

# *Town of Emerald Isle Bicycle and Pedestrian Transportation Plan*

*February 2010*



# Bicycle and Pedestrian Transportation Plan

## Town of Emerald Isle

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# **Bicycle and Pedestrian Transportation Plan**

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## *Acknowledgements*

This Bicycle and Pedestrian Transportation Plan was developed as a joint effort between the Town of Emerald Isle's Bicycle and Pedestrian Advisory Committee, Parks and Recreation Department, Police Department, Planning Department, Town Manager, Mayor, and one Commissioner. Emerald Isle has long prided itself on being the town with the "small town family beach atmosphere". The increase in multi-use paths and sidewalks over the last six years has reinforced that image.

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# Bicycle and Pedestrian Transportation Plan

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## *Executive Summary*

For many years, the Town of Emerald Isle has provided facilities for bicyclists and pedestrians. In the early 1990's, paved shoulders were added to Coast Guard Road. Over the last 6 years, the Town of Emerald Isle has built 4.8 miles of multi-use paths and sidewalks, built several connecting paved multi-use paths, and added amenities such as bike racks, trash cans, and benches. These multi-use paths and sidewalks are heavily used and have been well received by both residents and visitors. The economy of Emerald Isle depends heavily on tourism, and having the multi-use paths and sidewalks is a big factor in drawing visitors to Emerald Isle. An economic impact study conducted for Dare County showed an economic impact for Dare County of \$60 million and a benefit of \$9 for each dollar invested. Since our area is smaller, the economic impact of multi-use paths and sidewalks for the Town of Emerald Isle is less, but still well up in the millions of dollars.

The Town of Emerald Isle plans to continue to provide a safe environment for bicyclists and pedestrians, and to build additional multi-use paths, sidewalks and amenities as money becomes available. The Town has a good core system, but needs to add to that system to connect all of the major existing and planned destinations. The Town will also work to connect its multi-use path and sidewalk network to those of other towns with the ultimate goal of having a county wide system from Cedar Point to Cedar Island.



**Return from grocery store on bike path**



**Lunch time walk**



# Bicycle and Pedestrian Transportation Plan

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## Chapter 1 – Introduction

### 1.1 Scope and Purpose

The Town of Emerald Isle desires a Bicycle and Pedestrian Transportation Plan to include the entire town and to connect all of its major destinations. The Town has for the most part completed the items in the 2003 Highway 58 Committee report. The multi-use



**B. Cameron Langston Bridge**

paths and sidewalks added over the past 6 years have been well received by citizens and visitors. The Town desires an updated plan so facilities can be added in an orderly manner. In addition, Carteret County is in the initial stages of preparing a Comprehensive Transportation Plan and the Town's Bicycle and Pedestrian Plan will be an integral part of that plan.

Emerald Isle has a permanent population of almost 4,000 and an estimated summer peak population of 40,000. The permanent population continues to increase at a modest rate and the tourist visitation has shown an increase almost every year for the last 15 years ranging from 5-10% a year. With additional multi-use paths and sidewalks, the addition of the largest boat launching facility on the North Carolina coast, plans for a new dry stack marina, and plans for an Aquarium ocean fishing pier, we expect tourism visitation to continue to increase.

Emerald Isle draws about 75% of its summer visitors from North Carolina, about 20% from the mid-Atlantic area and the remainder from all over the United States. There are many family reunions with people attending from all parts of the United States and internationally. Almost all of these visitors come by car, stay in houses, and bicycling is important to all or at least some of the group.

Because Emerald Isle continues to grow and attract more visitors, there is a need for a Bicycle and Pedestrian Transportation Plan to address safety concerns, provide improved



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and additional transportation alternatives, and to create a desirable destination for bicycle enthusiasts. Additional bicycle and pedestrian facilities will make Emerald Isle a safer and more desirable place to live and visit.

Statistics also support the notion that bicycle facility improvements should occur. According to the 2000 Statewide Survey on Bicycling and Walking, the NCDOT's Division of Bicycle and Pedestrian Transportation found that 46% of all North Carolina households own bicycles and 75% of adult respondents believe their communities should spend more money to improve bicycling and bicycle facilities and safety. The benefits of bicycling and walking are significant to a community and its residents.

This document represents the results of numerous planning meetings, review of planning documents of other towns, and comments from the users of the current facilities. The preparers of the plan have contact with a wide variety of multi-use path and sidewalk users including permanent residents and visitors, youth of all ages, and adults of all ages.

## 1.2 Benefits of Cycling and Walking

Bicycling and walking is recognized to be an appealing alternative to traveling by car for the following reasons:

- ***It represents the “livability” of a community.*** Being able to reach a destination via bicycle gives people another alternative for choosing a travel mode. It combines the functionality of actually getting there with the benefits of exercise and recreation. In places where residents are regularly seen outside walking or bicycling, visitors feel a sense of community and safety. A town with great “livability” constantly attracts new residents and visitors.
- ***Bicycling promotes good health practices.*** The United States Surgeon General advises Americans to get 30-60 minutes of exercise 4 to 6 times each week. Bicycling is a low-impact way to exercise and can improve a person's health by lowering blood pressure, strengthening muscles, lowering stress levels, increasing the size, strength, and efficiency of the heart and cardiovascular system, burning fat, and increasing metabolism.
- ***The economics of bicycling make sense.*** According to a study by the Boston Foundation, in 2003, typical American households spent an average of \$7,125 on transportation costs, including insurance, repair, maintenance, fuel costs, taxes, and other fees — a significant annual investment. Choosing to ride a bicycle rather than traveling by vehicle will result in monetary savings.



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- ***Bicyclists can avoid traffic congestion.*** Often, bicyclists can use dedicated bicycle lanes or multi-use paths, which allow for an even more efficient trip, which results in fewer vehicles on the road.
- ***It is easy.*** According to a 1995 National Personal Transportation Survey, analysts found that approximately 40 percent of all trips made are less than 2 miles in distance from origin to destination. Most bicyclists can make that level of trip in approximately ten minutes.
- ***Economic Impact.*** For many, places to bike and walk are an important determinant in where to vacation. According to a NCDOT case study of the Northern Outer Banks, 43% of the visitors in the survey said that bicycling was an important factor in selecting the area for a vacation.
- ***It is efficient and environmentally friendly.*** Bicyclists power the machines themselves and do not use fossil fuels. Since bicycles do not release polluting emissions into the air and run on gears versus engine power, both air and noise qualities are improved.

## 1.3 History

Sidewalks and multi-use paths in Emerald Isle are viewed as ways to reduce vehicular travel, provide exercise, provide a form of recreation, a way for those confined to wheel chairs to maintain active life styles, and a way to draw more visitors to Emerald Isle.



In 2002, the Highway 58 Committee was created by the Board of Commissioners and part of its charge was to create a bicycle and pedestrian plan for the Highway 58 Corridor. The Bicycle and Pedestrian portion of the report identified:

- Eight specific locations dangerous or potentially dangerous for bikes and pedestrians,
- Five specific safety recommendations,
- 7.3 miles of new sidewalk/multi-use path infrastructure (from a then current base of

0.3 mile non-code sidewalk),

- Four crosswalks at the traffic lights on Emerald Drive/NC 58, and
- Recommended amenities (benches, bike racks, trash cans, lighting, parking, landscaping, etc.).

