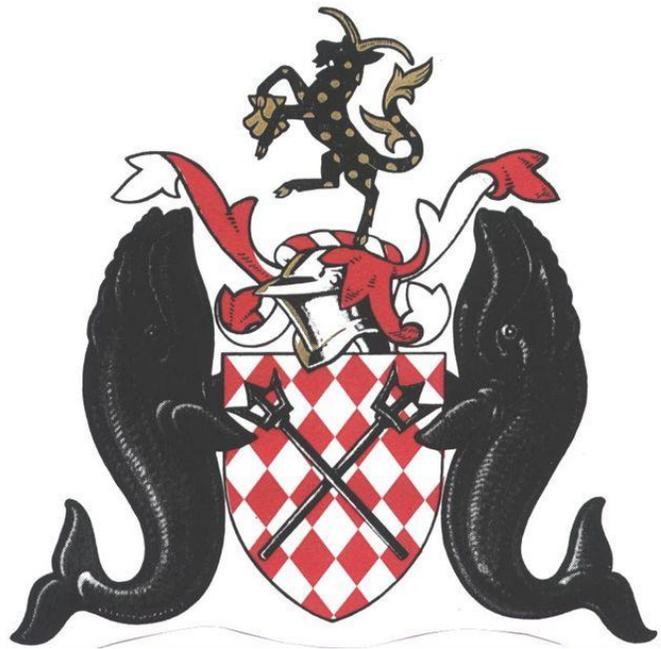




Comprehensive Transportation Plan



Carteret County

September 2014

Carteret County Comprehensive Transportation Plan

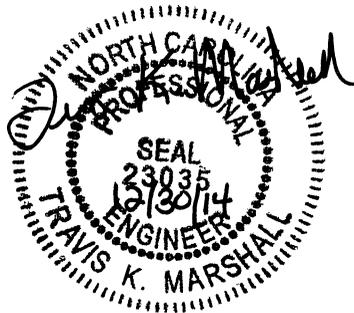
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Transportation Planning Branch
N.C. Department of Transportation

In Cooperation with:

Carteret County
Town of Atlantic Beach
Town of Beaufort
Town of Bogue
Town of Cape Carteret
Town of Cedar Point
Town of Emerald Isle
Town of Indian Beach
Town of Morehead City
Town of Newport
Town of Pine Knoll Shores
Town of Peletier
Down East Rural Planning Organization

Published: December 24, 2014



Travis K. Marshall, PE
Eastern Unit Head

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Executive Summary

In February of 2010, the Transportation Planning Branch of the North Carolina Department of Transportation (NCDOT) and Carteret County initiated a study to cooperatively develop the Carteret County Comprehensive Transportation Plan (CTP), which includes the following municipalities: Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Pine Knoll Shores, and Peletier. 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.

Findings of this CTP study were based on an analysis of the transportation system, environmental screening and public input, which are detailed in Chapter 1. Figure 1 shows the CTP maps, which were mutually adopted by NCDOT in January of 2014. Descriptive information and definitions for designations depicted on the CTP maps can be found in Appendix B. Implementation of the plan is the responsibility of the county, its municipalities, and NCDOT. Refer to Chapter 2 for information on the implementation process.

This report documents the recommendations for improvements that are included in the Carteret 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 70:** The portion of US 70 between South Lockhart Street to 4th Street is shown as a Boulevard that needs an upgrade. Access Management and intersection improvements will improve safety and help reduce congestion along US 70. This project also includes bike lanes on both sides from 35th Street to 4th Street and a multi-use path from 35th Street to South Lockhart Street.
- **US 70 (from 4th Street to Radio Island Road):** convert the existing 2-4 lane facility from 4th Street to Radio Island Road to a 4-lane divided boulevard.
- **US 70:** Proposed Interchange at US 70 and Radio Island Road.
- **US 70 (from Olga Road in Beaufort to Whitehurst Road in Smyrna):** convert the existing 2-lane facility from Olga Road to Whitehurst Road to a four-lane divided expressway, widen Bridge No. 33 over the North River to four lanes, and widen Bridge No. 35 over Ward Creek to four lanes.
- **US 70 / Northern Carteret Bypass:** Proposed Interchange at US 70, and Northern Carteret Bypass.

- **US 70 / NC 101 Interchange:** Proposed Interchange at Northern Carteret Bypass and US 70 / NC 101 Connector.
- **Northern Carteret Bypass:** The Northern Carteret Bypass will connect to the Havelock Bypass (TIP R-1015, US 70, north of Pine Grove Road in Craven County to north of Carteret County line).
- **Northern Carteret Bypass / Laurel Road:** Proposed Grade Separation at Northern Carteret Bypass and Laurel Road.
- **US 70 / NC 101 Connector:** Construct a two-lane expressway on new location that connects NC 101 and US 70.
- **NC 58 at NC 24:** Proposed Interchange.
- **From NC 101 to US 70:** New location road - There are currently a limited number of east-west facilities that link the two major north-south facilities of NC 101 and US 70 north of Beaufort in Carteret County.
- **From Country Club Road (SR 1177) to North 20th Street:** New location road - There are currently a limited number of east-west facilities that link the two north-south facilities of Country Club Road (SR 1177) and North 20th Street (SR 1176) in Morehead City in Carteret County.
- **From Chatham Street (SR 1247) / Roberts Road (SR 1140) to Mill Creek Road (SR 1154):** New location road - There is only one facility that connects Chatham Street (SR 1247) and Mill Creek Road (SR 1154) in Newport in Carteret County.
- **From US 70 / McCabe Road (SR 1147) to Bridges Street Extension (SR 1738):** New location road – The primary purpose of this project is to relieve congestion on the existing facility.

Adoption Sheet



Carteret County North Carolina Comprehensive Transportation Plan

Plan Date: May 30, 2012
Revised: August 1, 2013

- Sheet 1 **Adoption Sheet**
- Sheet 2 **Highway Map**
- Sheet 3 **Public Transportation and Rail Map**
- Sheet 4 **Bicycle Map**
- Sheet 5 **Pedestrian Map**

- County Boundaries
- Municipal Boundaries

- Roads
- Railroads
- Airports
- Hospitals/Medical Centers
- Schools
- Ferry

0 1.5 3 6 9 Miles



Figure 1 - Sheet 1 of 5
Base map date: November 30, 2011
Refer to CTP document for more details

Adopted by:
Carteret County
Date: June 18, 2012

Town of Atlantic Beach
Date: June 25, 2012

Town of Beaufort
Date: June 11, 2012

Town of Bogue
Date: September 17, 2012

Town of Cape Carteret
Date: August 20, 2012

Town of Cedar Point
Date: July 24, 2012

Town of Emerald Isle
Date: June 12, 2012

NCDOT
Date: January 9, 2014

Town of Indian Beach
Date: June 13, 2012

Town of Morehead City
Date: July 10, 2012

Town of Newport
Date: July 12, 2012

Town of Pine Knoll Shores
Date: June 12, 2012

Town of Peletier
Date: September 10, 2012

Endorsed by:

Down East RPO
Date: December 5, 2013

Recommended by:

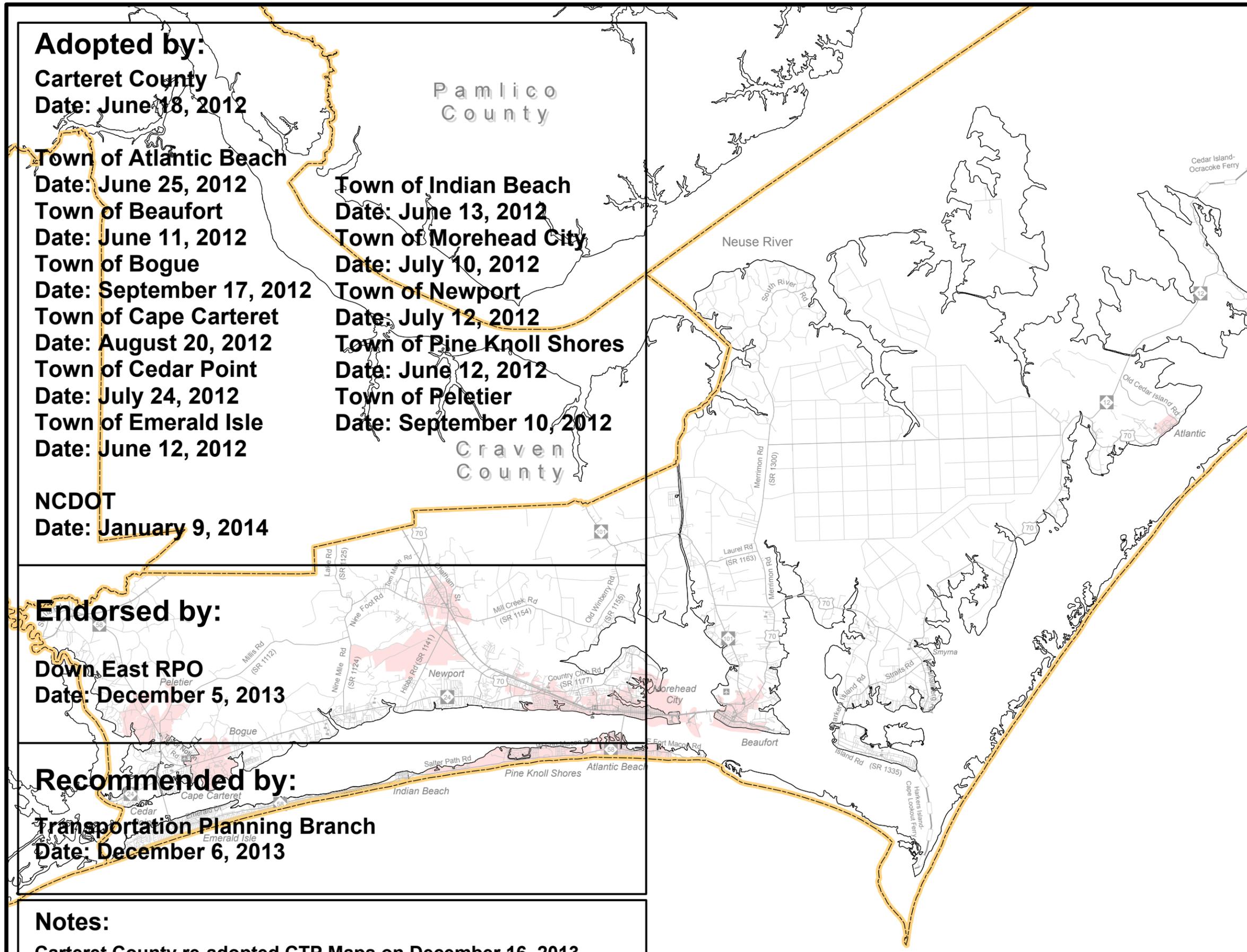
Transportation Planning Branch
Date: December 6, 2013

Notes:

Carteret County re-adopted CTP Maps on December 16, 2013

Morehead City re-adopted Highway Map on August 13, 2013 --
Interchange symbol added at Radio Island

Down East RPO re-endorsed CTP Maps on December 5, 2013



Atlantic Ocean

Highway Map (Inset 1)



Beaufort Carteret County

Comprehensive Transportation Plan

Plan date: May 30, 2012

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

Municipal Boundary

Railroads

Airports

Schools

Existing Interchange

Proposed Interchange

Existing Grade Separation

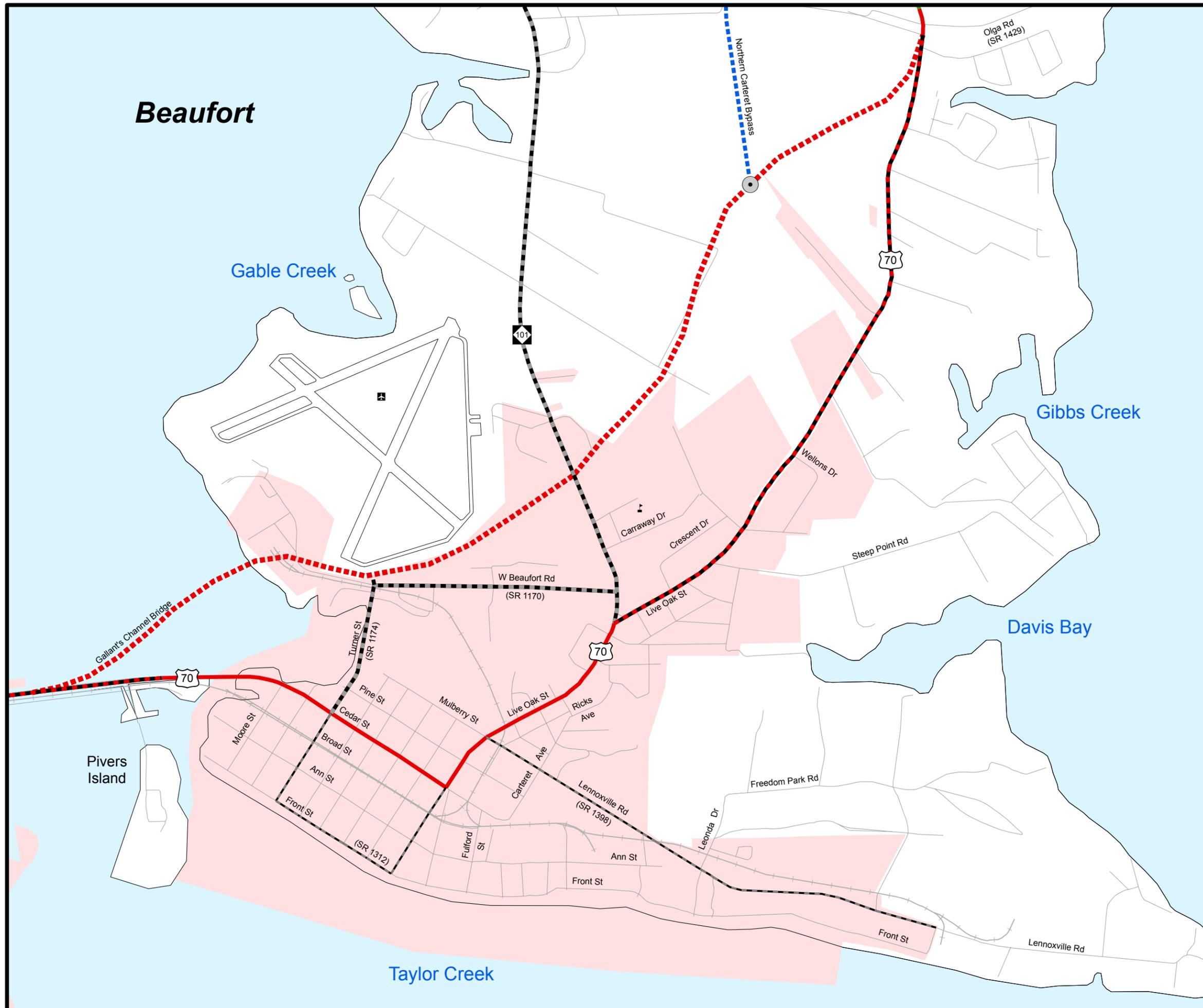
Proposed Grade Separation

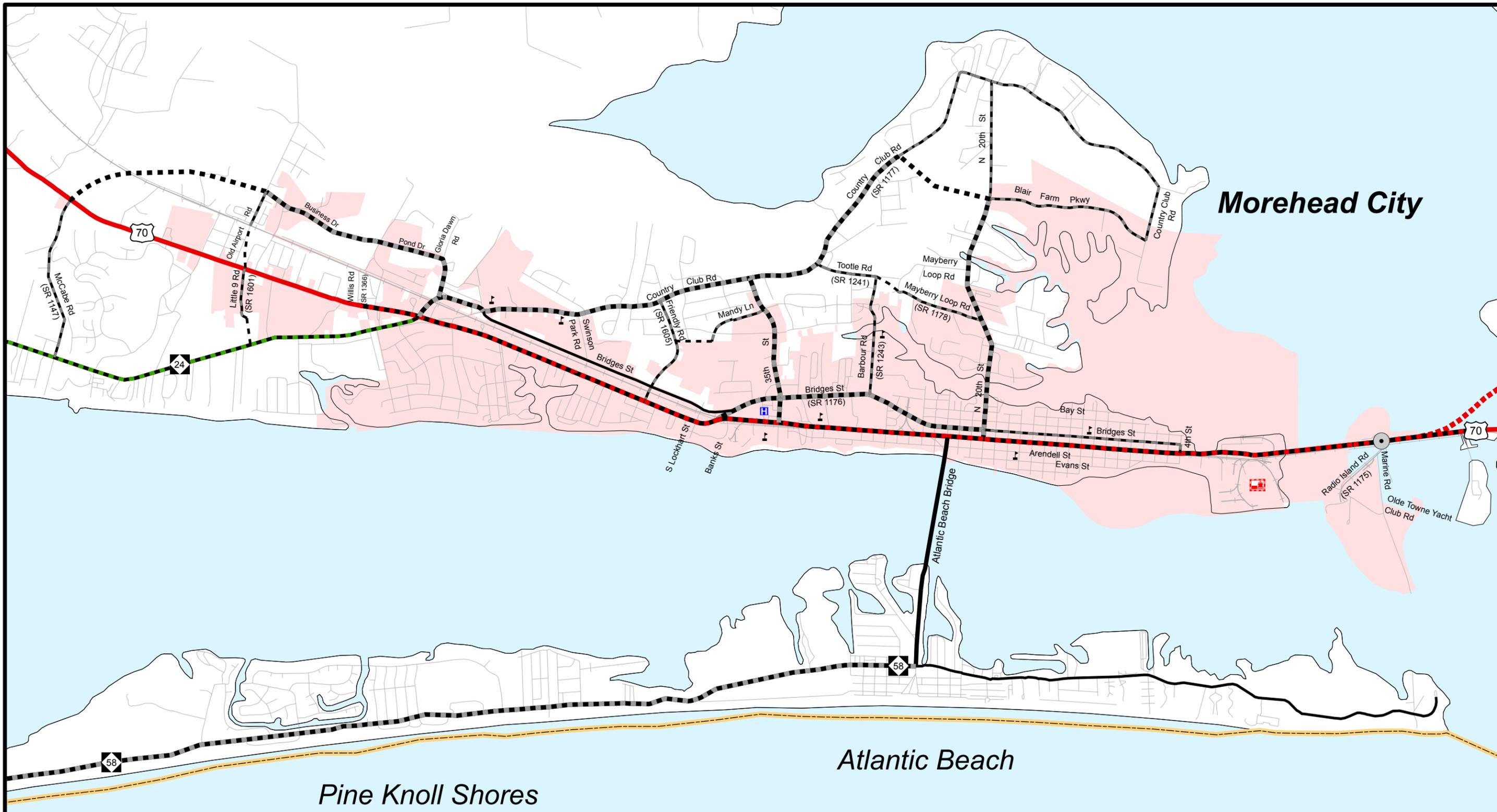


Figure 1 (Sheet 2A of 5)

Base map date: November 30, 2011

Refer to CTP document for more details





Freeways Existing Needs Improvement Recommended	Boulevards Existing Needs Improvement Recommended	Minor Thoroughfares Existing Needs Improvement Recommended	County Boundary Municipal Boundary Railroads
Expressways Existing Needs Improvement Recommended	Other Major Thoroughfares Existing Needs Improvement Recommended	Existing Interchange Proposed Interchange Existing Grade Separation Proposed Grade Separation	Hospitals Schools Port

0 0.25 0.5 1 1.5 Miles

Figure 1 (Sheet 2B of 5)

Base map date: November 30, 2011
Refer to CTP document for more details

Highway Map (Inset 2)
Morehead City
Carteret County

Comprehensive
Transportation Plan

Plan date: May 30, 2012; Revised: August 1, 2013



Newport-Carteret County

Comprehensive Transportation Plan

Plan date: May 30, 2012

Freeways

- Existing (Solid blue line)
- Needs Improvement (Dashed blue line)
- Recommended (Dotted blue line)

Expressways

- Existing (Solid green line)
- Needs Improvement (Dashed green line)
- Recommended (Dotted green line)

Boulevards

- Existing (Solid red line)
- Needs Improvement (Dashed red line)
- Recommended (Dotted red line)

Other Major Thoroughfares

- Existing (Solid black line)
- Needs Improvement (Dashed black line)
- Recommended (Dotted black line)

Minor Thoroughfares

- Existing (Thin solid black line)
- Needs Improvement (Thin dashed black line)
- Recommended (Thin dotted black line)

- County Boundary (Yellow dashed line)
- Municipal Boundary (Pink shaded area)

- Airports (Square with airplane icon)
- Schools (Square with school icon)

- Existing Interchange (Circle with center dot)
- Proposed Interchange (Circle with outer ring)
- Existing Grade Separation (Circle with horizontal lines)
- Proposed Grade Separation (Circle with vertical lines)

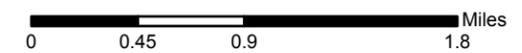
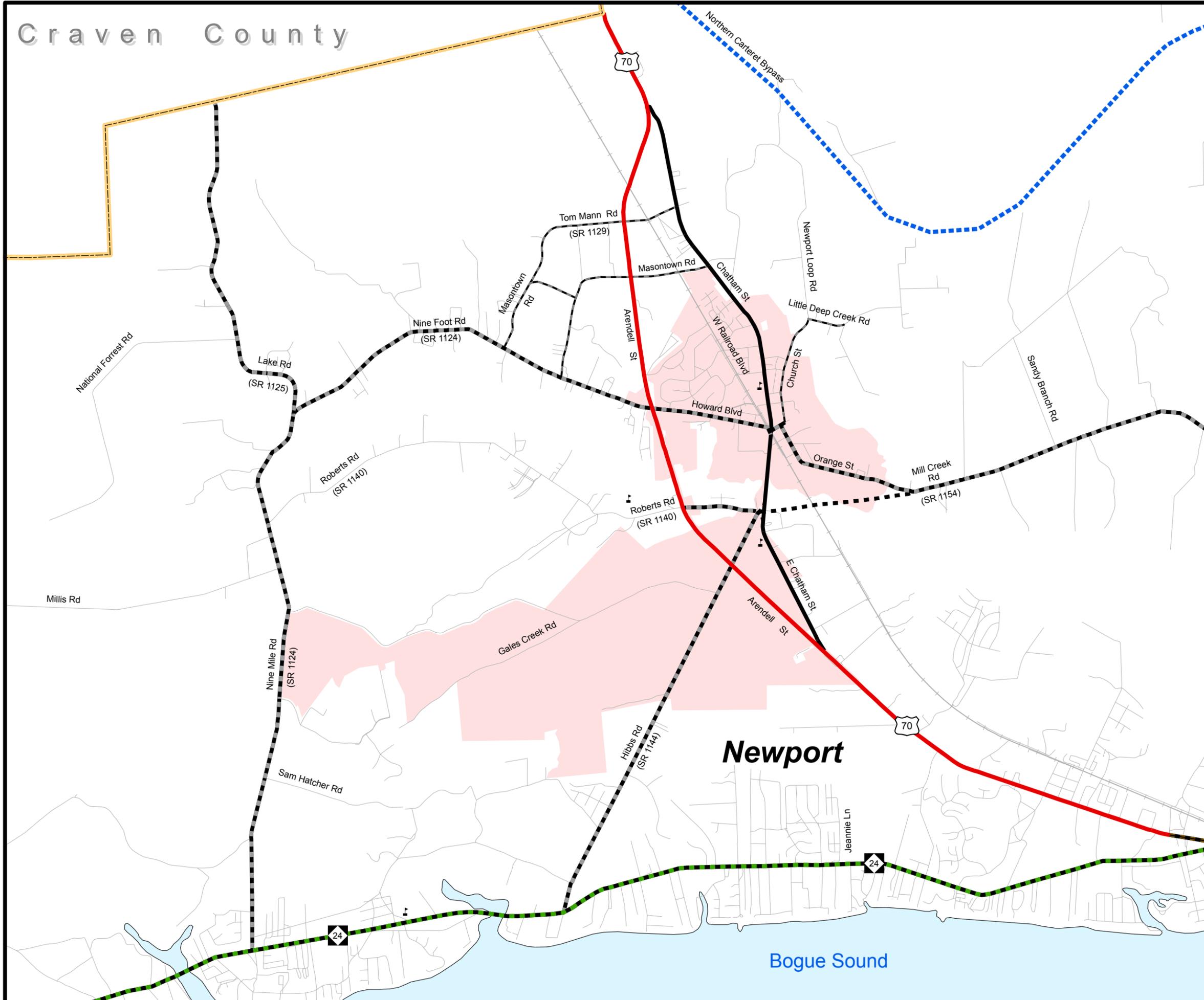


Figure 1 (Sheet 2C of 5)

Base map date: November 30, 2011

Refer to CTP document for more details



Highway Map (Inset 4)



Bogue, Cape Carteret, Cedar Point, Emerald Isle, Peletier Carteret County

Comprehensive Transportation Plan

Plan date: May 30, 2012

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

- County Boundary
- Municipal Boundary

- Airports
- Schools

- Existing Interchange
- Proposed Interchange
- Existing Grade Separation
- Proposed Grade Separation

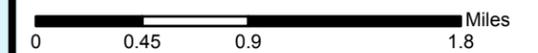
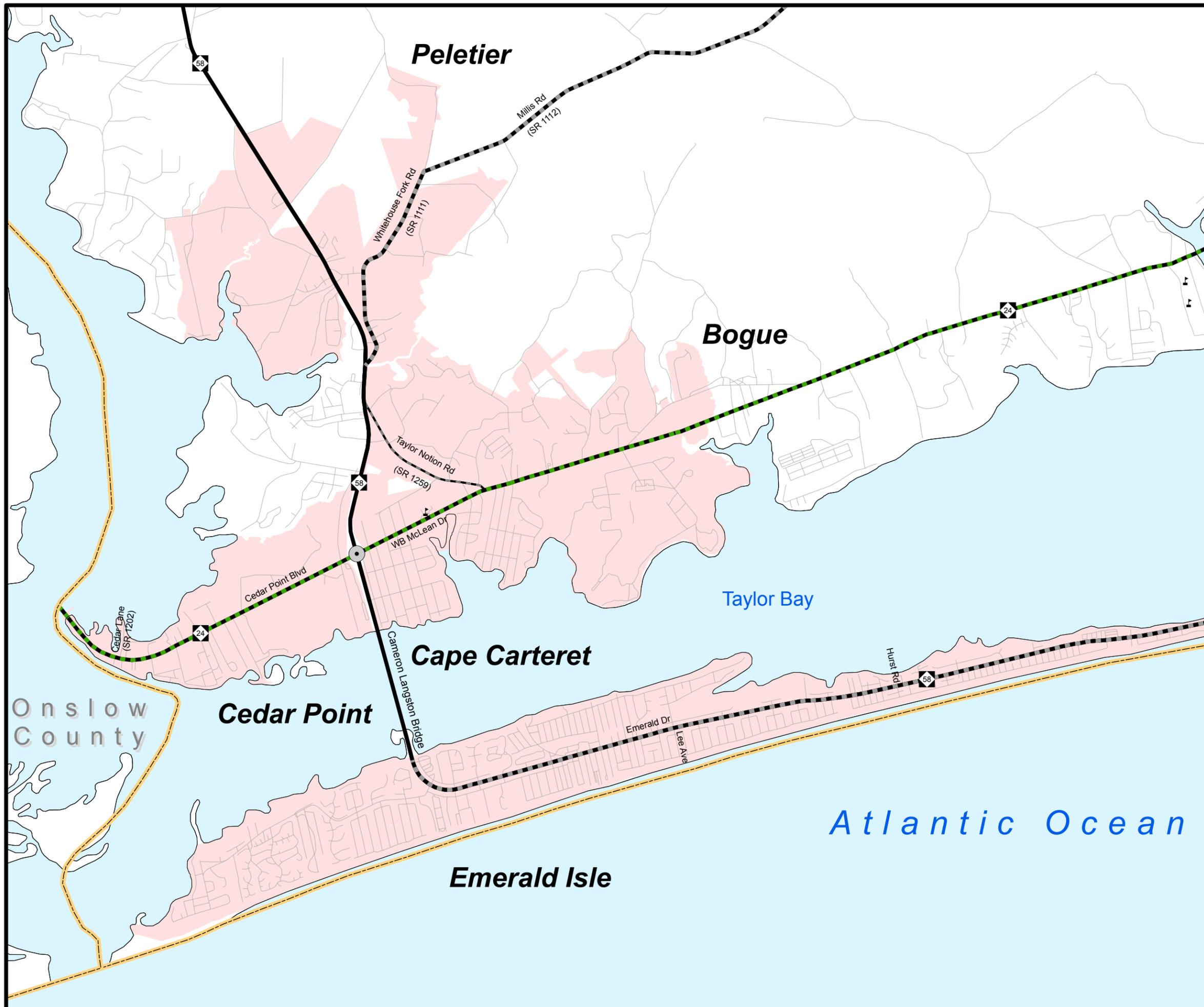


Figure 1 (Sheet 2D of 5)
Base map date: November 30, 2011
Refer to CTP document for more details



Public Transportation and Rail Map



Carteret County

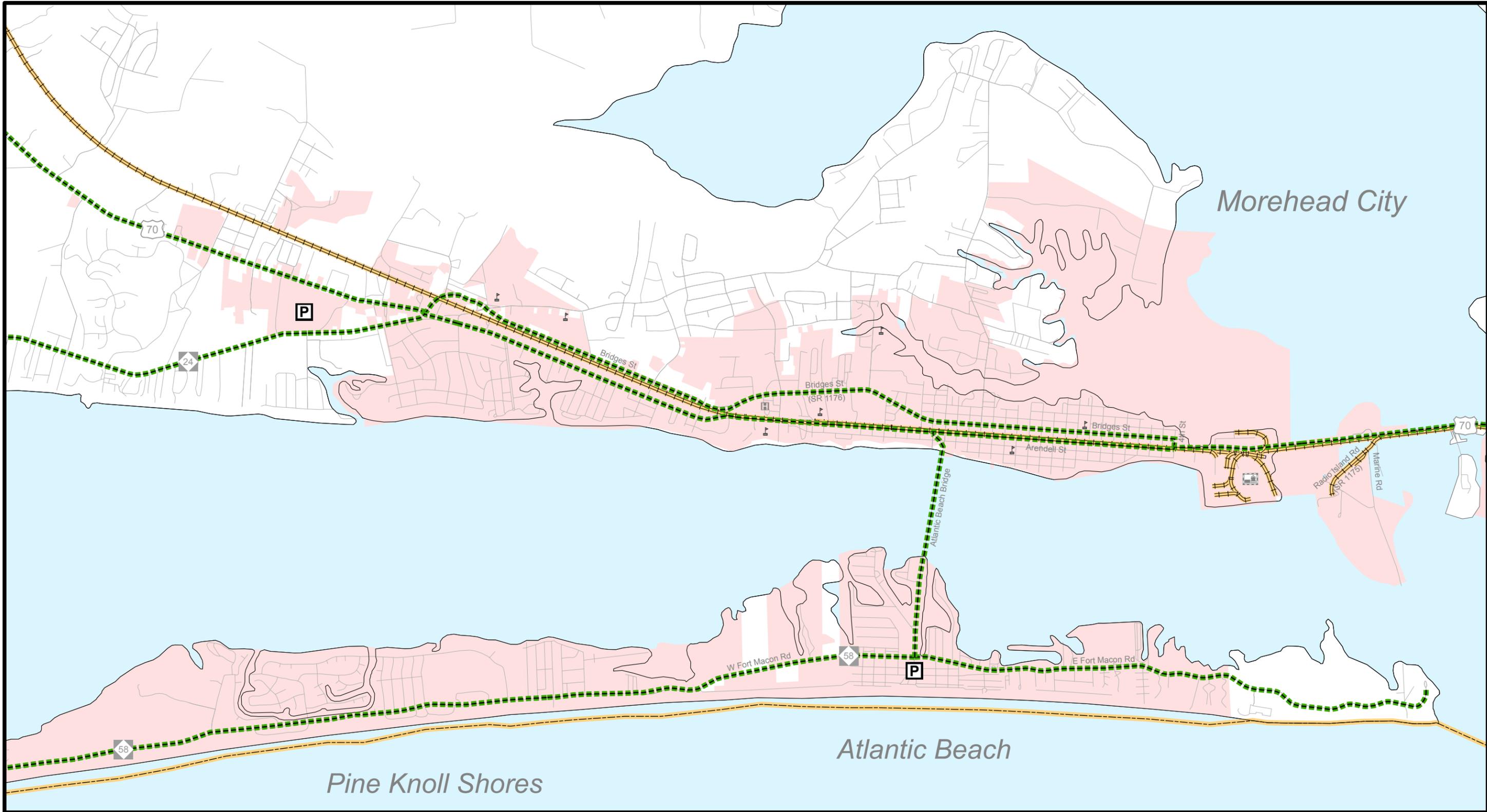
Comprehensive Transportation Plan

Plan date: May 30, 2012

- 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
- Other Landmarks**
- Airports
 - Hospitals/Medical Centers
 - Schools
 - Ferry



Figure 1 (Sheet 3 of 5)
 Base map date: November 30, 2011
 Refer to CTP document for more details



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

- Airports
- Hospitals
- Schools
- Port



Figure 1 (Sheet 3A of 5)
 Base map date: November 30, 2011
 Refer to CTP document for more details

**Public Transportation
 and Rail Map
 (Inset 1)
 Carteret County
 Comprehensive
 Transportation Plan**
 Plan date: May 30, 2012

Bicycle Map



Carteret County

Comprehensive Transportation Plan

Plan date: May 30, 2012

On-road

- Existing
- Needs Improvement
- Recommended

Off-road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- County Boundary
- Municipal Boundary

- Railroads
- Airports
- Hospitals/Medical Centers
- Schools
- Ferry



Figure 1 (Sheet 4 of 5)

Base map date: November 30, 2011

Refer to CTP document for more details

Bicycle Map (Inset 1)



Beaufort Carteret County

Comprehensive Transportation Plan

Plan date: May 30, 2012

On-road

- Existing
- Needs Improvement
- Recommended

Off-road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- County Boundary
- Municipal Boundary

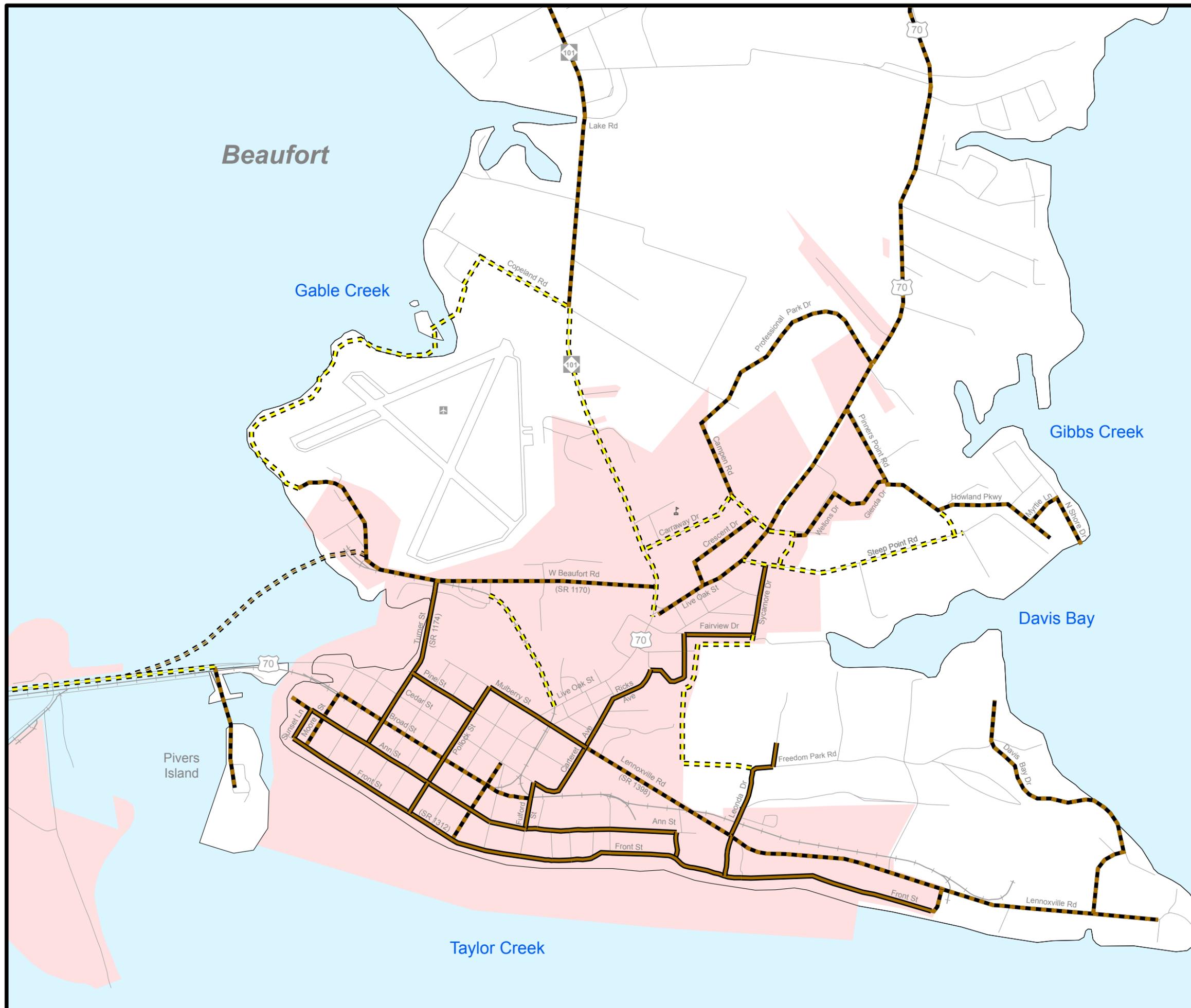
- Railroads
- Airports
- Hospitals/Medical Centers
- Schools

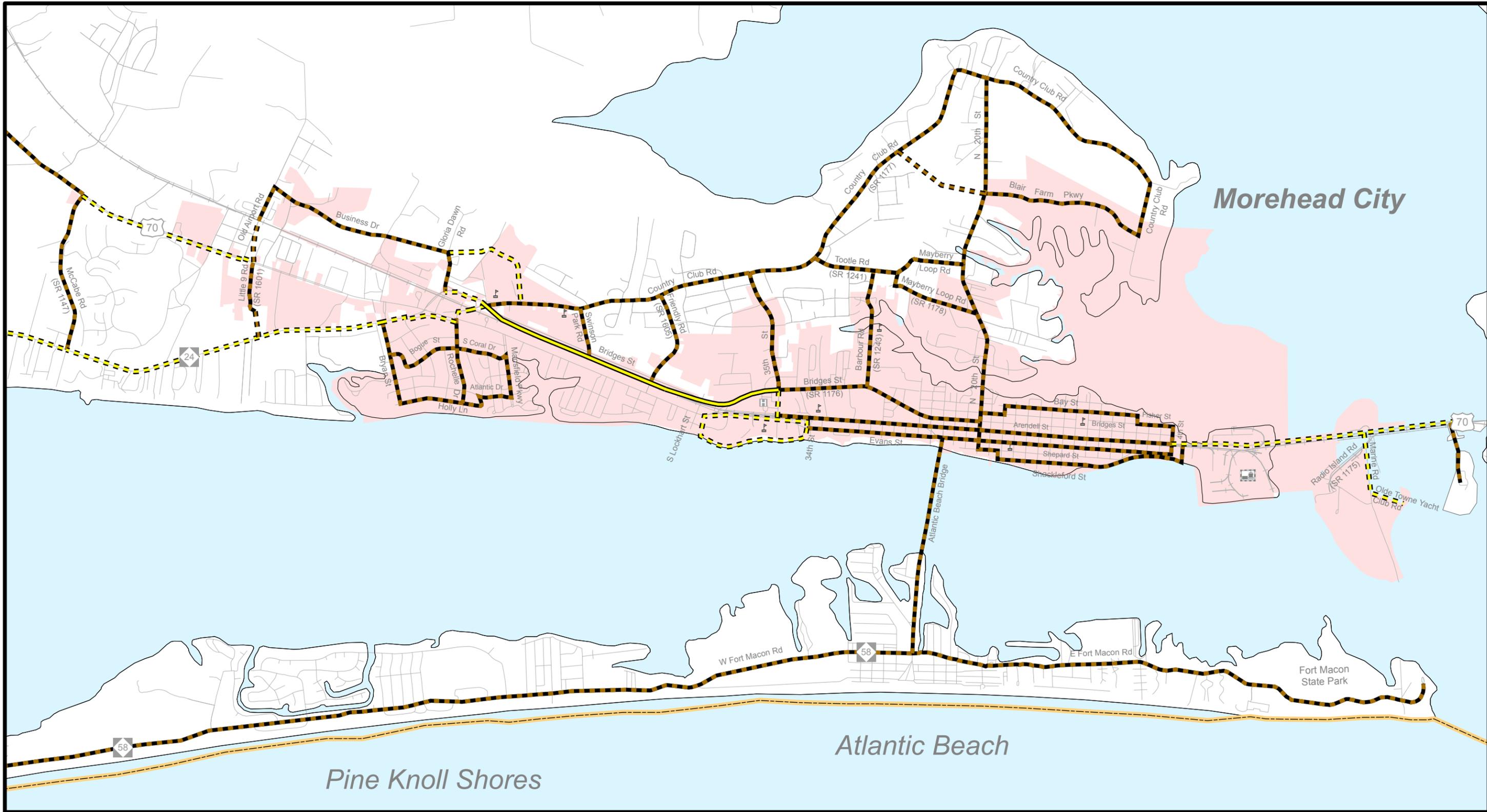


Figure 1 (Sheet 4A of 5)

Base map date: November 30, 2011

Refer to CTP document for more details





On Road

- Existing
- Needs Improvement
- Recommended

Off Road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- Railroads
- Airports

- County Boundary
- Municipal Boundary

- Hospitals/Medical Centers
- Schools
- Port

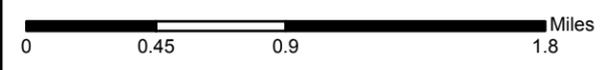


Figure 1 (Sheet 4B of 5)
 Base map date: November 30, 2011
 Refer to CTP document for more details

Bicycle Map (Inset 2) Morehead City Carteret County

Comprehensive Transportation Plan

Plan date: May 30, 2012

Craven County

Bicycle Map (Inset 3)



Newport Carteret County

Comprehensive Transportation Plan

Plan date: May 30, 2012

On-road

- Existing
- Needs Improvement
- Recommended

Off-road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- County Boundary
- Municipal Boundary

