50	6,500 – 13,500	10,900 – 22,700	15,600 – 26,600
NC 50 to I-40	6,300 – 9,200	10,600 – 15,400	19,800
Location	2035 Build (Alt 2)	2035 Build (Alt 3)	2035 Build (Alt 4)
NC 581 to US 13	29,600 – 33,200	29,700 – 34,600	43,600 – 49,300
US 13 to NC 55	19,100 – 27,100	23,400 – 27,100	18,500 – 27,100

Source: NCDOT Traffic Forecast for FS-1304A, I-795/ US 117 from Goldsboro to I-40, Wayne, Duplin, Sampson Counties, 4/15/2014.

Level of Service

Traffic operating conditions are measured using levels of service (LOS) represented by a letter designation from A to F (see Table 2). LOS A represents the best operating conditions and LOS F the worst. LOS D is generally considered to be acceptable in urban areas. LOS E designates conditions in which a facility reaches its traffic carrying capacity, and LOS F represents a breakdown in traffic flow.

Highway capacity analyses were performed for the years 2014 and 2035 to evaluate existing and future traffic operations along existing US 117 under the Build and No Build scenarios. When signalized intersections are spaced at less than two-mile intervals, a facility is classified as an arterial. The signalized intersections generally control the operations for the facility. Intersection LOS is defined as the average controlled delay of all approaches.

Table 2: Levels of Service Definitions for Signalized Intersections

LOS	Delay	Characteristics
A	Very low delay (≤ 10 sec. per vehicle). Most vehicles do not have to stop at all.	Free flow. Individuals are unaffected by others in traffic stream. Freedom to select speed and maneuver is extremely high.
B	> 10 & ≤ 20 sec. per vehicle delay. Good progression and short cycle length.	Free flow, but the present of other vehicles begins to be noticeable. Slight decline in freedom to maneuver.
C	> 20 & ≤ 35 sec. per vehicle delay. Fair progression and/or longer cycles. The number of vehicles stopping is significant.	Stable flow, but the beginning of the range in which the influence of traffic density on operations becomes marked. Maneuvering requires substantial vigilance. Average travel speed may begin to show some reduction.
D	> 35 & ≤ 55 sec. per vehicle delay. Many vehicles stop. Individual cycle failures noticeable.	High density flow in which ability to maneuver is severely restricted by increasing volumes. Only minor traffic disruptions can be absorbed without effect.
E	> 55 & ≤ 80 sec. per vehicle delay. The limit of acceptable delay.	Flow at or near capacity. Unstable. Most traffic disruptions will cause queues to form and service to deteriorate.
F	> 80 sec. per vehicle of delay. Considered unacceptable to most drivers.	Breakdown flow. Traffic exceeds capacity. Queues form behind such locations, which are characterized by extremely unstable stop and go waves.

Source: *Highway Capacity Manual, Special Report 209, Third Edition, 2000*

Table 2 describes the traffic conditions for intersections generally associated with each LOS designation. The methodologies and procedures documented in the Highway Capacity Manual 2010, were used to calculate levels of service for along the roadway segments and at major intersecting roads along US 117 between I-40 and NC 581. Level of service analysis results are presented in the Appendix.

As previously discussed, there are two interchanges (I-40 and NC 55) and 34 at-grade intersections. Of these intersections, 10 have traffic signals and the rest are controlled by stop signs along the crossing road. All intersections operate at LOS D or better during the current and future years if no improvements are made with the exception of two. The intersections at SR 1927 (Genoa Road) and SR 1926 (Mount Olive Highway) will operate at LOS E and F, respectively, in the future if no improvements are made. By constructing the freeway upgrades, all freeway segments and interchanges will operate at LOS C or better through the year 2035.

Crash Analysis

Between June 2008 and May 2013, 723 crashes occurred along US 117 within the project limits. There were 462 property damage only crashes, 252 non-fatal injury crashes, and nine fatal crashes (10 fatalities) as a result of these incidents. Table 3 shows the crash rates per 100 million vehicle miles of travel (MVM) on US 117 from I-40 west of Faison to US 70 in Goldsboro.

The highest crash rate occurs along US 117 between US 117A and NC 581 (Ash Street). The total crash rate for this section is 328.10 crashes per 100 MVM, which is higher than the 2010-2012 statewide rate of 285.40 crashes per 100 MVM for four-lane divided urban US routes with no control of access. The fatal crash rate for this section of US 117 is 2.61 crashes per 100 MVM, which is nearly three times higher than the 2010-2012 statewide rate of 0.88 crashes per 100 MVM.

The critical crash rate is a statistically derived number that can be used as a tool to identify or screen for high crash locations. Locations with a crash rate higher than the critical rate may have safety and operational deficiencies. The crash rates within the southern project area are lower than the critical rates. However, the crash rates within the northern project area are higher than the critical rates.

Table 3: Crash Statistics

Rate	Crashes ¹	Crashes per 100 Million Vehicle Miles (MVM)	Statewide Rate	Critical Rate ⁴
US 117 from I-40 West of Faison to US 117A South of Goldsboro ²				
Total	221	51.52	67.60	74.25
Fatal	5	1.17	0.77	1.58
Non-Fatal Injury	72	16.78	19.04	22.62
Prop. Damage Only	144	33.57	N/A	N/A

Table 3: Crash Statistics

US 117 from US 117A South of Goldsboro to US 70 in Goldsboro ³				
Total	502	328.10	285.40	308.19
Fatal	4	2.61	0.88	2.46
Non-Fatal Injury	180	117.65	87.59	100.37
Prop. Damage Only	318	207.84	N/A	N/A

¹ Represents crashes that occurred June 2008-May 2013.

² 2010 – 2012 Statewide Crash rates are for four or more lanes divided with partial control access, Rural United States (US) Routes.

³ 2010 – 2012 Statewide Crash rates are for four or more lanes divided with no control access, Urban United States (US) Routes.

⁴ Based on the statewide crash rate (95% level of confidence).
N/A = Not Available

7.0 Evaluation of Alternatives

A preliminary evaluation of alternatives, including costs, potential property effects, and environmental concerns is summarized below and in Table 4. Preliminary costs and relocations are summarized in Table A4 of the Appendix for each alternative segment as a tool for incremental phases to be considered for future funding.

Alternative 1 has an estimated cost of \$269,200,000 for construction, \$1,400,000 for utility relocation, and \$75,500,000 for right of way acquisition. The total estimated cost is \$346,100,000. Alternative 1 is an upgrade of the existing alignment and would not result in substantial construction on new location. It relocates 116 residences and 73 businesses. It has 11 interchanges, is in close proximity to 14 Federal Emergency Management Administration (FEMA) buyout properties, and has potential impacts to two parks/ recreational areas and two cemeteries (145 graves). The Alternative 1 roadway corridor would include six major stream crossings and could impact 62 acres of wetlands.

Alternative 1 has a lower total cost than Alternatives 1A, 4, and 4A, but it would displace or eliminate access to the largest number of businesses of any other alternative. By reconfiguring the existing I-40/ US 117 interchange (Exit 355), Alternative 1 would hinder plans to develop the area adjacent to the interchange. Alternative 1 has been designed to avoid FEMA buyout properties and minimize impacts to parks, recreation areas and environmental features. It requires the least amount of bridging of river and wetland systems. It has fewer displacements of residences than all other alternatives except Alternative 1A.

Alternative 1A has an estimated cost of \$282,900,000 for construction, \$2,700,000 for utility relocation, and \$76,400,000 for right of way acquisition. The total estimated cost is \$362,000,000. Alternative 1A is mainly an upgrade of the existing alignment. It requires approximately 4.4 miles of construction on new location. It relocates 113 residences and 73 businesses. It has 10 interchanges, is in close proximity to 14 Federal Emergency Management Administration (FEMA) buyout properties, and has potential impacts to two parks/ recreational areas and two cemeteries (145 graves). The Alternative 1A roadway corridor would include six major stream crossings and could impact 46 acres of wetlands.

Alternative 1A has a high total cost, but it would displace or eliminate access to the largest number of businesses of any other alternative except Alternative 1. It requires the least amount

of bridging of river and wetland systems. It has fewer displacements of residences than the other alternatives. Alternative 1A has been designed to avoid FEMA buyout properties and minimize impacts to parks, recreation areas and environmental features.

As discussed in *Section 3.0, Existing Conditions*, there are plans in place to develop the area adjacent to the existing I-40/ US 117 interchange (Exit 355) in Sampson County. By constructing a new interchange to the south between SR 1903 (David Bright Road) and SR 1904 (Pine Ridge Road), Alternative 1A does not interfere with development planned at the existing interchange. However, Duplin County officials and the Eastern Carolina Rural Planning Organization (ECRPO) are opposed to the proposed location of the new interchange. The ECRPO's adopted resolution opposing Alternative 1A (November 18, 2014) states the following reasons this alternative should not be considered:

- At least 10 parcels owned by more than five property owners/corporations with agricultural interest will be impacted
- Access and/or development of more than 1,000 acres of prime farm land will be impacted
- These agricultural interests employ as many as 500 citizens of surrounding communities and generate more than \$1.3 million annually
- This proposed route will have negative impacts on local communities and their historically agricultural lifestyle and neighboring livelihoods.

Alternative 2 has an estimated cost of \$305,600,000 for construction, \$300,000 for utility relocation, and \$38,000,000 for right of way acquisition. The total estimated cost is \$343,900,000. Alternative 2 has 12 interchanges and would relocate 125 residences and 11 businesses. There would also be potential impacts to one recreational facility. This alternative would include 10 major stream crossings, but no impacts to FEMA buyout properties are anticipated. Alternative 2 has approximately 7.7 miles of roadway on new location, 16.7 miles on existing US 117, and has the potential for more wetland impacts (194 acres) than any other alternative under consideration.

Alternative 2 would displace the least number of businesses than any other alternative. It is consistent with the route shown on the Goldsboro Urban Area 2040 Metropolitan Transportation Plan Update. However, it requires the most extensive bridging of river and wetland systems and the greatest amount of construction on new location across sensitive environmental areas.

Alternative 3 has an estimated cost of \$279,000,000 for construction, \$1,000,000 for utility relocation, and \$64,000,000 for right of way acquisition. The total estimated cost is \$344,000,000. Alternative 3 has 12 interchanges and would relocate 141 residences and 59 businesses. There would also be potential impacts to three parks/ recreational facilities, one cemetery, and a volunteer fire department. This alternative would include six major stream crossings and is in close proximity to 16 FEMA buyout properties. Alternative 3 has approximately four miles of roadway on new location, 20.3 miles on existing US 117, and has the potential for 71 acres of wetland impact.

Alternative 3 would displace the largest number of residences of any other alternative. Alternative 3 has been designed to minimize impacts to FEMA buyout properties and minimize

impacts to parks, recreation areas and environmental features. It requires the least amount of bridging of river and wetland systems.

Alternative 4 has an estimated cost of \$310,500,000 for construction, \$300,000 for utility relocation, and \$53,200,000 for right of way acquisition. The total estimated cost is \$364,000,000. Alternative 4 has 12 interchanges and would relocate 137 residences and 35 businesses. There would also be potential impacts to two parks/recreational facilities and one cemetery. This alternative would include six major stream crossings and is in close proximity to 14 FEMA buyout properties. Alternative 4 has approximately five miles of roadway on new location, 18.9 miles on existing US 117, and has the potential for 77 acres of wetland impact.

Alternative 4 has the highest cost. Alternative 4 is being designed to avoid FEMA buyout properties and minimize impacts to parks, recreation areas and environmental features. It requires longer bridges over river and wetland systems than Alternatives 1, 1A or 3.

Alternative 4A has an estimated cost of \$302,800,000 for construction, \$1,000,000 for utility relocation, and \$43,500,000 for right of way acquisition. The total estimated cost is \$347,300,000. Alternative 4A has 12 interchanges and would relocate 127 residences and 30 businesses. There would also be potential impacts to two parks/recreational facilities. This alternative would include eight major stream crossings. Alternative 4A has approximately 7.5 miles of roadway on new location, 16.8 miles on existing US 117, and has the potential for 112 acres of wetland impact.

Alternative 4A costs less than Alternatives 1A and 4. Alternative 4A is being designed to minimize impacts to parks, recreation areas and environmental features. It requires longer bridges over river and wetland systems than Alternatives 1, 1A, 3 or 4.

Table 4: Comparison of Alternatives

	Alternative 1	Alternative 1A	Alternative 2	Alternative 3	Alternative 4	Alternative 4A
Length on Existing US 117 (miles)	24.2	21.2	16.7	20.3	18.9	16.8
Length on New Location (miles)	0.0	4.4	7.7	4.0	5.0	7.5
Total Length (miles)	24.2	25.6	24.4	24.3	23.9	24.3
Construction Cost	\$269,200,000	\$282,900,000	\$305,600,000	\$279,000,000	\$310,500,000	\$302,800,000
Utility Relocation Cost	\$1,400,000	\$2,700,000	\$300,000	\$1,000,000	\$300,000	\$1,000,000
Right of Way (R/W) Cost	\$75,500,000	\$76,400,000	\$38,000,000	\$64,000,000	\$53,200,000	\$43,500,000
Total Estimated Cost	\$346,100,000	\$362,000,000	\$343,900,000	\$344,000,000	\$364,000,000	\$347,300,000
R/W from FEMA Buyout Properties (#)	0	0	0	2	0	0
Relocated Businesses (#)	73	73	11	59	35	30
Relocated Residences (#)	116	113	125	141	137	127
Relocated Graves (#)	145	145	0	0	0	0
Number of Interchanges (#)	11	10	12	12	12	12
Major River/ Stream Crossings (#)	6	6	10	6	6	8
Area within NWI Wetlands (acres)	62	46	194	71	77	112
Parks and Recreational Areas (#) *	4	4	1	4	3	2

* Elmwood Cemetery (Alternatives 1, 1A, 3, and 4); HV Brown Park (Alternatives 1, 1A, 3, and 4); Old Waynesborough Park (Alternatives 1, 1A, 3, 4, and 4A); Wayne Memorial Park Cemetery (Alternatives 1 and 1A); Busco Beach ATV Park (Alternatives 2 and 4A); Mar-Mac Voluntary Fire Department Athletic Fields (Alternative 3).

8.0 Human and Natural Environment Issues

Based on a review of Geographic Information System (GIS) data, the following issues may require further evaluation in the feasibility study. Environmental features are shown on Figures 2.1 through 3.

8.1 Human Environment Issues

The study area is comprised of large areas of undeveloped land along the proposed bypass routes and commercial, residential, and light industrial development along US 117. See Figure 1 for the locations of the following community facilities in the project study area:

- Elmwood Cemetery (Alternatives 1, 1A, 3, and 4)
- HV Brown Park (Alternatives 1, 1A, 3, and 4)
- Old Waynesborough Park (Alternatives 1, 1A, 3, 4, and 4A)
- Wayne Memorial Park Cemetery (Alternatives 1 and 1A)
- Busco Beach ATV Park (Alternatives 2 and 4A)
- Mar-Mac Voluntary Fire Department Athletic Fields (Alternative 3)
- Mount Olive College

There are two hazardous waste generating sites, and two sites with underground storage tanks within 1,500 feet of Alternative 2. There is one Superfund site, two hazardous waste generating sites, and four properties with underground storage tanks within 1,500 feet of the Alternative 3 alignment.

8.2 Natural Environment Issues

8.2.1 Neuse River, Little River, Goshen Swamp

The Project Study Area is located in the Neuse River Basin and contains the following water bodies:

- Neuse River and Little River (C NSW) – Nutrient Sensitive Waters with waters protected for secondary recreation, fishing, wildlife, fish consumption, aquatic life including propagation, survival, and maintenance of biological integrity, agriculture and other uses suitable for Class C. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized or incidental manner.
- Goshen Swamp (C SW) - Supplemental classification intended to recognize those waters which are topographically located so as to generally have low velocities and other natural characteristics which are different from adjacent streams draining land with steeper topography. These waters are protected for secondary recreation, fishing, wildlife, fish consumption, aquatic life including propagation, survival, and maintenance of biological integrity, agriculture and other uses suitable for Class C.

A detailed environmental study has not been conducted for this feasibility study, however an environmental screening did find issues requiring further evaluation in later planning and design stages. As of September, 2014 (USFWS 2014), the USFWS lists three threatened or endangered

species for Duplin, Sampson and Wayne County. Table 5 lists these species and their federal status as well as two other species not currently afforded the same federal protection.

Table 5: Federally Protected Species Listed for Duplin, Sampson and Wayne Counties

Scientific Name	Common Name	Federal Status ¹	County
American alligator	<i>Alligator mississippiensis</i>	T(S/A)	Duplin, Sampson
Northern long-eared bat	<i>Myotis septentrionalis</i>	P	Wayne
Pondberry	<i>Lindera melissifolia</i>	E	Sampson
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	Duplin, Wayne, Sampson
Wood stork	<i>Mycteria americana</i>	T	Sampson

¹ E – Endangered; P – Proposed, T – Threatened; T(S/A) – Threatened due to Similarity of Appearance

9.0 User Benefits

A user benefit analysis was performed using methods described in the AASHTO – User Benefit Analysis for Highway (Redbook – 2003) and updated Redbook Wizard created by NCDOT. This analysis is used to compare cost savings benefits for drivers with the capital and operation costs to the highway agency. The benefits are estimated in terms of reduced travel time, lower accident rates, and lower operating costs. The greatest user benefits would occur with Alternative 1 since it upgrades an existing route and has the lowest project costs. User benefits consider the value of time, operating costs, and accident reduction benefits. These benefits were compared using interest (or discount) rates of 7%, 3% and 0% to account for the effect of time costs on money. The total benefits were calculated using a base year of 2014, a construction year of 2025, an opening year of 2030, and an ending year of 2040. A benefit cost ratio was calculated to compare the total benefits to the cost of the project. As shown in Table 6, the project would have a maximum benefit cost ratio of 2.83 (7%), 2.12 (3%) and 1.70 (0%).

Table 6: User-Benefit Costs (Alternative 1 Freeway Upgrades)

Benefit	7% Discount Rate*	3% Discount Rate**	0% Discount Rate***
User Value of Time Benefit	\$205.21 Mil.	\$270.47 Mil.	\$337.35 Mil.
User Operating Costs Benefit	\$5.33 Mil.	\$6.41 Mil.	\$7.46 Mil.
User Accident Reduction Benefits	\$74.36 Mil.	\$88.26 Mil.	\$101.81 Mil.
User Benefits from Construction	-\$21.21 Mil.	-\$35.47 Mil.	-\$52.87 Mil.
Total Benefits	\$263.69 Mil.	\$329.66 Mil.	\$393.76 Mil.
Cost	\$93.16 Mil.	\$155.81 Mil.	\$232.22 Mil.
Net Benefits	\$170.53 Mil.	\$173.85 Mil.	\$161.54 Mil.
Benefit Cost Ratio***	2.83	2.12	1.70

Note: Benefits and costs are reflected as present value over the project life in 2014 dollars.

* Baseline using values indicated in the appendix and a recommended 7% discount rate.

