



Comprehensive Transportation Plan



**Pender County
North Carolina**

January 2016

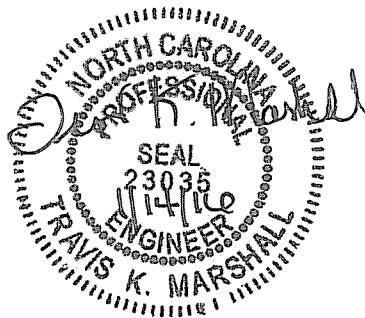
Comprehensive Transportation Plan

Pender County

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N.C. Department of Transportation

In Cooperation with: Town of Pender County
Town of Atkinson
Town of Burgaw
Village of St. Helena
Town of Wallace
Town of Watha
Cape Fear Rural Transportation Planning Organization

January 2016



Travis K. Marshall, P.E.
Eastern Unit Manager

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Executive Summary

In January of 2011, the Transportation Planning Branch of the North Carolina Department of Transportation, Pender County, and the Cape Fear Rural Planning Organization initiated a study to cooperatively develop the Pender County Comprehensive Transportation Plan (CTP), which includes the towns of Atkinson, Burgaw, Wallace, and Watha and the Village of St. Helena. This is a long range multi-modal transportation plan that covers transportation needs through the year 2040. Modes of transportation evaluated as part of this plan include: highway, public transportation and rail, bicycle, and pedestrian. This plan does not cover routine maintenance or minor operations issues. Refer to Appendix A for contact information on these types of issues. Updates to this CTP should be coordinated through the Cape Fear Rural Transportation Planning Organization.

Findings of this CTP study were based on an analysis of the transportation system, environmental screening, and public input. Refer to Figure 1 for the CTP maps, which were mutually endorsed/adopted in 2015. Implementation of the plan is the responsibility of Pender County, NCDOT, and the towns Atkinson, Burgaw, Wallace, and Watha, the Village of St. Helena, and NCDOT. Refer to Chapter 2 for information on the implementation process.

This report documents the recommendations for improvements that are included in the Pender County CTP. The major recommendations for improvements are listed below. More detailed information about these and other recommendations can be found in Chapter 2.

- **US 117:** Widen the existing 2-3 lane facility from the Wilmington MPO planning boundary at NC 210 to US 117 Business (Walker St.) in Burgaw to a four-lane divided major thoroughfare with 12-foot lanes. This project also includes a multi-use path along the east side of the facility.
- **US 117 Bypass:** Widen the existing 3-lane facility in Burgaw from US 117 Business (South Walker Street) to NC 53 to a four-lane divided major thoroughfare with 12-foot lanes. This project also includes sidewalks on both sides of the facility.
- **US 421:** Widen the existing 2-lane facility to a four-lane divided expressway with 12-foot lanes from North of NC 210 to the Sampson County Line.
- **NC 53:** Provide access management and make intersection improvements in Burgaw from Smith Street (SR 1400) to US 117 Bypass.
- **NC 53:** Widen the existing facility in Burgaw from US 117 Bypass to Stag Park Road (SR 1509) to a four-lane divided major thoroughfare with 12-foot lanes. This project also includes a sidewalk on one side of the facility.

- **New Road:** Construct a roadway on new location from US 117 Bypass to NC 53 in Burgaw to provide circulation improvements and relieve traffic congestion at the existing intersection.

Adopted by:

Pender County

Date: January 20, 2015

Town of Atkinson

Date: November 6, 2014

Town of Burgaw

Date: December 9, 2014

Village of St. Helena

Date: February 19, 2015

Town of Wallace

Date: February 12, 2015

Town of Watha

Date: February 2, 2015

NCDOT

Date: March 4, 2015

Endorsed by:

Cape Fear RPO

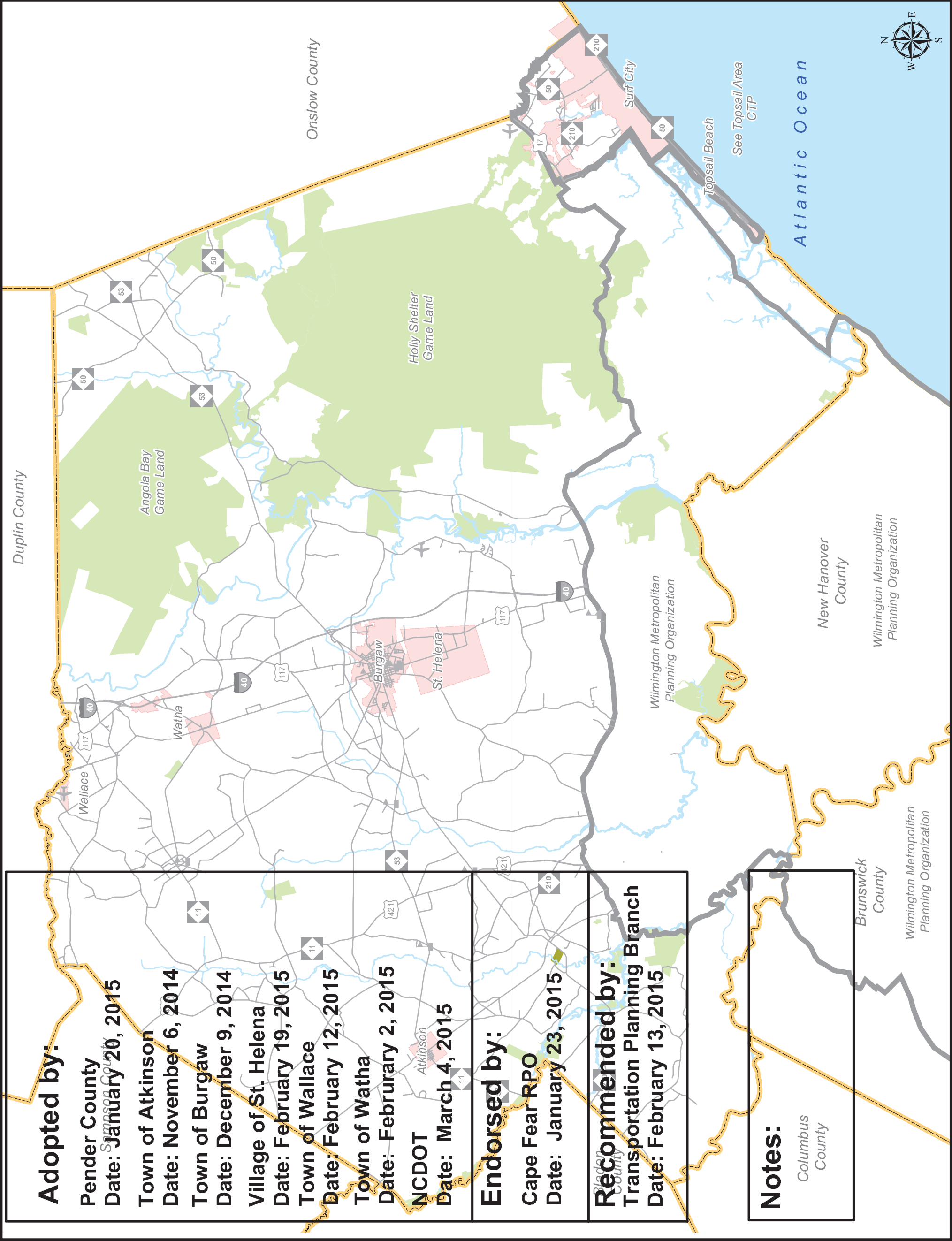
Date: January 23, 2015

Recommended by:

Transportation Planning Branch

Date: February 13, 2015

Notes:



Adoption



Pender County
North Carolina
Comprehensive

Transportation Plan

Plan date: December 9, 2014

Sheet 1 Adoption Sheet

Sheet 2 Highway Map

Sheet 3 Public Transportation
and Rail Map

Sheet 4 Bicycle Map

Sheet 5 Pedestrian Map

Legend



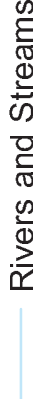
Schools



Airports



Roads



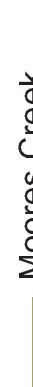
Rivers and Streams



Municipal Boundary



Managed Areas



Moore's Creek
National Battlefield



Wilmington Metropolitan
Planning Organization
Boundary



County Boundary



Figure 1 - Sheet 1 of 5

Base map date: March 19, 2012
Refer to CTP document for more details

Highway Map



Pender County
North Carolina
Comprehensive
Transportation Plan

Plan date: December 9, 2014

- Freeways

Existing

Needs Improvement

Recommended
- Expressways

Existing

Needs Improvement

Recommended
- Boulevards

Existing

Needs Improvement

Recommended
- Other Major Thoroughfares

Existing

Needs Improvement

Recommended
- Minor Thoroughfares

Existing

Needs Improvement

Recommended
- Existing Interchange

Proposed Interchange

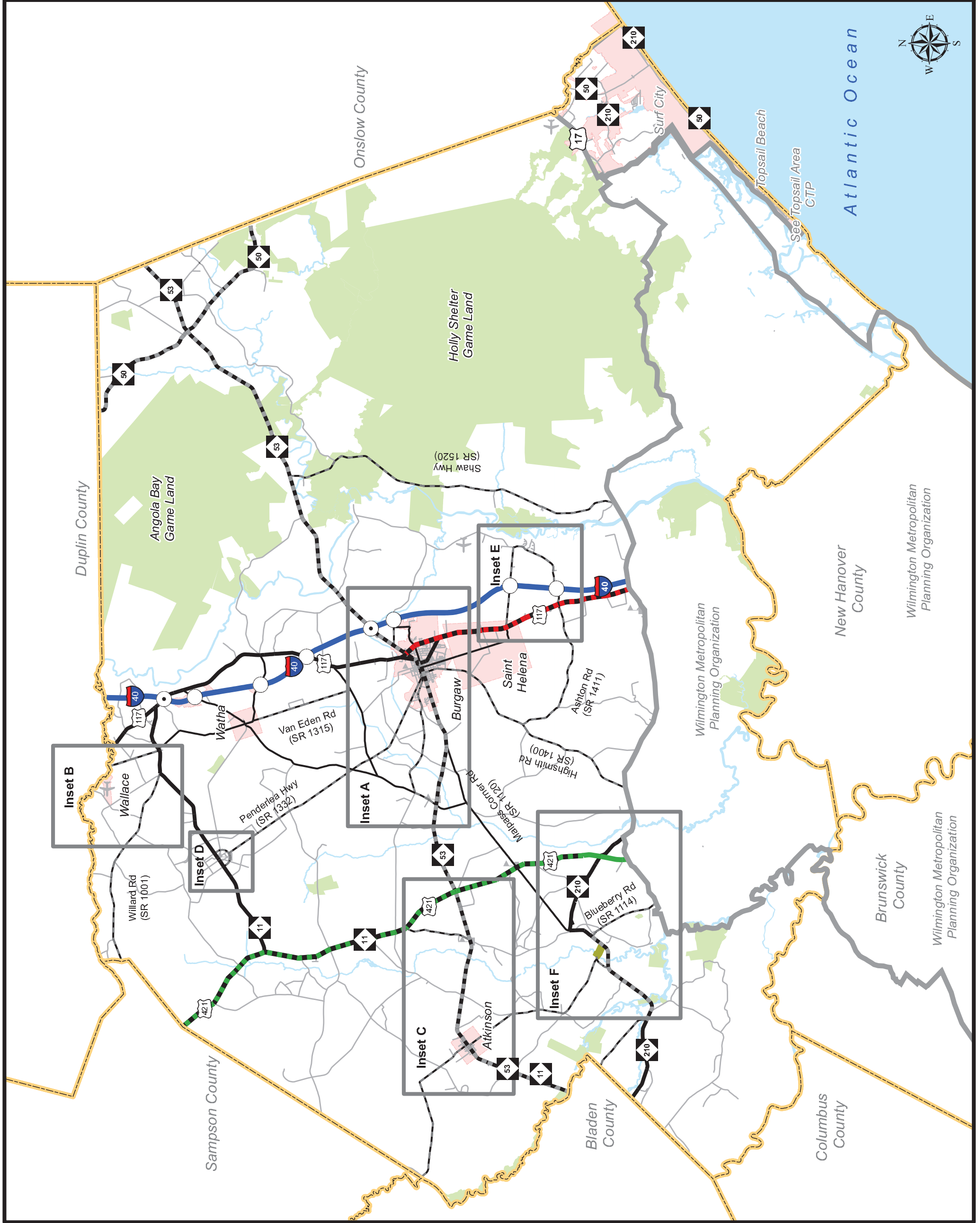
Interchange Needs Improvement

Existing Grade Separation

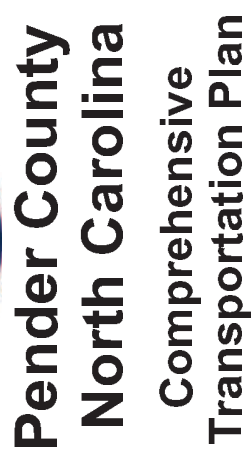
Proposed Grade Separation



Figure 1 - Sheet 2 of 5
Base map date: March 18, 2012
Refer to CTP document for more details



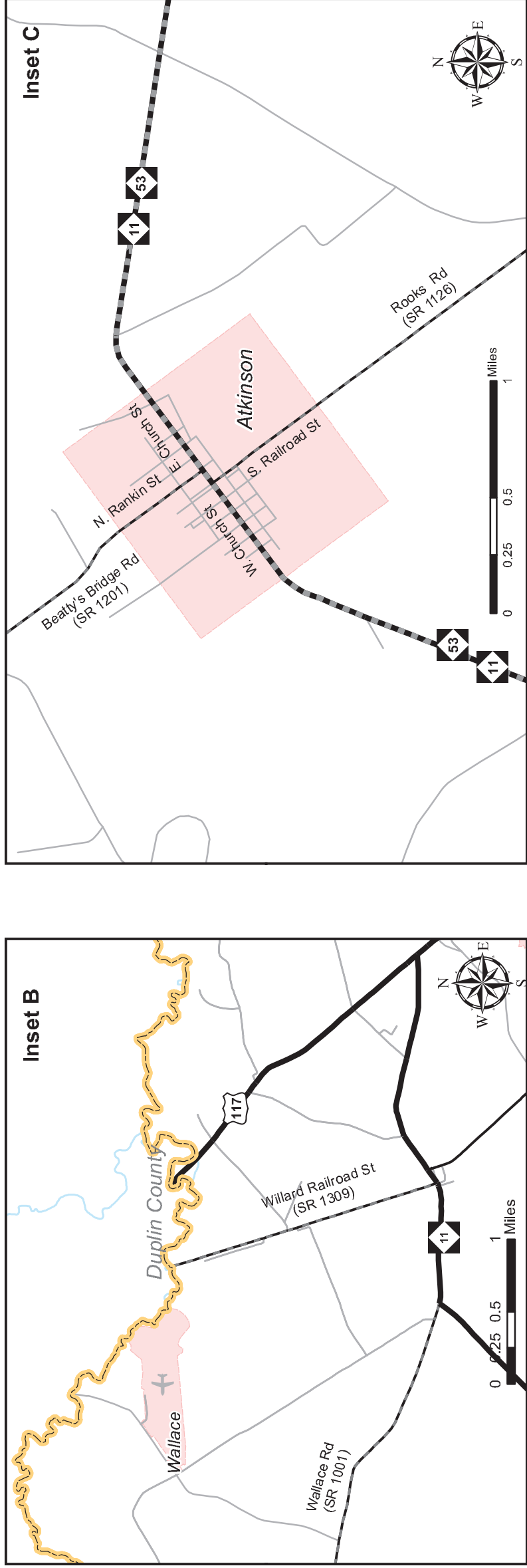
Inset A, B, C

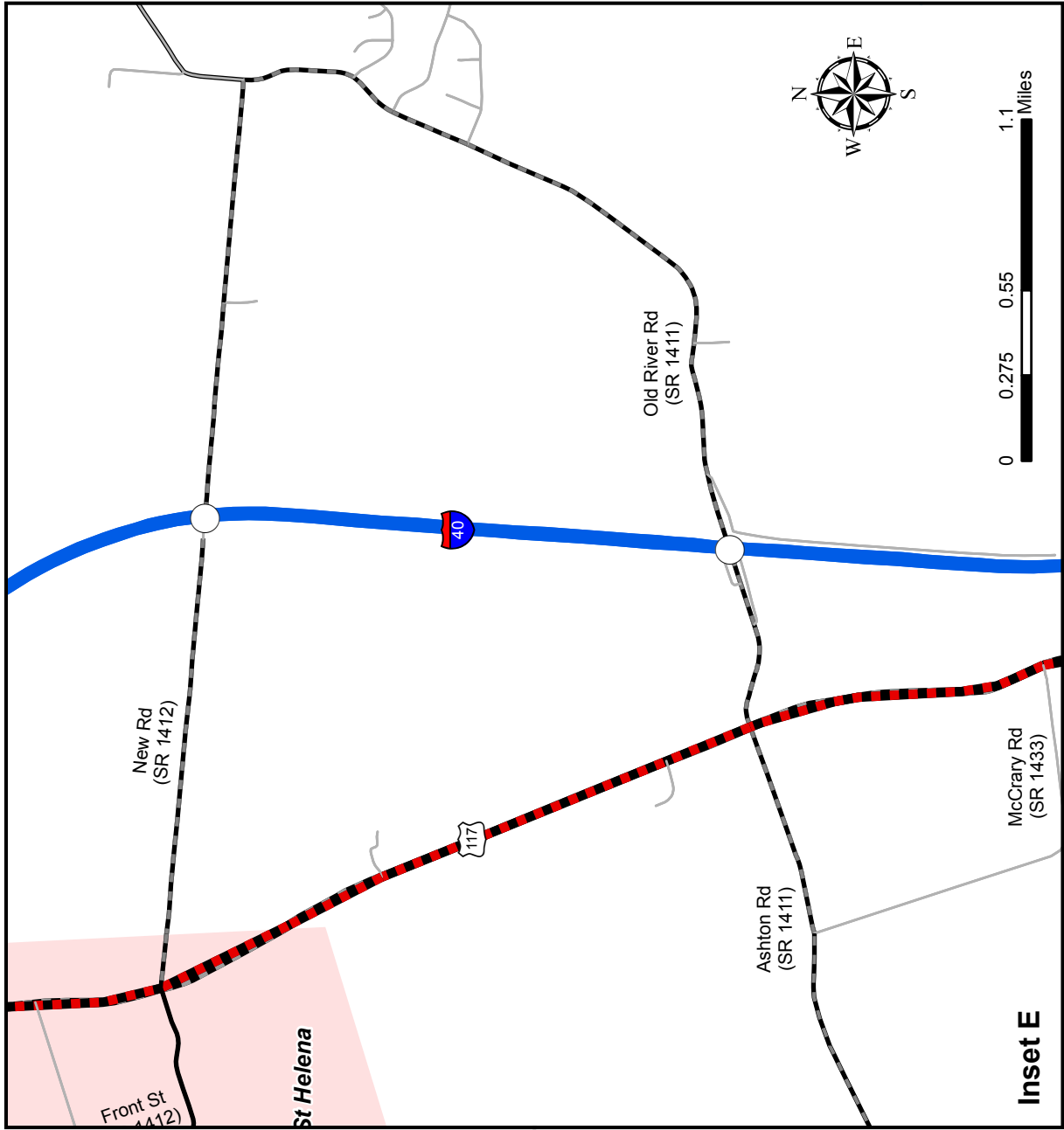
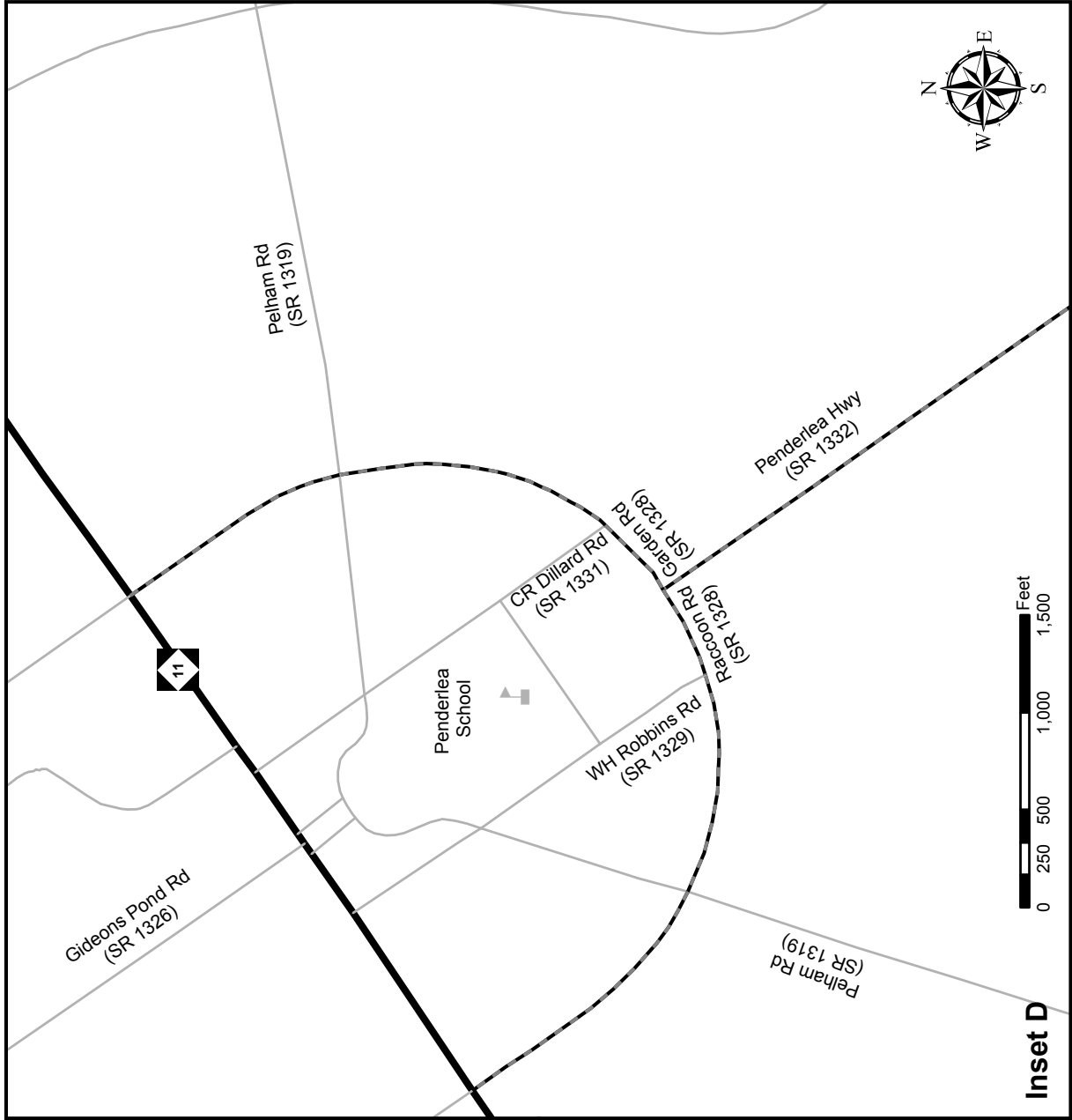


Road Type	Existing	Needs Improvement	Recommended
Freeways	~85%	~10%	~5%
Expressways	~80%	~15%	~5%
Boulevards	~75%	~20%	~5%

Minor Thoroughfares
Existing
Needs Improvement
Recommended

Base map date: 5/18/12
Refer to CTP document for more details





Highway Map

Inset D, E

Pender County

North Carolina

Comprehensive

Transportation Plan

Plan date: December 9, 2014

Freeways

Existing

Needs Improvement

Recommended

Expressways

Existing

Needs Improvement

Recommended

Boulevards

Existing

Needs Improvement

Recommended

Other Major Thoroughfares

Existing

Needs Improvement

Recommended

Minor Thoroughfares

Existing

Needs Improvement

Recommended

Existing Interchange

Proposed Interchange

Interchange Needs Improvement

Existing Grade Separation

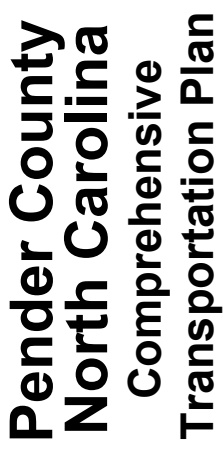
Proposed Grade Separation

Figure 1 - Sheet 2B of 5

Base map date: 5/18/12

Refer to CTP document for more details

Inset F



Freeways

1000000

1

-
-
-
-
-
-
-

Other Major



1

.....

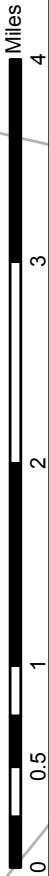
C

)

1

Base map date: 5/18/12

Refer to CTP document for more details



Wilmington Metropolitan
Planning Organization

Inset F

Public Transportation
and Rail Map



Pender County
North Carolina
Comprehensive
Transportation Plan
Plan date: December 9, 2014

- Bus Routes

 - Existing
 - Needs Improvement
 - Recommended
- Fixed Guideway

 - Existing
 - Needs Improvement
 - Recommended
- Operational Strategies

 - Existing
 - Needs Improvement
 - Recommended
- Rail Corridor

 - Active
 - Inactive
 - Recommended
- High Speed Rail Corridor

 - Existing
 - Recommended
- Rail Stops

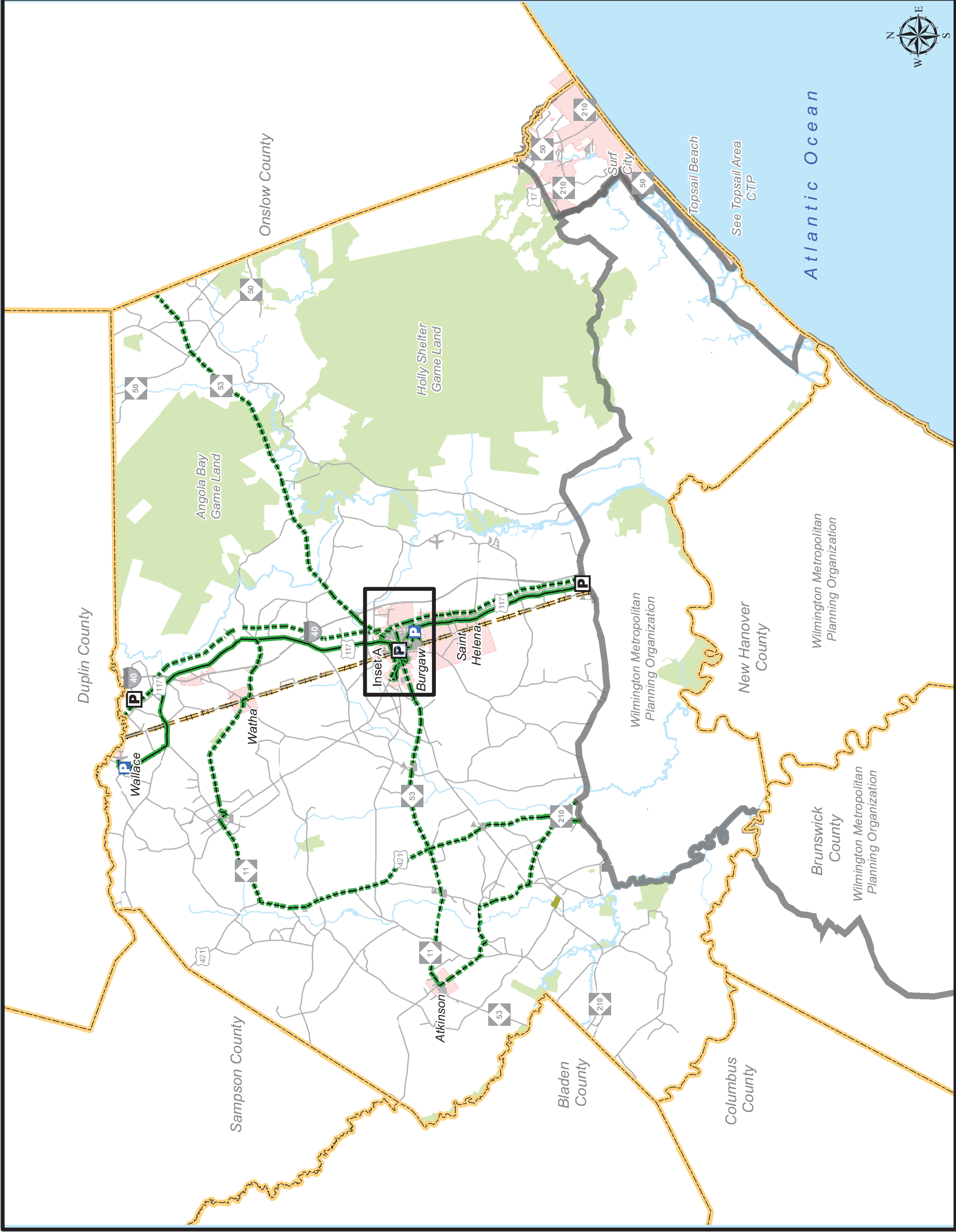
 - Existing
 - Recommended
- Intermodal Connector

 - Existing
 - Recommended
- Park and Ride Lot

 - Existing
 - Recommended
- Miles

0 1 2 4 6

Figure 1 - Sheet 3 of 5
Base map date: 5/18/12
Refer to CTP document for more details



Public Transportation
and Rail Map
Inset A



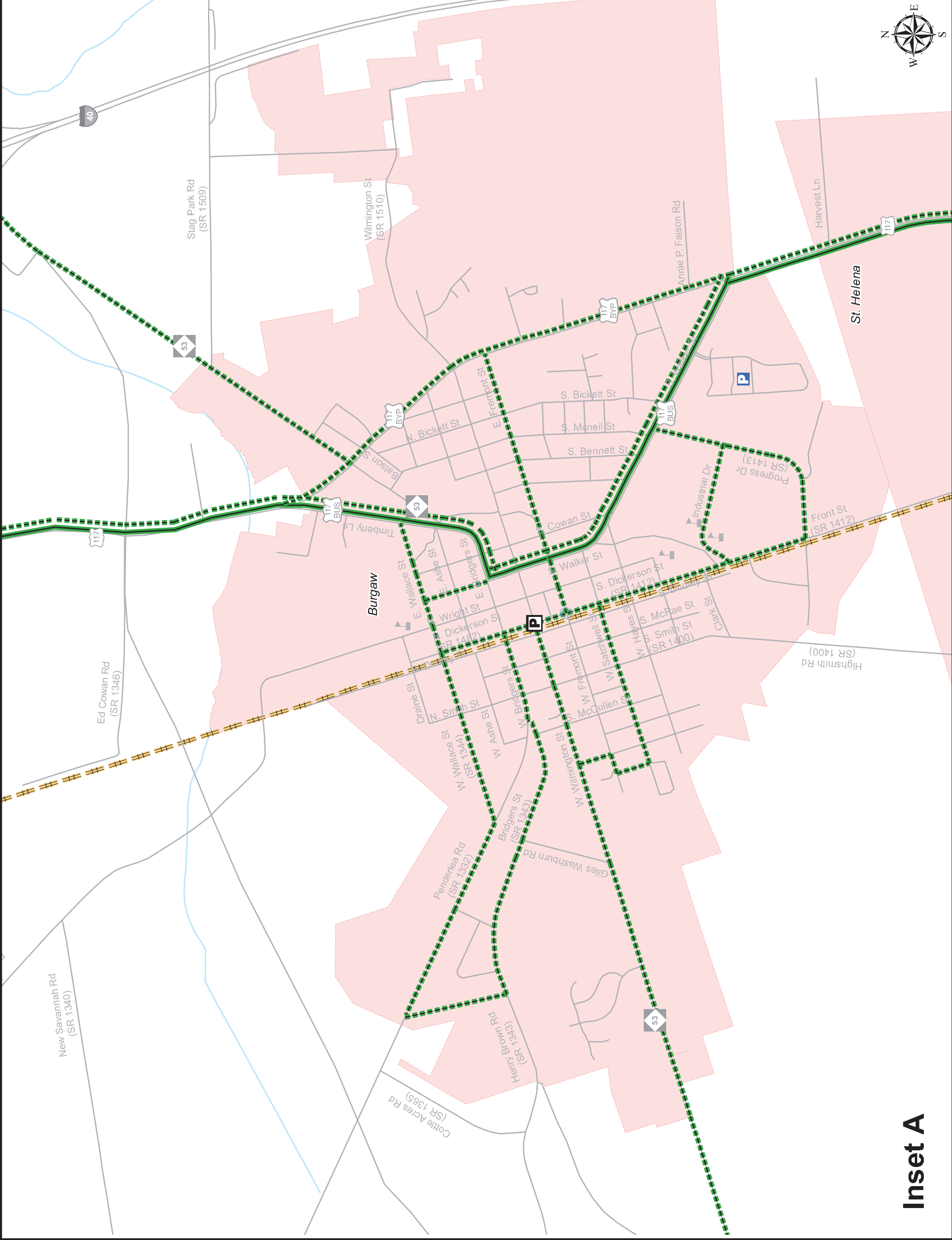
Pender County
North Carolina
Comprehensive
Transportation Plan

Plan date: December 9, 2014

- Bus Routes
- Existing
 - Needs Improvement
 - Recommended
- Fixed Guideway
- Existing
 - Needs Improvement
 - Recommended
- Operational Strategies
- Existing
 - Needs Improvement
 - Recommended
- Rail Corridor
- Active
 - Inactive
 - Recommended
- High Speed Rail Corridor
- Existing
 - Recommended
- Rail Stops
- Existing
 - Recommended
- Intermodal Connector
- Existing
 - Recommended
- Park and Ride Lot
- Existing
 - Recommended



Figure 1 - Sheet 3A of 5
Base map date: 5/18/12
Refer to CTP document for more details



Inset A



Pender County North Carolina

Comprehensive

Transportation Plan

Plan date: December 9, 2014

- On-road

 - Existing
 - Needs Improvement
 - Recommended
- Off-road

 - Existing
 - Needs Improvement
 - Recommended
- Multi-Use Paths

 - Existing
 - Needs Improvement
 - Recommended
- Existing Grade Separation
- Proposed Grade Separation

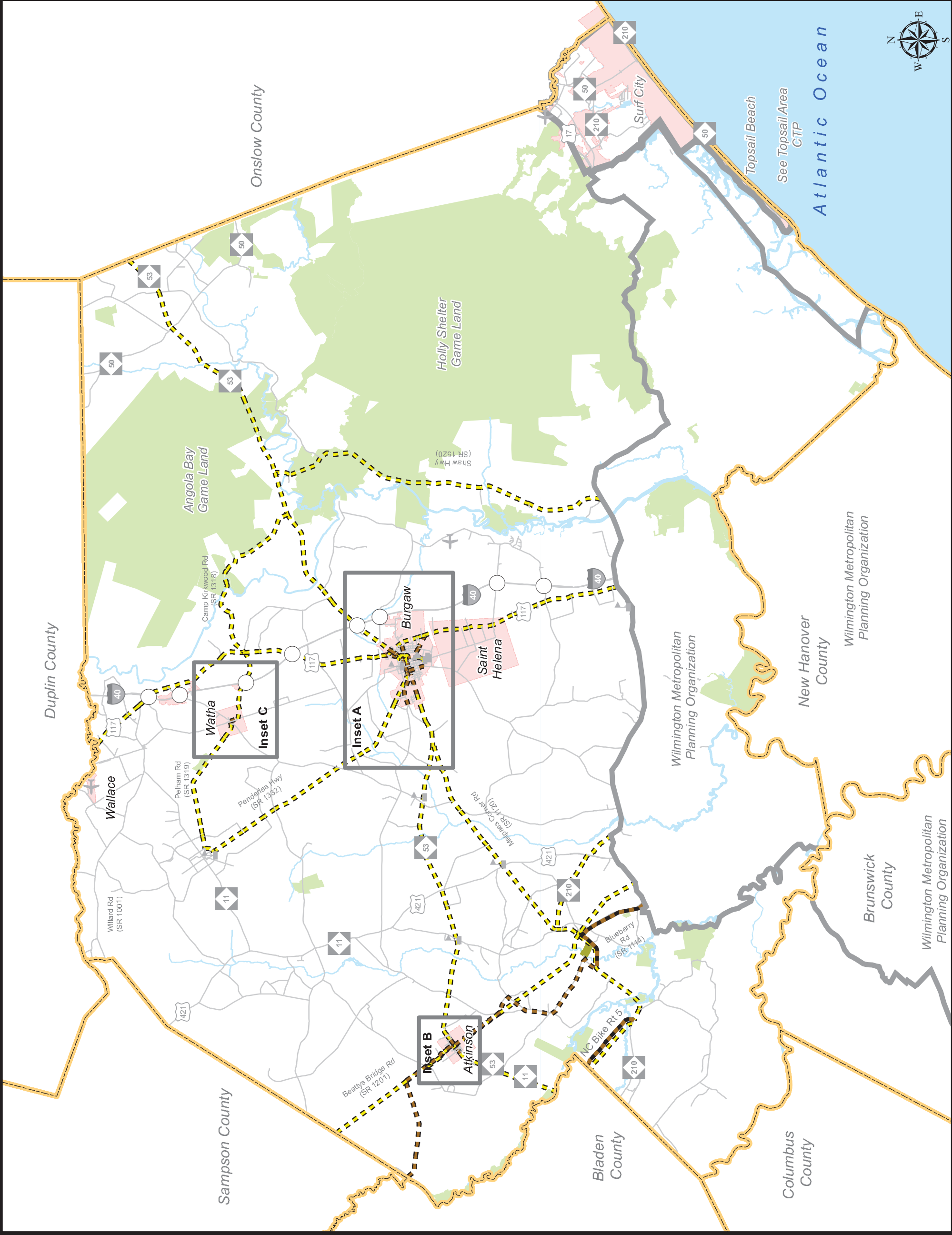


Figure 1 - Sheet 4 of 5

0 1 2 4 6 Miles
Base map date: 5/18/12
Refer to CTP document for more details

Inset A, B, C



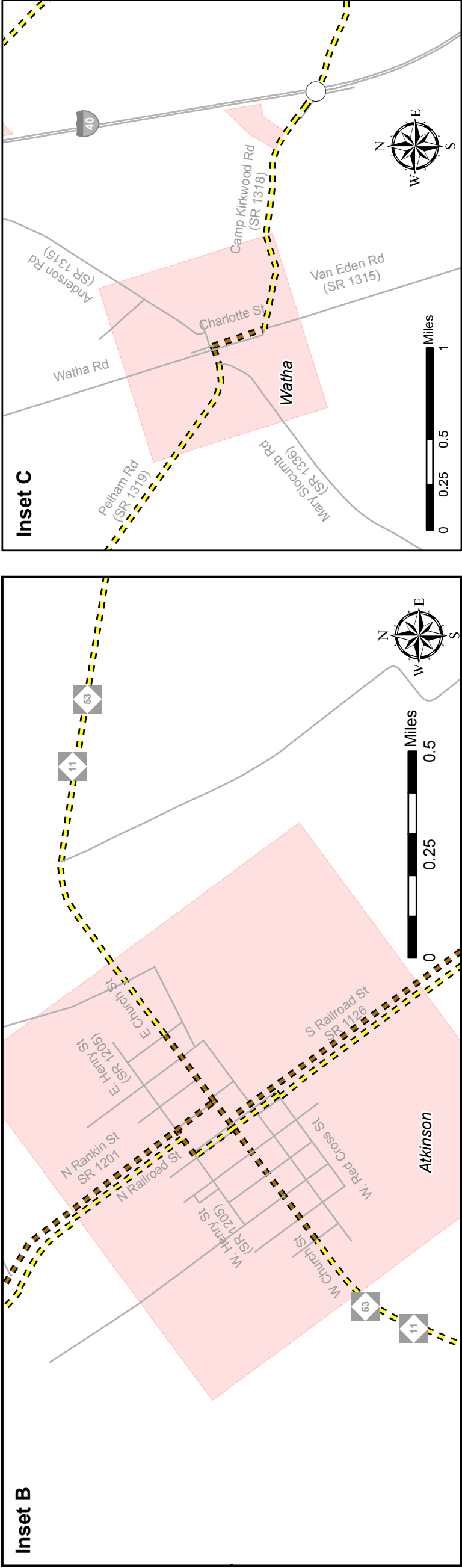
Plan date: December 9, 2014

Plan date: December 9, 2014

Proposed Grade Separation

Base map date: 5/18/12

Basic map data: 5/10/12
Refer to CTP document for more details





Pender County North Carolina

Comprehensive Transportation Plan

Plan date: December 9, 2014

- Sidewalks

 - Existing
 - Needs Improvement
 - Recommended
- Off-road

 - Existing
 - Needs Improvement
 - Recommended
- Multi-Use Paths

 - Existing
 - Needs Improvement
 - Recommended
- Existing Grade Separation
- Proposed Grade Separation