The 20 eastern North Carolina counties are required to prepare a CAMA Land Use Plan. A CAMA Land Use Plan Committee was appointed by the Board of Commissioners to do the required periodic revision of the Land Use Plan (LUP) in 2003 under the guidance of a consultant. Among many other required issues addressed in the LUP was an

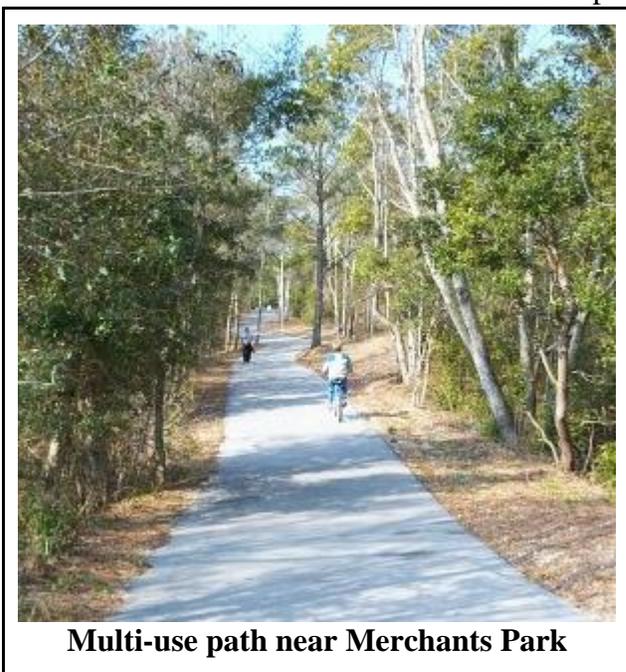


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endorsement of the Highway 58 Committee recommendations, particularly with regard to bicycle and pedestrian provisions. The Board of Commissioners approved the LUP in September 2004, and it was accepted by the North Carolina Division of Coastal Management in October 2004. Many of the recommendations made by the various committees have, in fact, become reality, thanks to the great support of the Board of Commissioners, Town staff, the NCDOT, the Emerald Isle Business Association, and a number of private contributors. Over the past 6 years, a total of 4.8 miles of new multi-use paths and sidewalks have now been completed. Another 2.0 miles, just outside the scope of but connecting to the original plan, is now under construction. Added infrastructure included:

- Construction of 1.4 miles of multi-use path from Coast Guard Road to Merchants Park,
- Construction of .6 miles of multi-use path from Merchants Park to Black



- Skimmer Drive,
- Construction of .1 miles of sidewalk on Bogue Inlet Drive,
- Construction of 2.0 miles of sidewalk from Coast Guard Road to the Municipal Complex,
- Construction of .2 miles of sidewalk from the Municipal Complex to Lee Street,
- Construction of .3 miles of sidewalk on Islander Drive,
- Construction of .2 miles of multi-use path from Holiday Trav L Park to Deer Horn Drive,
- Construction of .1 miles of sidewalk from Emerald Drive to

- the vehicle beach access ramp near the Eastern Ocean Regional Access,
- Construction of connector segments that enabled the installation of new pedestrian crossing signals at the 4 signalized intersections,
- Installation of numerous amenities at various locations,
- Wooden pedestrian bridges over Archer's Creek at Holly Street and Loblolly Street,
- Construction of connector paths on Ocean Drive.

Some projects originally proposed, such as sidewalks along the Reed Drive and Crew Drive commercially-zoned areas are now considered for longer term action. Lack of



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commercial development in those areas so far has not created any immediate requirement to protect safety or to promote the potential commercial activity.

## 1.4 Goals and Vision

Emerald Isle is an active community with a mild climate. Many citizens and visitors are looking for a variety of exercise opportunities. Combined with the beach, it is a perfect location for outdoor activities almost year round. With the above in mind, the following are the goals set forth by the contributors to this plan.

- Provide a safe and well maintained environment for bicyclists and walkers
- Help the economy of Emerald Isle by continuing to expand bicycling and walking alternatives for visitors



**Multi-use path in commercial district**

- Provide a means for some physically challenged individuals to maintain active lifestyles
- Connect all of the main existing and planned visitor attractions with multi-use paths
- Reduce traffic congestion
- Increase public awareness of safe practices for bicyclists, pedestrians, and vehicles as they relate to each other
- Continue to add bicycle racks in both the public and private sector
- Coordinate the Emerald Isle bicycle and pedestrian system

with the neighboring towns with an ultimate goal of a county-wide system

Combining these goals into one statement results in the following vision statement:

Continue to add to the existing bicycle and pedestrian system to provide citizens and visitors with a system that links together existing and planned resources and destinations, allows for safe interaction between bicyclists and motorists, supports alternatives to automobile travel, increases recreation opportunities, and provides options for advancing the community's mobility, health, quality of life, and attractiveness to visitors.



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## Chapter 2 – Existing Conditions

### 2.1 General Overview

Emerald Isle is a beach community located on the central coast of North Carolina in Carteret County known as the Crystal Coast. It is the western 12.5 miles of the barrier island known as Bogue Banks. The eastern half of the island is occupied by Fort Macon State Park, Atlantic Beach, Pine Knoll Shores, Salter Path, and Indian Beach. The B. Cameron Langston Bridge connects the western end of Emerald Isle to the towns of Cape Carteret and Cedar Point, and Cedar Point is next to the historic port town of Swansboro. The Town is bordered on the south by the Atlantic Ocean, on the west by Bogue Inlet, and on the north by Bogue Sound.

Emerald Isle was incorporated in 1957 and developed rather slowly in its early years. The town was mostly populated with trailers and camp sites and very little commercial activity. With the completion of the B. Cameron Langston Bridge in 1971, that all changed.

With the opening of the bridge, the pace of residential development took place at a rather fast pace through the 80s, 90s, and 00s. Commercial development followed the residential development. Nearly 90% of all platted parcels are now developed. With the tremendous increase in land values, the town has experienced redevelopment of some of the older properties and expects to see more redevelopment as financial conditions improve in the United States.



Emerald Isle is a very popular beach vacation destination. The beaches face south which provides extended sun time for those desiring more time on the beach. The town is 12.5 miles long and ranges from .2 miles to 1 mile in width. The area is very appealing to families and groups because of the wide range of activities. Obviously, the beach is a big draw but other items commonly mentioned are fishing, scuba diving, history, golf, most any water sport, biking, and friendly people. Numerous groups up to about 100 people make coming to Emerald Isle a yearly tradition.