- Railroads
- Airports
- Hospitals/Medical Centers
- Schools

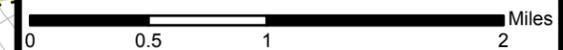
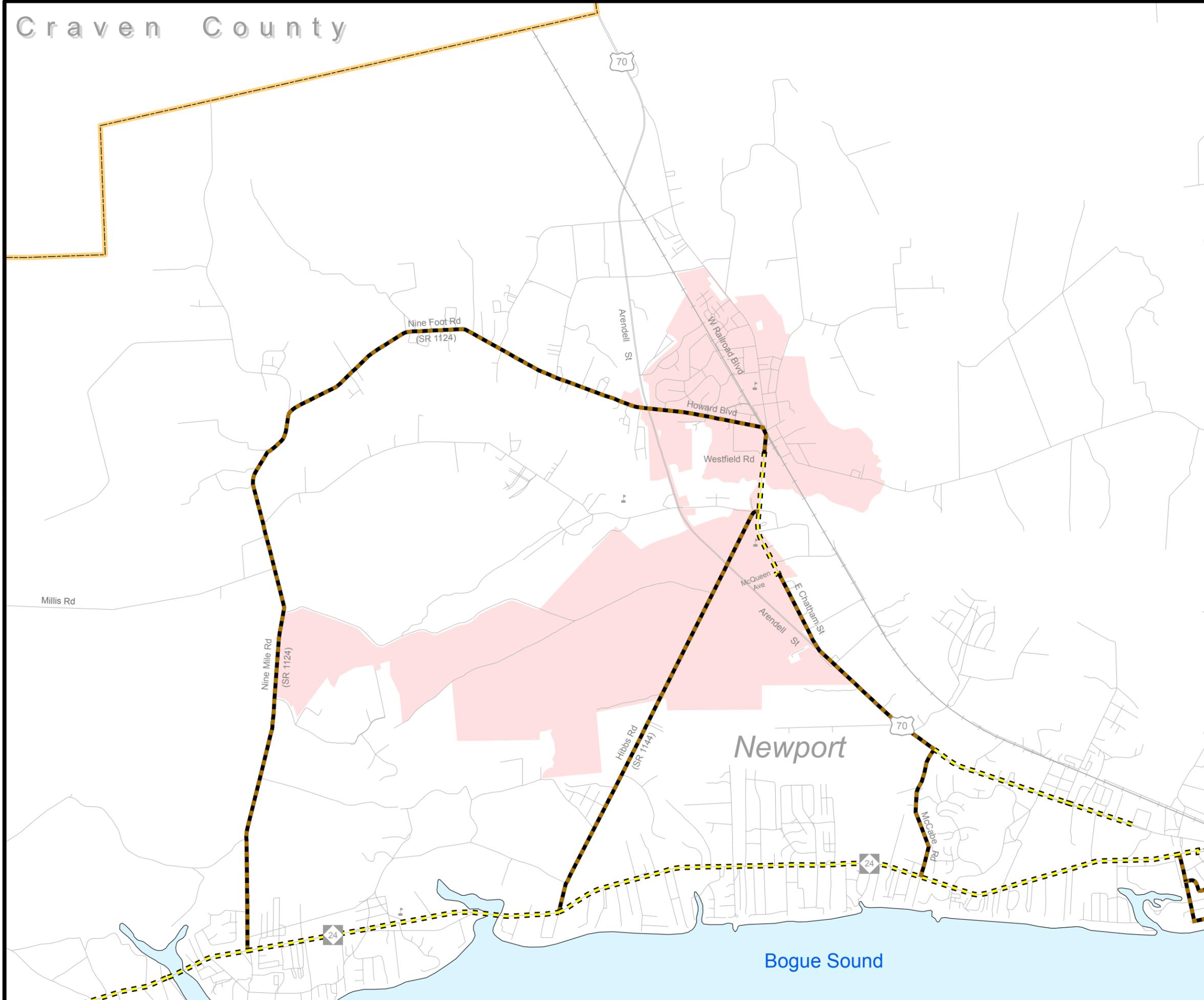


Figure 1 (Sheet 4C of 5)
Base map date: November 30, 2011
Refer to CTP document for more details





On Road

- Existing
- Needs Improvement
- Recommended
- Crosswalk (Existing)

Off Road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

Railroads

Airports

County Boundary

Municipal Boundary

Hospitals/Medical Centers

Schools

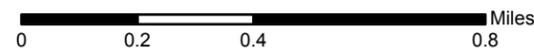


Figure 1 (Sheet 4AA of 5)

Base map date: November 30, 2011

Refer to CTP document for more details

**Bicycle Map (Inset 4A)
Emerald Isle
Carteret County**

**Comprehensive
Transportation Plan**

Plan date: May 30, 2012



On Road

- Existing
- Needs Improvement
- Recommended

Off Road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- Railroads
- Airports

- County Boundary
- Municipal Boundary

- Hospitals/Medical Centers
- Schools

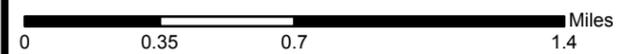


Figure 1 (Sheet 4AB of 5)
 Base map date: November 30, 2011
 Refer to CTP document for more details

**Bicycle Map (Inset 4B)
 Emerald Isle
 Carteret County**

**Comprehensive
 Transportation Plan**

Plan date: May 30, 2012

Pedestrian Map



Carteret County

Comprehensive Transportation Plan

Plan date: May 30, 2012

Sidewalks

- Existing
- Needs Improvement
- Recommended

Off-road

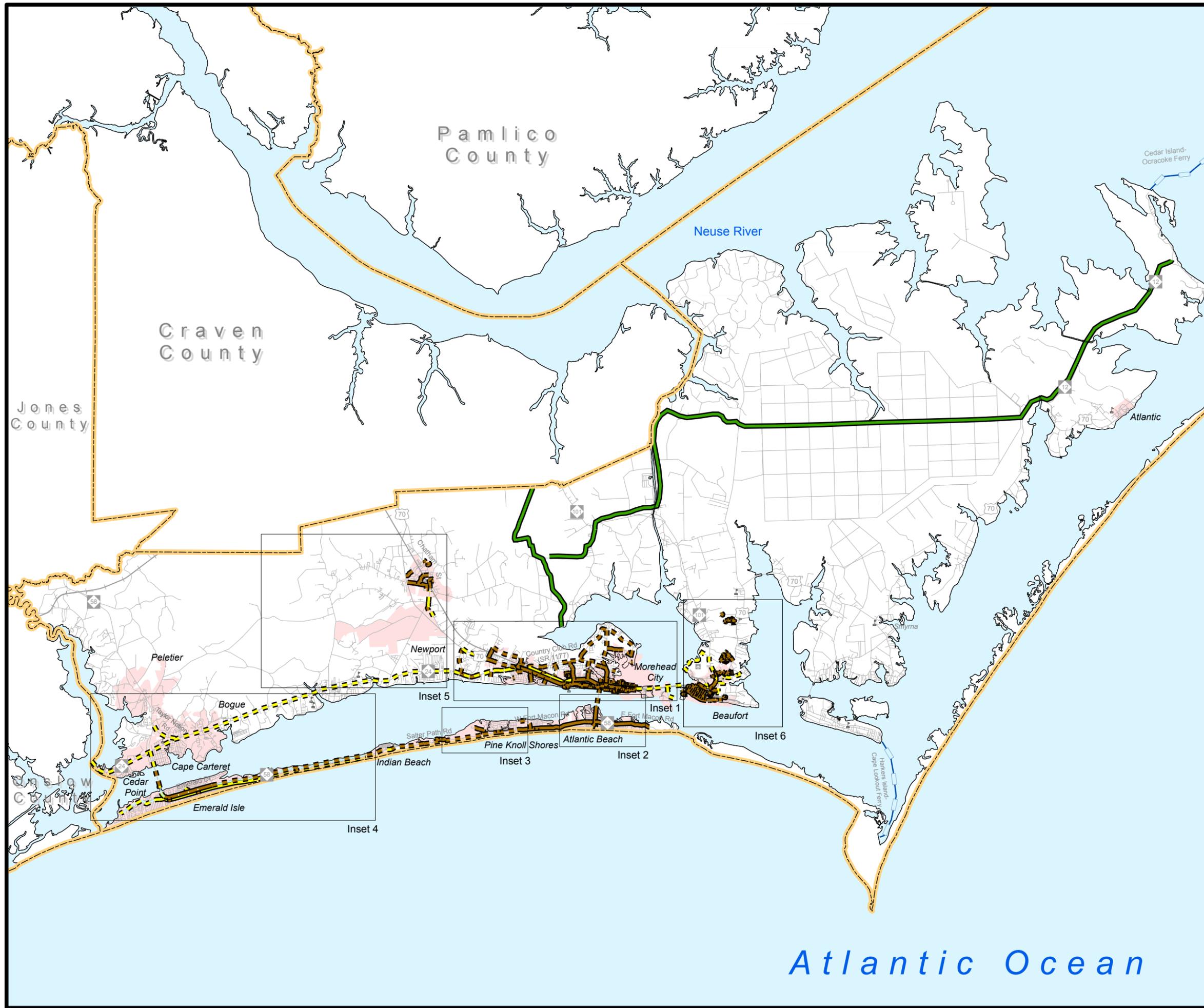
- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- County Boundary
- Municipal Boundary

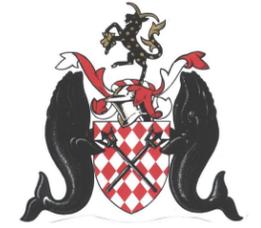
- Railroads
- Airports
- Hospitals/Medical Centers
- Schools
- Ferry



Atlantic Ocean

Figure 1 (Sheet 5 of 5)
 Base map date: November 30, 2011
 Refer to CTP document for more details

Pedestrian Map (Inset 1)



Carteret County Morehead City (1 of 2)

Comprehensive Transportation Plan

Plan date: May 30, 2012

Sidewalks

-  Existing
-  Needs Improvement
-  Recommended

Off-road

-  Existing
-  Needs Improvement
-  Recommended

Multi-Use Paths

-  Existing
-  Needs Improvement
-  Recommended

-  County Boundary
-  Municipal Boundary

 Railroads

 Schools



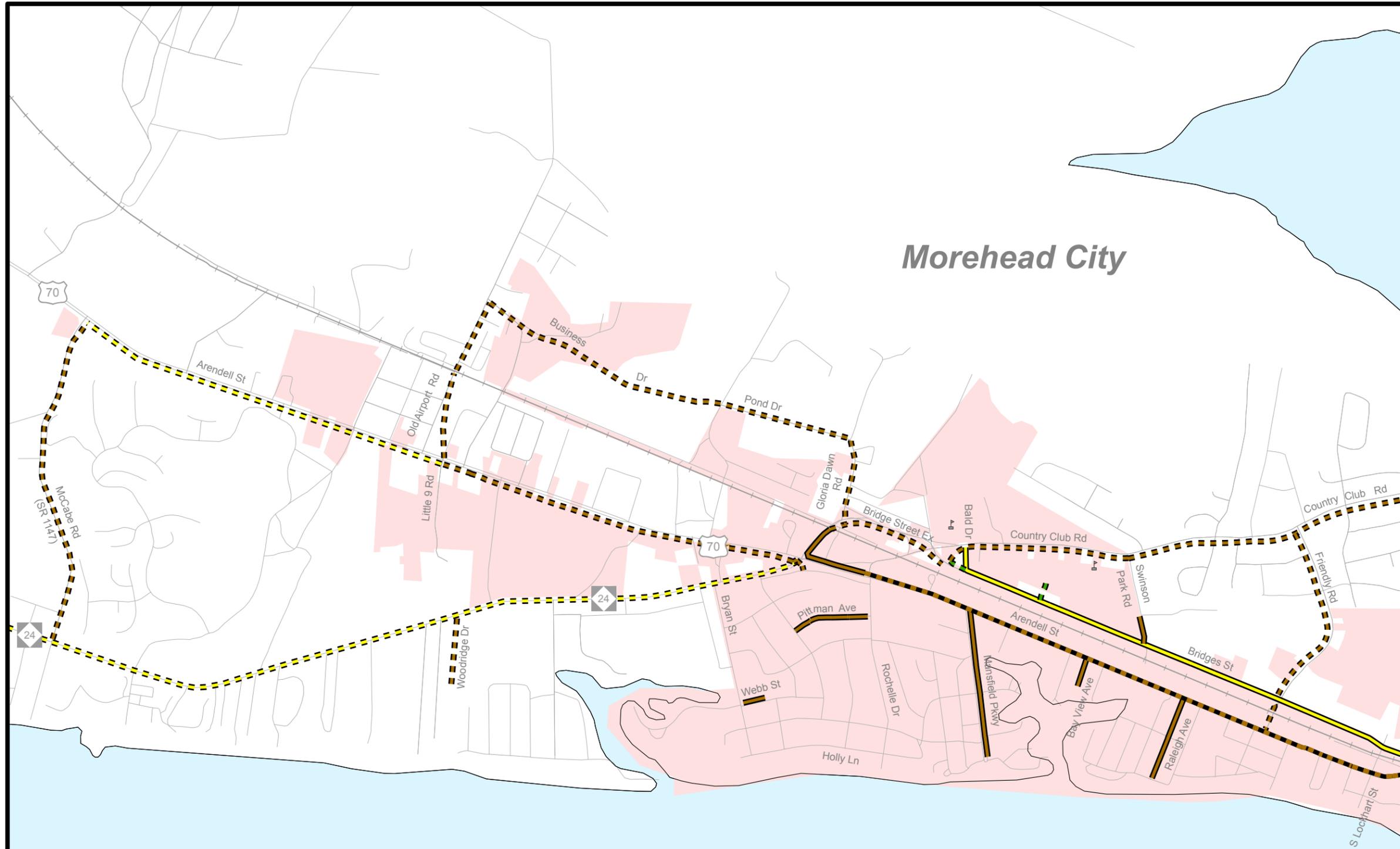
Figure 1 (Sheet 5AA of 5)

Base map date: November 30, 2011

Refer to CTP document for more details

Morehead City

Bogue Sound



Pedestrian Map (Inset 1)



Carteret County Morehead City (2 of 2)

Comprehensive Transportation Plan

Plan date: May 30, 2012

- Sidewalks**
- Existing
 - Needs Improvement
 - Recommended

- Off-road**
- Existing
 - Needs Improvement
 - Recommended

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

- County Boundary
- Municipal Boundary

- Railroads
- Airports
- Hospitals
- Schools
- Port

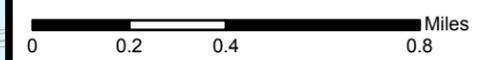
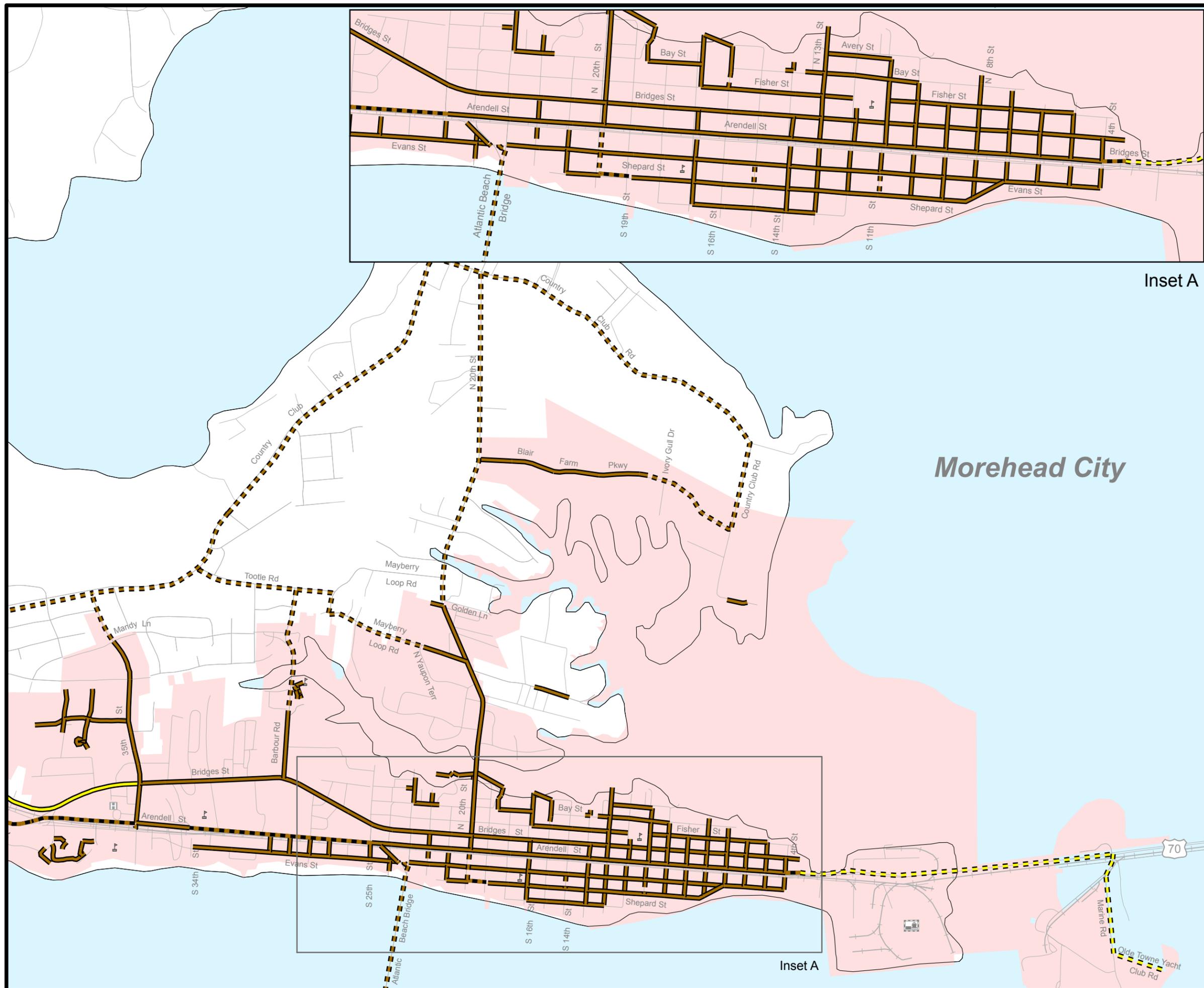


Figure 1 (Sheet 5AB of 5)

Base map date: November 30, 2011

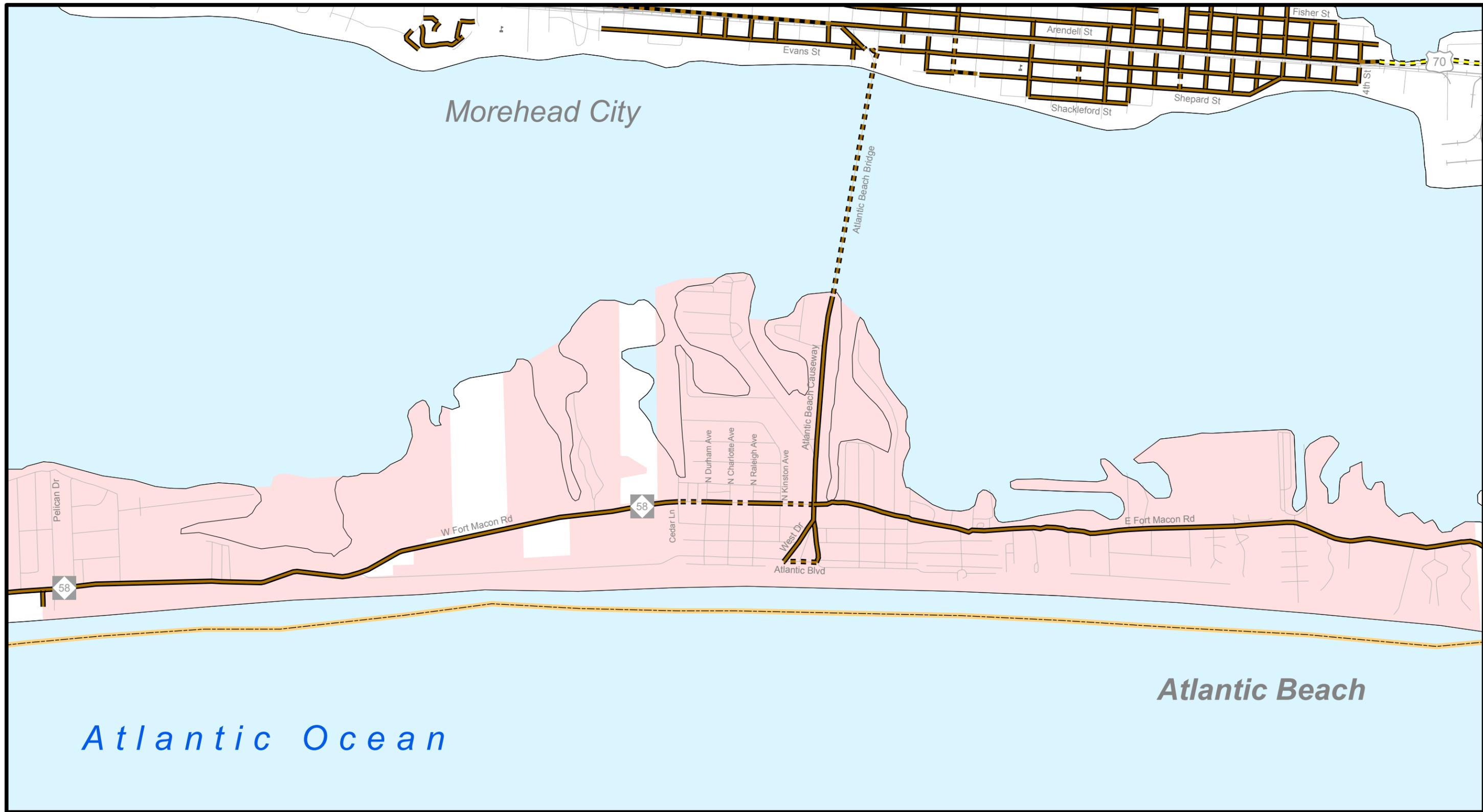
Refer to CTP document for more details



Inset A

Inset A

Morehead City



Sidewalks

- Existing
- Needs Improvement
- Recommended

Off Road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- County Boundary
- Municipal Boundary

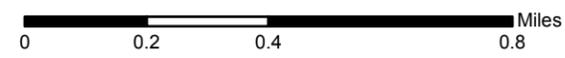
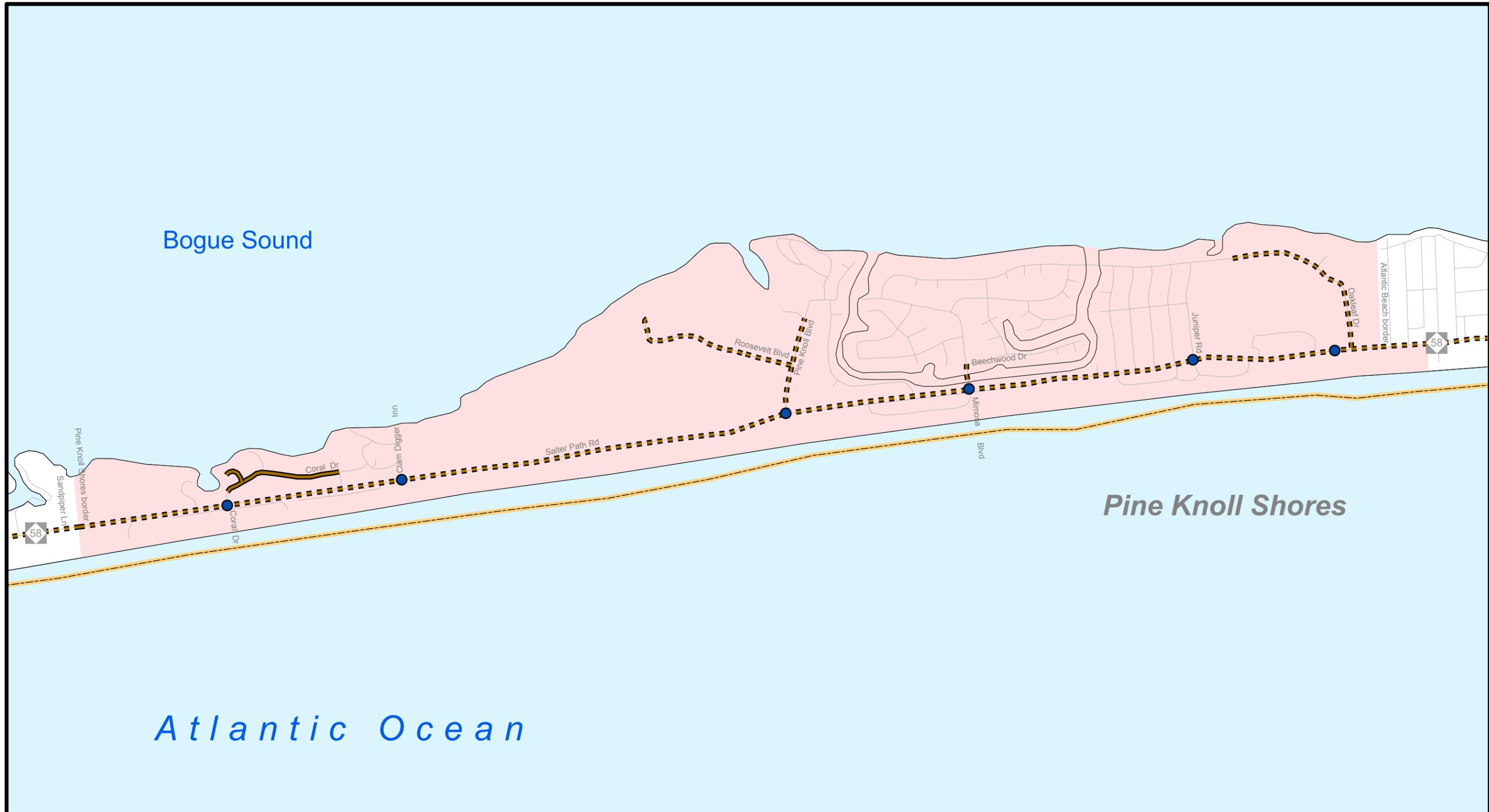


Figure 1 (Sheet 5B of 5)
 Base map date: November 30, 2011
 Refer to CTP document for more details

**Pedestrian Map (Inset 2)
 Carteret County
 Atlantic Beach**

**Comprehensive
 Transportation Plan**

Plan date: May 30, 2012



Sidewalks

-  Existing
-  Needs Improvement
-  Recommended

Off Road

-  Existing
-  Needs Improvement
-  Recommended

Multi-Use Paths

-  Existing
-  Needs Improvement
-  Recommended

-  County Boundary
-  Municipal Boundary

-  Proposed Crosswalks

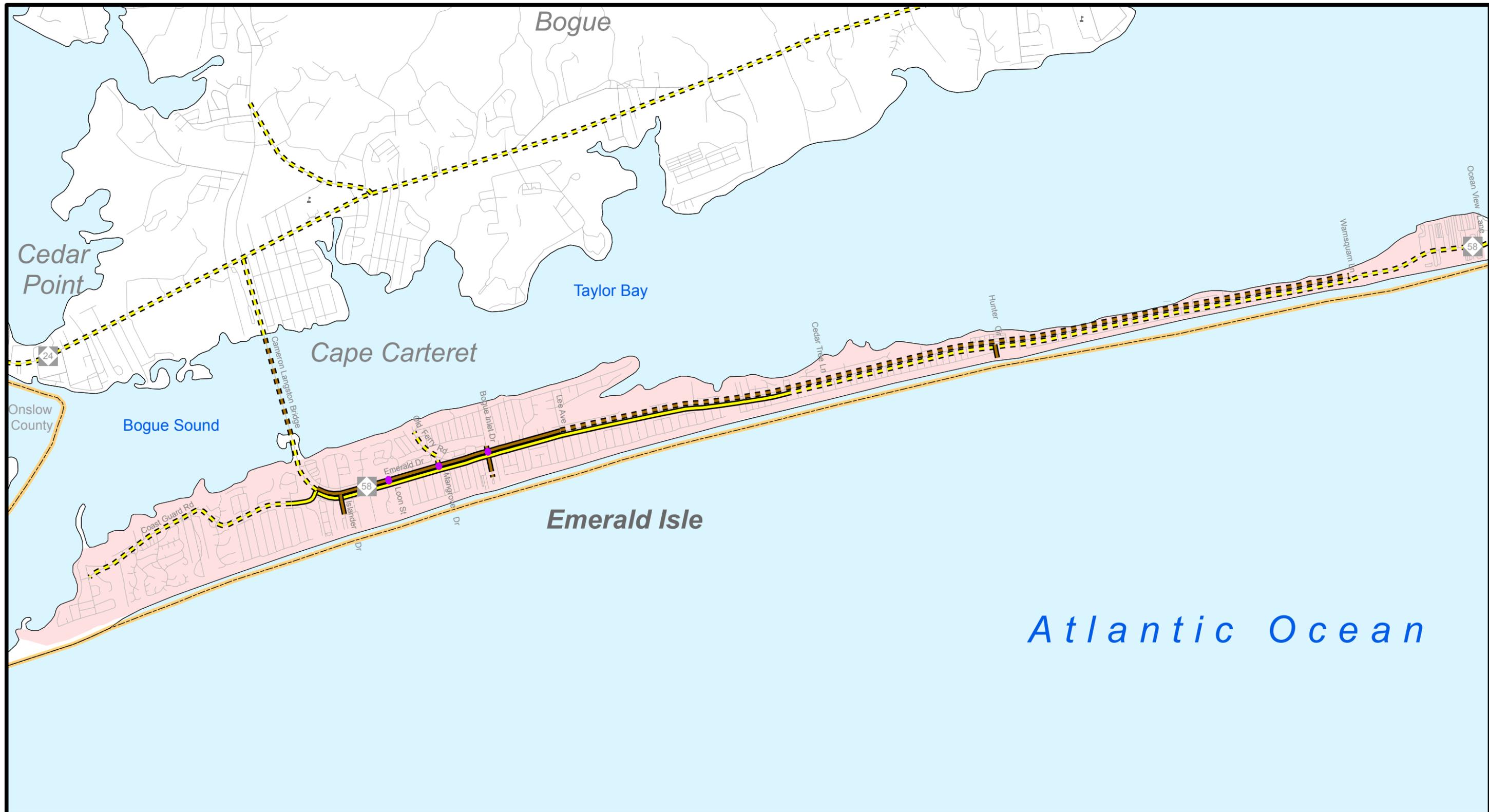


Figure 1 (Sheet 5C of 5)
 Base map date: November 30, 2011
 Refer to CTP document for more details

**Pedestrian Map (Inset 3)
 Carteret County
 Pine Knoll Shores**

**Comprehensive
 Transportation Plan**

Plan date: May 30, 2012



Sidewalks

-  Existing
-  Needs Improvement
-  Recommended
-  Crosswalk (Existing)

 Airports

Off Road

-  Existing
-  Needs Improvement
-  Recommended

 County Boundary

 Municipal Boundary

Multi-Use Paths

-  Existing
-  Needs Improvement
-  Recommended

 Schools



Figure 1 (Sheet 5D of 5)
 Base map date: November 30, 2011
 Refer to CTP document for more details

**Pedestrian Map (Inset 4)
 Carteret County
 Emerald Isle**

**Comprehensive
 Transportation Plan**

Plan date: May 30, 2012



Sidewalks

- Existing
- Needs Improvement
- Recommended

Off-road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- County Boundary
- Municipal Boundary

- Railroads
- Schools

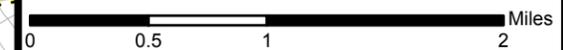
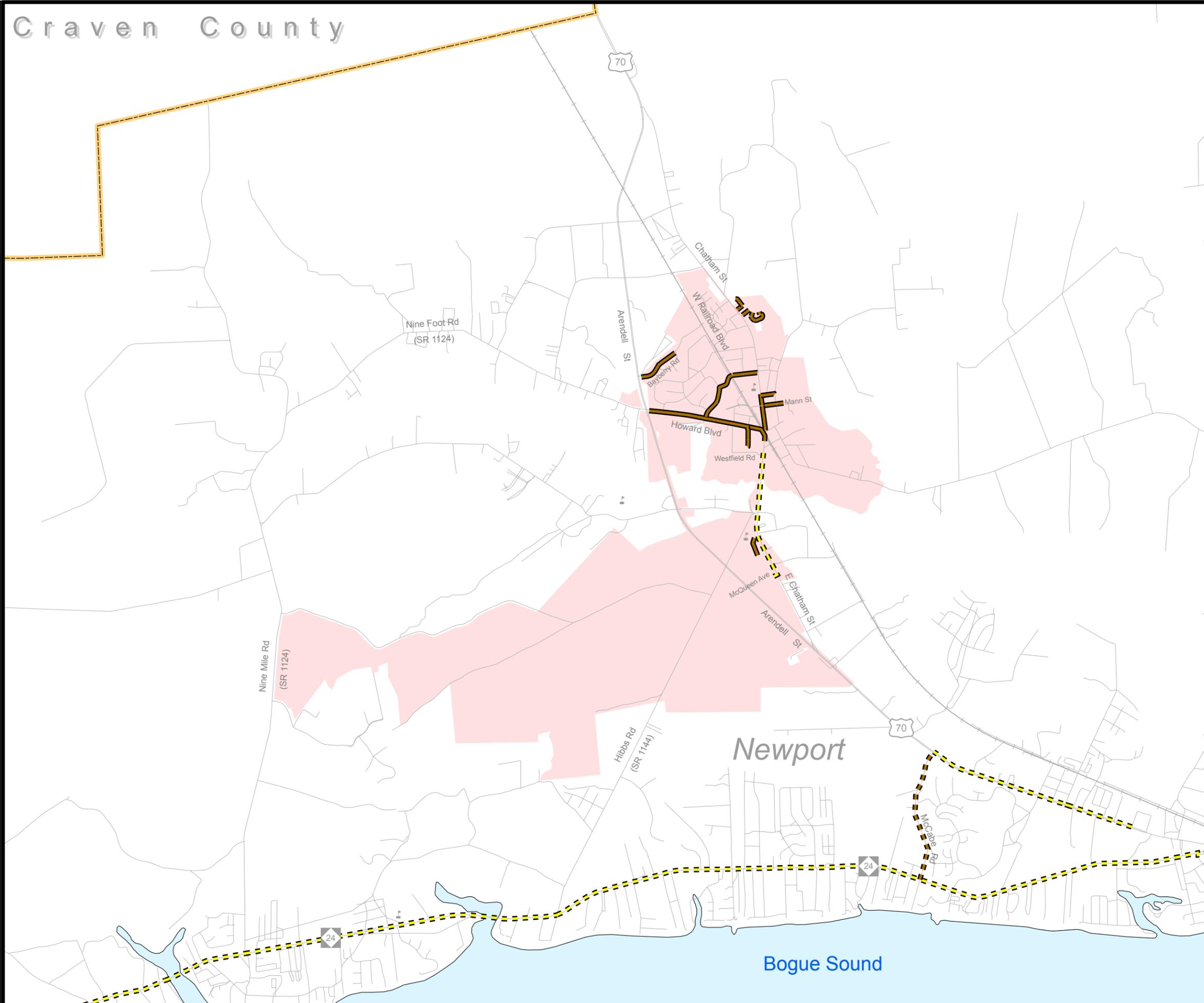


Figure 1 (Sheet 5E of 5)
Base map date: November 30, 2011
Refer to CTP document for more details



Pedestrian Map (Inset 6)



Carteret County Beaufort

Comprehensive Transportation Plan

Plan date: May 30, 2012

Sidewalks

- Existing
- Needs Improvement
- Recommended

Off-road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- County Boundary
- Municipal Boundary

- Railroads
- Airports
- Hospitals/Medical Centers
- Schools

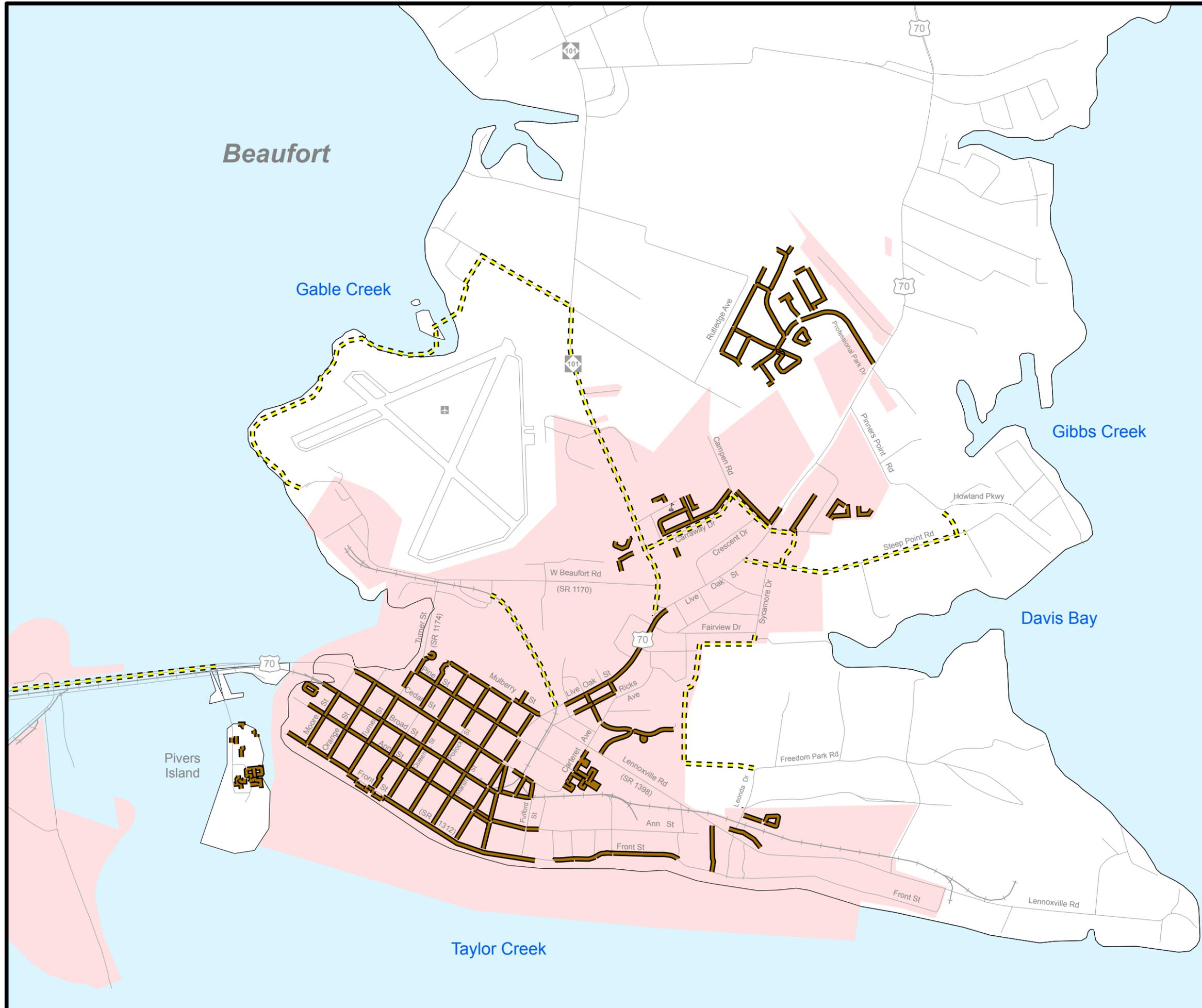
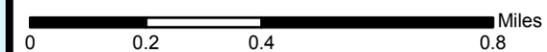


Figure 1 (Sheet 5F of 5)

Base map date: November 30, 2011

Refer to CTP document for more details

1. Analysis of the Existing and Future Transportation System

A Comprehensive Transportation Plan (CTP) is developed to ensure that the 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.

1.1 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 Highway Corridor (SHC) Vision Plan¹ adopted by the Board of Transportation on September 2, 2004 and last revised on July 10, 2008. The SHC Vision Plan is an initiative to protect and maximize the mobility and

¹ For more information on the SHC Vision Plan, go to: <https://connect.ncdot.gov/projects/planning/Pages/default.aspx>

connectivity on a core set of transportation corridors throughout North Carolina, while promoting environmental stewardship through maximizing the use of existing facilities to the extent possible, and fostering economic prosperity through the quick and efficient movement of people and goods.

The primary purpose of the SHC Vision Plan is to provide a network of high-speed, safe, reliable highways throughout North Carolina. The primary goal to support this purpose is to create a greater consensus towards the development of a genuine vision for each corridor – specifically towards the identification of a desired facility type (Freeway, Expressway, Boulevard, or Thoroughfare²) for each corridor. Individual CTPs shall incorporate the long-term vision of each corridor. Refer to Appendix A for contact information for the SHC Vision Plan.

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. The CTP Steering Committee endorsed the established future growth rates on March 12, 2012. Refer to Appendix G for more detailed information on growth expectations and the socio-economic data forecasting methodology.

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. The 2040 traffic volume in Figure 3 is an estimate of the traffic volume in 2040 with only existing plus committed projects assumed to be in place, where committed is defined as projects programmed for construction in the 2013 – 2023 State Transportation Improvement Program³ (STIP).

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;
- Access control, including streets and driveways, or lack thereof, along the roadway;
- Development along the road, including residential, commercial, agricultural, and industrial developments;

² For more information on Facility Types, go to: [Appendix B](#)

³ For more information on the STIP, go to: <https://connect.ncdot.gov/projects/planning/Pages/default.aspx>

- 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 experience delay. The practical capacity for each roadway was developed based on the 2000 Highway Capacity Manual using the Transportation Planning Branch’s *LOS 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 Assessment

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. The Traffic Safety Unit of NCDOT’s Transportation Mobility and Safety Division identifies high frequency crashes at intersections and along roadway sections during a three-year period. The high frequency crash locations examined during the development of the Carteret County CTP occurred between January 1, 2009 and December 31, 2011. During this period, twenty-five intersections were identified as having a high frequency of crashes as illustrated in Figure 4. Contact information for the Transportation Mobility and Safety Division can be found in Appendix A.

The NCDOT is actively involved with investigating and improving many of these locations. To request a more detailed analysis for any of these locations, or other intersections of concern, contact the Division Traffic Engineer (see Appendix A).

Table 1 – Crash Locations

Crash Intersections			
Map Index (Figure 4 B)	Intersection		Total Collisions (No. of Crashes)
	<i>Road A</i>	<i>Road B</i>	
1	NC 24	NC 58	30
2	US 70	NC 24	30
3	US 70	Harris Rd	27
4	NC 24	SR 1141 (Hibbs Rd)	25
5	NC 58	Coast Guard Rd	20
6	US 70	23 rd Street	20
7	US 70	SR 1141 (Hibbs Rd)	19
8	35 th Street	Bridges St	19
9	US 70	Roberts Rd	18
10	US 70	Mansfield Pwy	18
11	NC 24	Harbor Dr	14
12	US 70	Turner St	14
13	Barbour Rd	Bridges St	13
14	US 70	SR 1124 (9 Foot Rd)	13
15	NC 24	Hodges St	13
16	NC 24	SR 1124 (9 Mile Rd)	13
17	US 70	Howard Blvd	12
18	US 70	Rochelle Dr	12
19	US 70	Chatham St	12
20	US 70	Orange St	12

Crash Sections		
Map Index (Figure 4 B)	Route	Total Collisions (No. of Crashes)
1	US 70	20
2	US 70	12
2	US 70	12
2	Marshallberg Rd	12
3	NC 24	9
4	NC 58	6
4	NC 24	6
4	NC 101	6
4	US 70	6
4	US 70	6
5	US 70	5
6	NC 24	4
7	SR 1154 (Mill Creek Rd)	3

Bridge Deficiency Assessment

Bridges are a vital 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 Structures 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. Eighteen deficient bridges were identified on roads evaluated as part of the CTP and are illustrated in Figure 5. As deficient bridges are replaced, every consideration should be given to proposed CTP recommendation and cross section associated with the recommendation. Table 4 in Appendix F gives a listing of the deficient bridges identified in the CTP and the ID number associated with CTP project proposal. Refer to Appendix F for more detailed bridge deficiency information.