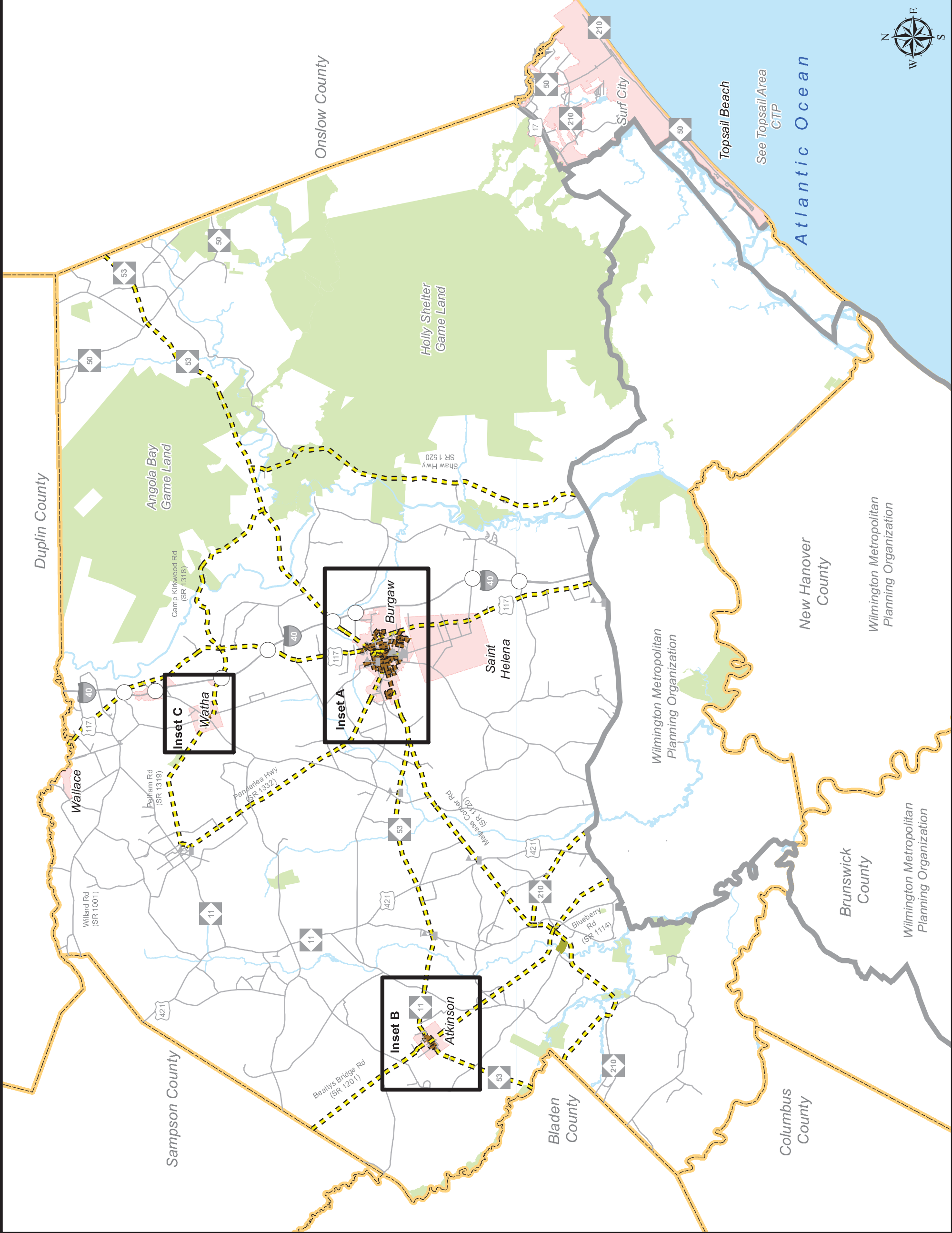


Figure 1 - Sheet 5 of 5



Base map date: 5/18/12
Refer to CTP document for more details

[illegible]

Category	Measure	Existing Grade Separation	Proposed Grade Separation
Sidewalks	Existing	Yes	No
	Needs Improvement	No	Yes
	Recommended	No	Yes
Off-road	Existing	No	Yes
	Needs Improvement	No	Yes
	Recommended	No	Yes
Multi-Use Paths	Existing	No	Yes
	Needs Improvement	No	Yes
	Recommended	No	Yes

Legend:
 ○ Existing Grade Separation
 ● Proposed Grade Separation

Base map date: 5/18/12

Refer to CTP document for more details

Pedestrian Map
Inset B, C



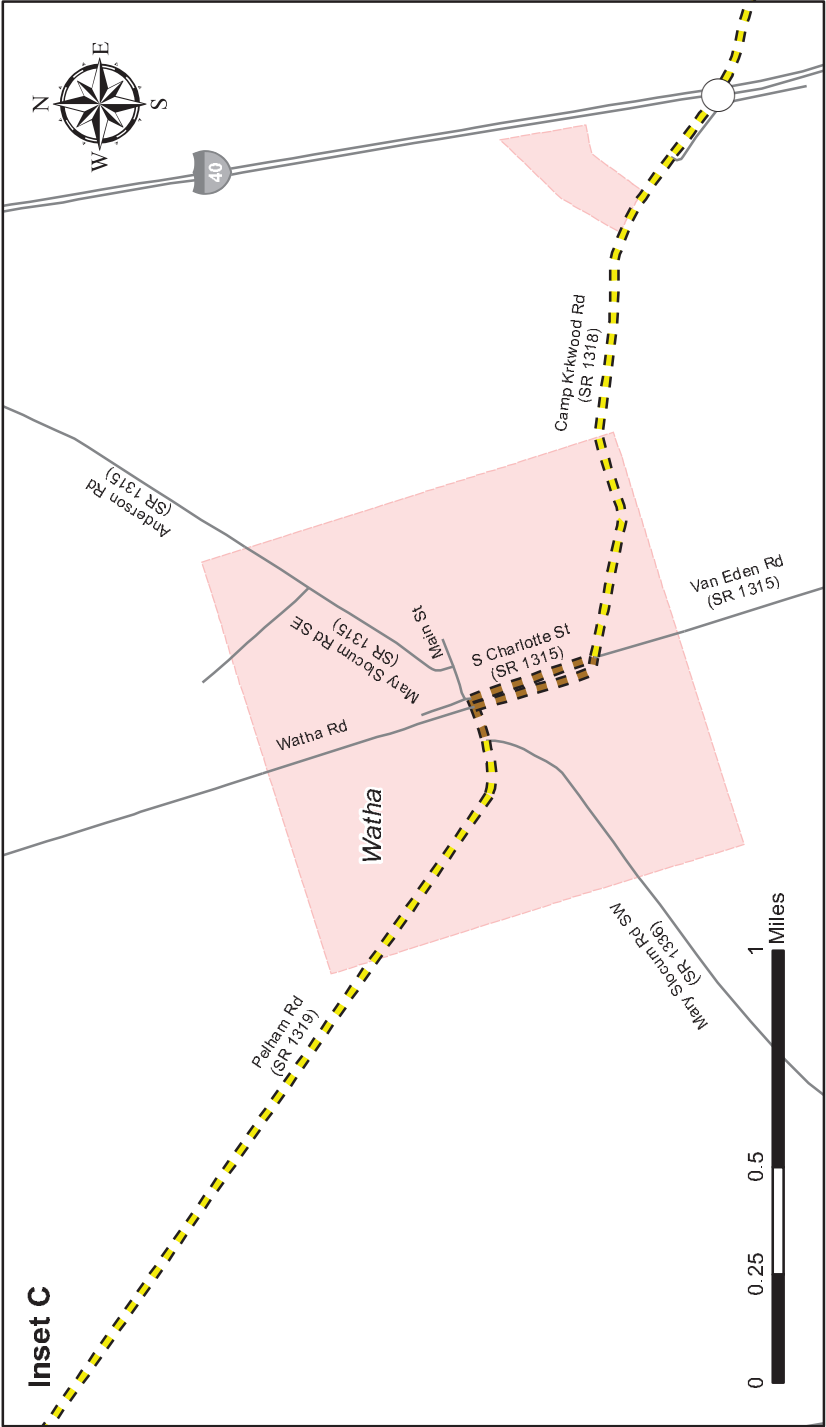
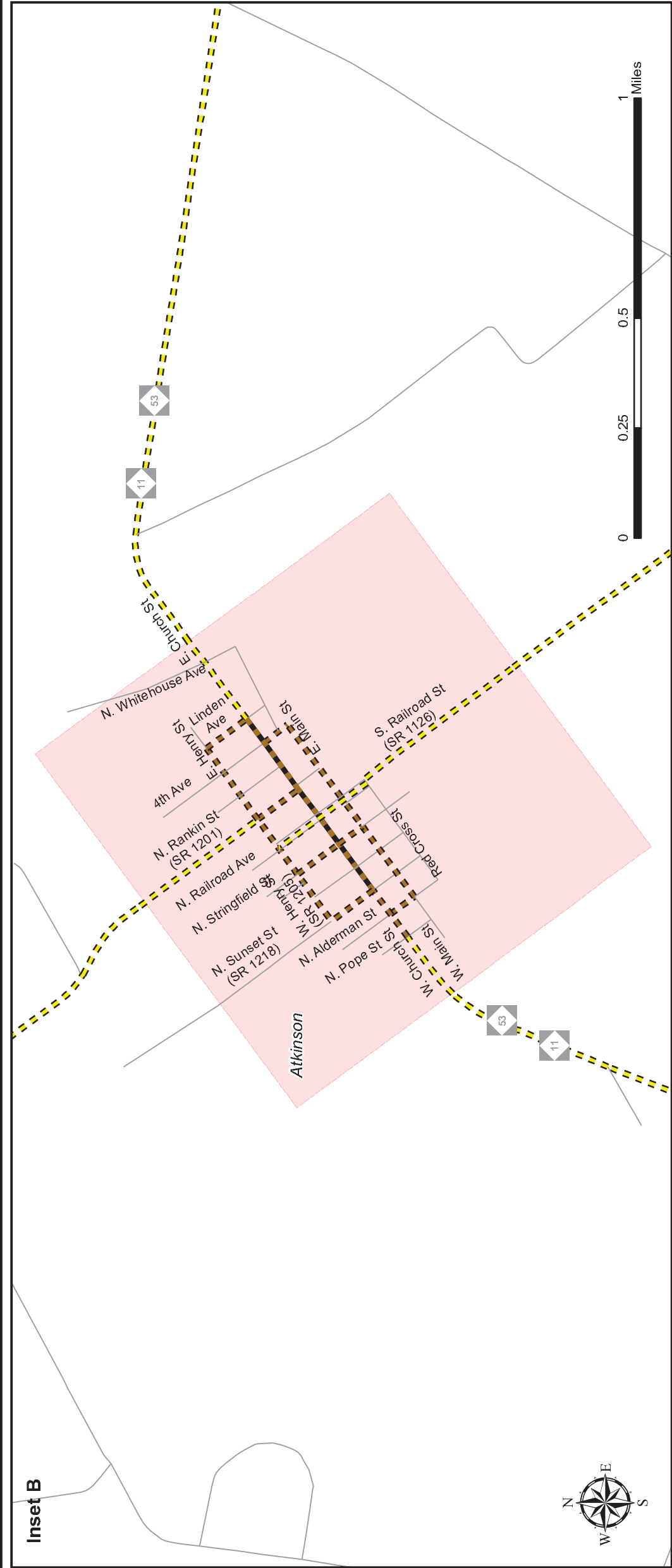
Pender County
North Carolina

Comprehensive
Transportation Plan

December 9, 2014

- Sidewalks
- Existing
 - Needs Improvement
 - Recommended
- Off-road
- Existing
 - Needs Improvement
 - Recommended
- Multi-Use Paths
- Existing
 - Needs Improvement
 - Recommended
- Existing Grade Separation
- Proposed Grade Separation

Figure 1 - Sheet 5B of 5
Base map date: 5/18/12
Refer to CTP document for more details



I. Analysis of the Existing and Future Transportation System

A Comprehensive Transportation Plan (CTP) is developed to ensure that the progressively developed transportation system will meet the needs of the region for the planning period. The CTP serves as an official guide to providing a well-coordinated, efficient, and economical transportation system for the future of the region. This document should be utilized by the local officials to ensure that planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses and environmental resources.

In order to develop a CTP, the following are considered:

- Analysis of the transportation system, including any local and statewide initiatives;
- Impacts to the natural and human environment, including natural resources, historic resources, homes, and businesses;
- Public input, including community vision and goals and objectives.

Analysis Methodology and Data Requirements

Reliable forecasts of future travel patterns must be estimated in order to analyze the ability of the transportation system to meet future travel demand. These forecasts depend on careful analysis of the character and intensity of existing and future land use and travel patterns.

An analysis of the transportation system looks at both current and future travel patterns and identifies existing and anticipated deficiencies. This is usually accomplished through a capacity deficiency analysis, a traffic crash analysis, and a system deficiency analysis. This information, along with population growth, economic development potential, and land use trends, is used to determine the potential impacts on the future transportation system.

Roadway System Analysis

An important stage in the development of a CTP is the analysis of the existing transportation system and its ability to serve the area's travel demand. Emphasis is placed not only on detecting the existing deficiencies, but also on understanding the causes of these deficiencies. Roadway deficiencies may result from inadequacies in pavement widths, intersection geometry, or intersection controls. System deficiencies may result from missing travel links, bypass routes, loop facilities, or radial routes; or improvements needed to meet statewide initiatives.

One of those statewide initiatives is the Strategic Transportation Corridors (STC)¹ adopted by the Board of Transportation on March 4, 2015.

The STC identify a network of critical multimodal transportation corridors considered the backbone of the state's transportation system. These 25 corridors move most of our freight and people, link critical centers of economic activity to international air and sea ports, and support interstate commerce. They must operate well to help North Carolina attract new businesses, grow jobs and catalyze economic development.

The primary purpose of the STC is to provide North Carolina with a network of high-priority, multimodal transportation corridors and facilities that connect statewide and regional activity centers to enhance economic development, promote highly-reliable, efficient mobility and connectivity, and support good decision-making. The primary goal to support this purpose is to create a greater consensus towards the development of a genuine vision for each corridor that establishes the statewide or regional importance of facilities and the need for maintaining high capacity and travel speed. During the development of CTPs, the STC network should be cross-referenced to ensure plan consistency. Incorporating the statewide and regional mobility goals set forth in the STC network should be done in a manner that fits with the character and vision for the community or county. If this cannot be achieved through the use of existing facilities, an alternative solution should be sought. Refer to Appendix A for Transportation Planning Branch contact information for the Strategic Transportation Corridors.

In the development of this plan, travel demand was projected from 2010 to 2040 using a trend line analysis based on Annual Average Daily Traffic (AADT) from 1990 to 2010. In addition, local land use plans and growth expectations were used to further refine future growth rates and patterns.

Existing and future travel demand is compared to existing roadway capacities. Capacity deficiencies occur when the traffic volume of a roadway exceeds the roadway's capacity. Roadways are considered near capacity when the traffic volume is at least eighty percent of the capacity. Refer to Figures 2 and 3 for existing and future capacity deficiencies.

Capacity is the maximum number of vehicles which have a "reasonable expectation" of passing over a given section of roadway, during a given time period under prevailing roadway and traffic conditions. Many factors contribute to the capacity of a roadway including the following:

- Geometry of the road (including number of lanes), horizontal and vertical alignment, and proximity of perceived obstructions to safe travel along the road;
- Typical users of the road, such as commuters, recreational travelers, and truck traffic;

¹ For more information on the STC, go to:

<https://connect.ncdot.gov/projects/planning/Pages/NCTransportationNetwork.aspx>

- Access control, including streets and driveways, or lack thereof, along the roadway;
- Development along the road, including residential, commercial, agricultural, and industrial developments;
- Number of traffic signals along the route;
- Peaking characteristics of the traffic on the road;
- Characteristics of side-roads feeding into the road; and
- Directional split of traffic or the percentages of vehicles traveling in each direction along a road at any given time.

The relationship of travel demand compared to the roadway capacity determines the level of service (LOS) of a roadway. Six levels of service identify the range of possible conditions. Designations range from LOS A, which represents the best operating conditions, to LOS F, which represents the worst operating conditions.

LOS D indicates “practical capacity” of a roadway, or the capacity at which the public begins to express dissatisfaction. The practical capacity for each roadway was developed based on the 2000 Highway Capacity Manual using the Level of Service D Standards for Systems Level Planning. Recommended improvements and overall design of the transportation plan were based upon achieving a minimum LOS D on existing facilities and a LOS C for new facilities. Refer to Appendix E for detailed information on LOS.

Traffic Crash Analysis

Traffic crashes are often used as an indicator for locating congestion and roadway problems. Crash patterns obtained from an analysis of crash data can lead to the identification of improvements that will reduce the number of crashes. A crash analysis was performed for the Pender County CTP for crashes occurring in the planning area between March 1, 2008 and March 1, 2011. During this period, a total of 5 intersections were identified as having a high number of crashes as illustrated in Figure 4. Refer to Appendix F.

Bridge Deficiency Assessment

Bridges are a vital and unique element of a highway system. First, they represent the highest unit investment of all elements of the system. Second, any inadequacy or deficiency in a bridge reduces the value of the total investment. Third, a bridge presents the greatest opportunity of all potential highway failures for disruption of community welfare. Finally, and most importantly, a bridge represents the greatest opportunity of all highway failures for loss of life. For these reasons, it is imperative that bridges be constructed to the same design standards as the system of which they are a part.

The NCDOT Structure Management Unit inspects all bridges in North Carolina at least once every two years. Bridges having the highest priority are replaced as Federal and State funds become available. Fourteen deficient bridges were identified within the planning area and are illustrated in Figure 5. Refer to Appendix F for more detailed information.

Figure 2

2010 Volumes and Capacity Deficiencies



Pender County North Carolina Comprehensive Transportation Plan

Plan date: September 4, 2014

Legend

— Near Capacity

— Over Capacity

Municipal Boundary

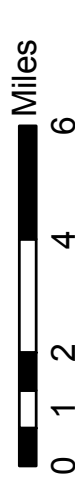
Water Bodies

Rivers and Streams

Planning Boundary

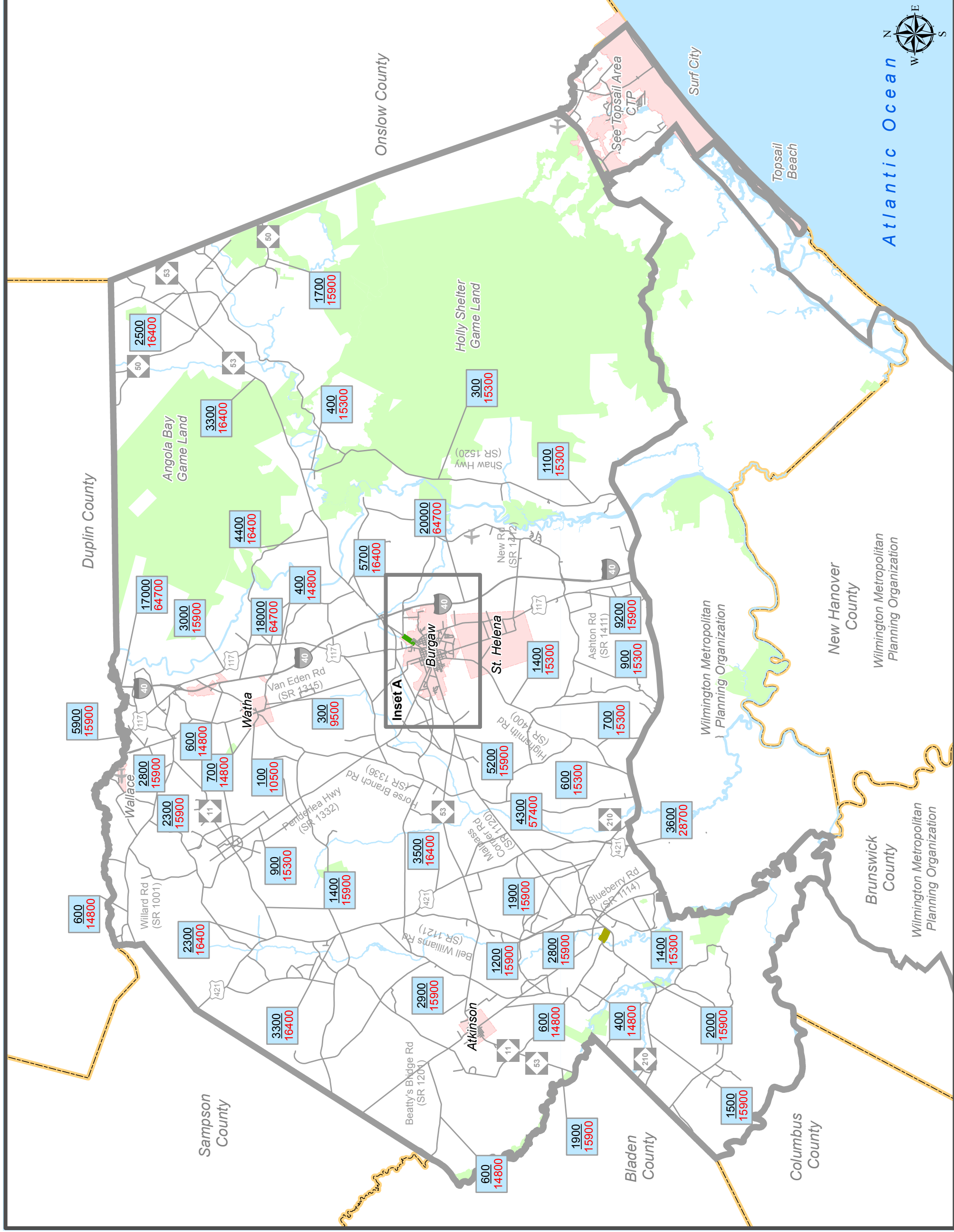
County Boundary

4200
16400
 2010 AADT
 2010 Capacity



Base map date: 12/12/11

Refer to CTP document for more details



Inset A

Pender County North Carolina



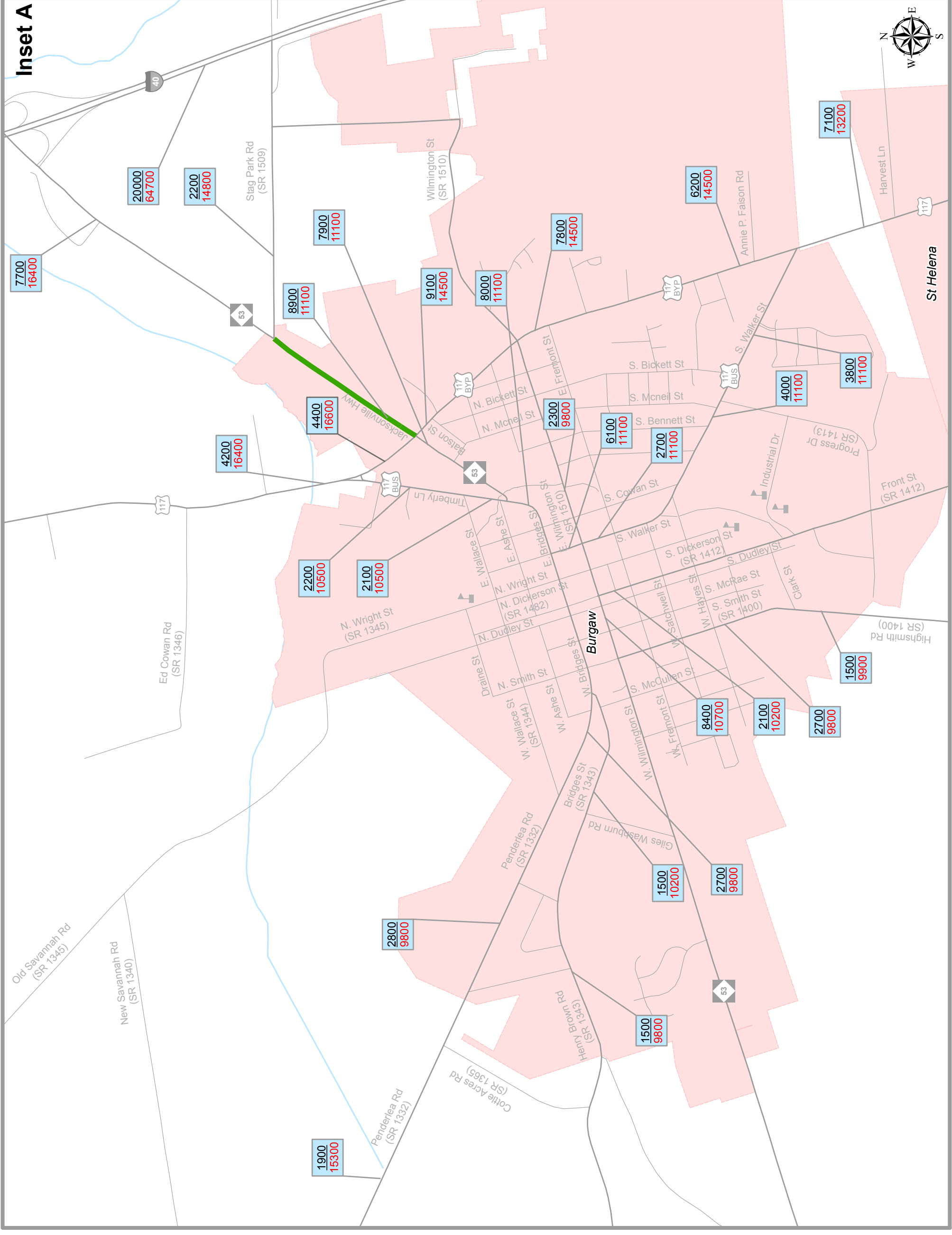
Legend

Over Capacity

Water Bodies

Planning Boundary

2010 AADT
2010 Capacity



Base map date: 12/12/11

Refer to CTP document for more details

Figure 3

2040 Volumes and Capacity Deficiencies



Pender County North Carolina

Comprehensive Transportation Plan

Plan date: September 4, 2014

Legend

— Near Capacity

— Over Capacity

Municipal Boundary

Water Bodies

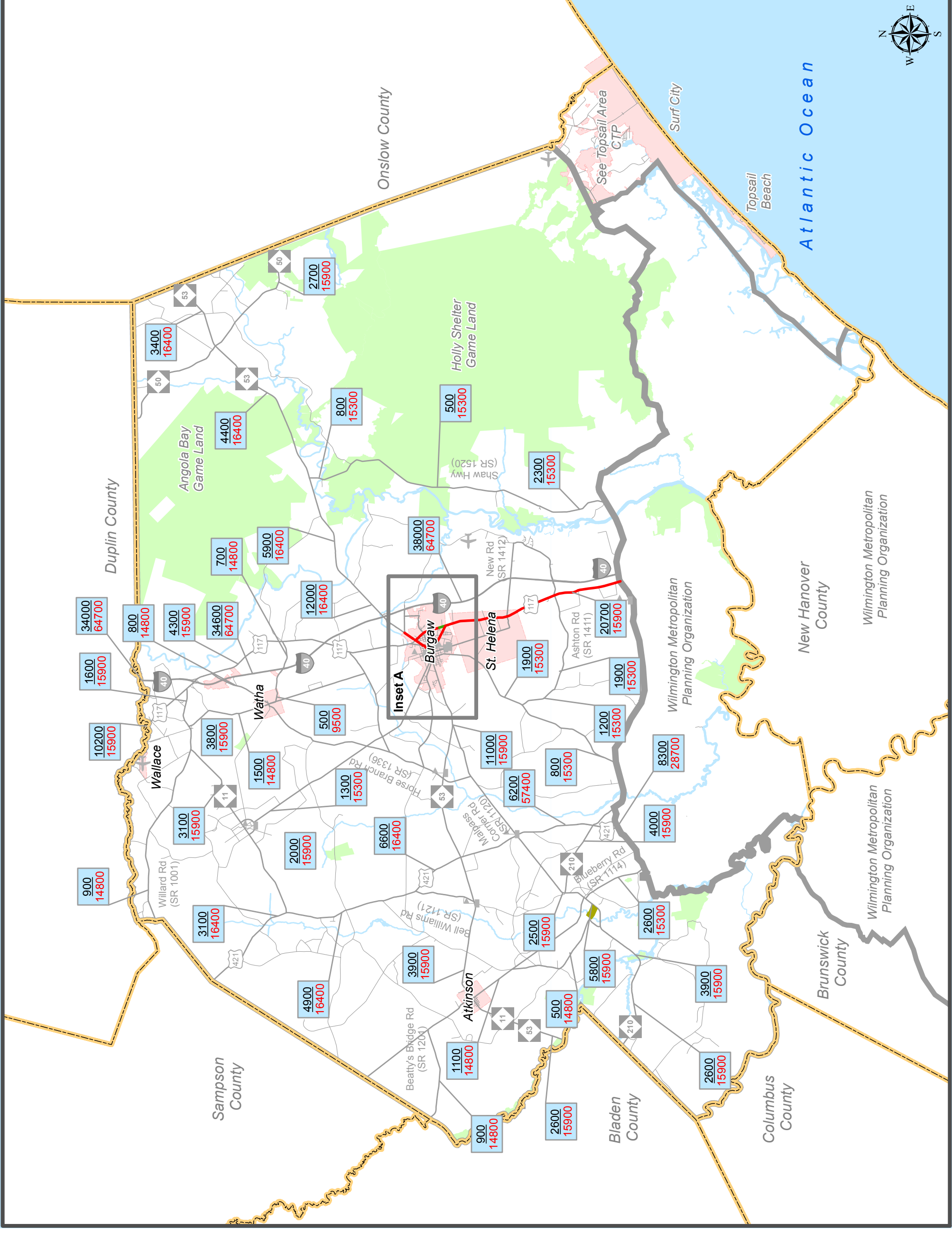
Rivers and Streams

Planning Boundary

County Boundary

2040 AADT

2010 Capacity



A horizontal scale bar with a black background and white markings. It is divided into three equal segments by two vertical white lines. The word "Miles" is written in black text to the right of the bar.

Base map date: 12/12/11

Refer to CTP document for more details

Inset A

This map, titled "Inset A", illustrates a proposed transit route through Burgaw, North Carolina. The route is highlighted in red, starting from the southwest near Penderlea Rd (SR 1332) and ending in the northeast near Harvest Ln. The map includes a compass rose in the top right corner, indicating North (N), South (S), East (E), and West (W). Major roads are labeled, including SR 1345, SR 1346, SR 1340, SR 1332, SR 1365, SR 1343, SR 1400, SR 1412, SR 1413, SR 1509, SR 1510, and SR 1400. The map also shows the locations of St. Helena and Burgaw. Numerous population data points are provided for various areas, with values ranging from 2,000 to 50,300. The data points are presented in blue boxes with two values: a top value (likely current population) and a bottom value (likely projected population). The map also shows the locations of several schools, including St. Helena School, St. Helena School, and St. Helena School. The map is a detailed representation of the area, showing the proposed transit route and the surrounding infrastructure.

Location	Top Value	Bottom Value
10400	10400	16400
50300	50300	64700
4400	4400	14800
7100	7100	16400
10100	10100	16600
16100	16100	11100
15900	15900	11100
17800	17800	14500
12900	12900	11100
15200	15200	14500
13000	13000	14500
13500	13500	13200
11600	11600	11100
11600	11600	11100
11600	11600	11100
3900	3900	9800
8200	8200	11100
3600	3600	11100
3000	3000	10500
3500	3500	10500
3000	3000	10200
3600	3600	9800
2000	2000	9900
12500	12500	10700
4200	4200	9800
3100	3100	10200
2700	2700	9800
3800	3800	9800
2600	2600	15300

Plan date: September 4, 2014

— Near Capacity

— Over Capacity

Municipal Boundary

Water Bodies

Rivers and Streams

Planning Boundary

County Boundary

	2040 AADT	2010 Capacity
	8800	11100



Refer to CTP document for more details

Figure 4

Crash Locations

March 1, 2008 to March 1, 2011



Pender County North Carolina

Comprehensive Transportation Plan

Plan date: September 4, 2014

Legend

- Schools
- Crash Locations
- Roads
- County Boundary
- Planning Boundary
- Municipal Boundary
- Moore's Creek
- National Battlefield
- Water Bodies
- Rivers and Streams
- Game Land

Miles
0 1 2 4 6

Base map date: 5/16/11

Refer to CTP document for more details

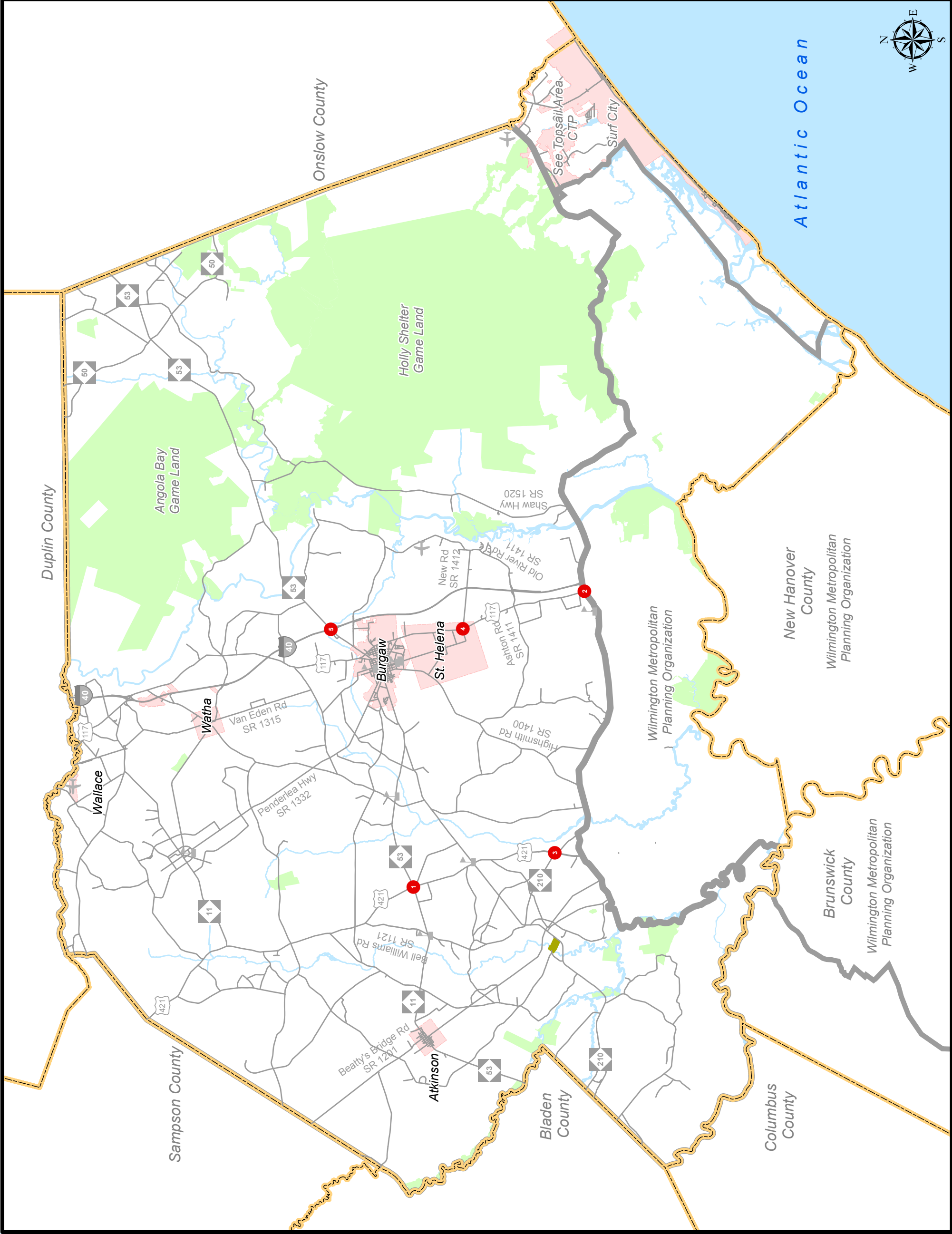


Figure 5
Deficient Bridges



Pender County North Carolina

Comprehensive Transportation Plan

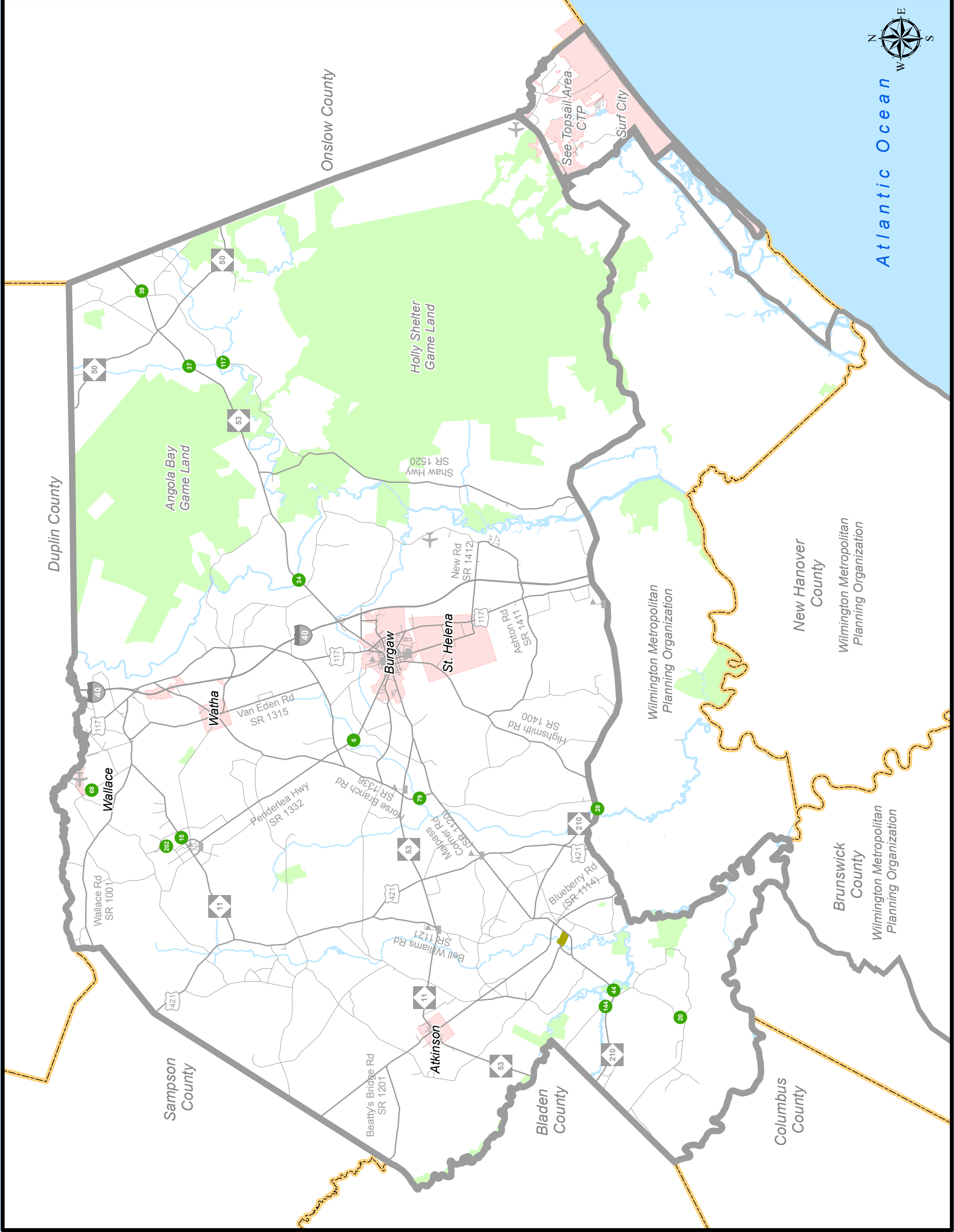
Plan date: September 4, 2014

Legend

- Schools
- Deficient Bridges
- Roads
- County Boundary
- Planning Boundary
- Municipal Boundary
- Moore's Creek
- National Battlefield
- Water Bodies
- Rivers and Streams
- Pender_Managed



Base map date: 4/02/12
Refer to CTP document for more details



Public Transportation and Rail

Public transportation and rail are vital modes of transportation that give alternative options for transporting people and goods from one place to another.

Public Transportation

North Carolina's public transportation systems serve more than 50 million passengers each year. Five categories define North Carolina's public transportation system: community, regional community, urban, regional urban and intercity.

- **Community Transportation** - Local transportation efforts formerly centered on assisting clients of human service agencies. Today, the vast majority of rural systems serve the general public as well as those clients.
- **Regional Community Transportation** - Regional community transportation systems are composed of two or more contiguous counties providing coordinated / consolidated service. Although such systems are not new, the NCDOT Board of Transportation is encouraging single-county systems to consider mergers to form more regional systems.
- **Urban Transportation** – There are currently nineteen urban transit systems operating in North Carolina, from locations such as Asheville and Hendersonville in the west to Jacksonville and Wilmington in the east. In addition, small urban systems are at work in three areas of the state. Consolidated urban-community transportation exists in five areas of the state. In those systems, one transportation system provides both urban and rural transportation within the county.
- **Regional Urban Transportation** - Regional urban transit systems currently operate in three areas of the state. These systems connect multiple municipalities and counties.
- **Intercity Transportation** - Intercity bus service is one of a few remaining examples of privately owned and operated public transportation in North Carolina. Intercity buses serve many cities and towns throughout the state and provide connections to locations in neighboring states and throughout the United States and Canada. Greyhound/Carolina Trailways operates in North Carolina. However, community, urban and regional transportation systems are providing increasing intercity service in North Carolina.

An inventory of existing and planned fixed public transportation routes for the planning area is presented on Sheet 3 of Figure 1. Pender County has one existing bus route. This route connects Wallace in Duplin County to Cape Fear Community College (North Campus) 4500 Blue Clay Road, Castle Hayne in New Hanover County. In Pender County there are two existing Park and Ride Lots located at Pender Adult Services – Heritage Place 901 S. Walker Street, Burgaw, North Carolina and Henderson Field Wallace Airport, 250 Henderson Field Road, Wallace, North Carolina. Also, Pender Adult Services has a van service that provides transportation for the elderly by way of

appointments made with The Pender Senior Center. All recommendations for public transportation were coordinated with the local governments and the Public Transportation Division of NCDOT. Refer to Appendix A for contact information.

Rail

Today North Carolina has 3,684 miles of railroad tracks throughout the state. There are two types of trains that operate in the state, passenger trains and freight trains.

The North Carolina Department of Transportation sponsors two passenger trains, the Carolinian and Piedmont. The Carolinian runs between Charlotte and New York City, while the Piedmont train carries passengers from Raleigh to Charlotte and back everyday. Combined, the Carolinian and Piedmont carry more than 200,000 passengers each year.