The town has a permanent population of about 4,000 which increases to about 40,000 in the summer months. Seasonal population increases are the result of second home owners occupying their beach homes, vacationers renting overnight accommodations for families



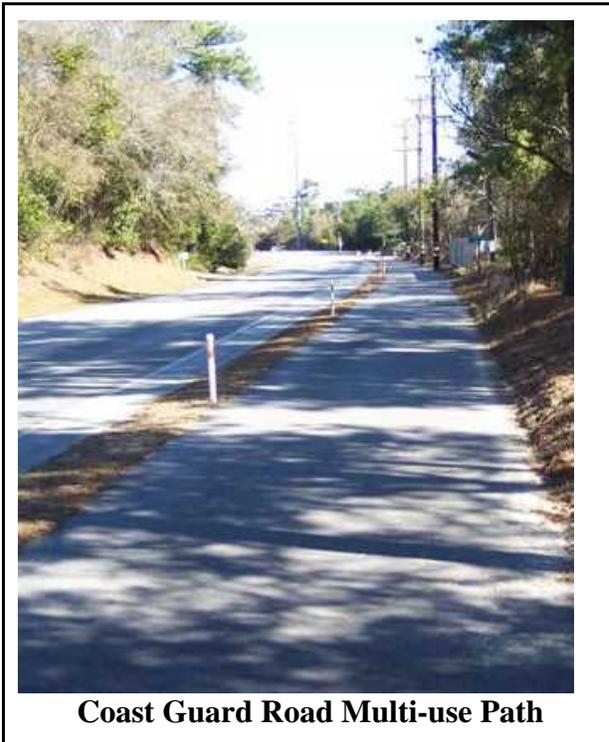
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and groups, and people within about a two hour drive coming for the day. Most overnight visitors stay in houses or condominiums and stay for the week.

The N. C. Department of Transportation Division of Bicycle and Pedestrian Transportation conducted a case study of the NC Northern Outer Banks in 2003. The results showed that bicycle and pedestrian facilities were an important factor in making vacation plans. They felt that the study results were relevant to other coastal areas such as Emerald Isle. The major findings were:

- Nearly two-thirds of respondents indicated that riding on bicycle facilities made them feel safer.



- More than 75% of all respondents indicated that additional bicycle facilities should be built.
- Nine out of ten respondents strongly agreed that state and/or federal dollars should be used to build more bicycle facilities.
- 17% of the visitors bicycle while in the area.
- A conservative estimate of the annual economic impact of bicyclists in the area is \$60 million.
- The annual return from bicyclists is nearly nine times the one-time expenditure of \$6.7 million of public funds to construct bicycle facilities in the region.
- 1,400 jobs are created and/or

supported annually by bicyclist's expenditures.

- The quality of bicycling in the region has a positive impact on respondent's vacation planning
  - 12% report staying three to four days longer to bicycle.
  - 43% report that bicycling is an important factor in their decision to come to the area
  - 53% report that bicycling will strongly influence their decision to return to the area in the future
  - Almost half of the respondents earn more than \$100,000 per year.
  - 87% earn more than \$50,000 per year

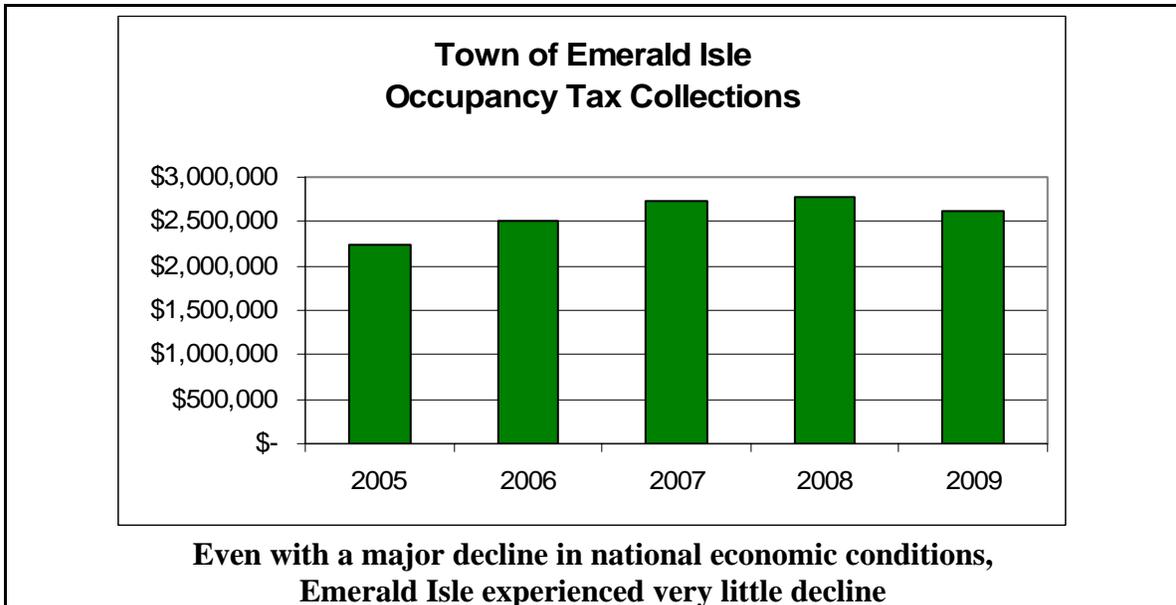


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From the survey, it is very evident that bicycling and pedestrian facilities are an important factor in selecting a vacation spot.

National economic conditions have curtailed travel in many sections of the coast. Emerald Isle is fortunate that tourism in Emerald Isle did not decrease as much as it did in other coastal communities. We hope to keep adding amenities that will enable Emerald Isle to remain a top notch tourism destination.



## 2.2 Inventory of Existing Conditions

Because Emerald Isle is long and narrow, there are few main or heavily traveled roads through town for a total of about 11.5 miles. Emerald Drive and Coast Guard Road are the roads with by far the highest traffic volumes. Emerald Drive is NC Highway 58 which runs the entire length of Emerald Isle and Bogue Banks from the B. Cameron Langston Bridge to Fort Macon. Portions of Emerald Drive/NC 58 have a concentration of commercial activity which results in higher traffic volumes. Coast Guard Road only has commercial development at one intersection and is mainly a road to get to residential developments. However, it is the only road which can be used to reach residential developments in that corridor which are significant. Because of the town being a tourist destination, traffic volumes on both main roads increase significantly during the season. Peak season is July and August, but there is a significant increase in vehicle, bicycle, and pedestrian activity from May through October.



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## 2.2.1 Trip Destinations

There are a variety of frequent destinations. The most common categories of destination points are:

- Shopping locations (drug store, grocery, restaurants, ice cream shops, etc)
- Parks (Emerald Isle Woods Park, McLean Park, Blue Heron Park, Ocean Oaks Park, and Wildlife Resources Commission boat ramp in the design stage)



**Possible design for proposed pier**

- Town facilities (Community Center, tennis courts, and Town Hall)
- Places of employment (mostly along Emerald Drive)
- Pier (Bogue Inlet Pier and Aquarium Pier in the design stage)
- Beach and sound access points (the Town has 89 public beach accesses and two major beach accesses known as the

Eastern Ocean Regional Access and the Western Ocean Regional Access, and seven improved sound side access points)

- Island Harbor Marina

It is the desire of the town to provide access to each of the above by a multi-use path, sidewalk, or shared roadway.

## 2.2.2 Land Use Characteristics

Emerald Isle is mostly residential with most commercial development concentrated in the center of town along Emerald Drive. A smaller commercial area in the eastern end of town is expected to expand when the Wildlife Resources Commission boat ramp and Aquarium Pier are built. There are few hotels but there are plans for a 50+ room suite hotel. There are two churches located on Emerald Drive/NC 58 but no schools or hospitals within the town. The town is mostly built-out and most new development will be redevelopment. The town has a 40 ft residential height limit and a minimum 12,500 sq ft lot size, and a 50 ft commercial height limit so there will not be any dense development. Residential density in the town is mostly limited to 3.5 units per acre and up to 8 units per acre in very limited areas.