Figure 2

2010 Volumes and Capacity Deficiencies



Carteret County Comprehensive Transportation Plan

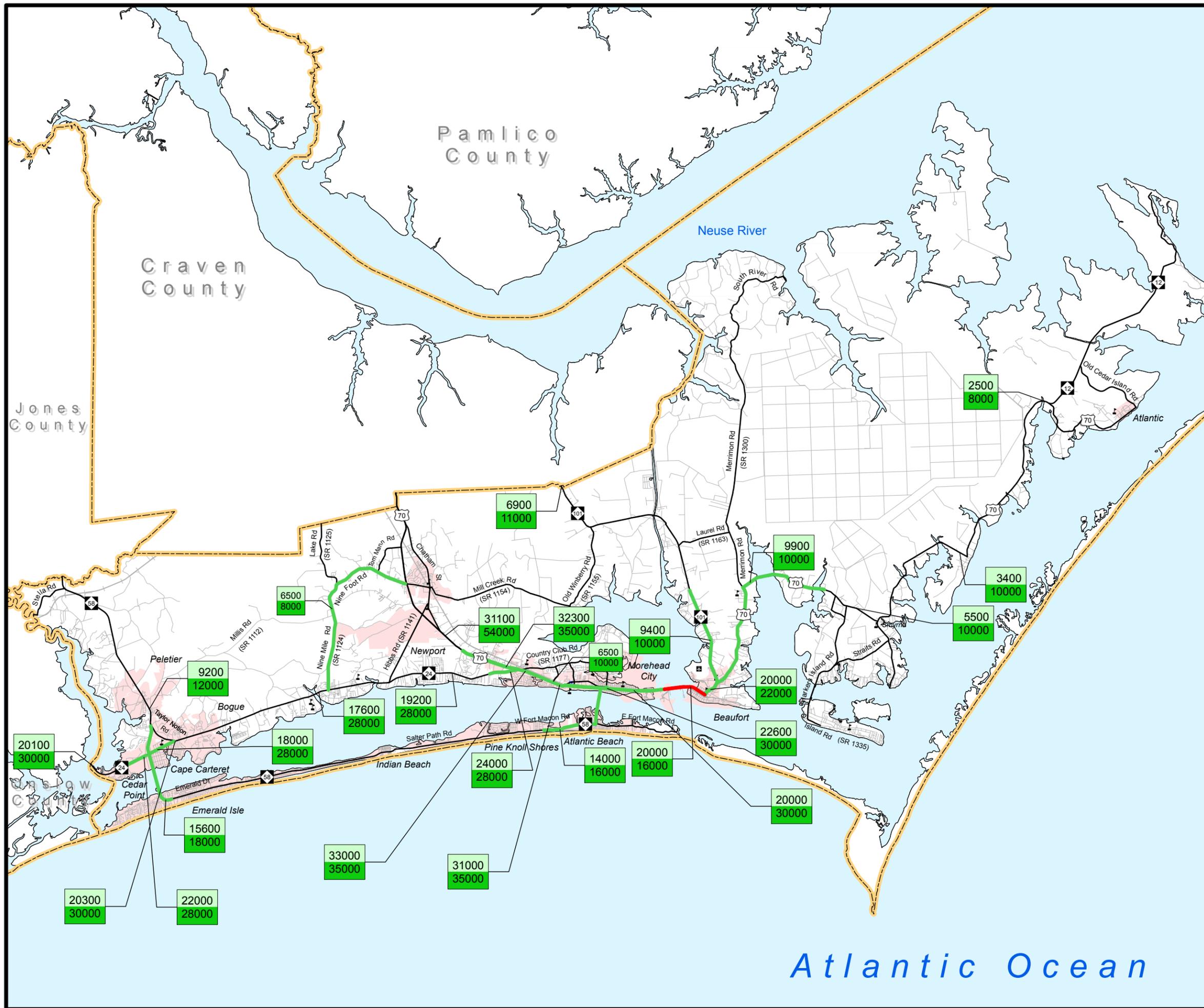
Legend

- Near Capacity
- Over Capacity
- #### 2010 Volumes (AADT)
- #### 2010 Capacity
- Schools
- Airports
- Study Roads
- Railroads
- Water Bodies
- County Boundaries
- Municipal Boundaries

0 1.5 3 6 9 Miles



Base map date: November 30, 2011
Refer to CTP document for more details



Atlantic Ocean

Figure 4 A Carteret County Comprehensive Transportation Plan HIGH FREQUENCY CRASH LOCATIONS

January 1, 2009 to
December 31, 2011

Crash Intersections

- ◆ 50 and above
- ▲ 40 to 49
- 30 to 39
- 20 to 29
- 10 to 19
- 4 to 9

Crash Sections

- 50 and above
- 40 to 49
- 30 to 39
- 20 to 29
- 10 to 19
- 3 to 9

- Network Road
- Railroads
- ✈ Airports
- 🏥 Hospitals/Medical Centers
- 🎓 Schools
- ▭ County Boundaries
- ▭ Municipal Boundaries



Base map date: November 30, 2011
Refer to CTP document for more details



Atlantic Ocean

Figure 5
Carteret County
 Comprehensive
 Transportation Plan
DEFICIENT BRIDGES



Legend

- # Deficient Bridge (# indicates "Bridge Number")
- Schools
- Airports
- Hospitals/Medical Centers
- Network Road
- Roads
- Railroads
- Water Bodies
- Municipal Boundaries
- County Boundaries

0 1.5 3 6 9 Miles



Base map date: November 30, 2011
 Refer to Appendix F for more details



Atlantic Ocean

Public Transportation and Rail

Public transportation and rail are vital modes of transportation that give alternatives 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, single-county systems are increasingly merged 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 provide service 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, Amtrak passenger stations, 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.

Planning for future Public Transportation in the Comprehensive Transportation Plan helps to reduce the number of vehicles traveling on the road thus reducing congestion, and provides alternative transportation for underserved populations. Currently public transit in Carteret County is provided by Carteret County Area Transportation System (CCATS) and operates on a demand-response basis. Demand-response is a direct pick up from an individual's home and a drop-off at their destination via a reservation. As growth in the county occurs, the need for a different type of transit system may be

necessary in the form of a deviated fixed-route or fixed route system. A fixed-route system is a system that includes fixed stops and a schedule where buses are regularly routed. A deviated fixed-route system is a hybrid of both systems. Transit vehicles follow a fixed route but are permitted to deviate from the route up to one mile for demand-response type pick-ups and drop-offs. The deviated fixed-route is a logical next step into transition from a demand-response model to a fixed route system as population growth and increase in density occur.

The Carteret CTP transit element recommends two deviated fixed route systems: the first in Morehead City (along Arendell Street and Bridges Street) and a second along NC 58 between Atlantic Beach and Emerald Isle, which will include a loop back to Morehead City along NC 24. Additionally, the CTP recommends regular deviated fixed routes to the Down East communities and along US 70 toward New Bern in Craven County.

Proposed Park-and-Ride locations to be used in the future for Carteret County based on the proposed transit routes would be located in the following areas: Atlantic Beach, Beaufort, Cedar Island, Davis, Emerald Isle, and Morehead City.

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 for the Public Transportation Division.

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.

Intercity passenger service is provided by a partnership between NCDOT and Amtrak. Amtrak currently operates six passenger services daily in or through North Carolina serving 16 cities across the state. Five of the services are interstate (Crescent, Palmetto, Silver Meteor, Silver Star, and Carolinian passenger trains) and one service (Piedmont passenger train) operates exclusively within North Carolina. In addition to the six passenger services mentioned, Amtrak also operates its Auto Train service which passes through North Carolina but does not make any stops. Amtrak ridership demand has been on a rise in the state. In 2010 ridership was 840,000 and increased to 893,000 passengers in 2011.

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 every day. Combined, the Carolinian and Piedmont carry more than 300,000 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 major rail line in Carteret County is the North Carolina Railroad (NCRR) line that spans 320 miles of North Carolina from Charlotte to Morehead City. NCRR is owned by the State of North Carolina with its own staff headquartered in Raleigh, who manages the right-of-way. Train operations are leased to the Norfolk Southern (NS) Railway who provides the rail service over the line. Two freight trains per day (no passenger trains) generally operate over the line from Morehead City to New Bern at speeds up to 35 mph with 15 mph being the maximum speed in Morehead City area.

The NCRR connects with the railroad tracks owned by the State Ports in Morehead City where NS receives and delivers the rail business from the Port. A contract railroad operator performs rail operations on the tracks in the State Ports. The State Port tracks are located on the Morehead City side of the Port's property as well as over to Radio Island, which is located between Morehead City and Beaufort. A railroad bridge about $\frac{1}{3}$ of a mile connects the tracks at Morehead City and Radio Island over the Newport River. A major portion of this bridge was replaced in 1999 with a new concrete structure. The steel bascule span (about 120 feet long that lifts up to provide an opening for river-going vessels) is under consideration for rehabilitation if funds can be obtained⁴. Its condition currently limits the rail traffic that can be moved over to Radio Island and therefore restricts the ability by the Port to expand and develop rail-type business on Radio Island.

The rail line to Radio Island now dead-ends at that location. Up until 25 years ago, it went all the way to Beaufort, but that portion has now been abandoned and will not be rebuilt.

Previous reports that studied relocation of the existing railroads tracks were reviewed. Those report recommendations were taken into consideration for the CTP report. For further information on these recommendations, please refer to:

- ***Track Relocation Feasibility Study Havelock to Morehead City (March 2007)***
Prepared by Wilbur Smith Associates and Earth Tech for the North Carolina Railroad Company
- ***Statewide Logistics Plan for North Carolina (May 2008)***
Prepared by G.F. List and R.S. Foyle from North Carolina State University, H. Canipe and J. Cameron from TransTech Management, Inc., and E. Stromberg from Hatch, Mott, MacDonald LLC for the North Carolina Office of State Budget and Management
- ***Regional Growth Management Plan (October 2009)***
Prepared by Marstel-Day, LLC in partnership with Kimley Horn and Associates, Inc., Impact Communications, Inc., Health Planning Source, Inc., the Operations Research/Education Lab at NC State University, and Management Information Services, Inc. for the North Carolina Eastern Region's Military Growth Task Force

⁴ *This project has been completed*

- ***NCSPA Port Business Case Project (February 2011)***
Prepared by Moffatt & Nichols for NCSPA
- ***Seven Portals Study: An Investigation of How Economic Development Can be Encouraged in North Carolina Through Infrastructure Investment – Master Report (December 2011)***
Prepared by G. F. List from North Carolina State University, L. R. Goode, and D. Hauser from Piedmont Triad Regional Partnership for the Governor’s Logistics Task Force and NCDOT
- ***Seven Portals Study: An Investigation of Economic Development in North Carolina Through Logistics Villages – Eastern Region Report (December 2011)***
Prepared by S. J. Appold, D. A. Rodriguez, and J. D. Kasarda from UNC-Chapel Hill for the Governor’s Logistics Task Force
- ***NCDOT North Carolina Maritime Strategy Final Report (June 2012)***
Prepared by AECOM and URS for NCDOT

All recommendations for rail were coordinated with the local governments and the Rail Division of NCDOT. Refer to Appendix A for contact information for the Rail Division.

Bicycles & Pedestrians

Bicyclists and pedestrians are a growing part of the transportation system 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 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 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.

Beaufort, Emerald Isle, Morehead City, and Newport Comprehensive Bicycle Plans were reviewed and utilized in the development of these elements of the CTP.

Currently, an effort is underway to develop the *Croatan Regional Bicycle and Trails Plan (CRBP)* for the counties of Carteret, Craven, Jones, Onslow, and Pamlico. The goal of this plan is to create a continuous bicycle path that runs through the Croatan National Forest and connects to local bicycle paths. The CRBP network will include different types of paths, from multi-use trails to dedicated bicycle paths to simply widened shoulders in some places to make the road more bicycle friendly.

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 for the Division of Bicycle and Pedestrian Transportation.

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 2005 Carteret County Land Use Plan, adopted by Carteret County on April 20, 2009 (refer to Appendix G) was used to meet this requirement.

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, the day of the week, and seasonal variation. 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.

For detailed information on how land use and growth projections were developed for and applied in the CTP, refer to Appendix G.

1.2 Consideration of Natural and Human Environment

Environmental features are a key consideration in the transportation planning process. Section 102 of the National Environmental Policy Act⁵ (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, every effort was made to minimize potential impacts to these features utilizing the best available data. Any 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 are typically examined as a part of a CTP study is shown in the following tables. Environmental features occurring within Carteret County are shown in Figure 6 (Sheets 1, 2, and 3) and highlighted in Tables 2 A and 2 B.

⁵ For more information on NEPA, go to: <http://ceq.hss.doe.gov/>.

Table 2 A – Environmental Features I and II (Figure 6, Sheets 2 and 3)

- **24k Hydro Lines**
- 303D Streams
- **Airport Boundaries**
- **Anadromous Fish Spawning Areas**
- **APNEP - Submerged Aquatic Vegetation**
- **Beach and Waterfront Access**
- Benthic Habitat
- Bicycle Routes
- **Boating Access**
- Churches and Cemeteries
- **Colleges and Universities (Points)**
- Conservation Tax Credit Properties
- Critical Habitat for Threatened and Endangered Species
- Emergency Operation Centers
- **Fish Nursery Areas**
- **Hazard Substance Disposal Sites (points & polygons)**
- **Hazardous Waste Facilities**
- High Quality Waters and Outstanding Resource Water Management
- Historic Resources – National Register and Determined Eligible (points and polygons)
- **Hospitals**
- **Hydrography - 1:24,000-scale (polygons)Landscape Habitat Indicator Guilds (LHIGs)Managed Areas**
- **National Wetlands Inventory (polygons)**
- Natural Heritage Element Occurrences
- **NC-CREWS: N.C. Coastal Region Evaluation of Wetland Significance**
- **NCDOT Maintained Mitigation Sites**
- **Railroads (1:24,000)**
- Recreation Projects - Land and Water Conservation Fund
- **Regional Trails**
- **Sanitary Sewer Systems - Treatment Plants**
- **Schools (Public & Non-Public)**
- Significant Natural Heritage Areas
- **State Natural and Scenic Rivers**
- **State Parks**
- Target Local Watersheds - EEP
- **Trout Streams (DWQ)**
- **Trout Waters WRC (arcs & polygons)**
- **Unique Wetlands**
- **Water Distribution Systems – Tanks & Treatment Plants**
- Water Supply Watersheds

Archaeological sites were also considered but are not mapped due to restrictions associated with the sensitivity of the data.

Table 2 B – Environmental Features III (Figure 6, Sheet 4)

<i>Wetland Type</i>	<i>General Definition</i>
Salt/Brackish Marsh	Any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides. Also called “coastal marsh”
Estuarine Scrub-Shrub	Shrub/scrub dominated community subject to flooding by tides, including wind tides
Estuarine Forest	Forested wetlands subject to flooding by tides, including wind tides
Maritime Swamp Forest	Forested wetlands with stunted growth imposed by salt spray from the ocean
Freshwater Marsh	Herbaceous areas that are flooded for extended periods during the growing season
Pocosin	Evergreen scrub/shrub communities. Typically occur on saturated, acid, nutrient poor, sandy or peaty soils
Bottomland Hardwood/ Riverine Swamp Forest	Riverine and non-riverine forested or scrub/shrub communities that are seasonally to semi-permanently flooded. Riverine Swamp Forests have a w -type of 7 and an hydrogeomorphic (hgm) class of riverine (r)
Non-riverine Swamp Forest	Very poorly drained non-riverine forested or occasionally scrub/shrub communities that are semi-permanently or temporarily flooded. These are distinguished from riverine swamp forests in the data by having a hydrogeomorphic (hgm) class of flat (f)
Headwater Swamp	Wooded systems along first order streams. Receive water from overland flow and rarely overflow their own banks
Hardwood Flat	Poorly drained interstream flats. Seasonally saturated by high water table or poor drainage
Pine Flat	Seasonally saturated pines on hydric soils (often quite dry for part of the year). Generally, on flat or nearly flat interfluves.
Managed Pineland	Seasonally saturated, managed pine forests occurring on hydric soils
Human Impacted	Human impacts have physically disturbed the wetland. Impoundments, some cutovers and other disturbed areas are included in this category

1.3 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 was held with the CTP Steering Committee on February 4, 2010 to formally initiate the study, provide an overview of the transportation planning process, and to gather input on area transportation needs.

Throughout the course of the study, the NCDOT Transportation Planning Branch (TPB) cooperatively worked with the CTP Steering Committee, which included at least one representative from each twelve municipalities, county staff, the Down East Rural Planning Organization, and others (NC State Ports Authority, NC Railroad Company, NCDOT Division 2, NCDOT Ferry Division, Carteret County Area Transportation System, Michael J. Smith Field Airport, and Carteret County Economic Development Council). The committee provided information on current local plans, developed transportation vision and goals, discussed population and employment projections, and developed 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 three public drop-in sessions in Carteret County to present the proposed CTP to the public and solicit comments. Each session was publicized in the local newspapers, through fliers in town halls, and local radio stations.

The three drop-in sessions were held on March 22, 2012 from 4:00 to 7:00 p.m. at:

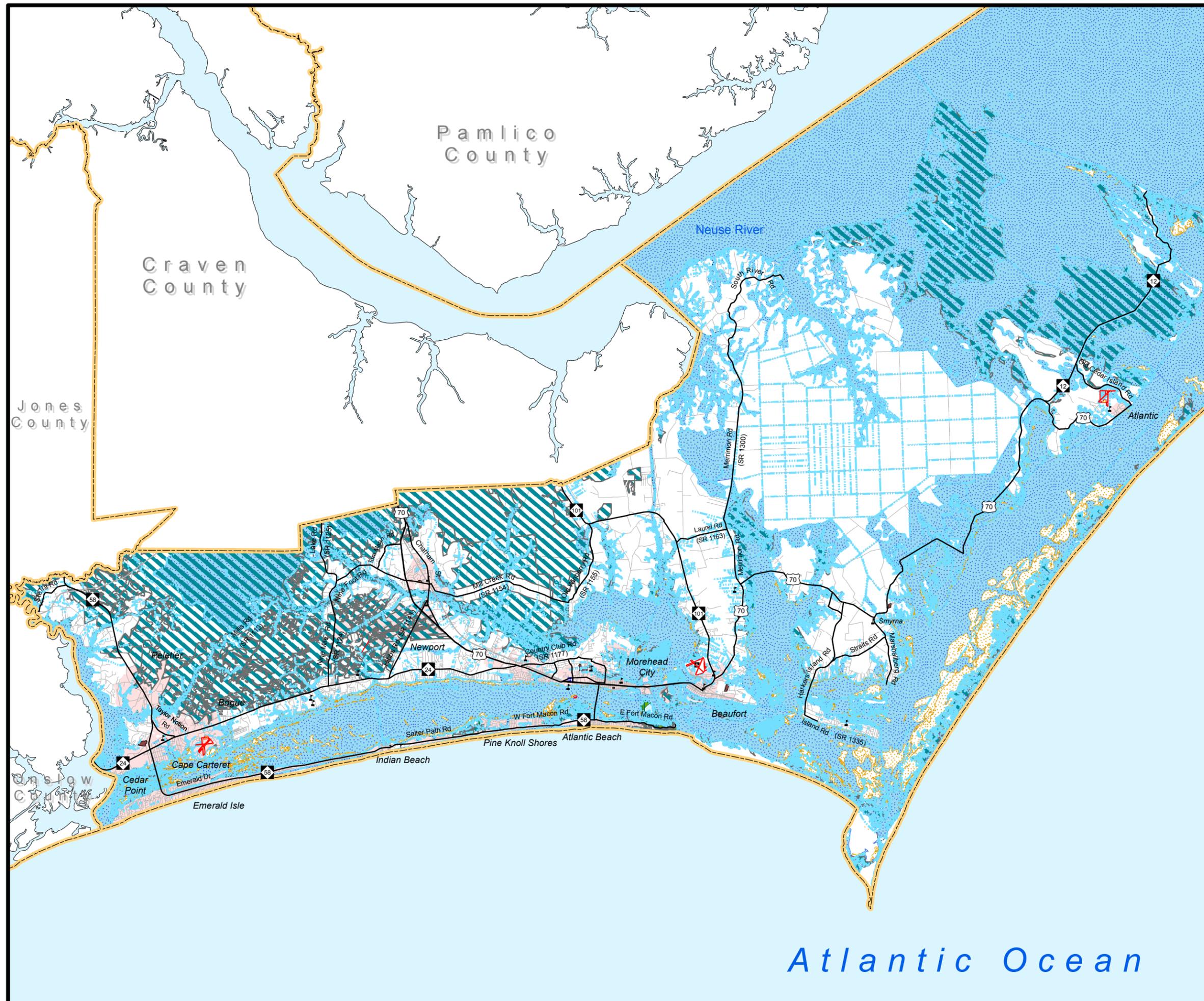
- Crystal Coast Civic Center, Morehead City
- Train Depot, Beaufort
- Town Hall Meeting Room, Emerald Isle

A public hearing was held on June 18, 2012 during the Carteret County Board of Commissioners meeting. The purpose of this meeting was to discuss the plan recommendations and to solicit further input from the public. The CTP was adopted during this meeting.

The table on the following page shows the adoption and endorsement dates for the county, the towns, the NCDOT Board of Transportation, as well as the Down East Rural Planning Organization.

<i>County Adoption</i>	<i>Date</i>
Carteret County	December 16, 2013
<i>Town Adoptions</i>	<i>Dates</i>
Atlantic Beach	June 25, 2012
Beaufort	June 11, 2012
Bogue	September 17, 2012
Cape Carteret	August 20, 2012
Cedar Point	July 24, 2012
Emerald Isle	June 12, 2012
Indian Beach	June 13, 2012
Morehead City	August 13, 2013
Newport	July 12, 2012
Pine Knoll Shores	June 12, 2012
Peletier	September 10, 2012
<i>NCDOT Adoption</i>	<i>Date</i>
Board of Transportation	January 9, 2014
<i>Endorsement</i>	<i>Date</i>
Down East Rural Planning Organization	December 5, 2013

Figure 6
Environmental Features II
Carteret County
 North Carolina

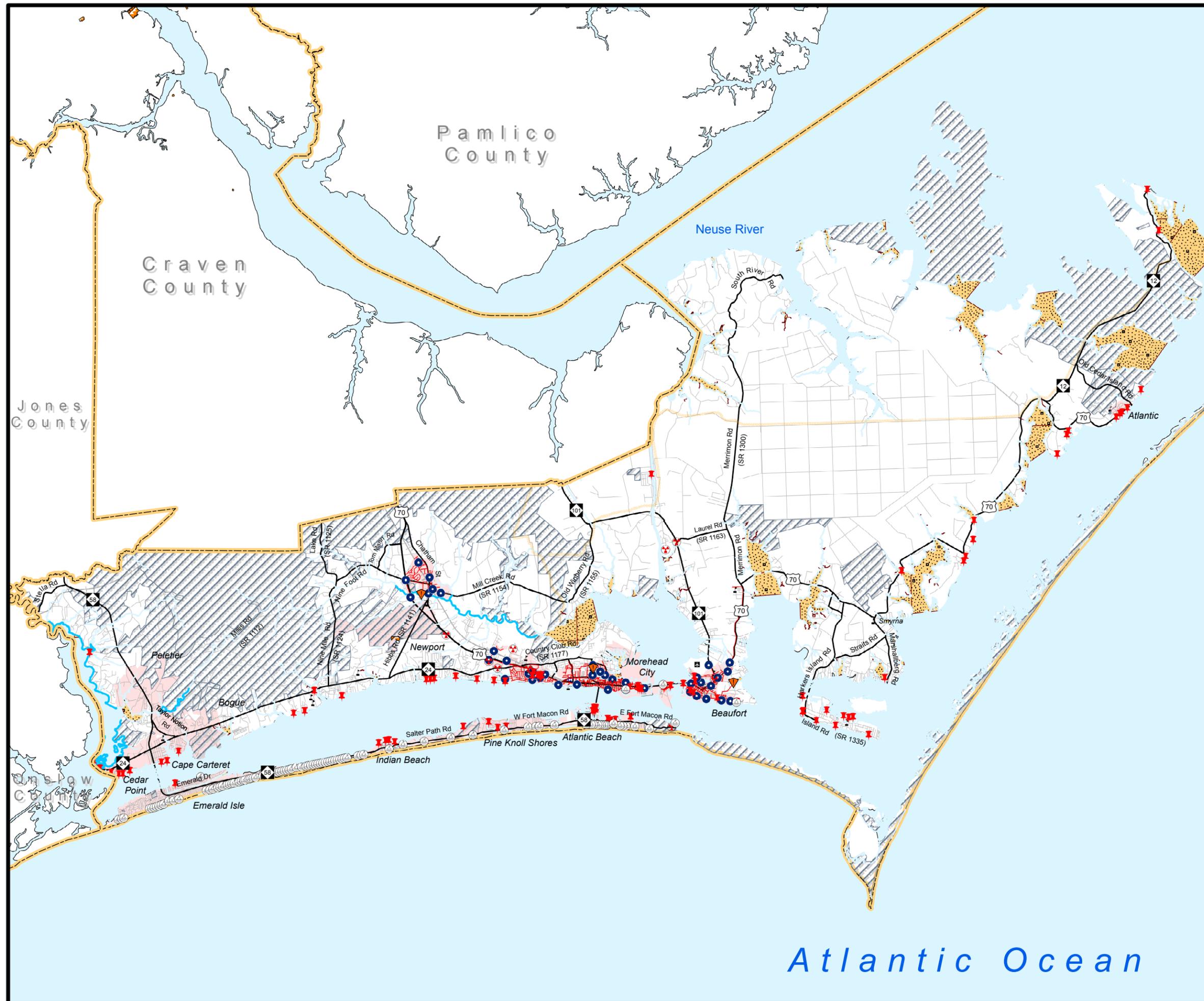


- Legend**
- 24k Hydro Lines
 - Critical Habitat lines
 - Airports Boundary
 - APNEP - Submersed Aquatic Veg.
 - Hydrography Areas
 - Land & Water Conservation Funds
 - Landscape Habitat Indicator Guilds
 - NCDOT Maintained Mitigation Sites
 - State Parks
 - Unique Wetlands
 - County Boundaries
 - Municipal Boundaries
 - Network Road
 - Railroads
 - Airports
 - Hospitals/Medical Centers
 - Schools

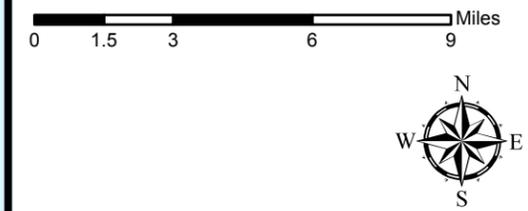


Atlantic Ocean

Figure 6
**Environmental
 Features III**
Carteret County
 North Carolina

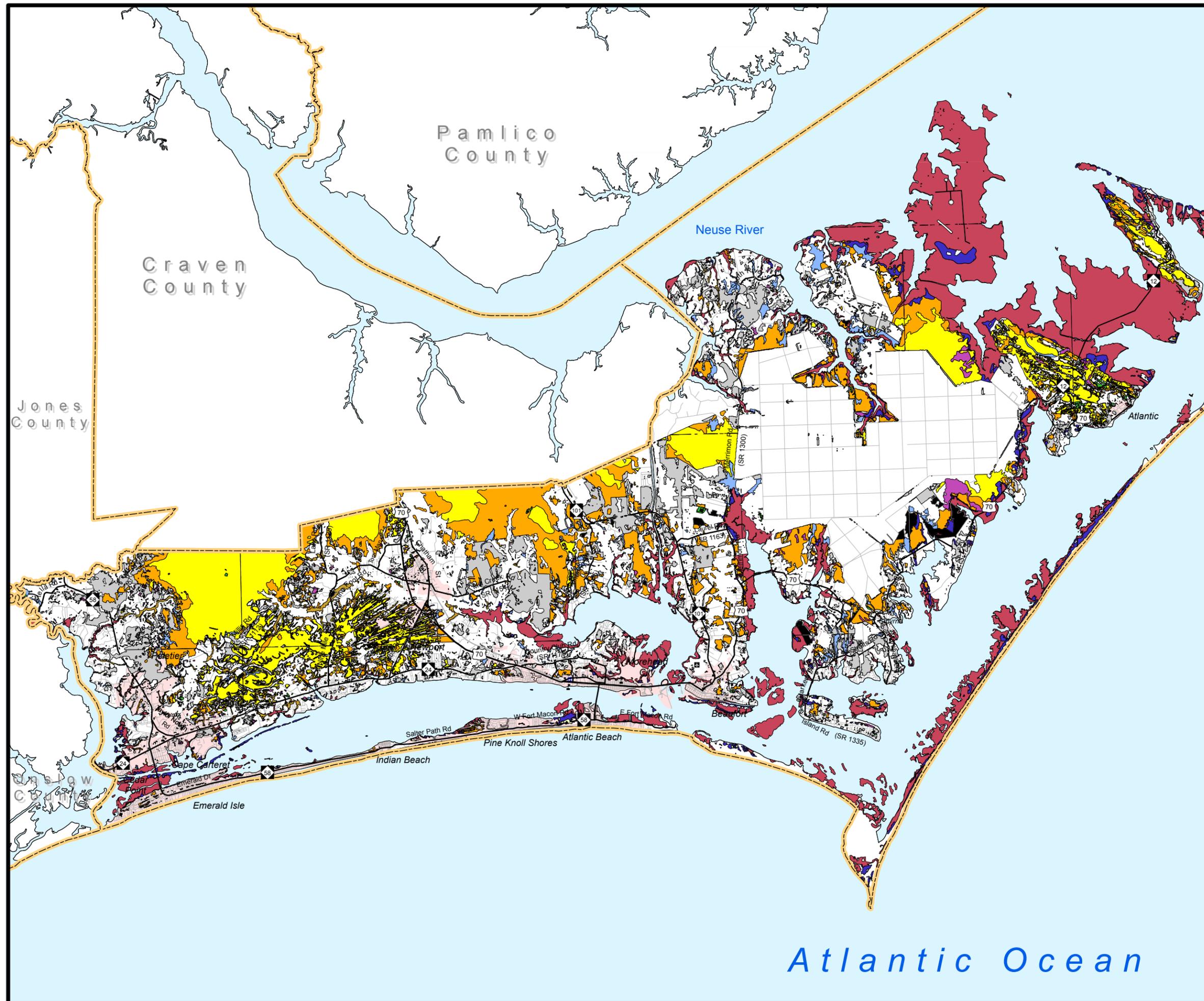


- Legend**
- Beach Access
 - Boating Access
 - Hazardous Substance Disposal Sites
 - Hazardous Waste Facilities
 - Sanitary Sewer Systems - Discharge
 - Sanitary Sewer Systems - Pumps
 - Sanitary Sewer Systems - Pipes
 - Anadromous Fish Spawning Areas
 - Regional Trail
 - Hydrography
 - State Natural and Scenic Rivers
 - Trout Streams DWQ
 - Trout Waters WRC
 - Fish Nursery Areas
 - Hazardous Substance Disposal
 - Managed Lands
 - County Boundaries
 - Municipal Boundaries
 - Network Road
 - Railroads
 - Airports
 - Hospitals/Medical Centers
 - Schools



Atlantic Ocean

Figure 6
**Environmental
 Features IV**
Carteret County



Legend

- Salt/Brackish Marsh
- Freshwater Marsh
- Estuarine Shrub/Scrub
- Pocasin
- Bottomland Hardwood
- Depressional Swamp Forest
- Managed Pineland
- Pine Flat
- Maritime Forest
- Headwater Swamp
- Human Impacted
- County Boundaries
- Municipal Boundaries
- Network Road
- Railroads
- Airports
- Hospitals/Medical Centers
- Schools



Atlantic Ocean

2. Recommendations

This chapter presents recommendations for each mode of transportation in the 2014 Carteret County CTP as shown in Figure 1. More detailed information on each recommendation is tabulated in Appendix C.

NCDOT adopted a "Complete Streets¹" policy in July 2009. The policy directs the Department to consider and incorporate several modes of transportation when building new projects or making improvements to existing infrastructure. Under this policy, the Department will collaborate with cities, towns and communities during the planning and design phases of projects. Together, they will decide how to provide the transportation options needed to serve the community and complement the context of the area. The benefits of this approach include:

- making it easier for travelers to get where they need to go;
- encouraging the use of alternative forms of transportation;
- building more sustainable communities;
- increasing connectivity between neighborhoods, streets, and transit systems;
- improving safety for pedestrians, cyclists, and motorists.

Complete streets are streets designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists, and individuals of all ages and capabilities. These streets generally include sidewalks, appropriate bicycle facilities, transit stops, right-sized street widths, context-based traffic speeds, and are well-integrated with surrounding land uses. The Complete Street Policy and concepts were utilized in the development of the CTP. The CTP proposes projects that include multi-modal project recommendations as documented in the problem statements within this chapter. Refer to Appendix C for recommended cross sections for all project proposals and Appendix D for more detailed information on the typical cross sections.

2.1 Unaddressed Deficiencies

The following deficiency was identified during the development of the CTP, but remains unaddressed:

Alternate Emergency Evacuation Route for access and connectivity from Merrimon Road to US 70 East. Some major challenges have been identified for this project proposal such as the potential for miles of roadway flooding in the project vicinity, deep ditch concerns adjacent to the facility, and possible local levy issues. These concerns could not be fully addressed within the scope and schedule of this study; however, all concerns for this project proposal should be addressed as NCDOT works closely with Carteret County and its municipalities to meet their needs.

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

2.2 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 the 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 Down East Rural Planning Organization (DERPO) for regional prioritization and submittal to NCDOT. Refer to Appendix A for contact information on regional prioritization and funding. Local governments may use the CTP to guide development and protect corridors for the recommended projects. It is critical that NCDOT and local governments coordinate on relevant land development reviews and all transportation projects to ensure proper implementation of the CTP. Local governments and NCDOT 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 Act² (SEPA). This CTP may be used to provide information in the NEPA/SEPA process.

2.3 Problem Statements

The following pages contain problem statements for each recommendation, organized by CTP modal element. The information provided in the problem statement is intended to help support decisions made in the NEPA/SEPA process. A full, minimum or reference problem statement is presented for each recommendation, with full problem statements occurring first in each section. Full problem statements are denoted by a gray shaded box containing project information. Minimum problem statements are more concise and less detailed than full problem statements, but include all known or readily available information. Reference problem statements are developed for TIP projects where the purpose and need for the project has already been established.

² For more information on SEPA, go to: <http://www.doa.nc.gov/clearing/faq.aspx>.

HIGHWAY

US 70, Local ID No. CART0001-H

The primary purpose of project (Local ID No. CART0001-H) is to improve the US 70 corridor in Carteret County from Willis Road (SR 1366) in Morehead City to Seashore Drive (SR 1417) in Atlantic. Recommendations for the sections of US 70 include access management, intersection improvements, multi-lane widening, proposed interchanges, widening 2-lane bridges to 4 lanes, and bringing substandard sections up to 12-foot lanes with a 2-foot shoulder.

US 70 is a major east-west corridor in Carteret County, connecting New Bern and Havelock in Craven County to Newport, Morehead City, Beaufort, and other rural parts of Carteret County. The facility is a vital artery in moving people and goods through southeast North Carolina, connecting Raleigh, Goldsboro, Kinston, New Bern, and Morehead City. This project will also provide better access to the Port of Morehead City, and help emergency responders get to their destinations quicker.

US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). In addition, US 70 is part of the Strategic Highway Corridor (SHC) Vision Plan.

US 70 from Willis Road (SR 1366) to 4th Street in Morehead City (CART0001-H (A))

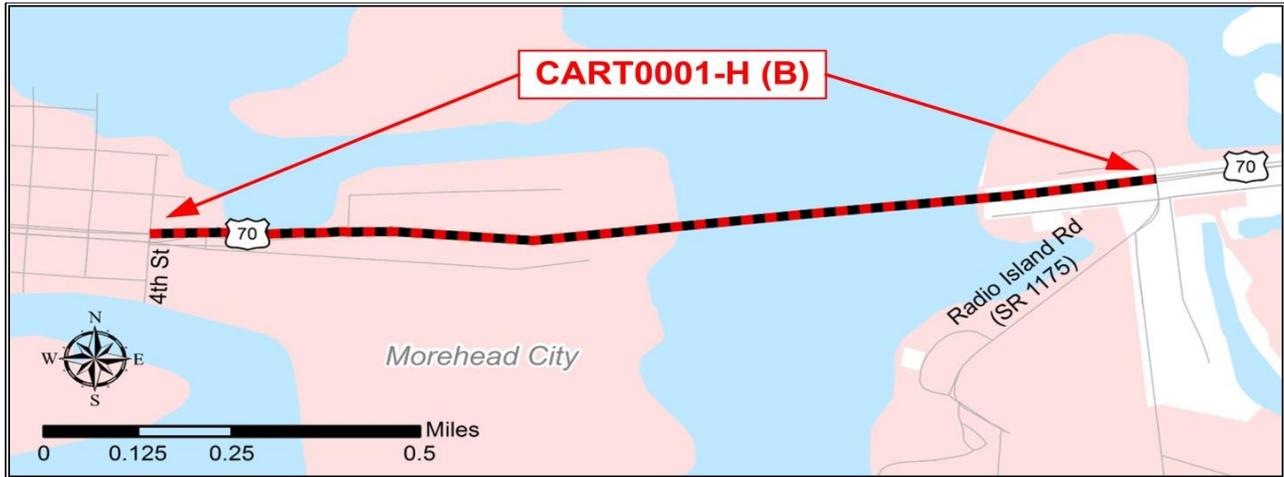
The proposed improvement for this section of US 70 is access management and intersection improvements on the existing US 70 facility from Willis Road to 4th Street. Recommendations include elimination of some driveways, eliminating left turns in some areas, and improving some of the intersections.

US 70 (Arendell Street) is an east-west corridor that goes through the middle of Morehead City. It is a 4-lane divided facility with 12-foot lanes and a posted speed limit of 35 mph. It widens at some intersections to accommodate exclusive left and right turn lanes. US 70 has a railroad track in the median and sidewalks on both sides.

The facility provides access to a number of commercial properties, residential areas, municipal buildings, and the Port of Morehead City. Traffic on US 70 between South Lockhart Street to 4th Street was 31,000 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 35,000 vpd. Traffic on US 70 is projected to increase to 40,000 in 2040.

This project also includes bike lanes on both sides of US 70 from 35th Street to 4th Street and a multi-use path from 35th Street to South Lockhart Street.

The portion of US 70 between South Lockhart Street to 4th Street is shown as a boulevard that needs an upgrade. Access Management and intersection improvements will improve safety and help reduce congestion along US 70.



Identified Problem

Existing US 70 is projected to be over capacity by 2040 from 4th Street to Radio Island Road (SR 1175) in Morehead City. The primary purpose of this project is to relieve congestion on the existing facility and widen the Newport River Bridge (Bridge No. 13) to four lanes such that a minimum of Level of Service (LOS) D can be achieved.

Justification of Need

US 70 is a major east-west corridor in Carteret County, connecting New Bern and Havelock in Craven County to Newport, Morehead City, Beaufort, and other rural parts of Carteret county. The facility is a vital artery in moving people and goods through Southeast North Carolina, connecting Raleigh, Goldsboro, Kinston, New Bern, and Morehead City.

US 70 between 4th Street to a point 0.18 miles east of 4th Street narrows from a 4-lane divided section to a 4-lane undivided section with 12-foot lanes. From a point 0.18 miles east of 4th Street to a Newport River Bridge (Bridge No. 13), it is a 4-lane divided facility with a raised concrete median that narrows to a 2-lane road with 12-foot lanes approaching the bridge. East of the bridge, the road widens to a 4-lane divided facility with vegetation in the median. US 70 has a 45 mph posted speed limit. The 2-lane bridge creates a bottleneck between the 4-lane sections. In addition, there is a Railroad Bridge (Bridge No. 110) just south of US 70 that runs parallel with the Newport River Bridge.

US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). In addition, US 70 is part of the Strategic Highway Corridor (SHC) Vision Plan. The portion of US 70 between 4th Street and Radio Island Road (SR 1175) is shown as a boulevard that needs an upgrade.

By 2040, the facility is projected to be over capacity from 4th Street to Radio Island Road (SR 1175) based on providing a Level of Service (LOS) D. Traffic is projected to increase from 20,000 vehicles per day (vpd) in 2010 to 26,000 vpd in 2040; compared to a LOS D capacity of 30,000 vpd on the 4-lane divided section and a LOS D capacity of 16,000 vpd on the 2-lane bridge.

Community Vision and Problem History

US 70 through Morehead City west of the project is a four-lane divided facility. TIP R-3307 just east of this project will be a four-lane facility when construction is complete. Widening this project to four lanes will prevent a bottleneck. The existing bridge over the causeway is only two lanes.

CTP Project Proposal

Project Description and Overview

The proposed project (Local ID No. CART0001-H (B)) is to convert the existing 2-4 lane facility from 4th Street to Radio Island Road (SR 1175) to a 4-lane divided boulevard. With the proposed improvements, the LOS D capacity will increase to 30,000 vpd. The proposed improvements on US 70 will increase capacity, help to reduce congestion, and improve mobility in this area of Carteret County. This project will also spur economic development and help emergency responders get to their destinations quicker.

Natural & Human Environmental Context

During the development of the Carteret County CTP the only option considered for this project was widening at the existing location. The Feasibility Studies Unit is currently investigating this project (FS-1002A). They are looking at an option to widen the Causeway Bridge to the north, and an option to widen to the south. They are also looking at widening the channel that goes underneath the bridge. The Feasibility Study is expected to be complete by Spring 2015.

Relationship to Land Use Plans

There are no new residential or commercial properties planned in the vicinity of the project. Development on the east side of Morehead City is limited by natural environmental resources.

Linkages to Other Plans and Proposed Project History

Project TIP No. R-3307 is just east of this project. That project is currently in construction. A proposed 4-lane bridge will connect Radio Island to Beaufort.

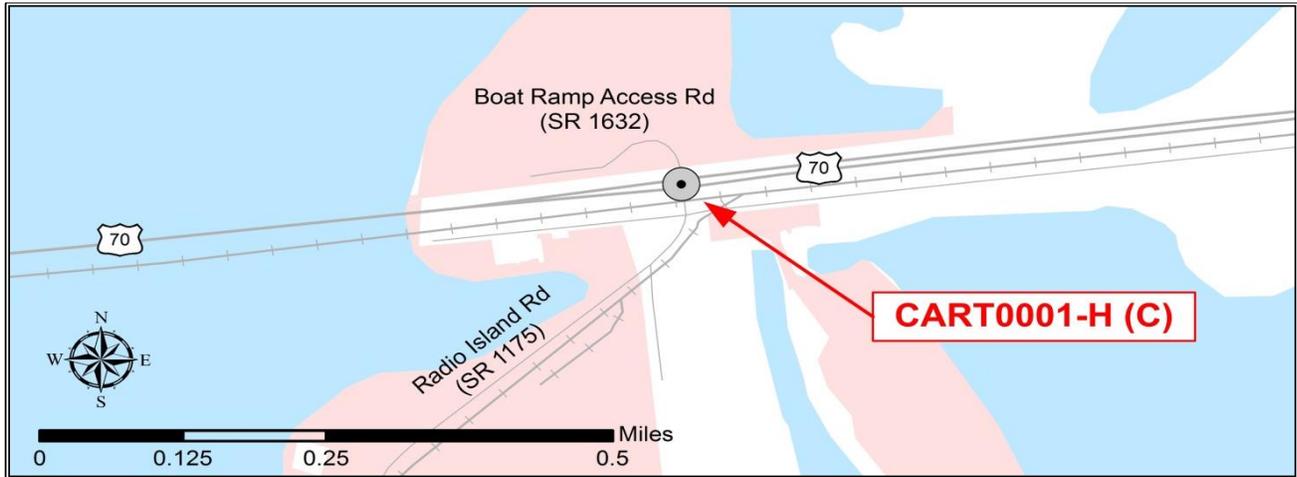
This project was not included in the 1995 Morehead City Thoroughfare Plan Revision. US 70 is shown as an existing major thoroughfare.