There are two major freight railroad companies that operate in North Carolina, CSX Transportation and Norfolk Southern Corporation. Also, there are more than 20 smaller freight railroads, known as shortlines.

An inventory of existing and planned rail facilities for the planning area is presented on Sheet 3 of Figure 1. The railroad tracks between Wallace and Castle Hayne, and Wilmington and Jacksonville were removed over 30 years ago. Now there is an interest in restoring the route between Wallace and Castle Hayne.

Wallace to Castle Hayne is a 27-mile section of track on the AC-line that was given to NCDOT by CSX after the track was removed. Restoration of this section is a project of significant importance to the Port of Wilmington and the U.S. military (Surface Deployment and Distribution Command and Camp Lejeune). If the Wallace-to-Castle Hayne portion of the AC-line is restored, future freight traffic could be restored to the line, increasing the number of freight trains through Warsaw. In 2012, the Town of Burgaw refused to pass a resolution of support for the resumption of the rail line due to concerns regarding east-west connectivity and impacts on the town. All recommendations for rail were coordinated with the local governments and the Rail Division of NCDOT. Refer to Appendix A for contact information.

Bicycles & Pedestrians

Bicyclists and pedestrians are a growing part of the transportation equation in North Carolina. Many communities are working to improve mobility for both cyclists and pedestrians.

NCDOT's Bicycle Policy, updated in 1991, clarifies responsibilities regarding the provision of bicycle facilities upon and along the 77,000-mile state-maintained highway system. The policy details guidelines for planning, design, construction, maintenance, and operations pertaining to bicycle facilities and accommodations. All bicycle improvements undertaken by the NCDOT are based upon this policy.

The 2000 NCDOT Pedestrian Policy Guidelines specifies that NCDOT will participate with localities in the construction of sidewalks as incidental features of highway improvement projects. At the request of a locality, state funds for a sidewalk are made available if matched by the requesting locality, using a sliding scale based on population.

NCDOT's administrative guidelines, adopted in 1994, ensure that greenways and greenway crossings are considered during the highway planning process. This policy was incorporated so that critical corridors which have been adopted by localities for future greenways will not be severed by highway construction.

Inventories of existing and planned bicycle and pedestrian facilities for the planning area are presented on Sheets 4 and 5 of Figure 1. There are two state bike routes that go through Pender County. NC Bike Route 5 (Cape Fear Run) is a signed route that enters Pender County from Bladen County and runs along NC 210 and US 421 into New Hanover County. NC Bike Route 3 (Ports of Call) is a signed route that enters Pender County from New Hanover County and runs along NC 210 and US 17 into Onslow County. All recommendations for bicycle and pedestrian facilities were coordinated with the local governments and the NCDOT Division of Bicycle and Pedestrian Transportation. Refer to Appendix A for contact information.

Land Use

G.S. §136-66.2 requires that local areas have a current (less than five years old) land development plan prior to adoption of the CTP. For this CTP, the 2010 Pender County Comprehensive Land Use Plan was used to meet this requirement and is illustrated in Figures 6 and 7, respectively.

Land use refers to the physical patterns of activities and functions within an area. Traffic demand in a given area is, in part, attributed to adjacent land use. For example, a large shopping center typically generates higher traffic volumes than a residential area. The spatial distribution of different types of land uses is a predominant determinant of when, where, and to what extent traffic congestion occurs. The travel demand between different land uses and the resulting impact on traffic conditions varies depending on the size, type, intensity, and spatial separation of development. Additionally, traffic volumes have different peaks based on the time of day and the day of the week. For transportation planning purposes, land use is divided into the following categories:

- Residential: Land devoted to the housing of people, with the exception of hotels and motels which are considered commercial.
- Commercial: Land devoted to retail trade including consumer and business services and their offices; this may be further stratified into retail and special retail classifications. Special retail would include high-traffic establishments, such as fast food restaurants and service stations; all other commercial establishments would be considered retail.

- Industrial: Land devoted to the manufacturing, storage, warehousing, and transportation of products.
- Public: Land devoted to social, religious, educational, cultural, and political activities; this would include the office and service employment establishments.
- Agricultural: Land devoted to the use of buildings or structures for the raising of non-domestic animals and/or growing of plants for food and other production.
- Mixed Use: Land devoted to a combination of any of the categories above.

Anticipated future land development is, in general, a logical extension of the present spatial land use distribution. Locations and types of expected growth within the planning area help to determine the location and type of proposed transportation improvements.

Pender County primarily anticipates population growth in the areas of Coastal Pender along US 17 in the Hampstead area, the Rocky Point area, and along the US 421 corridor. They expect more suburban population growth in the areas surrounding the municipalities, as well as the Penderlea Middle School area, the Shiloh Road area east of US 421, the US 421 at NC 11/53 area, the Currie area, the Whitestocking Road area, the Willard area, and the NC 53 at NC 50 area in the north east corner of the county. See Figure 7 for details.

Substantial residential and commercial growth is expected in the southern part of the County, particularly around the US 17 corridor.

PENDER COUNTY

Figure 6
Future Land Use



11-10-09

Pender County, North Carolina

PRELIMINARY
FOR PLANNING
PURPOSES ONLY



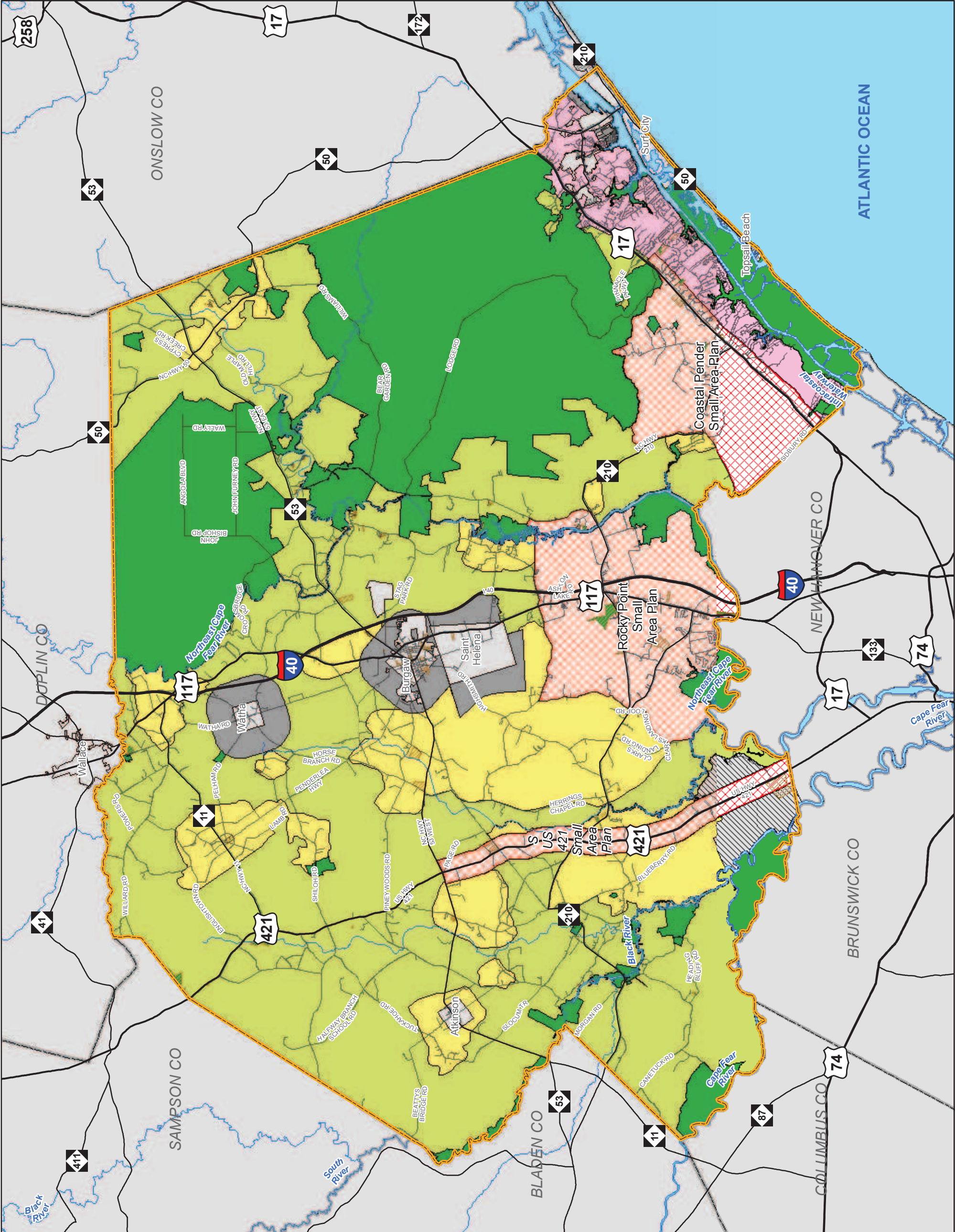
Legend

Future Land Use Classification

- Conservation
- Industrial
- Mixed Use
- Rural Growth
- Suburban Growth
- Other Features
- Small Area Plan
- County Owned Property
- Water Body
- Major Stream
- Interstate
- US Route
- NC Route
- Road Centerline
- County Boundary



1 inch = 4 miles



ROCKY POINT SMALL AREA PLAN

Figure 6A Future Land Use



11-10-09

Pender County, North Carolina

PRELIMINARY
FOR PLANNING
PURPOSES ONLY



Legend

- Planning Boundary
- Future Land Use Classification
 - Conservation
 - Industrial
 - Mixed Use
 - Office, Institutional, Commercial
 - Rural Growth
 - Suburban Growth
- Other Features
 - County Owned Property
 - Water Body
 - Interstate
 - US Route
 - NC Route
 - Road Centerline
 - hydromaj_arc
 - Parcel
 - County Boundary
- Flood Zone
 - 100 Year Floodplain
 - Floodway



1 inch = 5,000 feet

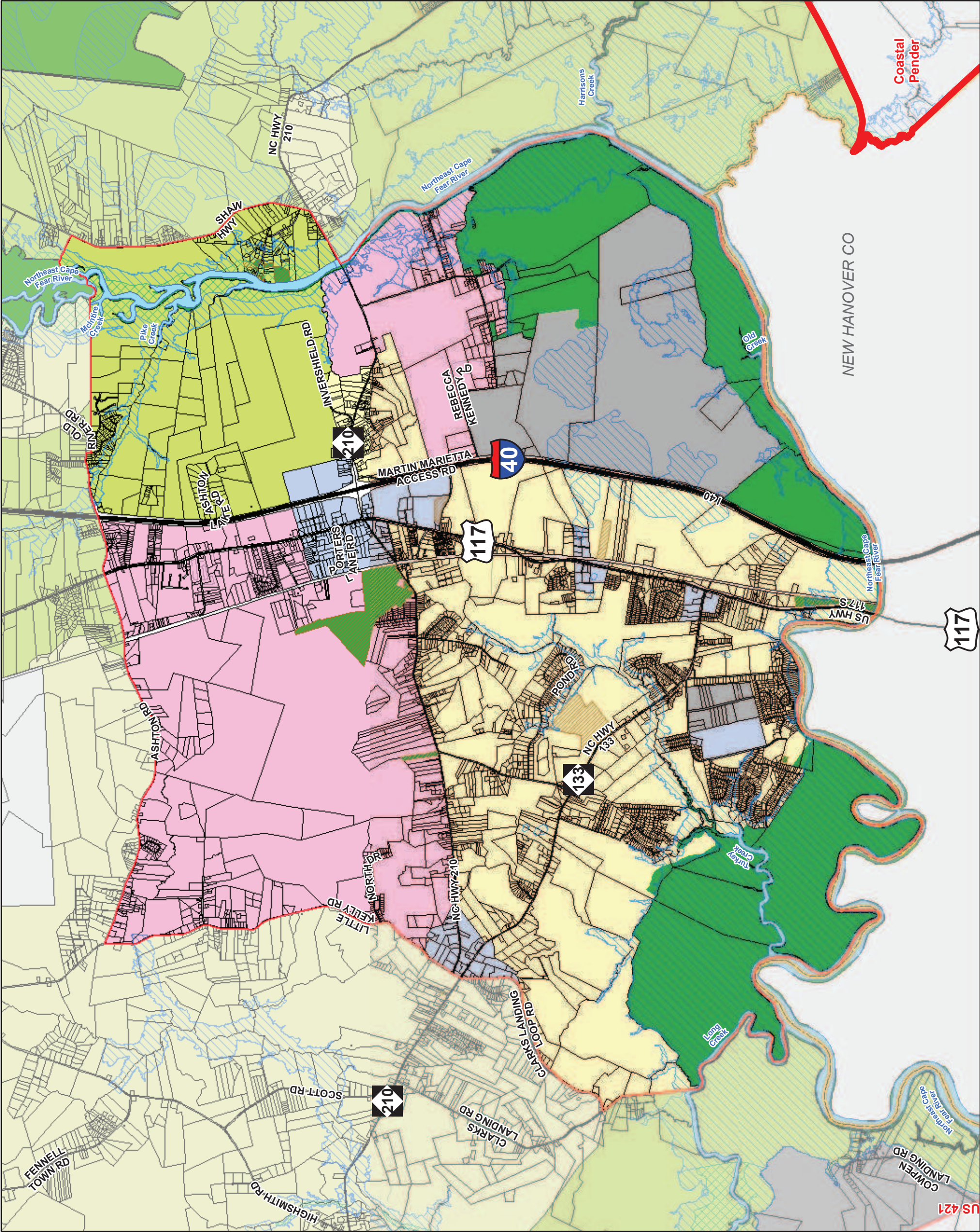


Figure 6B

US HWY 421 SOUTH CORRIDOR SMALL AREA PLAN MAP A

Future Land Use



11-10-09

Pender County, North Carolina

PRELIMINARY
FOR PLANNING
PURPOSES ONLY



Legend

Future Land Use Classification

- Conservation
- Mixed Use
- Office, Institutional, Commercial
- Rural Growth
- Suburban Growth

Flood Zone

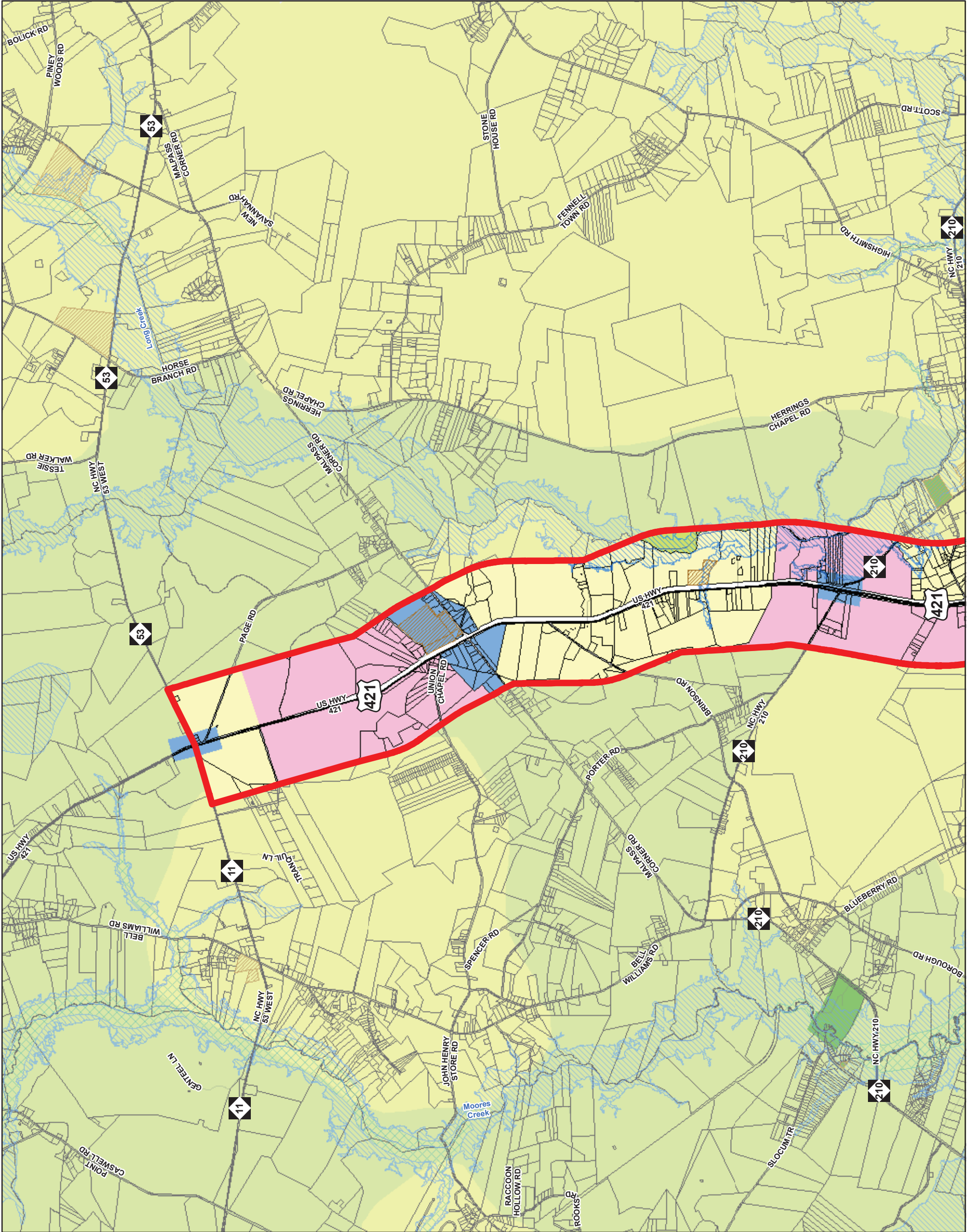
- 100 Year Floodplain
- Floodway

Other Features

- Planning Boundary
- County Owned Property
- Water Body
- Interstate
- US Route
- NC Route
- Road Centerline
- River/Stream
- Parcel
- County Boundary

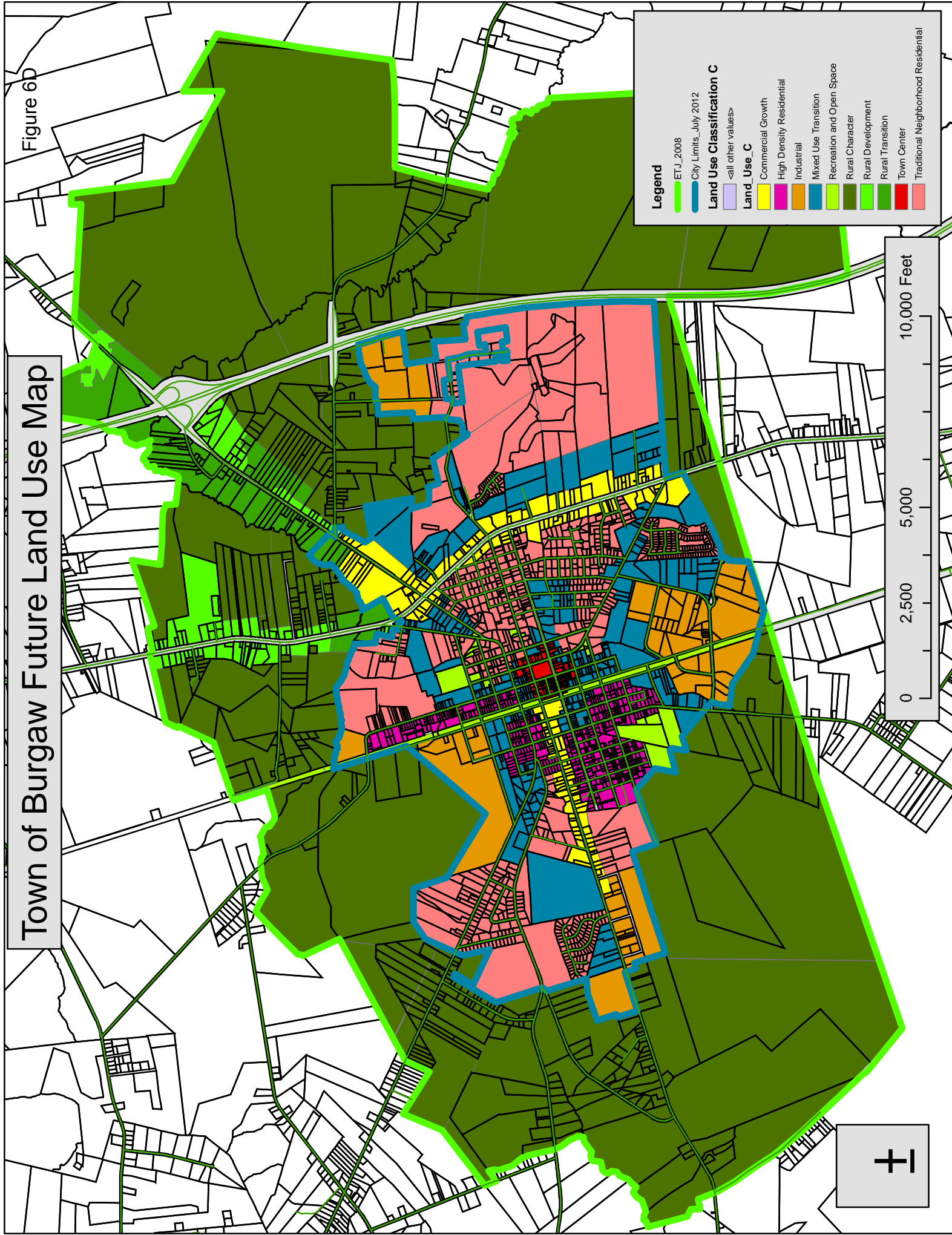


1 inch = 4,000 feet



Town of Burgaw Future Land Use Map

Figure 6D



Consideration of Natural and Human Environment

Environmental features are a key consideration in the transportation planning process. Section 102 of the National Environmental Policy Act (NEPA) requires consideration of impacts on wetlands, wildlife, water quality, historic properties, and public lands. While a full NEPA evaluation was not conducted as part of the CTP, potential impacts to these resources were identified as a part of the project recommendations in Chapter 2 of this report. Prior to implementing transportation recommendations of the CTP, a more detailed environmental study would need to be completed in cooperation with the appropriate environmental resource agencies.

A full listing of environmental features that were examined as a part of this study is shown in the following tables utilizing the best available data. Environmental features occurring within Pender County are shown in Figures 7 and are shown in bold text in Tables 2 and 3.

Table 1 – Environmental Features

- | | |
|---|---|
| <ul style="list-style-type: none">• Airport Boundaries• Anadromous Fish Spawning Areas• Beach Access Sites• Bike Routes (NCDOT)• Coastal Marinas• Colleges and Universities• Conservation Tax Credit Properties• Emergency Operation Centers• Federal Land Ownership• Fisheries Nursery Areas• Geology (including Dikes and Faults)• Hazardous Substance Disposal Sites• Hazardous Waste Facilities• High Quality Water and Outstanding Resource Water Management Zones• Hospital Locations• Hydrography (1:24,000 scale)• Land Trust Priority Areas• National Heritage Element Occurrences | <ul style="list-style-type: none">• National Wetlands Inventory• North Carolina Coastal Region Evaluation of Wetland Significance (NC-CREWS)• Paddle Trails – Coastal Plain• Railroads (1:24,000 scale)• Recreation Projects – Land and Water Conservation Fund• Sanitary Sewer Systems – Discharges, Land Application Areas, Pipes, Pumps and Treatment Plants• Schools – Public and Non-Public• Shellfish Strata• Significant Natural Heritage Areas• State Parks• Submersed Rooted Vasculars• Target Local Watersheds - EEP• Trout Streams (DWQ)• Trout Waters (WRC)• Water Distribution Systems – Pipes, Pumps, Tanks, Treatment Plants, and Wells• Water Supply Watersheds• Wild and Scenic Rivers |
|---|---|

Additionally, the following environmental features were considered but are not mapped due to restrictions associated with the sensitivity of the data.

Table 2 – Restricted Environmental Features

- | | |
|---|------------------------|
| • Archaeological Sites | • Macrosite Boundaries |
| • Historic National Register Districts | • Managed Areas |
| • Historic National Register Structures | • Megasite Boundaries |

Figure 7
Environmental
Features I



Pender County North Carolina

Comprehensive Transportation Plan

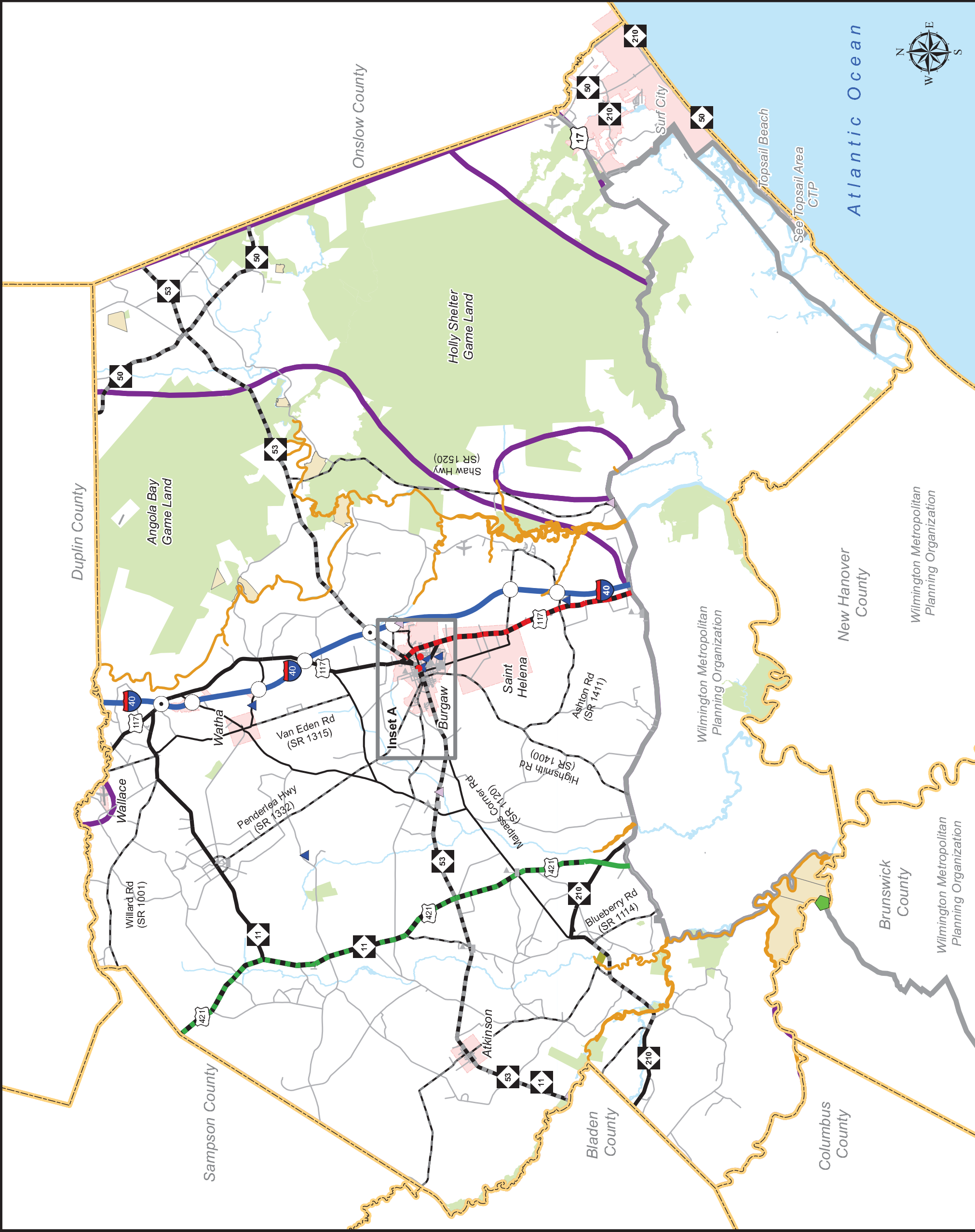
Plan date: September 4, 2014

Legend

- Pender Schools
- Airports
- Anadromous Fish
- Spawning Areas
- Conservation Tax
- Credit Properties
- Emergency Operation
- Centers
- Geology
- Hazardous Substance
- Disposal Sites
- Hazardous Waste Facilities
- Paddle Trails - Coastal Plain
- Fisheries Nursery Areas
- Natural Heritage
- Element Occurrences
- Municipal Boundary
- Wilmington Metropolitan
- Planning Area
- Boundary
- CountyBoundary



Map Date: 5/18/12



Environmental Features IA

















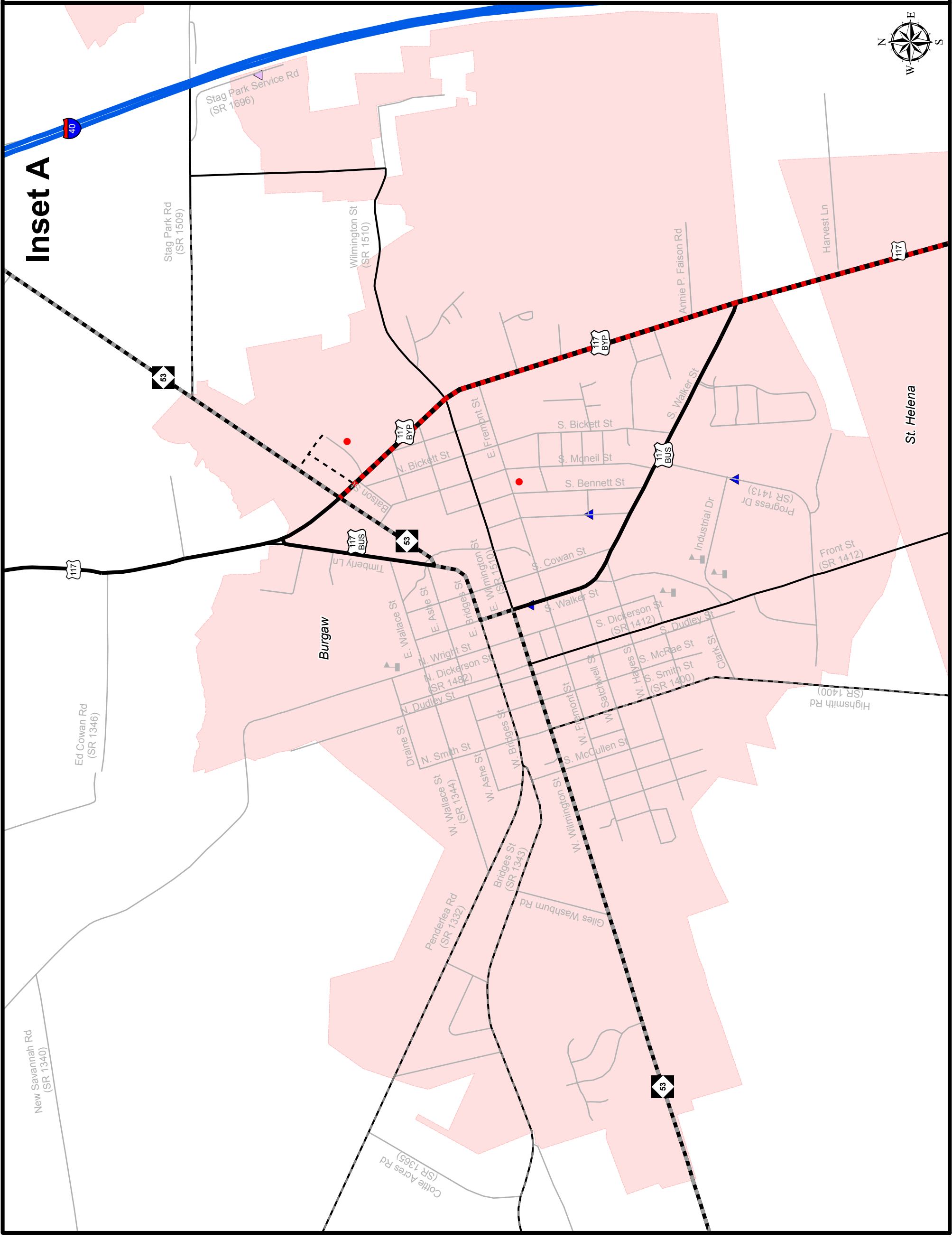
Pender County North Carolina

Comprehensive Transportation Plan

Plan date: September 4, 2014

Legend

- | | |
|---|--|
|  | Schools |
|  | Airports |
|  | Anadromous Fish
Spawning Areas |
|  | Conservation Tax
Credit Properties |
|  | Emergency Operation
Centers |
|  | Geology |
|  | Hazardous Substance
Disposal Sites |
|  | Hazardous Waste Facilities |
|  | Paddle Trails - Coastal Plain |
|  | Fisheries Nursery Areas |
|  | Natural Heritage
Element Occurrences |
|  | Municipal Boundary |
|  | Wilmington Metropolitan
Planning Organization
Boundary |
|  | County Boundary |



Base map date: 5/18/12
Refer to CTP document for more details

Figure 7B
Environmental
Features II



Pender County North Carolina Comprehensive Transportation Plan

Plan date: September 4, 2014

Legend

- Hospitals
- High Quality Water and Outstanding Resource Water Management
- Land Trust Priority Areas
- Land and Water Conservation Fund
- Sewer Gravity Mains
- Sewer Pressurized Mains
- Water Supply Watersheds
- Municipal Boundaries
- Hydrography (1:24,000 scale)
- Wilmington Metropolitan Planning Organization Boundary
- County Boundary

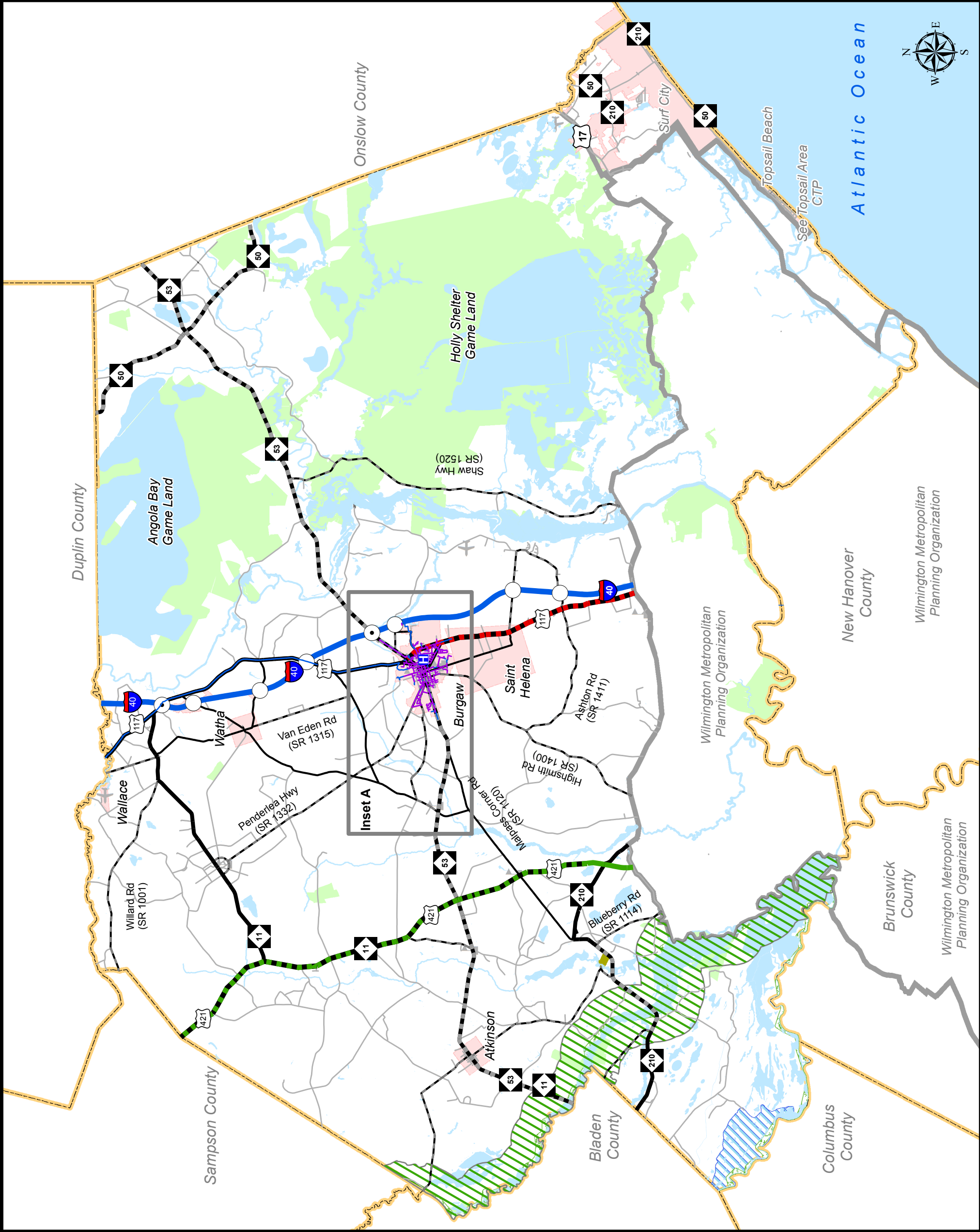
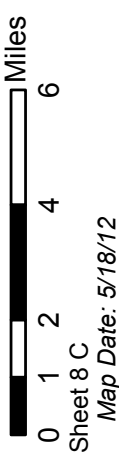


Figure 7C
Inset A
Environmental
Features II A

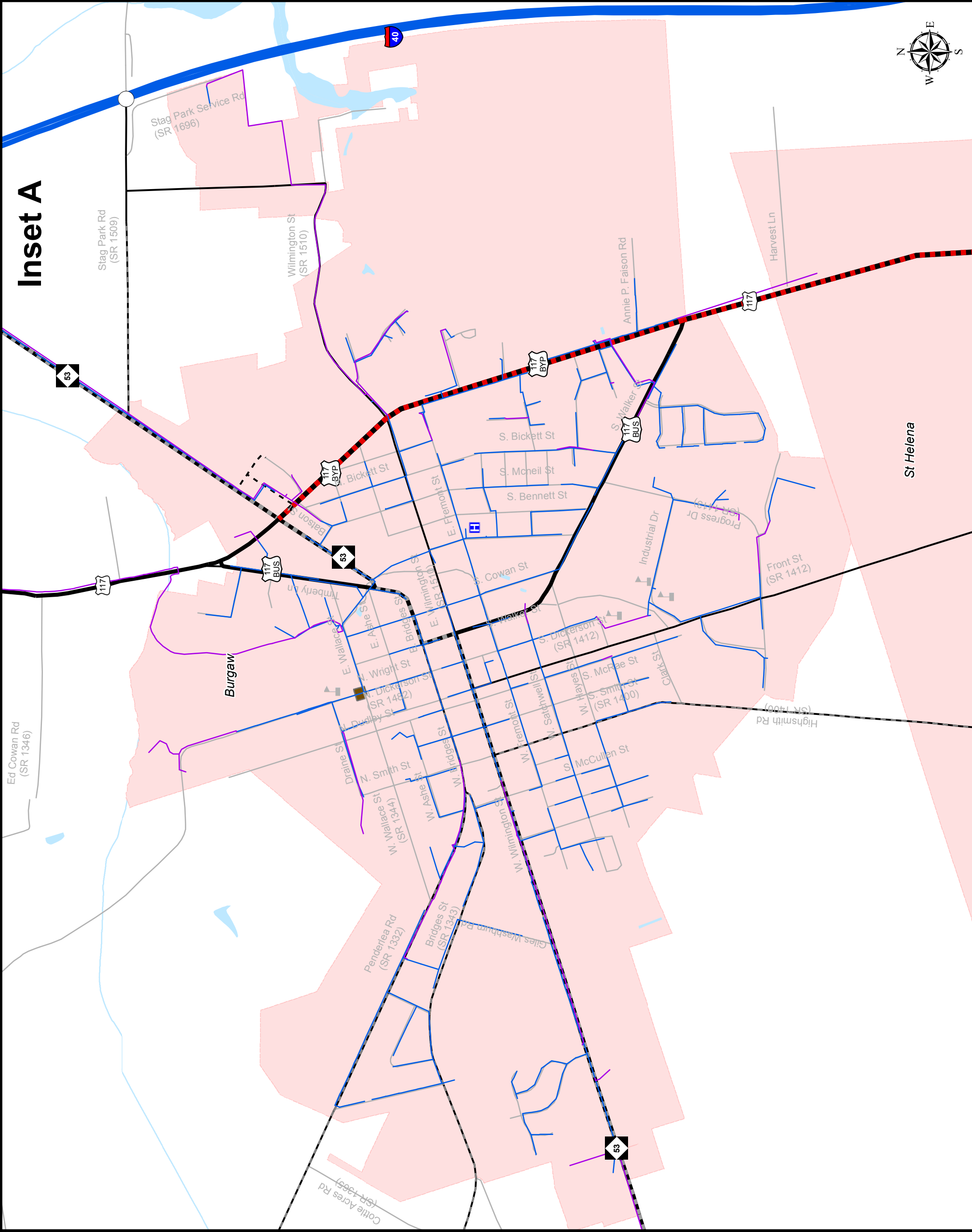
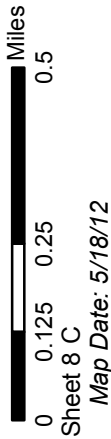