The town is bordered by the Atlantic Ocean on the south, Bogue Sound on the north and Bogue Inlet to the west. Kayakers, boaters, anglers, surf boarders, kite surfers, etc make use of the surrounding waters.



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## 2.2.3 Existing paved shoulders, multi-use paths and sidewalks

Starting at the west end of town, most of Coast Guard Road (2 miles in length) has 3 ft paved shoulders for bikers and pedestrians. This area needs a multi-use path rather than wide paved shoulders to accommodate the high bicycle and pedestrian usage, especially in the summer. A 60 ft town right-of-way exists for Coast Guard Road which allows enough space for a 10 ft multi-use path, but there will be challenges because some sections of the present road are not consistently in the middle of the right-of way. In addition, topographic challenges and the desire to save trees must be considered. The eastern portion of Coast Guard Road (.2 miles) has a 10 ft multi-use path.



**Two miles of sidewalk in commercial area**

On Emerald Drive/NC 58 from the B. Cameron Langston Bridge to the Indian Beach town limits (9.5 miles), there are 4 ft paved shoulders on each side of the road. From Coast Guard Road to Black Skimmer Drive there is also a 10 ft multi-use path on the south side of Emerald Drive/NC 58 (2 miles), and on the north side on Emerald Drive/NC 58 there is a sidewalk from Coast Guard Road to Lee Street (2.2 miles). The present multi-use paths and sidewalks in the main business district are sufficient, but bicyclists and pedestrians need to pay close attention because of the side streets and driveways.

Islander Drive has a sidewalk (.3 miles) connecting the Emerald Drive/NC 58 sidewalk and multi-use path to the Western Ocean Regional Access (WORA) with bike racks at that location. Bogue Inlet Drive has a rather narrow sidewalk connecting the Emerald Drive/NC 58 sidewalks and multi-use path to Bogue Inlet Pier (.3 miles). There are bike racks at Bogue Inlet Pier. A sidewalk (.1 miles) runs north on Bogue Inlet Drive from Emerald Drive/NC 58. There is also a sidewalk (.1 miles) that connects Emerald Drive to the beach vehicle access ramp located near the Eastern Ocean Regional Access. Shared roadways, defined as paved streets used jointly by vehicles, bicyclists, and pedestrians, are abundant in Emerald Isle. Major sections of shared roadways parallel Emerald Drive/NC 58 and Coast Guard Road and border the beach and sound. These are generally low traffic streets with many accesses. The majority of the accesses have bike racks. Several of these residential areas along Emerald Drive/NC 58 are connected by paved paths that allow uninterrupted bicycle and pedestrian access along Ocean Drive.



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## 2.2.4 Connectivity

All of the town's current multi-use paths and sidewalks are well connected. When the town has added multi-use paths and sidewalks, it has always connected them to existing facilities. This has resulted in an excellent core system that needs to be expanded to reach all parts of town and key destinations.

On the east end of town, Indian Beach and Emerald Isle are connected with a paved shoulder. Indian Beach has been installing sidewalks and Emerald Isle has been installing multi-use paths and one day we hope they meet at the town line. Even though there are paved shoulders, there is a need for a multi-use path. Individual segments of Ocean Drive are connected with a short multi-use path to provide uninterrupted travel for bicyclists and pedestrians.



**Connecting sections of Ocean Drive**

On the west end of town, the B. Cameron Langston Bridge lies between Emerald Isle and Cedar Point/Cape Carteret. NC 58 on both sides of the bridge has paved shoulders and the bridge has a shoulder for bicyclists/pedestrians. The rails on the bridge are low (29 inches and American Association of State Highway and Transportation Officers [AASHTO] standard for bike-safe rails is 54 inches) and probably need to be higher for bicyclists and pedestrian safety. The towns are connected, but the area on the bridge for pedestrians and bicyclists should be wider. That is probably not going to happen until the bridge is replaced.

## 2.3 Existing Plans, Programs, Policies, and Ordinances

Bicycle and pedestrian planning in Emerald Isle is shaped by planning and project development at many levels. The Federal Government produces standards and guidelines that are then applied at the state, regional, and local levels. The State also produces long-range policy, project, and funding documents that are based on local-level needs and state-level interests and capacities.

The following paragraphs summarize the key documents that affect Emerald Isle.

### 2.3.1 NCDOT Statewide Transportation Improvement Plan

NCDOT prepares a Statewide Transportation Improvement Plan (TIP) every 6 years. The current plan covers 2009-2015. NCDOT prepares the plan based on input from many sources including but not limited to municipalities, county transportation committees, NCDOT staff observations, etc. NC 58 is the only NCDOT road in Emerald Isle and the multi-use path extension from Black Skimmer to the Indian Beach town line is included in the bicycle portion of the plan. The multi-use path currently under construction from



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Black Skimmer to Hurst Street is being funded with Federal Stimulus money because it was in the TIP. The section from Hurst Street to the Indian Beach town line will remain in the TIP.

## 2.3.2 NCDOT Long-Range Statewide Transportation Plan

The latest version of this document calls for connectivity improvements between different modes of transportation as well as the development of new opportunities for multimodal transportation. To achieve this, the plan recommends a larger financial investment in bicycle facilities than has historically been available. It also promotes the idea of strengthening the importance of community-level goals in transportation planning and “mainstreaming” the development of bicycle facilities. This ensures that bicycle facility planning is considered early on in the project planning process and is a greater part of transportation activities across the state rather than a secondary or overlooked component.

## 2.3.3 The N C Bicycle Facilities Planning and Design Guidelines

This is the primary guidebook for designing bicycle facilities in North Carolina. It includes recommendations for the bicycle planning process and then provides references to the AASHTO Design Guidelines and those of other states to recommend a set of guidelines that maximize safety, efficiency, and conformity of facilities. The document was created by the Institute for Transportation Research and Education (ITRE) for the NCDOT Office of Bicycle and Pedestrian Transportation. Document appendices include excerpts from the Manual on Uniform Traffic Control Devices (MUTCD) and State level bicycle policy law.



## 2.3.4 Carteret County Comprehensive Transportation Plan

This is a plan that incorporates planning for all modes of transportation for all areas of the county. Each municipality in the county needs to agree to the plan for it to become a reality. The last plan was prepared in the 2001-2002 timeframe and it was never approved by several of the municipalities, and therefore never went into effect. Funds have been allocated to develop a Carteret County Comprehensive Transportation Plan and work has begun on that plan. Bicycle and pedestrian facilities should be an integral part of that plan. Both the Mayor and Planning Director are involved with the committees overseeing the development of the plan.



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## 2.4 Community Usage and Concerns

Bicycle usage varies throughout Emerald Isle based on skill level and purpose. Most Emerald Isle bicyclists are recreational users and more users are present in the summer when automobile traffic is the heaviest. Distance bicyclists are frequently seen in Emerald Isle and they prefer the shoulders of the road rather than the multi-use paths. Recreational bicyclists much prefer to ride on the multi-use paths and sidewalks rather than on the shoulder of the road.

Many pedestrians use the multi-use paths and sidewalks for going to/from work, surfers going to the beach, shopping, lunch breaks and just for a place to walk. Several individuals in town are confined to wheel chairs and the multi-use paths have enabled them to become much more active. On a regular basis, they can be seen going to the post office, grocery store, drug store, fishing pier etc. It has certainly improved their quality of life tremendously.