Multi-modal Considerations

This project also includes a sidewalk on the north side of the facility.

Public / Stakeholder Involvement

The CTP Committee is in favor of this project. From public meetings and other comment opportunities, the public is also in favor of this project.



Identified Problem

Existing US 70 is projected to be over capacity by 2040 in the vicinity of Radio Island Road (SR 1175) in Morehead City. The primary purpose of this project is to relieve congestion on the existing facility and construct a grade separated interchange such that a minimum of Level of Service (LOS) D can be achieved.

Justification of Need

US 70 is a major east-west corridor in Carteret County, connecting New Bern and Havelock in Craven County to Newport, Morehead City, Beaufort, and other rural parts of Carteret county. The facility is a vital artery in moving people and goods through Southeast North Carolina, connecting Raleigh, Goldsboro, Kinston, New Bern, and Morehead City.

US 70 (Arendell Street) is a 4-lane divided section on the east and west approach with 12-foot lanes and a posted speed limit of 45 mph in Beaufort and 35 mph in Morehead City. The southern approach to this intersection is Radio Island Road (SR 1175), which is a 2-lane facility with 10-foot lanes and a posted speed limit of 45 mph. It provides access to a number of commercial properties, marinas, Port, military properties, and some residential properties. The northern approach to this intersection is a public boat ramp access road (SR 1632). The north and south approaches to this intersection are stop-sign controlled.

US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). In addition, US 70 is part of the Strategic Highway Corridor (SHC) Vision Plan. The portion of US 70 near Radio Island Road is shown as a boulevard that needs an upgrade.

By 2040, US 70 is projected to be over capacity west and east of Radio Island Road based on providing a Level of Service (LOS) D. Traffic is projected to increase from 20,000 vehicles per day (vpd) in 2010 to 26,000 vpd in 2040, compared to a LOS D capacity of 16,000 vpd.

Community Vision and Problem History

The existing intersection is an at-grade unsignalized intersection. The Port and several residential and commercial properties are on the south side. A public boat ramp is on the north side. Railroad tracks parallel US 70 just to the south. A grade separation will allow large trucks and vehicles towing boats to cross US 70 without blocking the railroad tracks or interfering with the traffic flow on US 70.

CTP Project Proposal

Project Description and Overview

To maintain US 70 facility classification as a boulevard, the at-grade intersection will need to be upgraded. The proposed project (Local ID No. CART0001-H (C)) is to convert the existing at-grade intersection to a grade-separated compressed diamond interchange. With the proposed improvements to US 70 in Local Project ID: CART0001-H (B), upgrade US 70 from 4th Street to Radio Island Road to a 4-lane divided boulevard. This project will maintain the US 70 facility classification as a boulevard. The improvements to this intersection will increase capacity, help to reduce congestion, and improve mobility in this area of Carteret County. This project will also spur economic development, and help emergency responders get to their destinations quicker.

Natural & Human Environmental Context

During the development of the Carteret County CTP the two options considered for this project were a grade separation or to maintain the at-grade intersection with the addition of a signal. The Feasibility Studies Unit is currently investigating this project (FS-1002A). They are looking at several grade separation alternates that include raising US 70 or raising Radio Island Road. They are also looking at the possibility of an at-grade intersection as a possible interim solution. The Feasibility Study is expected to be complete by Spring 2015.

Relationship to Land Use Plans

There are no new residential or commercial properties planned in the vicinity of the project. Natural environmental resources limit development on Radio Island. The Port may develop their property on Radio Island, which would increase the number of trucks and rail using this project.

Linkages to Other Plans and Proposed Project History

Project TIP No. R-3307 is just east of this project. That project is currently in construction. A proposed 4-lane bridge will connect Radio Island to Beaufort. CTP Project ID: CART0001-H (B) is just west of this project.

This project was not included in the 1995 Morehead City Thoroughfare Plan Revision. US 70 is shown as an existing major thoroughfare.

Multi-modal Considerations

This project also includes a sidewalk on the north side of the facility.

Public / Stakeholder Involvement

The CTP Committee and the Port are in favor of this project. From public meetings and other comment opportunities, the public is also in favor of this project.

US 70 from NC 101 in Beaufort to Olga Road (SR 1429) (CART0001-H (D))

The proposed improvement for this section is access management and intersection improvements on the existing US 70 facility from NC 101 in Beaufort to Olga Road (SR 1429). Recommendations include elimination of some driveways, eliminating left turns in some areas, installing a median in some locations, and improving some of the intersections.

US 70 (Live Oak Street) is a north-south corridor that goes through the middle of Beaufort. It is a 3-lane facility with 12-foot lanes and a posted speed limit of 35 mph from NC 101 to Wellons Drive. It widens at some intersections to accommodate exclusive left and right turn lanes. From north of Wellons Drive to Olga Road, US 70 is a 2-lane road with 12-foot lanes and posted speed limit of 55 mph.

The facility provides access to a number of commercial properties, residential areas, municipal buildings, agricultural areas, and rural areas. Traffic on US 70 between NC 101 and Olga Road was 17,300 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 22,000 vpd. Traffic on US 70 is projected to increase to 28,100 vpd in 2040. Access management and intersection improvements will improve safety and help reduce congestion along US 70.



Identified Problem

Existing US 70 is projected to be over capacity by 2040 from Olga Road (SR 1429) to Whitehurst Road (SR 1350) in Smyrna. The primary purpose of this project is to relieve congestion on the existing facility, widen Bridge No. 33 over the North River to 4 lanes, and widen Bridge No. 35 over Ward Creek to 4 lanes such that a minimum of Level of Service (LOS) D can be achieved.

Justification of Need

US 70 is a major east-west corridor in Carteret County, connecting New Bern and Havelock in Craven County to Newport, Morehead City, Beaufort, and other rural parts of Carteret County. The facility is a vital artery in moving people and goods through southeast North Carolina, connecting Raleigh, Goldsboro, Kinston, New Bern, and Morehead City.

US 70 between Olga Road (SR 1429) and Whitehurst Road (SR 1350) in Smyrna is a 2-lane facility with 12-foot lanes and a posted speed limit of 55 mph. It widens at some intersections to accommodate exclusive left and right turn lanes. The facility provides access to a number of commercial properties, residential areas, municipal buildings, agricultural areas, rural areas, and Cedar Island/Ocracoke Ferry route.

US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). The portion of US 70 between Olga Road and Whitehurst Road is not part of the Strategic Highway Corridor (SHC) Vision Plan.

By 2040, the facility is projected to be over capacity based on providing a LOS D. Traffic is projected to increase from 9,800 vehicles per day (vpd) in 2010 to 15,200 vpd in 2040, compared to a LOS D capacity of 12,000 vpd.

Community Vision and Problem History

Population is expected to continue increasing through the 2040 planning period. US 70 is currently the only east-west facility in this part of the county. With the predicted growth in population and tourism, widening US 70 to a four-lane facility will ease congestion, and provide better access for residents and visitors.

CTP Project Proposal

Project Description and Overview

The proposed project (Local ID No. CART0001-H (E)) is to convert the existing 2-lane facility from Olga Road to Whitehurst Road to a four-lane divided expressway, widen Bridge No. 33 over the North River to four lanes, and widen Bridge No. 35 over Ward Creek to four lanes. With the proposed improvements, the LOS D capacity will increase to 57,000 vpd. The proposed improvements on US 70 will increase capacity, help to reduce congestion, and improve mobility in this area of Carteret County. This project will also spur economic development, and help emergency responders get to their destination quicker. The project will also improve the evacuation route.

Natural & Human Environmental Context

During the development of the Carteret County CTP the only option considered for this project was a widening on existing location. The corridor studied has the potential to impact some wetlands.

Relationship to Land Use Plans

There are no new major residential or commercial properties planned in the vicinity of the project. Development in eastern Carteret County is limited by natural environmental resources.

Linkages to Other Plans and Proposed Project History

Project TIP No. R-3307 and CTP Project ID: CART0001-H (D) are west of this project. CTP Project ID: CART0001-H (F) is east of this project.

This project was not included in the 1995 Morehead City Thoroughfare Plan Revision. US 70 is shown as an existing major thoroughfare.

Multi-modal Considerations

This project also includes bike facilities from Beaufort to ferry terminal.

Public / Stakeholder Involvement

The CTP Committee is in favor of this project. From public meetings and other comment opportunities the public is also in favor of this project.

US 70 from Whitehurst Road (SR 1350) to Seashore Drive (SR 1417) in Atlantic (CART0001-H (F))

The proposed improvement for this section is widening along the existing US 70 facility from Whitehurst Road (SR 1350) to Seashore Drive (SR 1417) in Atlantic. Recommendations include widening to two 12-foot lanes with 2-foot shoulders.

US 70 is a north-south corridor that runs along the coastline of Carteret County. It is a 2-lane facility with 10-foot lanes and a posted speed limit of 55 mph, from Whitehurst Road (SR 1350) to NC 12 (Cedar Island Road). From NC 12 (Cedar Island Road) to a point 0.1 miles southwest of Smith Road (SR 1379) the posted speed limit is 45 mph. From a point 0.1 miles southwest of Smith Road (SR 1379) to Seashore Drive (SR 1417) the posted speed limit is 35 mph. The facility provides access to a number of commercial properties, residential areas, municipal buildings, agricultural areas, marinas, rural areas, and Cedar Island/Ocracoke Ferry route.

Traffic on US 70 between Whitehurst Road (SR 1350) to NC 12 (Cedar Island Road) was 3,400 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 10,000 vpd. Traffic on US 70 in this area is projected to increase to 4,500 vpd in 2040.

Widening the lanes and constructing shoulders will improve safety, help reduce congestion along US 70, provide a better evacuation route, and develop facility to current design standards.

TIP No. R-3307

Project TIP No. R-3307 is a proposed multi-lane project that will connect US 70 at Radio Island to US 70 north of Beaufort near SR 1429 (Olga Road). The project is 2.2 miles in length and partly on new location. NCDOT is proposing to replace the existing bascule bridge over Gallants Channel with a 65-foot fixed span bridge and widen US 70 to 4-lanes with a median on new location. Construction is scheduled to start in the summer of 2014. Final completion is expected in January of 2019. For further information, contact Project Development & Environmental Analysis (PDEA).

Proposed Interchange at US 70 and Northern Carteret Bypass (CART0001-H (G))

Existing US 70 is projected to be over capacity by 2040 in the vicinity of the Beaufort area. The primary purpose of this project together with TIP No. R-3307 is to relieve congestion on the existing US 70 facility and construct a grade separated interchange that ties together R-3307 and the Northern Carteret Bypass (TIP No. R-4431); such that a minimum of Level of Service (LOS) D can be achieved and full control access is maintained.

US 70 is a major north-south corridor in Carteret County, connecting Newport, Morehead City, Beaufort, and other rural parts of the county. The facility is a vital artery in moving people and goods through southeast North Carolina, connecting Raleigh, Goldsboro, Kinston, New Bern and Morehead City.

US 70 in the Beaufort area is a 2-lane facility with 12-foot lanes and a posted speed limit of 55 mph. TIP No. R-3307 is a proposed 4-lane divided boulevard partly on new location that will connect US 70 at Radio Island to existing US 70 at Olga Road (SR 1429). TIP No. R-3307 is a funded project and construction is scheduled to start in June of 2015. The Northern Carteret Bypass, TIP No. R-4431, is a proposed four-lane freeway on new location that will connect US 70 in Havelock in Craven County to TIP No. R-3307, US 70 in Beaufort.

US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). TIP No. R-3307 is part of the Strategic Highway Corridor (SHC) Vision Plan. It is shown as a recommended freeway. The Northern Carteret Bypass, TIP No. R-4431, is also shown as a recommended freeway on the Strategic Highway Network.

To maintain full control access at the intersection of US 70, TIP No. R-3307 and the Northern Carteret Bypass (TIP No. R-4431) is recommended to be constructed as a grade-separated interchange. The proposed improvements will increase capacity, help to reduce congestion, and improve mobility in this area of Carteret County. This project will also spur economic development, provide better access to the Port, and help emergency responders get to their destinations quicker. The project will also improve the emergency evacuation route.

NC 58, Local ID No. CART0004-H

The primary purpose of project (Local ID No. CART0004-H) is to improve the NC 58 corridor in Carteret County from Coast Guard Road in Emerald Isle to Pepper Lane in Atlantic Beach. Recommendations for the sections of NC 58 include access management, intersection improvements, multi-lane widening, adding a median, adding turn lanes, and adding 2-foot shoulders.

NC 58 is an east-west corridor that connects Emerald Isle, Indian Beach, Salter Path, Pine Knoll Shores, and Atlantic Beach. It is a 2 to 3-lane facility with 12-foot lanes and a posted speed limit of 45 mph, with a seasonal speed limit of 35 mph during the summer.

NC 58 is part of the regional tier of the NC Multimodal Investment Network (NCMIN).

NC 58 from Coast Guard Road to Lee Avenue in Emerald Isle (CART0004-H (A))

The proposed improvement for this section is access management and intersection improvements on the existing NC 58 facility from Coast Guard Road to Lee Avenue in

Emerald Isle. Recommendations include elimination of some driveways, eliminating left turns in some areas, and improving some of the intersections.

NC 58 (Emerald Drive) is a 2 to 3-lane facility with 12-foot lanes and a posted speed limit of 45 mph, with a seasonal speed limit of 35 mph during the summer. It widens at some intersections to include exclusive left or right turn lanes. There is a sidewalk on the north side of NC 58 and a multi-use path on the south side.

The facility provides access to a number of commercial properties, residential areas, municipal buildings and beach accesses. Traffic on NC 58 between Coast Guard Road to Lee Avenue was 15,600 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 18,000 vpd. Traffic on NC 58 in this area is projected to increase to 22,400 vpd in 2040.

Access management and intersection improvements will improve safety and help reduce congestion along NC 58. The communities involved in the process did not want to widen roads or add lanes, at this time.

NC 58 from Lee Avenue to Hoffman Beach Road in Indian Beach (CART0004-H (B))

The proposed improvement for this section is widening and access management on the existing NC 58 facility from Lee Avenue to Hoffman Beach Road in Indian Beach. Recommendations include widening to three 12-foot lanes with 2-foot shoulders, elimination of some driveways, eliminating left turns in some areas, and improving some of the intersections.

NC 58 (Emerald Drive) is a 2-lane facility with 12-foot lanes and a posted speed limit of 45 mph. It widens at some intersections to include exclusive left or right turn lanes. There is a multi-use path on the south side on NC 58.

The facility provides access to a number of commercial properties, residential areas, and municipal buildings. Traffic on NC 58 between Lee Avenue and Hoffman Road was 4,800 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 12,000 vpd. Traffic on NC 58 in this area is projected to increase to 6,500 vpd in 2040.

Access management, widening to three lanes and intersection improvements will improve safety and help reduce congestion along NC 58. Additionally, the third lane will allow for left turns onto the numerous residential streets on both sides of NC 58, and will provide better access to the North Carolina Aquarium.

NC 58 from Hoffman Beach Road in Indian Beach to Bermuda Green in Pine Knoll Shores (CART0004-H (C))

The proposed improvement for this section is access management and intersection improvements on the existing NC 58 facility from Hoffman Beach Road in Indian Beach to Bermuda Green in Pine Knoll Shores. Recommendations include installing a median and putting in turn lanes where necessary.

NC 58 (Salter Path Road) is a 2 to 3-lane facility with 12-foot lanes and a posted speed limit of 45 mph, with a seasonal speed limit of 35 mph during the summer.

Traffic on NC 58 between Hoffman Beach Road and Bermuda Green was 8,000 vehicles per day (vpd) in 2010 with a projected volume of 10,500 vpd in 2040. The Level of Service (LOS) D for this facility is 12,000 vpd.

Access management, a median, turn lanes will improve safety along the corridor, and will provide better access to the North Carolina Aquarium.

NC 58 from Bermuda Green in Pine Knoll Shores to Pepper Lane in Atlantic Beach (CART0004-H (D))

The proposed improvement for this section is access management and intersection improvements on the existing NC 58 facility from Bermuda Green in Pine Knoll Shores to Pepper Lane in Atlantic Beach. Recommendations include installing a median and putting in turn lanes where necessary.

NC 58 (West Fort Macon Road) is a 3-lane facility with 12-foot lanes and a posted speed limit of 45 mph. It widens at some intersections to include exclusive left or right turn lanes.

The facility provides access to a number of commercial properties, residential areas, municipal buildings, and beach access. Traffic on NC 58 between Bermuda Green and Pepper Lane was 14,000 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 16,000 vpd. Traffic on NC 58 in this area is projected to increase to 20,000 vpd in 2040. With these improvements, the LOS would increase to 21,600 vpd.

Access Management, a median, and turn lanes will improve safety and help reduce congestion along NC 58.

The communities involved in the process did not want to add additional lanes, at this time.

NC 24, Local ID No. CART0005-H

The primary purpose of project (Local ID No. CART0005-H) is access management and intersection improvements on the existing NC 24 facility from Cedar Lane (SR 1202) to US 70 in Morehead City. Recommendations include elimination of some driveways, eliminating left turns in some areas, installing a median, and improving some of the intersections.

NC 24 is an east-west corridor that goes through the middle of the Cape Carteret, Cedar Point, and Bogue. NC 24 connects Onslow County to Morehead City. NC 24 is a 5-lane facility with 12-foot lanes and a posted speed limit that varies between 35 mph and 55 mph. It widens at some intersections to accommodate exclusive left and right turn lanes.

The facility provides access to a number of commercial properties, residential areas, municipal buildings, schools, US Marine Corps (USMC) Bogue Field, and the Croatan National Forest. Traffic on NC 24 between Cedar Lane (SR 1202) and US 70 in Morehead City was 17,600 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 28,000 vpd. Traffic on NC 24 is projected to increase to 23,000 vpd in 2040.

NC 24 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). NC 24 is part of the Strategic Highway Network (STRAHNET). NC 24 is also part of the Strategic Highway Corridor (SHC) Vision Plan. The portion of NC 24 between Cedar Lane and US 70 in Morehead City is shown as an expressway that needs an upgrade. Access management and intersection improvements will improve safety and help reduce congestion along NC 24. Installing a median will allow upgrading the facility to an expressway.

This project also includes a multi-use path.

Proposed Interchange at NC 24 and NC 58, TIP No. R-4721 -- Local ID No. CART0006-H

Existing NC 24 is projected to be over capacity by 2040 in the vicinity of NC 58 in Cedar Point. The primary purpose of this project is to relieve congestion on the existing facility and construct a grade separated interchange such that a minimum of LOS D can be achieved. TIP No. R-4721 is intended to address this problem. The proposed improvements will reduce congestion on NC 24 and NC 58, create more connectivity, and improve mobility in this area of Carteret County.

NC 24 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). NC 24 is part of the Strategic Highway Network (STRAHNET). NC 24 is also part of the Strategic Highway Corridor (SHC) Vision Plan. The portion of NC 24 between Cedar Lane (SR 1202) and US 70 in Morehead City is shown as an expressway that needs improvement. NC 58 is part of the regional tier of the NC Multimodal Investment Network (NCMIN). NC 58 is not part of the Strategic Highway Corridor. For additional

information about this project, including the Purpose and Need, contact *NCDOT's Project Development and Environmental Analysis Unit*.

NC 12, Local ID No. CART0007-H

The primary purpose of project (Local ID No. CART0007-H) is widening on the existing NC 12 facility from US 70 to the Cedar Island Ferry Station. Recommendations include widening to two 12-foot lanes with 2-foot shoulders.

NC 12 is a north-south corridor that runs along the coastline of Carteret County. It is a 2-lane facility with 9 to 11-foot lanes and a posted speed limit of 55 mph, from US 70 to the Cedar Island Ferry Station. The facility provides access to some small residential areas, the Cedar Island Ferry, the Cedar Island National Wildlife Refuge, and rural areas.

Traffic on NC 12 between US 70 and the Cedar Island Ferry Station was 1,200 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 8,000 vpd. Traffic on NC 24 in this area is projected to increase to 1,600 vpd in 2040.

NC 12 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). NC 12 is not part of the Strategic Highway Corridor (SHC) Vision Plan. Widening the lanes and constructing shoulders will improve safety and help reduce congestion along NC 12, as well as bring the facility up to current design standards. In addition, widening the lanes and constructing shoulders will provide a better evacuation route.

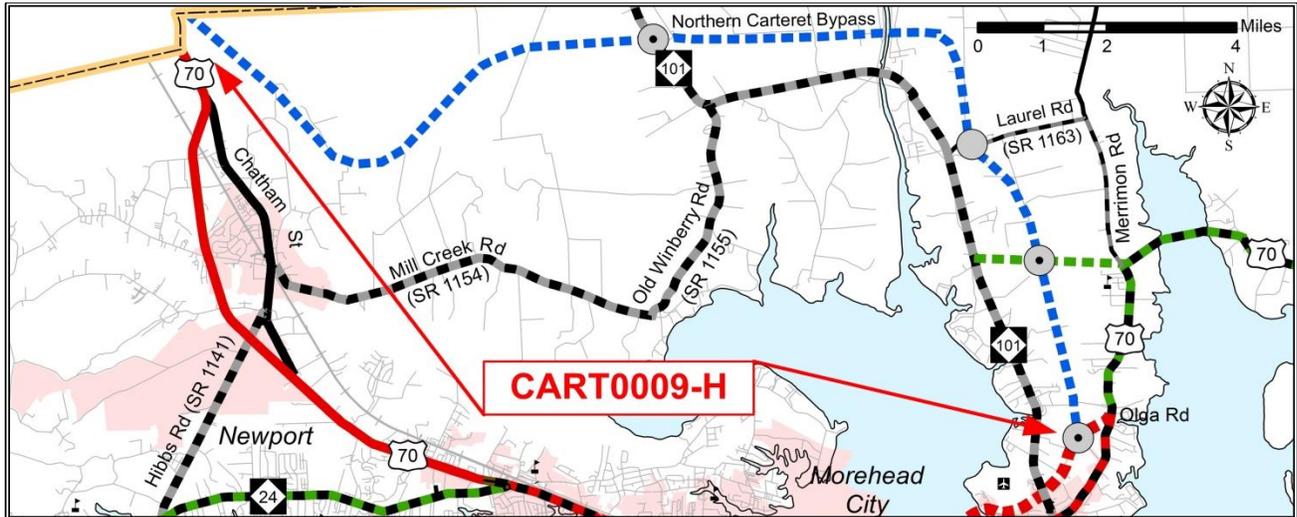
NC 101, Local ID No. CART0008-H

The primary purpose of project (Local ID No. CART0008-H) is widening, resurfacing, and utility relocation on the existing NC 101 facility from West Beaufort Road (SR 1170) in Beaufort to Laurel Road (SR 1163). Recommendations include widening to three 12-foot lanes with 2-foot shoulders and resurfacing the existing pavement. Utility relocation is recommended in some locations.

NC 101 is a north-south corridor that connects Beaufort with Havelock in Craven County. It is a 2-lane facility with 10 to 12-foot lanes. The posted speed limit is 35 mph within the municipal limits of Beaufort. North of Beaufort the posted speed limit is 55 mph. NC 101 widens at some intersections to include exclusive left or right turn lanes. There is a sidewalk on the east side on NC 101 between West Beaufort Road (SR 1170) and Carraway Drive (SR 1299).

NC 101 provides access to a number of commercial properties, industrial facilities, residential areas, agricultural areas, military facilities, schools, airport, and rural areas. Traffic on NC 101 between West Beaufort Road (SR 1170) and Laurel Road (SR 1163) was 8,500 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 10,000 vpd. Traffic on NC 101 in this area is projected to increase to 14,100 vpd in 2040.

NC 101 is part of the regional tier of the NC Multimodal Investment Network (NCMIN). NC 101 is not part of the Strategic Highway Corridor (SHC) Vision Plan. Widening to three lanes will improve safety and help reduce congestion along NC 101.



Identified Problem

Existing US 70 is projected to be over capacity by 2040 through Morehead City. The primary purpose of this project is to relieve congestion on the existing facility and create a second east-west facility across Carteret County.

Justification of Need

US 70 is the only major east-west corridor in Carteret County, connecting New Bern and Havelock in Craven County to Newport, Morehead City, Beaufort, and other rural parts of Carteret County. The facility is a vital artery in moving people and goods through southeast North Carolina, connecting Raleigh, Goldsboro, Kinston, New Bern, and Morehead City.

US 70 is classified as boulevard or major thoroughfare through most of the county. Speed limits on US 70 vary from 35 mph to 55 mph. The number of lanes on US 70 vary from 2 to 5 lanes. US 70 is currently the only facility that connects the Port to the rest of the state.

The estimated current year Average Daily Traffic (ADT) along most of the proposed Northern Carteret Bypass ranges from 6,300 vehicles per day (vpd) just east of US 70 to 13,500 vpd just north of the terminus of TIP No. R-3307. For the year 2040, the traffic volume along most of the proposed new route is estimated to range between 9,300 vpd to 20,200 vpd. Truck traffic is estimated to make up approximately 6 percent of the daily traffic. In the year 2040, the proposed new route is projected to operate at a level of service (LOS) B or better.

The current year Average Daily Traffic (ADT) along US 70 from NC 101 south of Havelock to NC 101 in Beaufort ranges from 18,500 vpd to 31,300 vpd. Without the proposed new route in the 2040 design year, the traffic volume along US 70 is estimated to range between 27,700 vpd to 46,900 vpd.

Community Vision and Problem History

US 70 through Carteret County has numerous congestion issues, driveways, traffic lights and speed limit restrictions. The Northern Carteret Bypass will bypass all of these issues and provide alternate access to the Port and remove many of the trucks that are currently using US 70 through Morehead City to access the Port.

Note that this project was dropped from the 2012–2020 State Transportation Improvement Program (STIP) due to its score in Prioritization 2.0 (NCDOT Strategic Planning Office).

CTP Project Proposal

Project Description and Overview

The proposed project (Local ID No. CART0009-H) is to construct a four-lane divided freeway on new location. This project will improve traffic safety, operations and access between Havelock and the Morehead City area by providing a new route as an alternative to existing US 70. The Northern Carteret Bypass will connect to the Havelock Bypass (TIP No. R-1015, US 70, north of Pine Grove Road in Craven County to north of Carteret County line).

It is recommended that an interchange be constructed at the intersection of the Northern Carteret Bypass and NC 101. NC 101 is a two-lane facility with 10 to 11 foot lanes and a 55 mph posted speed limit. It provides access to residential, agricultural, and rural areas. NC 101 is classified as a Major Thoroughfare. It serves as a connector between Beaufort and Craven County. With the proposed improvements, this interchange will maintain the Northern Carteret Bypass facility classification as a freeway.

The proposed Northern Carteret Bypass will create an additional emergency evacuation route, provide better Port access, reduce congestion on US 70, create more connectivity, and improve mobility in this area of Carteret County. This project is on the Strategic Highway Corridor (SHC) Vision Plan and is shown as a recommended freeway.

Natural & Human Environmental Context

A detailed community impact investigation was not conducted for the feasibility study, (TIP No. R-4431 / FS-9902C) done in 2009, however possible impacts to East Carteret High School are anticipated. Maps at the Survey and Planning Branch of the North Carolina State Historic Preservation Office were used to determine if any historic properties on the National Register of Historic Places (NRHP) or state study lists exist

within the proposed project corridor. The following properties located within the proposed project corridor were found to be potentially historic properties:

- E. D. Miller House
- Clubfoot and Harlowe Creek Canal
- Joshua Adams Store and Post Office
- Rufus Bell House
- Carteret County Home
- Core Creek Bridge
- Truss Bridge No. 101-16-10
- Ernest Webb House

It is anticipated that the Croatan National Forest will be impacted by this project. The Croatan National Forest is designated as federal owned game lands managed for conservation or open space. Possible impacts to Walkers Millpond are anticipated. Walkers Millpond is designated as lands managed for conservation or open space and as a land trust conservation property.

The proposed project corridor crosses several water bodies in the Neuse and White Oak River Basins. Hancock Creek has a stream classification of SC Sw NSW. Harlowe Canal and the Intracoastal Waterway have a stream classification of SA HQW. Deep Creek, Ghouls Fork, and Main Prong have a stream classification of C. These water bodies will likely need to be surveyed and have the appropriate coordination with the North Carolina Department of Environment and Natural Resources (NCDENR) and the U.S. Army Corps of Engineers (USACE) during any environmental document study. Portions of the proposed project corridor are located in a high quality water zone.

The proposed project corridor crosses wetlands associated with Hancock Creek, Harlowe Canal, the Intracoastal Waterway, Deep Creek, Ghouls Fork, Main Prong, and several jurisdictional wetland areas. Permitting with the U.S. Army Corps of Engineers (USACE) will likely need to be obtained before construction of the project, and appropriate mitigation measures should be taken if deemed necessary.

There are several threatened and endangered species within the proposed project corridor. Shellfish strata, an anadromous fish spawn area, and the Marsh Bird Nesting Area special habitat are located within the proposed project corridor.

The following Natural Communities are located within the proposed project corridor:

- High Pocosin
- Low Pocosin
- Mesic Pine Flatwoods
- Pond Pine Woodland

The following significant Natural Heritage Areas are located within the proposed project corridor:

- Billfinger Road Flatwoods
- North River Brackish Marsh

- Union Point Pocosin
- Walkers Millpond

Walkers Millpond is designated as a Natural Heritage Program managed area and as a dedicated nature preserve. The Croatan National Forest is designated as a Natural Heritage Program managed area.

Relationship to Land Use Plans

There are no new residential or commercial properties planned in the immediate vicinity of the project. Development on the north side of Carteret County is limited by natural environmental resources.

Linkages to Other Plans and Proposed Project History

The following are Transportation Improvement Program (TIP) projects located within the proposed project corridor:

- **TIP No. B-4722:** Replace Bridge No. 33, which carries US 70 over the North River in Carteret County.
- **TIP No. R-1015:** Havelock Bypass from north of Pine Grove to north of Carteret County line in Craven County.
- **TIP No. R-3307:** Widen US 70 from Radio Island to US 70 north of Beaufort near SR 1429 (Olga Road) in Carteret County.
- **TIP No. R-3437:** New route from US 70 in Newport to NC 101 in Carteret County.
- **TIP No. R-3624:** Relocation of NC 101 to accommodate extension of Beaufort - Morehead City Airport Runway 26 in Carteret County.
- **TIP No. R-4746:** Upgrade existing US 70/NC 12 from NC 101 in Beaufort to Cedar Island in Carteret County.

This project was included in the 1995 Morehead City Thoroughfare Plan Revision. The project was shown as a proposed major thoroughfare.

On the 2004 Strategic Highway Corridor Vision Plan, this proposed new route was included as part of the Raleigh to Morehead City Strategic Highway Corridor, and was designated as a proposed freeway facility.

A Feasibility Study (TIP No. R-4431 / FS-9902C) was completed for this project in 1999, and later additional alternates were analyzed in 2009. Multiple corridors were analyzed. During the development of the Carteret County CTP, the only option considered for this project was at the proposed location.

Multi-modal Considerations

There are no multi-modal elements on current scope of this project.

In the *NCRRC Havelock to Morehead City Railroad Relocation Study Draft Report*, one of the recommendations is that “the railroad tracks relocation alternative should be

explored as a joint corridor that accommodates both rail and vehicular transportation modes, such as could be the case with a planned North Carolina County US 70 Bypass currently under consideration.”

Public / Stakeholder Involvement

The CTP Committee and the Port of Morehead City are in favor of this project. From public meetings and other comment opportunities, the public is also in favor of this project. Carteret County, the Town of Newport, and the Down East Rural Planning Organization also support this project.

Note that there is a proposed grade separation (Local ID: CART0003-H) that will connect with the Northern Carteret Bypass:

Proposed Grade Separation at Northern Carteret Bypass TIP No. R-4431 and Laurel Road (SR 1163), Local ID: CART0003-H

Based on North Carolina’s vision for mobility and connectivity, an at-grade intersection between the Northern Bypass (TIP No. R-4431) and Laurel Road (SR 1163) would create delays related to a traffic light.

The Northern Carteret Bypass, TIP No. R-4431, is a proposed 4-lane freeway on new location that will connect US 70 in Craven County to US 70 in Beaufort. The proposed improvements will create an additional emergency evacuation route, reduce congestion on existing US 70, create more connectivity, and improve mobility in this area of Carteret County. This project is on the Strategic Highway Corridor (SHC) Vision Plan and is shown as a recommended freeway.

Laurel Road is a 2-lane major thoroughfare with 10-foot lanes that has a posted speed limit of 55 mph and connects NC 101 to Merrimon Road (SR 1300). It provides access to residential, industrial, agricultural, and rural areas. This facility is not on the Strategic Highway Corridor Vision Plan. Connecting these two facilities with an at-grade intersection would eliminate the full control access proposed for TIP No. R-4431.

It is recommended that a grade separation be constructed at the intersection of the Northern Carteret Bypass and Laurel Road. With the proposed improvements, this project will maintain the Northern Carteret Bypass facility classification as a freeway. The improvements to this intersection will increase capacity, help to reduce congestion, improve mobility, and maintain good access to the Port in this area of Carteret County.

Little 9 Road (SR 1601) from NC 24 to US 70, Local ID: CART0010-H

There are currently a limited number of north-south facilities that link the two major east-west facilities of NC 24 and US 70 in Morehead City. The purpose of this project is to improve mobility and enhance system linkage between NC 24 and US 70.

US 70 (Arendell Street) is an east-west corridor that goes through the middle of the Morehead City. It is a 4-lane divided facility with 12-foot lanes and a posted speed limit of 35 mph. It widens at some intersections to accommodate exclusive left and right turn lanes. US 70 has a railroad track in the median and sidewalks on both sides.

The facility provides access to a number of commercial properties, residential areas, municipal buildings, Carteret General Hospital, schools, and Carteret Community College. Traffic on US 70 between South Lockhart Street to 4th Street was 31,000 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 35,000 vpd. Traffic on US 70 is projected to increase to 40,000 vpd in 2040.

US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). US 70 is part of the Strategic Highway Network (STRAHNET). US 70 is also part of the Strategic Highway Corridor (SHC) Vision Plan.

NC 24 is an east-west corridor that goes through the middle of the Cape Carteret, Cedar Point, and Bogue. NC 24 connects Onslow County to Morehead City. NC 24 is a 5-lane facility with 12-foot lanes and a posted speed limit that varies between 35 mph and 55 mph. It widens at some intersections to accommodate exclusive left and right turn lanes.

The facility provides access to a number of commercial properties, residential areas, municipal buildings, schools, US Marine Corps (USMC) Bogue Field, and the Croatan National Forest. Traffic on NC 24 between Cedar Lane (SR 1202) and US 70 in Morehead City was 17,000 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 28,000 vpd. Traffic on NC 24 is projected to increase to 23,000 vpd in 2040.

NC 24 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). NC 24 is part of the Strategic Highway Network (STRAHNET). NC 24 is also part of the Strategic Highway Corridor (SHC) Vision Plan.

The existing portion of Little 9 Road (SR 1601) is a north-south facility that provides access to a number of small businesses and a daycare facility. Little 9 Road is a 2-lane facility with 10-foot lanes and a 35 mph speed limit. The intersection of US 70 and Little 9 Road is unsignalized.

The proposed project (Local ID No. CART0010-H) is to extend Little 9 Road (SR 1601) as a two-lane recommended minor thoroughfare from NC 24 to US 70 with 12-foot lanes and 2-foot shoulders. The improvements will enhance system linkage, help to reduce congestion, and improve mobility in this area of Carteret County.

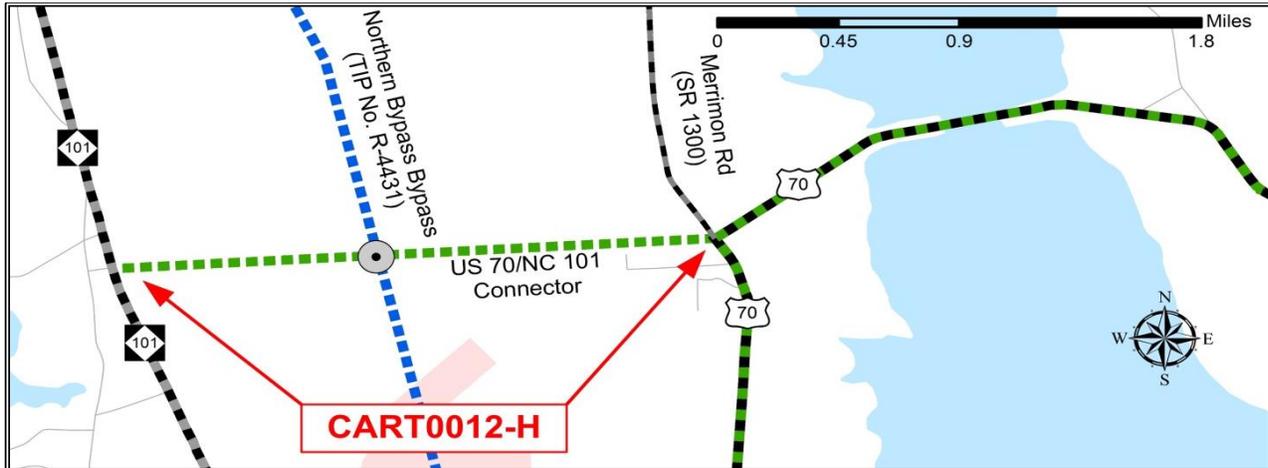
New Location Road from Friendly Road (SR 1605) in Morehead City to Mandy Lane (SR 1707), Local ID: CART0011-H

There are currently a limited number of east-west facilities that link the two major north-south facilities of Friendly Road (SR 1605) and North 35th Street (SR 1602) in Morehead City. The purpose of this project is to improve mobility between Friendly Road and North 35th Street and enhance system linkage on local facilities.

Bridges Street (SR 1176) is an east-west corridor that goes through the middle of Morehead City and connects Friendly Road and North 35th Street. It is a 4 to 5-lane facility with 11 to 12-foot lanes and a posted speed limit that varies between 35 mph to 45 mph. It widens at some intersections to accommodate turn lanes.

The facility provides access to a number of commercial properties, residential areas, municipal buildings, schools, and Carteret General Hospital. Traffic on Bridges Street (SR 1176) west of 35th Street was 17,000 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 21,500 vpd. Traffic on Bridges Street is projected to increase to 31,900 vpd in 2040. Bridges Street is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN).

The proposed project (Local ID No. CART0011-H) is to construct a two-lane minor thoroughfare with 12-foot lanes and 2-foot shoulders on new location that connects Friendly Road to Hedrick Boulevard (SR 1719) and Mandy Lane (SR 1707). This east-west connection will help reduce congestion on Bridges Street (SR 1176), enhance system linkage, and improve mobility in this area of Carteret County.



Identified Problem

There are currently a limited number of east-west facilities that link the two major north-south facilities of NC 101 and US 70 north of Beaufort in Carteret County. The purpose of this project is to improve mobility between NC 101 and US 70 and enhance system linkage on local facilities.

Justification of Need

US 70 (Live Oak Street) is one of the two north-south corridors that provides access to Beaufort. It is a 3-lane facility with 12-foot lanes and a posted speed limit of 35 mph, from NC 101 to Wellons Drive. It widens at some intersections to accommodate exclusive left and right turn lanes. From north of Wellons Drive to Olga Road (SR 1429), US 70 is a 2-lane road with 12-foot lanes and posted speed limit of 55 mph.

The US 70 facility provides access to a number of commercial properties, residential areas, municipal buildings, agricultural areas, Port access, and rural areas. Traffic on US 70 between NC 101 and Olga Road was 17,300 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 22,000 vpd. Traffic on US 70 is projected to increase to 28,100 vpd in 2040. US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). The portion of US 70 between NC 101 and Olga Road is not part of the Strategic Highway Corridor (SHC) Vision Plan.

NC 101 is the second north-south corridor that provides access to Beaufort and connects to Havelock in Craven County. It is a 2-lane facility with 10 to 11-foot lanes. The posted speed limit is 35 mph within the municipal limits of Beaufort. North of Beaufort the posted speed limit is 55 mph. NC 101 widens at some intersections to include exclusive left or right turn lanes. There is a sidewalk on the east side on NC 101 between West Beaufort Road (SR 1170) and Carraway Drive (SR 1299).

NC 101 provides access to a number of areas that include commercial properties, residential, agricultural, rural, and industrial. It also provides access to military facilities, and schools. Traffic on NC 101 between West Beaufort Road (SR 1170) and Laurel Road (SR 1163) was 8,500 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 10,000 vpd. Traffic on NC 101 in this area is projected to increase to 14,100 vpd in 2040. NC 101 is part of the regional tier of the NC Multimodal Investment Network (NCMIN). NC 101 is not part of the Strategic Highway Corridor (SHC) Vision Plan.

The only connections that exist between these two facilities currently are Laurel Road, which is 2.4 miles to the north, and the intersection of NC 101 and US 70 in Beaufort, which is 4.1 miles to the south.

Community Vision and Problem History

NC 101 and US 70 are only connected by Laurel Road and the intersection of the two facilities inside of Beaufort. This proposed project will create an additional east-west connector between the two facilities and reduce congestion in Beaufort and on Laurel Road.

CTP Project Proposal

Project Description and Overview

The proposed project (Local ID No. CART0009-H) is to construct a two-lane expressway on new location that connects NC 101 and US 70 at the intersection of Merrimon Road (SR 1300). Note that there is a proposed interchange (Local ID No. CART0009-H) that will connect the Northern Bypass (TIP No. R-4431) to this project to maintain full control access. This east-west connection will help reduce congestion on US 70 in the Beaufort area, enhance system linkage, and improve mobility in this area of Carteret County.

Natural & Human Environmental Context

The corridor studied has the potential to impact some wetlands.

Relationship to Land Use Plans

There are no new residential or commercial properties planned in the immediate vicinity of the project. This area is classified as rural.

Linkages to Other Plans and Proposed Project History

Project TIP No. R-4431 intersects with this project. There is a recommended grade separation at that location. CTP Project CART0001-H (E) is just east of this project. Project TIP No. R-3307 is south of this project.

A facility connecting NC 101 and US 70 was shown on the 1995 Morehead City Thoroughfare Plan Revision, though not exactly at this location. This project was shown as a proposed major thoroughfare.

Multi-modal Considerations

This project does not include any multi-modal considerations.

Public / Stakeholder Involvement

The CTP Committee is in favor of this project. From public meetings and other comment opportunities, the public is also in favor of this project.