** Same as Baseline above except this option tests the sensitivity to a 3% discount rate.

*** Total Benefits divided by Cost and no discount rate or inflation added.

10.0 Recommendations

I-795/ US 117 freeway upgrades from I-40 to Goldsboro will enhance north-south mobility and interstate connectivity between cities and industrial centers that are important to national defense, economic growth, and job creation. There are 34 at-grade intersections and two interchanges located along the corridor. Of ten intersections controlled by traffic signals, two will reach or exceed their capacity in the future if no improvements are made. By constructing the freeway upgrades, all freeway segments and interchanges will operate at an acceptable level of service through the year 2035.

Incremental improvements are recommended to phase the freeway upgrades. The southern 16 miles of the corridor are common to all alternatives between I-40 and US 117A. This portion of US 117 is a four-lane divided roadway with limited control of access. The primary improvements in this area would be controlling access, converting intersections to interchanges, and constructing grade separations (see Table A4). Upgrades along the southern portion of the project will not require as much right of way or reconstruction. The northern 8 miles of the corridor from south of US 117A to NC 581 (Ash Street) requires the most extensive upgrades and is the location where the alternatives differ from one another.

Alternative 1 has an estimated total cost of \$346,100,000 and relocates 116 residences, 73 businesses, and graves from two cemeteries. It has a lower cost than Alternatives 1A, 4, and 4A. It displaces fewer residences, but it displaces or eliminates access to the largest number of businesses.

Alternative 2 has an estimated total cost of \$343,900,000 and relocates 125 residences and 11 businesses. It is consistent with the route shown on the Goldsboro Urban Area 2040 Metropolitan Transportation Plan Update and would displace the least number of businesses. However, it requires the most extensive bridging and the greatest amount of construction on new location across sensitive environmental areas.

Alternative 3 has an estimated total cost of \$344,000,000 and relocates 141 residences and 59 businesses. It has a lower cost, relocates the most residences, would require two FEMA buyout properties, and has the potential to impact three parks/ recreational facilities, a cemetery, and a volunteer fire department.

Alternative 4 has an estimated total cost of \$364,000,000 and relocates 137 residences and 35 businesses. Alternative 4A is similar to Alternative 4, has an estimated total cost of \$347,300,000, and relocates 127 residences and 30 businesses. Alternatives 4 and 4A have higher costs, the potential to impact two parks/ recreational facilities and a cemetery, and require longer bridges over river and wetland systems than Alternatives 1, 1A, or 3.

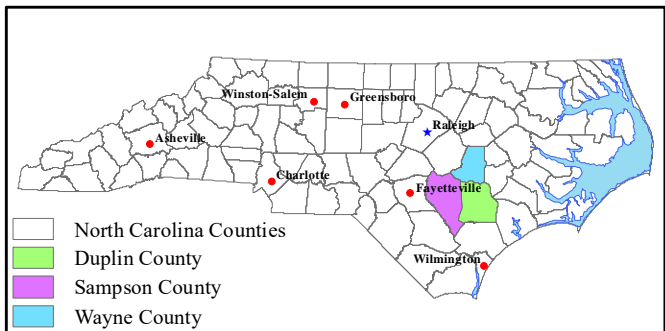
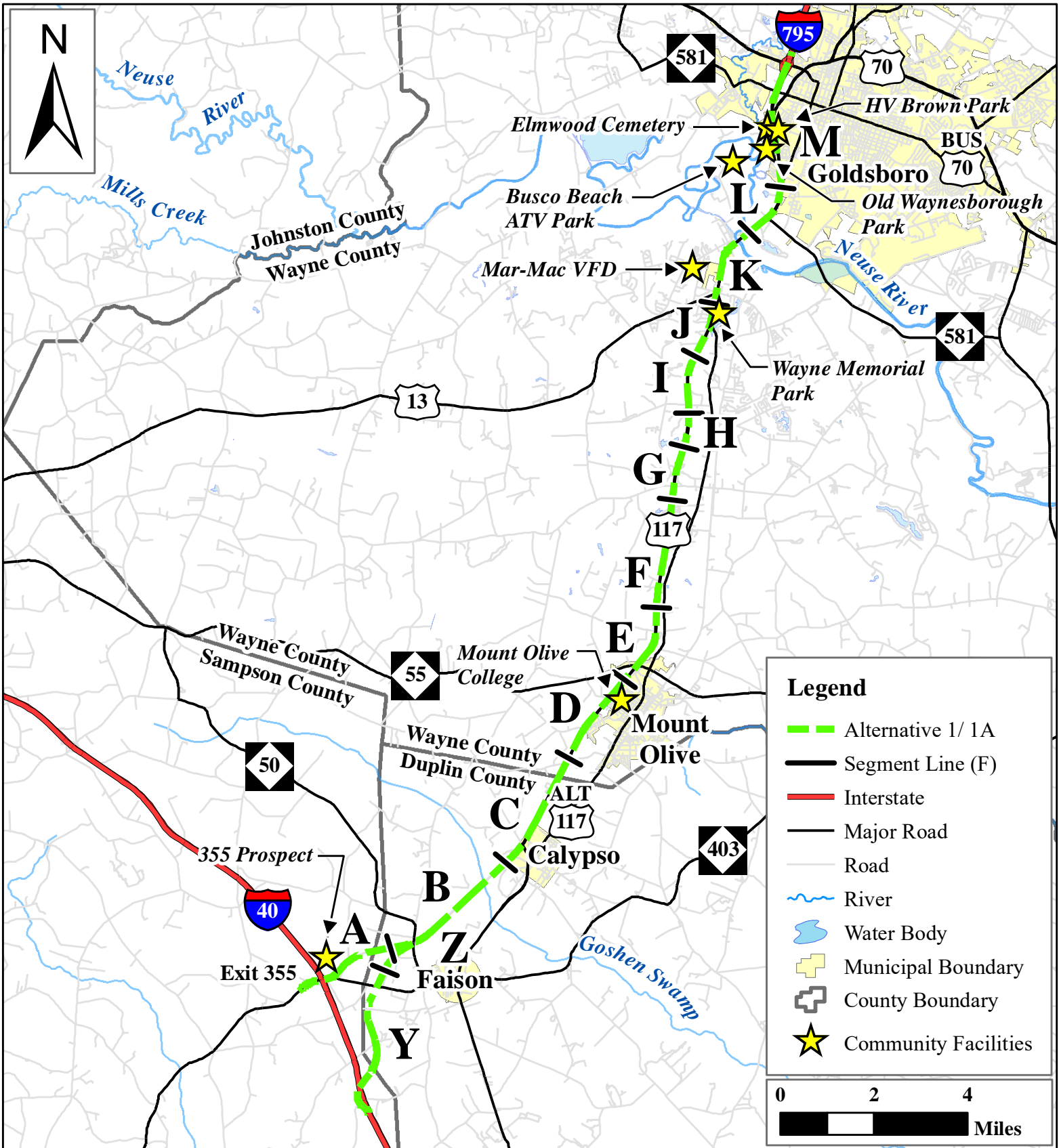
More detailed design analysis is needed during future studies to identify an optimal interchange at I-40 and US 117 (Alternative 1) that addresses Sampson County concerns for avoiding disruption to the 355 Prospect development. A southern interchange with I-40 (Alternative 1A) is not recommended based on Duplin County and Eastern Carolina RPO concerns about impacts to agri-businesses and farming communities.

Wayne County officials recommend considering Alternatives 1, 4, and 4A. NCDOT Division 4 staff prefers Alternatives 4A, 4, and 1 in order of priority. Between NC 581 (Ash Street) and NC 581 (Arrington Bridge Road), important local issues for these alternatives include:

- accommodating access to downtown Goldsboro and major hospital, correctional center, and agricultural facilities.
- locating the alignment and service roads to maintain property access.
- avoiding or minimizing impacts to FEMA buyout properties and Old Waynesborough Park (near Elm Street).

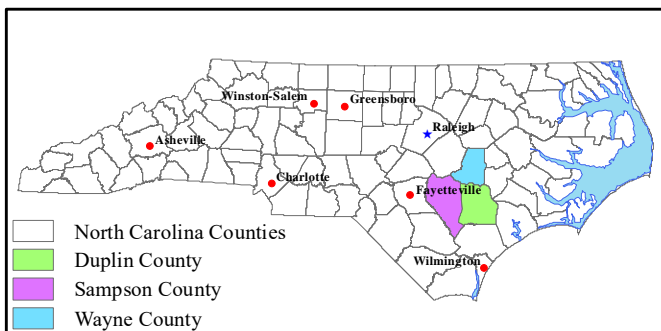
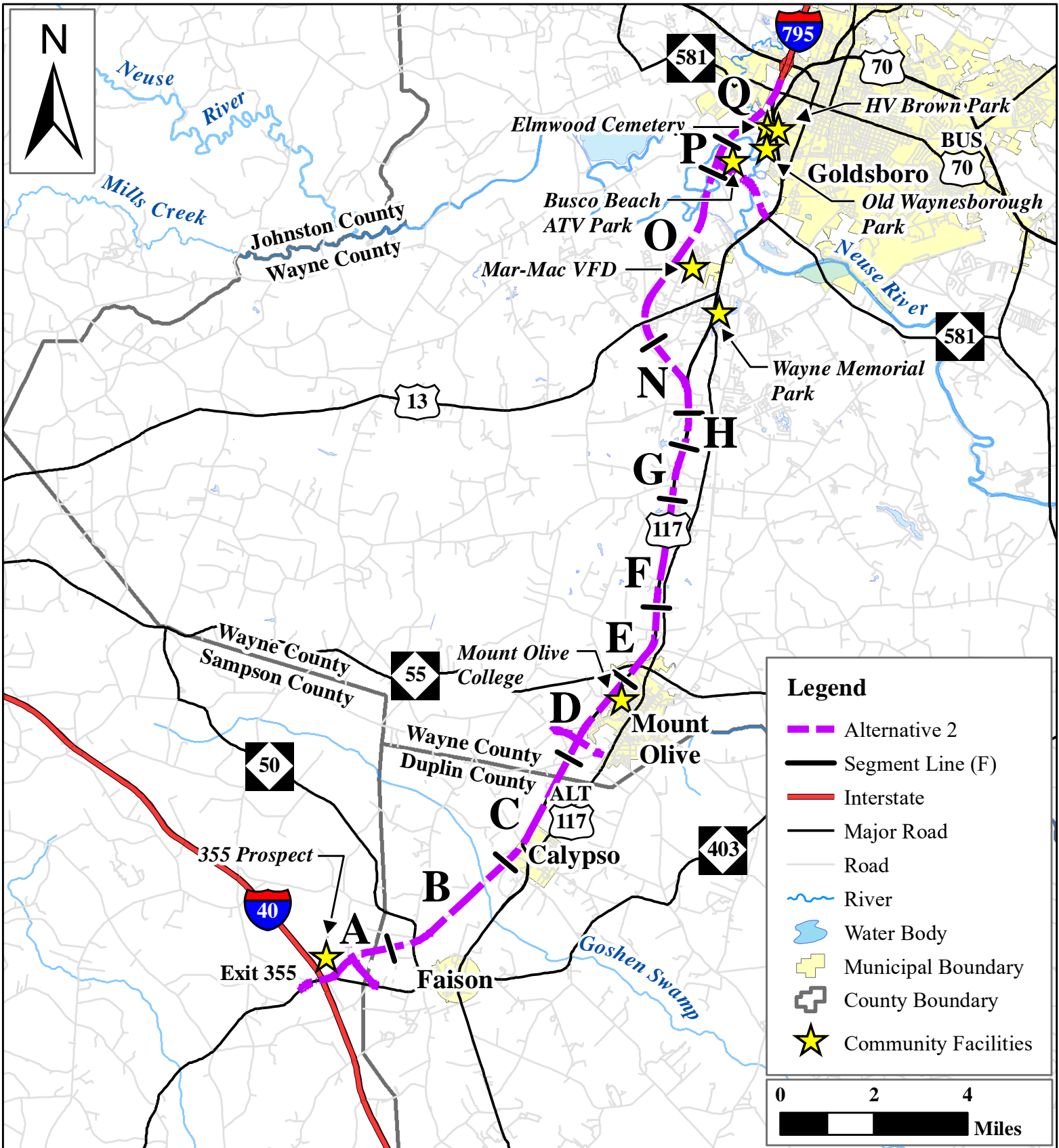
Future environmental and design studies should address options to avoid and minimize impacts to properties, community resources, and environmental features. Detailed design analysis may consider refining the design criteria and locating the alignment so that it has the least disruption to properties and other sensitive resources.

APPENDIX



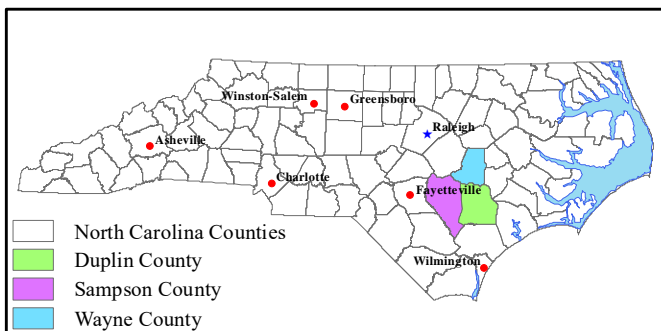
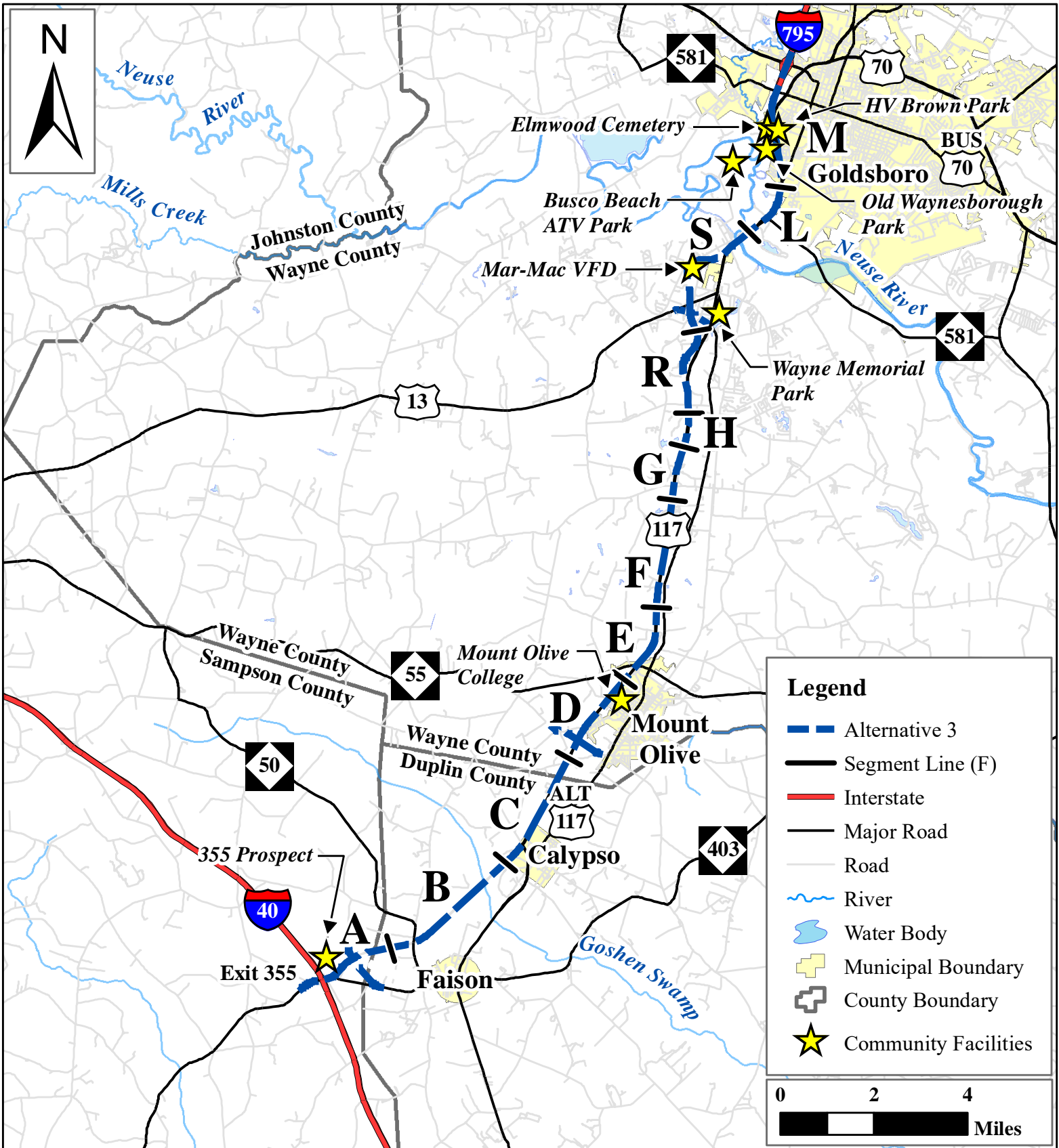
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT BRANCH
 FEASIBILITY STUDIES UNIT

Figure 3.1 - Alternative 1/1A Segment Map
FS-1304A
I-795/ US 117 from I-40 to Goldsboro
Sampson, Duplin and Wayne Counties



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT BRANCH
 FEASIBILITY STUDIES UNIT