## Chapter 3 – Bicycle and Pedestrian Network Plan

### 3.1 Overview

The goal for the Town of Emerald Isle is to have a mixture of shared roadways, paved shoulders, multi-use paths, and sidewalks to serve all areas of town. The town already has a significant bicycle and pedestrian network in place and wishes to add to it in an orderly manner. As the system is expanded, amenities such as bike racks, benches, landscaping, and trash cans will be added to meet the need.

### 3.2 Emerald Drive/NC 58 Corridor

This is the longest stretch of roadway in Emerald Isle. It runs from the B. Cameron Langston Bridge to the Indian Beach town line for a distance of about 9.5 miles. The first .5 miles from the B. Cameron Langston Bridge to Coast Guard Road is a well landscaped entrance into the town with both sides of the road lined with mature crepe myrtles. We would like to see a multi-use path on the south side behind the crepe myrtles.

From Coast Guard Road to Lee Street (2.2 miles) the town has 6 ft sidewalks on the north side of the road. There is a desire to extend the sidewalk to the Indian Beach town line but after the timeframe for this plan. On the south side of Emerald Drive/NC 58 from Coast Guard Road to Hurst Street (4.0 miles), the town either has constructed or is constructing a 10 ft multi-use path. The town plans eventually to extend this multi-use path to the Indian Beach town line (5 miles).



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Islander Drive from Emerald Drive to the Western Ocean Regional Access (.3 miles) has a 5 ft sidewalk which is adequate.

“Mangrove Drive/Old Ferry Road” from Emerald Drive to the sound is a shared roadway. The property on the sound is being redeveloped as a new marina facility and depending on the end result, it may be desirable to have a sidewalk or multi-use path in this area.

Bogue Inlet Drive from Emerald Drive to Bogue Inlet Pier has a 4 ft sidewalk which is not adequate. This area will probably be redeveloped in the next 10 years or so, and will be reconfigured at that time. Over time, debris has washed onto the sidewalk and it should be removed to make full use of the sidewalk.

Bogue Inlet Drive north from Emerald Drive has a short amount of sidewalk that was installed when the property owner on that corner did some improvements.

NCDOT prefers that crosswalks be added only at signalized intersections where a sidewalk or multi-path landing area exists on each side of the area. All signalized intersections have crosswalks. As traffic signals are added to other intersections, we will strive to incorporate crosswalks. There are three locations on Emerald Drive (Lee Street, new boat launch facility, and new Aquarium Pier) that do not have traffic signals. We will monitor those locations and work with NCDOT to add crosswalks if we feel they are needed.

## 3.3 Coast Guard Road Corridor

The other heavily traveled road is Coast Guard Road. From Emerald Drive/NC 58 to Deer Horn Drive there is a 10 ft multi-use path on the south side. The town wants to extend the 10 ft multi-use path from Deer Horn Drive to Ring Street (1.8 miles). From that point, the entire Point area can be accessed by shared roadways. There are many shared roadways off of Coast Guard Road which meet the bicycle and pedestrian needs in those areas.



## 3.4 Bicycle Parking, Trash Cans, and Benches

As the multi-use network is expanded, additional bicycle racks, trash cans, and benches will be needed. Businesses are encouraged to look into bike racks and trash cans as more of their customers take advantage of the multi-use paths.



# Bicycle and Pedestrian Transportation Plan

Town of Emerald Isle

## 3.5 Standards

### 3.5.1 Multi-Use Paths

Multi-use paths serve both a transportation and recreation purpose, are physically separated from motor vehicle travel lanes, and can be either within the NC 58 right of way, a Town street right of way, or other dedicated right of way. Multi-use paths typically accommodate bicyclists, runners, walkers, skaters, and mobility-assisted individuals. Multi-use paths are typically constructed with an asphalt surface.

Multi-use paths represent the safest type of facility for users because they are separate and distinct from motor vehicle travel lanes, and are wider than traditional sidewalks. Bicyclists and pedestrians still must pay close attention to the many driveway connections on Emerald Drive and Coast Guard Road. These are driveways to properties that that have no other public road access.

Paths should be designed according to the following standards in order to maximize user safety and provide an enjoyable and comfortable recreational experience:



- Paths should have adequate width for two-directional use by both bicyclists and pedestrians. The Town's standard width for multi-use paths is 10 feet. Reduced widths (8 ft.) are acceptable for short distances to avoid conflicts with utilities or other features in the right of way, or for short connector segments where breaks occur in the continuity of the roadway (i.e., Ocean Drive).
  - In areas where significant usage is anticipated, additional width should be provided. Paths should also flare out to provide minimal additional width at street intersections.
- Along NC 58, the goal is to have 10 feet of separation between motor vehicle travel lanes and the multi-use path. If the separation is less than 8 feet, appropriate signage and markings should be provided to alert and remind the motorist and the path user of the relative close proximity to each other. A suitable positive barrier may also be necessary to insure safety.
  - Along Coast Guard Road, and other Town streets with limited available right of way, paths should have a minimum separation of 3 feet between motor vehicle travel lanes and the multi-use path. Appropriate signage and markings

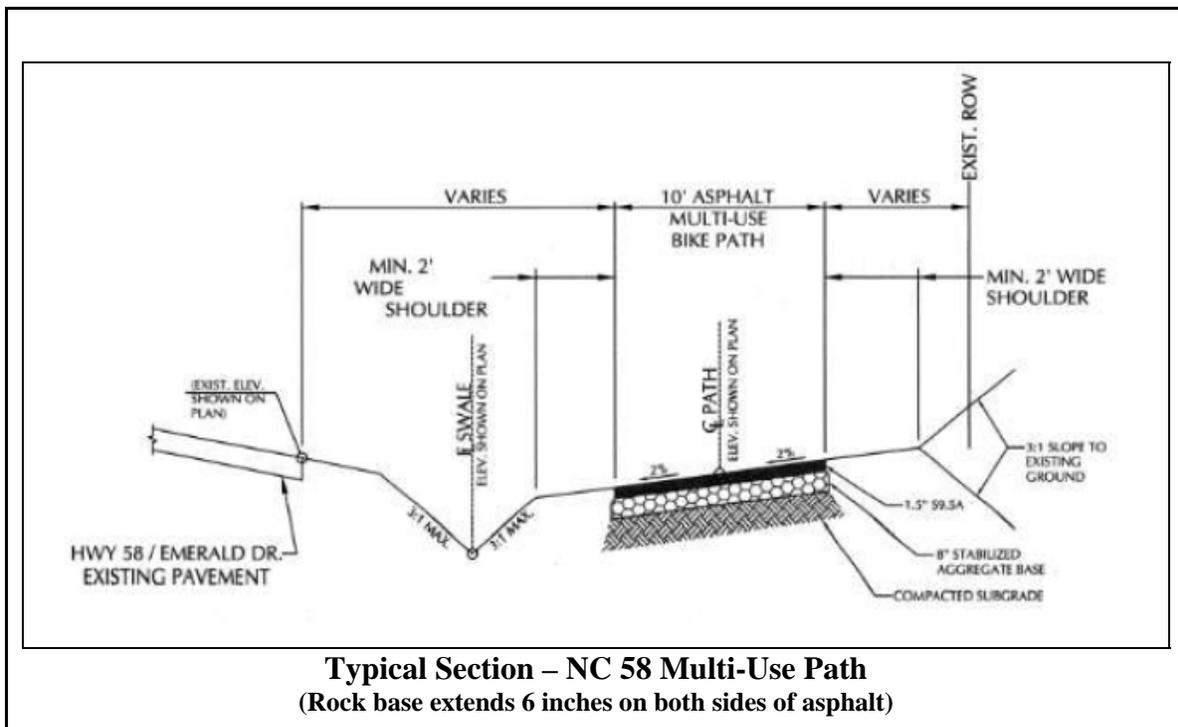


# Bicycle and Pedestrian Transportation Plan

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should be provided to alert and remind the motorist and the path user of the relative close proximity to each other.