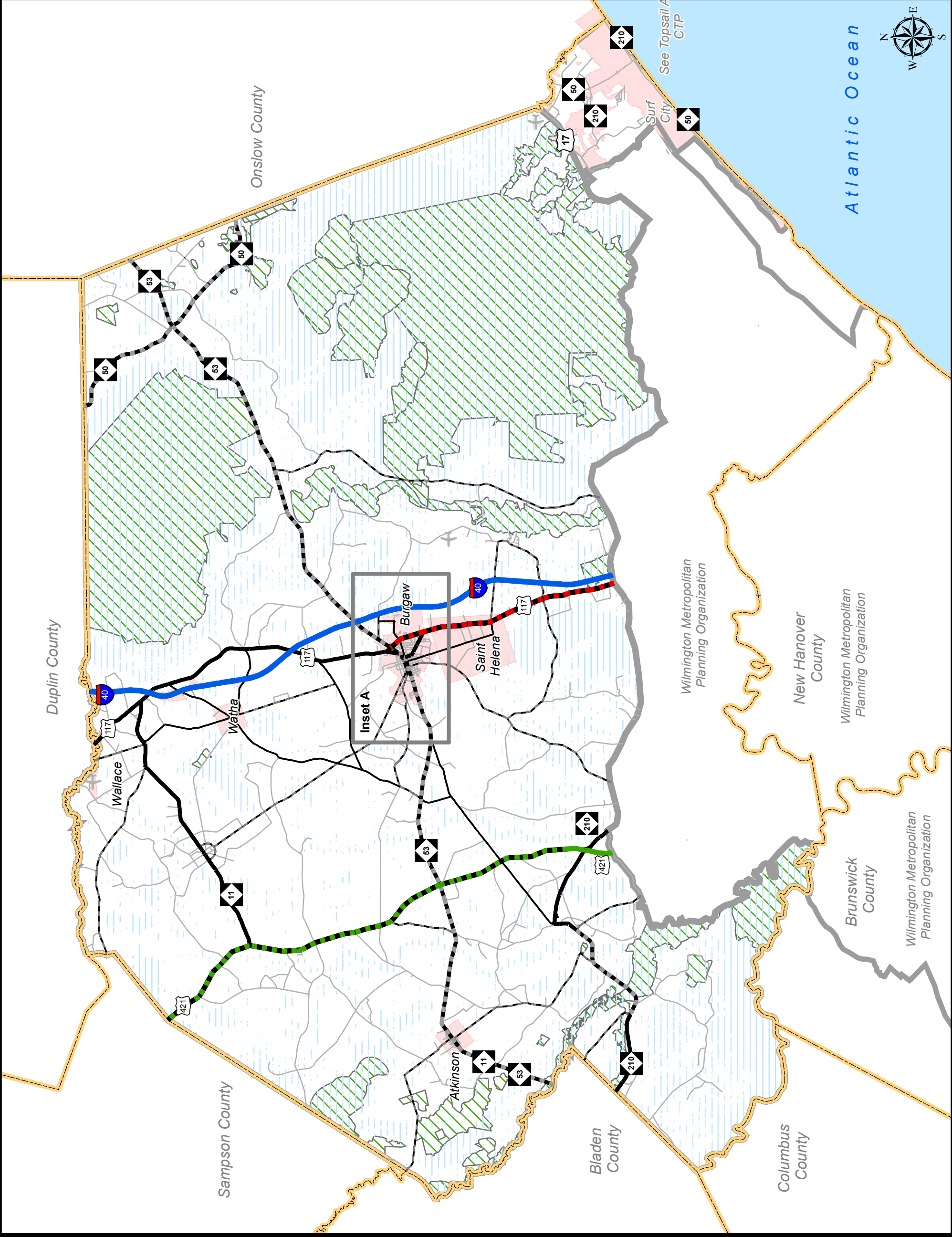
Pender County North Carolina Comprehensive Transportation Plan

Plan date: September 4, 2014

Legend

- Hospitals
- High Quality Water and Outstanding Resource Water Management
- Land Trust Priority Areas
- Land and Water Conservation Fund
- Sewer Gravity Mains
- Sewer Pressurized Mains
- Water Supply Watersheds
- Municipal Boundaries
- Hydrography (1:24,000 scale)
- Wilmington Metropolitan Planning Organization Boundary
- County Boundary











[illegible]

Comprehensive Transportation Plan

Plan date: September 4, 2014

Legend

-  National Wetlands Inventory
 Significant Natural Heritage Areas
 Roads
 Municipal Boundary
 Planning Boundary
 County Boundary



Base map date: 5/18/12
Refer to CTP document for more details

Figure 7F
Environmental
Features IV



Pender County North Carolina Comprehensive Transportation Plan

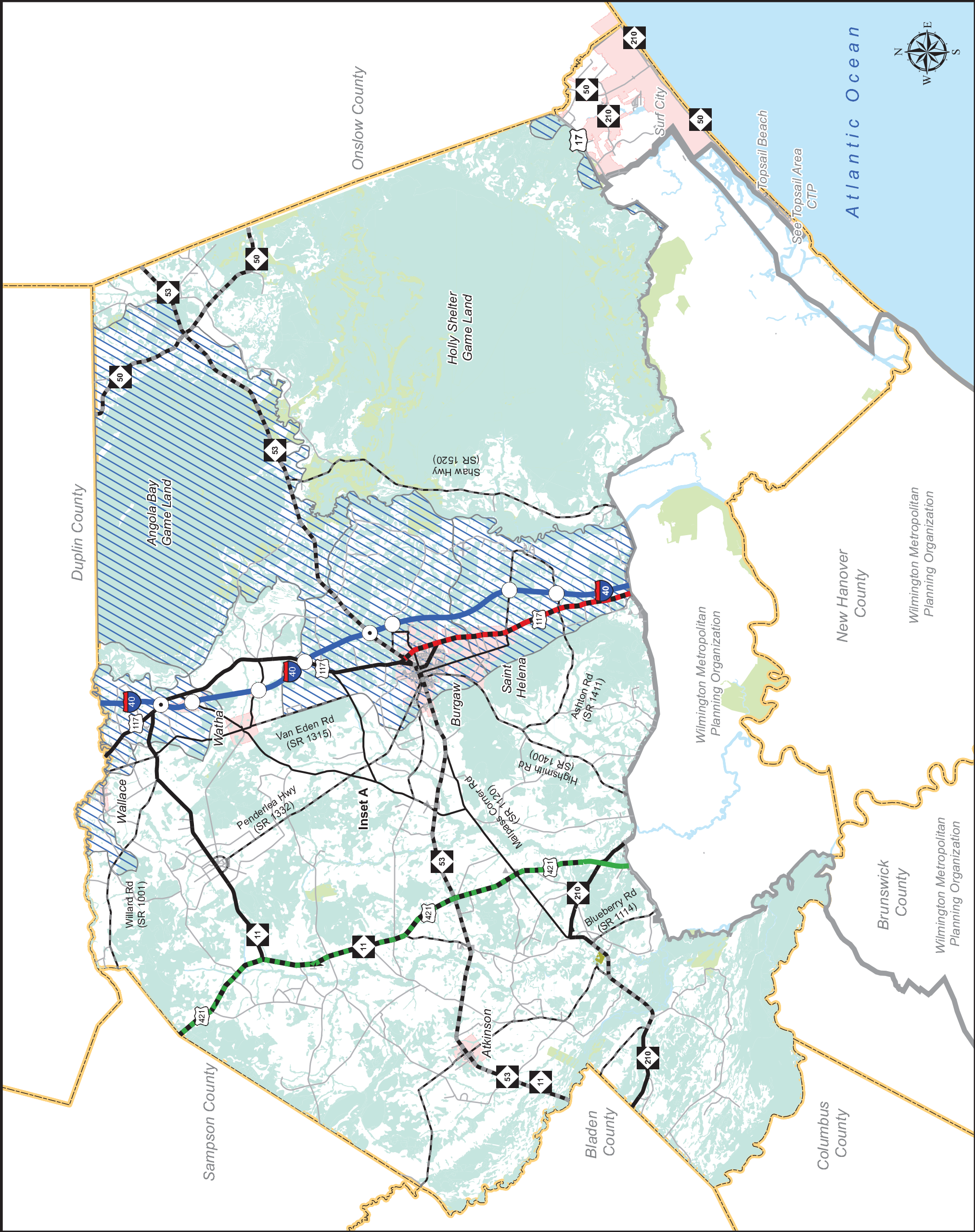
Plan date: September 4, 2014

Legend

- Schools
- Airports
- Target Local Watersheds - EEP
- NC Coastal Region Evaluation of Wetland Significance (NC-CREWS)
- Municipal Boundary
- Wilmington Metropolitan Planning Organization Boundary
- County Boundary



Map Date: 5/18/12



Public Involvement

Public involvement is a key element in the transportation planning process. Adequate documentation of this process is essential for a seamless transfer of information from systems planning to project planning and design.

A meeting occurred with the Pender County Planning Department in January of 2011 to formally initiate the study, provide an overview of the transportation planning process, and to gather input on area transportation needs. The first steering committee meeting occurred in February 2011. A presentation was given with the Pender County Board of Commissioners in March 2011.

Throughout the course of the study, the Transportation Planning Branch cooperatively worked with the Pender County Steering Committee, which included a representative from each municipality, county staff, the RPO and others, to provide information on current local plans, to develop transportation vision and goals, to discuss population, and to develop proposed CTP recommendations. Refer to Appendix H for detailed information on the vision statement, the goals and objectives survey and a listing of committee members.

The public involvement process included holding one public drop-in session in Pender County to present the proposed CTP to the public and solicit comments. The meeting was held on June 21, 2012 at the Pender County Public Meeting Room at 805 S. Walker Street, Burgaw, NC. The session was publicized in the local newspaper and was held from 4:00 to 7:00 pm. No comment forms were submitted during the session held on June 21, 2012.

On October 7, 2014 from 4:30pm to 6:30pm, a public drop-in session was held in Burgaw, NC to inform the public about the Pender County CTP. Two comments were received from the public, one regarding the utility of a roundabout on NC 53, and another comment in support of sidewalks. Following this drop-in session the Pender County CTP was introduced to the Pender County Planning Board. On November 5, 2014, there was a public hearing held before the Pender County Board of Commissioners meeting and no comments were received. Following the public hearing, the Pender County Board of Commissioners rejected the Pender County CTP because the Burgaw Bypass (R-3302) was not supported. On January 6, 2015, Pender County Planning Board recommended adoption to the Pender County Board of Commissioners. On January 20, 2015, there was a public hearing held before the Pender County Board of Commissioners meeting and no comments were received. Following the public hearing the Pender County Board of Commissioners adopted the Pender County CTP.

On November 10, 2014, a public hearing was held before The Town of Burgaw Board of Commissioner's meeting. At this meeting, The Town of Burgaw Board of Commissioners rejected the Pender County CTP due to a lack of support for the Burgaw Bypass R-3302. On December 9, 2014, a public hearing was held before The

Town of Burgaw Board of Commissioner's meeting. At this meeting, The Town of Burgaw Board of Commissioners adopted the Pender County CTP.

Public Hearings were held before each jurisdiction adopted the Pender County CTP, this includes The Town of Atkinson on November 6, 2014, the Village of St. Helena on February 19, 2015, The Town of Wallace on February 12, 2015, and The Town of Watha on February 2, 2015.

The Cape Fear RPO endorsed the CTP on January 23, 2015. The North Carolina Board of Transportation voted to mutually adopt the Pender County CTP on March 4, 2015.

II. Recommendations

This report documents the development of the Pender County CTP as shown in Figure 1. This chapter presents recommendations for each mode of transportation in the County.

Implementation

The CTP is based on the projected growth for the planning area. It is possible that actual growth patterns will differ from those logically anticipated. As a result, it may be necessary to accelerate or delay the implementation of some recommendations found within this plan. Some portions of the plan may require revisions in order to accommodate unexpected changes in development. Therefore, any changes made to one element of the CTP should be consistent with the other elements.

Initiative for implementing the CTP rests predominately with the policy boards and citizens of Pender County and its municipalities. As transportation needs throughout the State exceed available funding, it is imperative that the local planning area aggressively pursue funding for priority projects. Projects should be prioritized locally and submitted to the Cape Fear RPO for regional prioritization and submittal to NCDOT. Refer to Appendix A for contact information on funding. Local governments may use the CTP to guide development and protect corridors for the recommended projects. It is critical that NCDOT and local government coordinate on relevant land development reviews and all transportation projects to ensure proper implementation of the CTP. Local governments and the North Carolina Department of Transportation share the responsibility for access management and the planning, design and construction of the recommended projects.

Prior to implementing projects from the CTP, additional analysis will be necessary to meet the National Environmental Policy Act (NEPA) or the North Carolina (or State) Environmental Policy Act (SEPA). This CTP may be used to provide information in the NEPA/SEPA process.

The following pages contain problem statements for each recommendation, organized by CTP modal element.

Problem Statements

HIGHWAY

US 117 Proposed improvements from Wilmington Metropolitan Planning Organization Boundary at NC 210 to US 117 Business Local ID: PEND0001-H
Last Updated: 6/18/14

Identified Problem

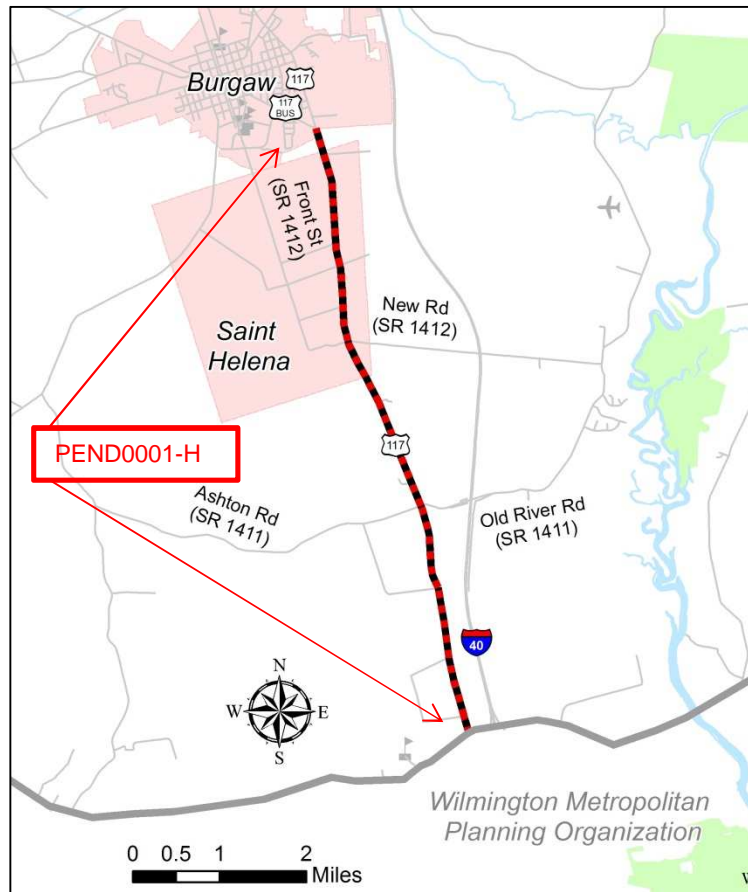
Existing US 117 is projected to be over capacity by 2040 from the Wilmington Metropolitan Planning Area boundary at NC 210 to US 117 Business (South Walker Street) in the town of Burgaw. The primary purpose of this project is to relieve congestion on the existing facility such that a minimum of LOS D can be achieved.

Justification of Need

US 117 is a major north-south corridor in Pender County, connecting Burgaw, the county seat, to St. Helena, Rocky Point and New Hanover County. The facility is a vital artery in moving people and goods through southeast North Carolina. US 117 links Wilmington, Burgaw, Wallace, Mt Olive, Goldsboro, and Wilson.

US 117 is a 2-lane facility with 11-foot lanes and a 55 mph speed limit. US 117 has a center left turn lane from a point 0.1 miles south of Rocky Point Elementary School Road to a point 0.05 miles north of Lucas Avenue (SR 1420). In the area near the intersection of US 117 and NC 210 the facility has 12-foot lanes as well as a center left turn lane from a point 0.15 miles south of NC 210 to a point 0.23 miles north of NC 210.

By 2040 the facility is projected to be over capacity from the Wilmington Metropolitan Organization Boundary at NC 210 to US 117 Business based on providing a Level of



Service (LOS) D. Traffic on US 117 from NC 210 to Ashton Road (SR 1411) is projected to increase from 9,200 vehicles per day (vpd) in 2010 to 20,700 vpd in 2040 compared to a LOS D capacity of 15,900 vpd. Traffic from Ashton Road (SR 1411) to US 117 Business is projected to increase from 7,100 vehicles per day (vpd) in 2010 to 13,500 vpd in 2040, compared to a LOS D capacity of 13,200 vpd.

Community Vision and Problem History

US 117 is a north-south route that connects Pender County with New Hanover County to the south and Duplin County to the north. This section of roadway connects Burgaw, the county seat, with southern Pender County. Through traffic from Burgaw to Wilmington or New Hanover County mixes with local traffic, especially school bus traffic during the mornings. There are three schools located in Rocky Point; Rocky Point Elementary School, Cape Fear Middle School, and Heide Trask Senior High School. Rocky Point is an unincorporated area at the intersection of NC 210 and US 117.

Additionally, Rocky Point has experienced growth of commercial and strip developments and has become a destination point by providing amenities and services that are not available in other parts of southern Pender County.

The future capacity deficiency for this section of US 117 was identified in the Thoroughfare Plan Study Technical Report for Pender County, February, 1998, although a recommendation for improvement was not included in this plan. This is the first time this deficiency has been recommended for improvement.

CTP Project Proposal

Project Description

The proposed project (Local ID No. Pend0001-H) is to convert the existing 2-3 lane facility from US 210 to US 117 Business to a four-lane divided boulevard. This project also includes a multi-use path along the east side of the facility. With the proposed improvements the LOS D capacity will increase to 32,800 vpd.

The proposed improvements on US 117 will help to reduce congestion and improve mobility in this area of Pender County.

Relationship to Land Use Plans

The Pender County Comprehensive Land Use Plan Adopted June 21, 2010 includes the Rocky Point Small Area Plan, which shows the Future Land Use along US 117 as Office, Institutional and Commercial near NC 210. The future land use along the US 117 corridor changes to mixed use approximately three fourths of a mile north of NC 210.

Linkages to Other Plans and Proposed Project History

The 1997 Burgaw Land Use Plan document supported widening US 117 to five lanes. The Burgaw 2030 Comprehensive Land Use Plan Adopted June 11, 2013 supports the widening of US 117. The Wilmington Metropolitan Planning Organization 2040 Metropolitan Transportation Plan does not plan to widen US 117.

Identified Problem

Existing US 117 Bypass is projected to be over capacity by 2040 from US 117 Business (South Walker Street) to NC 53 in the town of Burgaw. The primary purpose of this project is to relieve congestion on the existing facility such that a minimum of LOS D can be achieved.

Justification of Need

US 117 Bypass is a north-south corridor on the eastern side of the town of Burgaw that connects with US 117 Business and NC 53. US 117 Bypass is currently a 3-lane facility with center left turn lane from US 117 Business (South Walker Street) to NC 53 with 11-foot lanes and a 45 mph speed limit.

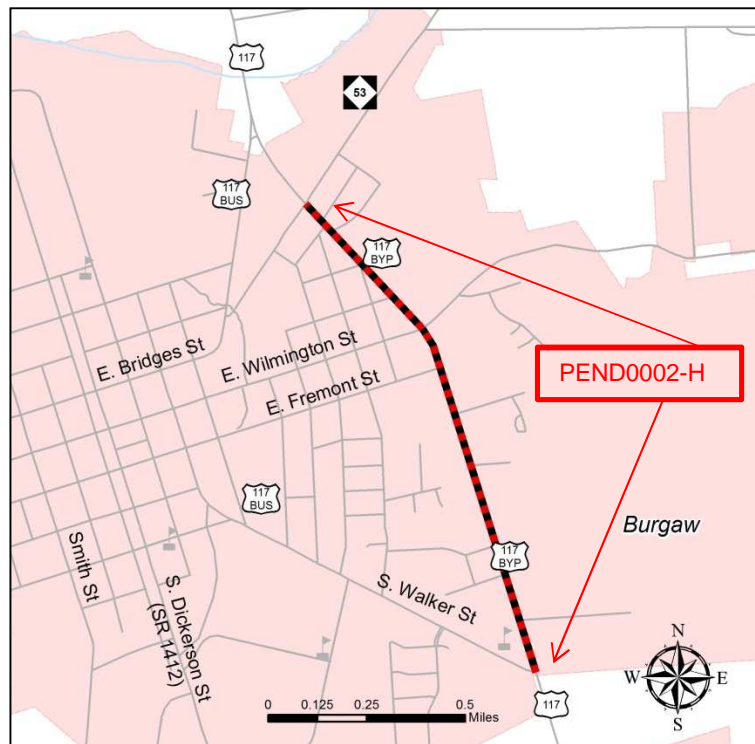
By 2040 the facility is projected to be over capacity from US 117 Business (South Walker Street) to NC 53 based on providing a Level of Service (LOS) D. Traffic on US 117 Bypass is projected to increase from 9,100 vehicles per day (vpd) in 2010 to 17,800 vpd in 2040, compared to a LOS D capacity of 14,500 vpd.

CTP Project Proposal

The proposed project (Local ID No. Pend0002-H) is to convert the existing 3-lane facility from US 117 Business (South Walker Street) to NC 53 to a four-lane divided major thoroughfare with 12 foot lanes. This project also includes sidewalks on both sides of the facility. With the proposed improvements the LOS D capacity will increase to 22,200 vpd. The proposed improvements on US 117 Bypass will help to reduce congestion and improve mobility in Burgaw.

Relationship to Land Use Plans

The Burgaw Comprehensive Land Use Plan Adopted June 11, 2013 shows all land to the east of US 117 Bypass as rural/agricultural. To the west of US 117 Bypass, the land use is mostly vacant or public/open space, the land use also includes some



rural/agricultural areas and one industrial site. Also included in this document is the Future Land Use Plan which consists of goals. The first goal is “to promote infill development and revitalization of areas with existing infrastructure.”

Linkages to Other Plans and Proposed Project History

The 1997 Burgaw Land Use Plan document supported widening US 117 Bypass to five lanes. The Burgaw 2030 Comprehensive Land Use Plan Adopted June 11, 2013 supports the widening of US 117 Bypass.

Identified Problem

The purpose of this project is to upgrade this facility for hurricane evacuation from I-140 New Hanover County to I-95 in Harnett County.

Justification of Need

US 421 is a major north-south corridor in western Pender County. The facility is a vital artery in moving people and goods through North Carolina.

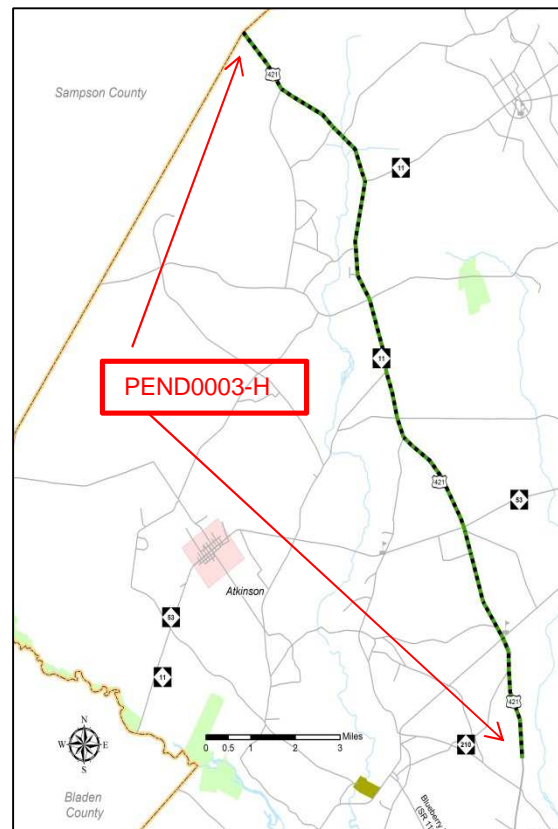
US 421 is identified as a hurricane evacuation route in the North Carolina Department of Transportation Hurricane Evacuation Study 2005. This facility is also classified as a critical roadway segment and included in the NCDOT Hurricane Traffic Model 2004. This study found that during a hurricane, approximately 10% of the vehicles evacuating Pender County, 7% of those evacuating New Hanover County, and 3% of those evacuating Brunswick County are estimated to use US 421.

Also, the intersection of US 421 and NC 53 is classified as a high frequency crash location in the period between March 1, 2008 and March 1, 2011. The data shows this location with 16 crashes and a severity average of 14.17 which is greater than that of the state's 4.37 index. The total number of crashes are reported within 150-ft of the intersection during the study period.

Community Vision and Problem History

Before the last portion of Interstate 40 from Raleigh to Wilmington opened on June 29, 1990, US 421 was the link between Raleigh and Wilmington. Also, US 421 was widened to a four-lane divided highway from New Hanover County to approximately a half of a mile north of NC 210. Once I-40 opened, much of the volume shifted from US 421 to I-40.

This is the first time this deficiency has been identified on a transportation plan.



CTP Project Proposal

The proposed project (Local ID No. PEND0003-H) is to widen US 421 to a four lane divided expressway. This project is part of a broad vision project that will widen from the Sampson County Line to the Wilmington MPO Boundary.

The proposed improvement to US 421 will help during hurricane evacuation by enabling motorists to reach a point of safety which, according to the North Carolina Department of Transportation 2005 Hurricane Evacuation Study, is any point east of I-95.

An intersection improvement has been identified at US 421 and NC 53. Further Study is needed at the intersection during the design phase to address the safety issues.

Relationship to Land Use Plans

The Pender County Comprehensive Land Use Plan Adopted June 21, 2010 includes the US 421 South Corridor Small Area Plan, which shows the future land use along US 421. At the intersections of US 421 with NC 210, Malpass Corner Road (SR 1120), and NC 53, the future land use is shown as office, institutional, and commercial. Between these intersections the future land use is shown as mostly suburban with some areas proposed for mixed use. North of NC 53 the plan show the classification as rural growth.

Linkages to Other Plans and Proposed Project History

The improvement proposal for US 421 directly connects to the proposed Wilmington Bypass (I-140) in New Hanover and Brunswick Counties.

Identified Problem

Existing NC 53 is projected to be either over capacity or near capacity by 2040 from Smith Street (SR 1400) to US 117 Bypass. The primary purpose of project is to provide access management and make intersection improvements.

Justification of Need

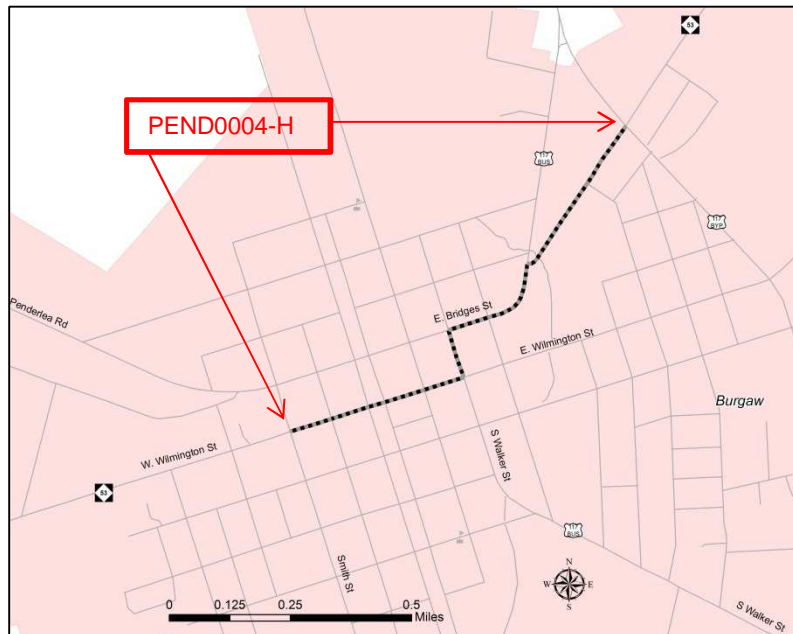
NC 53 is a major east-west corridor in central Pender County that connects Bladen County to the west with Onslow County to the east. NC 53 connects I-40 with US 421 to the west and NC 50 and Jacksonville to the east. This facility is a vital artery in moving people and goods through eastern North Carolina connecting Fayetteville and Jacksonville.

Within the town of Burgaw, NC 53 is currently a 2 to 3 lane facility with 11-12 foot lanes and a posted speed limit of 35 mph. A section of NC 53 has on-street parking from S. Smith Street (SR 1400) to US 117 Business (Walker Street). From S. Walker Street to N. Timberly Lane, US 117 Business runs concurrently with NC 53. NCDOT's Strategic Transportation Investment Facilities Plan shows this facility as a Regional Impact STI Route.

By 2040 the facility is projected to be over capacity from S. Smith Street to S. Dickerson Street based on providing LOS D. Traffic from S. Smith Street (SR 1400) to S. Dickerson Street is projected to increase from 8,400 vehicles per day (vpd) in 2010 to 12,500 vpd in 2040 compared to a LOS D capacity of 10,700 vpd. The traffic from N. Timberly Lane to US 117 Bypass is projected to increase from 7,900 vpd in 2010 to 15,900 in 2040, compared to a LOS D capacity of 11,100 vpd.

Community Vision and Problem History

NC 53 is a major east-west corridor in central Pender County that connects Bladen County to the west with Onslow County to the east. This section of roadway passes through the town of Burgaw which is the county seat. Amenities and services that are



not available in other parts of Pender County are found in Burgaw. This facility provides access to a number of commercial properties and municipal buildings, including the police station, the fire station, the county courthouse, and residential areas. Through traffic in the form of logging trucks from Bladen County mix with local traffic causing delays.

CTP Project Proposal

Project Description

The proposed project (Local ID No. PEND0004-H) is to provide traffic calming measures that include streetscaping, elimination of some driveways, elimination of some on street parking, and traffic calming devices, such as two roundabouts. One roundabout is proposed at the intersection of NC 53 and US 117 Business (Timberly Lane). The other roundabout is proposed on NC 53 at the intersection of US 117 Business (Walker Street). The roundabout at the intersection of US 117 Business (Walker Street) and NC 53 (Wilmington Street), R-5701 is funded in the Strategic Transportation Investment Plan 2016-2020. This project also includes sidewalks on both sides of the facility.

The proposed improvements to NC 53 will help to improve livability and safety in the town of Burgaw.

Relationship to Land Use Plans

The 2030 Town of Burgaw Comprehensive Land Use Plan adopted June 11, 2013 specifically addresses goals and policies within the Transportation Section that state “Prioritize NC 53 safety improvements along the current corridor and advocate for their immediate implementation on the local and state levels”.

Linkages to other Plans and Proposed Project History

The NC 53 Corridor Study, Building a Gateway to Our Community, was completed in December 2006.

Burgaw Bypass

NC 53 passes through the heart of downtown Burgaw and is expected to be near or over capacity by the year 2040. Traffic volumes will continue to increase on NC 53. A bypass project (Burgaw Bypass) was part of the vision shown on the Thoroughfare Plan from 1995. An Environmental Assessment was completed in 2004 and a Least Environmentally Damaging Practicable Alternative was selected. This alternative is referred to as the National Environmental Policy Act preferred alternative.

On November 10, 2014 a Town of Burgaw Commissioners meeting was held, and many of the Commissioners expressed concerns about the bypass shown on the Comprehensive Transportation Plan Highway Map. As a result of comments received from the Commissioners, the Burgaw Bypass has been removed from the Pender County Comprehensive Transportation Plan.

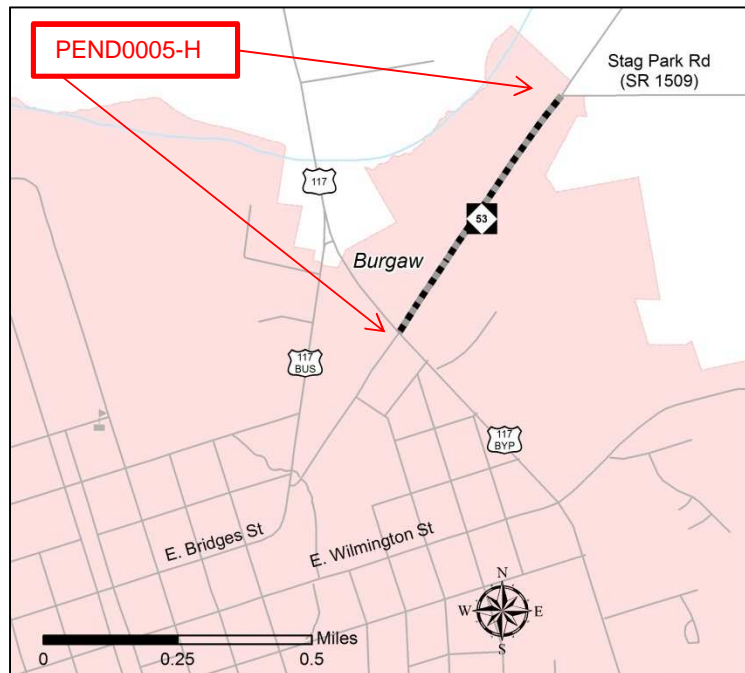
No recommendations were made on any options and further study is deemed to be necessary.

Identified Problem

Existing NC 53 is projected to be over capacity by 2040 from US 117 Bypass to Stag Park Road (SR 1509). The primary purpose of this project is to relieve congestion on the existing facility such that a minimum of LOS D can be achieved.

Justification of Need

NC 53 is a major east-west corridor in central Pender County that connects Onslow County to the east and Bladen County to the west with I-40 and US 117. This facility is a vital artery in moving people and goods through eastern North Carolina connecting Jacksonville and Fayetteville. This portion of NC 53 connects with US 117 and I-40. NC 53 is currently a 2-lane facility with 12-foot lanes and a 35 mph speed limit. NCDOT's Strategic Transportation Investment Facilities Plan shows this facility as a Regional Impact STI Route.



By 2040 the facility is projected to be over capacity from US 117 Bypass to Stag Park Road (SR 1509) based on providing a Level of Service (LOS) D. Traffic on NC 53 is projected to increase from 8,800 vehicles per day (vpd) in 2010 to 14,000 vpd in 2040, compared to a LOS D capacity of 11,100 vpd.

Community Vision and Problem History

NC 53 is a major east-west route that connects Pender County with Onslow County to the east and with Bladen County to the west. This section of roadway passes through the town of Burgaw which is the county seat. Amenities and services that are not available in other parts of Pender County are found in Burgaw. This facility provides access to a number of commercial properties and municipal buildings, including the police station, the fire station, the county courthouse, and residential areas. Through traffic in the form of logging trucks from Bladen County mix with local traffic causing delays.

CTP Project Proposal

The proposed project (Local ID No. Pend0005-H) is to convert the existing 2-lane facility from US 117 Bypass to Stag Park Road (SR 1509) to a four-lane divided major thoroughfare. This project also includes sidewalks and multi-use paths along this facility from US 117 to Stag Park Road (SR 1509) which is approximately the town limit. The proposed improvements on NC 53 will help to reduce congestion and improve mobility in this area of Pender County.

Relationship to Land Use Plans

The 2030 Town of Burgaw Comprehensive Land Use Plan adopted June 11, 2013 specifically addresses goals and policies within the Transportation Section that state “ Prioritize NC 53 safety improvements along the current corridor and advocate for their immediate implementation on the local and state levels ”.

Linkages to other Plans and Proposed Project History

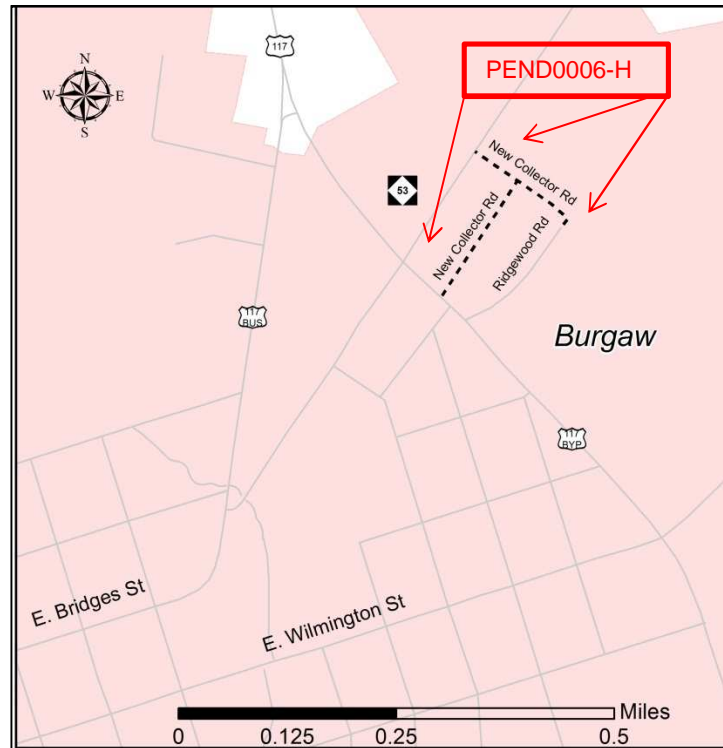
The NC 53 Corridor Study, Building a Gateway to Our Community, was completed in December 2006.

Identified Problem

Existing NC 53 is projected to be over capacity by 2040 from US 117 Bypass to Stag Park Road (SR 1509). The primary purpose of this project is to provide circulation improvements to relieve traffic congestion at the intersection of NC 53 and US 117 Bypass. This recommendation came out of the NC 53 Corridor Study Report.

Justification of Need

With the proposed improvements to NC 53 in Local ID No. PEND0002-H including widening to four lanes with a median, access to NC 53 from the numerous restaurants, gas stations, commercial properties and a grocery store will be restricted. This will funnel more traffic to the intersection of NC 53 and US 117 Bypass. Traffic on NC 53 between US 117 Bypass and Stag Park Road (SR 1509) is projected to increase from 8,800 vehicles per day (vpd) in 2010 to 14,000 vpd in 2040.



CTP Project Proposal

The proposed project (Local ID No. Pend0006-H) is to construct two new two-lane collector roads with 12 foot lanes connecting NC 53, US 117 Bypass and Ridgewood Road. The proposed improvements will help to reduce congestion and improve mobility in the vicinity of NC 53 and US 117 Bypass. It will also provide additional driveway access to the properties located on the south side of NC 53.

Relationship to Land Use Plans

The 2030 Town of Burgaw Comprehensive Land Use Plan adopted June 11, 2013 specifically addresses goals and policies within the Transportation Section that state

“Prioritize NC 53 safety improvements along the current corridor and advocate for their immediate implementation on the local and state levels”.

Linkages to other Plans and Proposed Project History

The NC 53 Corridor Study, Building a Gateway to Our Community, was completed in December 2006.

Minor Widening Improvements

The following routes are recommended to be upgraded to two 12-foot lanes with paved shoulders to improve narrow lane widths and/or to accommodate bicycles.

- **PEND0007-H:** NC 210 from Morgan Road (SR 1102) to Blueberry Road (SR 1114), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0008-H:** Ashton Road (SR 1411) from Highsmith Road (SR 1400) to US 117, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0009-H:** Battleground Road (SR 1100) from NC 210 to Moores Creek National Battlefield, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0010-H:** Beatty's Bridge Road (SR 1201) from Tuckahoe Road (SR 1206) to the town of Atkinson City Limits, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0011-H:** Bell Williams Road (SR 1121) from NC 53 to US 421, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0012-H:** Blueberry Road (SR 1114) from Wilmington Metropolitan Planning Organization boundary (Montague Road) to NC 210, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0013-H:** West Bridges Street (SR 1343) from Giles Marshburn Road to US 117 Business (N. Walker Street), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0014-H:** Garden Road (SR 1328) from Penderlea Highway (SR 1332) to NC 11, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0015-H:** Henry Brown Road (SR 1343) from town of Burgaw town limits to Giles Marshburn Road, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0016-H:** Highsmith Road (SR 1400) from the Wilmington Metropolitan Planning Organization boundary to town of Burgaw town limit, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0017-H:** Horse Branch Road (SR 1336) from NC 53 to Piney Woods Road (SR 1216), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0018-H:** Morgan Road (SR 1102) from Bladen County Line to NC 210, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0019-H:** New Road (SR 1412) from the US 117 to Old River Road (SR 1411), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0020-H:** Old River Road (SR 1411) from US 117 to New Road (SR 1412), widen from two 9 to 11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0021-H:** Penderlea Highway (SR 1332) from the town of Burgaw town limits to Garden Road (SR 1328), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.

- **PEND0022-H:** Penderlea Road (SR 1332) from W. Bridges Street to the town of Burgaw town limits, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0023-H:** Piney Woods Road (SR 1216) from Horse Branch Road (SR 1336) to Henry Brown Road (SR 1343), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0024-H:** Point Caswell Road (SR 1128) from Slocumb Trail (SR 1100) to Rooks Road (SR 1126), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0025-H:** Raccoon Road (SR 1328) from NC 11 to Penderlea Highway (SR 1332), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0026-H:** N. Rankin Street. (SR 1201) from Atkinson town limits to NC 11/53 (E. Church Street.), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0027-H:** S. Railroad Street (SR 1126) from Rooks Road (town limits of Atkinson) to NC 11/53, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0028-H:** Rooks Road (SR 1126) from Point Caswell Road (SR 1128) to S. Railroad Street (Atkinson town limit), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0029-H:** Shaw Highway (SR 1520) from Wilmington Metropolitan Planning Organization boundary to NC 53, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0030-H:** Slocumb Trail (SR 1100) from Battleground Road (SR 1100) to Point Caswell Road (SR 1128), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0031-H:** Smith Street (SR 1400) from town of Burgaw town limits to NC 53, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0032-H:** Stag Park Road (SR 1509) from NC 53 to I 40, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0033-H:** Van Eden Road (SR 1315) from Old Savannah Road (SR 1335) to Camp Kirkwood Road (SR 1318), widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0034-H:** Wallace Road (SR 1001) from the Sampson County Line to NC 11, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.
- **PEND0035-H:** Willard Railroad Street (SR 1309) from NC 11 to the Duplin County Line, widen from two 9-11 foot lanes to two 12-foot lanes with paved shoulders.