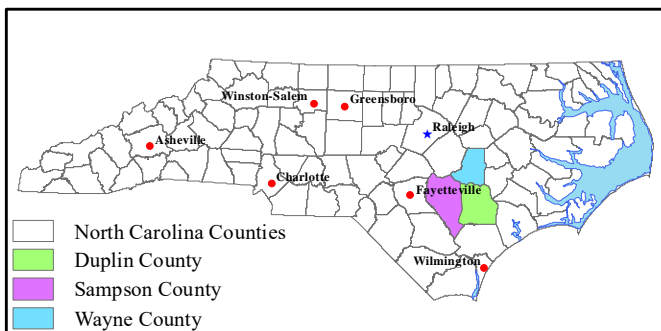
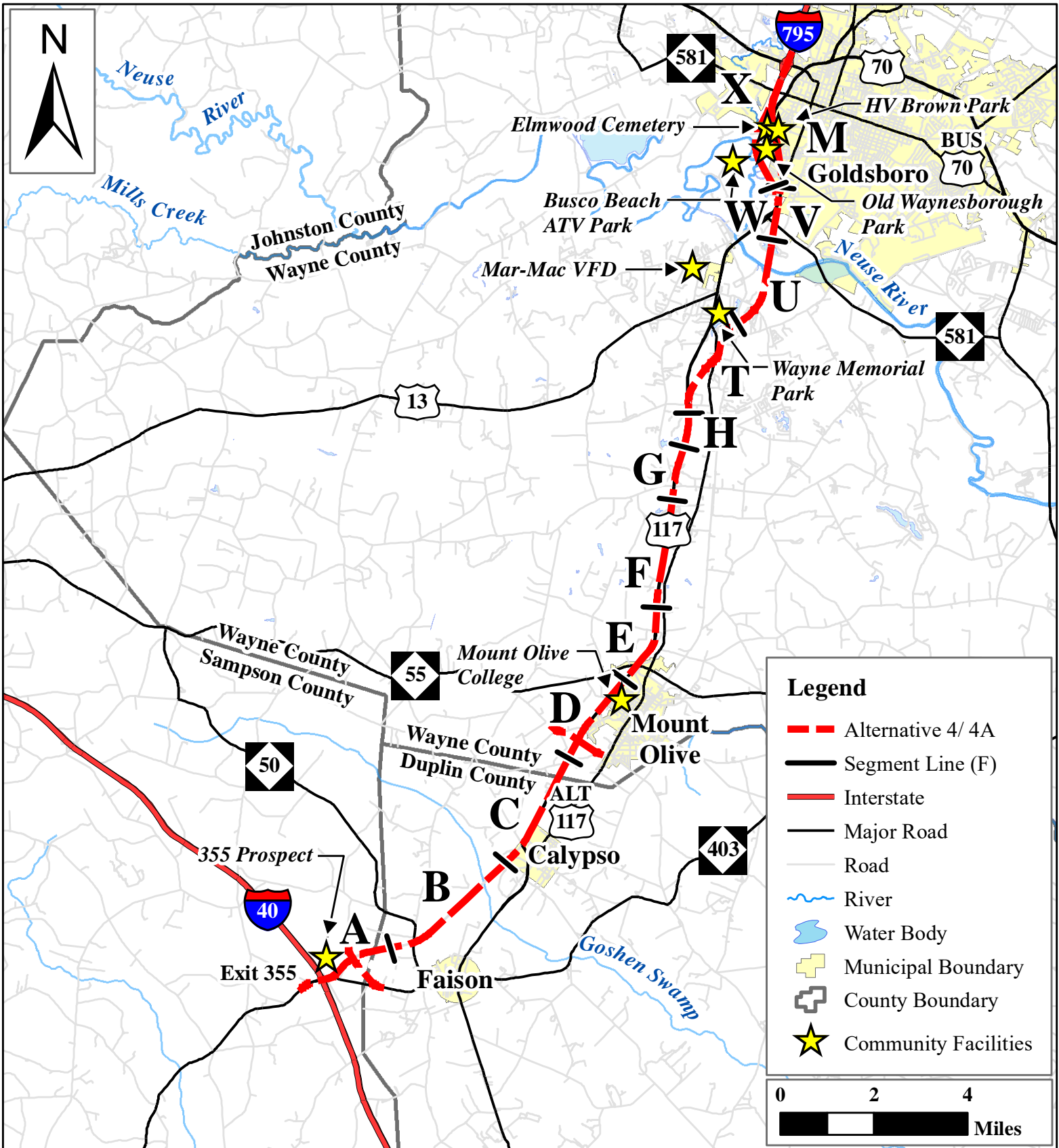
Figure 3.2 - Alternative 2 Segment Map
FS-1304A
I-795/ US 117 from I-40 to Goldsboro
Sampson, Duplin and Wayne Counties



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT BRANCH
 FEASIBILITY STUDIES UNIT

**Figure 3.3 - Alternative 3 Segment Map
 FS-1304A**

**I-795/ US 117 from I-40 to Goldsboro
 Sampson, Duplin and Wayne Counties**



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT BRANCH
 FEASIBILITY STUDIES UNIT

**Figure 3.4 - Alternative 4 & 4A Segment Map
 FS-1304A**

**I-795/ US 117 from I-40 to Goldsboro
 Sampson, Duplin and Wayne Counties**

Table A1: Segments Evaluated for Phased Improvements

Alternative	Segment	Description	Length (miles)	Proposed or Upgraded Interchange	Proposed Grade Separation	Major Structures over Water Resources
1, 2, 3, 4, 4A	A	0.5 Mile Southeast of I-40 to 0.5 Mile Northeast of the Sampson / Duplin County Line	2.3	I-40 & NC 403/ SR 1779 (Eldon Thornton Road)	---	---
1, 2, 3, 4, 4A	B	0.5 Mile Northeast of the Sampson / Duplin County Line to 0.6 Mile South of SR 1006 (West Trade Road)	3.1	NC 50	---	Goshen Swamp & Panther Creek
1, 1A, 2, 3, 4, 4A	C	0.6 Mile South of SR 1006 (West Trade Road) to 0.1 Mile North of SR 1144 (Lees Country Club Road)	2.6	US 117/ SR 1006	---	---
1, 1A, 2, 3, 4, 4A	D	0.1 Mile North of SR 1144 (Lees Country Club Road) to 0.4 Mile South of NC 55	2.1	SR 1144/ SR 1147 (Old Smith Chapel Road)	SR 1141 (West Main Street)	---
1, 1A, 2, 3, 4, 4A	E	0.4 Mile South of NC 55 to 0.5 Mile South of SR 1135 (Country Club Road)	1.8	NC 55	---	---
1, 1A, 2, 3, 4, 4A	F	0.5 Mile South of SR 1135 (Country Club Road) to 0.3 Mile South of SR 1120 (Oberry Road)	2.3	SR 1135	---	Brooks Swamp
1, 1A, 2, 3, 4, 4A	G	0.3 Mile South of SR 1120 (Oberry Road) to 0.9 Mile North of SR 1120	1.2	SR 1120	---	Yellow Marsh Branch
1, 1A, 2, 3, 4, 4A	H	0.9 Mile North of SR 1120 (Oberry Road) to 0.15 Mile South of SR 1129 (South Landfill Road)	0.8	---	---	---
1, 1A	I	0.15 Mile South of SR 1129 (South Landfill Road) to 0.75 Mile South of US 117A	1.3	---	---	---
1, 1A	J	0.75 Mile South of US 117A to 0.2 Mile South of Existing US 13	1.3	US 13/ SR 1918 (Pecan Road)	---	---
1, 1A	K	0.2 Mile South of Existing US 13 to 0.5 Mile South of NC 581	1.8	---	US 13	Neuse River
1, 1A, 3	L	0.5 Mile South of NC 581 (Arrington Bridge Road) to 0.1 Mile South of US 117 Business	1.3	NC 581	---	---
1, 1A, 3, 4	M	0.1 Mile South of US 117 Business to NC 581 (West Ash Street)	2.3	US 117/ I-795 & NC 581	US 117 Business & NCRR/ NS Old Mainline & NCRR/ NS Mainline	---
2	N	0.15 Mile South of SR 1129 (South Landfill Road) to 0.25 Mile Northwest of SR 1130 (Durham Lake Road)	1.6	US 117	SR 1130	---
2	O	0.25 Mile Northwest of SR 1130 (Durham Lake Road) to 0.2 Mile South of Extended NC 581 (Arrington Bridge Road)	4.1	US 13	SR 1219 (Old Grantham Road)	Neuse River Cutoff & Neuse River (2 Crossings)
2	P	0.2 Mile South to 0.5 Mile North of Extended NC 581 (Arrington Bridge Road)	0.7	Extended NC 581 (Arrington Bridge Road)	---	---

Table A1: Segments Evaluated for Phased Improvements

Alternative	Segment	Description	Length (miles)	Proposed or Upgraded Interchange	Proposed Grade Separation	Major Structures over Water Resources
2	Q	0.50 Mile North of Extended Arrington Bridge Road to 0.25 Mile North of NC 581 (West Ash Street)	1.8	NC 581 (West Ash Street)	NCRR/ NS Mainline	Neuse River & Little River
3	R	0.15 Mile South of SR 1129 (South Landfill Road) to 0.5 Mile South of Relocated US 13	1.6	US 117	---	---
3	S	0.5 Mile South of Relocated US 13 to Existing US 117	2.9	US 117/ US 13	---	Neuse River
4, 4A	T	0.5 Mile South of SR 1129 (South Landfill Road) to 0.4 Mile South of SR 1927 (Genoa Road)	2.4	US 117	US 117A & AC-line	CSX ---
4, 4A	U	0.4 Mile South of SR 1927 (Genoa Road) to 0.4 Mile South of NC 581 (Arrington Bridge Road)	1.8	SR 1927	---	Neuse River
4	V	0.4 Mile South of NC 581 (Arrington Bridge Road) to 0.1 Mile South of US 117 Business	1.2	NC 581 (Arrington Bridge Road)	US 117 & AC-line	CSX ---
4A	W	0.6 Mile East of US 117, 0.4 Mile South of NC 581 (Arrington Bridge Road) to 0.5 Mile North of US 117	1.4	NC 581 (Arrington Bridge Road)	US 117 Service Road & CSX AC-line	---
4A	X	0.5 Mile North of US 117 to 0.25 Mile North of NC 581 (West Ash Street)	2.5	NC 581 (West Ash Street)	NCRR/ NS Mainline	Neuse River (2 Crossings)
1A	Y	I-40 at SR 1904 (Pine Ridge Road) to 0.6 Mile South of US 117 and 0.4 Mile North of NC 403	3.0	I-40 @ SR 1904 (Pine Ridge Road)	SR 1903 (David Bright Road) & NC 403	---
1A	Z	From 0.4 Mile North of NC 403 to 0.5 Mile South of SR 1006 (West Trade Road)	3.8	NC 50/ SR 1302 (Emmett Jackson Road)	---	Goshen Swamp & Panther Creek
1, 1A	AA	Service Road from 0.5 Mile South of US 13 and 0.4 Mile West of US 117 to 0.1 Mile North of US 13	1.1	---	---	---

Table A2: 2014 and 2035 Intersection LOS and Delays

Intersection	2014		2035		
	No Build	No Build	Alt. 1/ 1A	Alt. 2	Alt. 3
	LOS/ Delay (seconds)	LOS/ Delay (seconds)	LOS/ Delay (seconds)	LOS/ Delay (seconds)	LOS/ Delay (seconds)
Existing US 117 at NC 55					
Existing US 117 NB Off Ramp at NC 55	A / 6.9	B / 11.1	n/a	n/a	n/a
Existing US 117 SB Off Ramp at NC 55	A / 7.0	C / 27.3	n/a	n/a	n/a
Proposed I-795/ US 117 at NC 55					
Proposed I-795/ US 117 SB Off Ramp at EB NC 55 *	n/a	n/a	A / 1.1		
WB NC 55 at EB NC 55 *	n/a	n/a	B / 13.3		
Proposed I-795/ US 117 NB Off Ramp at WB NC 55 *	n/a	n/a	A / 0.6		
WB NC 55 at EB NC 55 *	n/a	n/a	A / 0.5		
Existing US 117 at SR 1120 (Oberry Rd.)					
Existing US 117 at SR 1120 (Oberry Rd.)	C / 20.5	C / 26.3	n/a	n/a	n/a
Proposed I-795/ US 117 at US 13					
Proposed I-795/ US 117 NB Off Ramp at US 13	n/a	n/a	B / 16.7	n/a	A / 8.4
Proposed I-795/ US 117 SB Off Ramp at US 13	n/a	n/a	B / 17.1	n/a	A / 7.1
Existing US 117 at SR 1927 (Genoa Rd.) & at SR 1926 (Mt. Olive Hwy.)					
Existing US 117 at SR 1927 (Genoa Rd.)	C / 23.5	E / 63.0	n/a	n/a	n/a
Existing US 117 at SR 1926 (Mt. Olive Hwy.)	C / 28.0	F / 136.2	n/a	n/a	n/a
Existing US 117 at NC 581 (Arrington Bridge Rd.)					
US 117 at NC 581 (Arrington Bridge Rd.)	B / 18.8	C / 24.2	n/a	n/a	n/a
Proposed I-795/ US 117 at NC 581 (Arrington Bridge Rd.)					
US 117 NB On/ Off Ramp at NC 581 (Arrington Bridge Rd.)	n/a	n/a	A / 0.6	B / 11.3	A / 0.5
US 117 SB Off Ramp at NC 581 (Arrington Bridge Rd.)	n/a	n/a	A / 1.4	B / 16.0	A / 1.5
Existing US 117 at US 117 Business (George St.) & at NC 581 (Ash St.)					
US 117 at US 117 Business (George St.)	B / 13.2	D / 38.1	n/a	n/a	n/a
US 117 at NC 581 (Ash St.)	C / 25.8	C / 26.1	n/a	n/a	n/a
Proposed I-795/ US 117 at NC 581 (Ash St.)					
US 117 NB On/ Off Ramps at NC 581 (Ash St.)	n/a	n/a	B / 13.8	B / 13.5	B / 14.6
US 117 SB On/ Off Ramps at NC 581 (Ash St.)	n/a	n/a	B / 14.6	B / 13.1	B / 13.9

Note: LOS/ Delay data in this table represents the more conservative of the AM and PM Peak Hour data.

The design concept for Alternatives 4 and 4A differed from the forecasted traffic volumes, so the LOS at the intersections were not analyzed.

* Diverging diamond intersections.

n/a = not applicable

Table A3: 2035 Freeway and Ramp LOS

Freeway Description		2035 AM Build			2035 PM Build		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
Proposed I-795/ US 117 at I-40							
Alternatives 1-4							
Freeway I-795 *	NB	1092	n/a	A	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1092	n/a	A
Merge	NB On Loop	242	994	B	169	838	B
	NB On Ramp	1087	333	B	893	326	B
	SB On Loop	55	85	A	93	141	A
	SB On Ramp	140	114	A	234	149	A
Diverge	NB Off Loop	1236	149	B	1007	114	A
	NB Off Ramp	383	141	A	254	85	A
	SB Off Ramp	893	838	A	1087	994	B
Proposed I-795/ US 117 at NC 50							
Alternatives 1-4							
Freeway I-795 *	NB	860	n/a	A	n/a	n/a	n/a
	SB	n/a	n/a	n/a	860	n/a	A
Diverge	NB Off	1092	344	B	888	285	A
	SB Off	704	101	A	855	107	A
Merge	NB On	749	107	B	604	101	A
	SB On	604	285	B	749	344	B
Proposed I-795/ US 117 at US 117/ SR 1006 (W. Trade Rd.)							
Alternatives 1-4							
Freeway I-795 *	NB	1187	n/a	A	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1187	n/a	A
Diverge	NB Off	860	8	A	709	9	A
	SB Off	957	259	A	1181	332	B
Merge	NB On	852	333	B	700	261	B
	SB On	697	9	A	849	8	B
Proposed I-795/ US 117 at SR 1144 (Lees Country Club Rd.)/ SR 1147 (Old Smith Chapel Rd.)							
Alternatives 1-4							
Freeway I-795 *	NB	1457	n/a	B	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1457	n/a	B
Diverge	NB Off	1187	9	B	981	8	A
	SB Off	1180	214	B	1459	285	B
Merge	NB On	1178	285	B	972	215	B
	SB On	967	10	B	1174	8	B
Proposed I-795/ US 117 at NC 55							
Alternatives 1-4							
Freeway I-795 *	NB	1352	n/a	B	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1352	n/a	B
Diverge	NB Off	1457	809	B	1202	719	B
	SB Off	1103	619	B	1358	710	B
Merge	NB On	1358	710	C	1103	619	B
	SB On	483	719	B	648	809	B

Table A3: 2035 Freeway and Ramp LOS

Freeway Description	2035 AM Build			2035 PM Build			
	Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS	
Proposed I-795/ US 117 at US 13/ SR 1135 (Country Club Rd.)							
Alternatives 1-4							
Freeway I-795 *	NB	1233	n/a	A	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1233	n/a	A
Diverge	NB Off	1352	184	B	1108	155	B
	SB Off	1007	55	A	1233	64	B
Merge	NB On	1168	64	B	953	55	B
	SB On	953	155	B	1168	184	B
Proposed I-795/ US 117 at SR 1120 (Oberry Rd.)							
Alternatives 1-4							
Freeway I-795 *	NB	1484	n/a	B	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1484	n/a	B
Diverge	NB Off	1233	51	B	1008	52	A
	SB Off	1220	265	B	1490	308	B
Merge	NB On	1182	308	B	955	265	B
	SB On	955	52	B	1182	51	B
Proposed I-795/ US 117 at Existing US 117							
Alternative 2							
Freeway I-795 *	NB	1049	n/a	A	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1049	n/a	A
Diverge	NB Off	1450	381	B	1183	311	B
	SB Off	886	5	A	1081	6	B
Merge	NB On	1068	5	B	873	6	B
	SB On	880	314	B	1076	384	B
Proposed I-795/ US 117 at Existing US 117							
Alternative 3							
Freeway I-795 *	NB	1266	n/a	A	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1266	n/a	A
Diverge	NB Off	1492	216	B	1218	174	B
	SB Off	1053	9	B	1287	10	B
Merge	NB On	1276	9	B	1044	11	B
	SB On	1044	175	B	1276	215	B
Proposed I-795/ US 117 at Existing US 117							
Alternatives 4/ 4A							
Freeway I-795 *	NB	1014	n/a	A	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1014	n/a	A
Diverge	NB Off	1484	508	B	1216	412	B
	SB Off	830	30	A	1016	30	A
Merge	NB On	986	508	B	804	412	B
	SB On	805	412	B	986	508	B

Table A3: 2035 Freeway and Ramp LOS

Freeway Description	2035 AM Build			2035 PM Build			
	Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS	
Proposed I-795/ US 117 at US 13/ US 117A							
Alternatives 1/ 1A							
Freeway I-795 *	NB	2729	n/a	C	n/a	n/a	n/a
	SB	n/a	n/a	n/a	2729	n/a	C
Diverge	NB Off	1484	254	B	1225	246	B
	SB Off	2209	1229	C	2724	1494	C
Merge	NB On	1230	1494	C	979	1229	C
	SB On	980	246	B	1230	254	B
Proposed I-795/ US 117 at US 13							
Alternative 2							
Freeway I-795 *	NB	1650	n/a	B	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1650	n/a	B
Diverge	NB Off	1049	115	B	861	111	A
	SB Off	1330	581	B	1630	696	B
Merge	NB On	934	696	B	749	581	B
	SB On	749	111	B	934	115	B
Proposed I-795/ US 117 at US 13							
Alternative 3							
Freeway I-795 *	NB	1617	n/a	B	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1617	n/a	B
Diverge	NB Off	1266	119	B	1071	130	B
	SB Off	1315	373	B	1661	513	B
Merge	NB On	941	513	B	1147	373	B
	SB On	1147	130	B	941	119	B
Proposed I-795/ US 117 at SR 1927 (Genoa Rd.)							
Alternatives 4/ 4A							
Freeway I-795 *	NB	1015	n/a	A	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1015	n/a	A
Ramps	The design concepts for Alternatives 4 and 4A differed from the forecasted traffic volumes, so the LOS at these ramps were not analyzed.						
Proposed I-795/ US 117 at NC 581 (Arrington Bridge Rd.)							
Alternatives 1/ 1A							
Freeway I-795 *	NB	2390	n/a	C	n/a	n/a	n/a
	SB	n/a	n/a	n/a	2390	n/a	C
Diverge	NB Off	2729	509	C	2204	399	C
	SB Off	1975	169	B	2383	163	C
Merge	NB On	2220	163	C	1805	169	C
	SB On	1806	399	C	2220	509	C
Proposed I-795/ US 117 at NC 581 (Arrington Bridge Rd.)							
Alternative 2							
Freeway I-795 *	NB	1840	n/a	B	n/a	n/a	n/a
	SB	n/a	n/a	n/a	1840	n/a	B
Diverge	NB Off	1651	44	B	1317	30	B
	SB Off	1511	225	B	1801	196	B
Merge	NB On	2220	196	C	1805	226	C
	SB On	1285	31	B	1606	44	B