- Paths should be designed to provide good sight distance for users and for nearby motor vehicles.
- Paths should avoid steep grades and tight curves that may force bicyclists to make awkward movements.
- Paths should be planned and designed to connect well-defined origins and destinations. The terminus of any multi-use path should end at an acceptable street intersection or destination, and should not dead-end.
- Adequate pavement markings, indicators, and signage should be installed at private commercial driveway crossings and at all street intersections.



- Multi-use paths should adhere to the following construction standards:
  - 10 ft. asphalt width (with deviations where necessary)
  - Minimum 1.5" asphalt thickness



# Bicycle and Pedestrian Transportation Plan

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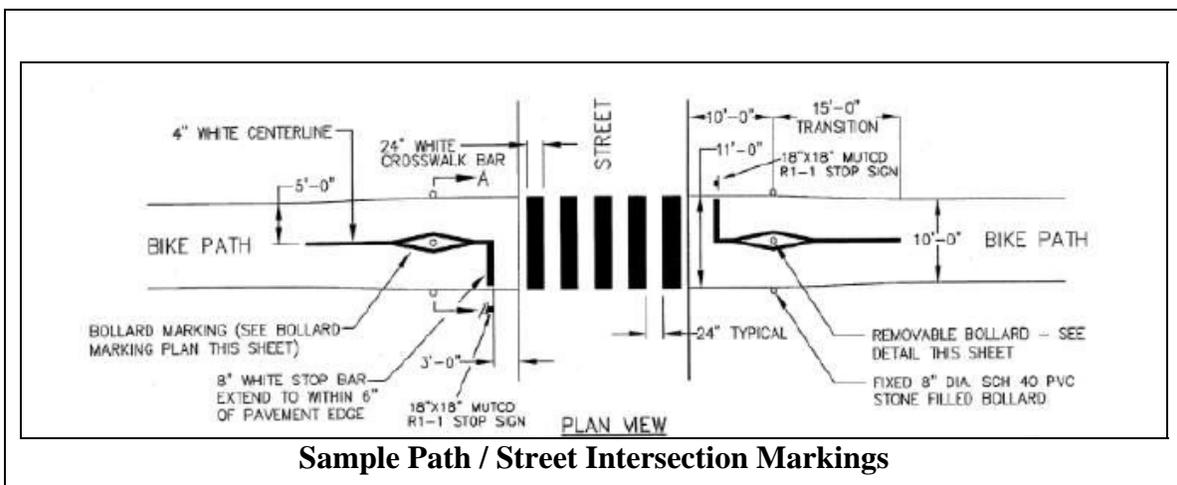
- Compacted sub-grade
- Minimum 8” rock base thickness
- Minimum 6” additional rock base shoulder beyond asphalt

## 3.5.2 Multi-Use Path Pavement Markings, Indicators, and Signage

The Town will use standardized pavement markings, indicators, and signage on all multi-use paths to maximize user safety and promote an enjoyable and comfortable recreational experience.

Street intersections will include the following markings, indicators, and signage:

- the painting of 24” wide white crosswalk bars across the street intersection to denote the pathway across the street, and to alert motorists to the path crossing,
- an 8” wide white stop bar painted on the asphalt where the path meets the street intersection,
- a triangular marking surrounding a white, reflective bollard in the center of the path, and
- the painting of the word “STOP” in red lettering on the asphalt near the white stop bar.

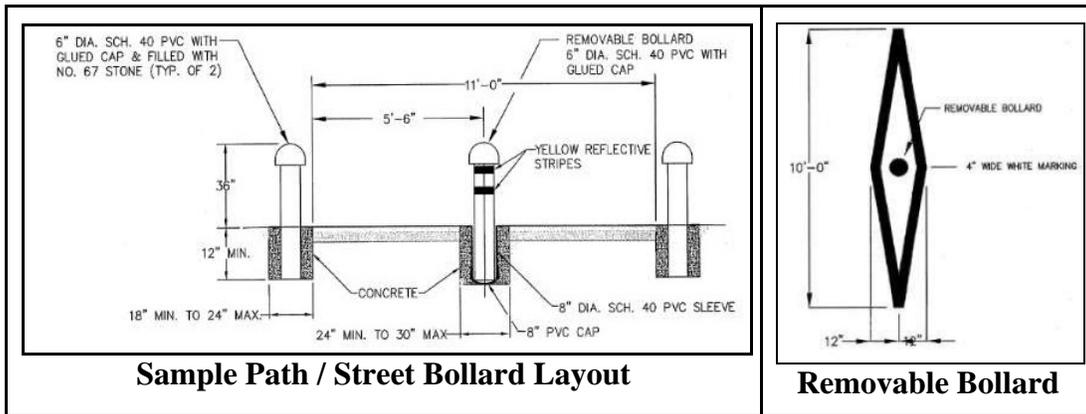


Sample Path / Street Intersection Markings



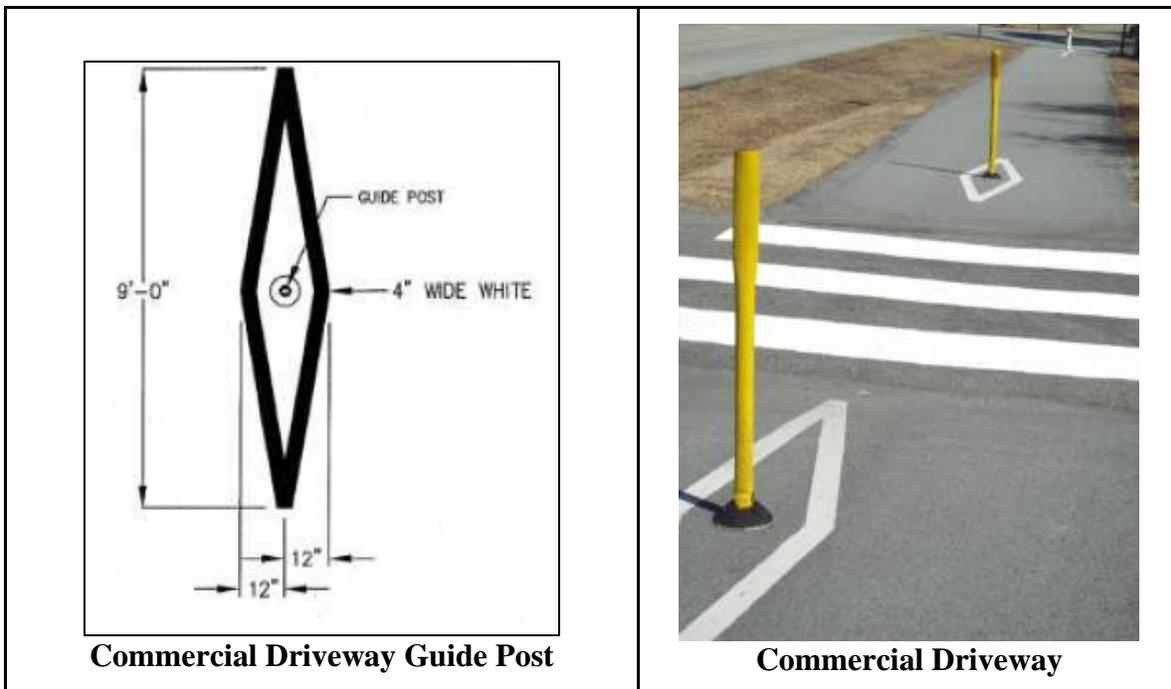
# Bicycle and Pedestrian Transportation Plan