PUBLIC TRANSPORTATION & RAIL

Pender County has one existing bus route. This route connects Wallace in Duplin County to Cape Fear Community College (North Campus) 4500 Blue Clay Road, Castle Hayne in New Hanover County. In Pender County there are two existing Park and Ride Lots located at Pender Adult Services – Heritage Place 901 S. Walker Street, Burgaw, North Carolina and Henderson Field Wallace Airport, 250 Henderson Field Road, Wallace, North Carolina. Additional bus routes are planned along US 421, US 117, NC 11, NC 210, NC 53, and other local roads.

Existing railroad tracks between Wallace and Castle Hayne were removed over 30 years ago. Now there is an interest in restoring both those routes. This would allow for the shipment of freight and possibly passengers between Wilmington and Raleigh. The exact location of the routes and crossings will need to be determined with a future feasibility study. The locations shown on the map are actually the old locations for the railroad. All recommendations for rail were coordinated with the local governments and the Rail Division of NCDOT.

Bus Route Recommendations:

US 117, Local ID: PEND0001-T: provide service from NC 210 to Duplin County Line.

US 117 Business, Local ID: PEND0002-T: provide service from US 117 Bypass to US 117 Bypass.

US 421, Local ID: PEND0003-T: provide service from NC 210 to NC 11.

NC 11, Local ID: PEND0004-T: provide service from Atkinson to US 421.

NC11, Local ID: PEND0005-T: provide service from US 421 to US 117.

NC 53, Local ID: PEND0006-T: provide service from US 421 to Onslow County Line.

NC 210, Local ID: PEND0007-T: provide service from NC 210 to Malpass Corner Road (SR 1120).

Basden Road, Local ID: PEND0008-T: provide service from Penderlea Road (SR 1332) to Henry Brown Road (SR 1343).

Bell Williams Road, Local ID: PEND0009-T: provide service from NC 210 to John Henry Store Road (SR 1125).

Bodenheimer Street, Local ID: PEND0010-T: provide service from West Freemont Street to NC 53.

Bridges Street (SR 1343), Local ID: PEND0011-T: provide service from Giles Wasburn Road to Penderlea Road (SR 1332).

Dickerson Street (SR 1412), Local ID: PEND0012-T: provide service from Wallace Street (SR 1344) to Progress Drive (SR 1413).

Durham Street, Local ID: PEND0013-T: provide service from Satchwell Street to Freemont Street.

East Freemont Street, Local ID: PEND0014-T: provide service from Dickerson Street (SR 1412) to US 117 Bypass.

Henry Brown Road (SR 1343), Local ID: PEND0015-T: provide service from Basden Road to Giles Marshburn Road.

Industrial Drive, Local ID: PEND0016-T: provide service from Dickerson Street (SR 1412) to Progress Drive (SR 1413).

John Henry Store Road (SR 1125), Local ID: PEND0017-T: provide service from Bell Williams Road to Rooks Road (SR 1128).

Penderlea Road (SR 1343), Local ID: PEND0018-T: provide service from Basden Road to West Wallace Street (US 117 Business).

Progress Drive (SR 1413), Local ID: PEND0019-T: provide service from Dickerson Street (SR 1412) to Walker Street (US 117 Business).

Rooks Road (SR 1128), Local ID: PEND0020-T: provide service from John Henry Store Road (SR 1125) to NC 11.

Satchwell Street, Local ID: PEND0021-T: provide service from Durham Street to Dickerson Street (SR 1412).

West Bridges Street, Local ID: PEND0022-T: provide service from Penderlea Road (SR 1332) to Dickerson Street (SR 1412).

West Freemont Street, Local ID: PEND0023-T: provide service from Durham Street to South Bodenheimer Street.

Walker Street (US 117 Business), Local ID: PEND0024-T: provide service from Wallace Street (SR 1344) to US 117 Bypass.

Wallace Street (SR 1344), Local ID: PEND0025-T: provide service from Penderlea Road (SR 1332) to Timberly Lane (US 117 Business).

Park and Ride Recommendations:

Park and Ride Lot, Local ID: PEND0026-T: The facility is recommended near US 117 and Duplin County Line.

Park and Ride Lot, Local ID: PEND0027-T: The facility is recommended near US 117 and NC 210.

Park and Ride Lot, Local ID: PEND0028-T: The facility is recommended near NC 53 and Front Street.

Park and Ride Lot, Local ID: PEND0029-T: The facility is recommended at Henderson Field Wallace Airport located at 250 Henderson Field Road Wallace, NC.

Park and Ride Lot, Local ID: PEND0030-T: The facility is recommended at Pender Adult Services- Heritage Place located at 901 South Walker Street Burgaw, NC.

RAILROAD

- **PEND0001-R:** New location running parallel to US 117 through Pender County from Wallace in Duplin County to Castle Hayne in New Hanover County.

BICYCLE

State Bicycle Route #5 passes through the southwest corner of the county and connects Bladen County to New Hanover County by way of NC 210 and US 421.

During the development of the Pender County CTP several routes were recommended for multi-use paths. These paths will allow pedestrians and bicyclists to safely travel on an off-road facility without interrupting traffic flow. They will also provide connectivity across the county and provide access to several of the parks and schools. Some of these recommendations tie into and match the recommendations made in the Eastern Carolina RPO Bike and Pedestrian Routes map and the 2015 Town of Burgaw Bicycle and Pedestrian Plan. The proposed West Pender Rail Trail makes use of an old railroad corridor. The location of facilities was planned to coordinate with the East Coast Greenway.

Atkinson:

Bicycle – Recommended

- **PEND0001-B:** NC 11/53 (Church Street) from North Pope Street to Linden Avenue
- **PEND0002-B:** North Rankin Street (SR 1201) from NC 11/53 (Church Street) to Beatty's Bridge Road (Atkinson town limit)
- **PEND0003-B:** East Henry Street (SR 1205) from North Railroad Street to North Rankin Street (SR 1201)

Burgaw:

Bicycle – Recommended

- **PEND0004-B:** US 117 Business from US 117 Bypass at South Walker Street to US 117 Bypass at North Timberly Lane
- **PEND0005-B:** NC 53 from Tealbriar Street to a point east of US 117 Bypass
- **PEND0006-B:** Bridges Street from Giles Marshburn Road to North Walker Street
- **PEND0007-B:** Henry Brown Road (SR 1343) from Burgaw town limit to Giles Marshburn Road
- **PEND0008-B:** South Smith Street from Clark Street to NC 53 (Wilmington St)
- **PEND0009-B:** Wilmington Street from Walker Street to US117 Bypass

Watha:

Bicycle – Recommended

- **PEND0010-B:** Charlotte Street (SR 1315) from Camp Kirkwood Road (SR 1318) to Pelham Road (SR 1319)
- **PEND0011-B:** Pelham Road (SR 1319) from Mary Slocum Road (SR 1336) to Charlotte Street (SR 1315)

In the County:

Bicycle – Recommended

- **PEND0012-B:** Beatty's Bridge Road from Bladen County Line to Atkinson town limit
- **PEND0013-B:** South Railroad Street from NC 11/53 (Church Street) to Rooks Road (SR 1126)
- **PEND0014-B:** Rooks Road (SR 1126) from Atkinson town limits to John Henry Store Road (SR 1125)
- **PEND0015-B:** John Henry Store Road (SR 1125) from Rooks Road (SR 1126) to Point Caswell Road (SR 1128)

- **PEND0016-B:** Point Caswell Road (SR 1128) from John Henry Store Road (SR 1125) to Slocum Trail (SR 1100)
- **PEND0017-B:** Slocum Trail (SR 1100) from Point Caswell Road (SR 1128) to Battleground Road (SR 1671)
- **PEND0018-B:** Battleground Road (SR 1671) from Slocum Trail (SR 1100) to NC 210
- **PEND0019-B:** NC 210 from Battleground (SR 1671) to Blueberry Road (SR 1114)
- **PEND0020-B:** Blueberry Road (SR 1114) from NC 210 to Wilmington Metropolitan Planning Organization Boundary
- **PEND0021-B:** Morgan Road (SR 1102) from Bladen County Line to NC 210

PEDESTRIAN

During the development of the Pender County CTP, several facilities were identified as needing new sidewalks. These needs are identified below.

Atkinson:

Sidewalks – Needs Improvement

- **PEND0001-P:** NC 11/53 (Church Street), from North Sunset Street (SR 1218) to Linden Avenue

Sidewalks – Recommended

- **PEND0002-P:** NC 11/53 from Pope Street to Sunset Street (SR 1218)
- **PEND0003-P:** 4th Street from East Main Street to West Church Street (NC 11/53)
- **PEND0004-P:** North Alderman Street from West Main Street to West Church Street (NC 11/53)
- **PEND0005-P:** Henry Street (SR 1205) from North Sunset Street (SR 1218) to Linden Avenue
- **PEND0006-P:** Linden Avenue from East Church Street (NC 11/53) to East Henry Street (SR 1205)
- **PEND0007-P:** Main Street from Alderman Street to 4th Avenue
- **PEND0008-P:** Stringfield Street from West Main Street to West Henry
- **PEND0009-P:** Sunset Street from West Church Street (NC 11/53) to West Henry Street (SR 1205)
- **PEND0010-P:** North Rankin Street from East Church Street (NC 11/53) to East Henry Street (SR 1205)

Burgaw:

Sidewalks – Needs Improvement

- **PEND0011-P:** South Bennett Street from East Satchwell Street to East Freemont Street
- **PEND0004-H:** East Bridges Street (US 117 Bus/NC 53) from North Cowan Street to Jacksonville Highway (NC 53) a point 0.05 miles east of South Cowan Street
- **PEND0012-P:** East Freemont Street from South Cowan Street to existing multi-use path
- **PEND0013-P:** North Smith Street (SR 1400) from West Bridges Street to West Wilmington Street (NC 53)
- **PEND0014-P:** East Wilmington Street (SR 1510) from North Walker Street (US 117 Bus/NC 53) to North Cowan Street
- **PEND0004-H:** West Wilmington Street (NC 53) from North Smith Street (SR 1400) to North McRae Street

Sidewalks – Recommended

- **PEND0015-P:** US 117 Business (South Walker Street) from US 117 Bypass to South Cowan Street
- **PEND0016-P:** US 117 Business (South Walker Street) from existing multi-use path to East Fremont Street
- **PEND0017-P:** US 117 Business (Timberly Lane) from Jacksonville Highway (NC 53) to US 117 Bypass
- **PEND0018-P:** NC 53 (West Wilmington Street) from Tealbriar Street to North Smith Street (SR 1400)
- **PEND0004-H:** NC 53 (West Wilmington Street) from North McRea Street to North Dudley Street (SR 1482)
- **PEND0019-P:** East Wilmington Street from South Cowan Street to Club Way
- **PEND0004-H:** NC 53 from US 117 Business (Timberly Lane) to US 117 Bypass
- **PEND0005-H:** NC 53 from US 117 Bypass to a point 0.05 miles north east of US 117 Bypass
- **PEND0020-P:** West Ashe Street from McCullen Street to North Dudley Street
- **PEND0021-P:** East Ashe Street from North Wright Street (SR 1345) to US 117 Business (Timberly Lane)
- **PEND0022-P:** South Bennett Street from US 117 Business (South Walker Street) to East Satchwell Street
- **PEND0023-P:** South Bennett Street from East Freemont to East Wilmington Street
- **PEND0024-P:** North Bickett Street from East Wilmington Street to Baston Street
- **PEND0025-P:** South Bickett Street from US 117 Business (South Walker Street) to East Wilmington Street
- **PEND0026-P:** Baston Street from North Bickett Street to US 117

- **PEND0027-P:** South Bodenheimer Street from West Hayes Street to NC 53 (West Wilmington Street)
- **PEND0013-H:** West Bridges Street (SR 1343) from South McCullen Street to Penderlea Road (SR 1332)
- **PEND0028-P:** West Bridges Street from Penderlea Road (SR 1332) to North Dickerson Street (SR 1482)
- **PEND0029-P:** South Campbell Street from US 117 Business (South Walker Street) to East Wilmington Street
- **PEND0030-P:** Clark Street from South Smith Street (SR 1400) to South Dickerson Street (SR 1412)
- **PEND0031-P:** Club Way from Bally Bunion Lane to East Wilmington Street
- **PEND0032-P:** West Drane Street from North Smith Street (SR 1400) to North Wright Street (SR 1345)
- **PEND0033-P:** South Dudley Street from Clark Street to NC 53 (West Wilmington Street)
- **PEND0034-P:** North Dudley Street from NC 53 (West Wilmington Street) to West Wallace Street (SR 1344)
- **PEND0035-P:** West Fremont Street from Durham Street to South Dickerson Street (SR 1412)
- **PEND0036-P:** East Fremont Street from a point 0.05 miles east of South Cowan Street to South Bennett Street
- **PEND0037-P:** East Fremont Street from South McNeil Street to US 117 Bypass
- **PEND0038-P:** West Hayes Street from South Bodenheimer Street to South Dickerson Street (SR 1412)
- **PEND0039-P:** Jasmine Way from Periwinkle Street to US 117 Business (South Walker Street)
- **PEND0040-P:** South McCullen Street from West Hayes Street to Bridges Street (SR 1343)
- **PEND0041-P:** McCullen Street from Penderlea Road (SR 1332) to West Ashe Street
- **PEND0042-P:** South McNeil Street from US 117 Business (South Walker Street) to East Wilmington Street
- **PEND0043-P:** North McNeil Street from East Wilmington Street to NC 53 (Jacksonville Highway)
- **PEND0044-P:** Periwinkle Street From Jasmine Way to Jasmine Way
- **PEND0045-P:** Progress Drive (SR 1413) from a point 0.15 miles south of Industrial Drive to US 117 Business (South Walker Street)
- **PEND0046-P:** West Satchwell Street from Antoinette Drive to South Dickerson Street (SR 1412)
- **PEND0047-P:** South Smith Street (SR 1400) from Clark Street to NC 53 (West Wilmington Street)
- **PEND0048-P:** North Smith Street (SR 1400) from West Bridges Street (SR 1332) to West Wallace (SR 1344)
- **PEND0049-P:** North Smith Street (SR 1400) from north of West Wallace Street (SR 1344) to Draine Street

- **PEND0050-P:** Stanford Avenue from US 117 to existing sidewalks on Stanford Avenue
- **PEND0051-P:** West Wallace Street (SR 1344) from North Smith Street (SR 1400) to North Dickerson Street (SR 1482)
- **PEND0052-P:** East Wallace Street from a point east of North Cowan Street at the multi-use path to US 117 Business (Timberly Lane)
- **PEND0053-P:** North Wright Street (SR 1345) from West Wallace Street (SR 1344) to a point 0.2 miles north of Draine Street

Watha:

Sidewalks – Recommended

- **PEND0054-P:** South Charlotte Street (SR 1315) from Camp Kirkwood Road (SR 1318) to Pelham Road (SR 1319)
- **PEND0055-P:** Pelham Road (SR 1319) from Mary Slocum Road Southwest (SR 1336) to South Charlotte Street (SR 1315)
- **PEND0056-P:** Watha Road from Camp Kirkwood Road (SR 1318) to Pelham Road (SR 1319)

Multi-use path – Recommended

- **PEND0001-H:** US 117 from Wilmington Metropolitan Planning Organization Boundary to US 117 Business (Walker Street)
- **PEND0002-H:** US 117 from US 117 Business (Walker Street) to NC 53
- **PEND0001-M:** US 117 from NC 53 to Duplin County
- **PEND0002-M:** NC 11/53 from Bladen County line to North Pope Street in the town of Atkinson.
- **PEND0003-M:** NC 53 from Linden Avenue in the town of Atkinson to US 421
- **PEND0004-M:** NC 53 from US 421 to Tealbriar Street in the town of Burgaw
- **PEND0005-H:** NC 53 from US 117 to Stag Park Road (SR 1509)
- **PEND0005-M:** NC 53 from Stag Park Road (SR 1509) to Onslow County
- **PEND0006-M:** NC 210 from Morgan Road (SR 1102) to Wilmington Metropolitan Planning Organization Boundary
- **PEND0007-M:** Beatty's Bridge Road (SR 1101) from North Rankin Street (Atkinson town limit) to the 90 degree bend in the road
- **PEND0008-M:** Beatty's Bridge Road Extension (SR 1101) a new location off-road multi-use path from the 90 degree bend in the road on a dirt road heading northwest to Sampson County Line
- **PEND0009-M:** Camp Kirkwood Road/ Croomsbridge Road (SR 1318) from NC 53 to Watha town limits
- **PEND0010-M:** Camp Kirkwood Road (SR 1318) from Watha town limits to South Charlotte Street (SR 1315)

- **PEND0011-M:** Garden Road (SR 1328) from Penderlea Highway (SR 1332) to Pelham Road (SR 1319)
- **PEND0012-M:** Malpass Corner Road (SR 1120) from NC 210 to NC 53
- **PEND0013-M:** North Rankin Street from East Henry Street to Atkinson town limit Beatty's Bridge Road (SR 1101)
- **PEND0014-M:** Pelham Road (SR 1319) from Garden Road (SR 1328) in Penderlea to Mary Slocumb Road (SR 1336)
- **PEND0015-M:** Penderlea Highway (SR 1332) from West Bridges Street in the town of Burgaw to Garden Road (SR 1328) in Penderlea
- **PEND0018-M:** Rooks Road Extension (SR 1126) a new location off-road multi-use path that will connect to NC 210 at Blueberry Road (SR 1114) and continue off road to the Wilmington Metropolitan Planning Organization Boundary
- **PEND0019-M:** Shaw Highway (SR 1520) from Wilmington Metropolitan Planning Organization Boundary to NC 53

APPENDICES

Appendix A Resources and Contacts

North Carolina Department of Transportation

Customer Service Office

Contact information for other units within the NCDOT that are not listed in this appendix is available by calling the Customer Service Office or by visiting the NCDOT directory:

1-877-DOT-4YOU (1-877-368-4968)

<https://apps.dot.state.nc.us/dot/directory/authenticated/ToC.aspx>

Secretary of Transportation

1501 Mail Service Center Raleigh, NC 27699-1501 (919) 707-2800

<http://www.ncdot.org/about/leadership/secretary.html>

Board of Transportation

1501 Mail Service Center Raleigh, NC 27699-1501 (919) 707-2820

<http://www.ncdot.gov/about/board/>

Highway Division

5501 Barbados Blvd. Castle Hayne, NC 28429 (910) 341-2000

https://connect.ncdot.gov/letting/Pages/Letting-List.aspx?let_type=10

Contact the:

- Division Engineer with general questions concerning NCDOT activities within each Division and for information on Small Urban Funds.
- Division Construction Engineer for information concerning major roadway improvements under construction.
- Division Traffic Engineer for information concerning traffic signals, highway signs, pavement markings, and crash history.
- Division Operations Engineer for information concerning facility operations.
- Division Maintenance Engineer information regarding maintenance of all state roadways, improvement of secondary roads and other small improvement projects. The Division Maintenance Engineer also oversees the District Offices, the Bridge Maintenance Unit and the Equipment Unit.
- District Engineer for information on outdoor advertising, junkyard control, driveway permits, road additions, subdivision review and approval, Adopt-A-Highway program, encroachments on highway right of way, issuance of oversize/overwidth permits, paving priorities, secondary road construction program and road maintenance.

295-A Wilmington Highway Jacksonville, NC 28540 (910) 346-2040

Transportation Planning Branch (TPB)

Contact the Transportation Planning Branch for information on long-range multi-modal planning services.

1554 Mail Service Center Raleigh, NC 27699-1554 (919) 707-0900
<http://www.ncdot.gov/doh/preconstruct/tpb/>

Cape Fear Rural Planning Organization (RPO)

Contact the RPO for information on long-range multi-modal planning services.

1480 Harbour Dr. Wilmington, NC 28401 (910) 395-4553
<http://www.capefearcog.org/Local-Gov-Services>

Strategic Planning Office

Contact the Strategic Planning Office for information concerning prioritization of transportation projects.

1501 Mail Service Center Raleigh, NC 27699-1501 (919) 707-4740
<http://www.ncdot.gov/performance/reform/prioritization/>

Project Development & Environmental Analysis (PDEA)

Contact PDEA for information on environmental studies for projects that are included in the TIP.

1548 Mail Service Center Raleigh, NC 27699-1548 (919) 707-6000
<https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>

Secondary Roads Unit

Contact the Secondary Roads Unit for information regarding the status for unpaved roads to be paved, additions and deletions of roads to the State maintained system and the Industrial Access Funds program.

1535 Mail Service Center Raleigh, NC 27699-1535 (919) 707-2500
<https://connect.ncdot.gov/resources/stateroads/Pages/default.aspx>

Program Development Branch

Contact the Program Development Branch for information concerning Roadway Official Corridor Maps, Feasibility Studies and the Transportation Improvement Program (TIP).

1534 Mail Service Center Raleigh, NC 27699-1534 (919) 707-4610
<https://connect.ncdot.gov/projects/planning/Pages/default.aspx>

Public Transportation Division

Contact the Public Transportation Division for information public transit systems.

1550 Mail Service Center Raleigh, NC 27699-1550 (919) 707-4670
<http://www.ncdot.org/transit/nctransit/>

Rail Division

Contact the Rail Division for rail information throughout the state.

1553 Mail Service Center Raleigh, NC 27699-1553 (919) 707-4700
<http://www.bytrain.org/>

Division of Bicycle and Pedestrian Transportation

Contact this Division for bicycle and pedestrian transportation information throughout the state.

1552 Mail Service Center Raleigh, NC 27699-1552 (919) 707-2600
<http://www.ncdot.gov/bikeped/>

Structures Management Unit

Contact the Structures Management Unit for information on bridge management throughout the state.

1581 Mail Service Center Raleigh, NC 27699-1581 (919) 707-6400
http://www.ncdot.gov/doh/operations/dp_chief_eng/maintenance/bridge/

Roadway Design Unit

Contact the Roadway Design Unit for information regarding design plans and proposals for road and bridge projects throughout the state.

1582 Mail Service Center Raleigh, NC 27699-1582 (919) 707-6200
<https://connect.ncdot.gov/projects/Roadway/Pages/default.aspx>

Transportation Mobility and Safety Division

Contact the Traffic Safety Unit for information regarding crash data throughout the state.

1561 Mail Service Center Raleigh, NC 27699-1561 (919) 773-2800
<https://connect.ncdot.gov/resources/safety/Pages/default.aspx>

Other State Government Offices

Department of Commerce – Division of Community Assistance

Contact the Department of Commerce for resources and services to help realize economic prosperity, plan for new growth and address community needs.

<http://www.nccommerce.com/cd>

Appendix B

Comprehensive Transportation Plan Definitions

This appendix contains descriptive information and definitions for the designations depicted on the CTP maps shown in Figure 1.

Highway Map

For visual depiction of facility types for the following CTP classification, visit <http://www.ncdot.gov/doh/preconstruct/tpb/SHC/facility/>.

Facility Type Definitions

❖ Freeways

- Functional purpose – high mobility, high volume, high speed
- Posted speed – 55 mph or greater
- Cross section – minimum four lanes with continuous median
- Multi-modal elements – High Occupancy Vehicles (HOV)/High Occupancy Transit (HOT) lanes, busways, truck lanes, park-and-ride facilities at/near interchanges, adjacent shared use paths (separate from roadway and outside ROW)
- Type of access control – full control of access
- Access management – interchange spacing (urban – one mile; non-urban – three miles); at interchanges on the intersecting roadway, full control of access for 1,000ft or for 350ft plus 650ft island or median; use of frontage roads, rear service roads
- Intersecting facilities – interchange or grade separation (no signals or at-grade intersections)
- Driveways – not allowed

❖ Expressways

- Functional purpose – high mobility, high volume, medium-high speed
- Posted speed – 45 to 60 mph
- Cross section – minimum four lanes with median
- Multi-modal elements – HOV lanes, busways, very wide paved shoulders (rural), shared use paths (separate from roadway but within ROW)
- Type of access control – limited or partial control of access;
- Access management – minimum interchange/intersection spacing 2,000ft; median breaks only at intersections with minor roadways or to permit U-turns; use of frontage roads, rear service roads; driveways limited in location and number; use of acceleration/deceleration or right turning lanes
- Intersecting facilities – interchange; at-grade intersection for minor roadways; right-in/right-out and/or left-over or grade separation (no signalization for through traffic)
- Driveways – right-in/right-out only; direct driveway access via service roads or other alternate connections

❖ **Boulevards**

- Functional purpose – moderate mobility; moderate access, moderate volume, medium speed
- Posted speed – 30 to 55 mph
- Cross section – two or more lanes with median (median breaks allowed for U-turns per current NCDOT *Driveway Manual*)
- Multi-modal elements – bus stops, bike lanes (urban) or wide paved shoulders (rural), sidewalks (urban - local government option)
- Type of access control – limited control of access, partial control of access, or no control of access
- Access management – two lane facilities may have medians with crossovers, medians with turning pockets or turning lanes; use of acceleration/deceleration or right turning lanes is optional; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- Intersecting facilities – at grade intersections and driveways; interchanges at special locations with high volumes
- Driveways – primarily right-in/right-out, some right-in/right-out in combination with median leftovers; major driveways may be full movement when access is not possible using an alternate roadway

❖ **Other Major Thoroughfares**

- Functional purpose – balanced mobility and access, moderate volume, low to medium speed
- Posted speed – 25 to 55 mph
- Cross section – four or more lanes without median (*US and NC routes may have less than four lanes*)
- Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
- Type of access control – no control of access
- Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- Intersecting facilities – intersections and driveways
- Driveways – full movement on two lane roadway with center turn lane as permitted by the current NCDOT *Driveway Manual*

❖ **Minor Thoroughfares**

- Functional purpose – balanced mobility and access, moderate volume, low to medium speed
- Posted speed – 25 to 55 mph
- Cross section – ultimately three lanes (no more than one lane per direction) or less without median
- Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
- ROW – no control of access

- Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- Intersecting facilities – intersections and driveways
- Driveways – full movement on two lane with center turn lane as permitted by the current NCDOT *Driveway Manual*

Other Highway Map Definitions

- ❖ **Existing** – Roadway facilities that are not recommended to be improved.
- ❖ **Needs Improvement** – Roadway facilities that need to be improved for capacity, safety, operations, or system continuity. The improvement to the facility may be widening, increasing the level of access control along the facility, operational strategies (including but not limited to traffic control and enforcement, incident and emergency management, and deployment of Intelligent Transportation Systems (ITS) technologies), or a combination of improvements and strategies. *“Needs improvement” does not refer to the maintenance needs of existing facilities or the replacement or rehab of structures.*
- ❖ **Recommended** – Roadway facilities on new location that are needed in the future.
- ❖ **Interchange** – Through movement on intersecting roads is separated by a structure. Turning movement area accommodated by on/off ramps and loops.
- ❖ **Grade Separation** – Through movement on intersecting roads is separated by a structure. There is no direct access between the facilities.
- ❖ **Full Control of Access** – Connections to a facility provided only via ramps at interchanges. No private driveway connections allowed.
- ❖ **Limited Control of Access** – Connections to a facility provided only via ramps at interchanges (major crossings) and at-grade intersections (minor crossings and service roads). No private driveway connections allowed.
- ❖ **Partial Control of Access** – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways. Private driveway connections shall be defined as a maximum of one connection per parcel. One connection is defined as one ingress and one egress point. These may be combined to form a two-way driveway (most common) or separated to allow for better traffic flow through the parcel. The use of shared or consolidated connections is highly encouraged.
- ❖ **No Control of Access** – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways.

Public Transportation and Rail Map

- ❖ **Bus Routes** – The primary fixed route bus system for the area. Does not include demand response systems.
- ❖ **Fixed Guideway** – Any transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part. The term includes heavy rail, commuter rail, light rail,

monorail, trolleybus, aerial tramway, included plane, cable car, automated guideway transit, and ferryboats.

- ❖ **Operational Strategies** – Plans geared toward the non-single occupant vehicle. This includes but is not limited to HOV lanes or express bus service.
- ❖ **Rail Corridor** – Locations of railroad tracks that are either active or inactive tracks. These tracks were used for either freight or passenger service.
 - Active – rail service is currently provided in the corridor; may include freight and/or passenger service
 - Inactive – right of way exists; however, there is no service currently provided; tracks may or may not exist
 - Recommended – It is desirable for future rail to be considered to serve an area.
- ❖ **High Speed Rail Corridor** – Corridor designated by the U.S. Department of Transportation as a potential high speed rail corridor.
 - Existing – Corridor where higher-speed rail service (over 79 mph) is provided or a corridor that is officially designated by FRA to run higher speed trains in the future. There is currently one federally designated high-speed rail corridor in North Carolina - The Southeast High Speed Rail Corridor.
 - Recommended – Proposed corridor for high speed rail service.
- ❖ **Rail Stop** – A railroad station or stop along the railroad tracks.
- ❖ **Multimodal Connector** - A location where more than one mode of transportation meet such as where light rail and a bus route come together in one location. (NOTE- intermodal refers to two or more modes that transfer the same cargo unit-like 40' shipping container from ship to train or truck); multimodal is the transfer of people/cargo between two or more modes and in NC is used in public transit settings i.e. Charlotte Multimodal Station)
- ❖ **Park and Ride Lot** – A strategically located parking lot that provides commuters connections to transit or carpools.
- ❖ **Existing Grade Separation** – Locations where existing rail facilities and are physically separated from existing highways or other transportation facilities. These may be bridges, culverts, or other structures.
- ❖ **Proposed Grade Separation** – Locations where rail facilities are recommended to be physically separated from existing or recommended highways or other transportation facilities. These may be bridges, culverts, or other structures.

Bicycle Map

- ❖ **On Road-Existing** – Conditions for bicycling on the highway facility are adequate to safely accommodate cyclists.
- ❖ **On Road-Needs Improvement** – At the systems level, it is desirable for **an existing** highway facility to accommodate bicycle transportation; however, highway improvements are necessary to create safe travel conditions for the cyclists.

- ❖ **On Road-Recommended** – At the systems level, it is desirable for a **recommended** highway facility to accommodate bicycle transportation. The highway should be designed and built to safely accommodate cyclists.
- ❖ **Off Road-Existing** – A facility that accommodates only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way.
- ❖ **Off Road-Needs Improvement** – A facility that accommodates only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way that will not adequately serve future bicycle needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment.
- ❖ **Off Road-Recommended** – A facility needed to accommodate only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way.
- ❖ **Multi-use Path-Existing** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- ❖ **Multi-use Path-Needs Improvement** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic that will not adequately serve future needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment. Sidewalks should not be designated as a multi-use path.
- ❖ **Multi-use Path-Recommended** – A facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that is needed to serve bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- ❖ **Existing Grade Separation** – Locations where existing “Off Road” facilities and “Multi-use Paths” are physically separated from existing highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.
- ❖ **Proposed Grade Separation** – Locations where “Off Road” facilities and “Multi-use Paths” are recommended to be physically separated from existing or recommended highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

Pedestrian Map

- ❖ **Sidewalk-Existing** – Paved paths (including but not limited to concrete, asphalt, brick, stone, or wood) on both sides of a highway facility and within the highway right-of-way that are adequate to safely accommodate pedestrian traffic.
- ❖ **Sidewalk-Needs Improvement** – Improvements are needed to provide paved paths on both sides of a highway facility. The highway facility may or may not need improvements. Improvements do not include re-paving or other maintenance activities but may include: filling in gaps, widening sidewalks, or meeting ADA (Americans with Disabilities Act) requirements.
- ❖ **Sidewalk-Recommended** – At the systems level, it is desirable for a recommended highway facility to accommodate pedestrian transportation **or** to add sidewalks on an existing facility where no sidewalks currently exist. The highway should be designed and built to safely accommodate pedestrian traffic.
- ❖ **Off Road-Existing** – A facility that accommodates only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way.
- ❖ **Off Road-Needs Improvement** – A facility that accommodates only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way that will not adequately serve future pedestrian needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), improved horizontal or vertical alignment, and meeting ADA requirements.
- ❖ **Off Road-Recommended** – A facility needed to accommodate only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way.
- ❖ **Multi-use Path-Existing** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- ❖ **Multi-use Path-Needs Improvement** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic that will not adequately serve future needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment. Sidewalks should not be designated as a multi-use path.
- ❖ **Multi-use Path-Recommended** – A facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that is needed to serve bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.

- ❖ **Existing Grade Separation** – Locations where existing “Off Road” facilities and “Multi-use Paths” are physically separated from existing highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.
- ❖ **Proposed Grade Separation** – Locations where “Off Road” facilities and “Multi-use Paths” are recommended to be physically separated from existing or recommended highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

Appendix C

CTP Inventory and Recommendations

Assumptions/ Notes:

- ❖ **Local ID:** This Local ID is the same as the one used for the Prioritization Project Submittal Tool. If a TIP project number exists it is listed as the ID. Otherwise, the following system is used to create a code for each recommended improvement: the first 4 letters of the county name is combined with a 4 digit unique numerical code followed by '-H' for highway, '-T' for public transportation, '-R' for rail, '-B' for bicycle, '-M' for multi-use paths, or '-P' for pedestrian modes. If a different code is used along a route it indicates separate projects will probably be requested. Also, upper case alphabetic characters (i.e. 'A', 'B', or 'C') are included after the numeric portion of the code if it is anticipated that project segmentation or phasing will be recommended.
- ❖ **Jurisdiction:** Jurisdictions listed are based on municipal limits, county boundaries, and MPO Metropolitan Planning Area Boundaries (MAB), as applicable.
- ❖ **Existing Cross-Section:** Listed under 'Total Width (ft)' is the approximate width of the roadway from edge of pavement to edge of pavement and under 'Lane Width (ft)' is the approximate width of a single lane based on centerline/ edge line markings. Listed under 'Lanes' is the total number of lanes, with 'D' if the facility is divided, and 'OW' if it is a one-way facility.
- ❖ **Existing ROW:** The estimated existing right-of-way is based NCDOT Roadway Characteristics shapefile. These right-of-way amounts are approximate and may vary.
- ❖ **Existing and Proposed Capacity:** The estimated capacities are given in vehicles per day (vpd) based on LOS D for existing facilities and LOS C for new facilities. These capacity estimates were developed based on the 2000 Highway Capacity Manual using the Transportation Planning Branch's LOS D Standards for Systems Level Planning, as documented in Chapter 1.
- ❖ **Existing and Proposed June Traffic Volumes** (June Week Day Traffic) volumes, given in vehicles per day (vpd), are estimates only based on a systems-level analysis. The June '2040 E+C' is an estimate of the volume in 2012 with only existing plus committed projects assumed to be in place, where committed is defined as projects programmed for construction in the 2013 - 2023 Transportation Improvement Program (TIP). The June '2040 with CTP' is an estimate of the volume in 2012 with all proposed CTP improvements assumed to be in place. The June '2040 with CTP' is shown in bold if it exceeds the proposed capacity, indicating an unmet need. For additional information about the assumptions and techniques used to develop the AADT volume estimates, refer to Chapter 1.
- ❖ **Proposed Cross-section:** The CTP recommended cross-sections are listed by code; for depiction of the cross-section, refer to Appendix D. An entry of 'ADQ' indicates the existing facility is adequate and there are no improvements recommended for the given mode as part of the CTP.

- ❖ **CTP Classification:** The CTP classification is listed, as shown on the adopted CTP Maps (see Figure 1). Abbreviations are F= freeway, E= expressway, B= boulevard, Maj= other major thoroughfare, Min= minor thoroughfare.
- ❖ **Tier:** Tiers are defined as part of the North Carolina Multimodal Investment Network (NCMIN). Abbreviations are Sta= statewide tier, Reg= regional tier, Sub= subregional tier.
- ❖ **Proposals for Other Modes:** If there is an improvement recommended for another mode of transportation that relates to the given recommendation, it is indicated by an alphabetic code (H= highway, T= public transportation, R= rail, B= bicycle, P= pedestrian, and M= multi-use path).

