



Cape Charles Community Trail

Master Plan

Cape Charles, VA

October 1, 2007



LandStudio

MASSEY
DESIGN

PHR+A

Cape Charles Community Trail Master Plan

Prepared by:

Land Studio pc

Carol Rizzio, CLA, AICP

Bill Spivey, CLA, APA

Massey Design & Associates PC

Clay Massey, PE

Patton Harris Rust & Associates

Mike White, PE

For:

Town of Cape Charles

Town Manager

Robert Panek

Mayor

Dora Sullivan

City Council

Chris Bannon

Charles Brown

John Burdiss

Gerald Elliott

Bruce Evans

Melvin Dudley

Steering Committee Members

Charles Brown – Town Council

Melvin Dudley – Historic Review Board & Park Committee

Chris Bannon – Town Council & Park Committee

Karen Davis – Planning Commission

Heather Arcos – Assistant Town Manager

Scott Walker – Project Manager

Jan Neville – Historical Society

Contents

Executive Summary

I.	Introduction	2
	A. Background	
	B. Project Goals	
II.	Stakeholder & Public Involvement	4
III.	Contextual & Site Analysis	6
	A. Contextual Analysis	
	B. Town History	
	C. Land Use	
	D. Circulation	
IV.	Master Plan Recommendations	14
	A. Community Trail Network	
	1. Perimeter Character & Linkages	
	2. Historic District Character & Linkages	
	Gateway	
	Fig Street	
	Washington Avenue	
	Bay Avenue	
	Mason Avenue	
	Peach Street	
	Central Park	
	Harbor Linkage	
V.	Implementation Strategies	40
	A. Plan Adoption	
	B. Phasing Priorities	
	C. Land Acquisition	
	D. Partnerships	
	E. Funding Alternatives	
VI.	References	46

Appendix

Appendix A - Project Information Sheet	
Appendix B - Public Meeting Summaries	
Appendix C - Preliminary Project Cost Estimate	
Appendix D - Sample Trail Easement	
Appendix E - Economic Benefits of Trails Reference Material	
Appendix F - Historic District Boundary Map	

Maps

1st Public Meeting Summary	5
Eastern Shore Trails	7
Land Use	11
Circulation	13
Community Trail Network	15
Historic District Linkages	17
Gateway Improvements	19
Fig Street Improvements	21
Washington Avenue Improvements	23
Bay Avenue Improvements	25
Mason Avenue Improvements	29
Peach Street Improvements	31
Central Park Improvements	35
Harbor Linkage	37
Harbor Nodes	39
Phasing Priorities	41
Key Parcels	43

Tables

Action Items Table	45
--------------------	----

Executive Summary

Trails are valued community assets for their ability to connect people with places. Imagine living in a place where you could bike or walk to work, shops, or to visit friends and family using a seamless network of trails. Trails that link places where people live, work, learn, and play are a central element in building safer, healthier and more livable communities.

The proposed Cape Charles Community Trail builds on the town's inherent historic quality and character. Cape Charles is currently going through a rebirth and concurrently developing plans that will help to guide that development in a manner that benefits the town as a whole. The community trail is one piece in bringing forward a rebirth of Cape Charles.

The proposed Community Trail Network links Cape Charles residents and visitors to the town's many destinations. It also links to and incorporates the bicycle and trail recommendations of adjacent localities and planning district commissions. The plan is a direct result of a detailed analysis with input from many stakeholders and citizens. The proposed community trail network is comprised of trail linkages within its historic core and out into the surrounding area. Once implemented, this system will provide pedestrians and bicyclists safe access to the many destinations in Cape Charles, adding greatly to the uniqueness and attractiveness of the town.

While trails are extremely popular once they open, they can face significant obstacles in the planning phase. The implementation strategies proposed in this document focus around utilizing tools to address issues related to the three things all trails require: land, people, and funding.

Benefits of Trails

All trails provide numerous economic and quality of life benefits to the individuals they serve and the communities in which they are located. They come in many different forms, from a paved asphalt path to a designated water trail with only a map to guide you.

Recreation

The 2007 Virginia Outdoors Plan ranks walking for pleasure and bicycling as two of the top desired recreational activities. The growing popularity of outdoor recreational activities such as these is increasing the need and desire for quality bikeway and trail facilities.