New Location Road from Country Club Road (SR 1177) to North 20th Street (SR 1176), Local ID: CART0013-H

There are currently a limited number of east-west facilities that link the two north-south facilities of Country Club Road (SR 1177) and North 20th Street (SR 1176) in Morehead City in Carteret County. The purpose of this project is to improve mobility between Country Club Road and North 20th Street, and enhance system linkage on local facilities.

Country Club Road is one of the two north-south corridors that provide access to the northern area of Morehead City. Country Club Road is a 2-lane facility with 11-foot lanes and a posted speed limit of 35 mph, from Bridges Street (SR 1738) to Forest Hills Road (SR 1222). Country Club Road widens at some intersections to accommodate exclusive left turn lanes. From north of Forest Hills Road to North 20th Street, Country Club Road is a 2-lane road with 9 to 11-foot lanes and a posted speed limit of 55 mph.

Country Club Road provides access to a number of commercial properties, residential areas, schools, churches, agricultural areas in Morehead City. Traffic on Country Club Road just north of proposed Local ID No. CART0013-H project was 1,800 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 13,600 vpd. Traffic on Country Club Road is projected to increase to 2,100 vpd in 2040. Country Club Road is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN).

North 20th Street is the second north-south corridor that provides access to the northern area of Morehead City. North 20th Street is a 2-lane facility with 9 to 10-foot lanes from US 70 to Mayberry Loop Road (SR 1178) with a posted speed limit of 35 mph. North of Mayberry Loop Road to Country Club Road, North 20th Street is a 2-lane facility with 9-foot lanes and a posted speed limit of 55 mph. North 20th Street widens at some intersections to include exclusive left turn lanes.

North 20th Street provides access to a number of commercial properties, residential areas, schools, Bay View Cemetery, mobile home parks, Calico Creek, Morehead City Marlins Baseball Big Rock Stadium, and agricultural areas. Traffic on North 20th Street between Mayberry Loop Road and Country Club Road was 4,100 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 13,600 vpd. Traffic on North 20th Street in this area is projected to increase to 4,700 vpd by 2040. North 20th Street is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN).

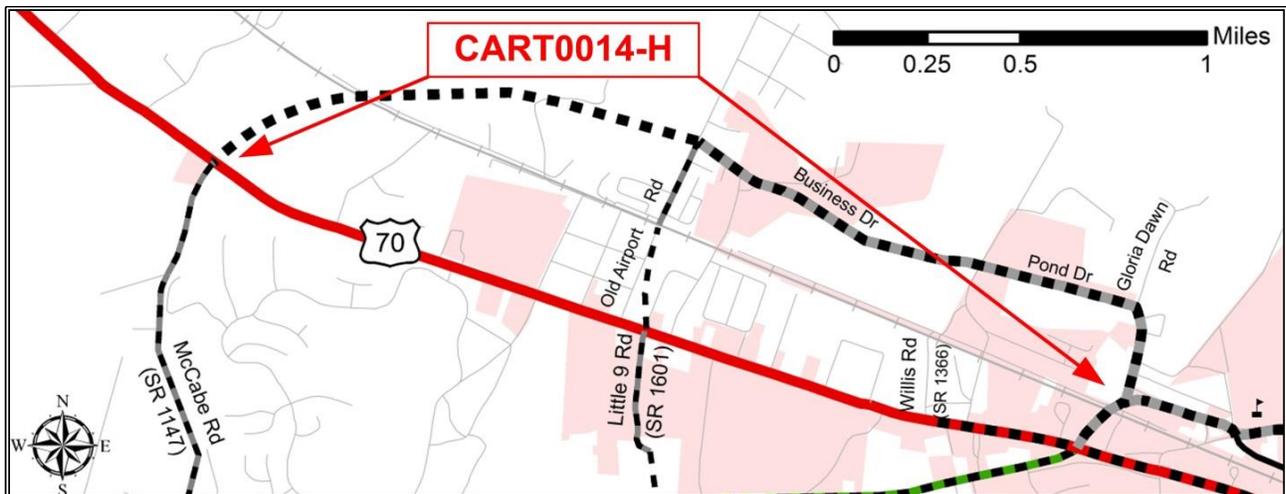
The only connections that exist between these two facilities currently are Tootle Road (SR 1241) / Mayberry Loop Road (SR 1179) which is 0.8 miles to the south, and the intersection of Country Club Road and North 20th Street, which is 0.8 miles to the north.

The proposed project (Local ID No. CART0013-H) is to construct a two-lane major thoroughfare with 12-foot lanes and 2-foot shoulders on new location that connects Country Club Road and North 20th Street at the intersection of Blair Farm Parkway.

This east-west connection will help reduce congestion on North 20th Street and Country Club Road in Morehead City, enhance system linkage, and improve mobility in this area of Carteret County.

New Location Road from US 70 / McCabe Road (SR 1147) to Bridges Street Extension (SR 1738)

**Local ID: CART0014-H
Last Updated: 9/18/2013**



Identified Problem

Existing US 70 is projected to be at capacity by 2040 from McCabe Road (SR 1147) to Bridges Street Extension (SR 1738) in Morehead City. The primary purpose of this project is to relieve congestion on the existing facility and increase mobility such that a minimum of Level of Service (LOS) D) can be achieved.

Justification of Need

US 70 is a major east-west corridor in Carteret County, connecting Craven County to Newport, Morehead City, Beaufort, and other rural parts of the county. The facility is a vital artery in moving people and goods through southeast North Carolina, connecting Raleigh, Goldsboro, Kinston, New Bern, and Morehead City.

US 70 between McCabe Road and Bridges Street Extension is a 4-lane divided section with 12-foot lanes. The posted speed limit outside city limits is 55 mph, 45 mph to NC 24, and 35 mph within the municipal limits of Morehead City. US 70 provides access to a number of commercial properties, residential areas, schools, and major regional retail centers.

US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). In addition, US 70 is part of the Strategic Highway Corridor (SHC) Vision Plan and is functionally classified as an Other Principal Arterial. The facility type for the portion of

US 70 between McCabe Road (SR 1147) and Bridges Street Extension (SR 1738) is a Boulevard.

Traffic on US 70 from McCabe Road to Bridges Street Extension was 28,000 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 35,000 vpd. Traffic on US 70 is projected to increase to 35,000 vpd in 2040.

Community Vision and Problem History

This project has been on the Morehead City Thoroughfare plan since the early 1990's. This facility will give vehicles an east-west alternative to US 70 in Morehead City.

CTP Project Proposal

Project Description and Overview

The proposed project (Local ID No. CART0014-H) is to construct a 2-lane major thoroughfare with 12-foot lanes and 2-foot shoulders partly on new location, partly on Business Drive, Pond Drive, and Gloria Dawn Road, from McCabe Street to Bridges Street Extension. The proposed improvements will reduce congestion on US 70 and improve mobility in this area of Carteret County.

Natural & Human Environmental Context

During the development of the Carteret County CTP this was the one of two locations considered for this project. Hull Swamp and some minor tributaries are in the vicinity of the western portion of the project. Also, the project crosses the railroad tracks. West Carteret High School is just east of this project and will not be impacted.

Relationship to Land Use Plans

There are no new residential or commercial properties planned in the immediate vicinity of the project. This area is classified as urban / suburban.

Linkages to Other Plans and Proposed Project History

There are a number of recommended projects in the vicinity. They include the improvements to US 70 (CART0001-H (A)), improvements to Country Club Road, improvements to NC 24 (CART0005-H), improvements to McCabe Road, and improvements and realignment to Old Airport Road.

This project was shown on the 1995 Morehead City Thoroughfare Plan Revision as a proposed major thoroughfare.

Multi-modal Considerations

This project has sidewalks recommended for both sides of the road as well as on road bike lanes.

Public / Stakeholder Involvement

The CTP Committee is in favor of this project. From public meetings and other comment opportunities the public is also in favor of this project.

New Location Road from Chatham Street (SR 1247) / Roberts Road (SR 1140) to Mill Creek Road (SR 1154), Local ID: CART0015-H

There is only one facility that connects Chatham Street (SR 1247) and Mill Creek Road (SR 1154) in Newport in Carteret County. The purpose of this project is to improve east-west mobility between Chatham Street and Mill Creek Road.

Chatham Street is one of the north-south corridors that provide access to Newport. It is a 2-lane facility with 12-foot lanes. The posted speed limit outside city limits is 55 mph, and 35 mph within Newport. Chatham Street provides access to a number of commercial properties, residential areas, Newport Elementary School and Newport Middle School, churches, agricultural areas, and rural areas. Traffic on Chatham Street just north of proposed Local ID No. CART0015-H was 5,600 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 11,000 vpd. Traffic on Chatham Street is projected to increase to 8,000 vpd by 2040. Chatham Street is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN).

Orange Street / Mill Creek Road (SR 1154) is one of the corridors that provides access to eastern Newport. It is also a connector to NC 101. It is a 2-lane facility with 10 to 12-foot lanes with a posted speed limit of 35 mph in city limits and 55 mph outside Newport. Orange Street / Mill Creek Road provides access to a number of commercial properties, residential areas, agricultural areas, churches, and Carteret Correctional Center. Traffic on Orange Street just north of proposed Local ID No. CART0015-H was 2,200 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 9,800 vpd in the 35 mph portion and 14,100 vpd in the 55 mph portion. Traffic on Orange Street / Mill Creek Road in this area is projected to increase to 4,200 vpd by 2040. Mill Creek Road is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN).

The only connection between these two facilities currently is 0.67 miles to the north, and that requires driving through downtown Newport.

The proposed project (Local ID No. CART0015-H) is to construct a two-lane major thoroughfare with 12-foot lanes and 2-foot shoulders on new location that connects Chatham Street and Mill Creek Road. This east-west connection will help reduce congestion on Chatham Street, enhance system linkage in Newport, and improve mobility in this area of Carteret County.

New Location Road from Hibbs Road (SR 1141) / Roberts Road (SR 1140) to Chatham Street (SR 1247), Local ID: CART0016-H

The intersections of Roberts Road (SR 1140) at Hibbs Road (SR 1141) and Roberts Road at Chatham Street (SR 1247) are approximately 250 feet apart. The purpose of this project is to improve connectivity between Chatham Street, Roberts Road, and Hibbs Road.

Chatham Street is one of the north-south corridors that provide access to Newport. It is a 2-lane facility with 12-foot lanes. The posted speed limit outside city limits is 55 mph and 35 mph inside Newport. Chatham Street provides access to a number of commercial properties, residential areas, Newport Elementary School and Newport Middle School, churches, agricultural areas, and rural areas. Traffic on Chatham Street just north of Roberts Road was 5,600 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 11,000 vpd. Traffic on Chatham Street is projected to increase to 8,000 vpd by 2040. Chatham Street is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN).

Roberts Road is an east-west facility that connects Nine Mile Road (SR 1124) to US 70 and Chatham Street. It is a 2-lane facility with 9-foot lanes and the posted speed limit is 55 mph. Roberts Road provides access to a number of commercial properties, residential areas, Grace Christian School, agricultural areas, mobile home parks, and rural areas. Traffic on Roberts Road east of US 70 was 1,300 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 14,800 vpd. Traffic on Roberts Road east of US 70 is projected to increase to 1,700 vpd by 2040. Roberts Road is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN).

Hibbs Road is a north-south facility that connects NC 24 to US 70 and Roberts Road. It is a 2-lane facility with 10 to 11-foot lanes and a posted speed limit of 55 mph outside Newport and 35 mph in the city limits. Hibbs Road provides access to a number of commercial properties, residential areas, Newport Middle School, agricultural areas, a landfill, and rural areas. Traffic on Hibbs Road north of US 70 was 1,600 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 10,600 vpd. Traffic on Hibbs Road is projected to increase to 2,800 vpd by 2040. Hibbs Road is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN).

The proposed project (Local ID No. CART0016-H) is to construct a two-lane major thoroughfare with 12-foot lanes and 2-foot shoulders on new location that connects Chatham Street North to the intersection of Roberts Road at Hibbs Road, and then heads southeast and connects back to Chatham Street south. This north-south connection will help reduce congestion at the intersection of Chatham Street and Roberts Road, enhance system linkage in Newport, and improve mobility in this area of Carteret County. Alternately, with the projected low volumes this intersection would be suitable for a roundabout.

New location road from Merrimon Road (SR 1300) to US 70, Local ID: CART0017-H

US 70 is the only route that provides access for people in eastern Carteret County. The primary purpose of this project is to increase connectivity between central and eastern Carteret County between US 70 and Merrimon Road (SR 1300).

US 70 is a major east-west corridor in Carteret County, connecting Craven County to Newport, Morehead City, Beaufort, and other rural parts of the county. The facility is a vital artery in moving people and goods through southeast North Carolina, connecting Raleigh, Goldsboro, Kinston, New Bern, and Morehead City.

US 70 between Merrimon Road and NC 12 is a 2-lane facility with 10 to 12-foot lanes and a posted speed limit of 55 mph. It widens at some intersections to accommodate exclusive left and right turn lanes. US 70 provides access to a number of commercial properties, residential areas, municipal buildings, agricultural areas, the ferry to Portsmouth and Ocracoke Islands, and rural areas. US 70 is part of the statewide tier of the NC Multimodal Investment Network (NCMIN). US 70 is functionally classified as an expressway from Merrimon Road to Marshallberg Road (SR 1347). North of Marshallberg Road is classified as an other major thoroughfare.

By 2040, the facility is projected to be over capacity based on providing a Level of Service (LOS) D. Traffic on US 70 east of Merrimon Road is projected to increase from 9,800 vehicles per day (vpd) in 2010 to 15,200 vpd in 2040, compared to a LOS D capacity of 12,000 vpd.

Merrimon Road is a north-south facility that connects US 70 to Laurel Road (SR 1163) and the community of Merrimon in northern Carteret County. It is a 2-lane facility with 9 to 10-foot lanes and a posted speed limit of 55 mph. Merrimon Road provides access to a number of commercial properties, residential areas, agricultural areas, and rural areas. Traffic on Merrimon Road north of US 70 was 3,500 vehicles per day (vpd) in 2010. The Level of Service (LOS) D for this facility is 15,300 vpd. Traffic on Merrimon Road is projected to increase to 5,300 vpd by 2040. Merrimon Road is part of the sub regional tier of the NC Multimodal Investment Network (NCMIN) and is functionally classified as a minor thoroughfare.

The proposed project (Local ID No. CART0017-H) is to construct a two-lane minor thoroughfare with 12-foot lanes and 2-foot shoulders on new location that connects Merrimon Road to US 70. This east-west connection will provide additional access to eastern Carteret County, help reduce congestion on US 70, provide an additional emergency evacuation route, and improve mobility in this area of Carteret County.

Some major challenges have been identified for this project proposal such as the potential for miles of roadway flooding in the project vicinity, deep ditch concerns adjacent to the facility, and possible local levy issues. These concerns could not be fully addressed within the scope and schedule of this study; however, all concerns for this project proposal should be addressed as NCDOT works closely with Carteret County to meet its needs.

Minor Widening Improvements

The following routes do not have capacity issues, but are recommended to be upgraded to two 12-foot lanes with 2-foot paved shoulders to improve safety and mobility.

- **Front Street, CART0018-H:** From Live Oak Street to Turner Street
- **Live Oak Street, CART0019-H:** From Cedar Street (US 70) to Front Street
- **Turner Street, CART0020-H:** From Cedar Street (US 70) to Front Street
- **Turner Street, CART0021-H:** From Cedar Street (US 70) to TIP No. R-3307 (Gallant's Channel Bridge). Note: this section is part of the TIP R-3307 construction project.
- **West Beaufort Road, CART0022-H:** From the intersection with NC 101 to the intersection with Turner Street
- **Lennoxville Road, CART0023-H:** From the intersection with Live Oak Street (US 70) to the intersection with Front Street
- **Old Winberry Road, CART0024-H:** From the intersection to Mill Creek Road to the intersection with NC 101
- **Stella Road, CART0025-H:** From NC 58 to the Onslow County Line. Connect to Belgrade-Swansboro Road
- **Straits Road, CART0026-H:** From Harkers Island Road to Marshallberg Road
- **Nine Foot Road (W-4700), CART0027-H:** From Lake Road to US 70
- **Harkers Island Road, CART0028-H:** From US 70 to Cape Point Drive
- **Old Cedar Island Road, CART0029-H:** From NC 12 intersection to Morris Marina Road in Atlantic
- **Taylor Notion Road, CART0030-H:** From NC 24 to NC 58
- **Barbour Road, CART0031-H:** From Tootle Road to Bridges Street
- **Country Club Road, CART0032-H:** Country Club Road – From Bridges Street (SR 1738) to Blair Farm Parkway Extension
- **Country Club Road, CART0033-H:** From Blair Farm Parkway Extension to Blair Farm Parkway (Closed Loop)
- **Friendly Road, CART0034-H:** From Country Club Road to Arendell Street (US 70)
- **McCabe Road, CART0035-H:** From US 70 to NC 24
- **North 20th Street, CART0036-H:** From Country Club Road to Arendell Street (US 70)
- **North 35th Street, CART0037-H:** From Country Club Road to Bridges Street
- **Tootle Road / Mayberry Loop Road, CART0038-H:** From Country Club Road intersection to North 20th Street
- **Nine Mile Road, CART0039-H:** From NC 24 to the intersection of Lake Road
- **Hibbs Road, CART0040-H:** From NC 24 to US 70
- **Howard Road, CART0041-H:** From Nine Foot Road to the intersection with Masontown Road
- **Masontown Road, CART0042-H:** From Nine Foot Road to Chatham Street

- **Mill Creek Road, CART0043-H:** From Rocks Lane intersection to Old Winberry Road
- **Tom Mann Road, CART0044-H:** From Masontown Road to Chatham Street
- **Millis Road, CART0045-H:** From Whitehouse Fork Road to Nine Mile Road
- **Whitehouse Fork Road, CART0046-H:** From NC 58 to the intersection with Millis Road on the northeast
- **Lake Road, CART0047-H:** From Nine Mile Road to the Carteret County line. Reconnect to US 70 in Craven County
- **Laurel Road, CART0048-H:** From NC 101 to Merrimon Road
- **Marshallberg Road, CART0049-H:** From US 70 to Woody Road
- **North 4th Street, CART0050-H:** From Bridges Street to Arendell Street (US 70)
- **Blair Farm Parkway, CART0051-H:** From North 20th Street to Country Club Road
- **Bridges Street, CART0052-H:** From North 20th Street to Bald Drive. Note: This is a 3-lane facility with a center turning lane.
- **Bridges Street, CART0053-H:** From North 20th Street to 4th Street
- **Church Street, CART0054-H:** From Market Street to Little Deep Creek Road
- **Howard Boulevard, CART0055-H:** From US 70 to West Railroad Boulevard. Then, connect to Chatham Street
- **Little Deep Creek Road, CART0056-H:** From Church Street to Cyrus Pollard Road
- **Market Street, CART0057-H:** From Chatham Street to Orange Street
- **Orange Street, CART0058-H:** From Market Street to Mill Creek Road
- **Roberts Road, CART0059-H:** From new "five-point intersection" to US 70

PUBLIC TRANSPORTATION & RAIL

A public transportation and rail assessment was completed during the development of the CTP. There are recommended improvements associated with the rail mode, as well as, recommended improvements associated with the public transportation mode.

Public Transportation

There are proposed Fixed Routes Systems. These routes are as follows:

Route No. 1:

Bridge Street Extension – Bridges Street – Arendell Street (US 70)

From a park-and-ride lot to be located near the intersection with NC 24 toward the intersection with 4th Street, then going south on 4th Street and reconnecting with US 70 toward Beaufort where a park-and-ride lot is to be located near Turner Street then looping back toward 4th Street. From the intersection with 4th Street, traveling west, to the intersection with NC 24

Route No. 2:

NC 24 – NC 58 – Atlantic Beach Bridge

West of the intersection with US 70, where a park-and-ride lot will be located, traveling east, to the intersection with NC 58. From the intersection with NC 24 via the Cameron Langston Bridge, going toward a park-and-ride lot to be located in Emerald Isle, traveling east, to the intersection with the Atlantic Beach Causeway in Atlantic Beach, where another park-and-ride lot will be located, then continuing east on East Fort Macon Road (NC 58) toward the end of the road and returning back on NC 58 toward the park-and-ride lot in Atlantic Beach. From the park-and-ride lot to be located near the Atlantic Beach Causeway toward Morehead City where a park-and-ride lot is to be located near the intersection of Arendell Street (US 70) and NC 24.

Route No. 3:

Cedar Street (US 70) – NC 12

A park-and-ride lot is to be located near the intersection with Turner Street, then traveling east along US 70 to the intersection with NC 12 and continuing on US 70 to the intersection with Winston Drive and looping back around to the intersection with NC 12. Continuing from the intersection with US 70 toward Driftwood Drive with a park-and-ride lot near the vicinity of Driftwood Drive and the Ferry Station to Ocracoke. From the park-and-ride lot near the intersection of US 70 and NC 24 toward New Bern in Craven County.

After the agreement of the parties involved in the location of the park-and-ride lots, the county and the involved municipalities should work actively on the actual location of the park-and-ride lots--through lease agreements with entities such as municipal complexes, shopping centers, churches, among others. The involved parties could pursue the designation of the park-and-ride lots within existing parking spaces of already developed properties.

Rail

The Port of Morehead City's rail volume has more than doubled from year 2009 to 2010. The increase from 472 rail cars in 2009 to 1049 in 2010 is due to new business, export billets, and import of wire rod in coil. Other rail moves, such as rubber and steel rail for Norfolk Southern, have remained steady year after year. In addition to growing existing businesses that utilize rail, the Port is focused on growing new businesses at the Port that are rail dependant. The Port is marketing the export of agriculture and biofuels (wood pellets) which are not dependant on rail at start-up but would require significant rail capacity as cargo volume increases over the long term.³

The Global Transpark (GTP) has direct rail access to the Port, and rail traffic at the Port is growing rapidly. Another short rail line from Havelock (where it connects with the NCR) to Jacksonville crosses the western edge of Carteret County. The Camp Lejeune Railroad provides rail service to Camp Lejeune. One freight train per day generally operates over it at speeds of up to 25 mph. No additional future use is known for this rail line.

A future intermodal transit station is recommended in Morehead City to provide bus and train services. On October 2012, Amtrak established new Thruway bus service routes to Eastern North Carolina, serving the communities of Greenville, New Bern, Havelock, and Morehead City. This route connects with Amtrak Palmetto train service at the Amtrak Station in Wilson.

³ Stephanie Ayers, Planning & Development Director, North Carolina State Ports Authority

BICYCLE

During the development of the CTP, the following facilities were identified as recommended bicycle routes and will need improvement. In accordance with American Association of State Highway and Transportation Officials (AASHTO), roadways identified as bicycle routes should incorporate the following standards as roadway improvements are made and funding is available:

- Curb & gutter sections require a minimum 5-foot bike lanes or 14-foot wide shoulder lanes.
- Shoulder sections require a minimum of 4-foot paved shoulder.
- All bridges along the roadways where bike facilities are recommended shall be equipped with 54-inch railings.

Note: In the following proposed projects -- 'B' means "Bicycle Roads;" 'M' means "Multi-Use Paths."

Atlantic Beach

- **East Fort Macon Road, CART0001-B:** From Fort Macon State Park in the east to the intersection with Atlantic Beach Causeway Road
- **Atlantic Beach Causeway Road, CART0002-B:** From NC 58 to Atlantic Beach Bridge
- **NC 58 (West Fort Macon Road), CART0003-B:** From Atlantic Beach Causeway Road to Town Limits (at Pine Knoll Shores)
- **Atlantic Beach Bridge, CART0004-B:** From Atlantic Beach Causeway Road to Morehead City

Beaufort

- **US 70, CART0005-B:** From the intersection with NC 101 traveling north to the intersection with TIP R-3307
- **NC 101, CART0006-B:** From the intersection with Copeland Road traveling north to the intersection with Lake Road
- **US 70, CART0007-B:** TIP R-3307: From the intersection with US 70 at Radio Island Road ("beginning of TIP R-3307") traveling east to the intersection with West Beauford Road
- **Ann Street, CART0008-B:** From the intersection with Sunset Lane traveling west to the marina
- **Broad Street, CART0009-B:** From the intersection with Moore Street to the intersection with Fulford Street

- **Campen Road, CART0010-B:** From the intersection with Carraway Drive to the intersection with Professional Park Drive
- **Campen Road, CART0011-B:** From the intersection with Lockhart Drive to the intersection with Wellons Drive
- **Crescent Drive, CART0012-B:** From the intersection with Live Oak Street (US 70) to the intersection with Campen Road
- **Glenda Drive, CART0013-B:** From the intersection with Wellons Drive to the intersection with Pinners Point Road
- **Live Oak Street, CART0014-B:** From the intersection with Front Street to the intersection with Cedar Street (US 70)
- **Moore Street, CART0015-B:** From the intersection with Front Street to the intersection with Broad Street
- **Wellons Drive, CART0016-B:** From the intersection with Campen Road to the intersection with Glenda Drive
- **Howland Parkway, CART0017-B:** From the intersection with Pinners Point Road traveling east to the end of the road
- **Lennoxville Road, CART0018-B:** From the intersection with Carteret Avenue traveling east to the end of the road
- **Pinners Point Road, CART0019-B:** From the intersection with Live Oak Street (US 70) to the intersection with Howland Parkway
- **Professional Park Drive, CART0020-B:** From the intersection with Campen Road to the intersection with Live Oak Street (US 70)
- **Pivers Island Road, CART0021-B:** From the intersection with US 70 traveling south to the end of the road
- **Davis Bay Drive, CART0022-B:** From the intersection with Lennoxville Road traveling north to the end of the road
- **Lewistown Road, CART0023-B:** From the intersection with Lennoxville Road to the intersection with Lennoxville Point Road
- **Myrtle Lane, CART0024-B:** From the intersection with Howland Parkway to the intersection with North Shore Drive
- **North Shore Drive, CART0025-B:** From the intersection with Myrtle Lane traveling south to the end of the road
- **West Beaufort Road, CART0065-B:** From the intersection with NC 101 to Aqua 10 Road
- **US 70, CART0001-M:** From the intersection with Pivers Island Road traveling west toward Morehead City
- **NC 101, CART0002-M:** From the intersection with US 70 traveling north to the intersection with Copeland Road
- **Campen Road, CART0003-M:** From the intersection with Carraway Drive to the intersection with Lockhart Drive

- **Carraway Drive, CART0004-M:** From the intersection with NC 101 to the intersection with Campen Road
- **Lockhart Drive, CART0005-M:** From the intersection with Campen Road to the intersection with Steep Point Drive
- **Freedom Park, CART0006-M:** Extending Freedom Park from the intersection with Leonda Drive going west 0.24 miles then going north for 0.42 miles then going east for 0.18 miles then going north ending at the intersection with Sycamore Drive
- **Steep Point Road, CART0007-M:** From the intersection with Live Oak Street (US 70) to the intersection with Sleep Point Landing
- **Railroad track, CART0008-M:** Along the abandoned railroad track from the intersection with Live Oak Street traveling north, connecting with West Beaufort Road
- **Steep Point Road, CART0009-M:** From the intersection with Steep Point Road, extending Steep Point Landing north and connecting with Howland Parkway
- **Copeland Road, CART0010-M:** From the intersection with NC 101 traveling west to the intersection with Aqua 10 Road

Emerald Isle

- **NC 58 (Emerald Drive), CART026-B:** Cameron Langston Bridge
- **NC 58 (Emerald Drive), CART0011-M:** From the intersection with Coast Guard Road to the north, connecting with Cameron Langston Bridge
- **NC 58 Emerald Drive to Salter Path Road, CART0012-M:** From the intersection with Hurst Road to the intersection with Ocean View Lane
- **Old Ferry Road, CART0013-M:** From the intersection with NC 58 (Emerald Drive) to the end of the road
- **Coast Guard Road, CART0014-M:** From the intersection with NC 58 to the intersection with Wyndtree Drive

Morehead City

- **US 70 (Arendell St), CART0027-B:** From the intersection with North 35th Street to the intersection with 4th Street
- **Tootle Road, CART0028-B:** From the intersection with Country Club Road to the intersection with Mayberry Loop Road
- **4th Street, CART0029-B:** From the intersection with Fisher Street to the intersection with Evans Street
- **Atlantic Drive, CART0030-B:** From the intersection with Holly Lane to the intersection with Mansfield Parkway
- **Bay Street, CART0031-B:** From the intersection with North 18th Street to the intersection with North 7th Street
- **Blair Farm Parkway, CART0032-B:** From the intersection with North 20th Street to the intersection with Country Club Road

- **Bridges Street, CART0033-B:** From the intersection with North 35th Street to the intersection with North 20th Street
- **Chalk Street/Bogue Avenue, CART0034-B:** From the intersection with Bryan Street, continuing on Bogue Avenue to the intersection with Rochelle Drive
- **Evans Street, CART0035-B:** From the intersection with South 34th Street to the intersection with 4th Street
- **Fisher Street, CART0036-B:** From the intersection with North 20th Street to the intersection with North 18th Street
- **Fisher Street, CART0037-B:** From the intersection with North 7th Street to the intersection with 4th Street
- **Holly Lane, CART0038-B:** From the intersection with Bryan Street to the intersection with Midyette Avenue
- **Mansfield Parkway, CART0039-B:** From the intersection with South Coral Drive to the intersection with Atlantic Drive
- **North 18th Street, CART0040-B:** From the intersection with Fisher Street to the intersection with Bay Street
- **North 20th Street/South 20th Street, CART0041-B:** From the intersection with Bridges Street to the intersection with Shepard Street
- **North 35th Street, CART0042-B:** From the intersection with Arendell Street (US 70) to the intersection with Bridges Street
- **North 7th Street, CART0043-B:** From the intersection with Bay Street to the intersection with Fisher Street
- **Rochelle Drive, CART0044-B:** From the intersection with Arendell Street (US 70) to the intersection with Holly Lane
- **Shackleford Street/Shepard Street, CART0045-B:** Starting on Shackleford Street from the intersection with South 18th Street continuing onto Shepard Street past the intersection with South 12th Street, ending on South 3rd Street
- **Shepard Street, CART0046-B:** From the intersection with South 20th Street to the intersection with South 18th Street
- **South 18th Street, CART0047-B:** From the intersection with Shepard Street to the intersection with Shackleford Street
- **South 3rd Street, CART0048-B:** From the intersection with Arendell Street (US 70) to the intersection with Shepard Street
- **South Coral Drive, CART0049-B:** From the intersection with Rochelle Drive to the intersection with Mansfield Parkway
- **Barbour Road, CART0050-B:** From the intersection with Tootle Road to the intersection with Bridges Street
- **Bryan Street, CART0051-B:** From the intersection with NC 24 to the intersection with Holly Lane
- **Business Drive, CART0052-B:** From the intersection with Old Airport Road to the intersection with Miller Farm Road

- **Country Club Road, CART0053-B:** From the intersection with Bridges Street, traveling east, to the intersection with Blair Farm Parkway
- **Friendly Road, CART0054-B:** From the intersection with Country Club Road to the intersection with Bridges Street
- **Little 9 Road, CART0055-B:** From the intersection with US 70 to the intersection with NC 24
- **Mayberry Loop Road, CART0056-B:** Starting on the north part of the loop on North 20th Street and ending on the south part of the loop on North 20th Street
- **McCabe Rd, CART0057-B:** From the intersection with US 70 to the intersection with NC 24
- **North 20th Street, CART0058-B:** From the intersection with Country Club Road to the intersection with Bridges Street
- **North 35th Street, CART0059-B:** From the intersection with Country Club Road to the intersection with Bridges Street
- **Swinson Park Road, CART0060-B:** From the intersection with Country Club Road to the intersection with Bridges Street
- **US 70, CART0015-M:** From the intersection with McCabe Road to the intersection with Little Nine Drive
- **US 70 (Arendell St), CART0016-M:** Arendell Street Coastline Closed Loop: From South Lockhart Street to South 34th Street
- **NC 24, CART0017-M:** From the intersection with McCabe Road to the intersection with Rochelle Drive
- **Marine Road, CART0018-M:** From the intersection with US 70 to the intersection with Olde Towne Yacht Club Road
- **Olde Towne Yacht Club Road, CART0019-M:** From the intersection with Marine Road traveling east to the end of the road
- **Bridge Street Extension, CART0020-M:** From the intersection with Gloria Dawn Road to the intersection with Country Club Road
- **Gloria Dawn Road, CART0021-M:** From the intersection with Pond Drive to the intersection with Bridge Street Extension
- **New multi-use path facility, CART0022-M:** From the intersection with Gloria Dawn Road to the intersection with Country Club Road north of Bridge Street Extension
- **Pond Drive, CART0023-M:** From the intersection with Miller Farm Road to the intersection with Gloria Dawn Road

Newport

- **Nine Mile Road, CART0061-B:** From the intersection with NC 24 to the intersection with Lake Road
- **Nine Foot Road, CART0062-B:** From the intersection with Lake Road to the intersection with US 70

- **McCabe Road, CART0063-B:** From the intersection with US 70 to the intersection with NC 24
- **Hibbs Road, CART0064-B:** From the intersection with NC 24 to East Chatham Street
- **McQueen Avenue, CART0024-M:** From the intersection with East Chatham Street to the intersection with Joyce Avenue
- **East Chatham Street, CART0025-M:** From the intersection with Westfield Road to the intersection with McQueen Avenue
- **NC 24, CART0026-M:** From the intersection with US 70 to Cedar Lane in Cedar Point

In the future, further coordination is required with the Croatan Regional Bicycle and Trails Plans – currently under development. Also, further coordination with the East Coast Greenway (a long-distance, urban, shared-use trail system linking 25 major cities along the eastern seaboard between Maine and Florida), and the North Carolina Mountains to Sea Trail (this trail stretches 1000 miles from the Great Smoky Mountains to the Outer Banks) is needed in the future.

PEDESTRIAN

During the development of the Carteret County CTP, several facilities were identified as needing new sidewalks or in need of improvement. These needs are identified below:

Atlantic Beach

Sidewalks – Recommended

- **Atlantic Boulevard, CART0001-P:** From East Drive to West Drive
- **NC 58 (West Fort Macon Road), CART0002-P:** From Atlantic Beach Causeway Road to North Kinston Avenue
- **NC 58 (West Fort Macon Road), CART0003-P:** From North Raleigh Avenue to North Charlotte Avenue
- **NC 58 (West Fort Macon Road), CART0004-P:** From North Durham Avenue to Cedar Lane
- **Atlantic Beach Bridge, CART0005-P:** From Atlantic Beach Causeway Road to the intersection with Evans Street in Morehead City

Emerald Isle

Sidewalks – Recommended

- **NC 58 (Emerald Drive), CART0006-P:** From the intersection with Lee Avenue traveling east to the intersection with Cedar Tree Lane
- **NC 58 (Emerald Drive/Salter Path Road), CART0007-P:** From the intersection with Cedar Tree Lane traveling east to the intersection with Wamsquam Lane
- **NC 58 (Emerald Drive), CART0008-P:** Cameron Langston Bridge

Indian Beach

Sidewalks – Recommended

- **NC 58 (Salter Path Road), CART0009-P:** From the intersection with Ocean View Lane to the intersection with Sandpiper Lane (Pine Knoll Shores border)

Morehead City

Sidewalks – Needs Improvement

- **US 70 (Arendell Street), CART0010-P:** From the intersection with Rochelle Drive to the intersection with South 35th Street
- **US 70 (Arendell Street), CART0011-P:** From the intersection with North 4th Street to 340 feet east of the intersection with North 4th Street to the boat ramps
- **US 70 (Arendell Street), CART0012-P:** From the intersection with South 34th Street to the intersection with South 25th Street
- **Shepard Street, CART0013-P:** From the intersection with South 20th Street to the intersection with South 19th Street

Sidewalks – Recommended

- **McCabe Road, CART0014-P:** From the intersection with US 70 to the intersection with NC 24
- **Woodbridge Drive, CART0015-P:** From the intersection with NC 24 going south 1,200 feet
- **Business Drive / Pond Drive, CART0016-P:** From the intersection with Old Airport Road to the intersection with Gloria Dawn Road
- **Gloria Dawn Road, CART0017-P:** From the intersection with Pond Drive to the intersection with Bridge Street Extension
- **Bridge Street Extension, CART0018-P:** From the intersection with Gloria Dawn Road to the intersection with Country Club Road
- **Country Club Road, CART0019-P:** From the intersection with Bridges Street to the intersection with Blair Farm Parkway
- **Friendly Road, CART0020-P:** From the intersection with Country Club Road to the intersection with US 70 (Arendell Street)
- **35th Street, CART0021-P:** From the intersection with Country Club Road to the intersection with Mandy Lane
- **Tootle Road, CART0022-P:** From the intersection with Country Club Road to the intersection with Mayberry Loop Road
- **Mayberry Loop Road, CART0023-P:** From the intersection with Tootle Road to the intersection with North Yaupon Terrace
- **Barbour Road, CART0024-P:** From the intersection with Tootle Road, going south and connecting to the existing sidewalk
- **North 20th Street, CART0025-P:** From the intersection with Country Club Road to the intersection with Golden Lane
- **South 20th Street, CART0026-P:** From the intersection with Arendell Street (US 70) to the intersection with Shepard Street
- **Old Airport Road, CART0027-P:** From the intersection with Arendell Street (US 70) to the intersection with Business Drive
- **Blair Farm Parkway, CART0028-P:** From the intersection with Country Club Road, going west connecting to the existing sidewalk (approximately Ivory Gull Drive)
- **North 15th Street, CART0029-P:** From Fisher Street, going north connecting to the existing sidewalk
- **South 15th Street, CART0030-P:** From the intersection with Evans Street to the intersection with Shepard Street
- **South 11th Street, CART0031-P:** From the intersection with Evans Street to the intersection with Shepard Street
- **Atlantic Beach Causeway Bridge, CART0032-P:** From Morehead City to Atlantic Beach Causeway (the length of the bridge)

Pine Knoll Shores

Sidewalks² – Recommended

- **NC 58 (Salter Path Road), CART0033-P:** From Atlantic Beach border (near Oakleaf Drive) to Pine Knoll Shores border (near Sandpiper Lane)
- **Pine Knoll Boulevard, CART0034-P:** From NC 58 to Town Hall
- **Roosevelt Boulevard, CART0035-P:** From Pine Knoll Boulevard to North Carolina Aquarium
- **Mimosa Boulevard, CART0036-P:** From NC 58 to Beechwood Drive
- **Oakleaf Drive, CART0037-P:** From NC 58 to Country Club of the Crystal Coast

Crosswalks³ – Recommended

- **Crosswalk at NC 58, CART0038-P:** Crosswalk NC 58 at Oakleaf beach access
- **Crosswalk at NC 58, CART0039-P:** Crosswalk NC 58 at Juniper Road⁴
- **Crosswalk at NC 58, CART0040-P:** Crosswalk NC 58 at Mimosa Boulevard⁵
- **Crosswalk at NC 58, CART0041-P:** Crosswalk NC 58 at Pine Knoll Boulevard
- **Crosswalk at NC 58, CART0042-P:** Crosswalk NC 58 at Clam Digger Inn
- **Crosswalk at NC 58, CART0043-P:** Crosswalk NC 58 at Coral Drive

Notes:

¹Cedar Point asked for the addition of a *Recommended Sidewalk* on Old Highway 58. This proposed sidewalk would give pedestrian access to Western Park.

²In Pine Knoll Shores, sidewalk segments between west of Oakleaf Drive and the Atlantic Beach border, constructed. In addition, sidewalk segments between 314 Salter Path and Pine Knoll Boulevard, constructed.

³Cedar Point requested this additional *Crosswalk as Recommended:* Crosswalk at NC 58 and NC 24.

⁴Crosswalk at Juniper Road, constructed.

⁵Crosswalk at Mimosa Boulevard, constructed.

APPENDICES

<u>Program Development Branch</u>	<i>Information concerning Roadway Official Corridor Maps, Feasibility Studies and the Transportation Improvement Program (TIP).</i> 1542 Mail Service Center Raleigh, NC 27699 (919) 707-4610
<u>Public Transportation Division</u>	<i>Information on public transit systems.</i> 1550 Mail Service Center Raleigh, NC 27699 (919) 707-4670
<u>Rail Division</u>	<i>Rail information throughout the state.</i> 1553 Mail Service Center Raleigh, NC 27699 (919) 707-4700
<u>Division of Bicycle and Pedestrian Transportation</u>	<i>Bicycle and pedestrian transportation information throughout the state.</i> 1552 Mail Service Center Raleigh, NC 27699 (919) 707-2600
<u>Structures Management Unit</u>	<i>Information on bridge management throughout the state.</i> 1581 Mail Service Center Raleigh, NC 27699 (919) 707-6400
<u>Roadway Design Unit</u>	<i>Information regarding design plans and proposals for road and bridge projects throughout the state.</i> 1582 Mail Service Center Raleigh, NC 27699 (919) 707-6200
<u>Transportation Mobility and Safety Division</u>	<i>Information regarding crash data throughout the state.</i> 1561 Mail Service Center Raleigh, NC 27699 (919) 773-2800

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

The “*NC DOT Facility Type – Control of Access Definitions*” document provides a visual depiction of facility types for the following CTP classification.

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 1,000 ft. or for 350 ft. plus 650 ft. 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 2,000 ft.; 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 higher-speed corridor in North Carolina – The Southeast High Speed Rail Corridor).
 - *Recommended* – Proposed corridor for higher-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.
- ❖ **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 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

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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.

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- ❖ **Crosswalks - Existing** – Crosswalks are a critical feature in a well-connected pedestrian system because they provide the linkages between one segment of sidewalk to another as a pedestrian may cross a street, connect to another existing piece of sidewalk, or pass to a new development. A well-placed crosswalk can dramatically reduce pedestrian travel time and improve pedestrian safety – greatly increasing the convenience of walking as a mode of travel.
- ❖ **Crosswalks - Recommended** – There are a variety of designs for unsignalized crossings, including striped crosswalks, zebra crosswalks, and raised platform crosswalks. There are also a variety of designs for signalized crossings, including:
 - Pedestrian Signals and crosswalks
 - Pedestrian Signals, crosswalks, and audible signals
 - Pedestrian Signals, crosswalks, and countdown signals
 - High Intensity Activated Crosswalk (HAWK) Signal

It is recommended that for all signalized intersections in the town, the town should have signals for pedestrians. In the downtown area, pedestrian signals should include audible and visible cues and perhaps even countdown displays.