CTP INVENTORY AND RECOMMENDATIONS

HIGHWAY																				
Local ID	Facility	Section		Jurisdiction	Dist. (mi)	2010 Existing System							2040 Proposed System					CTP Classification	Tier	Proposals for Other Modes
		From	To			Lanes	Lane Width (ft)	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2010 Volume	2040 Volume E+C	2040 Volume with CTP	Proposed Capacity (vpd)	Cross-Section	ROW (ft)				
	I-40	Duplin County Line	US 117 (Exit 390)	Pender Co.	2.2	48	4	12	330	70	64700	17000	35700	35700	64700	ADQ	300	F	Sta	
	I-40	US 117 (Exit 390)	NC 53 (Exit 398)	Pender Co.	8.2	48	4	12	330	70	64700	21800	51400	51400	64700	ADQ	300	F	Sta	
	I-40	NC 53 (Exit 398)	MPO Boundary	Pender Co.	9.8	48	4	12	330	70	64700	20000	38600	38600	64700	ADQ	300	F	Sta	
PEND0001-H	US 117	NC 210	Ashton Rd (SR 1411)	Pender Co.	2.7	22	2	11	150	45	15900	9200	25200	25200	28700	4A	100	Blvd	Reg	MA
PEND0001-H	US 117	Ashton Rd (SR 1411)	New Rd (SR 1412)	Pender Co.	2	22	2	11	150	35	15900	9200	20700	20700	28700	4A	100	Blvd	Reg	MA
PEND0001-H	US 117	New Rd (SR 1412)	US 117 Bus. (S Walker Street)	Pender Co.	2.5	22	2	11	150	35	13200	7100	13500	13500	28700	4A	100	Blvd	Reg	MA
PEND0002-H	US 117 Bypass	US 117 Bus. (S Walker Street)	E Freemont St	Pender Co.	0.8	33	3	11	150	45	14500	6200	13000	13000	28700	4A	100	Blvd	Reg	MA
PEND0002-H	US 117 Bypass	E Freemont St	E Wilmington St (SR 1510)	Pender Co.	0.1	33	3	11	150	45	14500	7800	17800	17800	28700	4A	100	Blvd	Reg	MA
PEND0002-H	US 117 Bypass	E Wilmington St (SR 1510)	NC 53	Pender Co.	0.4	33	3	11	150	45	14500	9100	17800	17800	28700	4A	100	Blvd	Reg	MA
	US 117	Timberly Ln	Timberly Ln	Pender Co.	0.2	33	3	11	150	45	16600	4400	10100	10100	16600	ADQ	150	Maj	Reg	MA
	US 117	Old Savannah Rd (SR 1347)	Old Savannah Rd (SR 1347)	Pender Co.	2.5	22	2	11	150	55	16400	4200	7100	7100	16400	ADQ	150	Maj	Reg	MA
	US 117	Old Savannah Rd (SR 1347)	Camp Kirkwood Rd (SR 1318)	Pender Co.	2.8	22	2	11	150	55	15900	3100	6000	6000	15900	ADQ	150	Maj	Reg	MA
	US 117	Camp Kirkwood Rd (SR 1318)	Anderson Rd (SR 1315)	Pender Co.	3.2	22	2	11	150	55	15900	2800	5100	5100	15900	ADQ	150	Maj	Reg	MA
	US 117	Anderson Rd (SR 1315)	I-40	Pender Co.	0.8	22	2	11	150	55	15900	3500	4300	4300	15900	ADQ	150	Maj	Reg	MA
	US 117	I-40	NC 11	Pender Co.	0.4	33	3	11	150	55	15900	3000	4300	4300	15900	ADQ	150	Maj	Reg	MA
	US 117	NC 11	Duplin County Boundary	Pender Co.	2.4	22	2	11	150	55	15900	5900	10200	10200	15900	ADQ	150	Maj	Reg	MA
	US 117 BUS/ Walker St	US 117 BYP	Progress Dr (SR 1413)	Burgaw	0.5	22	2	11	60	35	11100	3800	10500	10500	11100	Over cap	60	Maj	Reg	B,P
	US 117 BUS/ Walker St	Progress Dr (SR 1413)	E Freemont St	Burgaw	0.7	22	2	11	60	35	11100	4000	11600	11600	11100	Over cap	60	Maj	Reg	B,P
	US 117 BUS/ Walker St	E Freemont St	NC 53 (Wilmington St)	Burgaw	0.1	22	2	11	60	35	11100	2700	7800	11100	11100	Over cap	60	Maj	Reg	B,P
PEND0004-H	US 117 BUS/ Walker St	E Wilmington St	E Bridges St	Burgaw	0.1	22	3	12	60	35	11100	6100	8200	11100	11100	varies	60	Maj	Reg	B,P

HIGHWAY																					
Local ID	Facility	Section		Jurisdiction	Dist. (mi)	2010 Existing System							2040 Proposed System						CTP Classification	Tier	Proposals for Other Modes
		From	To			Lanes	Lane Width (ft)	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2010 Volume	2040 Volume E+C	2040 Volume with CTP	Proposed Capacity (vpd)	Cross-Section	ROW (ft)					
PEND0004-H	US 117 BUS/ NC 53	N Walker St	NC 53 (Jacksonville Hwy)	Burgaw	0.2	22	3	12	60	35	10500	8000	12900	10500	10500	varies	60	Maj	Reg	B,P	
	US 117 BUS/ NC 53	NC 53 (Jacksonville Hwy)	US 117 BYP	Burgaw	0.2	22	3	12	60	35	10500	2200	3500	10500	10500	2A	60	Maj	Reg	B,P	
PEND0003-H	US 421	Wilmington MPO Boundary	NC 210	Pender Co.	1	48	4	12	180	55	28700	3600	8300	8300	28700	ADQ	180	Exp	Reg		
PEND0003-H	US 421	NC 210	0.2 miles north of NC 210	Pender Co.	0.2	48	4	12	180	55	28700	4300	6200	6200	28700	ADQ	180	Exp	Reg		
PEND0003-H	US 421	0.2 miles north of NC 210	Malpass Corner Rd (SR 1120)	Pender Co.	2.9	24	2	12	100	55	16400	4300	6200	6200	28700	4A	100	Exp	Reg		
PEND0003-H	US 421	Malpass Corner Rd (SR 1120)	NC 53	Pender Co.	2.4	24	2	12	100	55	16400	3500	6600	6600	28700	4A	100	Exp	Reg		
PEND0003-H	US 421	NC 53	Bell Williams Rd (SR 1121)	Pender Co.	2.3	24	2	12	100	55	16400	3500	6600	6600	28700	4A	100	Exp	Reg		
PEND0003-H	US 421	Bell Williams Rd (SR 1121)	NC 11	Pender Co.	5.4	24	2	12	100	55	16400	3300	4900	4900	28700	4A	100	Exp	Reg		
PEND0003-H	US 421	NC 11	Sampson County Line	Pender Co.	4.2	24	2	12	100	55	16400	2300	3100	3100	28700	4A	100	Exp	Reg		
	NC 11	Bladen County Line	Beatty's Bridge Rd (SR 1201)	Pender Co.	4.2	24	2	12	60	55	15900	1900	2600	2600	15900	2A	60	Maj	Reg	MA	
	NC 11	Beatty's Bridge Rd (SR 1201)	US 421	Pender Co.	5.8	24	2	12	60	55	15900	2900	3900	3900	15900	2A	60	Maj	Reg	MA	
PEND0003-H	NC 11/ US 421	US 421	Bell Williams RD (SR 1121)	Pender Co.	7.6	24	2	12	100	55	16400	3500	6600	6600	28700	4A	100	Maj	Reg	MA	
PEND0003-H	NC 11/ US 421	Bell Williams RD (SR 1121)	NC 11 @ US 421	Pender Co.	5.4	24	2	12	100	55	16400	3300	4900	4900	28700	4A	100	Maj	Reg	MA	
	NC 11	NC 11 @ US 421	Raccoon Rd (SR 1328)	Pender Co.	3.5	24	2	12	60	55	15900	1400	2000	2000	15900	2A	60	Maj	Reg		
	NC 11	Raccoon Rd (SR 1328)	Garden Rd (SR 1328)	Pender Co.	0.6	24	2	12	60	35	15900	1400	2000	2000	15900	2A	60	Maj	Reg		
	NC 11	Garden Rd (SR 1328)	Willard Rd (SR 1001)	Pender Co.	3.7	24	2	12	60	55	15900	2300	3100	3100	15900	2A	60	Maj	Reg		
	NC 11	Willard Rd (SR 1001)	Willard Railroad St (SR 1309)	Pender Co.	0.8	24	2	12	60	55	15900	2800	3800	3800	15900	2A	60	Maj	Reg		
	NC 11	Willard Railroad St (SR 1309)	US 117	Pender Co.	1.7	24	2	12	60	55	15900	1200	1600	1600	15900	2A	60	Maj	Reg		
	NC 11	US 117	Duplin County Line	Pender Co.	2.7	24	2	12	60	55	15900	6300	10200	10200	15900	2A	60	Maj	Reg		

HIGHWAY																				
Local ID	Facility	Section		Jurisdiction	Dist. (mi)	2010 Existing System							2040 Proposed System					CTP Classification	Tier	Proposals for Other Modes
		From	To			Total Width (ft)	Lanes	Lane Width (ft)	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2010 Volume	2040 Volume E+C	2040 Volume with CTP	Proposed Capacity (vpd)	Cross-Section	ROW (ft)			
	NC 50	Duplin County Line	NC 53	Pender Co.	4.7	24	2	12	60	55	15900	1500	2400	2400	15900	2A	60	Maj	Reg	
	NC 50	NC 53	Onslow County Line	Pender Co.	5.2	24	2	12	60	55	15900	1700	2700	2700	15900	2A	60	Maj	Reg	
	NC 53	Bladen County Line	Beatty's Bridge Rd (SR 1201)	Pender Co.	4.2	24	2	12	60	55	15900	1900	2600	2600	15900	2A	60	Maj	Reg	MA
	NC 53	Beatty's Bridge Rd (SR 1201)	US 421	Pender Co.	5.8	24	2	12	60	55	15900	2900	3900	3900	15900	2A	60	Maj	Reg	MA
	NC 53	US 421	Malpass Corner Rd (SR 1120)	Pender Co.	5.4	24	2	12	60	55	15900	3100	4200	4200	15900	2A	60	Maj	Reg	MA
	NC 53	Malpass Corner Rd (SR 1120)	Burgaw Town Limit	Pender Co.	1.4	24	2	12	60	55	15900	5200	5200	15900	2A	60	Maj	Reg	MA	
	NC 53	Burgaw town limits	Smith St (SR 1400)	Burgaw	1.4	24	2	12	60	35	10700	8400	8400	12500	10700	2A	60	Maj	Reg	MA
PEND0004-H	NC 53	Smith St (SR 1400)	US 117 Bus. (Walker St)	Burgaw	0.4	24	2	12	60	35	10700	8400	12500	10700	10700	varies	60	Maj	Reg	B, P
PEND0004-H	NC 53	E Wilmington St	E Bridges St	Burgaw	0.1	36	3	12	60	35	11100	6100	8200	11100	11100	varies	60	Maj	Reg	B, P
PEND0004-H	NC 53	N Walker St	US 117 Bus (N Timberly Ln)	Burgaw	0.2	36	3	12	60	35	11100	8000	12900	12900	11100	varies	60	Maj	Reg	B, P
PEND0004-H	NC 53	US 117 Bus (N Timberly Ln)	US 117 BYP	Burgaw	0.3	24	2	12	60	35	11100	7900	15900	15900	11100	varies	60	Maj	Reg	B, P
PEND0005-H	NC 53	US 117 BYP	Stag Park Rd (SR 1509)	Burgaw	0.5	24	3	12	60	35	11100	8900	16100	16100	28700	4F	100	Maj	Reg	B, P
	NC 53	Stag Park Rd (SR 1509)	I-40	Pender Co.	1.1	24	2	12	60	55	16400	7700	10400	16400	16400	2A	60	Maj	Reg	MA
	NC 53	I-40	Shaw Hwy (SR 1523)	Pender Co.	6.5	24	2	12	60	55	16400	5700	12000	12000	16400	2A	60	Maj	Reg	MA
	NC 53	Shaw Hwy (SR 1523)	NC 50	Pender Co.	6.7	24	2	12	60	55	16400	3300	4400	4400	16400	2A	60	Maj	Reg	MA
	NC 53	NC 50	Onslow County Line	Pender Co.	2.9	24	2	12	60	55	16400	2500	3400	3400	16400	2A	60	Maj	Reg	MA
	NC 210	Bladen County Line	Morgan Rd (SR 1102)	Pender Co.		22	2	11	60	55	15900	1500	2600	2600	15900	ADQ	60	Maj	Reg	MA
PEND0007-H	NC 210	Morgan Rd (SR 1102)	Blueberry Rd (SR 1114)	Pender Co.		22	2	11	60	55	15900	2000	3900	3900	15900	ADQ	61	Maj	Reg	B,MA
	NC 210	Blueberry Rd (SR 1114)	Malpass Corner Rd (SR 1120)	Pender Co.	0.9	22	2	11	60	55	15900	2000	3800	3800	15900	ADQ	60	Maj	Reg	MA
	NC 210	Malpass Corner Rd (SR 1120)	US 421	Pender Co.	3.0	22	2	11	60	55	15900	1900	3700	3700	15900	ADQ	60	Maj	Reg	MA

HIGHWAY																				
Local ID	Facility	Section		Jurisdiction	Dist. (mi)	2010 Existing System						2040 Proposed System					CTP Classification	Tier	Proposals for Other Modes	
		From	To			Lanes	Lane Width (ft)	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2010 Volume	2040 Volume E+C	2040 Volume with CTP	Proposed Capacity (vpd)	Cross-Section	ROW (ft)				
	NC 210	US 421	Wilmington MPO Boundary	Pender Co.	1.1	22	2	11	60	55	15900	2200	3900	3900	15900	ADQ	60	Maj	Reg	MA
PEND0008-H	Ashton Rd (SR 1141)	Highsmith Rd (SR 1400)	US 117	Pender Co.	5.5	22	2	11	60	45	15300	900	1900	1900	15300	2A	60	Min	Sub	
PEND0009-H	Battleground Rd (SR 1100)	NC 210	Slocum Trail (SR 1100)	Pender Co.	3	22	2	11	60	45	14800	400	500	500	14800	2A	60	Min	Sub	B, MA
PEND0010-H	Beatty's Bridge Rd (SR 1201)	Sampson County Line	Atkinson limits	Pender Co.	5.5	22	2	11	60	45	14800	600	900	900	14800	2A	60	Min	Sub	B, MA
PEND0011-H	Bell Williams Rd (SR 1121)	NC 11/53	US 421	Pender Co.	2.4	22	2	11	60	45	14800	800	1500	1500	14800	2A	60	Min	Sub	
PEND0012-H	Blueberry Rd (SR 1114)	Wilmington MPO Boundary	NC 210	Pender Co.	2.6	22	2	11	60	45	15300	1400	2600	2600	15300	2A	60	Min	Sub	MA
PEND0013-H	West Bridges St (SR 1343)	Giles Marshburn Rd	US117 Bus (N. Walker St)	Burgaw	0.8	22	2	11	60	35	9800	1500	4200	4200	9800	2A	60	Min	Sub	P, MA
PEND0014-H	Garden Rd (SR 1328)	Penderlea Hwy (SR 1332)	NC 11	Penderlea	0.6	22	2	11	60	35	9800	450	1000	1000	9800	2A	60	Min	Sub	MA
PEND0015-H	Henry Brown Rd (SR 1343)	Burgaw town limits	Giles Marshburn Rd	Burgaw	0.8	22	2	11	60	35	9800	1500	3800	3800	9800	2A	60	Min	Sub	
PEND0016-H	Highsmith Rd (SR 1400)	Wilmington MPO Boundary	Ashton Rd (SR 1141)	Pender Co.	4.5	22	2	11	60	45	15300	600	800	800	15300	2A	60	Min	Sub	
	Highsmith Rd (SR 1400)	Ashton Rd (SR 1141)	Burgaw town limits	Pender Co.	3.8	22	2	11	60	45	15300	1400	1900	1900	15300	2A	60	Min	Sub	
PEND0017-H	Horse Branch Rd (SR 1336)	NC 53	Piney Woods Rd (SR 1216)	Pender Co.	0.9	22	2	11	60	45	15300	1100	2000	2000	15300	2A	60	Min	Sub	
PEND0018-H	Morgan Rd (SR 1102)	Bladen County Line	NC 210	Pender Co.	2.5	22	2	11	60	45	14800	200	300	300	14800	2A	60	Min	Sub	
PEND0019-H	New Rd (SR 1412)	US 117	Old River Rd (SR 1411)	Pender Co.	3	22	2	11	60	45	14800	600	900	900	14800	2A	60	Min	Sub	
PEND0020-H	Old River Rd (SR 1411)	US 117	New Rd (SR 1412)	Pender Co.	3.5	22	2	11	60	45	14800	800	1000	1000	14800	2A	60	Min	Sub	
PEND0021-H	Penderlea Hwy (SR 1332)	Burgaw town limits	Garden Rd (SR 1328)	Pender Co.	8.7	22	2	11	60	45	15300	900	1300	1300	15300	2A	60	Min	Sub	MA
PEND0022-H	Penderlea Rd (SR 1332)	West Bridges St (SR 1343)	Burgaw town limits	Burgaw	1.1	22	2	11	60	45	9800	2800	3800	3800	9800	2A	60	Min	Sub	P
PEND0023-H	Piney Woods Rd (SR 1216)	Horse Branch Rd (SR 1336)	Henry Brown Rd (SR 1343)	Pender Co.	3.4	22	2	11	60	45	9800	1500	2700	2700	9800	2A	60	Min	Sub	
PEND0024-H	Point Caswell Rd (SR 1128)	Slocum Trail (SR 1100)	Rooks Rd (SR 1126)	Pender Co.	1.9	22	2	11	60	45	14800	600	900	900	14800	2A	60	Min	Sub	

HIGHWAY																				
Local ID	Facility	Section		Jurisdiction	Dist. (mi)	2010 Existing System							2040 Proposed System					CTP Classification	Tier	Proposals for Other Modes
		From	To			Lanes	Lane Width (ft)	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2010 Volume	2040 Volume E+C	2040 Volume with CTP	Proposed Capacity (vpd)	Cross-Section	ROW (ft)				
PEND0025-H	Raccoon Rd (SR 1328)	Penderlea Hwy (SR 1332)	NC 11	Penderlea	0.6	22	2	11	60	35	9800	450	1000	1000	9800	2A	60	Min	Sub	
PEND0026-H	N. Rankin St (SR 1201)	Atkinson town limits	NC 11/53 (E. Church St)	Atkinson	0.4	22	2	11	60	35	9800	600	900	900	9800	2A	59	Min	Sub	B, P, MA
PEND0027-H	S. Rail Road St (SR 1126)	NC 11/53 (W. Church St)	Atkinson town limits	Atkinson	0.5	22	2	11	60	35	9800	600	900	900	9800	2A	60	Min	Sub	B, P, MA
PEND0028-H	Rooks Rd (SR 1126)	Point Caswell Rd (SR 1128)	S. Railroad St (Atkinson town limit)	Pender Co.	1.4	22	2	11	60	45	14800	600	900	900	14800	2A	60	Min	Sub	MA
PEND0029-H	Shaw Hwy (SR 1520)	Wilmington MPO Boundary	NC 53	Pender Co.	12.8	22	2	11	60	55	15300	1100	2300	2300	15300	2A	60	Min	Sub	MA
PEND0030-H	Slocum Trail (SR 1100)	Battleground Rd (SR 1100)	Point Caswell Rd (SR 1128)	Pender Co.	1.9	22	2	11	60	45	14800	600	1100	1100	14800	2A	60	Min	Sub	
PEND0031-H	Smith St (SR 1400)	Burgaw town limits	NC 53	Burgaw	0.8	22	2	11	60	35	9800	2700	3600	3600	9800	2A	60	Min	Sub	P
PEND0032-H	Stag Park Rd (SR 1509)	NC 53	I-40	Pender Co.	0.9	22	2	11	60	45	14800	2200	4400	4400	14800	2A	60	Min	Sub	
PEND0033-H	Van Eden Rd (SR 1315)	Old Savannah Rd (SR 1335)	Camp Kirkwood Rd (SR 1318)	Pender Co.	3.8	22	2	11	60	45	14800	300	500	500	14800	2A	60	Min	Sub	
PEND0034-H	Wallace Rd (SR 1001)	NC 11	Duplin County Line	Pender Co.	7.4	22	2	11	60	45	14800	400	500	500	14800	2A	60	Min	Sub	
PEND0035-H	Willard Railroad St (SR 1309)	Sampson County Line	NC 11	Pender Co.	1.9	22	2	11	60	45	14800	400	600	600	14800	2A	60	Min	Sub	

PUBLIC TRANSPORTATION AND RAIL

PUBLIC TRANSPORTATION ¹								
Local ID	Facility/ Route	Section (From - To)	Speed Limit (mph)	Distance (mi)	Existing System		Proposed System	
					Type	Type	Type	Other Modes
PEND0001-T	US 117	NC 210 (Wilmington MPO Boundary) to Duplin County Line	45-55	20.8	N/A		BUS	
PEND0002-T	US 117 Business	US 117 Bypass to US 117 Bypass	35	2.0	N/A		BUS	
PEND0003-T	US 421	Wilmington MPO Boundary to NC 11	55	13.4	N/A		BUS	
PEND0004-T	NC 11	From Atkinson to US 421	55	5.8	N/A		BUS	
PEND0005-T	NC 11	US 421 to US 117	55	10.2	N/A		BUS	
PEND0006-T	NC 53	US 421 to Onslow County Line	35-55	26.7	N/A		BUS	
PEND0007-T	NC 210	Wilmington MPO Boundary to Malpass Corner Road (SR 1120)	55	3.1	N/A		BUS	
PEND0008-T	Basden Road	Penderlea Rd (SR 1332) to Henry Bown Rd (SR 1343)	35	0.32	N/A		BUS	
PEND0009-T	Bell Williams Road	NC 210 to John Henry Store Road (SR 1125)	45	2.35	N/A		BUS	
PEND0010-T	Bodenheimer Street	W. Freemont St to NC 53	35	0.1	N/A		BUS	
PEND0011-T	Bridges (SR 1343)	Giles Wasburn rd to Penderlea Rd (SR 1332)	35	0.4	N/A		BUS	
PEND0012-T	Dickerson St (SR 1412)	Wallace St (SR 1344) to Progress Dr (SR 1413)	35	1.2	N/A		BUS	
PEND0013-T	Durham Street	Satchwell St to Freemont St	35	0.1	N/A		BUS	
PEND0014-T	East Freemont Street	Dickerson St (SR 1412) to US 117 Bypass	35	0.85	N/A		BUS	
PEND0015-T	Henry Brown Road (SR 1343)	Basden Rd to Giles Marshburn Rd	35	0.5	N/A		BUS	
PEND0016-T	Industrial Drive	Dickerson St (SR 1412) to Progress Dr (SR 1413)	35	0.42	N/A		BUS	
PEND0017-T	John Henry Store Road (SR 1125)	Bell Williams to Rooks Road (SR 1128)	45	1.64	N/A		BUS	
PEND0018-T	Penderlea Rd (SR 1343)	Basden RD to W. Wallace St (SR 1344)	35	0.68	N/A		BUS	
PEND0019-T	Progress Drive (SR1413)	Dickerson St (SR 1412) to Walker St (US 117 Business)	35	0.68	N/A		BUS	
PEND0020-T	Rooks Road (SR 1128)	John Henry Store Road (SR 1125) to NC 11	35	2.75	N/A		BUS	
PEND0021-T	Satchwell Street	Durham St to Dickerson St (SR 1412)	35	0.56	N/A		BUS	
PEND0022-T	West Bridges Street	Penderlea Rd (SR 1332) to Dickerson St (SR 1412)	35	0.29	N/A		BUS	
PEND0023-T	West Freemont Street	Durham St to S. Bodenheimer St	35	0.06	N/A		BUS	
PEND0024-T	Walker Street (US 117 Business)	Wallace St (SR 1344) to US 117 Bypass	35	1.5	N/A		BUS	
PEND0025-T	Wallace Street (SR 1344)	Penderlea Rd (SR 1332) to Timberly Ln (US 117 Business)	35	1	N/A		BUS	
PEND0026-T	Park and Ride Lot	Location to be determined near US 117 and Duplin County Line			N/A		Park and Ride	
PEND0027-T	Park and Ride Lot	Location to be determined near US 117 and NC 210			N/A		Park and Ride	
PEND0028-T	Park and Ride Lot	Location to be determined near NC 53 and Front Street			N/A		Park and Ride	
PEND0029-T	Park and Ride Lot	Henderson Adult Wallace Airport 250 Henderson Field Road Wallace, NC			N/A		Park and Ride	
PEND0030-T	Park and Ride Lot	Pender Adult Services- Heritage Place 901 S. Walker St. Bargaw, NC			N/A		Park and Ride	

¹ Only major public transportation routes and proposals are shown here. For further documentation of the public transportation system, refer to Chapter 2.

RAIL										
Local ID	Facility/ Route	Section (From - To)	Speed Limit (mph)	Distance (mi)	Existing System			Proposed System		
					Type	ROW (ft)	Trains per day	Type	ROW (ft)	Trains per day
PEND0001-R	US 17	Wallace, Duplin County to Castle Hayne, New Hanover County								Other Modes

BICYCLE AND PEDESTRIAN

BICYCLE									
Local ID	Facility/ Route	Section (From - To)	Distance (mi)	Existing System		Proposed System		Other Modes	
				Cross-Section (ft)	lanes	Type	Cross-Section		
PEND0001-B	NC 11/53 (Church Street)	North Pope Street to Linden Avenue	0.6	-	-	lanes	2F	H	
PEND0002-B	NC 11/53 (Church Street) (SR 1201)	NC 11/53 (Church Street) to Beatty's Bridge Road (Atkinson town limit)	0.4	-	-	lanes	2F	H,P	
PEND0003-B	East Henry Street (SR 1205)	North Railroad Street to N Rankin Street (SR 1201)	0.1	-	-	lanes	2F	P	
PEND0004-B	US 117 Business	US 117 Bypass at South Walker Street to US 117 Bypass at N. Timberly Lane	2.1	-	-	lanes	2F		
PEND0005-B	NC 53	Tealbar Street to a point east of US 117	2	-	-	lanes	2F		
PEND0006-B	Bridges Street	Giles Marshburn Road to N. Walker Street	0.9	-	-	lanes	2F		
PEND0007-B	Henry Brown Road (SR 1343)	Burgaw Town Limits to Giles Marshburn Road	0.8	-	-	lanes	2F		
PEND0008-B	South Smith Street	Clark Street to NC 53 (Wilmington Street)	0.6	-	-	lanes	2F		
PEND0009-B	Wilmington Street	Walker Street to US 117 Bypass	0.7	-	-	lanes	2F		
PEND0010-B	Charlotte Street	Camp Kirkwood Road (SR 1318) to Pelham Road (SR 1319)	0.3	-	-	lanes	2F		
PEND0011-B	Pelham Road (SR 1319)	Mary Slocum Road (SR 1336) to Charlotte Street	0.7	-	-	lanes	2F		
PEND0012-B	Beatty's Bridge Road	Bladen County Line to Atkinson town limit	5.5	-	-	lanes	2F		
PEND0013-B	South Railroad Street	NC 11/53 (Church Street) to Rooks Road (SR 1126)	0.6	-	-	lanes	2F		
PEND0014-B	Rooks Road (SR 1126)	Atkinson town limit to John Henry Store Road (SR 1125)	2.2	-	-	lanes	2F		
PEND0015-B	John Henry Store Road (SR 1125)	Rooks Road (SR 1126) to Point Caswell Road (SR 1128)	0.8	-	-	lanes	2F		
PEND0016-B	Point Caswell Road (SR 1128)	John Henry Store Road (SR 1125) to Slocum Trail (SR 1100)	0.9	-	-	lanes	2F		
PEND0017-B	Slocum Trail (SR 1100)	Point Caswell Road (SR 1128) to Battleground Road (SR 1671)	2.36	-	-	lanes	2F		
PEND0018-B	Battleground Road (SR 1671)	Slocum Trail (SR 1100) to NC 210	0.5	-	-	lanes	2F		
PEND0019-B	NC 210	Battleground Road (1671) to Blueberry Road (SR 1114)	1.37	-	-	lanes	2F		
PEND0020-B	Blueberry Road (SR 1114)	NC 210 to Wilmington Metropolitan Planning Organization Boundary	2.7	-	-	lanes	2F		
PEND0021-B	Morgan Road (SR 1102)	Bladen County Line to NC 210	2.2	-	-	lanes	2F		

PEDESTRIAN									
Local ID	Facility/ Route	Section (From - To)	Distance (mi)	Existing System		Proposed System		Other Modes	
				Type	Side of Street	Type	Side of Street		
Atkinson									
PEND0001-P	NC 11/53 (Church Street)	North Sunset Street (SR 1218) to Linden Avenue	0.5	Sidewalk	Both	Sidewalk	Both	H	
PEND0002-P	NC 11/53 (Church Street)	Pope Street to Sunset Street (SR 1218)	0.1	Sidewalk	Both	Sidewalk	Both	H	
PEND0003-P	North Fourth Ave	East Main Street to W. Church Street (NC 11/53)	0.1	Sidewalk	Both	Sidewalk	Both	-	
PEND0004-P	North Alderman Street	West Main Street to West Church Street (NC11/53)	0.1	Sidewalk	Both	Sidewalk	Both	-	
PEND0005-P	Henry Street (SR 1205)	North Sunset Street (SR 1218) to Linden Avenue	0.5	Sidewalk	Both	Sidewalk	Both	B	
PEND0006-P	Linden Avenue	East Church Street (NC 11/53) to East Henry Street (SR 1205)	0.1	Sidewalk	Both	Sidewalk	Both	-	
PEND0007-P	Main Street (SR 1414)	Alderman Street to 4 th Avenue	0.5	Sidewalk	Both	Sidewalk	Both	-	
PEND0008-P	Stringfield Street	West Main Street to West Henry Street	0.2	Sidewalk	Both	Sidewalk	Both	-	
PEND0009-P	Sunset Street (SR 1218)	West Church Street (NC 11/53) to West Henry Street (SR 1205)	0.1	Sidewalk	Both	Sidewalk	Both	-	
PEND0010-P	North Rankin Street (SR 1201)	East Church Street (NC 11/53) to East Henry Street (SR 1205)	0.1	Sidewalk	Both	Sidewalk	Both	B	
Burgaw									
PEND0011-P	South Bennett Street	East Satchwell Street to East Freemont Street	0.1	Sidewalk	East	Sidewalk	Both	H	
PEND0004-H	East Bridgers Street (US 117 Bus/NC 53)	North Cowan Street to Jacksonville Highway (NC 53) a point 0.05 miles east of South Cowan Street	0.1	Sidewalk	North	Sidewalk	Both	B,H	
PEND0012-P	East Freemont Street	South Cowan Street to existing multi-use path	0.1	Sidewalk	South	Sidewalk	Both	-	
PEND0013-P	North Smith Street (SR 1400)	West Bridgers Street to West Wilmington Street (NC 53)	0.1	Sidewalk	East	Sidewalk	Both	-	
PEND0014-P	East Wilmington Street (SR 1510)	North Walker Street (US 117 Bus/NC 53) to North Cowan Street	0.1	Sidewalk	Both	Sidewalk	Both	-	
PEND0004-H	West Wilmington Street (NC 53)	North Smith Street (SR 1400) to North McRae Street	0.1	Sidewalk	North	Sidewalk	Both	B, H	

BICYCLE AND PEDESTRIAN

PEDESTRIAN									
Local ID	Facility/ Route	Section (From - To)	Existing System		Proposed System		Other		
			Type	Side of Street	Type	Side of Street			
PEND0015-P	US 117 Business (South Walker Street)	US 117 Bypass to South Cowan Street	Sidewalk	Both	Sidewalk	Both	B, H		
PEND0016-P	US 117 Business (South Walker Street)	Existing Multi-use Path to E. Freemont	Sidewalk	Both	Sidewalk	Both	B, H		
PEND0017-P	US 117 Business (Timberly Lane)	Jacksonville Highway (NC 53) to US 117 Bypass	Sidewalk	Both	Sidewalk	Both	B, H		
PEND0018-P	West Wilmington Street (NC 53)	Tealbrar Street to North Smith Street (SR 1400)	Sidewalk	Both	Sidewalk	Both	B, H		
PEND0004-H	West Wilmington Street (NC 53)	North McRea Street to North Dudley Street (SR 1482)	Sidewalk	Both	Sidewalk	Both	B, H		
PEND0019-P	East Wilmington Street (SR 1510)	South Cowan Street to Club Way	Sidewalk	Both	Sidewalk	Both	-		
PEND0004-H	NC 53	Timberly Lane (US 117 Business) to US 117 Bypass	Sidewalk	Both	Sidewalk	Both	B, H		
PEND0005-H	NC 53	US 117 Bypass to a point 0.05 miles north east of US 117 Bypass	Sidewalk	Both	Sidewalk	Both	B, H		
PEND0020-P	West Ashe Street	McCullen Street to North Dudley Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0021-P	East Ashe Street	North Wright Street (SR 1345) to Timberly Lane (US 117 Business)	Sidewalk	Both	Sidewalk	Both	-		
PEND0022-P	South Bennett Street	South Walker Street (US 117 Business) to East Satchwell Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0023-P	South Bennett Street	East Freemont to East Wilmington Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0024-P	North Bickett Street	East Wilmington Street to Batson Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0025-P	South Bickett Street	South Walker Street (US 117 Business) to East Wilmington Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0026-P	Batson Street	North Bickett Street to US 117	Sidewalk	Both	Sidewalk	Both	-		
PEND0027-P	South Bodenheimer Street	West Hayes Street to NC 53 (West Wilmington Street)	Sidewalk	Both	Sidewalk	Both	-		
PEND0013-H	West Bridgers Street (SR 1343)	South McCullen Street to Penderlea Road (SR 1332)	Sidewalk	Both	Sidewalk	Both	-		
PEND0028-P	West Bridgers Street	Penderlea Road (SR 1332) to North Dickerson Street (SR 1482)	Sidewalk	Both	Sidewalk	Both	B		
PEND0029-P	South Campbell Street	South Walker Street (US 117 Business) to East Wilmington Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0030-P	Clark Street	South Smith Street (SR 1400) to South Dickerson Street (SR 1412)	Sidewalk	Both	Sidewalk	Both	-		
PEND0031-P	Club Way	Bally Bunion Lane to East Wilmington Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0032-P	W. Drane Street	North Smith Street (SR 1400) to North Wright Street (SR 1345)	Sidewalk	Both	Sidewalk	Both	-		
PEND0033-P	North Dudley Street	Clark Street to West Wilmington Street (NC 53)	Sidewalk	Both	Sidewalk	Both	-		
PEND0034-P	South Dudley Street	West Wilmington Street (NC 53) to West Wallace Street (SR 1344)	Sidewalk	Both	Sidewalk	Both	-		
PEND0035-P	West Fremont Street	Durham Street to South Dickerson Street (SR 1412)	Sidewalk	Both	Sidewalk	Both	-		
PEND0036-P	East Fremont Street	a point 0.05 miles east of South Cowan Street to South Bennett Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0037-P	East Fremont Street	South Menell Street to US 117 Bypass	Sidewalk	Both	Sidewalk	Both	-		
PEND0038-P	West Hayes Street	South Bodenheimer Street to South Dickerson Street (SR 1412)	Sidewalk	Both	Sidewalk	Both	-		
PEND0039-P	Jasmine Way	Ivy Ct (Cul-de-sac) to South Walker Street (US 117 Business)	Sidewalk	Both	Sidewalk	Both	-		
PEND0040-P	South McCullen	West Hayes Street to Bridgers Street (SR 1343)	Sidewalk	Both	Sidewalk	Both	-		
PEND0041-P	McCullen Street	Penderlea Rd (SR 1332) to West Ashe Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0042-P	South McNeil Street	South Walker Street (US 117 Business) to East Wilmington Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0043-P	North McNeil Street	East Wilmington Street to Jacksonville Highway (NC 53)	Sidewalk	Both	Sidewalk	Both	-		
PEND0044-P	Periwinkle Street	Jasmine Way to Jasmine Way	Sidewalk	Both	Sidewalk	Both	-		
PEND0045-P	Progress Drive (SR 1413)	a point 0.15 miles south of Industrial Drive to South Walker Street (US 117 Business)	Sidewalk	Both	Sidewalk	Both	-		
PEND0046-P	West Satchwell Street	Antionette Drive to South Dickerson Street (SR 1412)	Sidewalk	Both	Sidewalk	Both	-		
PEND0047-P	South Smith Street (SR 1400)	Clark Street to West Wilmington Street (NC 53)	Sidewalk	Both	Sidewalk	Both	-		
PEND0048-P	North Smith Street (SR 1400)	West Bridgers Street (SR 1332) to West Wallace (SR 1344)	Sidewalk	Both	Sidewalk	Both	-		
PEND0049-P	North Smith Street (SR 1400)	0.06 mi north of West Wallace Street (SR 1344) to Drane Street	Sidewalk	Both	Sidewalk	Both	-		
PEND0050-P	Stanford Avenue	US 117 to existing sidewalks on Stanford Avenue	Sidewalk	Both	Sidewalk	Both	-		
PEND0051-P	West Wallace Street (SR 1344)	North Smith Street (SR 1400) to North Dickerson Street (SR 1482)	Sidewalk	Both	Sidewalk	Both	-		
PEND0052-P	East Wallace Street (SR 1344)	a point .05 mi east of North Cowan Street at the Multi-use Path to Timberly Lane (US 117 Business)	Sidewalk	Both	Sidewalk	Both	-		
PEND0053-P	North Wright Street (SR 1345)	West Wallace Street (SR 1344) to a point 0.2 miles north of Drane Street	Sidewalk	Both	Sidewalk	Both	-		
Waltha									
PEND0054-P	South Charlotte Street (SR 1315)	Camp Kirkwood Road (SR 1318) to Pelham Rd (SR 1319)	Sidewalk	Both	Sidewalk	Both	B		
PEND0055-P	Pelham Road (SR 1319)	Mary Slocum Road S.W. (SR 1336) to South Charlotte Street (SR 1315)	Sidewalk	Both	Sidewalk	Both	B		
PEND0056-P	Watha Road (SR 1313)	Camp Kirkwood Road (SR 1318) to Pelham Rd (SR 1319)	Sidewalk	Both	Sidewalk	Both	B		

MULTI-USE PATH									
Local ID	Facility/ Route	Section (From - To)	Existing System		Proposed System		Other		
			Side of Street	Section	Street	Cross-Section			
PEND0001-H	US 117	Wilmington MPO Boundary to US 117 Business (S. Walker Street)	7.3	-	Both	MA	H		
PEND0002-H	US 117	US 117 Business (S. Walker Street) to NC 53	1.4	-	Both	MA	H		
PEND0001-M	US 117	NC 53 to Duplin County Line	12.4	-	Both	MA	H		
PEND0002-M	NC 11/53	Bladen County line to North Pope Street in the Town of Atkinson.	3.8	-	Both	MA	H		
PEND0003-M	NC 53	Linden Avenue in the Town of Atkinson to US 421	5.6	-	Both	MA			
PEND0004-M	NC 53	US 421 to Tealbriar Street in the Town of Burgaw	7.4	-	Both	MA			
PEND0005-H	NC 53	0.1 miles NE of US 117 to Stag Park Rd (SR 1509)	0.5	-	Both	MA	H		
PEND0005-M	NC 53	Stag Park Road (SR 1509) to Onslow County	30.6	-	Both	MA			
PEND0006-M	NC 210	Morgan Road (SR 1102) to Wilmington MPO Boundary	9.2	-	Both	N/A			
PEND0007-M	Beatty's Bridge Road (SR1101)	North Rankin Street (Atkinson town limit) to the 90 degree bend in the road	1.8	-	Both	MA			
PEND0008-M	Beatty's Bridge Road Extension (SR 1101)	the 90 degree bend in the road on a dirt road heading northwest to Sampson County	0.8	-	Both	MA			
PEND0009-M	Camp Kirkwood Road/Croomsbridge Rd (SR 1318)	Watha town limits to NC 53	8.7	-	Both	MA			
PEND0010-M	Camp Kirkwood Road (SR 1318)	Watha town limits to S. Charlotte St (SR 1315)	0.5	-	Both	MA			
PEND0011-M	Garden Road (SR 1328)	Penderlea Highway (SR 1332) to Pelham Road (SR 1319)	0.4	-	Both	MA			
PEND0012-M	Malpass Corner Road (SR1120)	NC 210 to NC 53	8.2	-	Both	N/A			
PEND0013-M	Morgan Rd (SR 1102)	NC 210 to Bladen Co. line	2.5	-	Both	MA			
PEND0014-M	N. Rankin Street	E. Henry Street to Atkinson town limit Beatty's Bridge Road (SR 1101)	0.3	-	Both	MA			
PEND0015-M	Pelham Road (SR 1319)	Garden Road (SR 1328) in Penderlea to Watha town limits	4.4	-	Both	MA			
PEND0016-M	Pelham Road (SR 1319)	Watha town limits to Mary Slocum Rd SW	0.5	-	Both	MA			
PEND0017-M	Penderlea Highway (SR 1332)	W. Bridgers Street in the Town of Burgaw to Garden Road (SR 1328) in Penderlea	9.9	-	Both	MA			
PEND0018-M	Rooks Road Extension (SR 1126)	New location off-road that will connect to NC 210 at Blueberry Road (SR 1114) and continue off road to the Wilmington MPO Boundary	-	-	Both	MA			
PEND0019-M	Shaw Highway (SR 1520)	Wilmington MPO Boundary to NC 53	12.8	-	Both	MA			

Appendix D

Typical Cross Sections

Cross section requirements for roadways vary according to the capacity and level of service to be provided. Universal standards in the design of roadways are not practical. Each roadway section must be individually analyzed and its cross section determined based on the volume and type of projected traffic, existing capacity, desired level of service, and available right-of-way. These cross sections are typical for facilities on new location and where right-of-way constraints are not critical. For widening projects and urban projects with limited right-of-way, special cross sections should be developed that meet the needs of the project.

The typical cross sections were updated on December 7, 2010 to support the Department's "Complete Streets"¹ policy that was adopted in July 2009. This guidance established design elements that emphasize safety, mobility, and accessibility for multiple modes of travel. These "typical" cross sections should be used as preliminary guidelines for comprehensive transportation planning, project planning and project design activities. The specific and final cross section details and right of way limits for projects will be established through the preparation of the National Environmental Policy Act (NEPA) documentation and through final plan preparation.

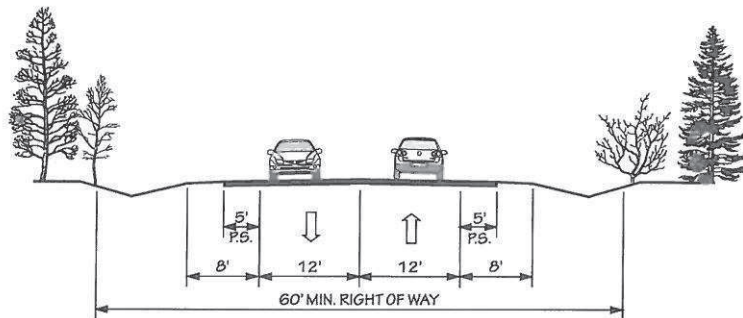
On all existing and proposed roadways delineated on the CTP, adequate right-of-way should be protected or acquired for the recommended cross sections. In addition to cross section and right-of-way recommendations for improvements, Appendix C may recommend ultimate needed right-of-way for the following situations:

- ❖ roadways which may require widening after the current planning period,
- ❖ roadways which are borderline adequate and accelerated traffic growth could render them deficient,
- ❖ roadways where an urban curb and gutter cross section may be locally desirable because of urban development or redevelopment, and
- ❖ roadways which may need to accommodate an additional transportation mode.

¹ For more information on Complete Streets, go to: <http://www.completestreetsnc.org/>.