Transportation & Health

In addition to their recreational benefits, trails also function as viable transportation corridors and are an important component in creating a multi-modal transportation system. This melding of transportation and recreation encourages the incorporation of recreation and exercise into our daily routine, making it easier to stay healthy and fit. The Center for Disease Control and Prevention recently addressed the national public health crisis stemming from physical inactivity and trumpet the positive impact trails can have on the health of their users.

Economic

Trails are also proving to be wise economic investments. There are many reports and studies highlighting the benefits of trails and greenways such as the National Park Service's resource book entitled *Economic Values of Greenways, Trails, and River Protection*. The book presents evidence that trails may increase nearby property values, increasing local tax revenues, and help to offset implementation costs. It also presents evidence that the quality of life of a community is an increasingly important factor for attracting and retaining corporations and businesses and that trails are important contributors to the quality of life. For more information and additional study references see Appendix E.



Introduction

Background

In 2003, Cape Charles began its vision for developing a trail to connect its various destination points, including the deepwater harbor, historic district, business district, beach, primary town park, and museum. An \$89,000 Transportation Enhancement Grant was awarded to the town and negotiations to connect the deepwater harbor to the town were begun. After several years of discussions and negotiations, this linkage hit a roadblock. Town officials then turned their efforts toward other sections of the trail network and put out a request for proposals for professional services to assist in the design and implementation of sections of the trail that are fully within the town's control. A portion of the allocated funding went toward the development of this document. The remaining funding will go toward the design and construction documentation of the first phase of the trail as identified in this document.

A second Transportation Enhancement Grant in the amount of \$200,000 was awarded to the town in 2006. These funds will be utilized for the construction of the first phase of the trail.

Project Goals

The master plan presented in the following pages merges the town's original vision, to link its major destination points, with opportunities to highlight the historic character of the town, improve its streetscapes, and link the entire town to its core destinations and adjacent communities. It identifies opportunities for nodes, gateways, and vistas. The master planning process and final document produced focuses on achieving the following goals.

Consensus Building

Opening up a dialogue and building consensus for the development of the trail with all the various stakeholders and public/private property owners.

Identifying a Network of Trails

Providing a network of trails for exercise, transportation, recreation, and natural area viewing opportunities, while linking adjoining commercial, residential, and public land uses.

Preservation of the Town's Historic Character

Assisting in the preservation and protection of the town's historic character through the understanding and incorporation of various historic elements into the design of the trail.

Identification of Implementation Tools and Techniques

Identifying various implementation strategies and tools for the systematic implementation of the trail network and enhanced development coordination as the area continues to grow and redevelop.



2006 aerial of Cape Charles provided by Simmons & Riley Aerial Photography

Stakeholder & Public Involvement

Below: Final Public Open House

Opposite Page: First Public Meeting comments summary map

Public Involvement

Key stakeholder and public involvement was obtained throughout the process. The public involvement process was broken out into a series of phases, each of which is discussed below. Complete summaries for each of the public meetings can be found in Appendix B. The continued involvement of each of these groups and individuals as the trail is implemented will ensure its success.



Initial Stakeholder Involvement

Contact was made with a number of key stakeholders early in the process to gather feedback and gain input related to their specific interests and concerns. Individuals were encouraged to ask questions, provide feedback, voice concerns, and attend each of the public workshops held. Listed below are the key stakeholder groups contacted.

Key Stakeholders Contacted

Bay Creek Development
Cape Charles Renewal Program
Central Park Committee
Creative Property Development
Bay Coast Railroad
Gallagher Associates