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 four letters of the county name is combined with a four 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. In addition, 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 on NCDOT's Road Characteristics ArcGIS™ 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 Volumes,** given in vehicles per day (vpd), are estimates only based on a systems-level analysis. The '2040 Volume E+C' is an estimate of the volume in 2040 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 '2040 Volume with CTP' is an estimate of the volume in 2040 with all proposed CTP improvements assumed to be in place. The '2040 Volume 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, and 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			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)				
CART0001-H (A)	US 70	Willis Road (SR 1366)	4 th Street	Morehead City	9.20	54	4	12	100	35-55	31,000	35,000	40,000	40,000	40,000	4B	100	Boulevard	Sta	T, B	
CART0001-H (B)	US 70	4 th Street	Radio Island Road (SR 1175)	Morehead City	0.70		2-4	12	200	45	16,000	20,000	26,000	26,000	30,000	4B	200	Boulevard	Sta	T, B	
CART0001-H (C)	Interchange at US 70	US 70	Radio Island Road (SR 1175)	Morehead City	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Interchange	N/A		
CART0001-H (D)	US 70	NC 101	Olga Road (SR 1429)	Beaufort	0.90	24	2	12	80	35-55	22,000	17,300	28,100	28,100	30,000	2A	80	Boulevard	Sta	T, B	
CART0001-H (E)	US 70	Olga Road (SR 1429)	Whitehurst Road (SR 1350)	Carteret County	9.00	26	2	12	80	55	12,000	9,800	15,200	15,200	15,800	2A	80	Expressway	Sta	T, B	
CART0001-H (F)	US 70	Whitehurst Road (SR 1350)	Seashore Drive (SR 1417)	Atlantic	13.50	24	2	12	100	35-45-55	10,000	3,400	11,000	11,000	11,000	2A	100	Major Thoroughfare	Sta	T, B	
CART0001-H (G)	Interchange at US 70	US 70	Northern Carteret Bypass	Beaufort	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Interchange	N/A		
CART0002-H	Interchange	US 70/NC 101 Connector	Northern Carteret Bypass	Carteret County	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Interchange	Sta		
CART0003-H	Grade Separation at Northern Carteret Bypass	Northern Carteret Bypass	Laurel Road (SR 1163)	Carteret County	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Grade Separation	N/A		
CART0004-H (A)	NC 58 (Emerald Drive)	Coast Guard Road	Lee Avenue	Emerald Isle	3.00	24	2-3	12	100	35-45	18,000	15,600	22,400	22,400	22,400	3A	100	Major Thoroughfare	Reg	T, B, P	
CART0004-H (B)	NC 58 (Emerald Drive)	Lee Avenue	Hoffman Beach Road	Emerald Isle Indian Beach	1.87	24	2-3	12	100	45	12,000	4,800	6,500	6,500	12,000	3A	100	Major Thoroughfare	Reg	T, B, P	
CART0004-H (C)	NC 58 (Salter Path Road)	Hoffman Beach Road	Bermuda Green	Indian Beach, Pine Knoll Shores	5.10	24	2-3	12	100	35-45	12,000	8,000	10,500	10,500	12,000	3A*	100	Major Thoroughfare	Reg	T, B, P	
CART0004-H (D)	NC 58 (West Fort Macon Road)	Bermuda Green	Pepper Lane	Pine Knoll Shores, Atlantic Beach	2.40	38	3	12	100	45	16,000	14,000	20,000	20,000	21,600	3A*	100	Major Thoroughfare	Reg	T, B	
CART0005-H	NC 24	Cedar Lane (SR 1202)	US 70	Carteret County, Cedar Point, Morehead City	20.30	60	5	12	100	35-45-55	28,000	17,600	23,000	23,000	28,000	5A*	100	Expressway	Sta	T, M	
CART0006-H	Interchange at NC 24 and NC 58	NC 24	NC 58	Cedar Point	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Interchange TIP R-4721	N/A		
CART0007-H	NC 12	US 70	Cedar Island Ferry Station	Carteret County	12.00	22	2	9-11	60	55	8,000	1,200	1,600	15,800	15,800	2A	60	Major Thoroughfare	Sta		
CART0008-H	NC 101	West Beaufort Road (SR 1170)	Laurel Road (SR 1163)	Beaufort, Carteret County	7.10	22	2	10-12	60	35-55	10,000	8,500	14,100	17,200	17,200	3A	60	Major Thoroughfare	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			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)				
CART0009-H	Northern Carteret Bypass	Havelock Bypass (TIP R-1015)	Town of Beaufort	Beaufort, Carteret County, Craven County	33.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Freeway TIP R-4431	Sta	
CART0010-H	Little 9 Road (SR 1601)	NC 24	US 70	Carteret County, Morehead City	0.40	26	2	12	60	55	9,200	N/A	15,800	15,800	15,800	2A	60	Minor Thoroughfare	N/A	B	
CART0011-H	New Location Road	Friendly Road (SR 1605)	Mandy Lane (SR 1707)	Morehead City	0.30	28	2	12	N/A	35	9,600	N/A	11,000	11,000	11,000	2C	N/A	Minor Thoroughfare	N/A		
CART0012-H	New Location Road	NC 101	US 70	Carteret County	3.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32,000	32,000	4B	N/A	Expressway	N/A		
CART0013-H	New Location Road	Country Club Road (SR 1177)	North 20 th Street (SR 1176)	Carteret County, Morehead City	0.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15,800	15,800	2A	N/A	Major Thoroughfare	N/A		
CART0014-H	New Location Road	US 70 / McCabe Road (SR 1147)	Bridges Street Extension (SR 1738)	Morehead City	1.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15,800	15,800	2A	N/A	Major Thoroughfare	N/A		
CART0015-H	New Location Road	Chatham Street (SR 1247) / Roberts Road (SR 1140)	Mill Creek Road (SR 1154)	Carteret County, Newport	1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15,800	15,800	2A	N/A	Major Thoroughfare	N/A		
CART0016-H (A)	New Location Road	Hibbs Road (SR 1141) / Roberts Road (SR 1140)	Chatham Street (SR 1247)	Newport	0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15,800	15,800	2A	N/A	Major Thoroughfare	N/A		
CART0016-H (B)	New Location Road	Hibbs Road (SR 1141) / Roberts Road (SR 1140)	Chatham Street (SR 1247)	Newport	0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15,800	15,800	2A	N/A	Major Thoroughfare	N/A		
CART0017-H	New Location Road	Merrimon Road (SR 1300)	US 70	Carteret County	12.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15,800	15,800	2C	N/A	Minor Thoroughfare	Sub		
CART0018-H	Front Street	Live Oak Street	Turner Street	Beaufort	0.40	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2A	N/A	Minor Thoroughfare	Sub	P	
CART0019-H	Live Oak Street	Cedar Street (US 70)	Front Street	Beaufort	0.30	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2A	N/A	Minor Thoroughfare	N/A	B	
CART0020-H	Turner Street	Cedar Street (US 70)	Front Street	Beaufort	0.30	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2C	N/A	Minor Thoroughfare	N/A	B	
CART0021-H	Turner Street	Cedar Street (US 70)	Gallant's Channel Bridge (TIP R-3307)	Beaufort	0.20	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2C	N/A	Major Thoroughfare	N/A	B	
CART0022-H	West Beaufort Road	NC 101	Turner Street	Beaufort	0.70	26	2	12	N/A	55	9,200	N/A	11,000	11,000	11,000	2A	N/A	Major Thoroughfare	Sub	B	
CART0023-H	Lennoxville Road	Live Oak Street (US 70)	Front Street	Beaufort	1.40	26	2	12	60	35	9,200	N/A	11,000	11,000	11,000	2C	60	Minor Thoroughfare	N/A	B	
CART0024-H	Old Winberry Road	Mill Creek Road	NC 101	Carteret County	3.60	26	2	12	N/A	55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Major Thoroughfare	Sub		
CART0025-H	Stella Road	NC 58	Onslow County Line	Carteret County	1.80	26	2	12	N/A	55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Minor Thoroughfare	Sub		
CART0026-H	Straits Road	Harkers Island Road	Marshallberg Road	Carteret County	2.70	26	2	12	60	55	9,200	N/A	15,800	15,800	15,800	2A	60	Minor Thoroughfare	Sub		

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)			
CART0027-H	Nine Foot Road (TIP W-4700)	Lake Road	US 70	Carteret County	3.80	26	2	12	N/A	45	9,200	N/A	13,300	13,300	13,300	2B	N/A	Major Thoroughfare	Sub	B
CART0028-H	Harkers Island Road	US 70	Cape Point Drive	Carteret County	8.30	26	2	12	N/A	45	9,200	N/A	13,300	13,300	13,300	2B	N/A	Minor Thoroughfare	Sub	
CART0029-H	Old Cedar Island Road	NC 12	Morris Marina Road	Carteret County, Atlantic	3.30	26	2	12	100	45	9,200	N/A	13,300	13,300	13,300	2B	100	Minor Thoroughfare	N/A	
CART0030-H	Taylor Notion Road	NC 24	NC 58	Cape Carteret	1.30	26	2	12	100	35	9,200	N/A	11,000	11,000	11,000	2C	100	Minor Thoroughfare	Sub	
CART0031-H	Barbour Road	Tootle Road	Bridges Street	Morehead City	0.80	26	2	12	60	35	9,200	N/A	11,000	11,000	11,000	2C	60	Minor Thoroughfare	N/A	P
CART0032-H	Country Club Road	Bridges Street (SR 1738)	Blair Farm Parkway Extension	Morehead City	5.80	26	2	12	N/A	55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Major Thoroughfare	Sub	B, P
CART0033-H	Country Club Road	Blair Farm Parkway Extension	Blair Farm Parkway (Closed Loop)	Morehead City	2.30	26	2	12	N/A	45	9,200	N/A	13,300	13,300	13,300	2B	N/A	Minor Thoroughfare	Sub	B
CART0034-H	Friendly Road	Country Club Road	Arendell Street (US 70)	Morehead City	0.80	26	2	12	60	55	9,200	N/A	15,800	15,800	15,800	2A	60	Minor Thoroughfare	Sub	P
CART0035-H	McCabe Road	US 70	NC 24	Carteret County	1.20	26	2	12	60	55	9,200	N/A	15,800	15,800	15,800	2A	60	Minor Thoroughfare	Sub	B
CART0036-H	North 20 th Street	Country Club Road	Arendell Street (US 70)	Carteret County, Morehead City	2.40	26	2	11-12	N/A	35-55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Major Thoroughfare	N/A	B, P
CART0037-H	North 35 th Street	Country Club Road	Bridges Street	Morehead City	1.10	26	2	12	60	35	9,200	N/A	11,000	11,000	11,000	2C	60	Major Thoroughfare	Sub	B, P
CART0038-H	Tootle Road / Mayberry Loop Road	Country Club Road	North 20 th Street	Morehead City	1.30	26	2	12	60	35	9,200	N/A	11,000	11,000	11,000	2C	60	Minor Thoroughfare	Sub	B
CART0039-H	Nine Mile Road	NC 24	Lake Road	Carteret County, Newport	4.60	26	2	12	N/A	55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Major Thoroughfare	Sub	B
CART0040-H	Hibbs Road	NC 24	US 70	Carteret County, Newport	3.30	26	2	12	60	55	9,200	N/A	15,800	15,800	15,800	2A	60	Major Thoroughfare	Sub	B
CART0041-H	Howard Road	Nine Foot Road	Masontown Road	Carteret County	1.20	26	2	12	60	35	9,200	N/A	11,000	11,000	11,000	2C	60	Minor Thoroughfare	N/A	
CART0042-H	Masontown Road	Nine Foot Road	Chatham Street	Carteret County, Newport	0.70	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2C	N/A	Minor Thoroughfare	Sub	
CART0043-H	Mill Creek Road	Rocks Lane	Old Winberry Road	Carteret County, Newport	5.20	26	2	12	N/A	55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Major Thoroughfare	Sub	
CART0044-H	Tom Mann Road	Masontown Road	Chatham Street	Carteret County, Newport	0.50	26	2	12	60	35	9,200	N/A	11,000	11,000	11,000	2C	60	Minor Thoroughfare	Sub	
CART0045-H	Millis Road	Whitehouse Fork Road	Nine Mile Road	Carteret County, Newport, Peletier	9.20	26	2	12	N/A	55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Major Thoroughfare	N/A	
CART0046-H	Whitehouse Fork Road	NC 58	Millis Road	Peletier	1.90	26	2	12	60	35	9,200	N/A	11,000	11,000	11,000	2C	60	Major Thoroughfare	Sub	
CART0047-H	Lake Road	Nine Mile Road	Carteret County Line	Carteret County	2.20	26	2	12	N/A	55	12,700	N/A	15,800	15,800	15,800	2A	N/A	Major Thoroughfare	Sub	
CART0048-H	Laurel Road	NC 101	Merrimon Road	Carteret County	2.40	26	2	12	N/A	55	12,700	N/A	15,800	15,800	15,800	2A	N/A	Minor Thoroughfare	Sub	B

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)			
CART0049-H	Marshallberg Road	US 70	Woody Road	Carteret County	3.00	26	2	12	N/A	55	12,700	N/A	15,800	15,800	15,800	2A	N/A	Minor Thoroughfare	Sub	
CART0050-H	North 4 th Street	Bridges Street	Arendell Street (US 70)	Morehead City	0.05	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2C	N/A	Minor Thoroughfare	N/A	B
CART0051-H	Blair Farm Parkway	North 20 th Street	Country Club Road	Morehead City	1.10	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2C	N/A	Minor Thoroughfare	N/A	B
CART0052-H	Bridges Street	Bald Drive	North 20 th Street	Morehead City	1.80	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2A	N/A	Major Thoroughfare	Sub	
CART0053-H	Bridges Street	North 20 th Street	4 th Street	Morehead City	1.30	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2C	N/A	Minor Thoroughfare	Sub	
CART0054-H	Church Street	Market Street	Little Deep Creek Road	Newport	1.00	26	2	12	N/A	35	9,200	N/A	11,000	11,000	11,000	2C	N/A	Minor Thoroughfare	N/A	
CART0055-H	Howard Boulevard	US 70	West Railroad Boulevard	Newport	1.10	26	2	12	50	35	9,200	N/A	11,000	11,000	11,000	2C	50	Minor Thoroughfare	N/A	
CART0056-H	Little Deep Creek Road	Church Street	Cyrus Pollard Road	Carteret County, Newport	0.30	26	2	12	N/A	55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Minor Thoroughfare	Sub	
CART0057-H	Market Street	Chatham Street	Orange Street	Newport	0.10	26	2	12	N/A	35	9,200	N/A	15,800	15,800	15,800	2A	N/A	Minor Thoroughfare	N/A	
CART0058-H	Orange Street	Market Street	Mill Creek Road	Carteret County, Newport	1.20	26	2	12	N/A	55	9,200	N/A	15,800	15,800	15,800	2A	N/A	Minor Thoroughfare	N/A	
CART0059-H	Roberts Road	new "five-point intersection"	US 70	Newport	0.60	26	2	12	N/A	55	N/A	N/A	15,800	15,800	15,800	2A	N/A	Minor Thoroughfare	Sub	

Footnotes (*):

The exact Typical Cross Section (Figure 7) for this project will be determined when the project goes to Preconstruction stage.

PUBLIC TRANSPORTATION AND RAIL

PUBLIC TRANSPORTATION ¹							
Local ID	Facility / Route	Section (From - To)	Speed Limit (mph)	Distance (mi)	Existing System	Proposed System	Other Modes
					Type	Type	
CART0001-T	US 70	Craven County line -- Park-and-Ride lot near the intersection of US 70 and NC 24	55	10.30	N/A	Fixed-Route	H
CART0002-T	Arendell Street (US 70)	NC 24 -- 4 th Street	35	5.20	N/A	Fixed-Route	H
CART0003-T	Cedar Street (US 70)	NC 12 -- Park-and-Ride lot near Turner Street	35	26.50	N/A	Fixed-Route	H
CART0004-T	Bridge Street Exd, Bridges Street, and US 70	Park-and-Ride lot to be located near the intersection with NC 24 - US 70 toward Beaufort, where a Park-and-Ride lot is to be located near Turner Street	35	8.20	N/A	Fixed-Route	H, B
CART0005-T	NC 12	US 70 -- Ferry Station to Ocracoke	55	11.70	N/A	Fixed-Route	B
CART0006-T	NC 24	US 70, where a Park-and-Ride lot is located -- NC58	35	16.20	N/A	Fixed-Route	H, B, P
CART0007-T	NC 58	NC 24 via the Cameron Langston Bridge -- Emerald Drive (NC 58) toward the end of the road. Park-and-Ride lot in Atlantic Beach	40	24.30	N/A	Fixed-Route	H, B, P
CART0008-T	Atlantic Beach Bridge	Park-and-Ride lot near the Atlantic Beach Causeway -- Arendell Street (US 70) and NC 24	45	1.50	N/A	Fixed-Route	B

¹ Only major public transportation routes and proposals are shown here. For further documentation of the public transportation system, refer to *Carteret County Area Transportation System (CCATS)*

RAIL												
Local ID	Facility / Route	Section (From - To)	Class	Speed Limit (mph)	Distance (mi)	Existing System			Proposed System			Other Modes
						Type	ROW (ft)	Trains per day	Type	ROW (ft)	Trains per day	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

BICYCLE AND PEDESTRIAN

BICYCLE								
Local ID	Facility / Route	Section (From - To)	Distance (mi)	Existing System		Proposed System		Other Modes
				Cross-Section		Type	Cross-Section	
				(ft)	lanes			
CART0001-B	East Fort Macon Road	Fort Macon State Park - Atlantic Beach Causeway Road	2.79	36	3	Bicycle	3C	
CART0002-B	Atlantic Beach Causeway Road	NC 58 - Atlantic Beach Bridge	0.72	68	6	Bicycle	6F	
CART0003-B	NC 58 (West Fort Macon Road)	Atlantic Beach Causeway Road - Town Limits (at Pine Knoll Shores)	3.72	33	3	Bicycle	3C	H,T
CART0004-B	Atlantic Beach Bridge	Atlantic Beach Causeway Road - Morehead City	0.74	48	4	Bicycle	4D	
CART0005-B	US 70	NC 101 - intersection with TIP R-3307	0.66	44	4	Bicycle	4D	H,T
CART0006-B	NC 101	Copeland Road - Lake Road	0.65	20	2	Bicycle	2B	H
CART0007-B	US 70 – TIP R-3307	Arendell Street - West Beauford Road	0.27	76	4	Bicycle	4E	H
CART0008-B	Ann Street	Sunset Lane - the marina	0.09	24	2	Bicycle	2E	
CART0009-B	Broad Street	Moore Street - Fulford Street	0.70	33	2	Bicycle	2H	
CART0010-B	Campen Road	Carraway Drive - Professional Park Drive	0.38	18	2	Bicycle	2C	
CART0011-B	Campen Road	Lockhart Drive - Wellons Drive	0.21	22	2	Bicycle	2B	
CART0012-B	Crescent Drive	Live Oak Street (US 70) - Campen Road	0.32	18	2	Bicycle	2C	
CART0013-B	Glenda Drive	Wellons Drive - Pingers Point Road	0.22	20	2	Bicycle	2C	
CART0014-B	Live Oak Street	Front Street - Cedar Street (US 70)	0.29	22	2	Bicycle	2B	
CART0015-B	Moore Street	Front Street - Broad Street	0.21	20	2	Bicycle	2E	
CART0016-B	Wellons Drive	Campen Road - Glenda Drive	0.16	22	2	Bicycle	2B	
CART0017-B	Howland Parkway	Pingers Point Road - traveling east to the end of the road	0.55	18	2	Bicycle	2C	
CART0018-B	Lennoxville Road	Carteret Avenue - traveling east to the end of the road	2.03	22	2	Bicycle	2B	H
CART0019-B	Pingers Point Road	Live Oak Street (US 70) - Howland Parkway	0.56	18	2	Bicycle	2C	
CART0020-B	Professional Park Drive	Campen Road - Live Oak Street (US 70)	0.77	26	2	Bicycle	2E	
CART0021-B	Pivers Island Road	Arendell Street - traveling south to the end of the road	0.46	18	2	Bicycle	2C	
CART0022-B	Davis Bay Drive	Lennoxville Road - traveling north to the end of the road	0.93	16	2	Bicycle	2C	
CART0023-B	Lewistown Road	Lennoxville Road - Lennoxville Point Road	0.26	16	2	Bicycle	2C	
CART0024-B	Myrtle Lane	Howland Parkway - North Shore Drive	0.13	16	2	Bicycle	2C	

BICYCLE

Local ID	Facility / Route	Section (From - To)	Distance (mi)	Existing System		Proposed System		Other Modes
				Cross-Section		Type	Cross-Section	
				(ft)	lanes			
CART0025-B	North Shore Drive	Myrtle Lane - south to the end of the road	0.41	18	2	Bicycle	2C	
CART0026-B	NC 58 (Emerald Drive)	Cameron Langston Bridge	1.42	36	3	Bicycle	3C	H,T
CART0027-B	US 70 (Arendell Street)	North 35 th Street - 4 th Street	2.67	90	4	Bicycle	4C	H,T
CART0028-B	Tootle Road	Country Club Road - Mayberry Loop Road	0.56	20	2	Bicycle	2C	H
CART0029-B	4 th Street	Fisher Street - Evans Street	0.19	24	2	Bicycle	2E	H
CART0030-B	Atlantic Drive	Holly Lane - Mansfield Parkway	0.22	18	2	Bicycle	2C	
CART0031-B	Bay Street	North 18 th Street - North 7 th Street	0.89	26	2	Bicycle	2E	H
CART0032-B	Blair Farm Parkway	North 20 th Street - Country Club Road	1.13	22	2	Bicycle	2B	H
CART0033-B	Bridges Street	North 35 th Street - North 20 th Street	1.40	42	3	Bicycle	3C	H,P
CART0034-B	Chalk Street/Bogue Avenue	Bryan Street - Rochelle Drive	0.54	20	2	Bicycle	2C	H
CART0035-B	Evans Street	South 34 th Street - 4 th Street	2.45	24	2	Bicycle	2E	
CART0036-B	Fisher Street	North 20 th Street - North 18 th Street	0.16	26	2	Bicycle	2E	
CART0037-B	Fisher Street	North 7 th Street - 4 th Street	0.24	24	2	Bicycle	2E	
CART0038-B	Holly Lane	Bryan Street - Midyette Avenue	0.62	18	2	Bicycle	2C	
CART0039-B	Mansfield Parkway	South Coral Drive - Atlantic Drive	0.28	62	2	Bicycle	2L	
CART0040-B	North 18 th Street	Fisher Street - Bay Street	0.06	26	2	Bicycle	2E	H
CART0041-B	North 20 th Street/South 20 th Street	Bridges Street - Shepard Street	0.19	20	2	Bicycle	2B	H
CART0042-B	North 35 th Street	Arendell Street (US 70) - Bridges Street	0.17	36	3	Bicycle	3C	H,P
CART0043-B	North 7 th Street	Bay Street - Fisher Street	0.06	18	2	Bicycle	2C	
CART0044-B	Rochelle Drive	Arendell Street (US 70) - Holly Lane	0.60	40	2	Bicycle	2H	
CART0045-B	Shackleford Street/Shepard Street	South 18 th Street - South 3 rd Street	1.29	24	2	Bicycle	2E	
CART0046-B	Shepard Street	South 20 th Street - South 18 th Street	0.16	24	2	Bicycle	2E	
CART0047-B	South 18 th Street	Shepard Street - Shackleford Street	0.07	20	2	Bicycle	2E	
CART0048-B	South 3 rd Street	Arendell Street (US 70) - Shepard Street	0.10	26	2	Bicycle	2B	
CART0049-B	South Coral Drive	Rochelle Drive - Mansfield Parkway	0.36	18	2	Bicycle	2C	
CART0050-B	Barbour Road	Tootle Road - Bridges Street	0.80	20	2	Bicycle	2B	H,P
CART0051-B	Bryan Street	NC 24 - Holly Lane	0.57	20	2	Bicycle	2C	
CART0052-B	Business Drive	Old Airport Road - Miller Farm Road	0.85	20	2	Bicycle	2C	H,P
CART0053-B	Country Club Road	Bridges Street - Blair Farm Parkway	5.84	22	2	Bicycle	2B	
CART0054-B	Friendly Road	Country Club Road - Bridges Street	0.65	20	2	Bicycle	2C	
CART0055-B	Little 9 Road	US 70 - NC 24	0.54	20	2	Bicycle	2C	
CART0056-B	Mayberry Loop Road	Loop on North 20 th Street	1.18	20	2	Bicycle	2C	H,P
CART0057-B	McCabe Rd	US 70 - NC 24	1.10	22	2	Bicycle	2B	H,P
CART0058-B	North 20 th Street	Country Club Road - Bridges Street	2.40	22	2	Bicycle	2B	H

BICYCLE								
Local ID	Facility / Route	Section (From - To)	Distance (mi)	Existing System		Proposed System		Other Modes
				Cross-Section		Type	Cross-Section	
				(ft)	lanes			
CART0059-B	North 35 th Street	Country Club Road - Bridges Street	0.85	22	2	Bicycle	2B	H,P
CART0060-B	Swinson Park Road	Country Club Road - Bridges Street	0.30	18	2	Bicycle	2C	
CART0061-B	Nine Mile Road	NC 24 - Lake Road	4.65	20	2	Bicycle	2C	
CART0062-B	Nine Foot Road	Lake Road - US 70	3.31	22	2	Bicycle	2B	
CART0063-B	McCabe Road	US 70 - NC 24	1.09	22	2	Bicycle	2B	
CART0064-B	Hibbs Road	NC 24 - East Chatham Street	3.17	22	2	Bicycle	2B	H
CART0065-B	West Beaufort Road	NC 101 - Aqua 10 Road	1.25	20	2	Bicycle	2C	H

PEDESTRIAN								
Local ID	Facility / Route	Section (From - To)	Distance (mi)	Existing System		Proposed System		Other Modes
				Type	Side of Street	Type	Side of Street	
CART0001-P	Atlantic Boulevard	East Drive - West Drive	0.11	N/A	N/A	Sidewalks	Both	
CART0002-P	NC 58 (West Fort Macon Road)	Atlantic Beach Causeway Road - North Kinston Avenue	0.12	N/A	N/A	Sidewalks	Both	H,T
CART0003-P	NC 58 (West Fort Macon Road)	North Raleigh Avenue - North Charlotte Avenue	0.08	N/A	N/A	Sidewalks	Both	H,T
CART0004-P	NC 58 (West Fort Macon Road)	North Durham Avenue - Cedar Lane	0.08	N/A	N/A	Sidewalks	Both	H,T
CART0005-P	Atlantic Beach Bridge	Atlantic Beach Causeway Road - Evans Street in Morehead City	1.31	N/A	N/A	Sidewalks	Both	T,P
CART0006-P	NC 58 (Emerald Drive)	Lee Avenue - Cedar Tree Lane	2.10	N/A	N/A	Sidewalks	Both	H,T
CART0007-P	NC 58 (Emerald Drive/Salter Path Road)	Cedar Tree Lane - Wamsquam Lane	4.50	N/A	N/A	Sidewalks	Both	H,T,B
CART0008-P	NC 58 (Emerald Drive)	Cameron Langston Bridge	1.20	N/A	N/A	Sidewalks	Both	H,T
CART0009-P	NC 58 (Salter Path Road)	Ocean View Lane - Sandpiper Lane (Pine Knoll Shores border)	1.40	N/A	N/A	Sidewalks	Both	H,B
CART0010-P	US 70 (Arendell Street)	Rochelle Drive - South 35 th Street	2.29	N/A	N/A	Sidewalks	Both	H,T
CART0011-P	US 70 (Arendell Street)	North 4 th Street - North 4 th Street to the boat ramps	0.27	N/A	N/A	Sidewalks	Both	
CART0012-P	US 70 (Arendell Street)	South 34 th Street - South 25 th Street	0.92	N/A	N/A	Sidewalks	Both	H,T
CART0013-P	Shepard Street	South 20 th Street - South 19 th Street	0.10	N/A	N/A	Sidewalks	Both	
CART0014-P	McCabe Road	US 70 - NC 24	1.10	N/A	N/A	Sidewalks	Both	

PEDESTRIAN

Local ID	Facility / Route	Section (From - To)	Distance (mi)	Existing System		Proposed System		Other Modes
				Type	Side of Street	Type	Side of Street	
CART0015-P	Woodbridge Drive	NC 24 - south 1,200 feet	0.40	N/A	N/A	Sidewalks	Both	
CART0016-P	Bussiness Drive / Pond Drive	Old Airport Road - Gloria Dawn Road	1.30	N/A	N/A	Sidewalks	Both	H,B
CART0017-P	Gloria Dawn Road	Pond Drive - Bridge Street Exd	0.30	N/A	N/A	Sidewalks	Both	
CART0018-P	Bridge Street Extension	Gloria Dawn Road - Country Club Road	0.40	N/A	N/A	Sidewalks	Both	H,B
CART0019-P	Country Club Road	Bridges Street - Blair Farm Parkway	5.90	N/A	N/A	Sidewalks	Both	H,B
CART0020-P	Friendly Road	Country Club Road - US 70	0.76	N/A	N/A	Sidewalks	Both	H,B
CART0021-P	35 th Street	Country Club Road - Mandy Lane	0.22	N/A	N/A	Sidewalks	Both	H
CART0022-P	Tootle Road	Country Club Road - Mayberry Loop Road	0.60	N/A	N/A	Sidewalks	Both	
CART0023-P	Mayberry Loop Road	Tootle Road - North Yaupon Terrace	0.50	N/A	N/A	Sidewalks	Both	
CART0024-P	Barbour Road	Tootle Road - south and connecting to the existing sidewalk	0.50	N/A	N/A	Sidewalks	Both	H,B
CART0025-P	North 20 th Street	Country Club Road - Golden Lane	1.55	N/A	N/A	Sidewalks	Both	H
CART0026-P	South 20 th Street	Arendell Street - Shepard Street	0.10	N/A	N/A	Sidewalks	Both	
CART0027-P	Old Airport Road	US 70 - Business Drive	0.50	N/A	N/A	Sidewalks	Both	H
CART0028-P	Blair Farm Parkway	Country Club Road - west connecting to the existing sidewalk	0.50	N/A	N/A	Sidewalks	Both	
CART0029-P	North 15 th Street	Fisher Street - going north connecting to the existing sidewalk	0.06	N/A	N/A	Sidewalks	Both	
CART0030-P	South 15 th Street	Evans Street - Shepard Street	0.10	N/A	N/A	Sidewalks	Both	
CART0031-P	South 11 th Street	Evans Street - Shepard Street	0.10	N/A	N/A	Sidewalks	Both	
CART0032-P	Atlantic Beach Causeway Bridge	Morehead City - Atlantic Beach Causeway	0.70	N/A	N/A	Sidewalks	Both	H
CART0033-P	NC 58 (Salter Path Road)	Oakleaf Drive - Sandpiper Lane		N/A	N/A	Sidewalks	Both	
CART0034-P	Pine Knoll Boulevard	NC 58 - Town Hall	0.20	N/A	N/A	Sidewalks	Both	H
CART0035-P	Roosevelt Boulevard	Pine Knoll Boulevard - North Carolina Aquarium	0.40	N/A	N/A	Sidewalks	Both	
CART0036-P	Mimosa Boulevard	NC 58 - Beechwood Drive	0.10	N/A	N/A	Sidewalks	Both	
CART0037-P	Oakleaf Drive	NC 58 - Country Club of the Crystal Coast	0.70	N/A	N/A	Sidewalks	Both	
CART0038-P	NC 58	At Oakleaf beach access	N/A	N/A	N/A	Crosswalks	N/A	
CART0039-P	NC 58	At Juniper Road	N/A	N/A	N/A	Crosswalks	N/A	
CART0040-P	NC 58	At Mimosa Boulevard	N/A	N/A	N/A	Crosswalks	N/A	
CART0041-P	NC 58	At Pine Knoll Boulevard	N/A	N/A	N/A	Crosswalks	N/A	
CART0042-P	NC 58	At Clam Digger Inn	N/A	N/A	N/A	Crosswalks	N/A	
CART0043-P	NC 58	At Coral Drive	N/A	N/A	N/A	Crosswalks	N/A	

MULTI-USE PATH								
Local ID	Facility / Route	Section (From - To)	Distance (mi)	Existing System		Proposed System		Other Modes
				Side of Street	Cross-Section	Side of Street	Cross-Section	
CART0001-M	US 70 (Arendell Street)	Pivers Island Road - Morehead City	2.20	N/A	N/A	N/A	MA	H,T
CART0002-M	NC 101	US 70 - Copeland Road	1.11	N/A	N/A	N/A	MA	H
CART0003-M	Campen Road	Carraway Drive - Lockhart Drive	0.34	N/A	N/A	N/A	MA	
CART0004-M	Carraway Drive	NC 101 - Campen Road	0.32	N/A	N/A	N/A	MA	
CART0005-M	Lockhart Drive	Campen Road - Steep Point Drive	0.12	N/A	N/A	N/A	MA	
CART0006-M	Freedom Park	Leonda Drive - Sycamore Drive	0.24	N/A	N/A	N/A	MA	
CART0007-M	Steep Point Road	Live Oak Street (US 70) - Sleep Point Landing	0.75	N/A	N/A	N/A	MA	
CART0008-M	Railroad track	Live Oak Street - West Beaufort Street	0.52	N/A	N/A	N/A	MA	
CART0009-M	Steep Point Road	Steep Point Road - Howland Parkway	0.05	N/A	N/A	N/A	MA	
CART0010-M	Copeland Road	NC 101 - Aqua 10 Road	1.71	N/A	N/A	N/A	MA	
CART0011-M	NC 58 (Emerald Drive)	Coast Guard Road - Cameron Langston Bridge	0.32	N/A	N/A	N/A	MA	H,T
CART0012-M	NC 58 (Emerald Drive)	Hurst Road - Ocean View Lane	0.08	N/A	N/A	N/A	MA	H,T
CART0013-M	Old Ferry Road	NC 58 (Emerald Drive) - the end of the road	0.35	N/A	N/A	N/A	MA	
CART0014-M	Coast Guard Road	NC 58 - Wyndtree Drive	2.18	N/A	N/A	N/A	MA	
CART0015-M	US 70	McCabe Road - Little Nine Drive	1.25	N/A	N/A	N/A	MA	H,T
CART0016-M	US 70 (Arendell Street)	South Lockhart Street - South 34 th Street	0.79	N/A	N/A	N/A	MA	H,T
CART0017-M	NC 24	McCabe Road - Rochelle Drive	2.69	N/A	N/A	N/A	MA	H,T
CART0018-M	Marine Road	US 70 - Olde Towne Yacht Club Road	0.41	N/A	N/A	N/A	MA	
CART0019-M	Olde Towne Yacht Club Road	Marine Road - the end of the road	0.19	N/A	N/A	N/A	MA	
CART0020-M	Bridge Street Extension	Gloria Dawn Road - Country Club Road	0.40	N/A	N/A	N/A	MA	H
CART0021-M	Gloria Dawn Road	Pond Drive - Bridge Street Extension	0.24	N/A	N/A	N/A	MA	
CART0022-M	New multi-use path facility	Gloria Dawn Road - Country Club Road	0.40	N/A	N/A	N/A	MA	
CART0023-M	Pond Drive	Miller Farm Road - Gloria Dawn Road	0.43	N/A	N/A	N/A	MA	
CART0024-M	McQueen Avenue	East Chatham Street - Joyce Avenue	0.12	N/A	N/A	N/A	MA	
CART0025-M	East Chatham Street	Westfield Road - McQueen Avenue	1.03	N/A	N/A	N/A	MA	
CART0026-M	NC 24	US 70 - Cedar Lane	18.40	N/A	N/A	N/A	MA	H,T

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 May 5, 2014 to support the Department's "Complete Streets¹" policy that was adopted in July 2009. In addition, these typical highway cross sections have been updated in response to the Strategic Transportation Investments Law (House Bill 817), and are consistent with SPOT Online (used for Project Prioritization). 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.

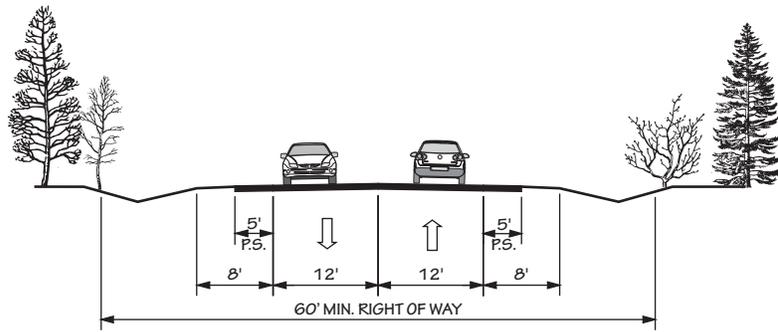
On all existing and proposed roadways delineated on the CTP, adequate right-of-way should be protected or acquired for the recommended cross sections. In addition to cross section and right-of-way recommendations for improvements, Appendix C may recommend ultimate needed right-of-way for the following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

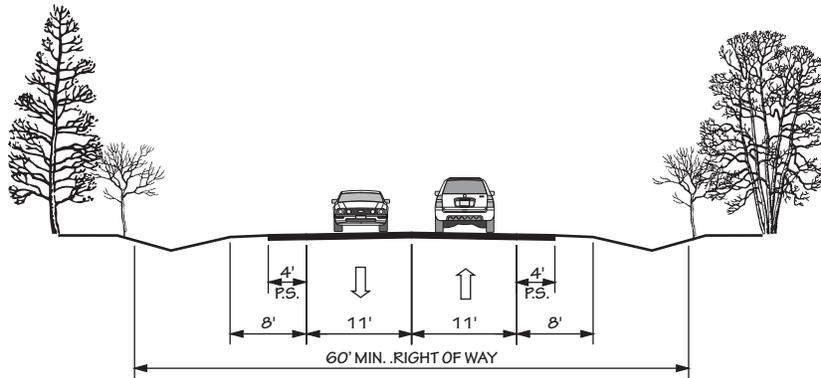
FIGURE 7
"TYPICAL" HIGHWAY CROSS SECTIONS

2A



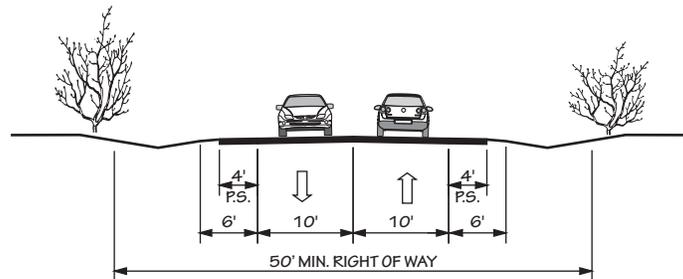
2 LANE UNDIVIDED WITH PAVED SHOULDERS
POSTED SPEED 55 MPH

2B



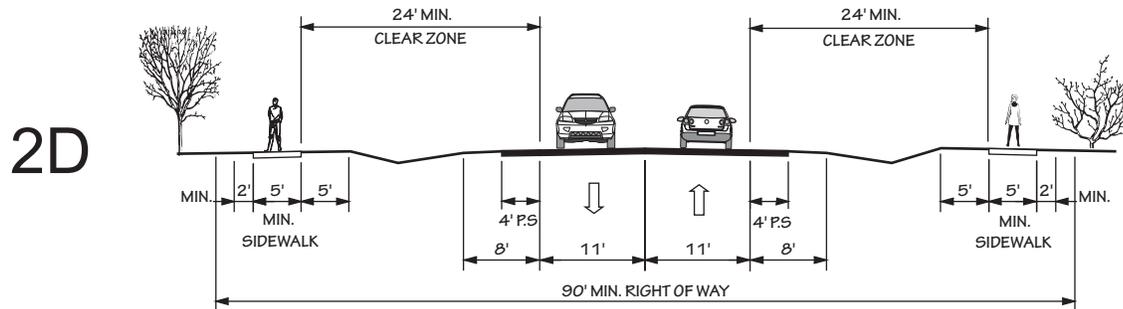
2 LANES UNDIVIDED
POSTED SPEED 45 MPH OR LESS

2C

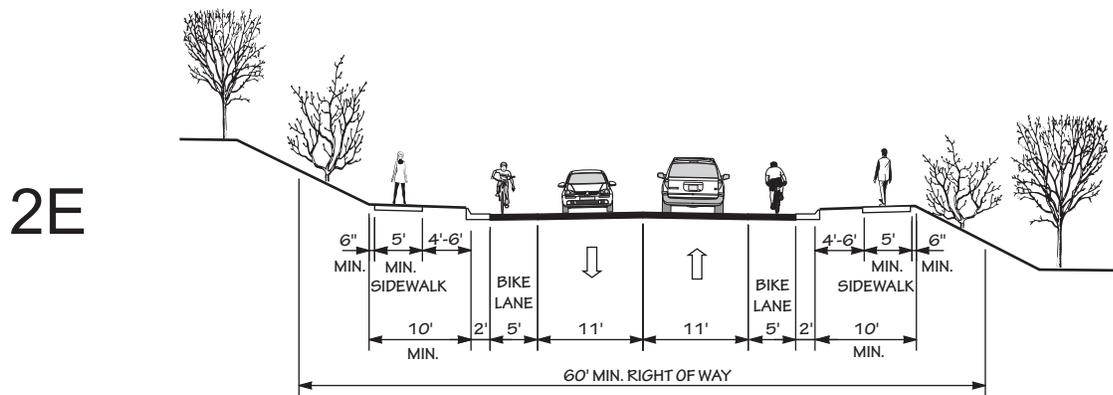


2 LANE UNDIVIDED WITH PAVED SHOULDERS
POSTED SPEED 25 - 35 MPH

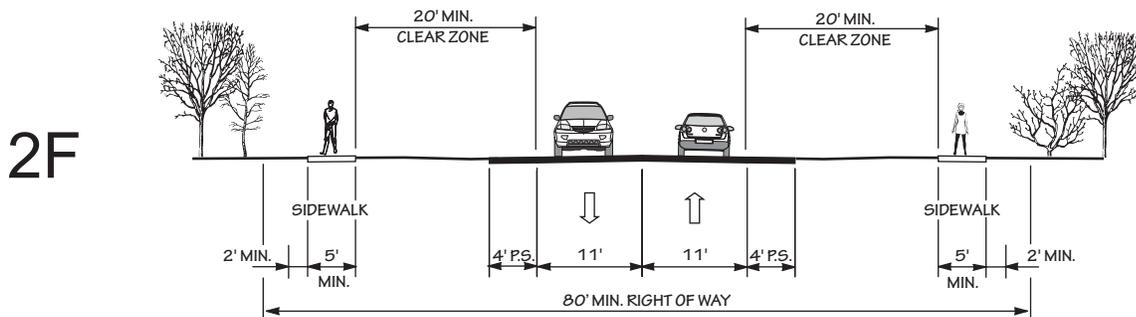
"TYPICAL" HIGHWAY CROSS SECTIONS



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

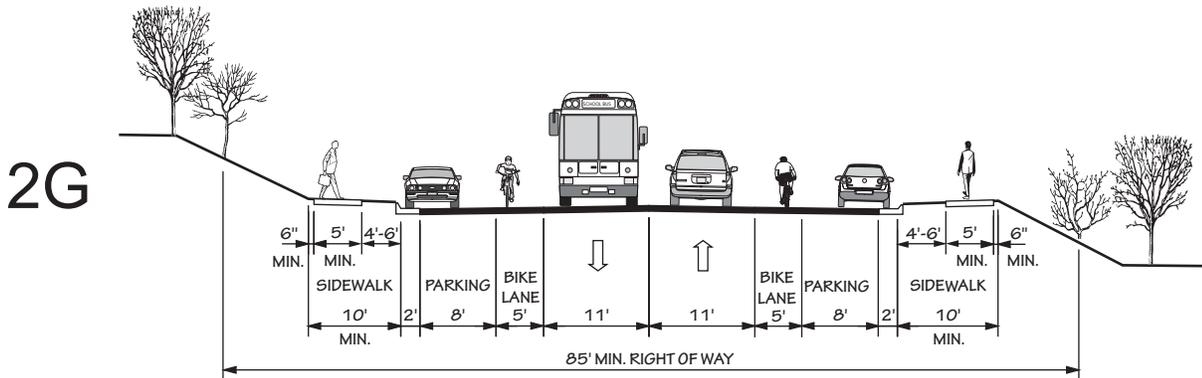


2 LANE UNDIVIDED WITH CURB & GUTTER, BIKE LANES, AND SIDEWALKS
POSTED SPEED 25-45 MPH

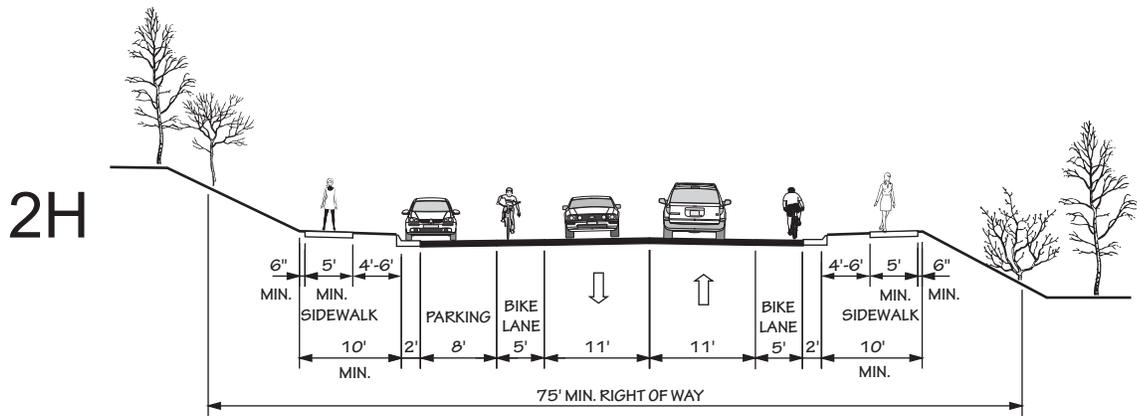


2 LANE UNDIVIDED WITH PAVED SHOULDERS AND SIDEWALKS
IN CAMA COUNTIES
POSTED SPEED 25-45 MPH

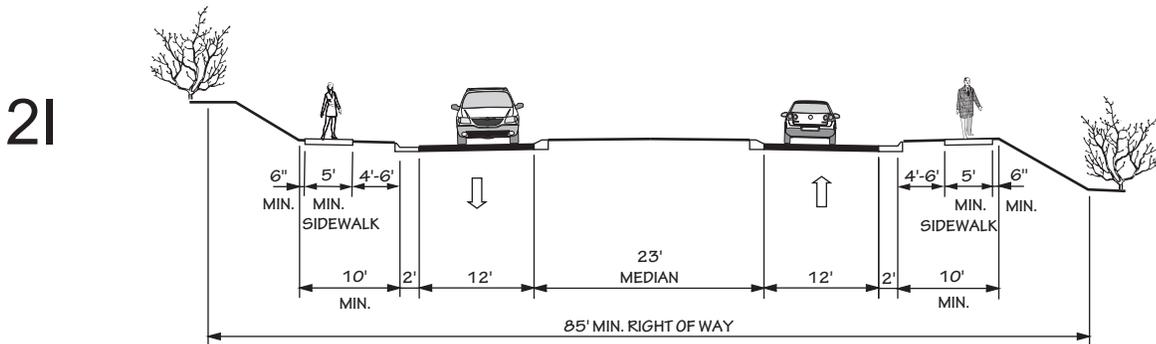
"TYPICAL" HIGHWAY CROSS SECTIONS



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



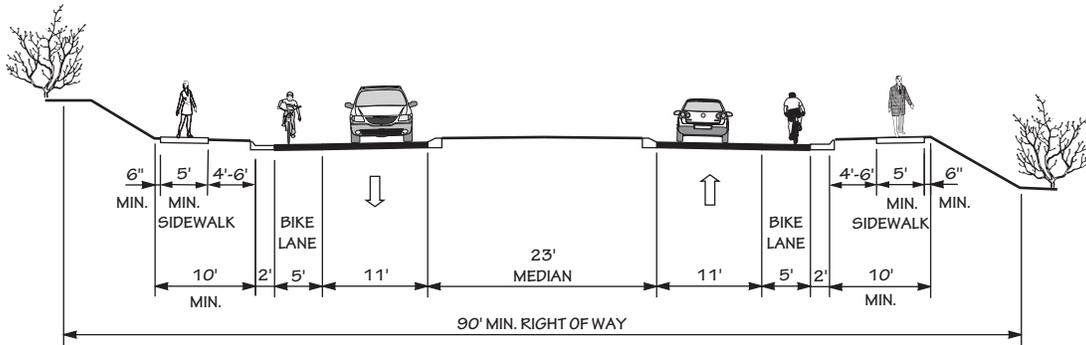
2 LANE UNDIVIDED WITH CURB & GUTTER, PARKING ONE SIDE, BIKE LANES, AND SIDEWALKS
POSTED SPEED 25-45 MPH