Table A3: 2035 Freeway and Ramp LOS

Freeway Description	2035 AM Build			2035 PM Build			
	Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS	
Proposed I-795/ US 117 at NC 581 (Arrington Bridge Rd.)							
Alternative 3							
Freeway I-795 *	NB SB	1915 n/a	n/a n/a	B n/a	n/a 1915	n/a n/a	n/a B
Diverge	NB Off SB Off	1617 1541	190 388	B B	1350 1923	197 496	B B
Merge	NB On SB On	1427 1153	496 197	B B	1153 1427	388 190	B B
Proposed I-795/ US 117 at NC 581 (Arrington Bridge Rd.)							
Alternatives 4/ 4A							
Freeway I-795 *	NB SB	2390 n/a	n/a n/a	C n/a	n/a 2390	n/a n/a	n/a C
Ramps	The design concepts for Alternatives 4 and 4A differed from the forecasted traffic volumes, so the LOS at these ramps were not analyzed.						
Proposed I-795/ US 117 at NC 581 (Ash St.)							
Alternatives 1/ 1A							
Freeway I-795 *	NB SB	1315 n/a	n/a n/a	A n/a	n/a 1315	n/a n/a	n/a A
Diverge	NB Off SB Off	2390 1072	1339 247	C B	1969 1319	1145 268	B B
Merge	NB On SB On	1051 825	268 1145	B B	824 1051	247 1339	B C
Proposed I-795/ US 117 at NC 581 (Ash St.)							
Alternative 2							
Freeway I-795 *	NB SB	1315 n/a	n/a n/a	A n/a	n/a 1315	n/a n/a	n/a A
Diverge	NB Off SB Off	1840 1084	949 420	B B	1482 1304	818 413	B B
Merge	NB On SB On	892 664	413 818	B B	664 892	420 949	B B
Proposed I-795/ US 117 at NC 581 (Ash St.)							
Alternative 3							
Freeway I-795 *	NB SB	1315 n/a	n/a n/a	A n/a	n/a 1315	n/a n/a	n/a A
Diverge	NB Off SB Off	1915 1082	1014 412	B B	1547 1306	877 406	B B
Merge	NB On SB On	901 670	406 877	B B	670 901	412 1014	B B
Proposed I-795/ US 117 at NC 581 (Ash St.)							
Alternatives 4/ 4A							
Freeway I-795 *	NB SB	1315 n/a	n/a n/a	A n/a	n/a 1315	n/a n/a	n/a A
Diverge	NB Off SB Off	2390 1072	1339 247	C B	1969 1319	1145 268	B B
Merge	NB On SB On	1051 825	268 1145	B B	824 1051	247 1339	B C

* Freeway values are for the segment north of the interchange. n/a = not applicable.

Table A4: Construction and Right of Way Costs By Segment

Alt.	Segment	Length (miles)	Costs			Relocations			
			Construction. ¹	Right of Way	Total	Bus.	Res.	Ceme-tery	Total
Alternative 1	A	2.3	\$30,400,000	\$2,600,000	\$33,000,000	0	3	0	3
	B	3.1	\$17,100,000	\$1,100,000	\$18,200,000	0	2	0	2
	C	2.6	\$13,300,000	\$4,200,000	\$17,500,000	4	15	0	19
	D	2.1	\$21,300,000	\$4,600,000	\$25,900,000	1	15	0	16
	E	1.8	\$13,100,000	\$3,400,000	\$16,500,000	4	0	0	4
	F	2.3	\$15,000,000	\$700,000	\$15,700,000	0	2	0	2
	G	1.2	\$11,000,000	\$500,000	\$11,500,000	1	0	0	1
	H	0.8	\$1,800,000	\$0	\$1,800,000	0	0	0	0
	I	1.3	\$2,800,000	\$100,000	\$2,900,000	0	0	0	0
	J	1.3	\$20,300,000	\$11,800,000	\$32,100,000	6	40	2	48
	AA	1.1	\$3,300,000	\$1,800,000	\$5,100,000	0	6	0	6
	K	1.8	\$25,300,000	\$14,300,000	\$39,600,000	15	19	0	34
	L	1.3	\$26,200,000	\$10,700,000	\$36,900,000	30	2	0	32
	M	2.3	\$69,700,000	\$19,700,000	\$89,400,000	12	12	0	24
Total	24.2	\$270,600,000	\$75,500,000	\$346,100,000	73	116	2	191	
Alternative 1A	Y	3.0	\$33,500,000	\$1,600,000	\$35,100,000	0	0	0	0
	Z	3.8	\$29,000,000	\$3,000,000	\$32,000,000	0	2	0	2
	C	2.6	\$13,300,000	\$4,200,000	\$17,500,000	4	15	0	19
	D	2.1	\$21,300,000	\$4,600,000	\$25,900,000	1	15	0	16
	E	1.8	\$13,100,000	\$3,400,000	\$16,500,000	4	0	0	4
	F	2.3	\$15,000,000	\$700,000	\$15,700,000	0	2	0	2
	G	1.2	\$11,000,000	\$500,000	\$11,500,000	1	0	0	1
	H	0.8	\$1,800,000	\$0	\$1,800,000	0	0	0	0
	I	1.3	\$2,800,000	\$100,000	\$2,900,000	0	0	0	0
	J	1.3	\$20,300,000	\$11,800,000	\$32,100,000	6	40	2	48
	AA	1.1	\$3,300,000	\$1,800,000	\$5,100,000	0	6	0	6
	K	1.8	\$25,300,000	\$14,300,000	\$39,600,000	15	19	0	34
	L	1.3	\$26,200,000	\$10,700,000	\$36,900,000	30	2	0	32
	M	2.3	\$69,700,000	\$19,700,000	\$89,400,000	12	12	0	24
Total²	25.6	\$285,600,000	\$76,400,000	\$362,000,000	73	113	2	188	
Alternative 2	A	2.3	\$30,400,000	\$2,600,000	\$33,000,000	0	3	0	3
	B	3.1	\$17,100,000	\$1,100,000	\$18,200,000	0	2	0	2
	C	2.6	\$13,300,000	\$4,200,000	\$17,500,000	4	15	0	19
	D	2.1	\$21,300,000	\$4,600,000	\$25,900,000	1	15	0	16
	E	1.8	\$13,100,000	\$3,400,000	\$16,500,000	4	0	0	4
	F	2.3	\$15,000,000	\$700,000	\$15,700,000	0	2	0	2
	G	1.2	\$11,000,000	\$500,000	\$11,500,000	1	0	0	1
	H	0.8	\$1,800,000	\$0	\$1,800,000	0	0	0	0
	N	1.6	\$22,800,000	\$3,400,000	\$26,200,000	0	20	0	20
	O	4.1	\$68,100,000	\$14,200,000	\$82,300,000	1	68	0	69
	P	0.7	\$26,000,000	\$1,600,000	\$27,600,000	0	0	0	0
	Q	1.8	\$66,000,000	\$1,700,000	\$67,700,000	0	0	0	0
	Total	24.4	\$305,900,000	\$38,000,000	\$343,900,000	11	125	0	136

Table A4: Construction and Right of Way Costs By Segment

Alt.	Segment	Length (miles)	Costs			Relocations			
			Construction. ¹	Right of Way	Total	Bus.	Res.	Ceme-tery	Total
Alternative 3	A	2.3	\$30,400,000	\$2,600,000	\$33,000,000	0	3	0	3
	B	3.1	\$17,100,000	\$1,100,000	\$18,200,000	0	2	0	2
	C	2.6	\$13,300,000	\$4,200,000	\$17,500,000	4	15	0	19
	D	2.1	\$21,300,000	\$4,600,000	\$25,900,000	1	15	0	16
	E	1.8	\$13,100,000	\$3,400,000	\$16,500,000	4	0	0	4
	F	2.3	\$15,000,000	\$700,000	\$15,700,000	0	2	0	2
	G	1.2	\$11,000,000	\$500,000	\$11,500,000	1	0	0	1
	H	0.8	\$1,800,000	\$0	\$1,800,000	0	0	0	0
	R	1.6	\$20,700,000	\$1,300,000	\$22,000,000	0	2	0	2
	S	2.9	\$40,400,000	\$15,200,000	\$55,600,000	7	88	0	95
	L	1.3	\$26,200,000	\$10,700,000	\$36,900,000	30	2	0	32
	M	2.3	\$69,700,000	\$19,700,000	\$89,400,000	12	12	0	24
	Total	24.3	\$280,000,000	\$64,000,000	\$344,000,000	59	141	0	200
Alternative 4	A	2.3	\$30,400,000	\$2,600,000	\$33,000,000	0	3	0	3
	B	3.1	\$17,100,000	\$1,100,000	\$18,200,000	0	2	0	2
	C	2.6	\$13,300,000	\$4,200,000	\$17,500,000	4	15	0	19
	D	2.1	\$21,300,000	\$4,600,000	\$25,900,000	1	15	0	16
	E	1.8	\$13,100,000	\$3,400,000	\$16,500,000	4	0	0	4
	F	2.3	\$15,000,000	\$700,000	\$15,700,000	0	2	0	2
	G	1.2	\$11,000,000	\$500,000	\$11,500,000	1	0	0	1
	H	0.8	\$1,800,000	\$0	\$1,800,000	0	0	0	0
	T	2.4	\$31,000,000	\$3,400,000	\$34,400,000	1	22	0	23
	U	1.8	\$54,300,000	\$7,200,000	\$61,500,000	1	64	0	65
	V	1.2	\$32,800,000	\$5,800,000	\$38,600,000	11	2	0	13
	M	2.3	\$69,700,000	\$19,700,000	\$89,400,000	12	12	0	24
	Total	23.9	\$310,800,000	\$53,200,000	\$364,000,000	35	137	0	172
Alternative 4A	A	2.3	\$30,400,000	\$2,600,000	\$33,000,000	0	3	0	3
	B	3.1	\$17,100,000	\$1,100,000	\$18,200,000	0	2	0	2
	C	2.6	\$13,300,000	\$4,200,000	\$17,500,000	4	15	0	19
	D	2.1	\$21,300,000	\$4,600,000	\$25,900,000	1	15	0	16
	E	1.8	\$13,100,000	\$3,400,000	\$16,500,000	4	0	0	4
	F	2.3	\$15,000,000	\$700,000	\$15,700,000	0	2	0	2
	G	1.2	\$11,000,000	\$500,000	\$11,500,000	1	0	0	1
	H	0.8	\$1,800,000	\$0	\$1,800,000	0	0	0	0
	T	2.4	\$31,000,000	\$3,400,000	\$34,400,000	1	22	0	23
	U	1.8	\$54,300,000	\$7,200,000	\$61,500,000	1	64	0	65
	W	1.4	\$43,800,000	\$11,800,000	\$55,600,000	17	4	0	21
	X	2.5	\$51,700,000	\$4,000,000	\$55,700,000	1	0	0	1
	Total	24.3	\$303,800,000	\$43,500,000	\$347,300,000	30	127	0	157

¹ Construction costs include utility relocation costs.

² Total for Alternatives 1 and 1A include Service Road Segment AA



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

April 15, 2014

MEMORANDUM TO: Lynnise Hawes, PE
Feasibility Studies Engineer
Feasibility Studies Unit

FROM: Darryl Austin
Traffic Forecast East Unit
Transportation Planning Branch

SUBJECT: Traffic Forecast for FS-1304A
I-795/US117 from Goldsboro to I-40
Wayne, Duplin, Sampson Counties

Please find attached the 2014 / 2035 traffic forecast for FS-1304A in Wayne, Duplin, and Sampson Counties. FS-1304A is defined as upgrading US 117 to interstate standards with multiple alternatives on new location in Wayne County from Goldsboro to the I-40 and US 117 Connector interchange in Sampson County. This forecast is a new request and lies within the Goldsboro MPO, Eastern Carolina RPO and Mid-Carolina RPO planning areas.

Several individuals were consulted during the development of this traffic forecast request. The individuals consulted represent various planning organizations and several NCDOT engineers from various departments and Divisions. These individuals are listed as follows:

Kerry Morrow, EI, Goldsboro MPO Coordinator
Hong Qi Lu, Model Research and Development Group Engineer
James Upchurch, TPB Eastern Planning Group Supervisor
Chris Pendergraph, PE, Div. 4 Dis. 3 District Engineer
Connie Price, Wayne County Planning Department
Andy Brown, PE, Div. 4 Traffic Engineer
Marcus Lee, Div. 4 Dis. 3 Assistant District Engineer
Mike Haney, Wayne County Development Alliance
Jennifer Collins, City of Goldsboro Planning Department
Linwood Reynolds, PE, Div.3 Dis.2 District Engineer

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PLANNING BRANCH
1554 MAIL SERVICE CENTER
RALEIGH NC 27699-1554



<http://ncdot.org/doh/preconstruct/tpb/>

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH, NC 27601
Phone: 919-707-0900
Fax: 919-733-9794

John Swope, Sampson County Economic Developer
Rob Will, Eastern Carolina Council RPO Coordinator
Charles Brown, Town of Mount Olive Manager
Partick Riddle, Div. 3 Planning Engineer
Randall Tyndall, Duplin County planning Department
Elmer Flake, Town of Faison Mayor
Rubylene Lambert, Town of Calypso Commissioner

The following scenarios are provided:

- 2014 No-Build
- 2014 Alternative 1 Build
- 2014 Alternative 2 Build
- 2014 Alternative 3 Build
- 2014 Alternative 4 Build
- 2035 No-Build
- 2035 Alternative 1 Build
- 2035 Alternative 2 Build
- 2035 Alternative 3 Build
- 2035 Alternative 4 Build

Assumptions

Certain Assumptions were made during the development of this forecast. It was assumed that all traffic within the US 117 study corridor, evaluated for this traffic forecast request will access US 117 via the nearest proposed interchange location that is identified in the traffic forecast request.

Fiscal Constraint:

For projects falling within an MPO, forecasts are fiscally constrained to match the assumptions of the MPO's LRTP. The LRTP for the Goldsboro MPO area was adopted on September 24, 2009. It was amended on November 18, 2010 to include TIP Project R-2554 which is described as the construction of the US 70 Bypass around Goldsboro. This is one funded TIP Project identified in the vicinity of the US 117 corridor considered during the development of this traffic forecast request. TIP Project R-2554 does not lie within the project limits identified for this request however the completion of this project may influence the traffic volumes on existing US 70 in the 2035 horizon year. The R-2554 project is currently under construction.

Development Activity:

There are currently no specific plans for additional development within the project area evaluated for this traffic forecast request. Information obtained from local planning department personnel was used to identify area within the study corridor expected to experience traffic growth due to specific project development.

Methodology for Projecting Future Year Traffic (2035):

The 2014 Base Year No-Build estimates and traffic factors are based upon the latest traffic counts and historic AADT trends. A growth rate of 2.5% was used to project the base year volumes to 2035. A simple interest growth rate formula was used to forecast the future AADT volumes.

Interpolation:

To determine any intermediate years, straight-line interpolation may be used. AADT volumes may be extrapolated for up to two years immediately following 2035. If it is determined that any of these assumptions have become inconsistent with the project and surrounding area activity, please request updated projections at this location.

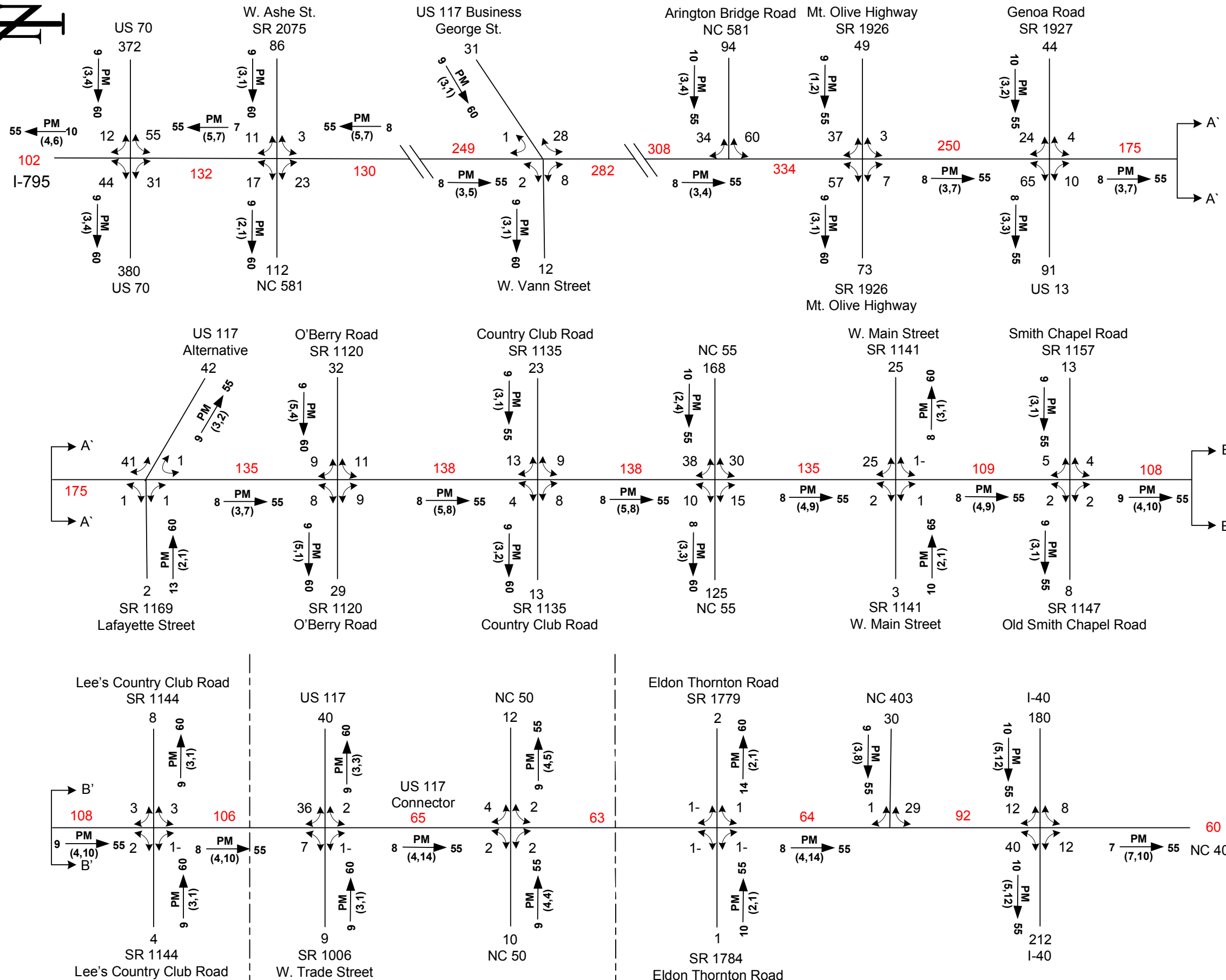
For future reference, this forecast will not be saved in Project Store but will be available in the TPB File room. If I can be of any further assistance on this project please do not hesitate to contact me at (919)707-0936, or by email: ddaustin1@ncdot.gov.