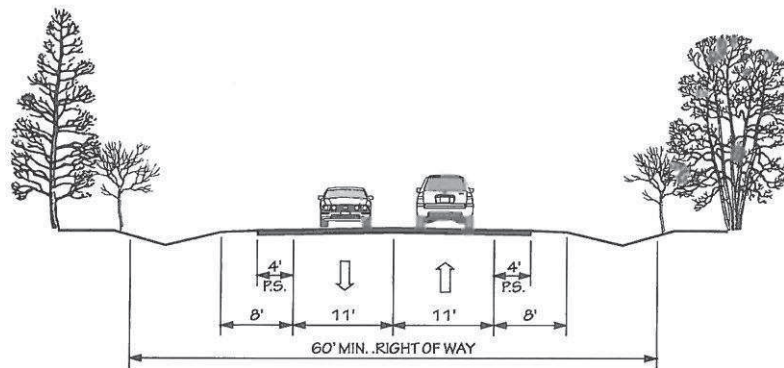
"TYPICAL" HIGHWAY CROSS SECTIONS

2A



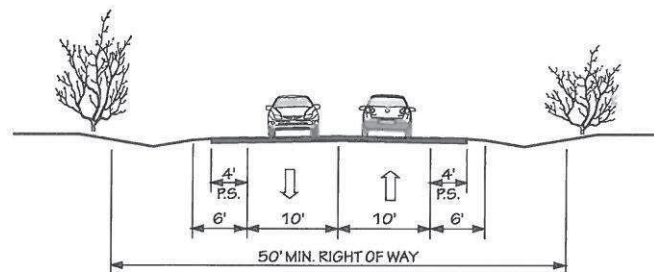
2 LANE UNDIVIDED WITH PAVED SHOULDERS
POSTED SPEED 55 MPH

2B



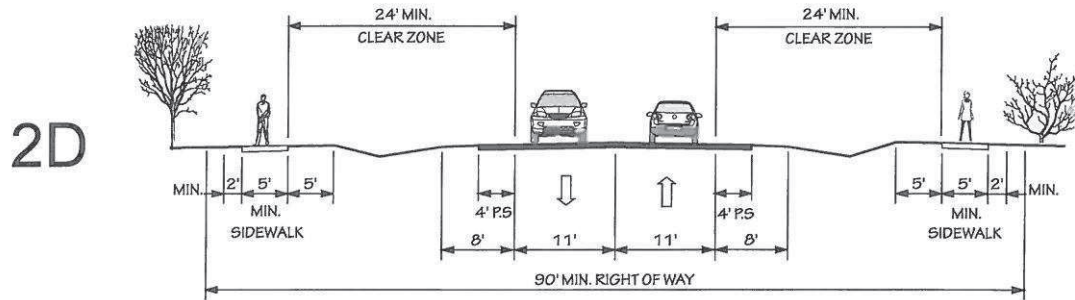
2 LANES UNDIVIDED
POSTED SPEED 45 MPH OR LESS

2C

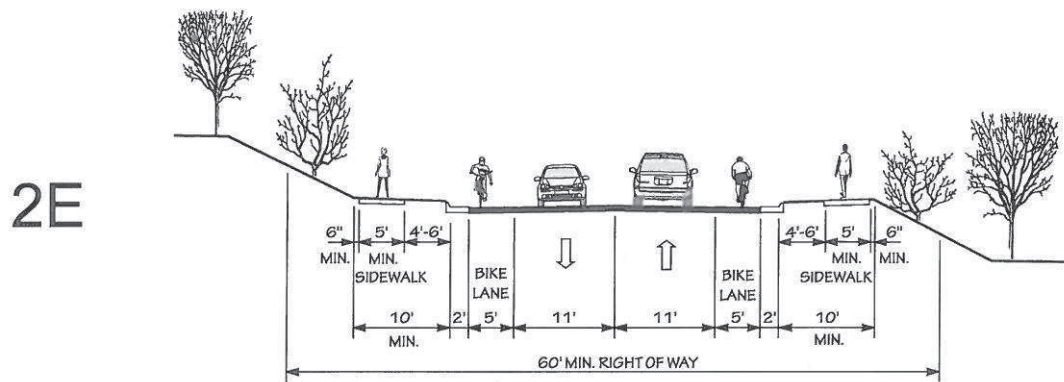


2 LANE UNDIVIDED WITH PAVED SHOULDERS
POSTED SPEED 25 - 35 MPH

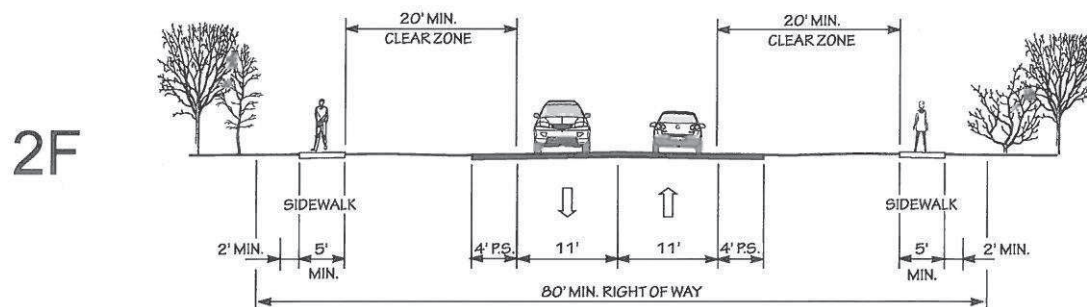
“TYPICAL” HIGHWAY CROSS SECTIONS



2 LANE UNDIVIDED WITH PAVED SHOULDERS AND SIDEWALKS
POSTED SPEED 25-45 MPH

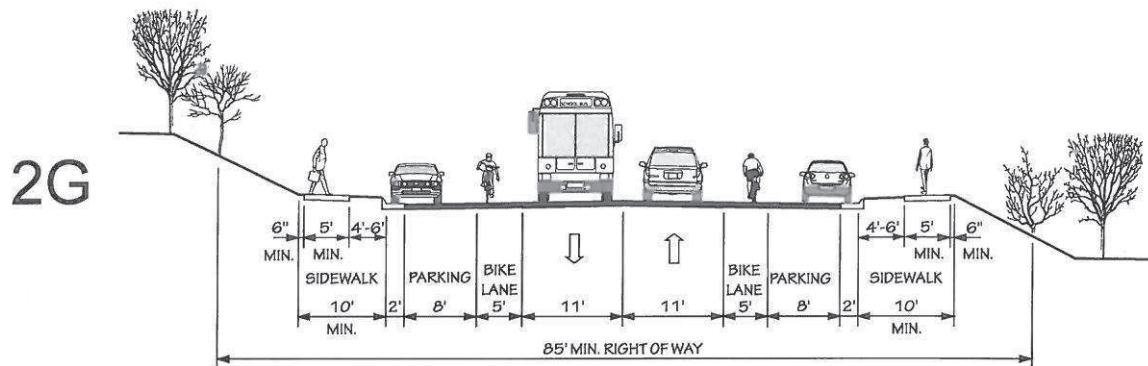


2 LANE UNDIVIDED WITH CURB & GUTTER, BIKE LANES, AND SIDEWALKS
POSTED SPEED 25-45 MPH

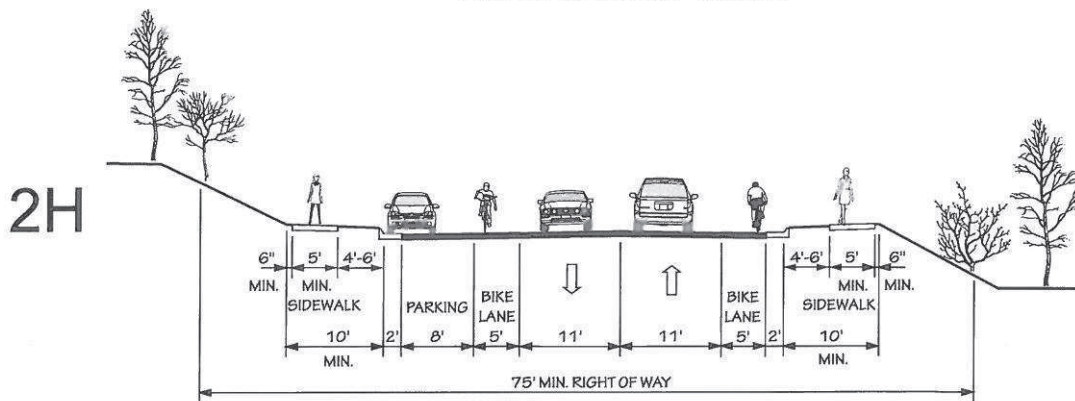


2 LANE UNDIVIDED WITH PAVED SHOULDERS AND SIDEWALKS
IN CEMA COUNTIES
POSTED SPEED 25-45 MPH

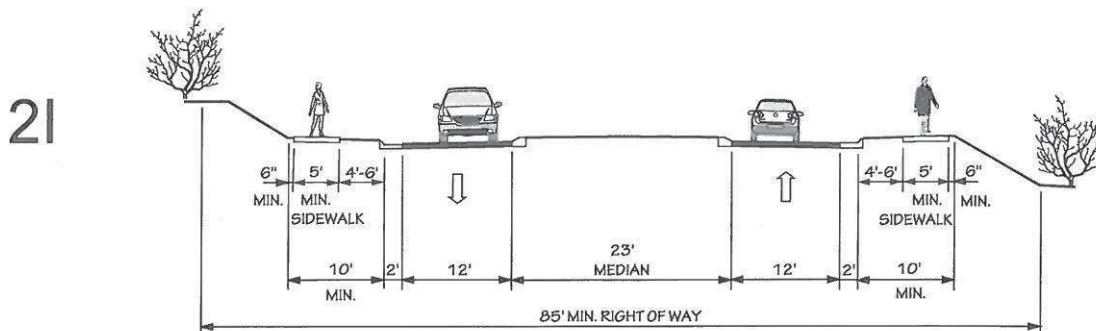
“TYPICAL” HIGHWAY CROSS SECTIONS



**2 LANE UNDIVIDED WITH CURB & GUTTER, PARKING BOTH SIDES,
BIKE LANES, AND SIDEWALKS**
POSTED SPEED 25-45 MPH

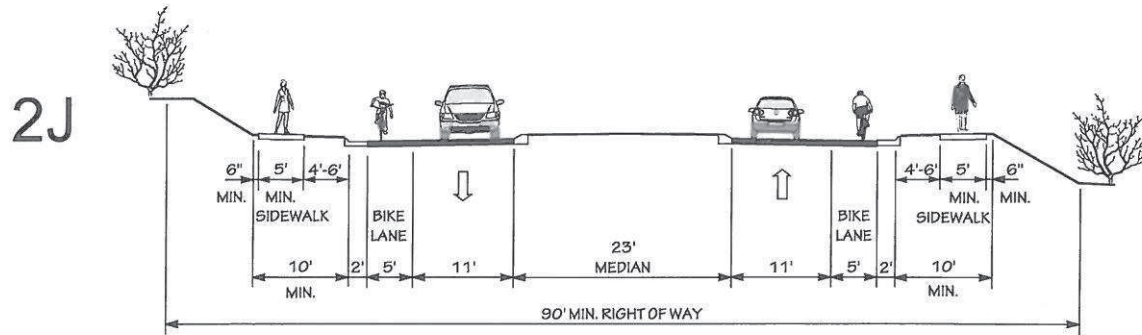


**2 LANE UNDIVIDED WITH CURB & GUTTER, PARKING ONE SIDE,
BIKE LANES, AND SIDEWALKS**
POSTED SPEED 25-45 MPH

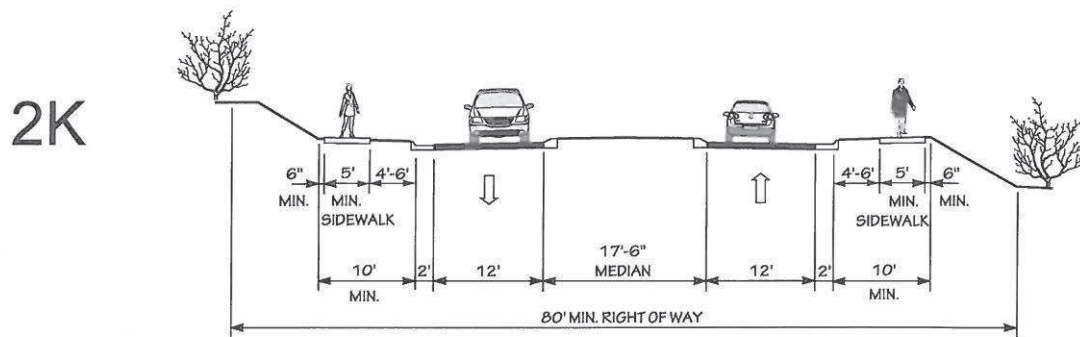


**2 LANE DIVIDED (23' RAISED MEDIAN)
WITH CURB & GUTTER AND SIDEWALKS**
POSTED SPEED 25-45 MPH

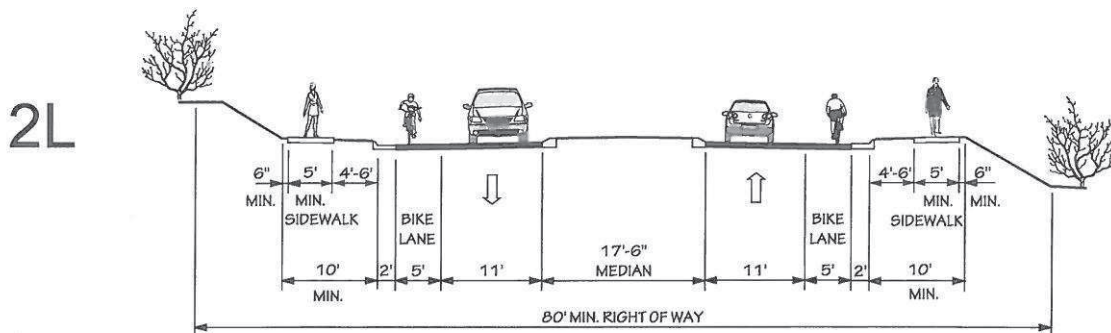
“TYPICAL” HIGHWAY CROSS SECTIONS



**2 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,
BIKE LANES, AND SIDEWALKS**
POSTED SPEED 25-45 MPH



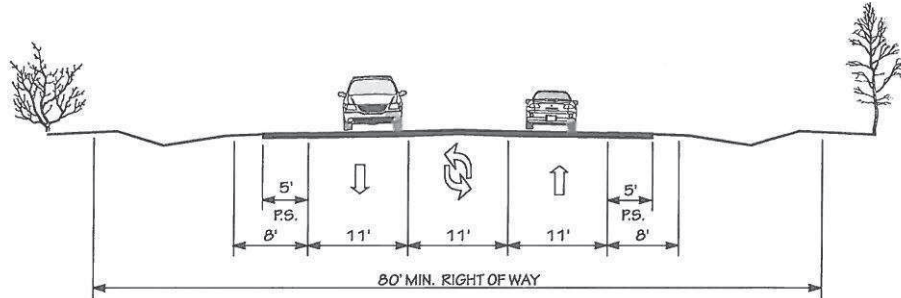
**2 LANE DIVIDED (17'-6" RAISED MEDIAN)
WITH CURB & GUTTER AND SIDEWALKS**
POSTED SPEED 25-45 MPH



**2 LANE DIVIDED (17'-6" RAISED MEDIAN)
WITH CURB & GUTTER, BIKE LANES, AND SIDEWALKS**
POSTED SPEED 25-45 MPH

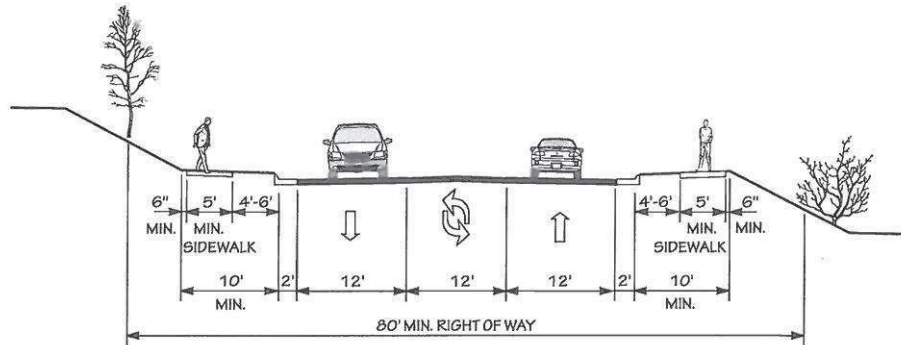
“TYPICAL” HIGHWAY CROSS SECTIONS

3A



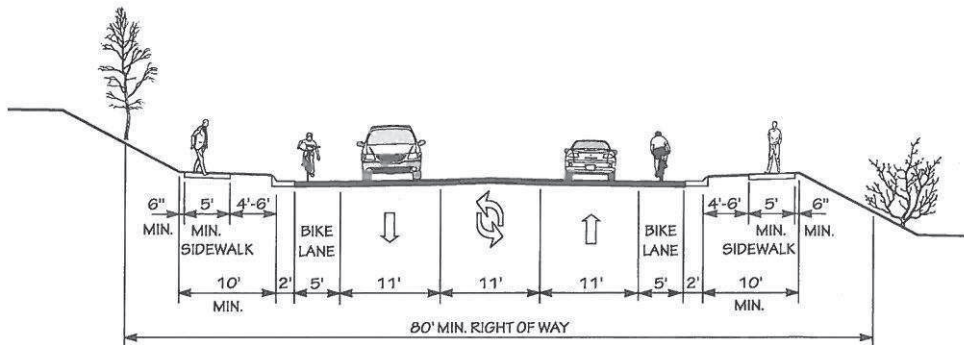
2 LANE WITH TWO WAY LEFT TURN LANE, AND PAVED SHOULDERS
POSTED SPEED 25-55 MPH

3B



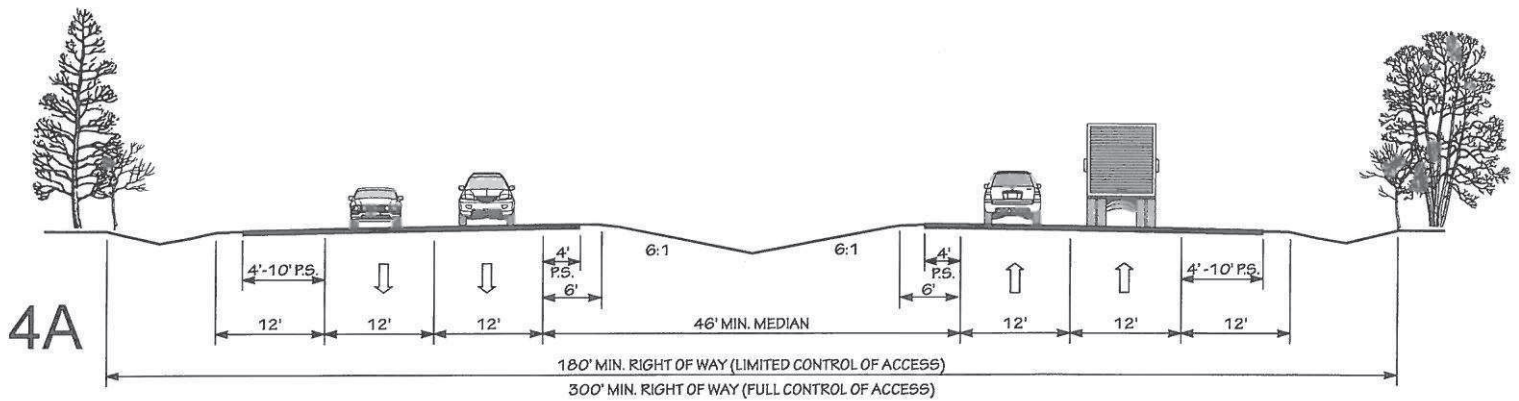
2 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER,
AND SIDEWALKS
POSTED SPEED 25-45 MPH

3C

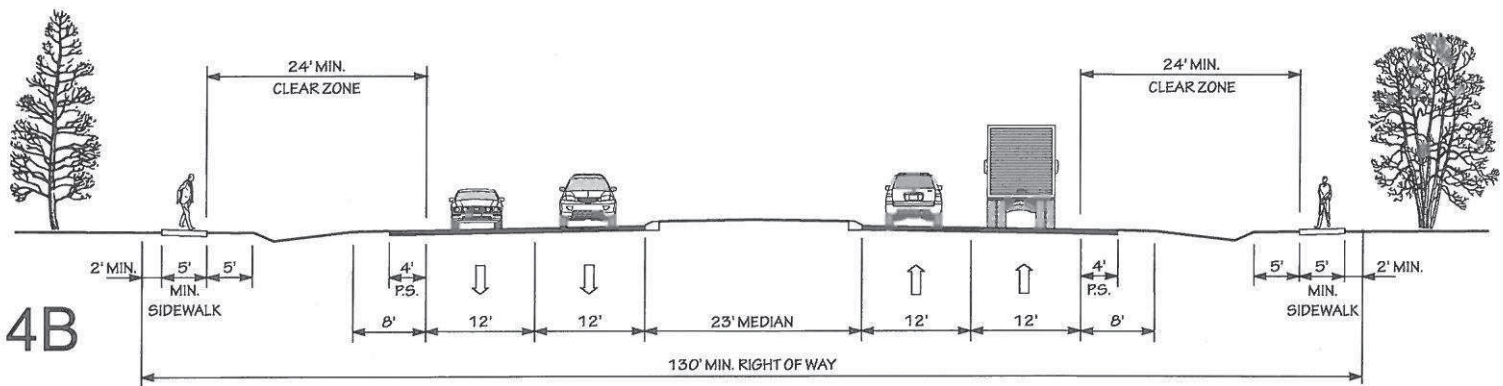


2 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER,
BIKE LANES, AND SIDEWALKS
POSTED SPEED 25-45 MPH

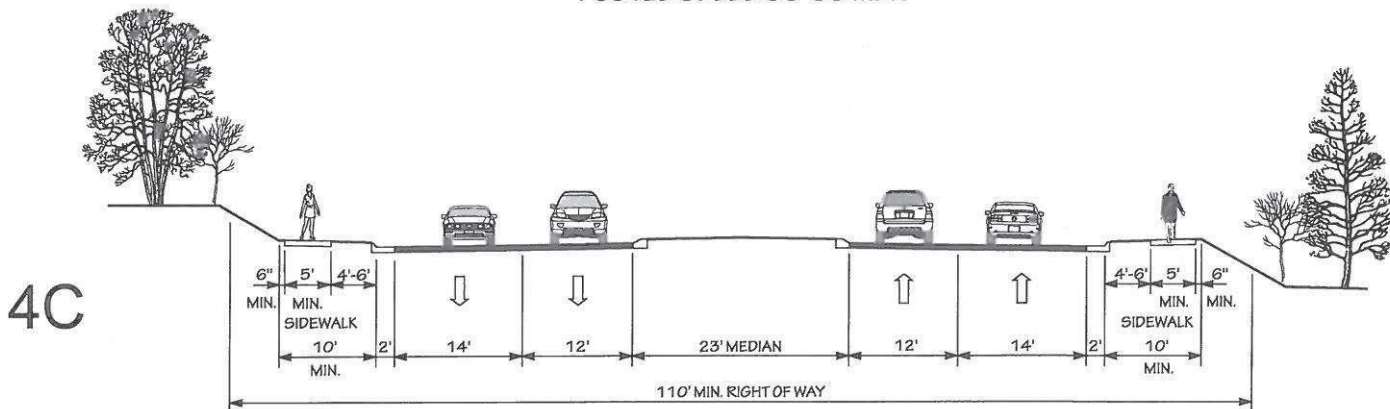
“TYPICAL” HIGHWAY CROSS SECTIONS



4 LANE DIVIDED (46' DEPRESSED MEDIAN) WITH PAVED SHOULDERS
POSTED SPEED 45-70 MPH

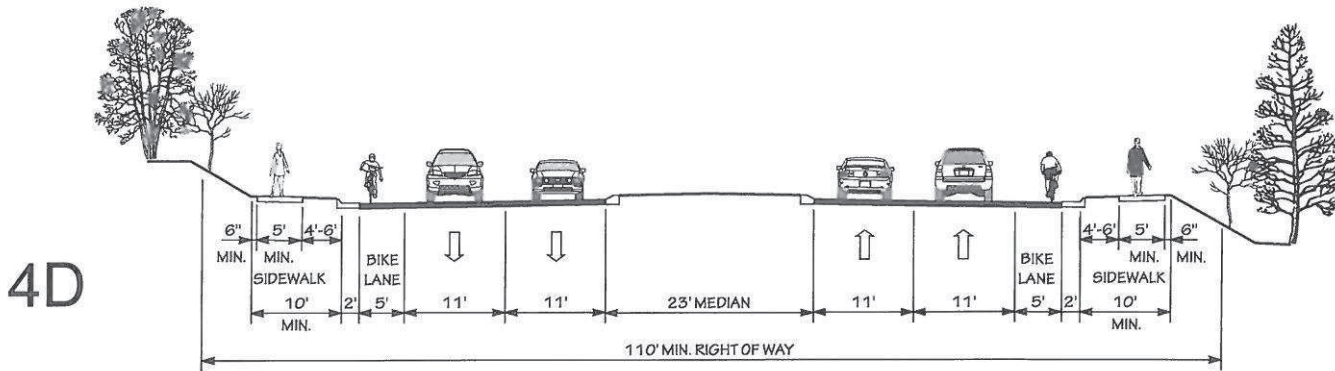


4 LANE DIVIDED (23' RAISED MEDIAN) WITH PAVED SHOULDERS
AND SIDEWALKS
POSTED SPEED 35-55 MPH

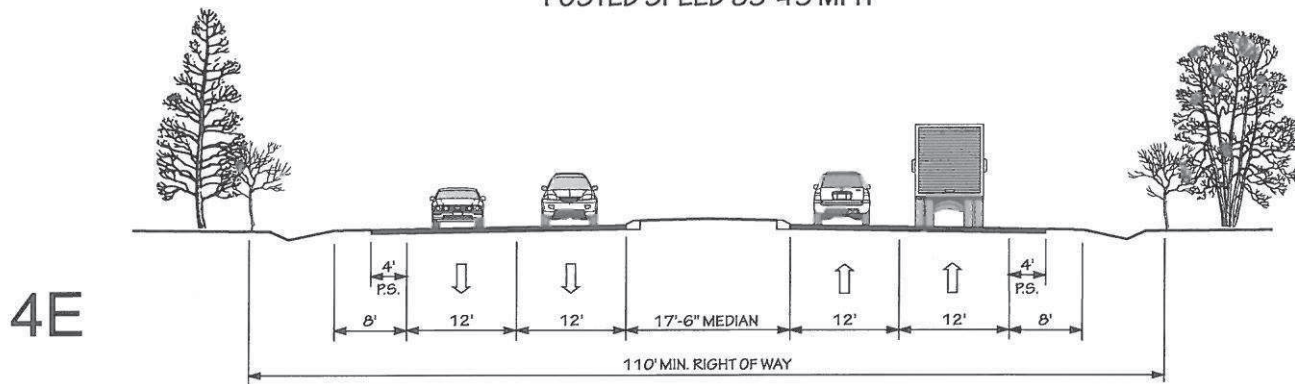


4 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH

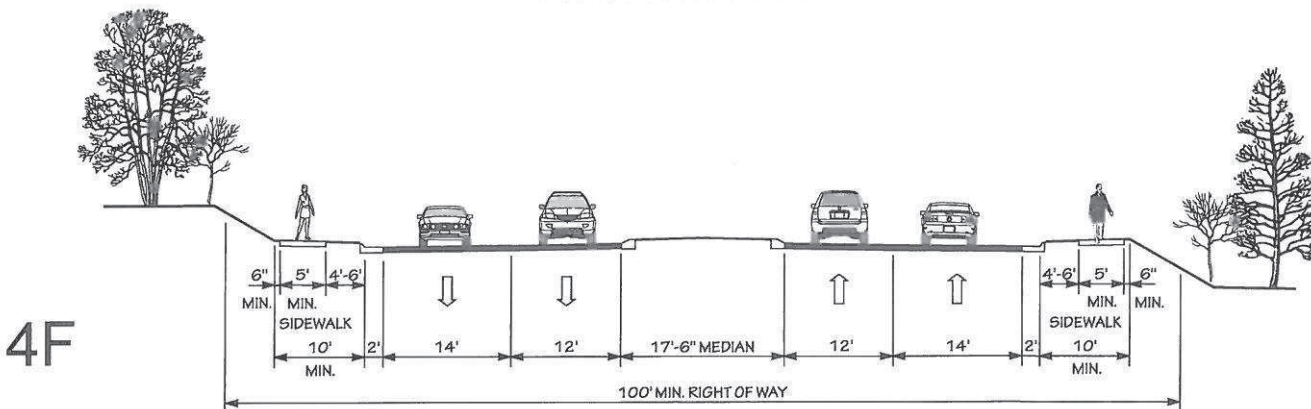
“TYPICAL” HIGHWAY CROSS SECTIONS



**4 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, BIKE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH**

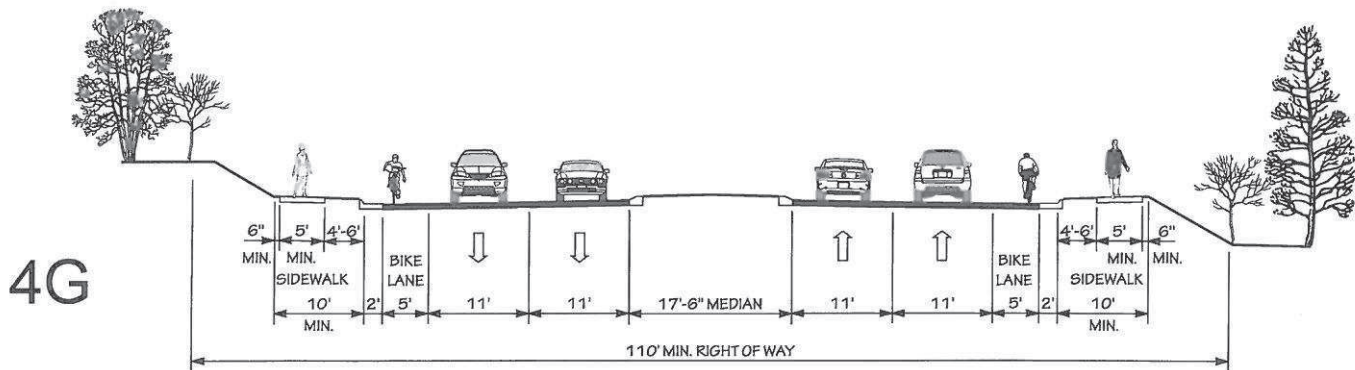


**4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH
PAVED SHOULDERS AND SIDEWALKS
POSTED SPEED 35-55 MPH**

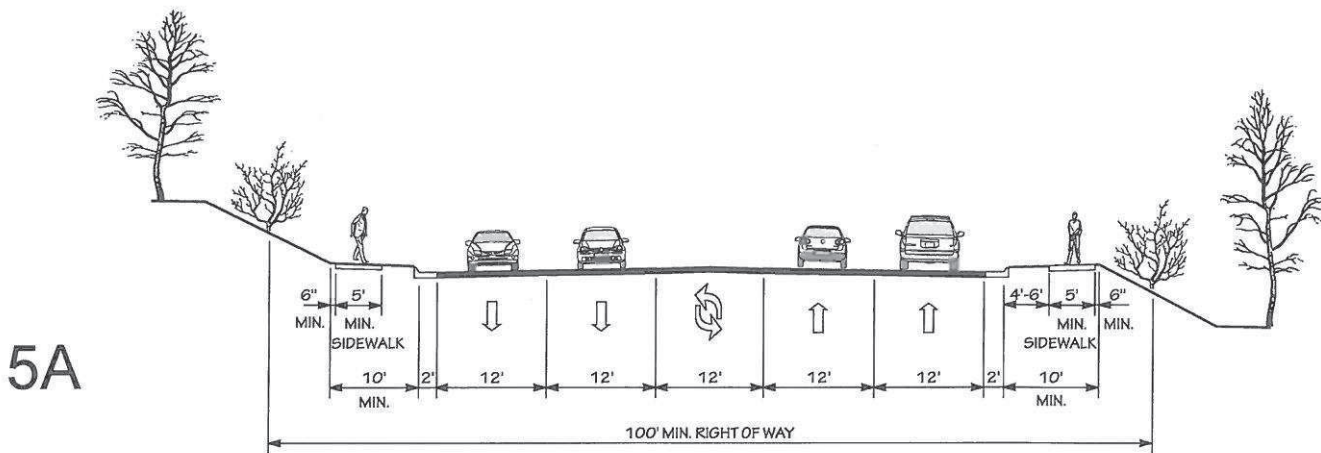


**4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH**

“TYPICAL” HIGHWAY CROSS SECTIONS

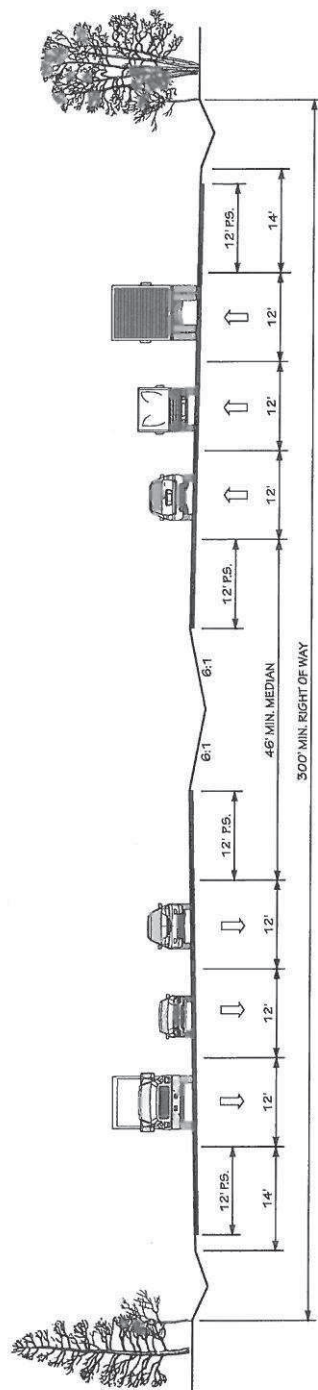


**4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,
BIKE LANES, AND SIDEWALKS**
POSTED SPEED 35-45 MPH

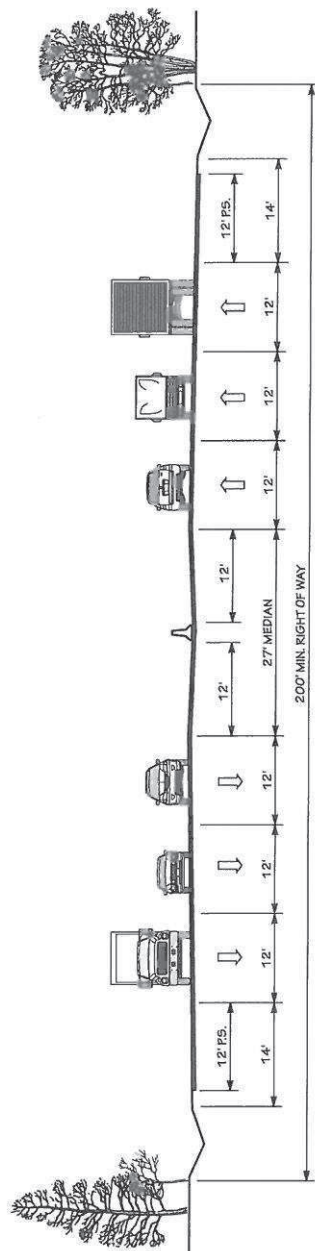


**4 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER,
AND SIDEWALKS**
POSTED SPEED 35-45 MPH

“TYPICAL” HIGHWAY CROSS SECTIONS

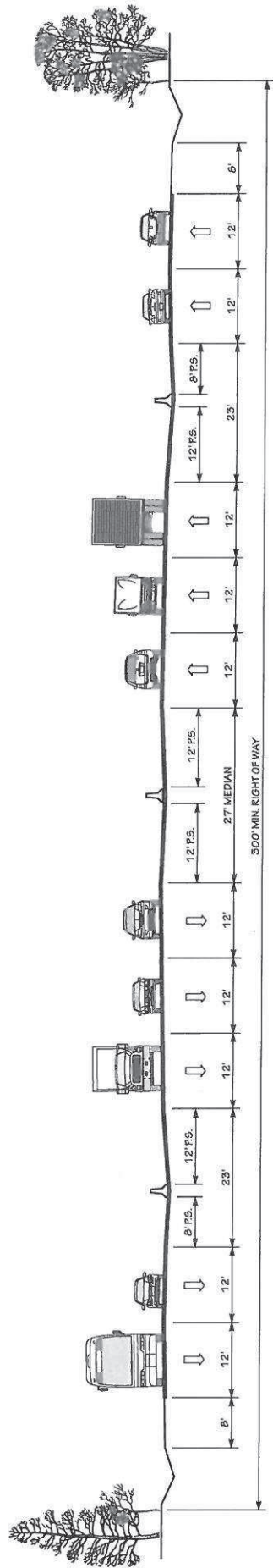


6A 6 LANE DIVIDED (46' DEPRESSED MEDIAN) WITH PAVED SHOULDERS
POSTED SPEED 45-70 MPH



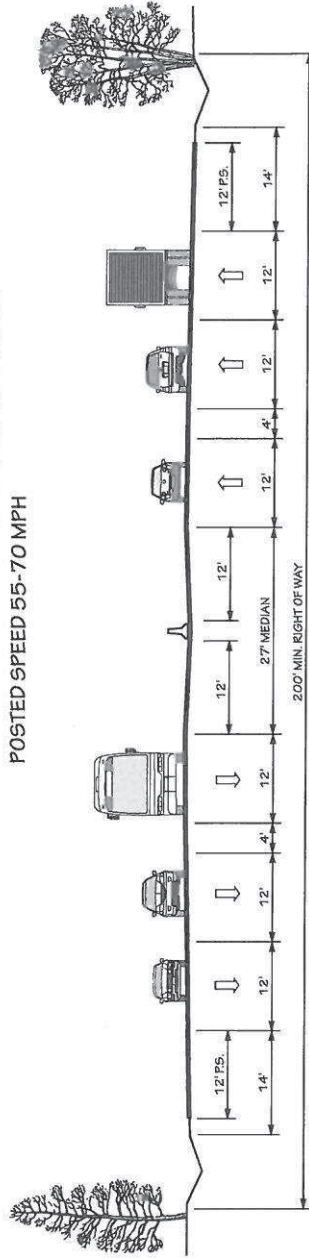
6B 6 LANE DIVIDED (27' MEDIAN WITH JERSEY BARRIER)
WITH PAVED SHOULDERS
POSTED SPEED 55-70 MPH

“TYPICAL” HIGHWAY CROSS SECTIONS



6C

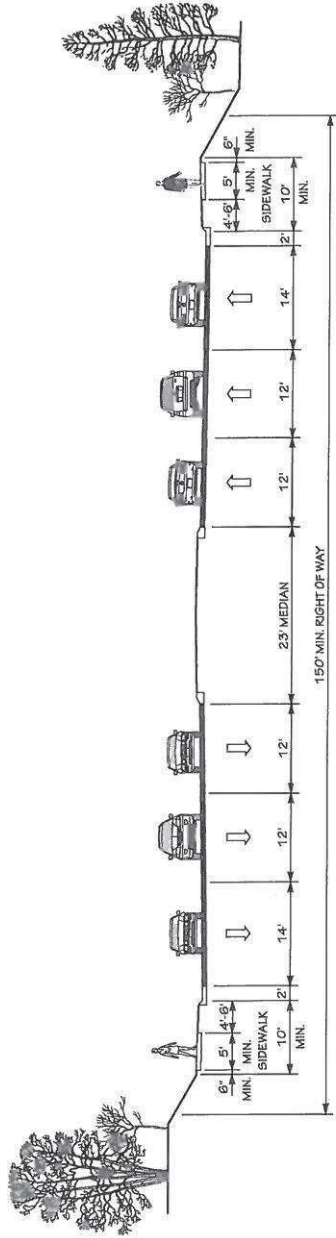
6 LANE FREEWAY (27' MEDIAN WITH JERSEY BARRIER) WITH PAVED SHOULDERS
AND 2 LANE ONE-WAY SERVICE ROADS EACH SIDE
POSTED SPEED 55-70 MPH



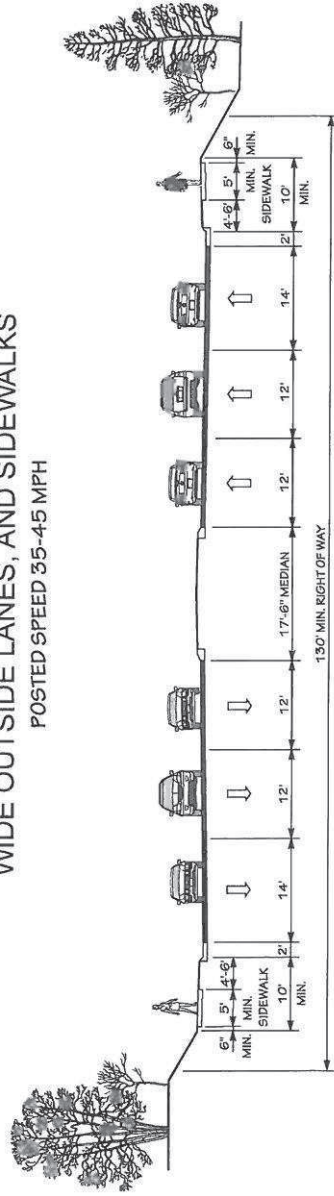
6D

6 LANE FREEWAY (4 GENERAL PURPOSE LANES, 2 MANAGED LANES, AND 27' MEDIAN
WITH JERSEY BARRIER) WITH PAVED SHOULDERS
POSTED SPEED 55-70 MPH

"TYPICAL" HIGHWAY CROSS SECTIONS



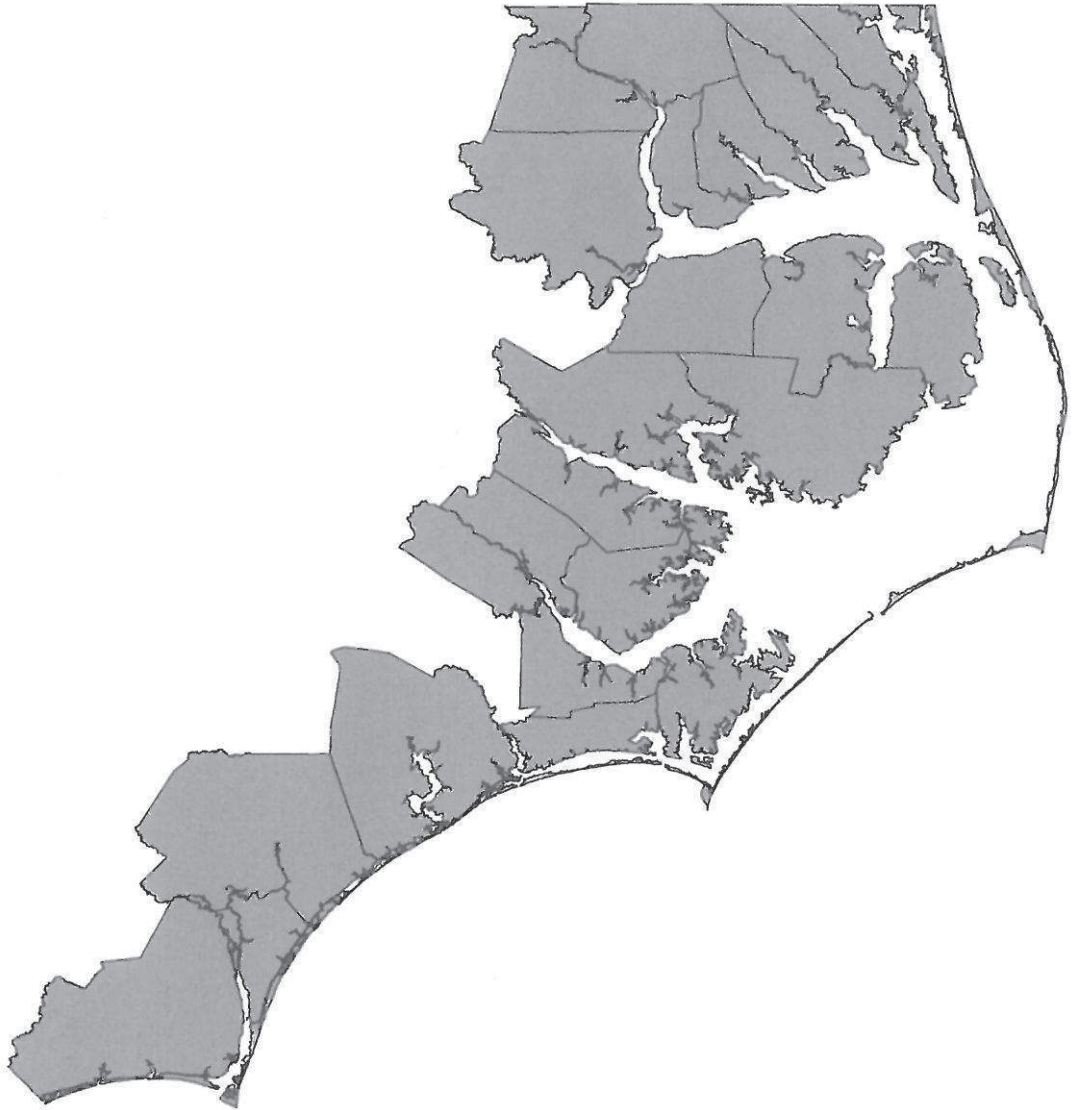
6E 6 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH



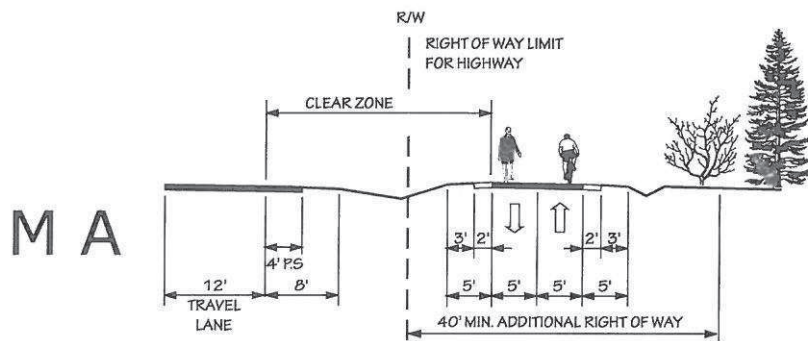
6F 6 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH

CAMA COUNTIES

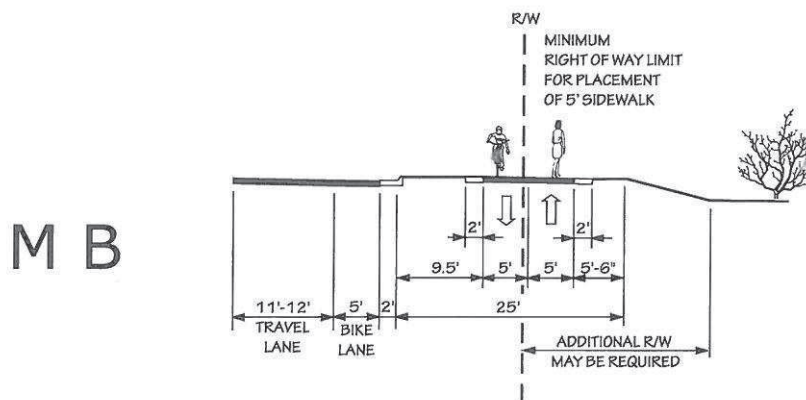
Beaufort
Bertie
Brunswick
Camden
Carteret
Chowan
Craven
Currituck
Dare
Gates
Hertford
Hyde
New Hanover
Onslow
Pamlico
Pasquotank
Pender
Perquimans
Tyrrell
Washington



“TYPICAL” HIGHWAY CROSS SECTIONS

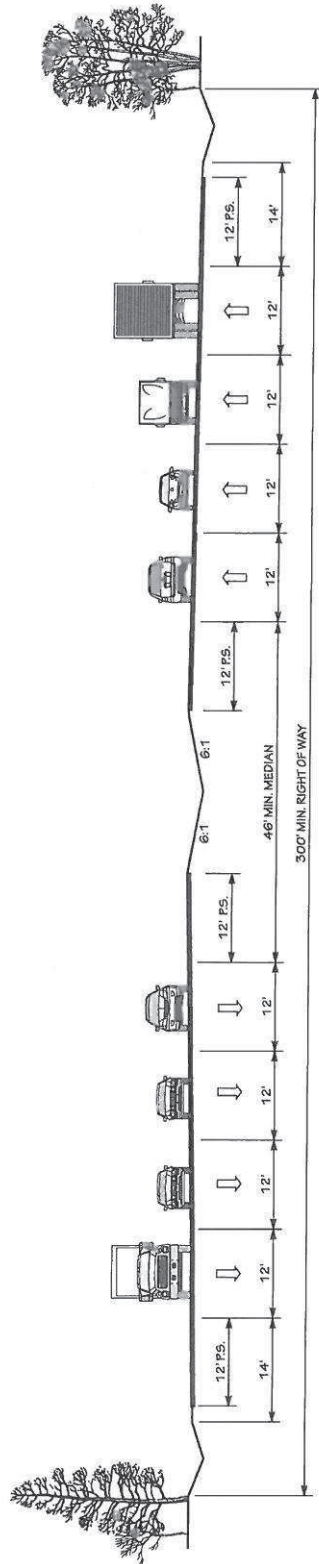


MULTI - USE PATH
ADJACENT TO RIGHT OF WAY OR SEPARATE PATHWAY



MULTI - USE PATH ADJACENT TO CURB AND GUTTER

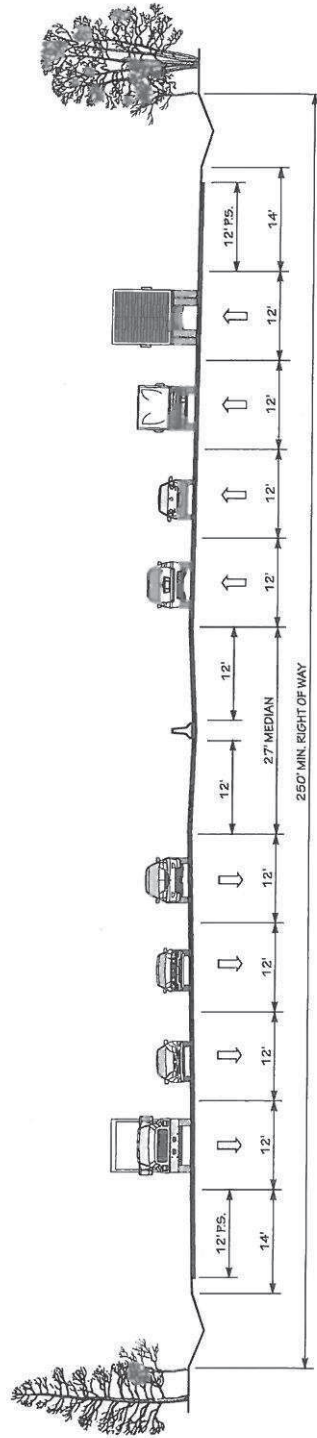
"TYPICAL" HIGHWAY CROSS SECTIONS



8 LANE DIVIDED (46' DEPRESSED MEDIAN) WITH PAVED SHOULDERS

POSTED SPEED 45-70 MPH

8A

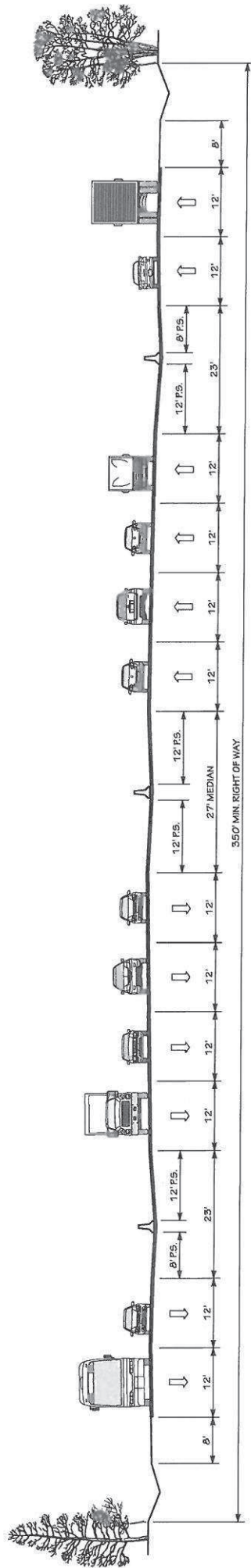


**8 LANE DIVIDED (27' MEDIAN WITH JERSEY BARRIER)
WITH PAVED SHOULDERS**

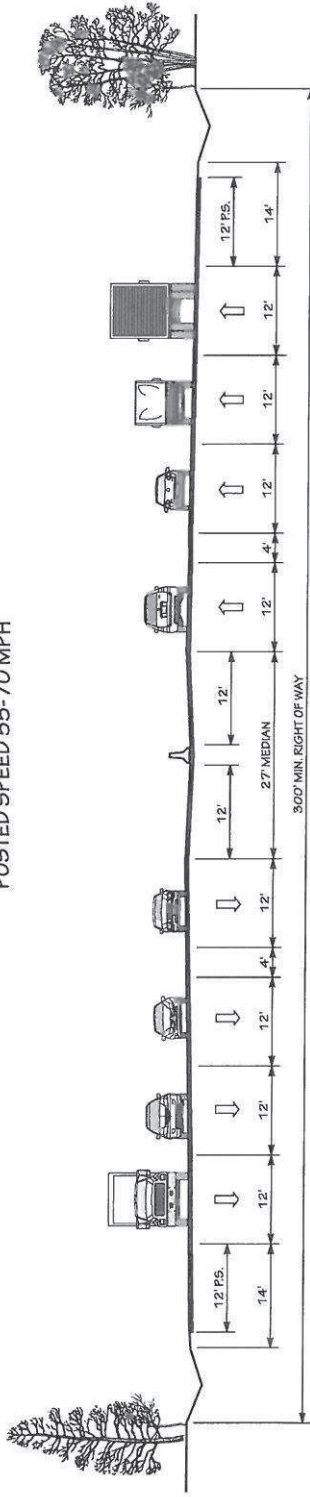
POSTED SPEED 55-70 MPH

8B

“TYPICAL” HIGHWAY CROSS SECTIONS

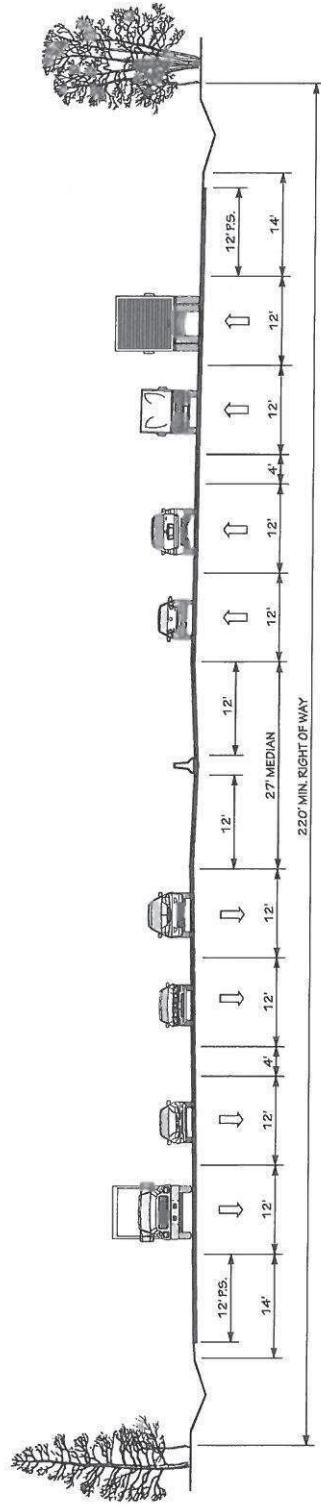


8C 8 LANE FREEWAY (27' MEDIAN WITH JERSEY BARRIER) WITH PAVED SHOULDERS
AND 2 LANE ONE-WAY SERVICE ROADS EACH SIDE
POSTED SPEED 55-70 MPH



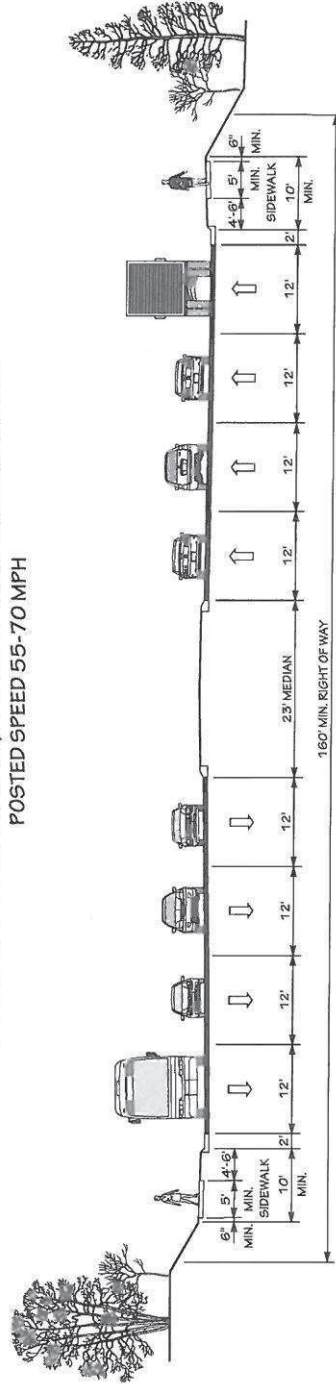
8D 8 LANE FREEWAY (6 GENERAL PURPOSE LANES, 2 MANAGED LANES, AND 27' MEDIAN
WITH JERSEY BARRIER) WITH PAVED SHOULDERS
POSTED SPEED 55-70 MPH

“TYPICAL” HIGHWAY CROSS SECTIONS



8E

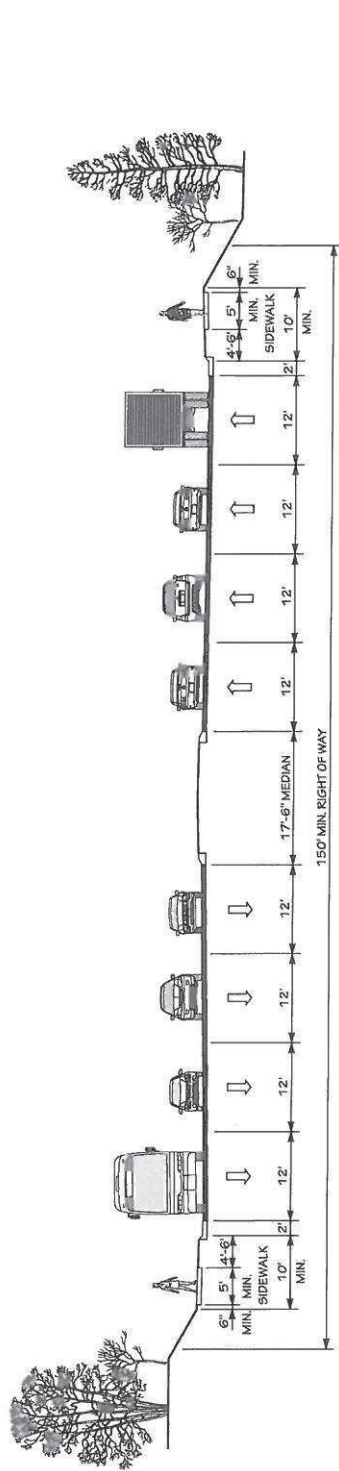
8 LANE FREEWAY (4 GENERAL PURPOSE LANES, 4 MANAGED LANES, AND 27' MEDIAN WITH JERSEY BARRIER) WITH PAVED SHOULDERS
POSTED SPEED 55-70 MPH



8F

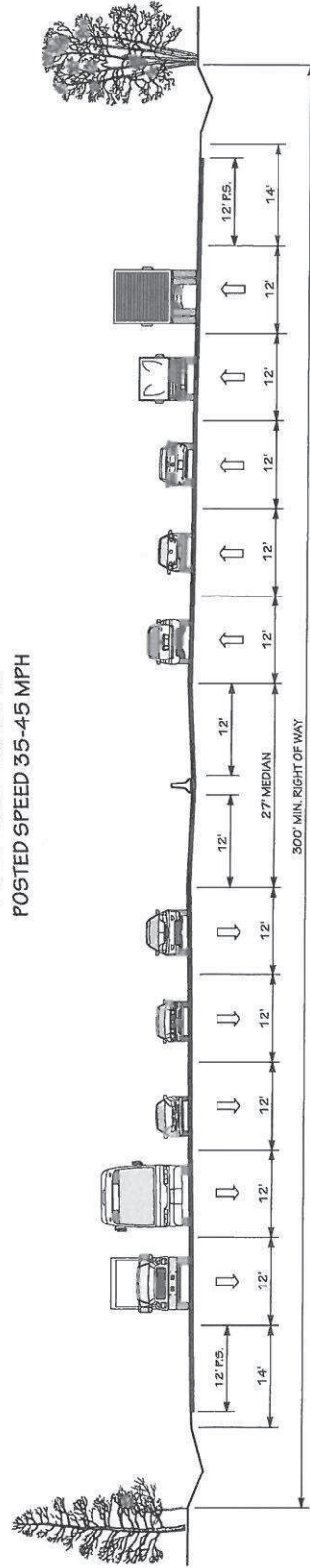
8 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER, AND SIDEWALKS
POSTED SPEED 35-45 MPH

“TYPICAL” HIGHWAY CROSS SECTIONS



8G

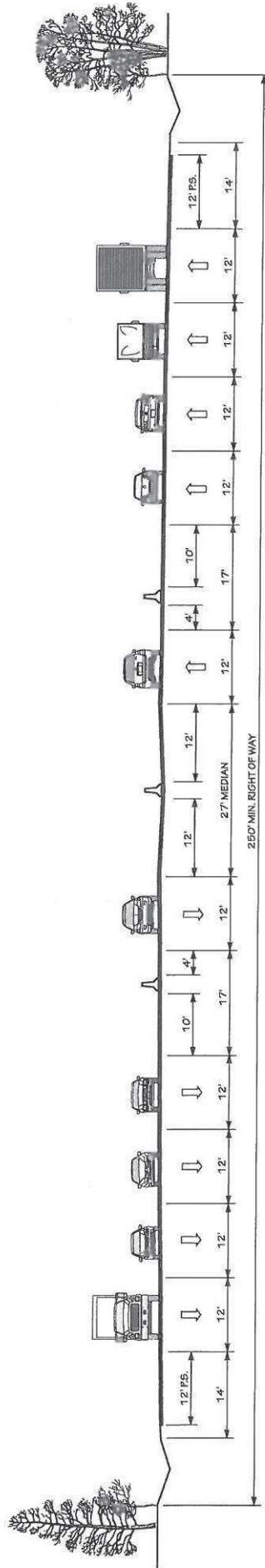
8 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,
AND SIDEWALKS
POSTED SPEED 35-45 MPH



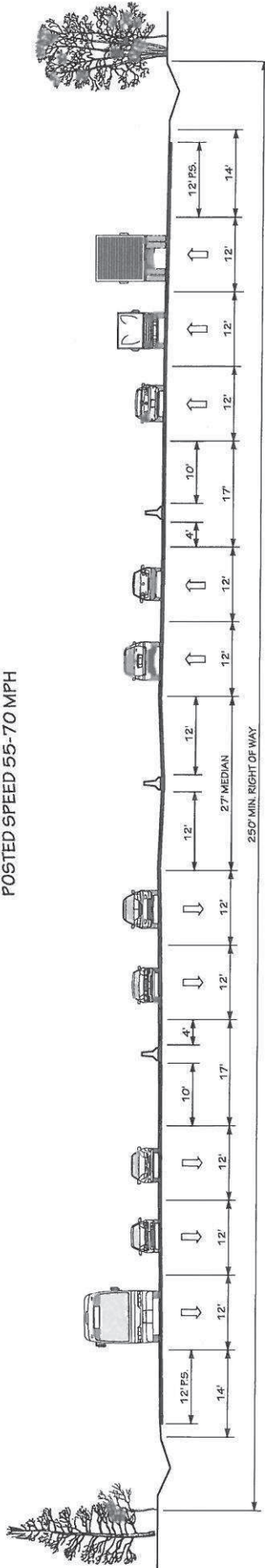
10A

10 LANE DIVIDED (27' MEDIAN WITH JERSEY BARRIER)
WITH PAVED SHOULDERS
POSTED SPEED 55-70 MPH

“TYPICAL” HIGHWAY CROSS SECTIONS

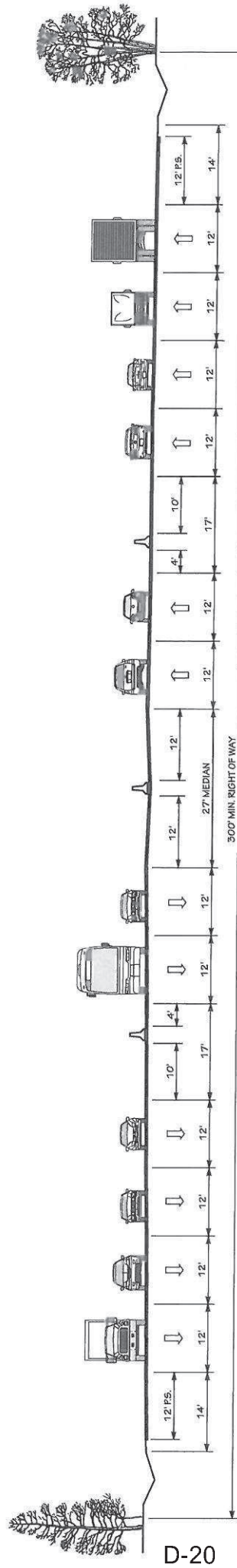


10B 10 LANE FREEWAY (8 GENERAL PURPOSE LANES, 2 MANAGED LANES, AND 27' MEDIAN
WITH JERSEY BARRIER) WITH PAVED SHOULDERS
POSTED SPEED 55-70 MPH



10C 10 LANE FREEWAY (6 GENERAL PURPOSE LANES, 4 MANAGED LANES, AND 27' MEDIAN
WITH JERSEY BARRIER) WITH PAVED SHOULDERS
POSTED SPEED 55-70 MPH

“TYPICAL” HIGHWAY CROSS SECTIONS



12A 12 LANE FREEWAY (8 GENERAL PURPOSE LANES, 4 MANAGED LANES, AND 27' MEDIAN
WITH JERSEY BARRIER) WITH PAVED SHOULDERS
POSTED SPEED 55-70 MPH

Appendix E

Level of Service Definitions

The relationship of travel demand compared to the roadway capacity determines the level of service (LOS) of a roadway. Six levels of service identify the range of possible conditions. Designations range from LOS A, which represents the best operating conditions, to LOS F, which represents the worst operating conditions.

Design requirements for roadways vary according to the desired capacity and level of service. LOS D indicates “practical capacity” of a roadway, or the capacity at which the public begins to express dissatisfaction. Recommended improvements and overall design of the transportation plan were based upon achieving a minimum LOS D on existing facilities and a LOS C on new facilities. The six levels of service are described below and illustrated in Figure 9.

- ❖ **LOS A:** Describes free-flow operations. Free Flow Speed (FFS) prevails and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.
- ❖ **LOS B:** Represents reasonably free-flow operations, and FFS is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
- ❖ **LOS C:** Provides for flow with speeds near the FFS. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind any significant blockages.
- ❖ **LOS D:** The level at which speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.
- ❖ **LOS E:** Describes operation at capacity. Operations at this level are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown and substantial queuing. The physical and psychological comfort afforded to drivers is poor.
- ❖ **LOS F:** Describes breakdown, or unstable flow. Such conditions exist within queues forming behind bottlenecks.

Figure 9 - Level of Service Illustrations



LOS A



LOS B



LOS C



LOS D



LOS E



LOS F

Source: 2010 Highway Capacity Manual, Exhibit 11-4

Appendix F

Traffic Crash Analysis

A crash analysis performed for the Pender County CTP factored crash frequency, crash type, and crash severity. Crash frequency is the total number of reported crashes and contributes to the ranking of the most problematic intersections. Crash type provides a general description of the crash and allows the identification of any trends that may be correctable through roadway or intersection improvements. Crash severity is the crash rate based upon injuries and property damage incurred.

The severity of every crash is measured with a series of weighting factors developed by the NCDOT Division of Highways (DOH). These factors define a fatal or incapacitating crash as 47.7 times more severe than one involving only property damage and a crash resulting in minor injury is 11.8 times more severe than one with only property damage. In general, a higher severity index indicates more severe accidents. Listed below are levels of severity for various severity index ranges.

<u>Severity</u>	<u>Severity Index</u>
low	< 6.0
average	6.0 to 7.0
moderate	7.0 to 14.0
high	14.0 to 20.0
very high	> 20.0

Table 4 depicts a summary of the crashes occurring in the planning area between March 1, 2008 and March 1, 2011. The data represents locations with 5 or more crashes and/or a severity average greater than that of the state's 4.37 index. The "Total" column indicates the total number of crashes reported within 150-ft of the intersection during the study period. The severity listed is the average crash severity for that location.

Table 4 - Crash Locations

Map Index	Intersection	Average Severity	Total Crashes
1	NC 53 and US 421	14.17	16
2	NC 210 and US 117	2.48	15
3	NC 210 and US 421	10.82	13
4	SR 1412 (New Road) and US 117	4.7	10
5	NC 53 and I-40	5.52	18

The NCDOT is actively involved with investigating and improving many of these locations. To request a more detailed analysis for any of the locations listed in Table 4, or other intersections of concern, contact the Division Traffic Engineer. Contact information for the Division Traffic Engineer is included in Appendix A.

Appendix F

Bridge Deficiency Assessment

The Transportation Improvement Program (TIP) development process for bridge projects involves consideration of several evaluation methods in order to prioritize needed improvements. A sufficiency index is used to determine whether a bridge is sufficient to remain in service, or to what extent it is deficient. The index is a percentage in which 100 percent represents an entirely sufficient bridge and zero represents an entirely insufficient or deficient bridge. Factors evaluated in calculating the index are listed below.

- ❖ structural adequacy and safety
- ❖ serviceability and functional obsolescence
- ❖ essentiality for public use
- ❖ type of structure
- ❖ traffic safety features

The NCDOT Structures Management Unit inspects all bridges in North Carolina at least once every two years. A sufficiency rating for each bridge is calculated and establishes the eligibility and priority for replacement. Bridges having the highest priority are replaced as federal and state funds become available.

A bridge is considered deficient if it is either structurally deficient (SD) or functionally obsolete (FO). Structurally deficient means there are elements of the bridge that need to be monitored and/or repaired. The fact that a bridge is "structurally deficient" does not imply that it is likely to collapse or that it is unsafe. It means the bridge must be monitored, inspected and repaired/replaced at an appropriate time to maintain its structural integrity. A functionally obsolete bridge is one that was built to standards that are not used today. These bridges are not automatically rated as structurally deficient, nor are they inherently unsafe. Functionally obsolete bridges are those that do not have adequate lane widths, shoulder widths, or vertical clearances to serve current traffic demand or to meet the current geometric standards, or those that may be occasionally flooded.

A bridge must be classified as deficient in order to qualify for federal replacement funds. Additionally, the sufficiency rating must be less than 50% to qualify for replacement or less than 80% to qualify for rehabilitation under federal funding. Deficient bridges located on roads evaluated as a part of the CTP are listed in Table 5. For more details on deficient bridges within the planning area, contact the Structures Management Unit using the information in Appendix A.

Table 5 - Deficient Bridges

Bridge Number	Facility	Feature	Condition	Local ID
20	SR 1104	Lyon Creek	SD	
44	NC 210	Black River	SD	
144	SR 1102	Colly Creek	SD	
28	NC 210	Long Creek	SD	
79	SR 1336	Long Creek	SD	
6	SR 1332	Branch of Long Creek	SD&FO	
34	NC 53	NE Cape Fear River	FO	
117	SR 1520	Holly Shelter Creek	SD&FO	
37	NC 53	Angola Creek	FO	
15	NC 11	Sill's Creek	SD	
202	SR 1325	Branch Sill's Creek	SD	
39	NC 53	Moore Creek	FO	
68	SR 1306	Sills Creek	SD	

Appendix G

Bridge Deficiency Assessment

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117	SR 1520	Holly Shelter Creek	SD&FO	
37	NC 53	Angola Creek	FO	
15	NC 11	Sill's Creek	SD	
202	SR 1325	Branch Sill's Creek	SD	
39	NC 53	Moore Creek	FO	
68	SR 1306	Sills Creek	SD	

Appendix H

Public Involvement

This appendix documents the public involvement process and includes a listing of steering committee members, the goals and objectives survey results, and public meetings held throughout the development of the CTP.

List of CTP Steering Committee Members

At the start of a CTP study, a committee is formed that is comprised of individuals who represent the various needs, issues and populations of the community. These representatives are responsible for capturing the transportation needs of the community relative to all modes of transportation and for guiding the development of the CTP. A listing of steering committee members for the Pender County CTP is given below.

- ❖ Kyle Breuer, Pender County Planning Director
- ❖ Rebekah Roth, Burgaw Town Planner
- ❖ Robert Butler, NCDOT Division 3, Pender Maintenance
- ❖ Allen Serkin, Cape Fear Rural Planning Organization
- ❖ Don Eggert, Cape Fear Rural Planning Organization
- ❖ Hiram Williams, Pender County Planning Board Chairman
- ❖ Needham Hall, Town of Watha Mayor
- ❖ Tim Holloman, Topsail Beach Town Manager
- ❖ Matt Livingston, Town of Wallace Town Manager
- ❖ Lonnie Turner, Town of Atkinson Mayor
- ❖ Todd Rademacher, Town of Surf City
- ❖ Robert Barnhill, Village of St. Helena Mayor
- ❖ Dan Ryan, The Natural Conservancy
- ❖ Valeria Sutton, Pender Adult Services, Pender Transportation
- ❖ Patrick Riddle, NCDOT Division 3 Planning Engineer
- ❖ Robert Vause, NCDOT Division 3, District 1 Engineer
- ❖ Shane York, NCDOT Transportation Planning Branch
- ❖ Nora McCann, NCDOT Transportation Planning Branch

CTP Vision, Goals and Objectives

The CTP vision, goals and objectives are developed as part of the public involvement process and help identify how the people within an area would like to develop the transportation system (all modes). The CTP committee develops the draft vision, goals, and objectives which are further refined with input from citizens via the CTP Goals & Objectives (G&O) survey. These products become the official guide for the CTP being developed.

The vision statement, goals and objectives reflect what is important for the area and defines any local preferences concerning the transportation system and community assets. The vision statement is the framework for the area's strategic planning. Goals

and objectives document how the area plans to fulfill its vision. The goals break down the vision statement into themes, while the objectives document how the area plans to make progress towards achieving each goal.

Vision:

Enhance the connectivity of Pender County through the development of a multi-modal transportation network which provides safe, reliable, efficient, and sustainable transportation alternatives. Develop this transportation network to improve quality of life and economic vitality while maintaining compatibility with existing and future environmental and land use patterns.

Goals:

1. Coordinate transportation and land use plans with Pender County and its municipalities, the North Carolina Department of Transportation, Cape Fear Rural Planning Organization, and other partner agencies.
2. Coordinate recommendations with those of the Topsail Area Comprehensive Transportation Plan and Wilmington Metropolitan Area Comprehensive Transportation Plan.
3. Establish a county-wide multi-modal transportation system to ensure that safe and reliable alternatives are available to County residents, visitors, and travelers by utilizing existing rights-of-way and new alignments.
4. Encourage right-of-way preservation to ensure expansion of the existing system and for future new alignments.
5. Analyze capacity and crash data in order to make recommendations where needed to reduce congestion and improve safety.
6. Make informed transportation decisions that consider impacts to sensitive environmental areas.
7. Educate the public on general transportation issues as well as alternative forms of transportation.
8. Develop a network that minimizes the need for expansion of roadways within incorporated towns and rural community centers so that the rural nature and character of these locations is maintained.

Goals and Objectives Survey

A G&O survey is a public involvement technique used to help identify an area's perception of transportation-related issues, identify concerns that should be addressed during the development of a CTP, and to help develop a vision for the community. The G&O survey is most appropriately implemented at the beginning of the transportation planning study. In addition to determining up front what is important to the citizens of the planning area, initiating the G&O survey early in the planning process allows the survey to serve as an introduction to the transportation planning process. The survey usually includes a brief introduction explaining what a transportation plan is and how the area can benefit from having one. The survey also includes a wide variety of questions that is tailored to each area as appropriate. The following pages show the results from the survey.

1. Pender County's population is projected to grow significantly. How important are the following general transportation objectives to you? (Please check the appropriate box for each choice.)

	High Priority	Address Soon	Address as Opportunities Arise	Not a Priority	Response Count
Increased Transportation Choices (Van, carpool, bike, pedestrian)	28.4% (125)	23.2% (102)	32.5% (143)	15.9% (70)	440
Safer and More Efficient Travel (Reduced congestion with the use of more turn lanes, better traffic signal timing, and improved intersection design)	58.1% (255)	25.1% (110)	13.2% (58)	3.6% (16)	439
Economic Growth (Improve roadway, railway, and other infrastructure to support industrial and commercial growth)	35.5% (156)	34.3% (151)	25.2% (111)	5.0% (22)	440
Community and Rural Preservation (maintain rural character, e.g. building a bypass)	44.3% (194)	24.4% (107)	21.7% (95)	9.6% (42)	438
Increased Recreational Opportunities (expand and interconnect Greenway walking/hiking trails and bike trails systems with town and recreation centers)	34.9% (153)	30.8% (135)	23.7% (104)	10.7% (47)	439
answered question					443
skipped question					2

2. Pender County ranks as one of the fastest growing counties in North Carolina. In order to accommodate more traffic, please rank the following improvement methods in order of importance. (1 being most important, 6 being least important and please use each number only once.)

	1	2	3	4	5	6	Response Count
Build additional traffic lanes	23.4% (86)	13.6% (50)	16.3% (60)	20.7% (76)	14.4% (53)	11.4% (42)	367
Control the frequency and locations of driveways and cross streets that access the road	14.7% (53)	29.9% (108)	18.0% (65)	16.9% (61)	12.7% (46)	7.8% (28)	361
Use of more turn lanes and restricting turning points along a road	14.0% (51)	23.3% (85)	30.7% (112)	19.7% (72)	8.2% (30)	4.1% (15)	365
Improve intersection designs for turn lanes and traffic signal timing	24.0% (92)	21.1% (81)	19.8% (76)	21.6% (83)	10.9% (42)	2.6% (10)	384
Build more roads to the same destinations	14.4% (57)	8.1% (32)	11.4% (45)	11.6% (46)	32.7% (129)	21.8% (86)	395
Provide for alternative means of transportation (Van, Rail, Bike, Park-n-Ride)	17.7% (74)	9.8% (41)	8.9% (37)	9.8% (41)	12.9% (54)	40.8% (170)	417
answered question							442
skipped question							3



3. To alleviate traffic congestion by alternative means of transportation, how would you rate the following alternatives?

	Highly Effective	Effective	Not Effective	Don't Know	Response Count
Public Transportation (Bus or Rail)	24.9% (109)	41.9% (183)	27.5% (120)	5.7% (25)	437
Carpool, Vanpool	8.5% (37)	48.3% (210)	35.6% (155)	7.6% (33)	435
Park-n-Ride lot	10.2% (44)	47.0% (203)	31.7% (137)	11.1% (48)	432
Bike Lanes	21.3% (93)	43.9% (192)	26.1% (114)	8.7% (38)	437
Sidewalks	26.9% (118)	40.8% (179)	24.6% (108)	7.7% (34)	439
answered question					442
skipped question					3

4. If the following alternative transportation methods are established or existing systems are improved, would you use them? (Please check the appropriate box and specify the locations at the bottom of the question for those you would use.)

	Yes	No	Response Count
Sidewalks	80.3% (347)	19.7% (85)	432
Greenway walking and biking recreation trails	77.3% (338)	22.7% (99)	437
On-road bike lanes	54.8% (241)	45.2% (199)	440
Public Bus Service	35.5% (152)	64.5% (276)	428
Commuter Rail	53.7% (234)	46.3% (202)	436
Park-n-Ride (parking lots served by bus service, carpool, or vanpool)	40.2% (173)	59.8% (257)	430
LOCATIONS			120
answered question			443
skipped question			2

5. When normally traveling in your area, are you often delayed because the most direct route is too congested due to school traffic, holiday traffic, etc.?

		Response Percent	Response Count
Yes (please explain below)		55.1%	238
No		44.9%	194
EXPLANATION			222
answered question			432
skipped question			13










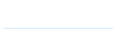

6. Where, if any, do you feel a safety problem exists in Pender County? Please include road names or intersections, and please consider vehicle, bicycle, and pedestrian issues.

	Response Count
	318
answered question	318
skipped question	127













7. Please provide examples or areas in need of improvements. For example, intersection problems, road widening, road maintenance, etc. Please include road names or intersections and the description of the needed improvement.

	Response Count
	234
answered question	234
skipped question	211





8. Where is your typical travel destination for work? (Please check any that apply.)

		Response Percent	Response Count
Wilmington / New Hanover Co.		49.2%	193
Jacksonville		13.5%	53
Burgaw		32.1%	126
Raleigh		5.9%	23
Wallace		4.3%	17
Columbus Co.		1.3%	5
Brunswick Co.		4.1%	16
Duplin Co. (Other than Wallace)		1.8%	7
Sampson Co.		1.0%	4
Pender Beaches (Topsail / Surf City)		19.1%	75
Other (Please Specify)		15.8%	62
		OTHER	85
answered question			392
skipped question			53

9. Where is your typical travel destination for purposes other than work? (Please check all that apply.)

		Response Percent	Response Count
Wilmington / New Hanover Co.		91.4%	382
Jacksonville		28.9%	121
Burgaw		23.0%	96
Raleigh		28.5%	119
Wallace		15.6%	65
Columbus Co.		1.4%	6
Brunswick Co.		9.8%	41
Duplin Co (other than Wallace)		3.1%	13
Sampson Co.		2.4%	10
Pender Beaches (Topsail / Surf City)		59.3%	248
Myrtle Beach		23.0%	96
Other (Please specify)		4.1%	17
		OTHER	29
		answered question	418
		skipped question	27

10. What problems with truck traffic affect your area? (Please check all that apply.)

		Response Percent	Response Count
Congestion		54.6%	197
Damage to roads		44.3%	160
Truck traffic on minor streets		26.0%	94
Safety (speeding, delivery truck parking)		54.8%	198
answered question			361
skipped question			84

11. How important is it to you as a citizen to alleviate congestion at the cost of limiting access along a corridor? Please briefly identify any concerns you may have.

		Response Count
		170
answered question		170
skipped question		275



12. What other transportation issues would you like to see addressed in Pender County?

		Response Count
		175
answered question		175
skipped question		270









13. Would you use the following daily round trip transportation facilities instead of your own personal vehicle if they were provided? (Check yes or no)

	Yes	No	Response Count
On-road bicycle lanes and/or wide shoulders	44.6% (178)	55.4% (221)	399
Off-road trails or greenways for walking and biking	61.9% (247)	38.1% (152)	399
Sidewalks	64.1% (254)	35.9% (142)	396
Park-n-ride lots (parking areas to facilitate the use of public transportation and carpooling)	34.3% (131)	65.7% (251)	382
Bus service to/from Raleigh/Durham/Chapel Hill	26.4% (99)	73.6% (276)	375
Bus service to/from Wilmington	40.1% (154)	59.9% (230)	384
Bus service to/from Jacksonville	18.9% (70)	81.1% (300)	370
Commuter Rail to/from Wake Co.	45.1% (170)	54.9% (207)	377
Commuter Rail to/from Wilmington	61.5% (233)	38.5% (146)	379
If you answered yes for any facilities, please provide a location as to where they may be beneficial.			186
answered question			412
skipped question			33







14. Do you own a vehicle?

		Response Percent	Response Count
Yes		98.3%	409
No		1.7%	7
answered question			416
skipped question			29








15. What is your age?

		Response Percent	Response Count
Under 18		0.0%	0
18-24		1.5%	6
25-34		11.0%	45
35-44		24.0%	98
45-54		25.2%	103
55-64		22.3%	91
65-74		13.0%	53
Over 74		2.9%	12
answered question			408
skipped question			37







16. How would you classify your race? (Please check all that apply.)

		Response Percent	Response Count
Asian		0.7%	3
Black		5.4%	22
Hispanic		1.0%	4
Native American		1.0%	4
White		91.4%	372
Other		2.9%	12
answered question			407
skipped question			38











17. How many people live in your household, including yourself?

		Response Percent	Response Count
1		11.9%	49
2		45.1%	186
3		15.0%	62
4		18.7%	77
5		5.6%	23
6		3.2%	13
7+		0.5%	2
answered question			412
skipped question			33














18. What was your household income last year?

		Response Percent	Response Count
Below \$30,000		6.3%	26
\$30,000-\$49,999		18.3%	75
\$50,000-\$69,999		20.7%	85
\$70,000-\$89,999		11.5%	47
\$90,000 or above		25.4%	104
I choose not to answer		17.8%	73
answered question			410
skipped question			35

19. Where did you get this survey?

		Response Percent	Response Count
Library		3.0%	12
Post Office		0.0%	0
Local Store or Shop		0.5%	2
Government Building		2.0%	8
Community Building		1.5%	6
Mail		0.0%	0
Newspaper		10.1%	40
Government Website		1.8%	7
Social Networking Website		8.0%	32
Meeting		1.3%	5
Email		61.3%	244
Other		10.6%	42
		OTHER	51
answered question			398
skipped question			47

20. In what community of Pender County do you live?

		Response Percent	Response Count
Burgaw		15.4%	61
Atkinson		2.0%	8
St. Helena		0.8%	3
Willard area		0.3%	1
Watha		2.8%	11
Topsail Beach / Surf City		16.9%	67
Wallace		2.0%	8
Maple Hill		1.3%	5
Rocky Point		4.3%	17
Hampstead		51.0%	202
Currie		1.3%	5
Long Creek		1.5%	6
Penderlea		0.5%	2
answered question			396
skipped question			49

Appendix I

Existing Transportation Plans

The following Thoroughfare Plans for areas within the county that were incorporated as a part of this plan are listed below. Refer to those reports for detailed descriptions of recommendations that were not documented as a part of this report.

- ❖ 1995 Burgaw Thoroughfare Plan
- ❖ 1998 Pender County Thoroughfare Plan

Additionally, the following Comprehensive Transportation Plans for adjacent plans were reviewed and checked for consistency with the Pender County Comprehensive Transportation Plan.

- ❖ 2007 Columbus County Comprehensive Transportation Plan
- ❖ 2008 Duplin County Comprehensive Transportation Plan
- ❖ 2011 Topsail Area Comprehensive Transportation Plan
- ❖ 2011 Cape Fear Commutes 2035 Transportation Plan
- ❖ Cape Fear Transportation 2040 Metropolitan Transportation Plan