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

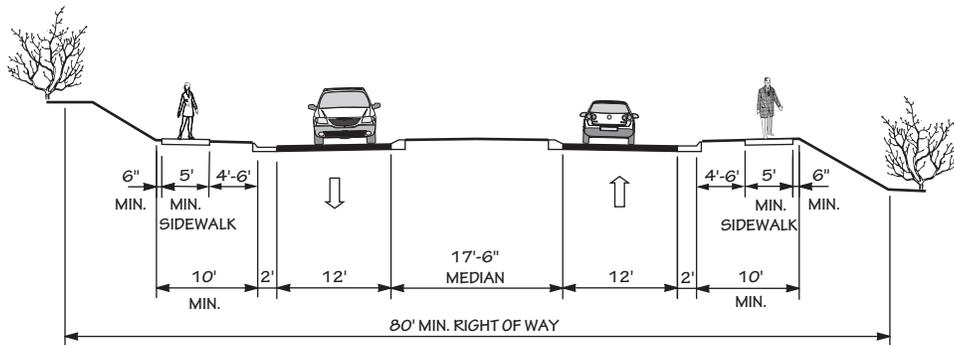
"TYPICAL" HIGHWAY CROSS SECTIONS

2J



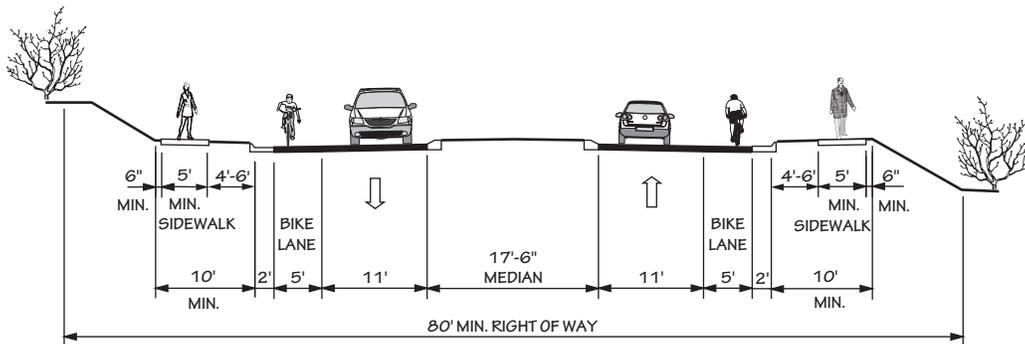
2 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER, BIKE LANES, AND SIDEWALKS
POSTED SPEED 25-45 MPH

2K



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

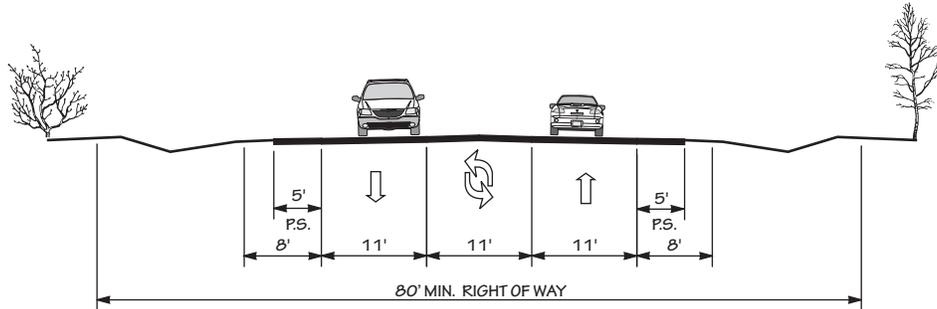
2L



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

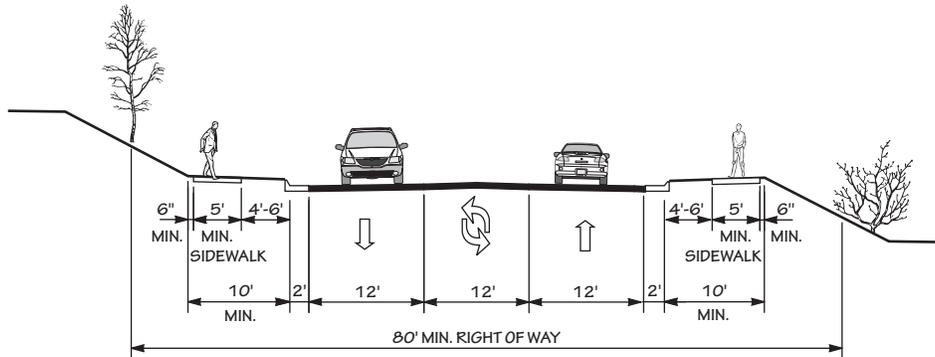
"TYPICAL" HIGHWAY CROSS SECTIONS

3A



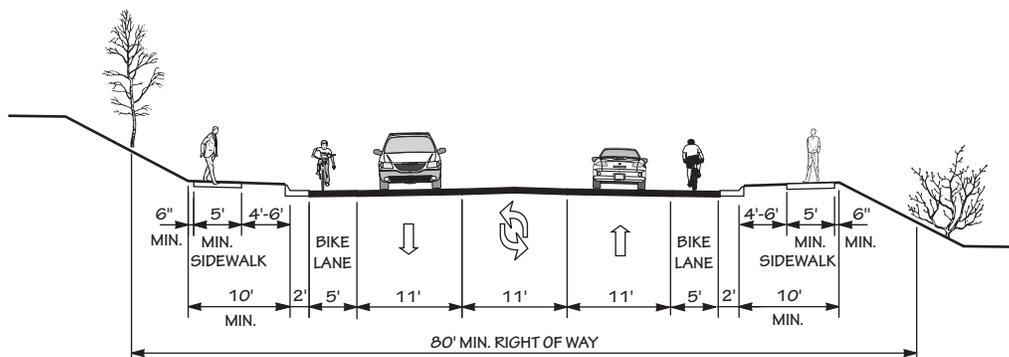
2 LANE WITH TWO WAY LEFT TURN LANE, AND PAVED SHOULDERS
POSTED SPEED 25-55 MPH

3B



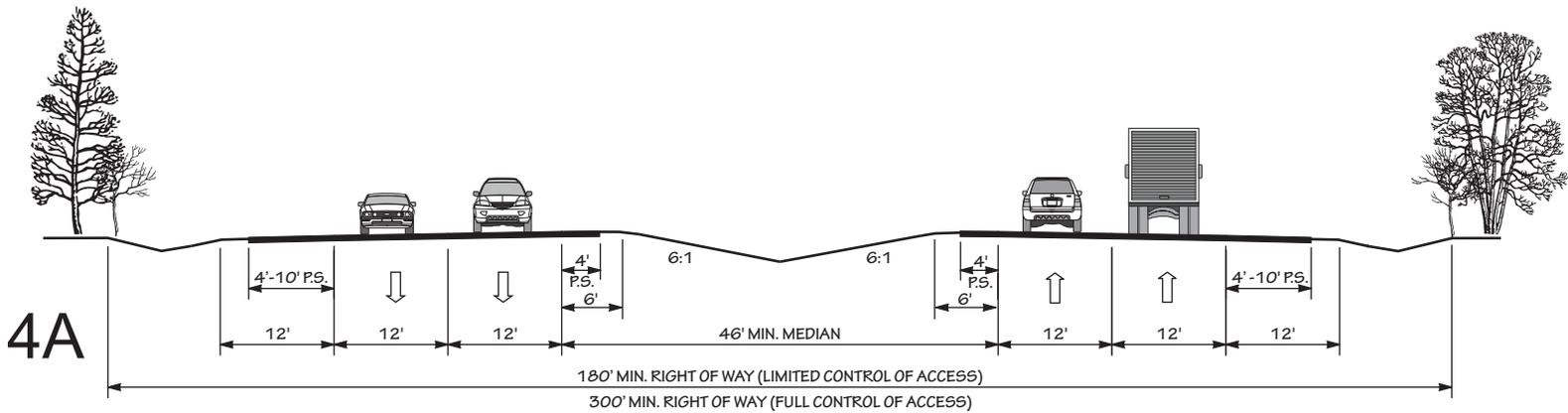
2 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER,
AND SIDEWALKS
POSTED SPEED 25-45 MPH

3C

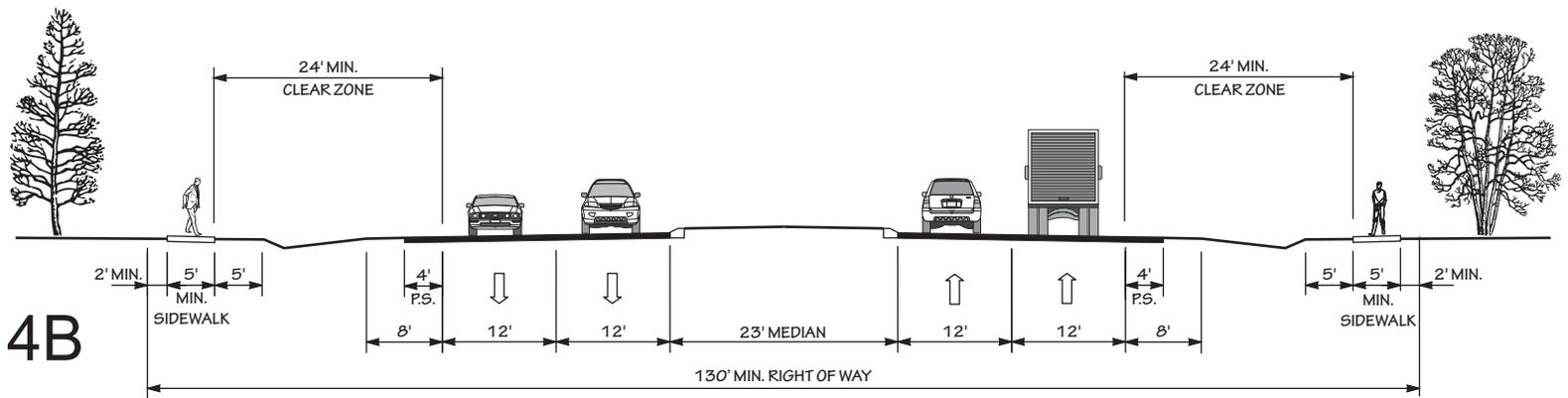


2 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER,
BIKE LANES, AND SIDEWALKS
POSTED SPEED 25-45 MPH

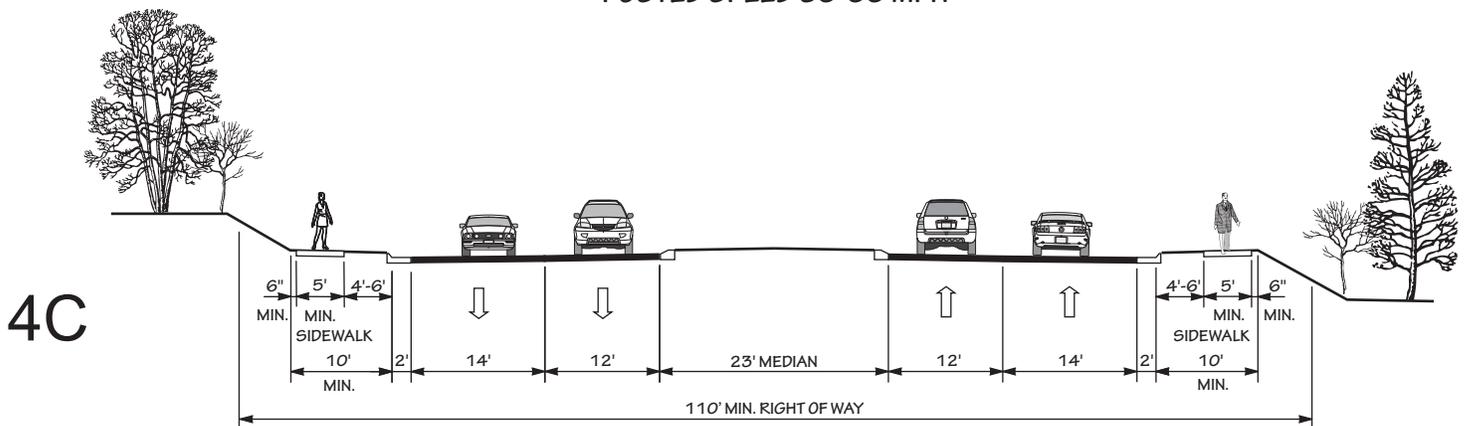
"TYPICAL" HIGHWAY CROSS SECTIONS



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

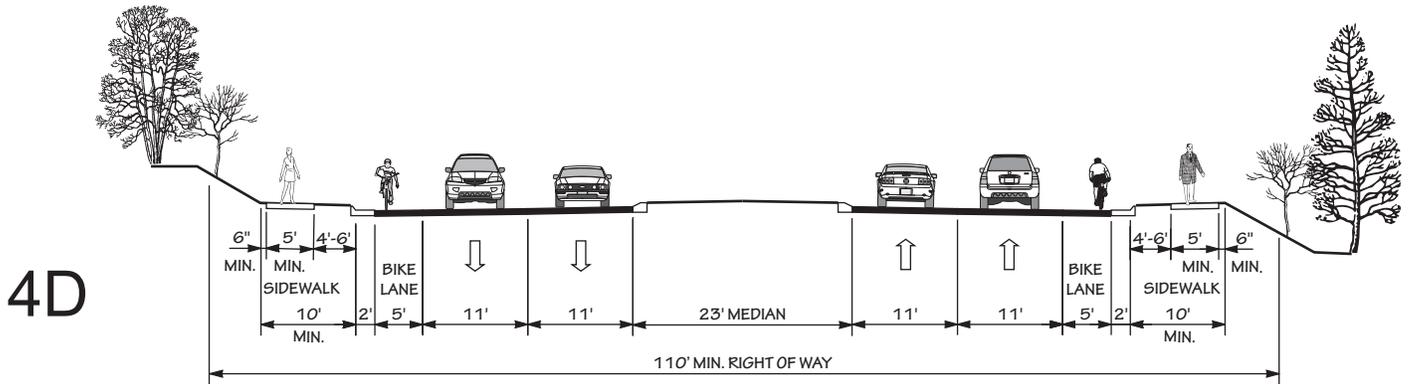


4 LANE DIVIDED (23' RAISED MEDIAN) WITH PAVED SHOULDERS
AND SIDEWALKS
POSTED SPEED 35-55 MPH

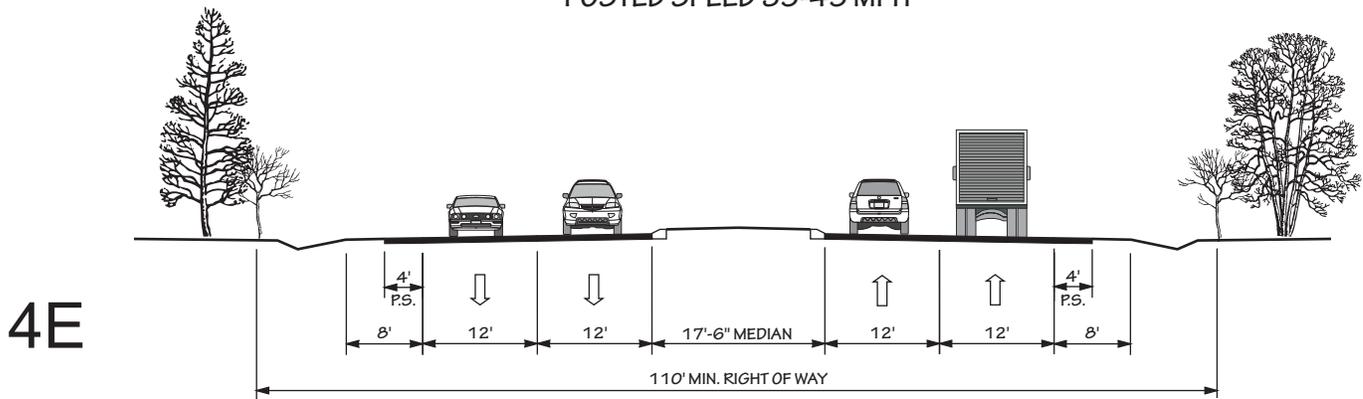


4 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH

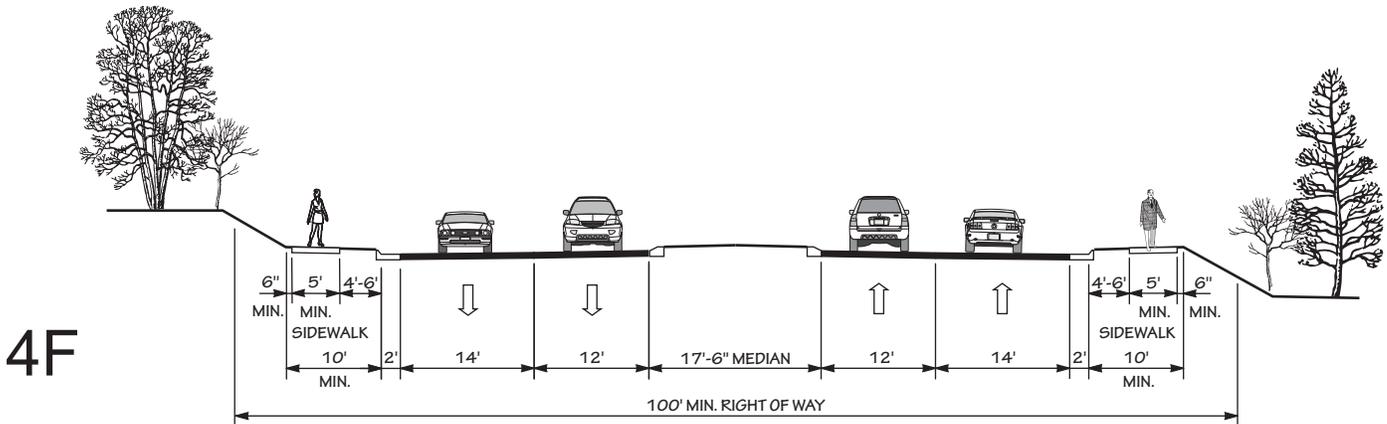
"TYPICAL" HIGHWAY CROSS SECTIONS



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

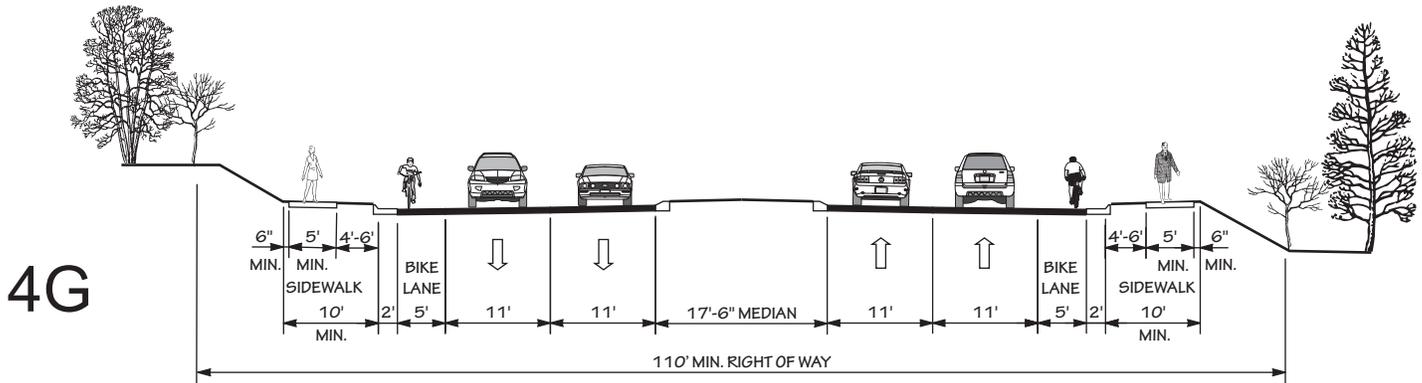


4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH PAVED SHOULDERS AND SIDEWALKS
POSTED SPEED 35-55 MPH

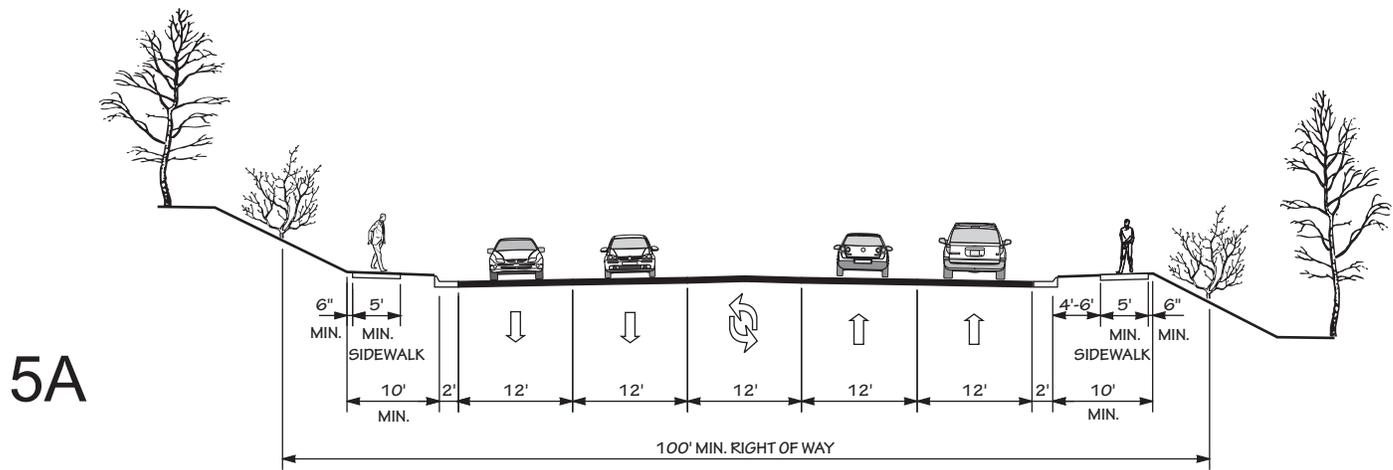


4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER, WIDE OUTSIDE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH

"TYPICAL" HIGHWAY CROSS SECTIONS

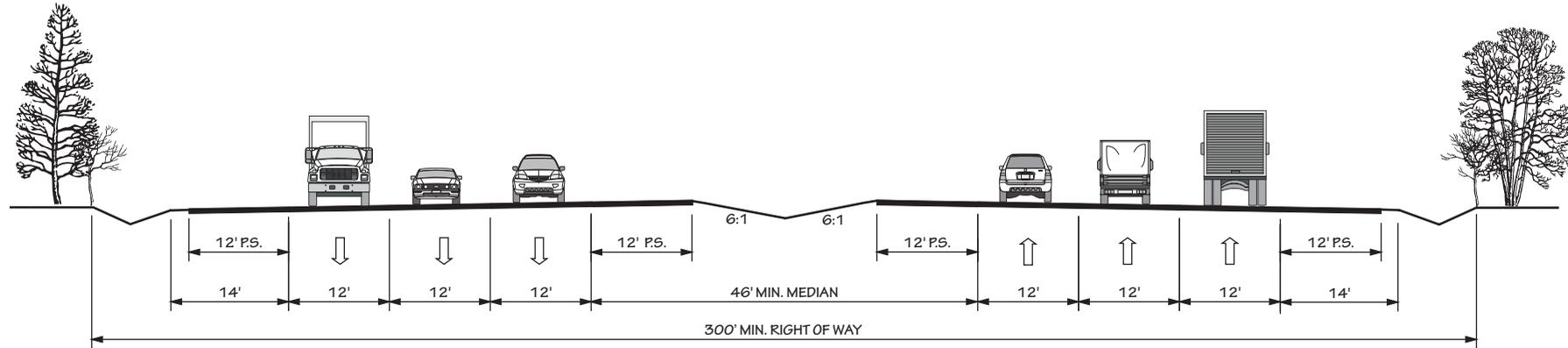


4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER, BIKE LANES, AND SIDEWALKS
 POSTED SPEED 35-45 MPH

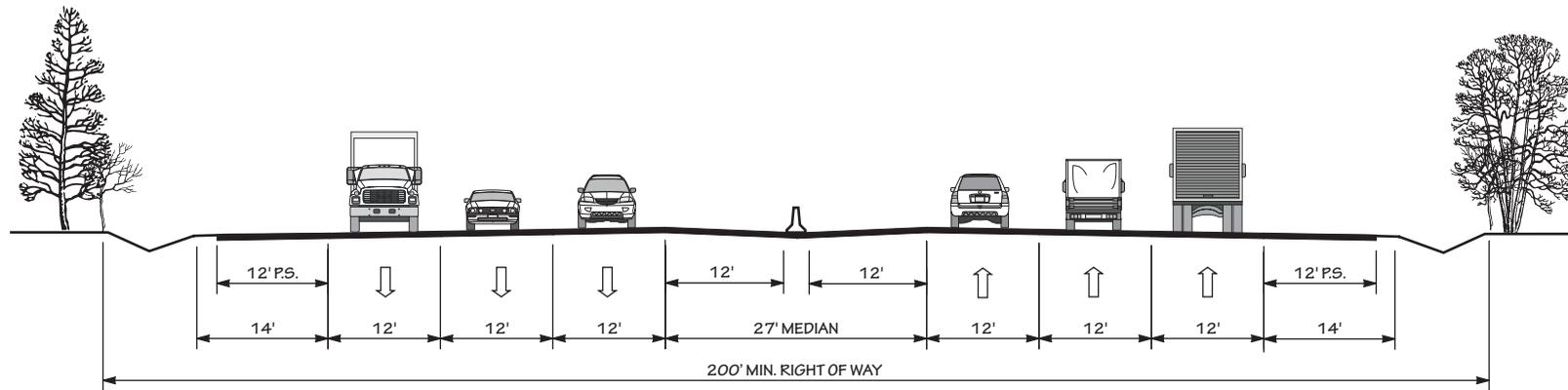


4 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER, AND SIDEWALKS
 POSTED SPEED 35-45 MPH

"TYPICAL" HIGHWAY CROSS SECTIONS

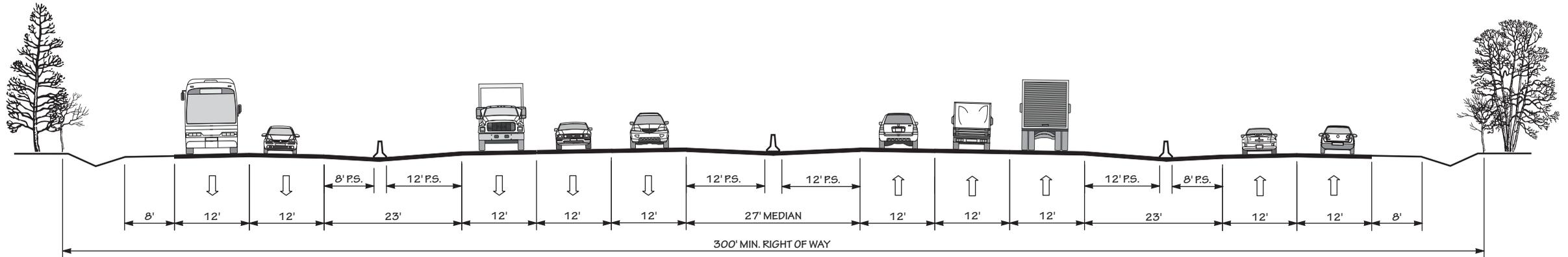


6A 6 LANE DIVIDED (46' DEPRESSED MEDIAN) WITH PAVED SHOULDERS
POSTED SPEED 45-70 MPH



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

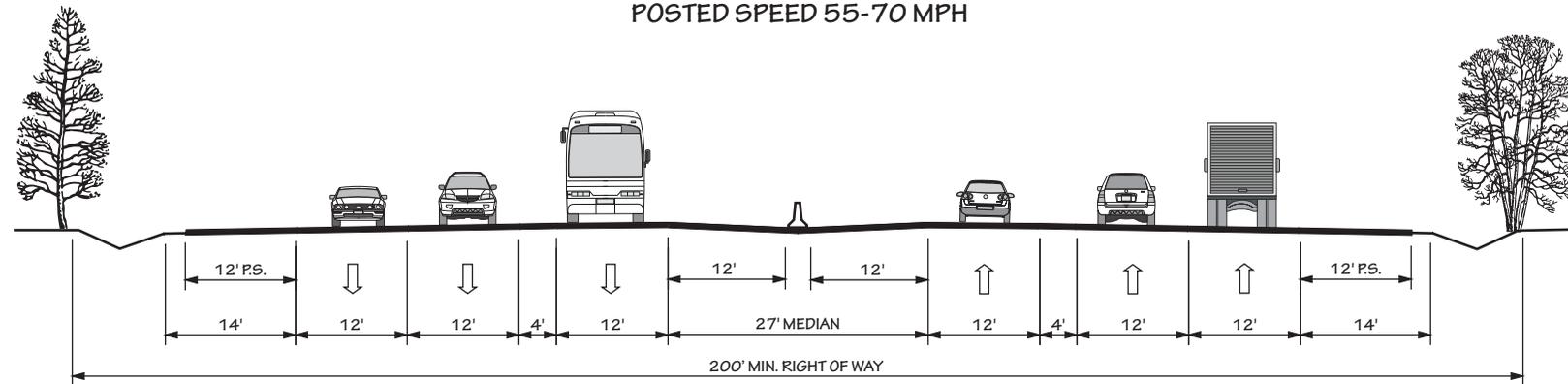
"TYPICAL" HIGHWAY CROSS SECTIONS



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

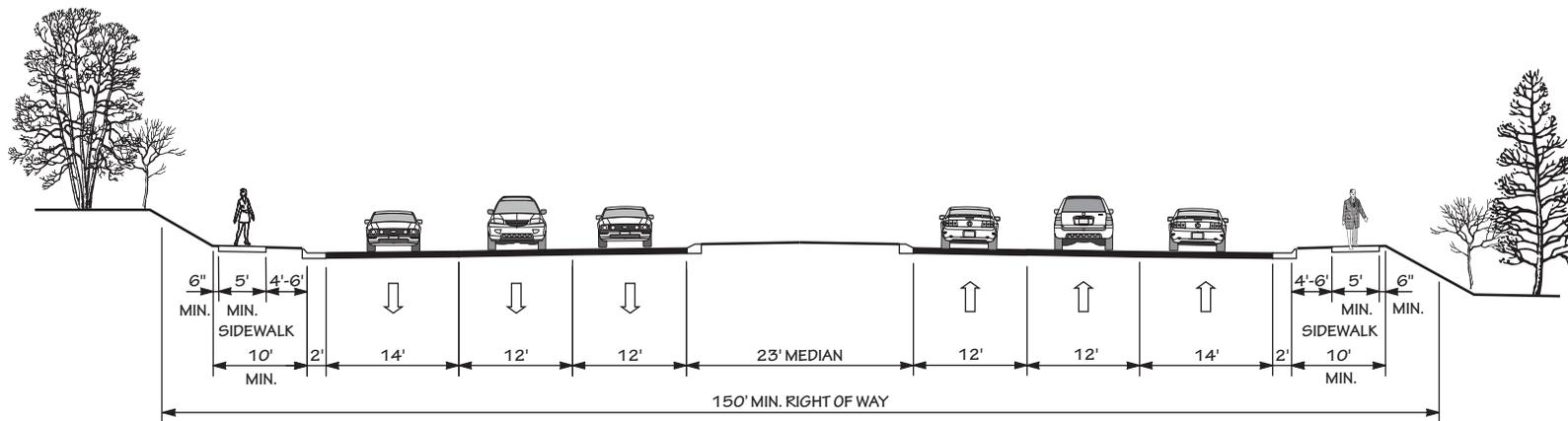


6D

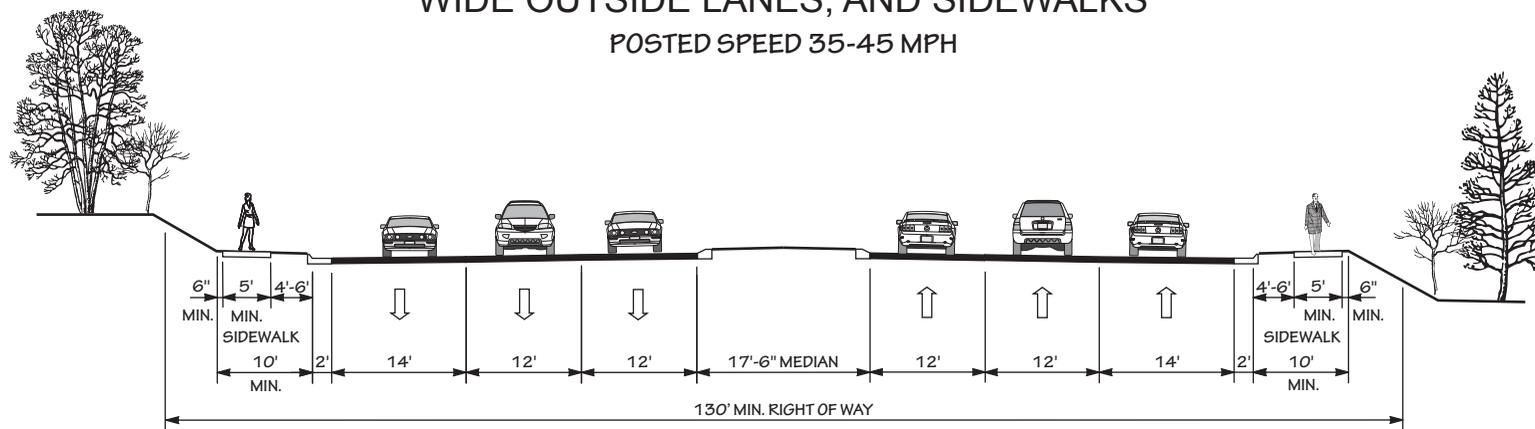
6 LANE FREEWAY (4 GENERAL PURPOSE LANES, 2 MANAGED LANES, AND 27' MEDIAN WITH JERSEY BARRIER) WITH PAVED SHOULDERS

POSTED SPEED 55-70 MPH

"TYPICAL" HIGHWAY CROSS SECTIONS

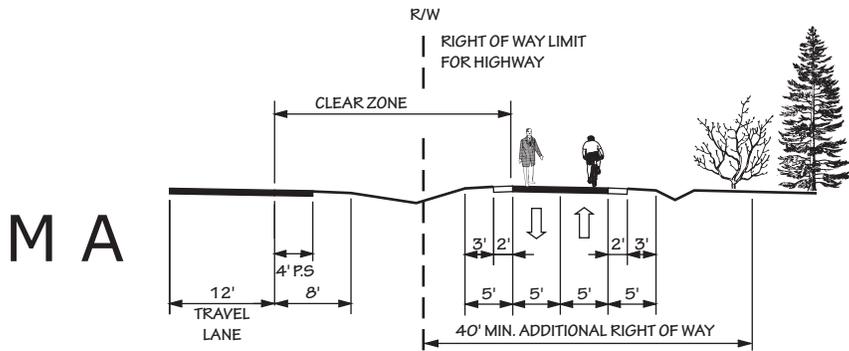


6E 6 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH

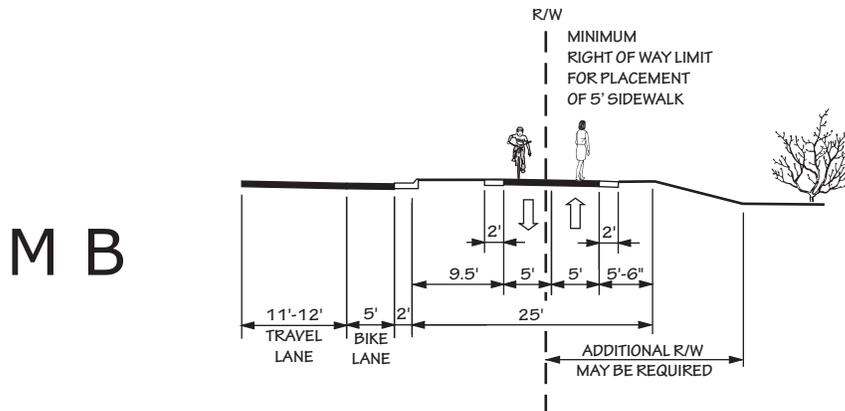


6F 6 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH

“TYPICAL” HIGHWAY CROSS SECTIONS



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



MULTI - USE PATH ADJACENT TO CURB AND GUTTER

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 8.

- **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 8 - 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

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 4, and Figure 5. For more details on deficient bridges within the planning area, contact the Structures Management Unit using the information in Appendix A.

Table 4 - Deficient Bridges

Bridge Number	Facility	Feature	Condition¹	Local ID (Figure 5)
150006	NC 58	Intracoastal Waterway	SD & FO	6
150035	US 70	Ward Creek	FO	35
150096	SR 1335 (Straits Rd)	The Straits	SD & FO	96
150110	Railroad	Newport River	FO	110
150013	US 70	Newport River	SD	13
150033	US 70	North River	SD	33
150068	SR 1182 (Atlantic Beach Causeway)	Bogue Sound & ICW	SD	68
150073	SR 1335 (Straits Rd)	The Straits	SD	73
150010	NC 101	Harlowe Creek	FO	10
150029	US 70	Beaufort Channel	FO	29
150031	NC 101	Branch Newport River	FO	31
150034	SR 1176 (20 th St)	Calico Creek	FO	34
150095	SR 1247 (Old Highway 70)	Newport River	FO	95
150099	NC 12 – Ferry	Pamlico Sound	FO	99
150100	NC 12 – Ferry	Pamlico Sound	FO	100

Note:

- 1: 'SD' means "Structurally Deficient"
- 'FO' means "Functionally Obsolete"

Appendix G

Socio-Economic Data Forecasting Methodology

In the development of the Carteret County CTP, existing and anticipated deficiencies were determined through an analysis of the transportation system looking at both current and future travel patterns.

For the non-modeled/rural portion of Carteret County, including Morehead City, 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. For this CTP, the 2005 Carteret County Land Development Use Plan was used and is illustrated in Figures 9, 10, 11-1A, and 11-1B, respectively.

The CTP Steering Committee worked with NCDOT to estimate population growth, economic development potential, and land use trends to determine the potential impacts on the future transportation system in 2040.

Below is a description of the methodology used in the analysis.

Population

Population trends were estimated using available data from the Office of State Budget and Management (OSBM) and simple exponential growth. Table 5 shows current and projected population through the year 2040.

Table 5 – Population Data

Year	Carteret County Population
2010	66,713
2015	70,605
2020	74,385
2025	78,167
2030	81,945
2035	84,214
2040*	88,654

* Extrapolated by NCDOT

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 2005 Carteret County Land Use Plan, adopted by Carteret County on April 20, 2009 was used to meet this requirement.