Attachments:

CC: FILE (Wayne County, TIP Project FS-1304A)

CC (via e-mail as PDF Attachments):

Jay Bennett, PE, Highway Design Branch
James Upchurch, Transportation Planning Branch
Deborah Hutchings, PE, Transportation Planning Branch
James Dunlop, PE, Congestion Management Section
Don Chen, PE, Pavement Management
Connie Price, Wayne County Planning Department
Randall Tyndall, Duplin County Planning Department
Jennifer Collins, Goldsboro MPO



2014

AVERAGE ANNUAL DAILY TRAFFIC

ALTERNATIVE 1

No-Build

SHEET 1 OF 10

LEGEND

- ###** No. of Vehicles Per Day (VPD) in 100s
- 1-** Less than 50 VPD
- X** Movement Prohibited
- Roadway
- K** Design Hour Factor (%)
- PM** PM Peak Period
- D** Peak Hour Directional Split
- Indicates Direction of D
- (d,t)** Duals, TT-STs (%)

TIP: FS-1304A **WBS: 50085.1.1**

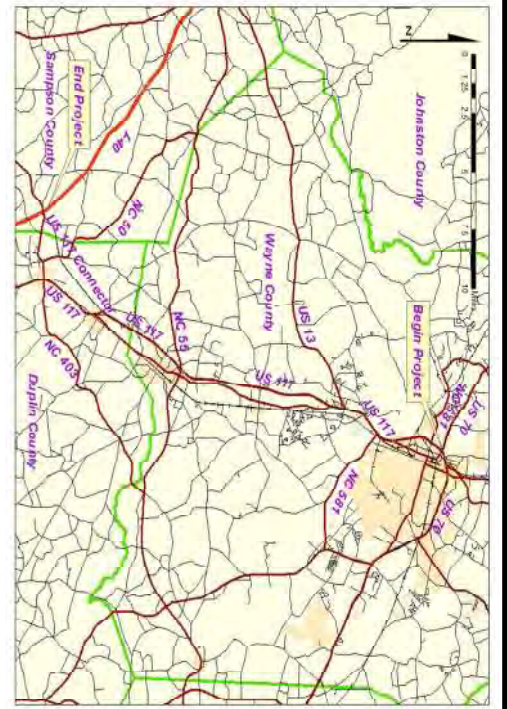
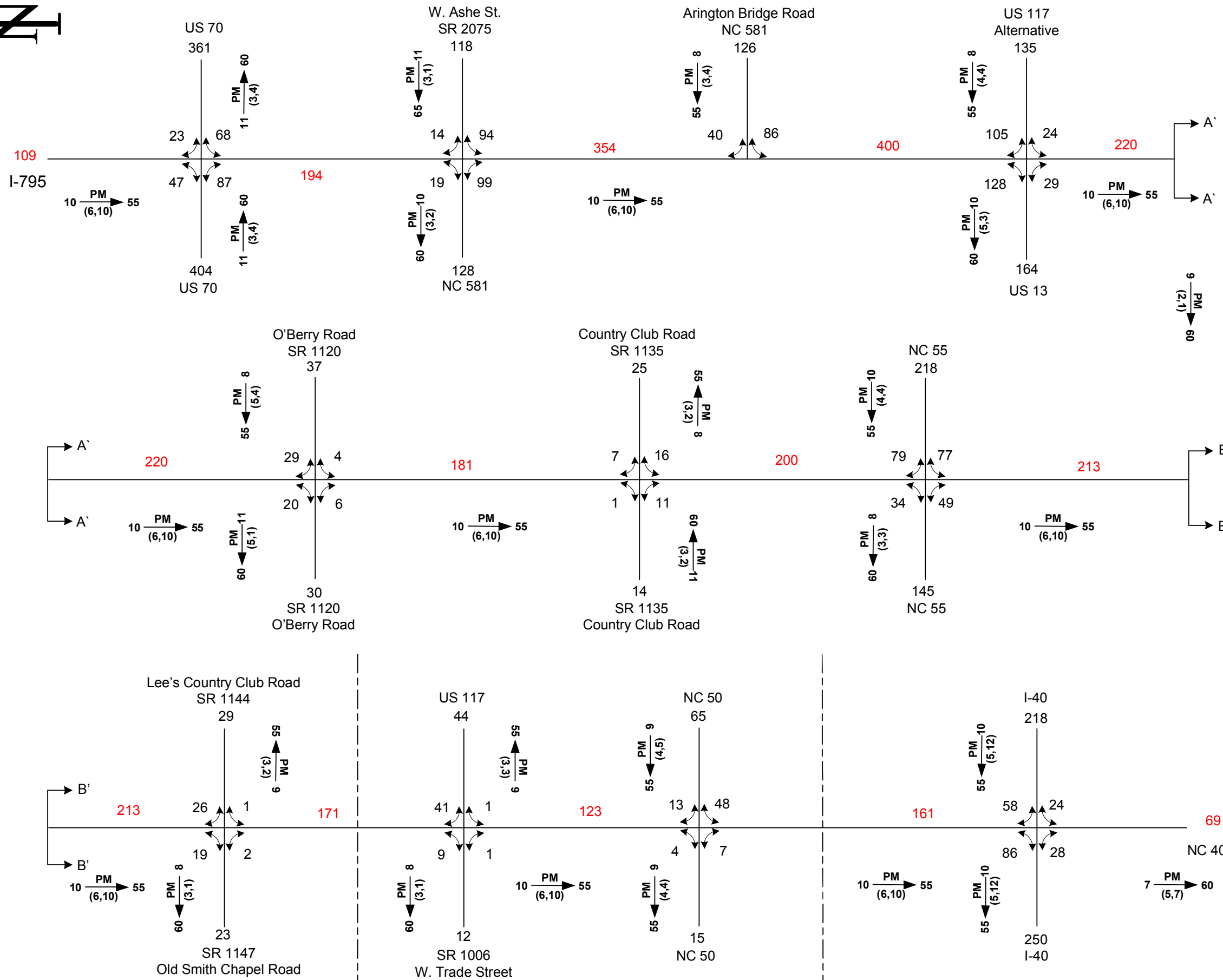
COUNTIES: Wayne, Duplin, Sampson **DIVISIONS:** 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.



2014
 AVERAGE ANNUAL
 DAILY TRAFFIC
ALTERNATIVE 1
Build
SHEET 2 OF 10

LEGEND

- $K \frac{PM}{(d,t)} \rightarrow D$
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: FS-1304A **WBS: 50085.1.1**

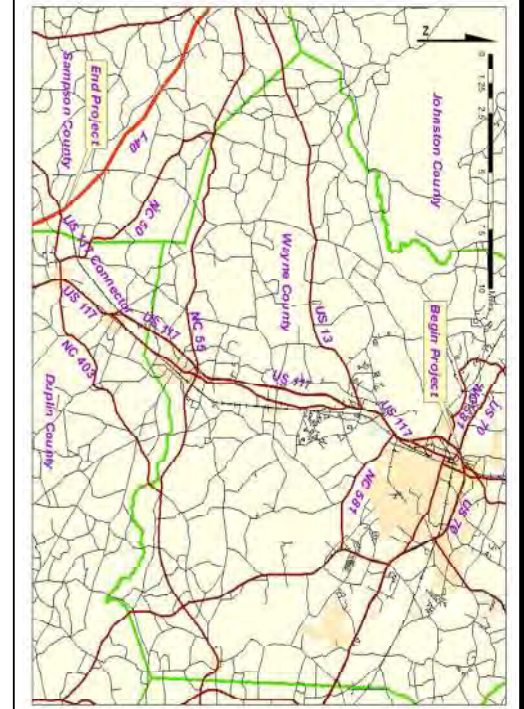
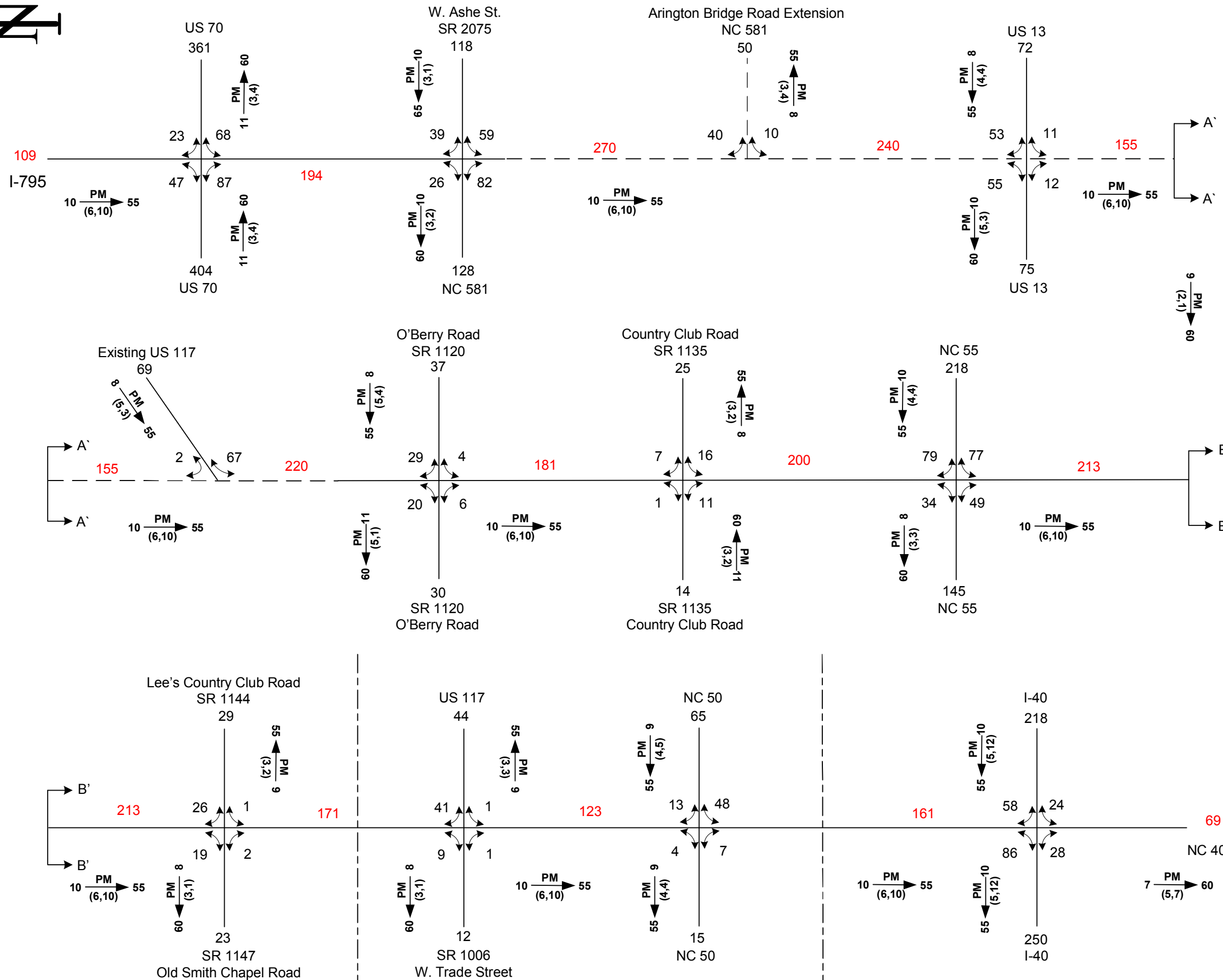
COUNTIES: Wayne, Duplin, Sampson **DIVISIONS:** 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.



2014

AVERAGE ANNUAL
DAILY TRAFFIC

ALTERNATIVE 2

Build

SHEET 3 OF 10

LEGEND

- $K \frac{PM}{(d,t)} \rightarrow D$
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: FS-1304A WBS: 50085.1.1

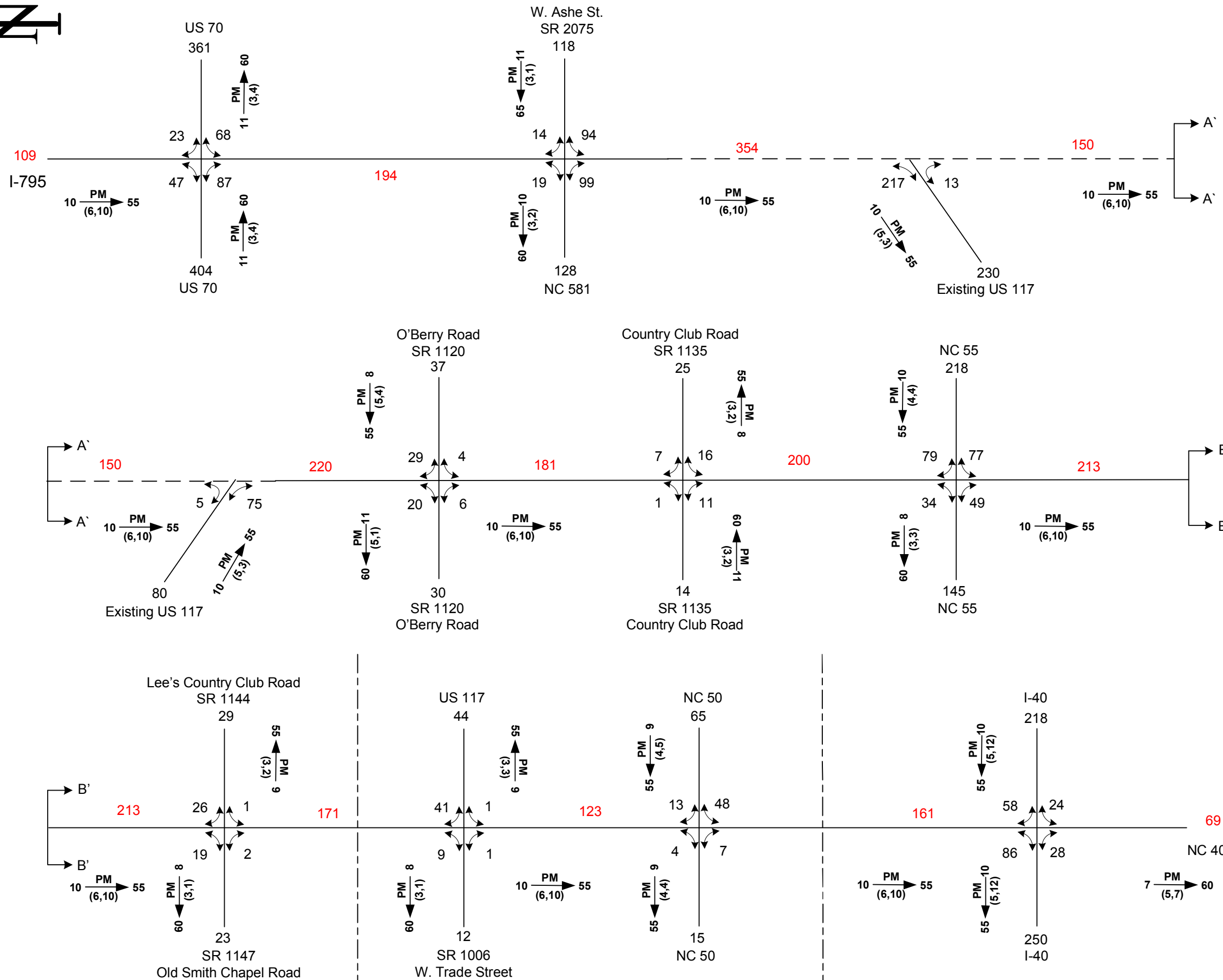
COUNTIES: Wayne, Duplin, Sampson DIVISIONS: 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.



2014

AVERAGE ANNUAL
DAILY TRAFFIC

ALTERNATIVE 4

Build

SHEET 5 OF 10

LEGEND

- $K \xrightarrow{PM} D$
(d,t)
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: FS-1304A WBS: 50085.1.1

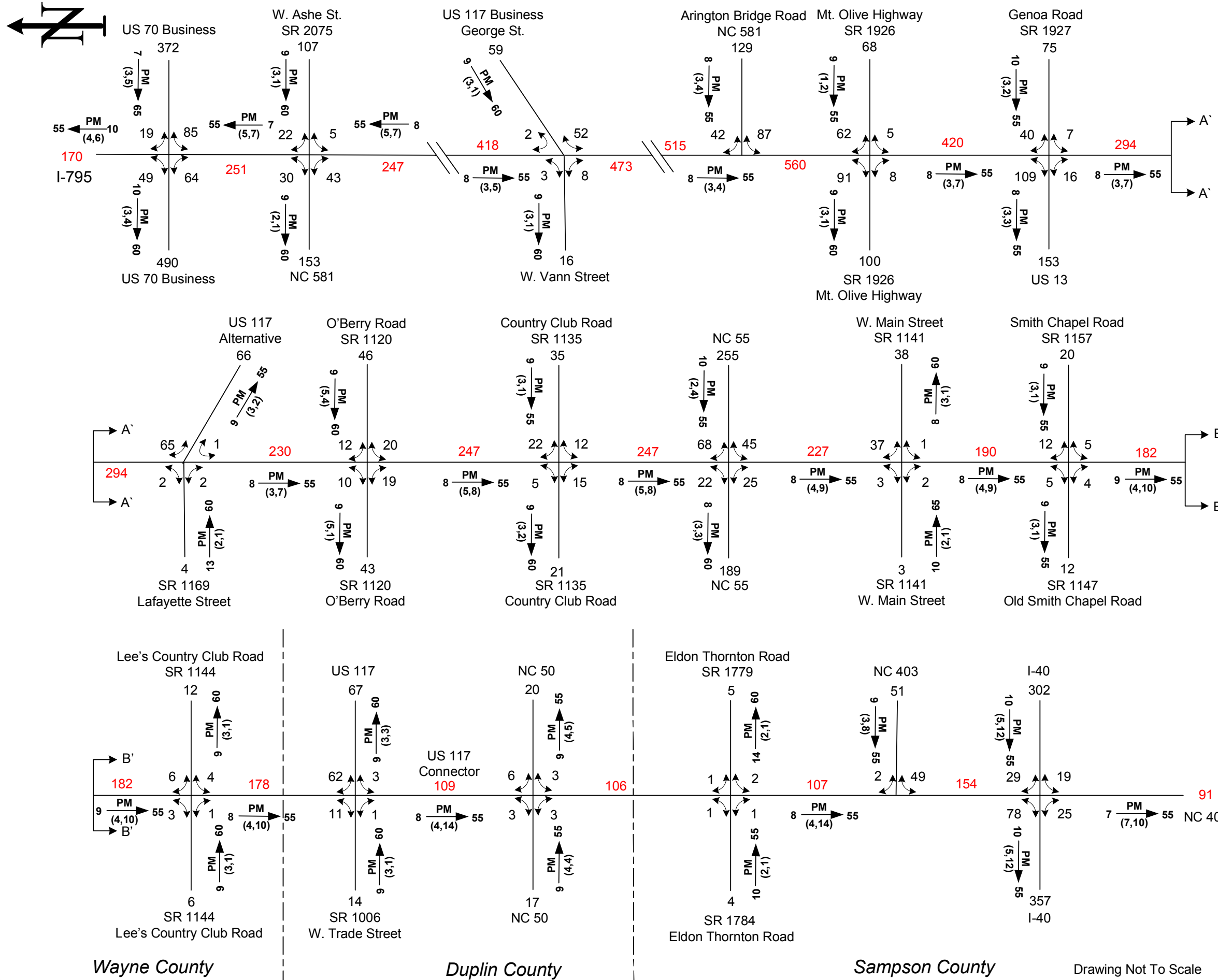
COUNTIES: Wayne, Duplin, Sampson DIVISIONS: 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.