Public Workshops & Open House

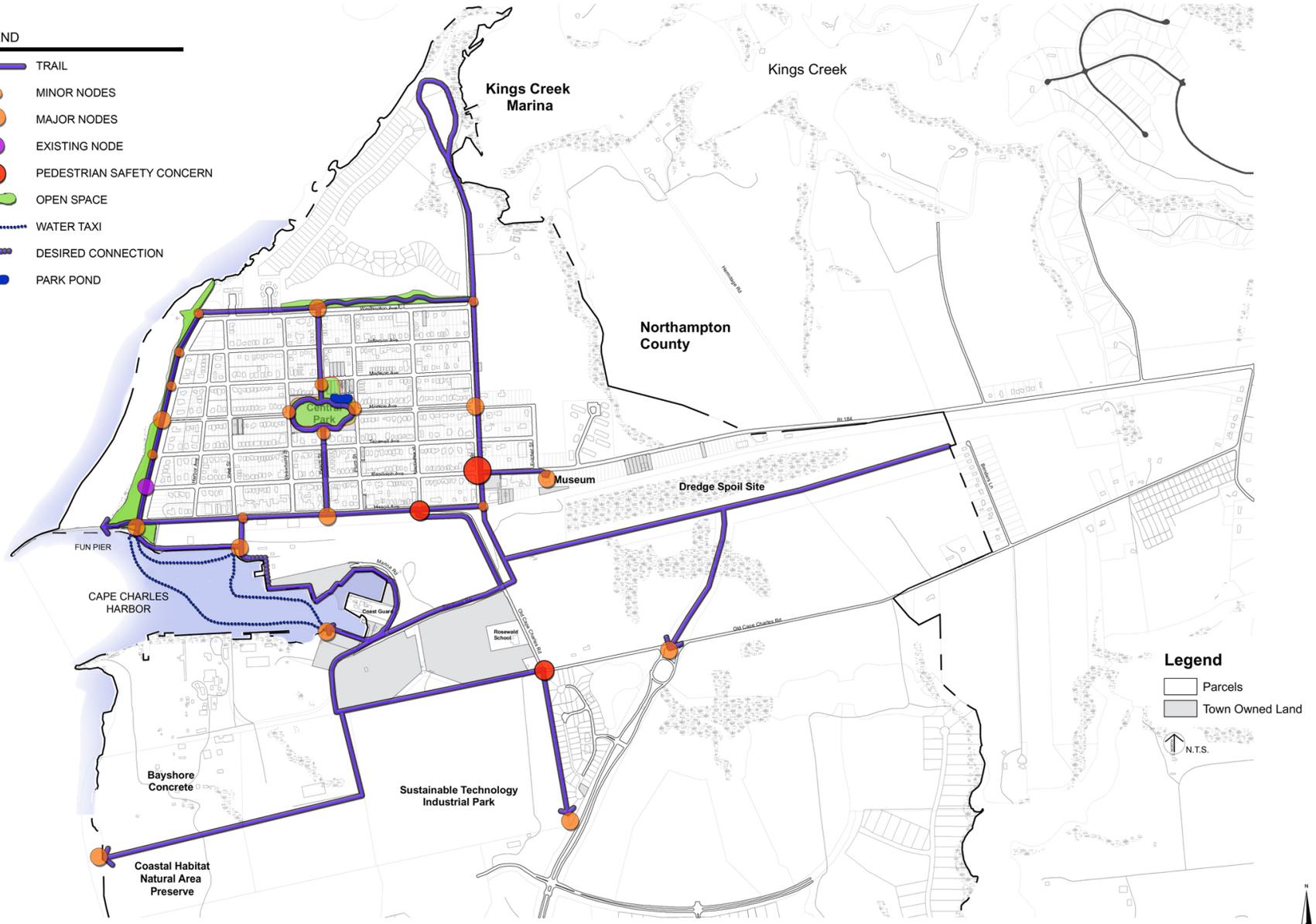
Two public workshops and one public open house were held. The first public workshop entailed a presentation of the project, process, and various trail opportunities and constraints. Individuals were then asked to document, on maps provided, their thoughts and ideas related to the trail's alignment and key features/destinations. Eight individuals attended the initial public workshop.

At the second public workshop, displays explained and presented the project to date. A short presentation of the project was given, followed by group discussions on a variety of key elements. The meeting concluded with individuals voting on their top priorities for phase one implementation. Twenty individuals attended the second public workshop.

The final public input meeting was held as an open house where individuals could come at their leisure to view and comment on the final trail plan. Displays and documents presented the process to date and the final trail alignments and key features. Town staff and the consultants were on hand to answer any questions and take final comments. Approximately 30 individuals attended.