Carteret County is considered to have three distinct areas in terms of general land use. The first area is the Down East area, which lies east of the Intracoastal Waterway connecting Core and Adams Creeks. The central area is generally described as being north of Beaufort and includes Morehead City and Newport. The third area lies west of Morehead City along the NC 24 and NC 58 corridors and Bogue Banks. This area is generally referred to as western Carteret County.

In addition to residential development, scattered commercial and industrial development continues to occur throughout the county. Concentrated commercial and industrial development occurs along US 70 between Newport and Morehead City, with increasing development along the NC 24 corridor.

Furthermore, second home, retirement, and tourist related development is concentrated in the Bogue Banks communities, with increasing presence in mainland areas both Down East and in western Carteret County. Carteret County's vast shoreline areas are attractive for development and are expected to continue to attract resort/retirement development.

The existing land use map (Figure 9) provides a general pattern of existing land use in areas under Carteret County planning jurisdiction. Land uses shown on this map include commercial, industrial, institutional, residential and undeveloped. The institutional category includes all military bases, federal lands such as the Croatan National Forest, state-owned land, county parks and beach access points. This category also includes churches, schools and other institutions. The undeveloped category includes sparsely developed land or land that might be used for agriculture or forestry practices.

The future Development Trends indicates that the western and central portions of Carteret County are expected to continue to experience growth pressures during the planning period. Areas near or adjacent to the White Oak River and Bogue Sound will continue to attract retirees, vacation-home owners, seasonal visitors, and others; thus maintaining strong residential and associated development trends. The NC 24 corridor, from Morehead City to Cape Carteret (including Bogue) and the NC 58 corridor north of Cape Carteret are expected to experience increasing development. Redevelopment and infill development of existing developed areas, such as Cedar Point and the Salter Path community on Bogue Banks, are also expected to continue.

Other areas of the county are also expected to continue to grow, particularly those areas served by central water service. In particular, the areas north of Beaufort along the NC 101 and US 70 corridors and north of the Newport River are expected to experience increased development when planned water service improvements are in place.

The Land Suitability Analysis Map (Figure 10) shows the results of the land suitability analysis for Carteret County. The map shows four classes of land – least suitable, low suitability, medium suitability and high suitability.

In general, the higher and medium suitability areas for development are located along the NC 24 and NC 58 corridors, as well as north of Beaufort and scattered areas in the southeastern portion of the county. In general, these areas are near other developed land, primary roads, and central water service, and do not contain features which the county has determined make them unavailable for development. Vacant land is available in these areas to accommodate new residential and associated development.

A relatively large area of the down east portion of the county, which includes Open Grounds Farm, is included in the low suitability category. This is due in large part to its agricultural use and not being in close proximity to existing developed lands and primary roads.

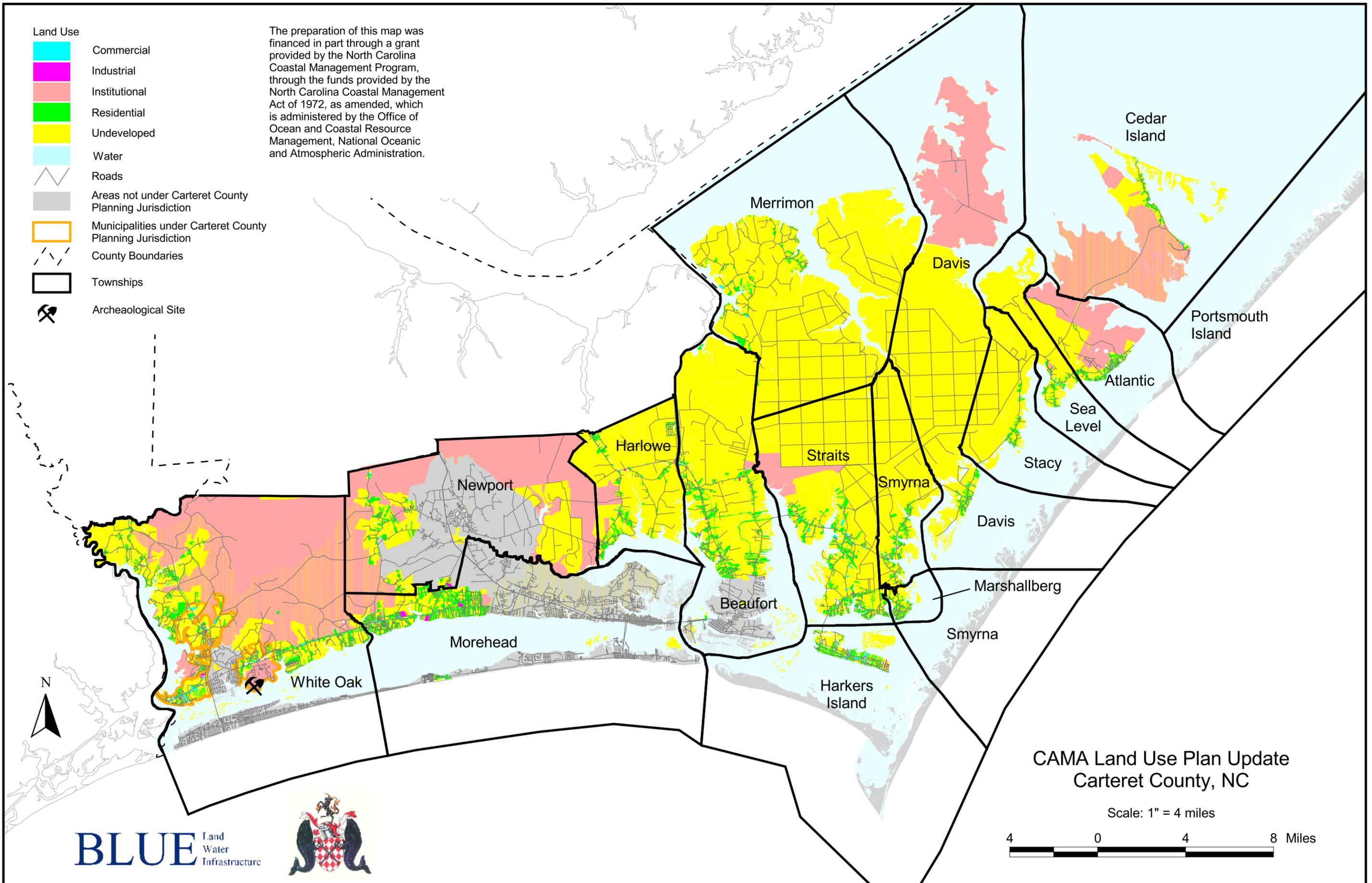
The future land use maps (Figures 11-1A and 11-1B) are an important component of the land use plan that is used by local, state, and federal governments to assist in determining the consistency of projects located within the Carteret County planning jurisdiction. Due to its size and scale, the map is only a guide and is not to be substituted for on-site investigation.

It is important to understand the purpose of the future land use map in the context of the full land use plan. The future land use map is an extension of the county's planning vision and is considered to be part of its planning goals. The future land use map contained in this plan is a "broad brush" depiction of the county's land use policies and desired growth patterns. The map portrays where the county wants growth to occur and the appropriate density of development and where land should be devoted to conservation or rural and other low-intensity uses. The map also shows the general location of resources the county wishes to protect or conserve. It is not as detailed as a zoning map and does not specify detailed locations of land uses such as residential, commercial, industrial, etc.

- Land Use
- Commercial
 - Industrial
 - Institutional
 - Residential
 - Undeveloped
 - Water

- Roads
- Areas not under Carteret County Planning Jurisdiction
- Municipalities under Carteret County Planning Jurisdiction
- County Boundaries
- Townships
- Archeological Site

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.



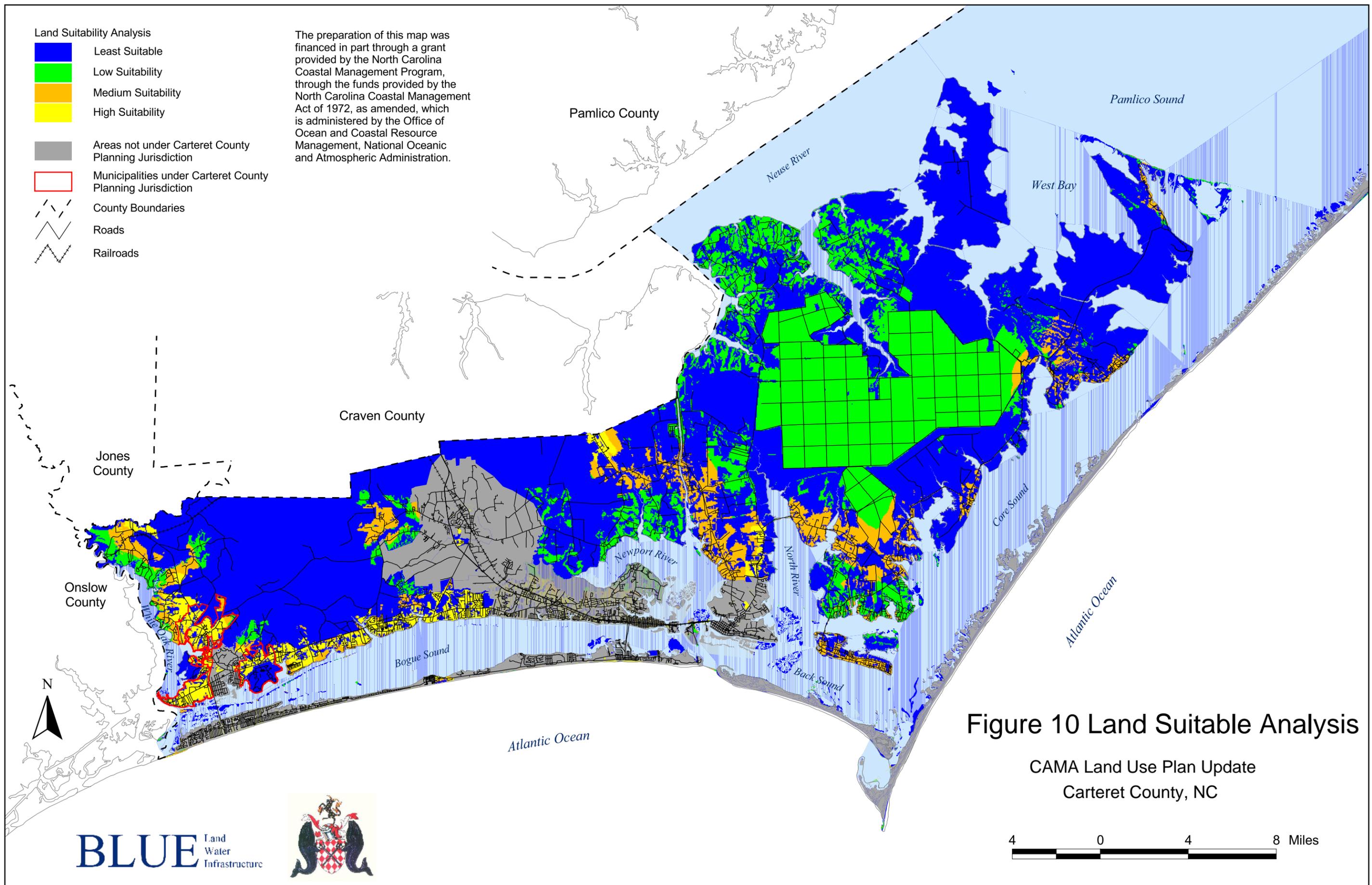
BLUE Land Water Infrastructure



CAMA Land Use Plan Update
Carteret County, NC

Scale: 1" = 4 miles





Land Suitability Analysis

- Least Suitable
- Low Suitability
- Medium Suitability
- High Suitability

- Areas not under Carteret County Planning Jurisdiction
- Municipalities under Carteret County Planning Jurisdiction
- County Boundaries
- Roads
- Railroads

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through the funds provided by the North Carolina Coastal Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

Figure 10 Land Suitable Analysis

CAMA Land Use Plan Update
Carteret County, NC

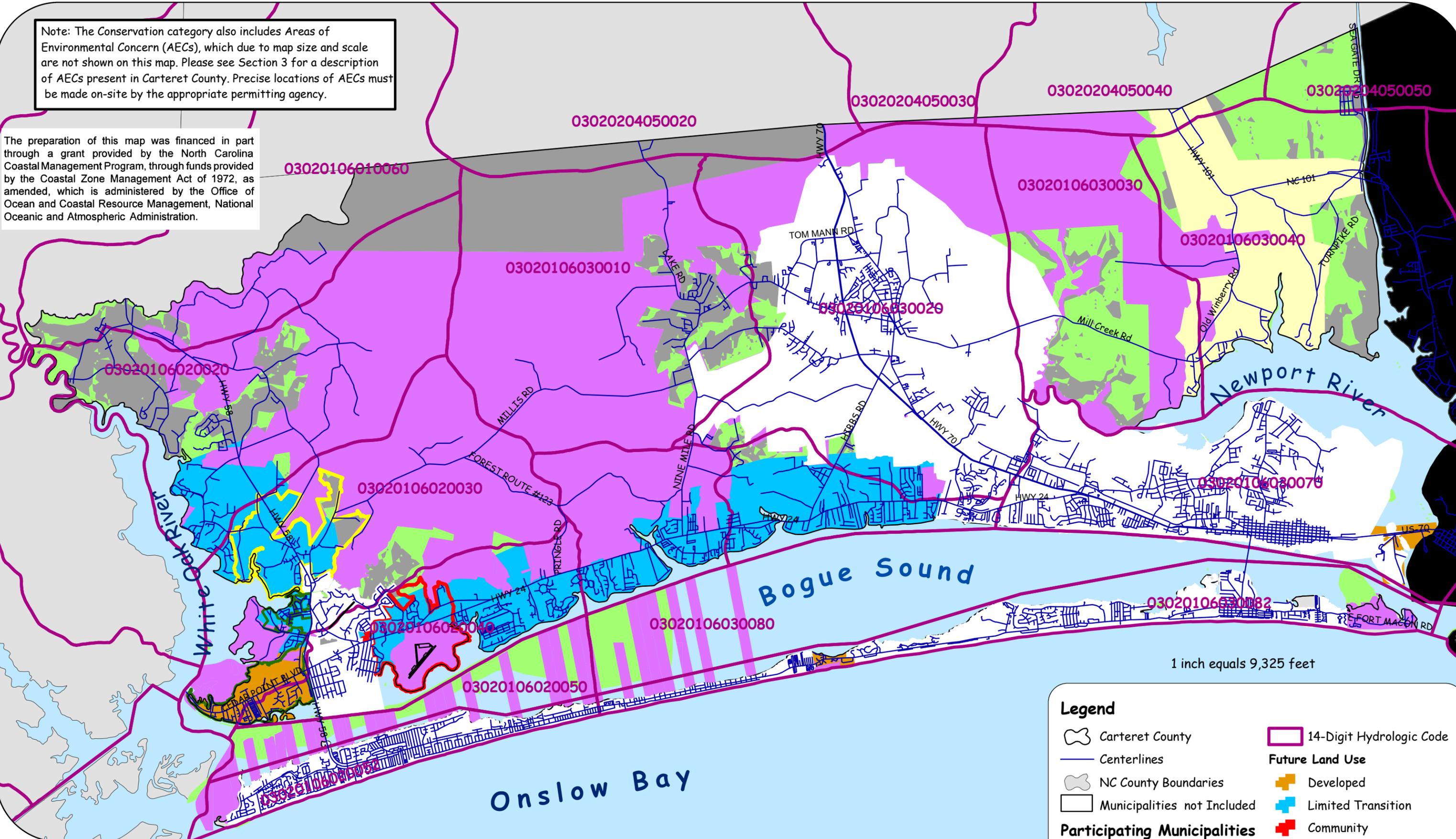
4 0 4 8 Miles

BLUE Land Water Infrastructure



Note: The Conservation category also includes Areas of Environmental Concern (AECs), which due to map size and scale are not shown on this map. Please see Section 3 for a description of AECs present in Carteret County. Precise locations of AECs must be made on-site by the appropriate permitting agency.

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

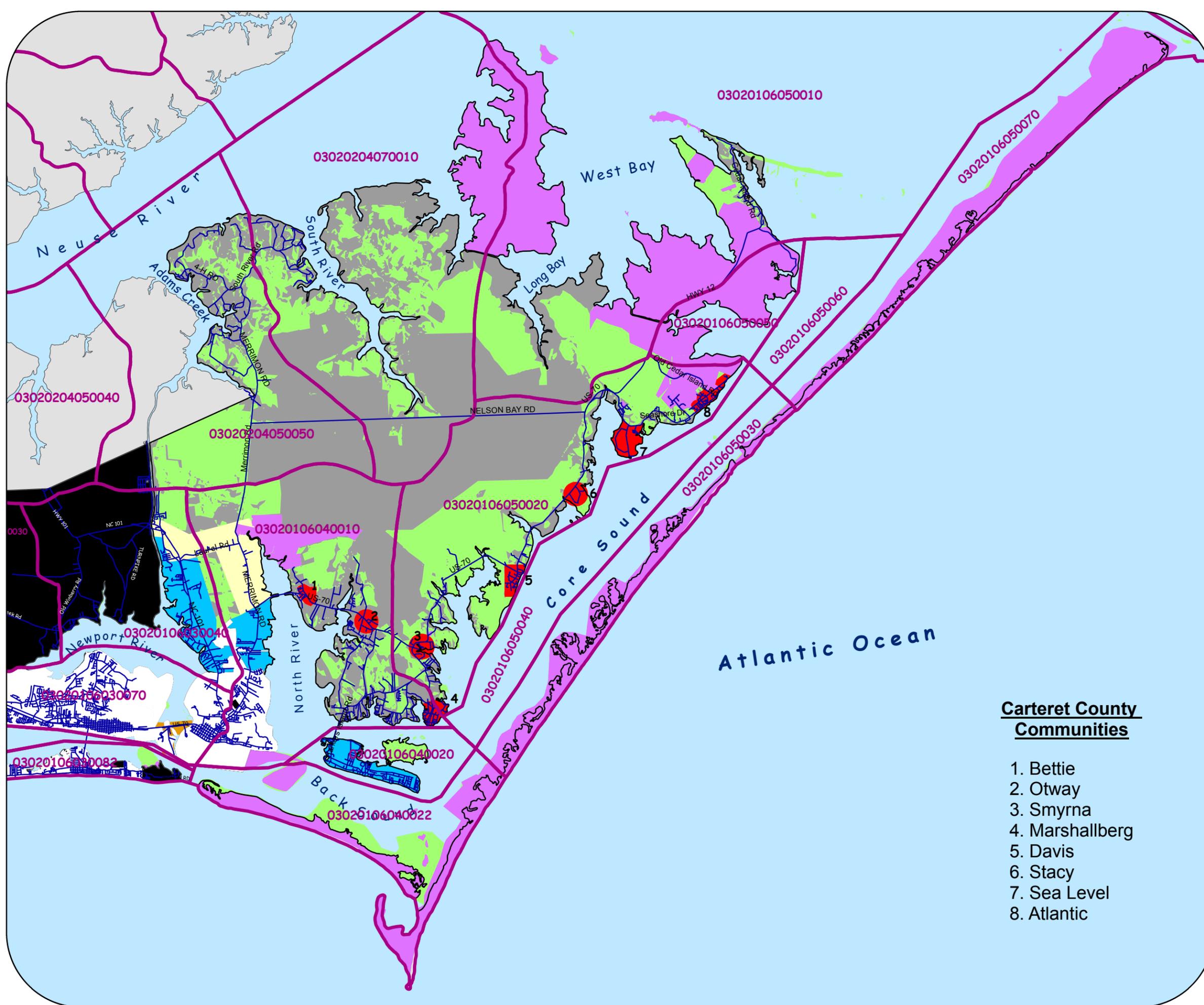


Legend

	Carteret County		14-Digit Hydrologic Code
	Centerlines	Future Land Use	
	NC County Boundaries		Developed
	Municipalities not Included		Limited Transition
Participating Municipalities			Community
	Bogue		Rural
	Cedar Point		Rural With Services
	Peletier		Protected Lands
			Conservation

Figure 11-1A Future Land Use
 CAMA Land Use Plan Update
 Carteret County, North Carolina

Figure 11-1B Future Land Use
CAMA Land Use Plan Update
Carteret County, North Carolina



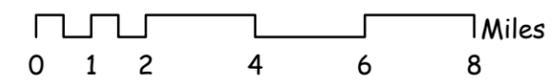
Legend

- Carteret County
- NC County Boundaries
- Centerlines
- Municipalities not Included
- 14-Digit Hydrologic Code

Future Land Use

- Developed
- Limited Transition
- Community
- Rural
- Rural With Services
- Protected Lands
- Conservation

1 inch equals 17,650 feet



Carteret County Communities

1. Bettie
2. Otway
3. Smyrna
4. Marshallberg
5. Davis
6. Stacy
7. Sea Level
8. Atlantic

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

Note: The Conservation category also includes Areas of Environmental Concern (AECs), which due to map size and scale are not shown on this map. Please see Section 3 for a description of AECs present in Carteret County. Precise locations of AECs must be made on-site by the appropriate permitting agency.

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 Carteret County CTP is given below.

Names	Representatives
Betts, John	Michael J. Smith Field Airport Manager
Inscoe, David	Carteret County EDC
Jennings, AICP, Jim	Carteret County, Planning Director
Serzikas, Pete	CCATS, Transportation Coordinator
Will, AICP, Rob	Down East Rural Planning Organization (DERPO)
Johnson, Nick	DownEast/CC Transportation Committee
Ayers, Stephanie	NC State Ports Authority, Planning Director
Spencer, John	NC Railroad Company
Vinson, Jesse	NCDOT -- Ferry Division
Caldwell, PE, Betty Ann	NCDOT -- Division 2, Project Engineer
<i>Moya-Astudillo, El, Carlos</i>	<i>NCDOT -- Transportation Planning Branch, Project Engineer</i>
Fiester, MPA, Jessica	Town of Atlantic Beach, Planning & Zoning Director
Garner, Kyle	Town of Beaufort
Rief, David	Town of Cape Carteret, Code Enforcement Official
Seaberg, CFM, Chris	Town of Cedar Point, Town Administrator
Reed, AICP, Kevin	Town of Emerald Isle, Planning & Inspections Director
Lambert, Ronda	Town of Indian Beach
Watkins, Sandi	Town of Morehead City
Staab, Linda	Town of Morehead City, Planning & Insp. Director
Chambers, Bob	Town of Newport
Anderson, Julie	Town of Pine Knoll Shores
Kramer, Brian	Town of Pine Knoll Shores
Reilly, Joseph	Towns of Peletier/Bogue, Planning Director

CTP Vision, Goals, Objectives and MOEs

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, objectives, and Measures of Effectiveness (MOEs) 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. MOEs are established to enable the area to track the progress of each objective.



CARTERET COUNTY

COMPREHENSIVE TRANSPORTATION PLAN

Vision Statement



As North Carolina's Crystal Coast, Carteret County and its municipalities are unique in many ways. The Crystal Coast is an important tourist, second-home, and retirement destination because it serves as a gateway to the Outer Banks, as well as Cape Lookout National Seashore. It is also home to the Port of Morehead City, which is one of the deepest ports on the East Coast, the second largest importer in the country for natural rubber, and a leading exporter of phosphate.

Because Carteret County's scenic and maritime-related assets (particularly commercial fishing) generate and attract so much additional car, rail, air, and marine traffic, an efficient and well-maintained comprehensive transportation network is vital to the safe movement of visitors, residents, and business traffic, both within the County plus to and from regional, national, and even international locations. Moreover, the network needs to be built to preserve the environmental features that make Carteret County unique.

To accomplish this, Carteret County and its municipalities, with the assistance of the NC Department of Transportation and the Down East Rural Planning Organization, will work together to develop a Comprehensive Transportation Plan to serve as a guide for all future transportation improvements to roads, bicycle and pedestrian ways, plus rail, air, and water facilities.

GOALS

- Provide a safe, reliable, efficient, and sustainable multi-modal regional transportation network that enhances the quality of life within, and economic vitality of, Carteret County and its Towns, as well as Eastern Carolina.
- Maximize the use of existing facilities and add capacity and connectivity strategically.
- Promote the continued improvement of the road and rail networks to and within Carteret County to create a transportation network that promotes and supports economic development, particularly development that is compatible with the existing and future land use goals and patterns.
- Promote the orderly design of new rights-of-way.
- Plan for alternative forms of transportation.
- Reduce congestion and improve safety.
- Ensure the safe evacuation of the population when hurricanes and other natural hazards occur.
- Seek increased funding of all transportation modes.
- Promote cooperative local and regional planning.

OBJECTIVES

- Establish a Countywide multi-modal transportation system.
- Coordinate transportation and land use plans between Carteret County and its Towns, and the Down East Rural Planning Organization, the North Carolina Department of Transportation, plus other local and state organizations.
- Enhance and expand services for alternative transportation needs, including (but not limited to) transit, walking, and bicycling.
- Make informed transportation decisions that are sensitive to possible adverse impacts on the environment.
- Study automobile crashes within the county and make improvement recommendations.
- Use traffic management techniques to improve and upgrade the connections between communities and to identify major transportation corridors.
- Coordinate transportation plans and recommendations with Carteret County Emergency Management Office and other relevant local and State organizations.
- Solicit additional transportation goals and objectives for the future from the municipalities and Carteret County.
- Educate the public on general transportation issues, as well as alternative forms of transportation.

Back of Figure

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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 are tailored to each area as appropriate.

The Carteret County Survey was distributed in various ways – posted on websites, hard copies sent by mail, notices in newsletters, among others sources. The CTP Steering Committee received 1,429 responses to the survey, the most for a CTP survey across the state.

A summary of the Carteret County CTP G&O survey is given below.



Dear Carteret County Resident:

As you know, Transportation plays a vital role in the economic Prosperity of any region.

In order for an area to grow, adequate transportation must be provided to support employment centers, travel, tourism, field to market agricultural demands, and the movement of goods and services.

Did you know?

- The State of North Carolina faces a \$65 billion projected shortfall in transportation funds over a 25-year timeframe (from 2005-2030) based on state and federal tax revenues that determine how dollars are coming to NCDOT for transportation needs.
- Our population has grown from 52,556* people in 1990 to 63,195 today. More people mean more cars and more traffic. This growth is likely to continue and we will be near 68,995 by 2040!

Because of the importance of our roadways, the State's budget shortfall on roadway funding and our population growth, the county, towns and partners are developing an updated transportation plan for Carteret County.

The purpose of this plan is to identify solutions to roadways and other transportation problems and to help keep traffic in Carteret County moving!

It may take some time to fund these projects, so we need your help in deciding which types of projects should be a priority and how they should be funded.

Since roadways and other transportation facilities are such an important issue in our County to maintain our great quality of life, we need **YOUR** input!

Please take a few minutes to fill out the attached survey and mail it back to us or return to any of the posting stations by September 30, 2010.

This survey is anonymous and the County will not associate your name with the survey unless you want us to.

Thank you for your participation and please contact Carlos Moya-Astudillo at (919) 733-4705 with any questions or if you wish to receive more information about this transportation Plan!

Sincerely,

Carteret County CTP Steering Committee

*Source: U.S. Census Bureau, 2008 Population Estimates, Census 2000, 1990 Census



Carteret County Comprehensive Transportation Plan



The Transportation Planning Branch (TPB) of the North Carolina Department of Transportation (NCDOT), in a joint effort with Carteret County, in cooperation with the Down East Rural Planning Organization (DERPO), is developing a transportation plan for Carteret County. The transportation plan is a long-range vision that identifies major transportation improvements over the next 30 years. This survey is an opportunity to tell us what you think about transportation in your community.

Please take 5 minutes and complete this survey, your input is vital in developing a plan that meets the future needs of the citizens of Carteret County. You may also complete this survey online at: <http://www.surveymonkey.com/s/carteretCTP>

1. In which Carteret County community do you live?

<input type="checkbox"/> Atlantic	<input type="checkbox"/> Atlantic Beach	<input type="checkbox"/> Beaufort	<input type="checkbox"/> Bettie
<input type="checkbox"/> Bogue	<input type="checkbox"/> Cape Carteret	<input type="checkbox"/> Cedar Island	<input type="checkbox"/> Cedar Point
<input type="checkbox"/> Davis	<input type="checkbox"/> Emerald Isle	<input type="checkbox"/> Gloucester	<input type="checkbox"/> Harkers Island
<input type="checkbox"/> Harlowe	<input type="checkbox"/> Indian Beach	<input type="checkbox"/> Marshallberg	<input type="checkbox"/> Merrimon
<input type="checkbox"/> Morehead City	<input type="checkbox"/> Newport	<input type="checkbox"/> Ocean	<input type="checkbox"/> Otway
<input type="checkbox"/> Peletier	<input type="checkbox"/> Pine Knoll Shores	<input type="checkbox"/> Salter Path	<input type="checkbox"/> Sea Level
<input type="checkbox"/> Smyrna	<input type="checkbox"/> Stacy	<input type="checkbox"/> Stella	<input type="checkbox"/> Straits
<input type="checkbox"/> Other _____			

2. What is your Zip Code? _____

3. Are you a full-time resident part-time resident or visitor?

4. (a) How many people live in your household? _____

(b) How many drivers are in your household? _____

(c) How many vehicles? _____

5. What modes of transportation, other than an automobile, do you use and how often?

Bicycle:	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Annually	<input type="checkbox"/> Never
Walking:	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Annually	<input type="checkbox"/> Never
CCATS/Buses:	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Annually	<input type="checkbox"/> Never
Toll Ferry:	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Annually	<input type="checkbox"/> Never
Taxis	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Annually	<input type="checkbox"/> Never
Park/Ride Lots:	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Annually	<input type="checkbox"/> Never
Car/Van Pool:	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Annually	<input type="checkbox"/> Never

6. Are you concerned with safety or crash issues in your area?

- Yes No

If yes, please list specific locations including the road name or intersection and why you think there is a problem (for example: due to confusing signs, speeding vehicles, etc).

Specific Location:

Why do you think the problem exists?

7. Are you concerned about truck traffic in your area?

- Yes No

If yes, please give examples of specific locations and why you think there is a problem (for example: over speed, over size, logging trucks).

Specific Location:

Why do you think the problem exists?

8. To improve traffic flow in Carteret County, some solutions may be: (Please check the box that describes the importance of the following strategies.)

	Strongly Agree	Agree	Disagree	Strongly Disagree
Build additional traffic lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control the number of driveways, cross streets and left turn locations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make improvements to intersections or better traffic signal timing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide additional types of transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Which roads are the most prone to be congested with traffic?

10. Have you experienced travel delays due to roadway flooding in your area? If so, where and how often?

11. In your opinion, what areas or MAJOR roads of the county could be better connected?

12. How important are the following goals? (Please check the box that describes the importance of the following goals.)

	Very Important	Somewhat Important	Somewhat not Important	Not Important
Increased Transportation Choices: More and safer opportunities to walk and/or bike to destinations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased Public Transit Options: Bus service to destinations; Park-n-ride, lots to facilitate carpooling, vanpooling, and transit service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Faster Automobile Travel Times: Higher-speed roads with more lanes and fewer intersections, more connector roads, less congestion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community and Rural Culture Preservation: Keeping businesses in downtown areas, preservation of existing buildings and neighborhoods, maintaining the rural culture and landscape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Protection: Minimizing the impact on wetlands, streams, and wildlife areas; reducing air pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Economic Growth: Building or improving roads and railways to attract new businesses and to allow existing businesses to expand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service of Special Needs: Better transportation services for poor, elderly, and disabled residents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access: Better connection to employment, medical facilities, and higher education facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. The new transportation plan will include recommendations for new pedestrian, bicycle, and mass transit facilities. Would you use the following transportation facilities if they were built or improved?

Sidewalks: Yes No Maybe
If yes, what specific location?

Off-road trails for walking and biking: Yes No Maybe
If yes, what specific location?

On-road bicycle facilities such as bike lanes and wide shoulders: Yes No Maybe
If yes, what specific location?

Question 13 Continued

Bus service around your area: Yes No Maybe
If yes, what specific location?

Commuter rail: Yes No Maybe
If yes, what specific location?

Park-n-ride lots (parking areas at transit stations or bus stops to facilitate the use of public transportation and carpooling).

Yes No Maybe
If yes, what specific location?

14. How can transportation be improved in Carteret County?

We would like to know a little about you, your answers will be kept strictly confidential. Please answer the following questions:

15. What is your age group?

- Under 18 18-24 25-34 35-44
 45-54 55-64 65-74 Over 74

16. What was your household income last year?

- Below \$15,000 \$15,000-\$29,999 \$30,000-\$44,999
 \$45,000-\$59,999 \$60,000-\$74,999 above \$75,000

17. What is your ethnic background?

- Caucasian (White) Afro-American (Black) Hispanic
 Native American Asian Other

18. How long have you lived in the area? 1-5 Years 5-10 Years 10 + Years

Thank you for completing this survey. Your input is vital in developing a plan that meets the needs of the citizens of Carteret County. Please return this survey to the address below by September 30, 2010.

Mail to:
Carteret County CTP Survey
P.O. Box 1717
New Bern, NC. 28563-1717

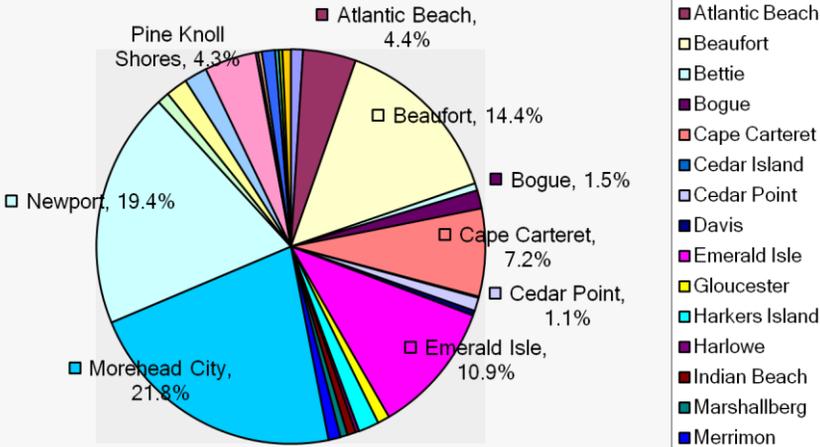
or

Drop off:
Town Hall
in your community

Fax: (252) 638-3187

Demographics

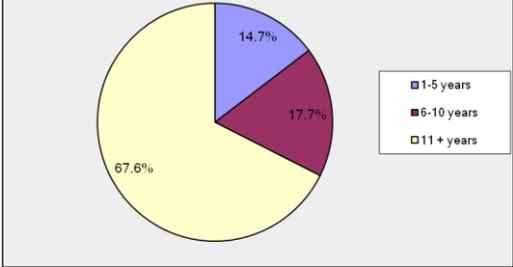
In what community of Carteret County do you live?



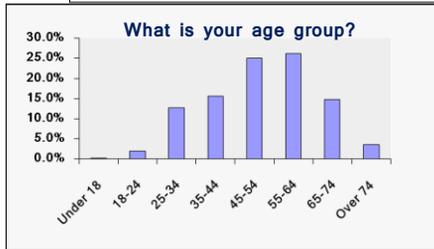
Residency

- Full-time Residents: 87.4%
- Part-time Residents: 10.9%
- Visitors: 1.6%
- The majority of residents have lived in the area longer than five years

How long have you lived in the area?

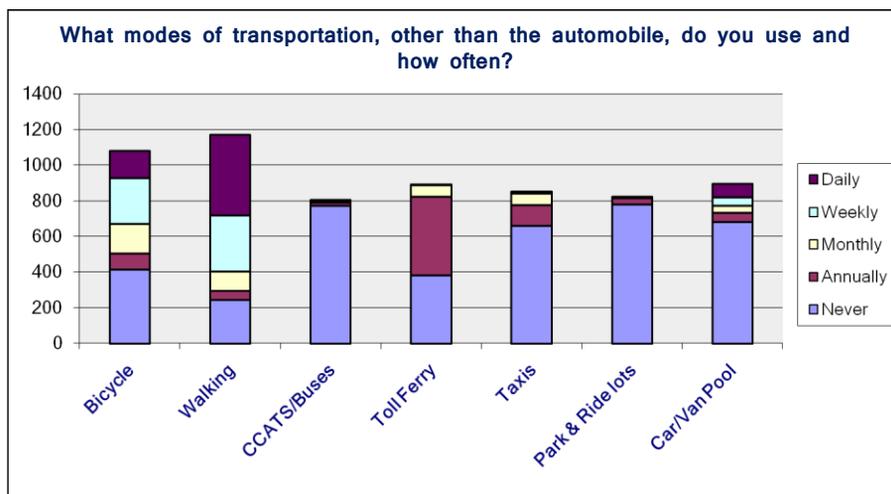


Demographics Continued

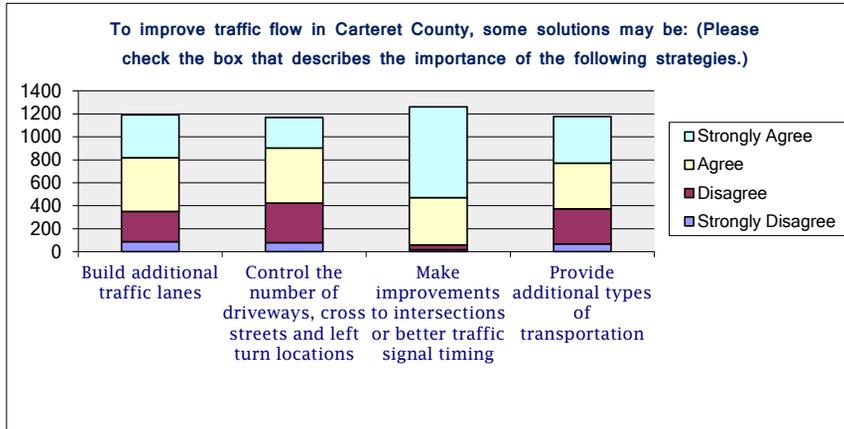


- Income was 40% above \$75,000
- 95.8% of respondents indicated their race as Caucasian

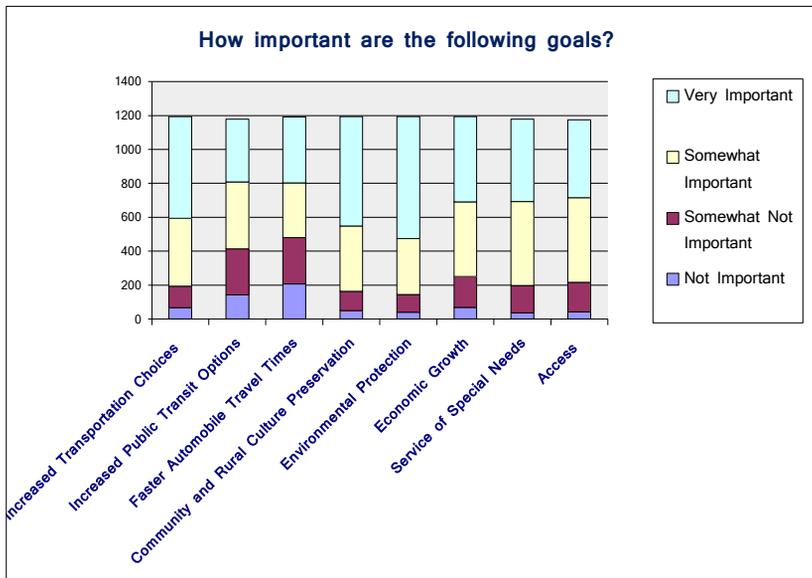
Modes of Transportation



Traffic Flow Improvements

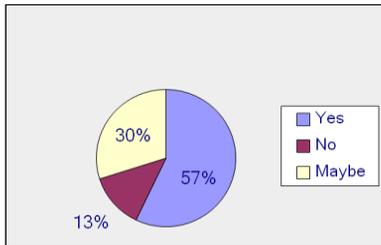


Goals

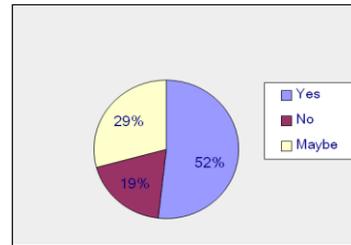


Sidewalks and Off-Road Trails

Sidewalks?

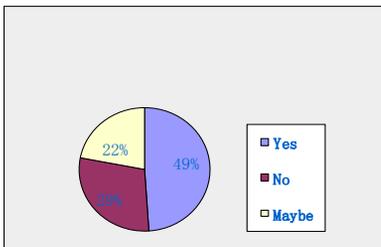


Off-road trails for walking and biking?

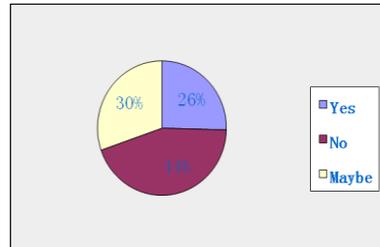


On-Road and Buses

On-road bicycle facilities such as bike lanes and wide shoulders?

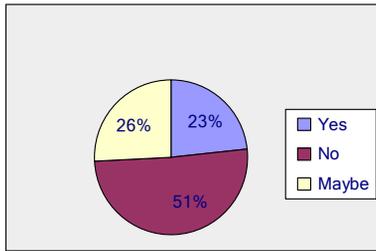


Bus service around your area?

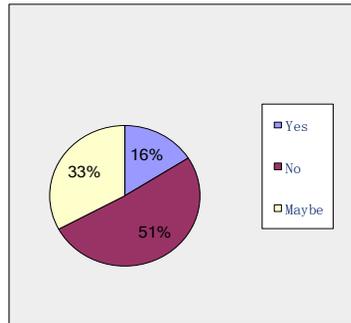


Rail and Park-and-Ride

Commuter rail?



Park-n-ride lots (parking areas at transit or bus stops to facilitate the use of public transportation and carpooling)?



Public Meetings

The public involvement process included holding three public drop-in sessions in Carteret County to present the proposed CTP to the public and solicit comments. Each session was publicized in the local newspapers, through fliers in Town Halls, and local radio stations.

The three drop-in sessions were held on March 22, 2012 from 4:00 to 7:00 p.m. at:

- Crystal Coast Civic Center, Town of Morehead City
- Train Depot, Town of Beaufort
- Town Hall Meeting Room, Town of Emerald Isle

A public hearing was held on June 18, 2012 during the Carteret County Board of Commissioners meeting. The purpose of this meeting was to discuss the plan recommendations and to solicit further input from the public. The CTP was adopted during this meeting.

The table shown below shows the adoption and endorsement dates for the county, the towns, the NCDOT Board of Transportation, as well as the Down East Rural Planning Organization.

<i>County Adoption</i>	<i>Date</i>
Carteret County	December 16, 2013
<i>Town Adoptions</i>	<i>Dates</i>
Atlantic Beach	June 25, 2012
Beaufort	June 11, 2012
Bogue	September 17, 2012
Cape Carteret	August 20, 2012
Cedar Point	July 24, 2012
Emerald Isle	June 12, 2012
Indian Beach	June 13, 2012
Morehead City	August 13, 2013
Newport	July 12, 2012
Pine Knoll Shores	June 12, 2012
Peletier	September 10, 2012
<i>NCDOT Adoption</i>	<i>Date</i>
Board of Transportation	January 9, 2014
<i>Endorsement</i>	<i>Date</i>
Down East Rural Planning Organization	December 5, 2013