2035

AVERAGE ANNUAL
DAILY TRAFFIC

ALTERNATIVE 1

No-Build

SHEET 6 OF 10

LEGEND

- $K \xrightarrow{PM} D$
(d, t)
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: FS-1304A WBS: 50085.1.1

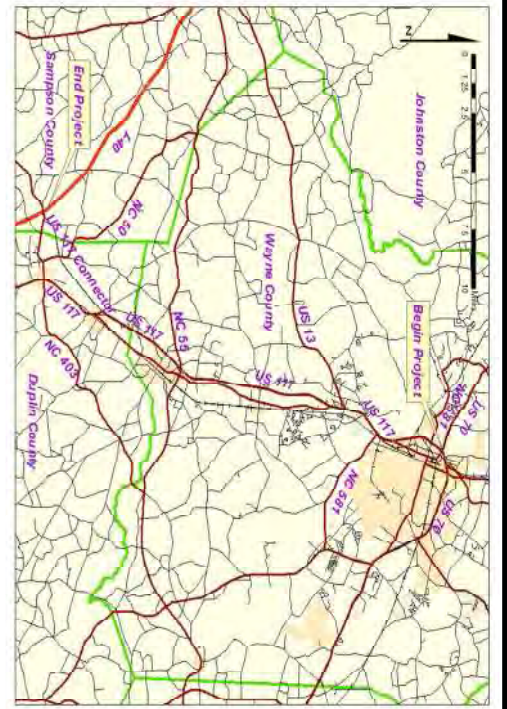
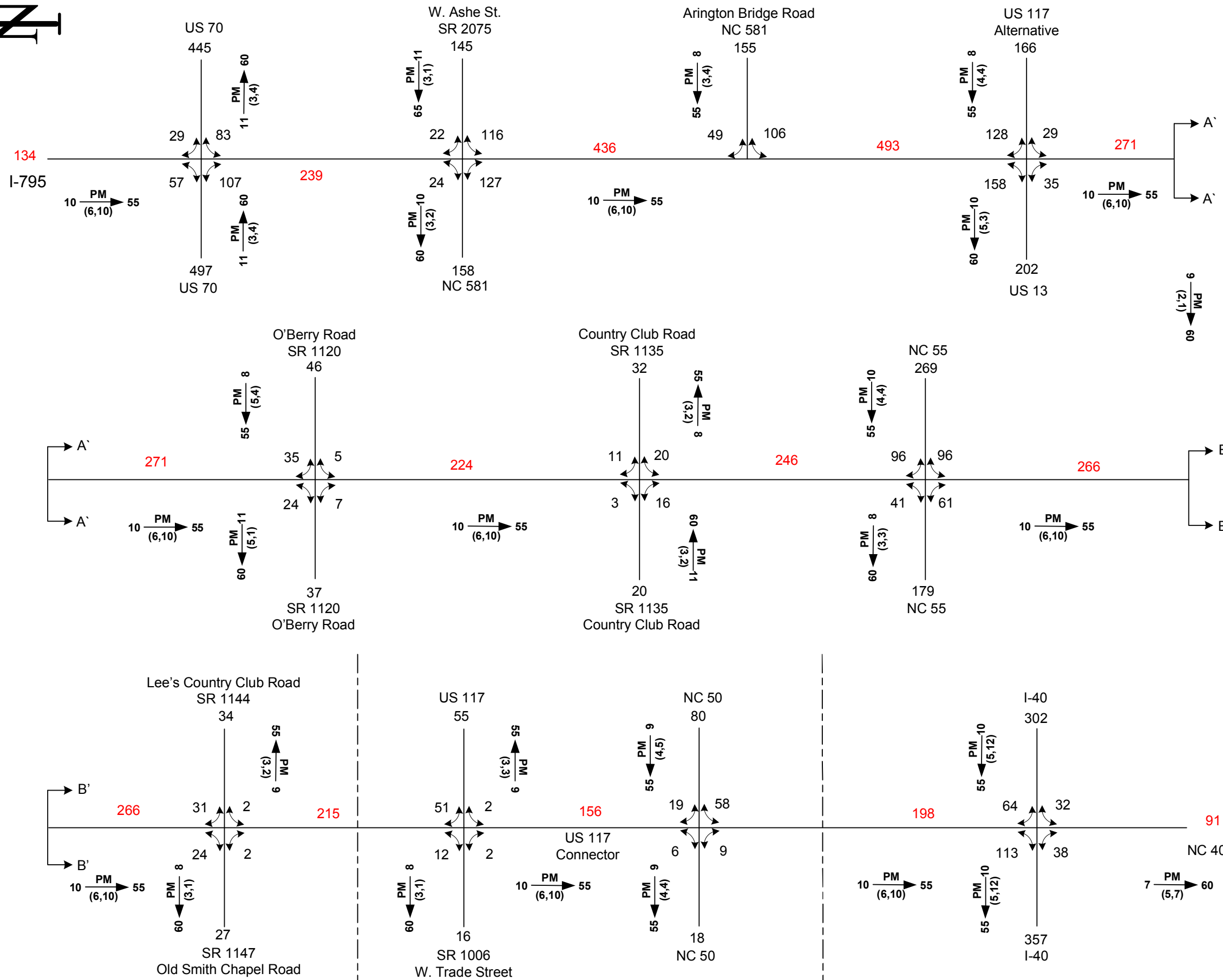
COUNTIES: Wayne, Duplin, Sampson DIVISIONS: 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.



2035

AVERAGE ANNUAL
DAILY TRAFFIC

ALTERNATIVE 1

Build

SHEET 7 OF 10

LEGEND

- $K \frac{PM}{(d,t)} \rightarrow D$
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: FS-1304A WBS: 50085.1.1

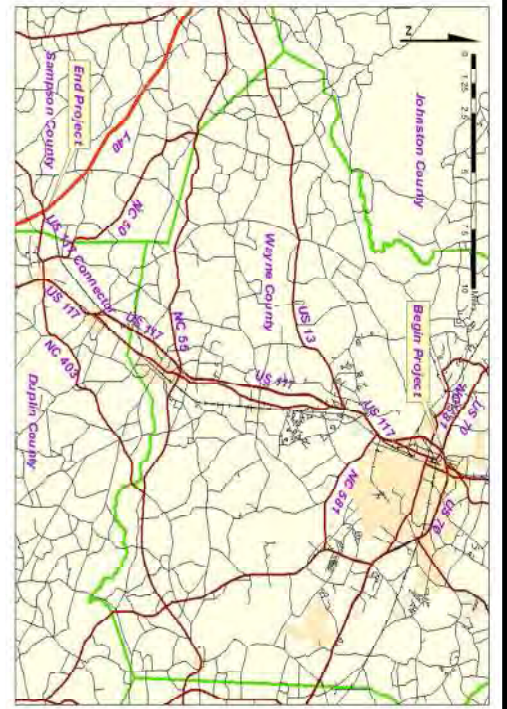
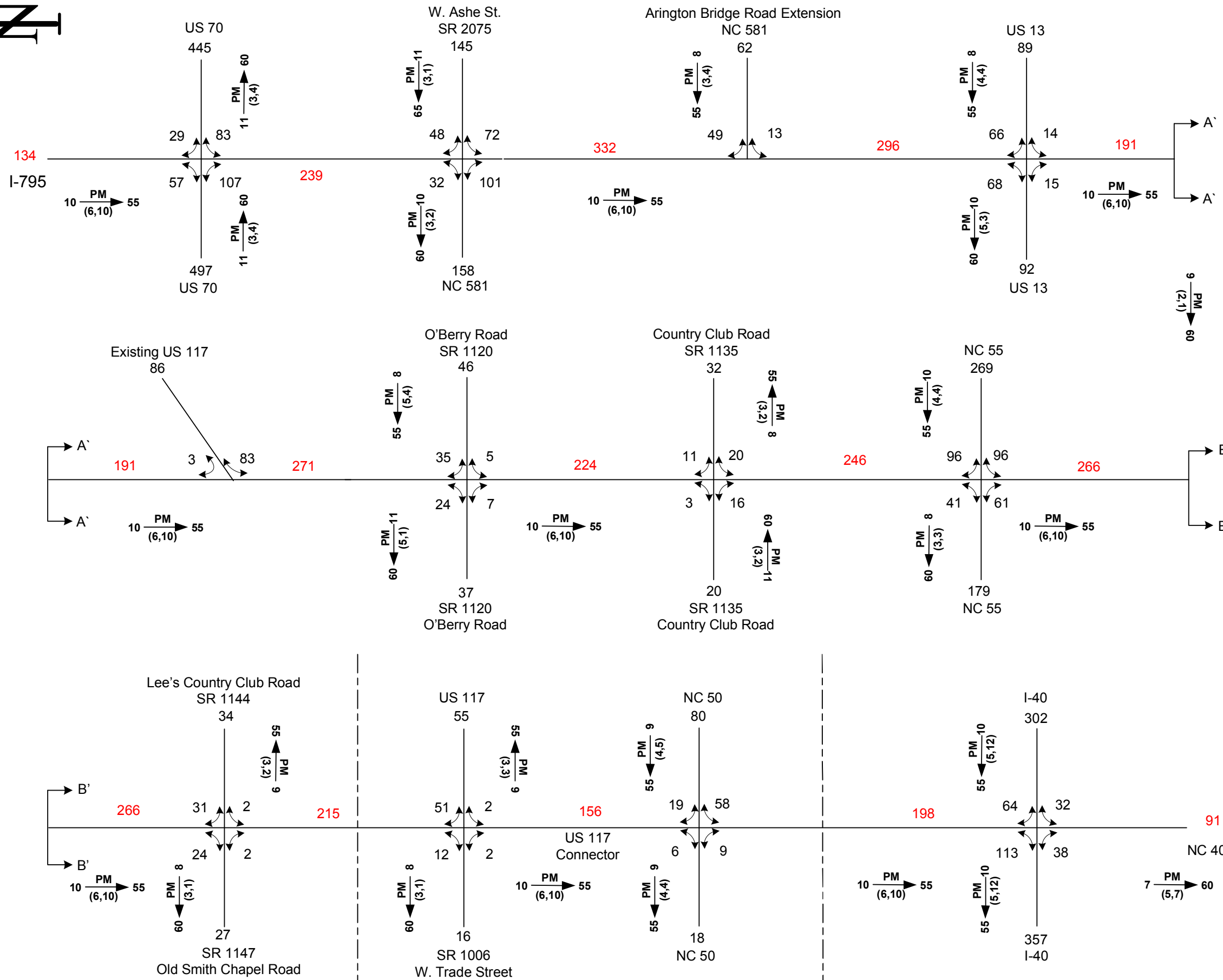
COUNTIES: Wayne, Duplin, Sampson DIVISIONS: 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.



2035

AVERAGE ANNUAL DAILY TRAFFIC

ALTERNATIVE 2

Build

SHEET 8 OF 10

LEGEND

- $K \frac{PM}{(d,t)} \rightarrow D$
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: FS-1304A WBS: 50085.1.1

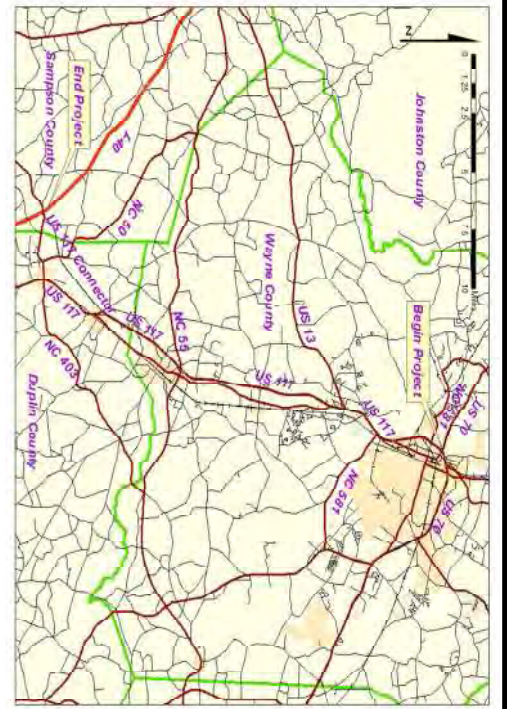
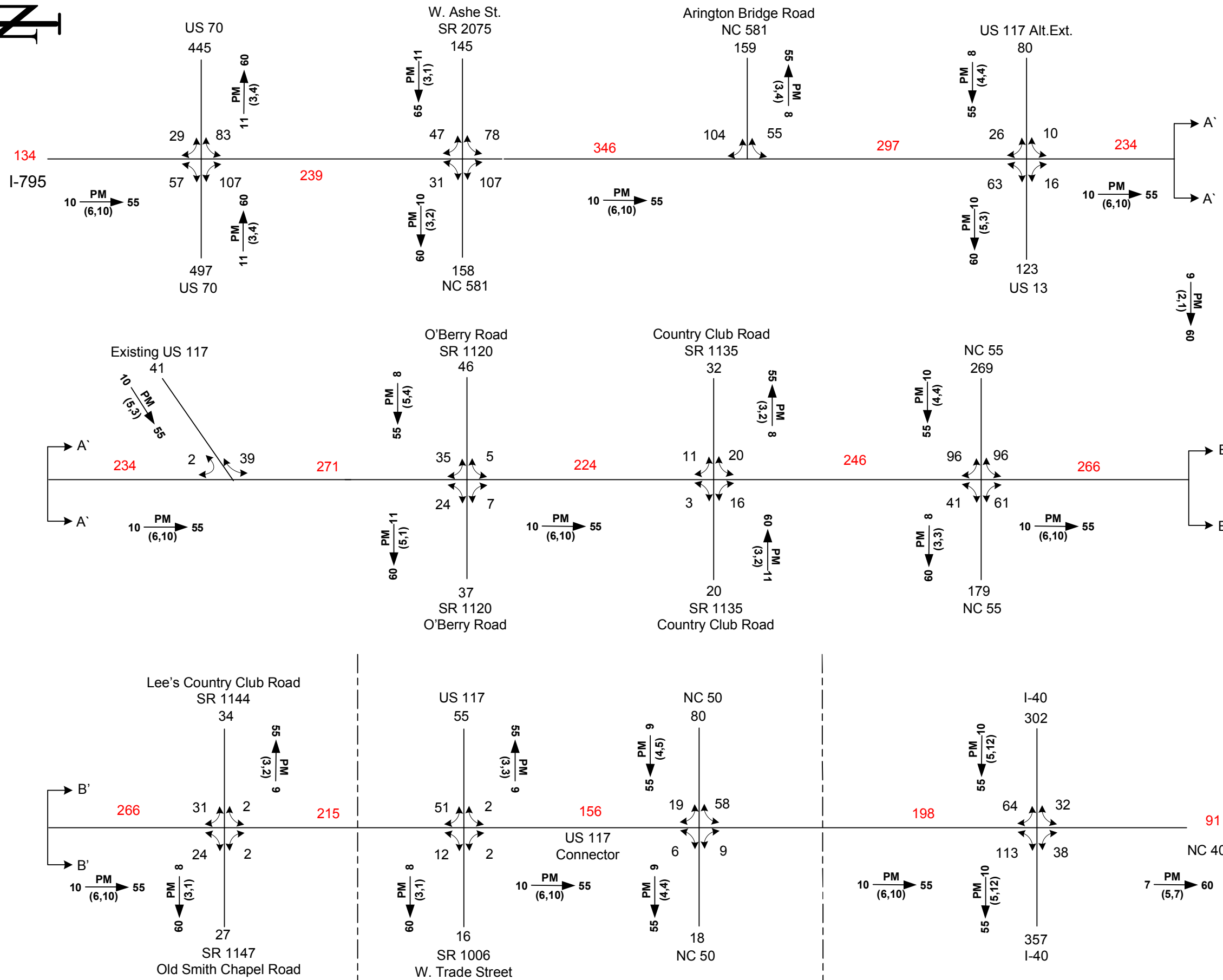
COUNTIES: Wayne, Duplin, Sampson DIVISIONS: 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.