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Private commercial driveway intersections will include the following markings, indicators, and signage:

- the painting of 24" wide white crosswalk bars across the private commercial driveway to denote the pathway across the driveway, and to alert motorists to the path crossing, and
- a triangular marking surrounding a yellow plastic guide post in the center of the path.



# Bicycle and Pedestrian Transportation Plan

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Signage indicating the Town's guidelines for path users shall be installed at strategic locations along multi-use paths. A sample sign is illustrated below.

**emeraldisle**  
PARKS & RECREATION

**BICYCLE PATH GUIDELINES FOR USE**  
**MOTORIZED APPARATUS STRICTLY PROHIBITED!!!**  
**EXCEPTION FOR HANDICAPPED ASSISTANCE ONLY!!!**

**General Guidelines**

**EVERYONE: KEEP TO THE RIGHT** except to pass.  
Look carefully before entering or crossing the bikeway.  
Pass on the left, only when safe. Give an audible warning before passing another path user.  
Make a complete stop at all intersections.  
When stopping for breaks or equipment failure, move off the pavement to allow other bikeway users to pass.  
Yield to emergency and maintenance vehicles.  
For bikeway updates on the web please visit [www.emeraldisle-nc.org](http://www.emeraldisle-nc.org)

Everyone  
**KEEP RIGHT** →  
Share the Path

**Bicycling**

Helmets are recommended for all cyclists and **required** by state law for children under 16. Stop your bicycle, if necessary, to yield or to prevent an accident. Bicyclists must yield to pedestrians.  
Bicyclists may ride two-abreast only when safe (when the bikeway is not busy). **Never ride three-or-more-abreast.**  
Bicycle front and rear lights required when riding at night.  
Ride at a safe speed. When the path is crowded, **PLEASE** slow down.

**BIKE ROUTE**

**Walking / Running**

Keep to the right when walking or running on the path.  
Look before entering the bikeway or changing direction,  
**Don't walk or run more than two abreast.**

**In-Line Skating**

Helmets are required, kneepads, and wrist guards are advised.  
Keep to the right so that other users may pass safely.  
**Skate single-file.**  
Skate at a safe speed, and be prepared to stop suddenly.

**Common Courtesy**

Do not litter or trespass on private property.  
Keep your dog on a leash. Pick up after your dog.  
**Respect** other path users. **Share** the path.



# Bicycle and Pedestrian Transportation Plan

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## 3.5.3 Sidewalks

Sidewalks also serve both a transportation and recreation purpose, and may or may not be separated from motor vehicle travel lanes. Sidewalks can be located either within the NC 58 right of way, a Town street right of way, or other dedicated right of way. Sidewalks are primarily intended to accommodate walkers and mobility-assisted individuals, however, other users are permitted to use sidewalks in a safe and responsible manner. Sidewalks are typically constructed with a concrete surface.

Sidewalks should be designed according to the following standards in order to maximize user safety and provide an enjoyable and comfortable recreational experience:

- Sidewalks should be physically separated from motor vehicle travel lanes along NC 58 by the maximum distance practical. Sidewalks located on Town streets should also seek to maximize physical separation from motor vehicle travel lanes, but may be constructed directly adjacent to Town streets on low-speed-limit streets.



- The Town's standard width for sidewalks along NC 58 is 6 feet. The standard width for sidewalks along all other Town streets is 5 feet. Reduced widths are acceptable for short distances to avoid conflicts with utilities or other features in the right of way.
- In areas where significant usage is anticipated, additional width should be provided.
- Sidewalks should provide good sight distance for users and for nearby motor vehicles.
- Adequate pavement markings should be installed at all street intersections.

- Sidewalks should adhere to the following construction standards:
  - 5 or 6 ft. concrete width (with deviations where necessary)
  - Minimum 4" concrete thickness
  - Compacted sub-grade.



# Bicycle and Pedestrian Transportation Plan

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## Chapter 4 – Implementation and Tasks

The main challenge in getting from plan to completion is funding. The town cannot afford to build additional multi-use paths without significant help from NCDOT, Federal Government or other funding sources. Based on past experience, and condition of areas in which facilities will be built, construction of multi-use paths and sidewalks are estimated to cost \$200,000 - \$250,000 per mile.

### 4.1 Construction priority

A chart listing desired new construction is as follows:

Description	Distance	New Construction	Priority
Coast Guard Road South Side			
Deer Horn to Sea Dunes	.2	Multi-use 10 ft path	1
Sea Dunes to Land's End	1.0	Multi-use 10 ft path	3
Land's End to Ring Street	.5	Multi-use 10 ft path	4
Emerald Drive South Side			
Bridge to Coast Guard Road	.5 miles	Multi-use 10 ft path	7
Blackskimmer to Hurst	2.0 miles	Multi use 10 ft path under construction	
Hurst to Ocean Drive	2.0 miles	Multi-use 10 ft path	5
Ocean Drive to 25 <sup>th</sup> Street	.5 miles	Multi-use 10 ft path	2
25 <sup>th</sup> Street to Town line	2.5 miles	Multi-use 10 ft path	6
Emerald Drive North Side	6.8 miles	Sidewalk	
Lee Street to Town line			
Bogue Inlet Drive	.2 miles	To be determined when redeveloped	
Old Ferry Road	.5 miles	To be determined when redeveloped	

The priorities assigned above are valid based on our perceived need and our desire to connect to already existing facilities. The actual order in which projects will be completed depends on the restrictions on funds when they become available. For example if NCDOT funds become available but must be used on a NCDOT road, then the Emerald Drive/NC 58 projects will become a higher priority.

The Town will work with all new major projects/destinations to try to insure safe and adequate facilities for bicyclists and pedestrians. The Town is presently working with NCDOT on the entrance to the new boat launching facility; and will work with NCDOT and the Aquarium when the new ocean fishing pier is built. The Town will strive to include bicycle and pedestrian facilities into any major new or redevelopment project.



# Bicycle and Pedestrian Transportation Plan

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The Town staff overall does an excellent job in maintaining bicycle facilities. There are some areas that could use more frequent attention. Bicycle lane striping on Emerald Drive/NC 58 (NCDOT responsibility) and Coast Guard Road (Town responsibility) should be improved. Also, gaining entrance to the Emerald Plantation Shopping Center is rather congested. The most likely fix would involve a public/private sidewalk connection and this should be investigated.