2035
 AVERAGE ANNUAL
 DAILY TRAFFIC
ALTERNATIVE 3
 Build
SHEET 9 OF 10

LEGEND

- $K \frac{PM}{(d,t)} \rightarrow D$
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: FS-1304A WBS: 50085.1.1

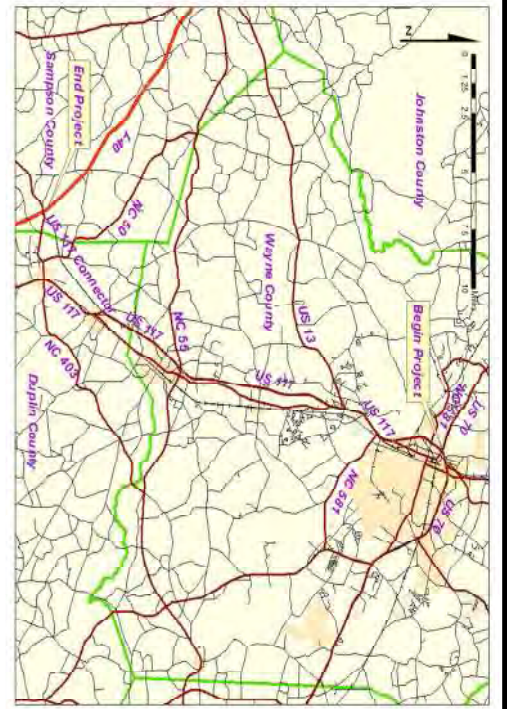
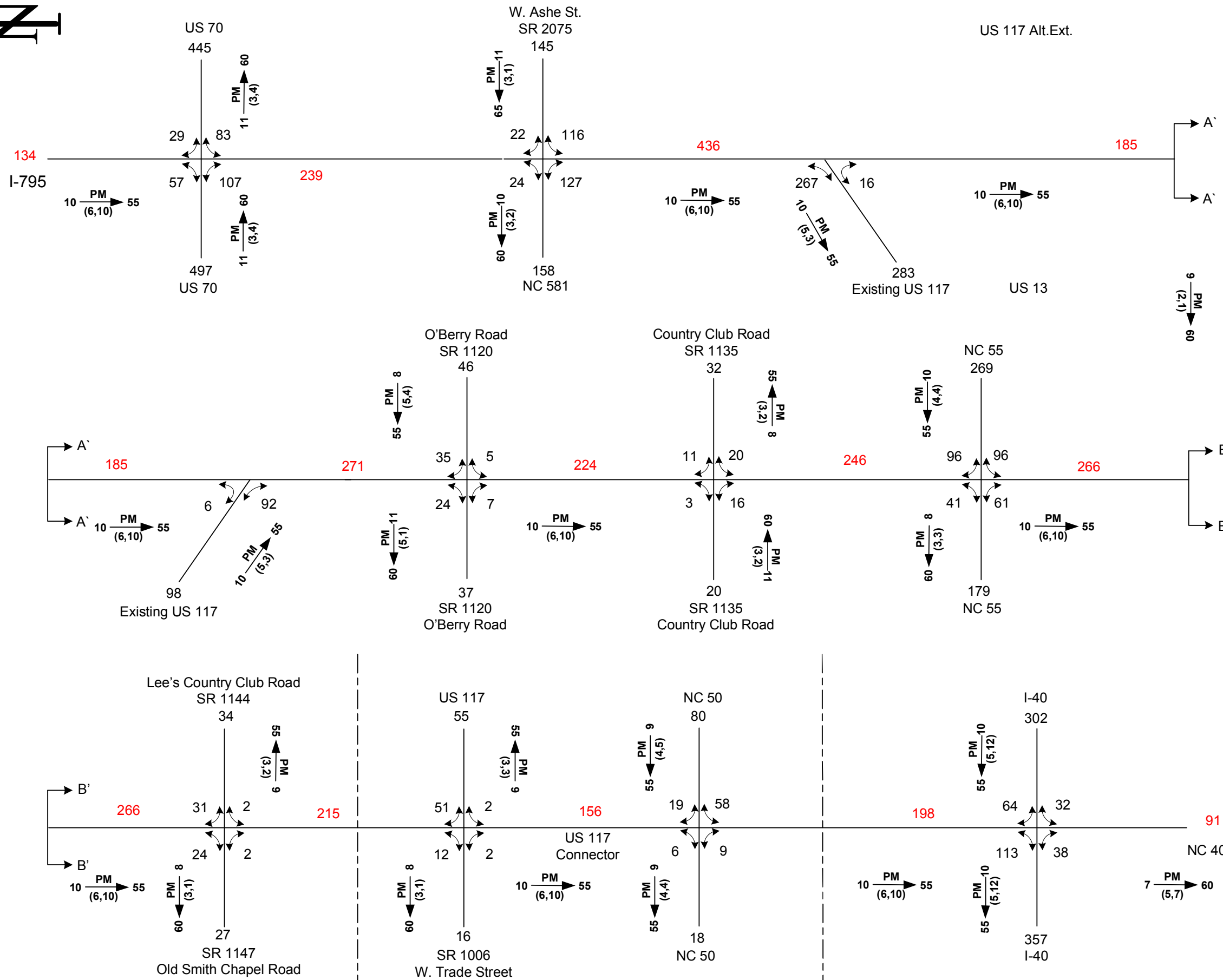
COUNTIES: Wayne, Duplin, Sampson DIVISIONS: 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.



2035

AVERAGE ANNUAL DAILY TRAFFIC

ALTERNATIVE 4

Build

SHEET 10 OF 10

LEGEND

- $K \frac{PM}{(d,t)} \rightarrow D$
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: FS-1304A WBS: 50085.1.1

COUNTIES: Wayne, Duplin, Sampson DIVISIONS: 3 & 4

DATE: 4-15-2014

PREPARED BY: Darryl Austin

LOCATION: US 117 from I-795 to I-40

PROJECT: Upgrade to Interstate standards with alternatives on new location.

STATE OF NORTH CAROLINA

COUNTY OF DUPLIN

WHEREAS, In order to provide safe vehicle movement on NC Highways, the NCDOT Division of Highways has been designated as the lead agency in roadway development throughout the State of North Carolina and in the County of Duplin, and

WHEREAS, the South US Highway 117 roadway from Goldsboro to I-40 is being considered for improvements to Interstate Standards to be designated as I-795 and a feasibility study has been contracted thru NCDOT Engineering contractor ICA Engineering of Raleigh, NC and they have submitted Alternate 1A to Feasibility Study FS -1304A for consideration, and

WHEREAS, the Duplin County Transportation Committee met on November 18, 2014 and desires to submit this resolution in opposition, these facts are submitted:

1. At least 10 parcels owned by more than 5 property owners/corporations with agricultural interest will be impacted, and
2. Access and/or development of more than 1,000 acres of prime farm land will be impacted, and
3. These agricultural interest employ as many as 500 citizens of surrounding communities and generate more than \$1.3M dollars annually, and
4. This proposed route will have negative impacts on the Burning Bush/Juniper Community and its historically agricultural lifestyle and neighboring livelihoods.

WHEREAS, in order to expedite the work the NCDOT Contract Engineer requests that the local government acknowledge and comment on the proposed routing of improvements to access to I-40 at or near Exit 355, and

NOW, THEREFORE BE IT RESOLVED that the Duplin County Transportation Committee recognize the need for and supports improvements along US 117/I-40 connector and supports the improvements of Interchange Exit 355, but would prefer that alternative recommendations be made to existing roadways and/or alternative routes be appraised to compliment development of the entire Interchange and Corridor and not just either individual quadrant. We do hereby adopt this resolution in opposition to Alternate 1A of Feasibility Study FS-1304A as submitted for consideration.

Adopted this the 18th day of November, 2014.



Kenneth Smith, Chairman
Duplin County Transportation Committee

ATTEST:


Mike Aldridge, County Manager and Clerk to the Committee



**A RESOLUTION TO ENDORSE DUPLIN COUNTY TRANSPORTATION
COMMITTEE OPPOSITION TO ALTERNATE 1A OF FEASIBILITY STUDY
FS-1304A IMPROVEMENTS TO 117/I-40 CONNECTOR IN DUPLIN COUNTY**

WHEREAS, the Transportation Advisory Committee (TAC) is the duly recognized transportation planning policy board for the Eastern Carolina Rural Planning Organization (RPO); and

WHEREAS, In order to provide safe vehicle movement on NC Highways, the NCDOT Division of Highways has been designated as the lead agency in roadway development throughout the State of North Carolina and in the County of Duplin, and

WHEREAS, the South US Highway 117 roadway from Goldsboro to I-40 is being considered for improvements to Interstate Standards to be designated as I-795 and a feasibility study has been contracted thru NCDOT Engineering contractor ICA Engineering of Raleigh, NC and they have submitted Alternate 1A to Feasibility Study FS -1304A for consideration, and

WHEREAS, the Duplin County Transportation Committee met on November 18, 2014 and desired to submit a resolution in opposition, these facts were submitted:

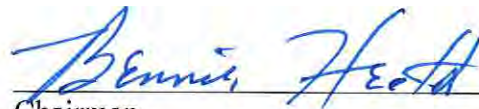
1. At least 10 parcels owned by more than 5 property owners/corporations with agricultural interest will be impacted, and
2. Access and/or development of more than 1,000 acres of prime farm land will be impacted, and
3. These agricultural interest employ as many as 500 citizens of surrounding communities and generate more than \$1.3M dollars annually, and
4. This proposed route will have negative impacts on the Burning Bush/Juniper Community and its historically agricultural lifestyle and neighboring livelihoods.

WHEREAS, in order to expedite the work the NCDOT Contract Engineer requests that the local government acknowledge and comment on the proposed routing of improvements to access to I-40 at or near Exit 355, and

NOW, THEREFORE BE IT RESOLVED that the Eastern Carolina Rural Planning Organization Transportation Coordinating Committee (TCC) recommended to the Transportation Advisory Committee (TAC) the resolution opposing Alternate 1A of Feasibility Study FS-1304A as submitted.

Eastern Carolina Rural Planning Organization recognizes the need for and supports improvements along US 117/I-40 connector and supports the improvements of Interchange Exit 355, but would prefer that alternative recommendations be made to existing roadways and/or alternative routes be appraised to compliment development of the entire Interchange and Corridor and not just either individual quadrant. We do hereby adopt this resolution in opposition to Alternate 1A of Feasibility Study FS-1304A as submitted for consideration.

A motion was made by Hugh Overholt and seconded by Eric Rouse for the endorsement of the resolution, and upon being put to a vote was duly adopted, on this, the 26th day of November 2014.



Chairman
Transportation Advisory Committee
Eastern Carolina RPO

ATTEST: 
Robert Will, Secretary



County of Wayne
STATE OF NORTH CAROLINA

GEORGE A. WOOD
COUNTY MANAGER

P.O. BOX 227
GOLDSBORO, N.C. 27533-0227

PHONE: (919) 731-1435
FAX: (919) 731-1446
George.Wood@waynegov.com

September 17, 2014

Mr. Mark Reep
ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607


Dear Mr. Reep:

On September 16, 2014 the Wayne County Board of Commissioners reviewed the alternatives for the Interstate 795/US Highway 117 freeway upgrades from US Highway 70 in Goldsboro (Wayne County) to Interstate 40 west of Faison in Sampson County. The Board of Commissioners discussed the impacts of each of the alternatives to businesses, FEMA buyout properties, major river/stream crossings, wetland areas and parks and recreational areas.

It was the unanimous decision of the Wayne County Board of Commissioners to recommend consideration of Alternative 1 – Upgrades to the existing US Highway 117 and Alternative 4 – Upgrades to the existing US Highway 117 and a new location east of US Highway 117 with consideration of an additional alternative connecting Ash Street in Goldsboro west of the existing highway, crossing Waynesborough Park and tying into Alternative 4 near Arrington Bridge Road.

On behalf of the Wayne County Board of Commissioners, thank you for the opportunity to make recommendations on the feasibility study of the completion of Interstate 795. Please contact me if you have any questions.

Sincerely,



George A. Wood

GAW/mrw

I-795 TO I-40 FEASIBILITY STUDY
OF THE NC DEPT. OF TRANSPORTATION

ALTERNATIVES
FOR THE INTERCHANGE OF
I-795 AND I-40

PURPOSE OF RECOMMENDATIONS

Sampson County is concerned that the proposed intersection of I-795 and I-40, as indicated within the July 30, 2014 NCDOT Feasibility Study (FS-1304A), would significantly limit industrial and commercial development at the I-40 Exit 355 interchange. We are requesting an alternative route(s) for the I-795 and I-40 interchange be designed that would not exclude commercial and industrial development. This proposal includes the below.

- POINT 1: SIGNIFICANT BENEFITS OF I-40**
- POINT 2: OPPORTUNITY OF I-40**
- POINT 3: IMPEDIMENTS OF DEVELOPING I-40**
- POINT 4: SAMPSON COUNTY INVESTMENT AT I-40 EXIT 355**
- POINT 5: 355 PROSPECT**
- POINT 6: OTHER I-40 DEVELOPMENT POTENTIAL**
- POINT 7: NCDOT PROPOSED I-795 & I-40 INTERCHANGE**
- POINT 8: REQUESTED ALTERNATIVE I-795 & I-40 INTERCHANGE DESIGN(S)**

POINT 1: SIGNIFICANT BENEFITS OF I-40

Sampson County recognizes Interstate 40 as an economic development asset that offers three significant economic benefits for not just Sampson but also Duplin and Wayne counties.

- 1st..... Corridor that provides interstate quality business/industry logistic and personnel vehicle movements.
- 2nd..... Corridor for traveling public, i.e.; tourism.
- 3rd..... Quality interstate highway connection to the regions assets: the Port of Wilmington, Raleigh-Durham-Chapel Hill MSA, Research Triangle Park, RDU Airport, I-95, I-85, etc.

POINT 2: OPPORTUNITY OF I-40

The development of the I-40 interchanges in Sampson County presents the opportunity to create:

- new jobs,
- increased tax base - property tax revenues and
- increased sales tax revenues.

The Sampson County Board of Commissioners have appointed a Sampson County Transportation Advisory Group (TAG) to spearhead the county’s transportation future. The county also relies on the Sampson County Economic Development Commission (EDC) and Sampson County Public Works Department to develop its interchanges as opportunities arise.

POINT 3: IMPEDIMENTS OF DEVELOPING I-40

However, we recognize the impediments that have hindered the development of I-40 in the past, those being, the lack of:

- utilities (primarily water and sewer) and
- good available industrial and commercial sites.

The combination of the lack of water/sewer infrastructure and available controlled industrial sites is the basic challenge for industrial recruitment at the Sampson County I-40 interchanges. Below is a review of the five interchanges that serve Sampson County.

I-40 Exits 341 & 343

These interchanges have water/sewer services, although limited for industrial applications, but to date adequately sized sites for industrial purposes have not been available.

I-40 Exits 348 & 355

Industrial sites at these interchanges have been identified but currently no water/sewer services are at these interchanges. However, as will be indicated below, lack of water services are about to be resolved at Exit 355.

I-40 Exit 364

Although not in Sampson County, via NC-24, I-40 Exit 364 is only:

- 1 mile east of the Sampson County border with Duplin County and
- 3.2 miles east of a 500,000 sq. ft. available industrial building and the first of several available industrial sites.

Along NC-24 these industrial properties are served by a Sampson County water line, a natural gas line and Sampson County’s only railroad line.

POINT 4: SAMPSON COUNTY INVESTMENT AT I-40 EXIT 355

In 2008 Sampson County invested \$ 1,750,000 towards the industrial development of I-40 Exit 355 with the purchase of 267 acres located on the NE quadrant of I-40 Exit 355. Along with the county owned 267 acres, adjoining properties have allowed the Sampson County EDC to market two significant sites at that same NW quadrant.

- 200 acre.....I-40 Exit 355 Site..... **Exhibits A & B**
- 244 acre.....I-40 Exit 355 North Site..... **Exhibit C**

POINT 5: 355 PROSPECT

Since May of 2012 Sampson County has actively worked to recruit a specific industrial prospect that has identified the I-40 Exit 355 Site as their preferred site. This is a 200 acre site located on the NE quadrant of I-40 Exit 355. Two aerial photos of this site have been enclosed as **Exhibits A & B**.

For confidentiality purposes we have identified this prospect the 355 Project.

355 Prospect: Benefits

Below is a review of the benefits of this project to this region.

Direct Hire Jobs:	79
Average Annual Salary:	\$ 36,382
Region Indirect Hire Jobs:	100
Construction Jobs / Period:	300 / 10-Months
Taxable Investment (est.):	\$ 107,100,000
Increase in Sampson County Tax Base:	2.55%
Annual Regional Purchases (Est.):	\$ 35,000,000

With the I-40 Exit 355 Site located less than 1-mile from Duplin County and 6-miles from Wayne County, many of the benefits of this project locating on this Site will impact both of these counties.

355 Prospect: Water Infrastructure Grant Awards

\$ 1,523,925 Water Infrastructure Improvements Grants for 355 Project

Three water system infrastructure grant awards totaling \$ 1,523,925 have been approved to provide water system infrastructure of the Sampson County Water Department to serve this proposed industry on the I-40 Exit 355 Site. This grant funding amounts to 97.5% of the cost of this project. This infrastructure would include a 12 inch water line and a 500,000 gallon elevated water tank, both with the ability to serve additional commercial and industrial growth at this same interchange.

355 Prospect: Site Development Priorities

From the outset the 355 Prospect company has identified the below site development points as critical priorities for their utilizing this 200 acre site.

Site Buffer: This prospective company has stated they require significant buffer for their proposed facility. The 355 Site provides an existing forest stand along the sites frontage and two sides, which the Company accepts for their buffer requirements. Please see **Exhibit B** indicating this existing on-site forest.

Site Entry/Exit: Special emphasis has been placed by the company on the entry and exit design of this site to assure safety of both plant truck and passenger traffic as well as other traffic traveling on the Connector Road, the sites frontage highway.

It is believed the design of the I-795 Feasibility Study FS-1304A, page 24, would negatively impact the possibility of the 355 Site being selected by this prospect for this project.

355 Prospect: Project Decision / Start: September or October 2014

The Sampson County EDC has been informed by this prospective company they could be making their site section decision and announcement during September or October of 2014, with the company also indicating they would begin site preparation and construction immediately after that decision and announcement.

POINT 6: OTHER I-40 DEVELOPMENT POTENTIAL

The Sampson County Economic Development Commission is actively working to create commercial and industrial development at the I-40 Exit 355 Interchange.

Development Potential of I-40 Exit 355

Exhibits D & E were produced by the Thomas and Hutton Engineering Company and indicate the potential of commercial and industrial site development at the 355 Interchange. Below is a portion of the summary of the land that firm believes can be developed at this interchange.

Buildable Acres:	1,180
Buildable Sq. Ft. Per Acre:	12,000
Total Sq. Ft. of Buildings:	14,160,000

A conservative estimate of building construction and equipment costs indicates the below levels of Taxable Investments and resulting Annual Property Tax Revenue to Sampson County.

		<u>Taxable Investment</u>	<u>Annual Property Tax Revenue</u>
I-40 Exit 355 at:	100% Build-Out:	\$ 556,400,000	\$ 7,397,840
	50% Build-Out:	\$ 283,200,000	\$ 3,698,920
	25% Build-Out:	\$ 141,600,000	\$ 1,849,460

As you can see there is significant economic development impacts available with the development of the 355 Interchange. As an important start, the above referenced 355 Prospect on page 2 of this Summary would create the below estimated Tax Base / Revenue benefits to Sampson County.

Taxable Investment:	\$ 107,100,000
Increase in Sampson County Tax Base:	2.55%
Year 1 Tax Revenue to Sampson County:	\$ 758,428

POINT 7: NCDOT PROPOSED I-795 & I-40 INTERCHANGE

The current proposal for the interconnection of I-795 and I-40 at I-40 Exit 355 has been described by NCDOT officials as very similar in design as the existing I-95 and I-40 interchange. It was further described that this super interstate interchange design would utilize flyover ramps (high-level overpasses, bridges) built over the existing grade level I-40. This is similar in design to the I-95 and I-40 interchange.

It is Sampson County’s concern that such an interchange at Exit 355 would inhibit, stop, both commercial and industrial development that is desired and planned at Exit 355. The enclosed **Exhibit F** shows the I-95 and I-40 interchange and easily indicates no development has occurred, or can occur, at this interchange.

POINT 8: REQUESTED ALTERNATIVE I-795 & I-40 INTERCHANGE DESIGN(S)

Sampson County requests NCDOT to develop an alternative design or designs for the interconnection of I-795 at I-40 that would not exclude the development of commercial and industrial businesses on the existing I-40 Exit 355. Below are summary bullet points from the above Points.

- ***Sampson, Duplin and Wayne Counties can realize significant benefits from the development of I-40 Exit 355.***
- ***Sampson County has enhanced the potential of Exit 355 by the \$ 1.75M investment in industrial land.***
- ***Sampson County’s 355 Prospect will jump-start Exit 355’s commercial and industrial development.***
- ***NCDOT’s current I-795 / I-40 interchange design would exclude commercial and industrial development.***
- ***Sampson County request alternative designs for the I-795 / I-40 interchange.***



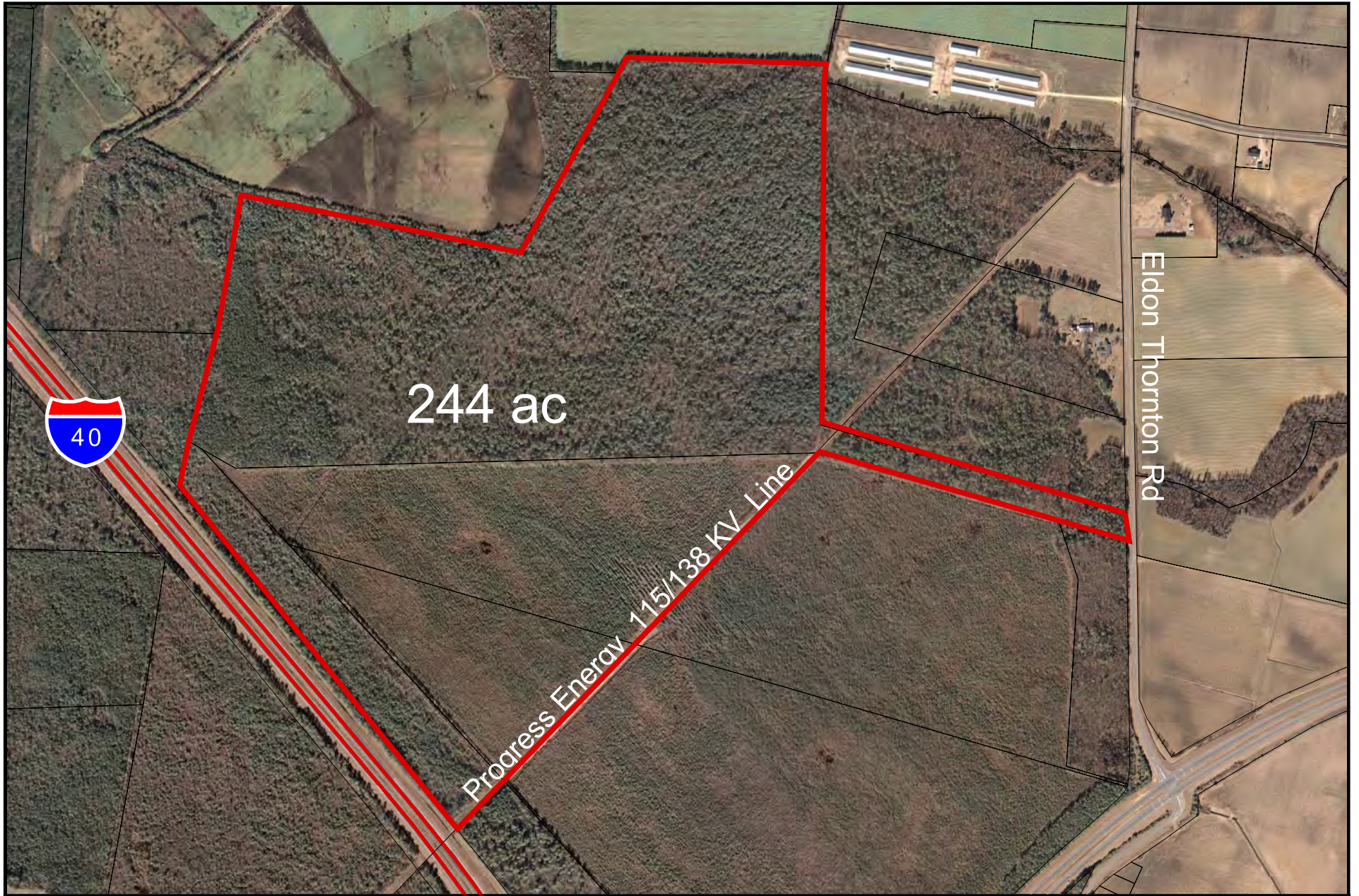
I-40 EXIT 355 SITE - 200ac VICINITY MAP

Scale: 1" = 1200'



I-40 EXIT 355 : 200 ac SITE





244 ac

Progress Energy 115/138 KV Line

Eldon Thornton Rd



I-40 Exit 355 INDUSTRIAL PARK MASTER PLAN CONCEPT "A"

FOR



PREPARED FOR:

**SAMPSON COUNTY
ECONOMIC DEVELOPMENT
COMMISSION**

PREPARED BY:

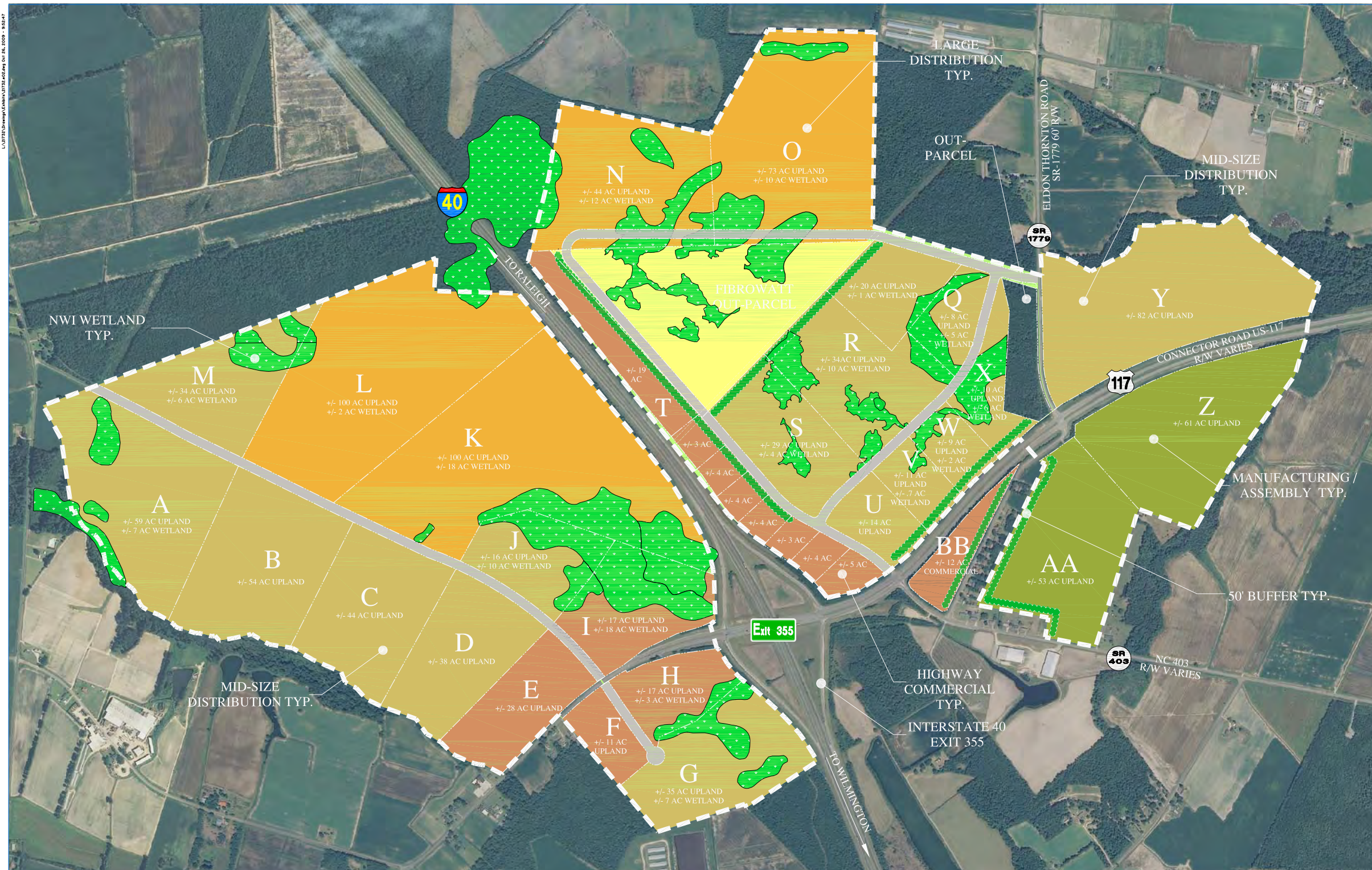


219 STATION ROAD, SUITE 101
WILMINGTON, NORTH CAROLINA 28405
(910) 332-3360
CHARLESTON AND MYRTLE BEACH SOUTH CAROLINA
SAVANNAH AND BRUNSWICK GEORGIA
www.thomas-hutton.com

NOVEMBER 5, 2009

LEGEND

- LARGE DISTRIBUTION (+/- 500,000 TO 1,000,000 SF. BLDGS)
- MANUFACTURING / ASSEMBLY (+/- 100,000 SF. BLDGS.)
- MID-SIZE DISTRIBUTION (+/- 250,000 TO 300,000 SF. BLDGS.)
- HIGHWAY COMMERCIAL
- OUTPARCEL (FIBROWATT)
- 100' PROPOSED RIGHT OF WAY



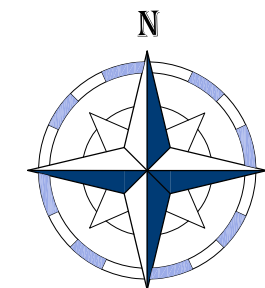
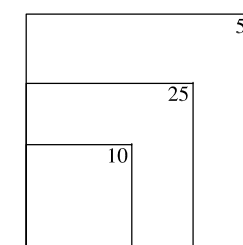
DISCLAIMER:

1. THIS EXHIBIT ILLUSTRATES A PLAN WHICH IS FOR DISCUSSION PURPOSES ONLY. IT DOES NOT LIMIT OR BIND THE OWNER AND IS SUBJECT TO CHANGE OR REVISION WITHOUT NOTICE TO THE HOLDER.
2. WETLANDS AND PROPERTY BOUNDARIES SHOWN ARE APPROXIMATE AND HAVE NOT BEEN SURVEYED. THOMAS & HUTTON ENGINEERING CO. HAS USED THIS DATA AS IS AND HAS NOT VERIFIED THE ACCURACY OF THE DATA.
3. WETLAND AREAS AND WETLAND IMPACTS SHOWN ARE SUBJECT TO DELINEATION AND APPROVAL BY THE UNITED STATES ARMY CORPS OF ENGINEERS.
4. PROPOSED BUILDINGS AND ROADWAYS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY OR MAY NOT REFLECT FINAL DEVELOPMENT.
5. THIS PLAN IS CONCEPTUAL AND SUBJECT TO CHANGE UPON REVIEW BY VARIOUS GOVERNMENTAL AGENCIES.

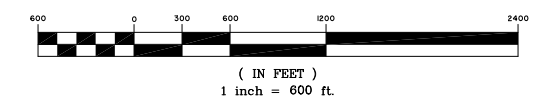
DEVELOPMENT SUMMARY

TOTAL LARGE DISTRIBUTION SITE ACREAGE	+/- 317 ACRES
TOTAL MID-SIZE DISTRIBUTION SITE ACREAGE	+/- 500 ACRES
TOTAL MANUFACTURING / ASSEMBLY SITE ACREAGE	+/- 114 ACRES
TOTAL HIGHWAY COMMERCIAL SITE ACREAGE	+/- 132 ACRES
TOTAL RIGHT OF WAY	+/- 49 ACRES
TOTAL FIBROWATT OUTPARCEL SITE ACREAGE	+/- 68 ACRES
TOTAL GROSS SITE ACRES	+/- 1,366 ACRES
NWI WETLAND ACREAGE	+/- 186 ACRES
TOTAL UPLAND ACRES	+/- 1,180 ACRES
TOTAL BUILDABLE ACRES	+/- 1,180 ACRES
SF/AC	+/- 12,000 SF/AC * 1,180 AC = 14,160,000 SF
DETENTION POND MIN.	+/- 10% = 124 ACRES

ACREAGE CHART



GRAPHIC SCALE



I-40 Exit 355 INDUSTRIAL PARK MASTER PLAN CONCEPT "A"

FOR



PREPARED FOR:

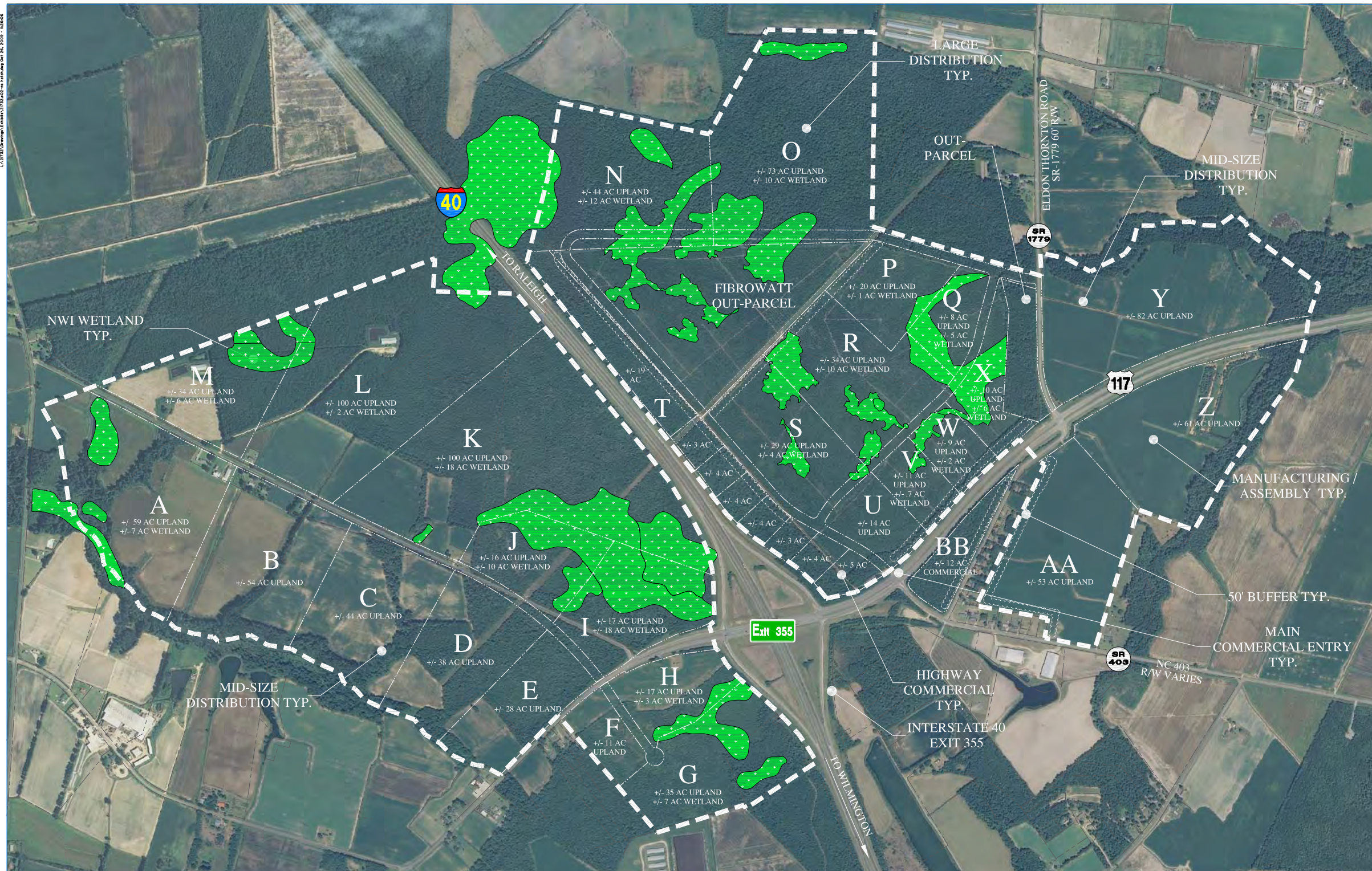
**SAMPSON COUNTY
ECONOMIC DEVELOPMENT
COMMISSION**

PREPARED BY:



219 STATION ROAD, SUITE 101
WILMINGTON, NORTH CAROLINA 28405
(910) 332-3360
CHARLESTON AND MYRTLE BEACH SOUTH CAROLINA
SAVANNAH AND BRUNSWICK, GEORGIA
www.thomas-hutton.com

NOVEMBER 5, 2009



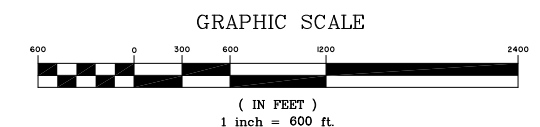
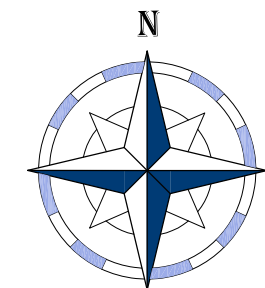
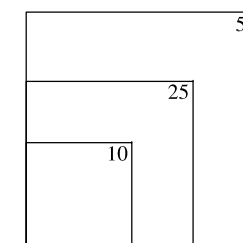
DISCLAIMER:

1. THIS EXHIBIT ILLUSTRATES A PLAN WHICH IS FOR DISCUSSION PURPOSES ONLY. IT DOES NOT LIMIT OR BIND THE OWNER AND IS SUBJECT TO CHANGE OR REVISION WITHOUT NOTICE TO THE HOLDER.
2. WETLANDS AND PROPERTY BOUNDARIES SHOWN ARE APPROXIMATE AND HAVE NOT BEEN SURVEYED. THOMAS & HUTTON ENGINEERING CO. HAS USED THIS DATA AS IS AND HAS NOT VERIFIED THE ACCURACY OF THE DATA.
3. WETLAND AREAS AND WETLAND IMPACTS SHOWN ARE SUBJECT TO DELINEATION AND APPROVAL BY THE UNITED STATES ARMY CORPS OF ENGINEERS.
4. PROPOSED BUILDINGS AND ROADWAYS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY OR MAY NOT REFLECT FINAL DEVELOPMENT.
5. THIS PLAN IS CONCEPTUAL AND SUBJECT TO CHANGE UPON REVIEW BY VARIOUS GOVERNMENTAL AGENCIES.

DEVELOPMENT SUMMARY

TOTAL LARGE DISTRIBUTION SITE ACREAGE	+/- 317 ACRES
TOTAL MID-SIZE DISTRIBUTION SITE ACREAGE	+/- 500 ACRES
TOTAL MANUFACTURING / ASSEMBLY SITE ACREAGE	+/- 114 ACRES
TOTAL HIGHWAY COMMERCIAL SITE ACREAGE	+/- 132 ACRES
TOTAL RIGHT OF WAY	+/- 49 ACRES
TOTAL FIBROWATT OUTPARCEL SITE ACREAGE	+/- 68 ACRES
TOTAL GROSS SITE ACRES	+/- 1,366 ACRES
NWI WETLAND ACREAGE	+/- 186 ACRES
TOTAL UPLAND ACRES	+/- 1,180 ACRES
TOTAL BUILDABLE ACRES	+/- 1,180 ACRES
SF/AC	+/- 12,000 SF/AC * 1,180 AC = 14,160,000 SF
DETENTION POND MIN.	+/- 10% = 124 ACRES

ACREAGE CHART



I-95 & I-40 INTERCHANGE



EXHIBIT E