## 4.2 Funding

As stated earlier, funding is a challenge. Other than general property taxes there are no town/county taxes available for the construction of bicycle/pedestrian facilities. There is a visitor (occupancy) tax, but the funds generated can only be used to fund marketing or beach nourishment activities. Therefore, fund raising by local organizations is a very important factor in the construction of new facilities. Local organizations have raised significant funds for other projects and we are optimistic that the same will be true for the bicycle/pedestrian facilities. The Town will continue to look for assistance through NCDOT and Federal grants and any other source that will help the Town meet its goals.

## 4.3 Bicycle and Pedestrian Advisory Committee

The committee is a key to improved safety through education and obtaining funds through fund raising and grants. Now that we have been in the business of building sidewalks and multi-use paths for six years, it is evident that NCDOT guidelines will be the guiding tool. Therefore, there is little opportunity for the Bicycle and Pedestrian Advisory Committee to weigh in on construction matters or the priority of the projects, since the funding source will heavily dictate the order in which projects will be undertaken.

The Committee could be a significant source of funds, much like the Friends of the Western Carteret Library or the Foundation in Swansboro that has pledged \$100,000 towards the construction of a recreation center. The segment of multi-use path on Coast Guard Road from Reed Drive to Deer Horn



is largely due to funds generated by the Emerald Isle Business Association. If more funds like that were available, it would be a tremendous help.

The Committee should continue its efforts to be recognized as a Bicycle Friendly Community by the League of American Bicyclists. The Town was pleased to have received an Honorable Mention from the League of American Bicyclists and hopes that in the future, the Town will receive a higher level of recognition.



# Bicycle and Pedestrian Transportation Plan

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Participation in events like St. Patrick’s Day Festival, Triathlon, Day4Kids etc. are well worth the time invested. They are great places to increase the awareness of the available facilities and to educate people of all ages on bicycle safety.

## 4.4 Citizen Groups

Civic groups are frequently looking for projects. Two such groups are the Civitan Club and the Emerald Isle Garden Club. The Civitan Club regularly picks up trash along the multi-use path and the Garden Club has undertaken some gardening projects. The Town will continue to encourage and support organizations in such endeavors.

## Chapter 5 – Conclusion

Emerald Isle has long been recognized as a great place to live, work, and visit. The Town strives to bring to fruition projects that will support that reputation. Additional multi-use paths, sidewalks, and related facilities are important to our community. Funding is tight, but the Town will continue to look for funding sources that will enable it to accomplish its goal of connecting all major destinations with a multi-use path or sidewalk.

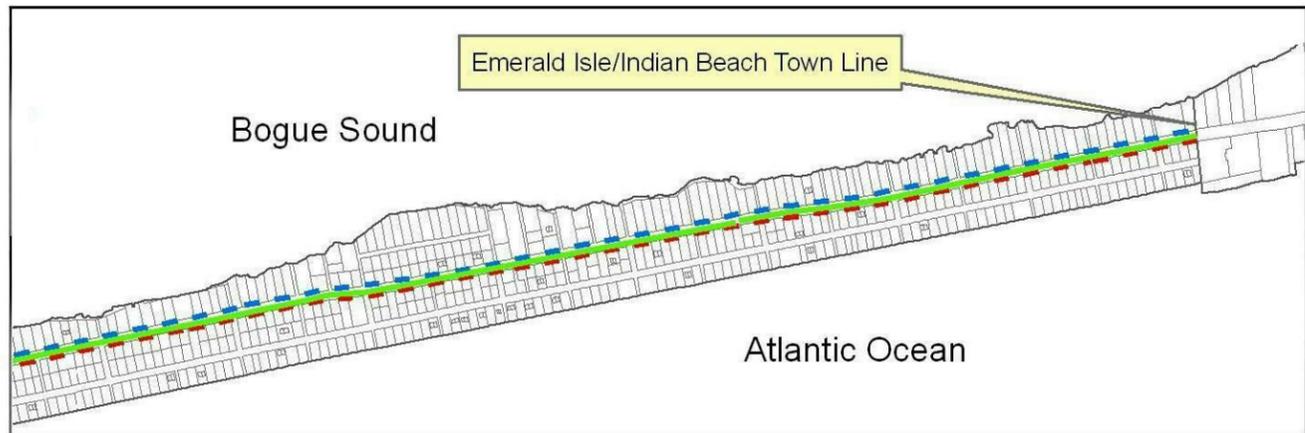
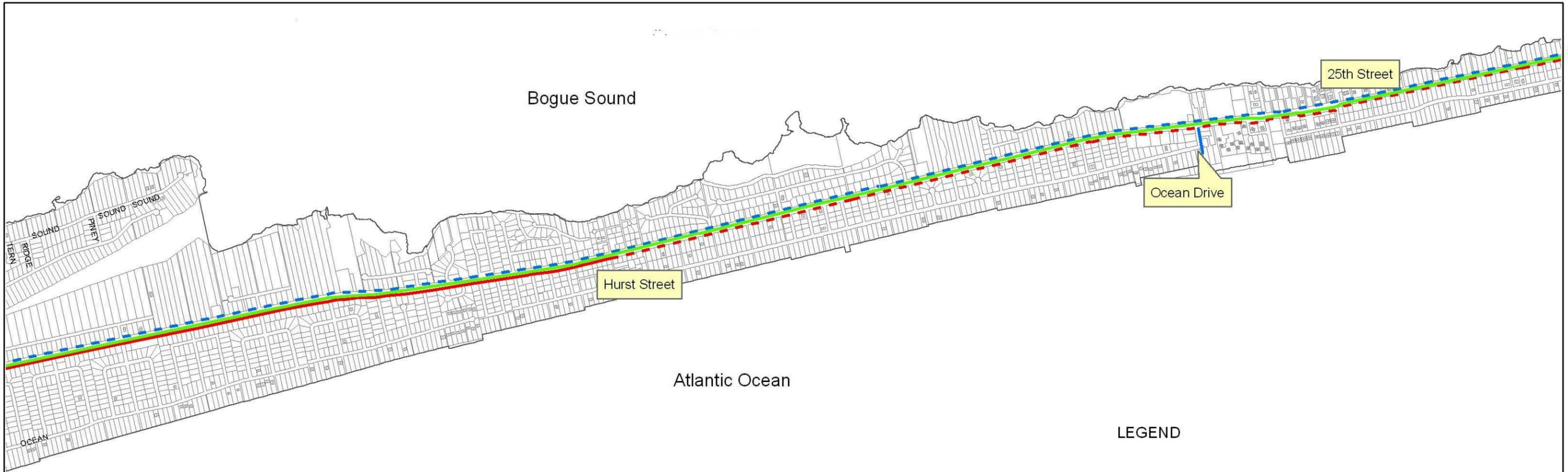


Another great day at the beach





# Town of Emerald Isle Bicycle and Pedestrian Transportation Plan



### LEGEND

- Existing 6-foot Sidewalk (except Bogue Inlet Dr. which has 4-5 foot sidewalk)
- Proposed Sidewalk
- Existing 10-foot Multi-use Path
- Proposed 10-foot Multi-use Path
- Signalized Pedestrian Crosswalk
- \* Proposed Connection from Emerald Drive to Food Lion Parking Lot
- Paved Shoulder on Both Sides



February 2010