LEGEND

-  TRAIL
-  MINOR NODES
-  MAJOR NODES
-  EXISTING NODE
-  PEDESTRIAN SAFETY CONCERN
-  OPEN SPACE
-  WATER TAXI
-  DESIRED CONNECTION
-  PARK POND



06017—11

TOWN OF CAPE CHARLES
 TEA-21 Multi-Use Trail - 1st Public Meeting Comments Summary Map
 CAPE CHARLES, VIRGINIA

MAY 22, 2007

LandStudio pc

Land Studio pc reserves its right under common law copyright and ownership rights in connection with the designs, concepts, and drawings presented in this document. This document (s) shall not be reproduced, changed, or copied in any form whatsoever, nor shall they be assigned to any third party without written consent from Land Studio pc © 2007

Contextual & Site Analysis

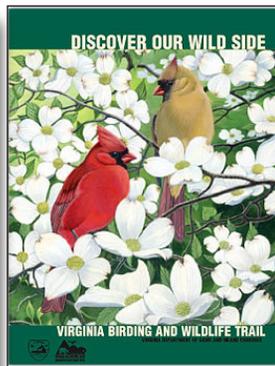
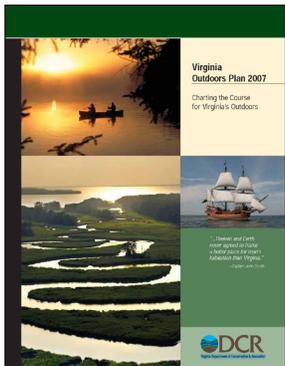
Contextual Analysis

The Town of Cape Charles is located in Northampton County on Virginia's Eastern Shore. It sits on a peninsula, bordered by the Chesapeake Bay to the west, Kings Creek to the north and Old Plantation Creek to the southeast. Cape Charles is the largest incorporated town in Northampton County with 2,817 acres and approximately 1,000 residents.

The Eastern Shore of Virginia is rich in natural resources and potential recreational opportunities. A variety of organizations and public agencies have developed plans and recommendations related to trails of all types on the eastern shore. Below is a brief summary of several that surround and include Cape Charles in their plans and recommendations. The development of partnerships and coordination between these organizations and the Town of Cape Charles will promote the timely development of the trail alignments recommended.

Virginia Outdoors Plan

The 2007 Virginia Outdoors Plan (VOP), the ninth



VOP produced since 1966, provides sound guidance and direction in meeting the state's needs for outdoor recreation and for the conservation of natural, cultural and scenic resources important to Virginians' quality of life. Prior to the drafting of the revised VOP, a Virginia Outdoors Survey (VOS) was completed. The two highest outdoor recreation needs indicated in the 2006 VOS were additional public access to Virginia's waters and trails for walking/bicycling.

Over the past 15 years, the popularity of walking for pleasure, bicycling and water-related activities has grown substantially, creating a high demand for additional resources to meet the need. Additionally, recent studies completed by the VA Department of Conservation and Recreation have identified significant facility needs for close to home types of activities, such as trails for walking, jogging, and bicycling.

The plan breaks the state up by region. Cape Charles lies within the Accomack / Northampton County Planning District Commission. The plan's recommendations for the area are outlined below.

General Recommendations:

- Each locality should develop a bicycle and pedestrian plan that will be adopted as a formal component of the comprehensive plan with an effort made to link existing and proposed public lands and other resources valued by the community, as well as provide for a variety of trail experiences and transportation alternatives.
- State, regional and local governments should strengthen the public's understanding of the connection between trails and public health and establish policies that support pedestrian and bicycle facilities in road construction and development/redevelopment projects.

Specific recommendations:

- Develop a trail connection between Kiptopeke State Park and Cape Charles Wildlife Management Area.

- Designate US Route 13 from Virginia Beach across the Chesapeake Bay Bridge Tunnel to Cape Charles and State Route 184 in Northampton County as Scenic Roadways.

Eastern Shore of Virginia Bicycle Plan

The Eastern Shore of Virginia Bicycle Plan was developed by the Accomack-Northampton Planning District Commission and adopted by the Commission in 2003. The plan recommends proposed bicycle facilities to be considered by local governments when developing their bicycle facility plans. The plan was adopted by Northampton County in 2004. The following recommendations related to Cape Charles are included in the plan.

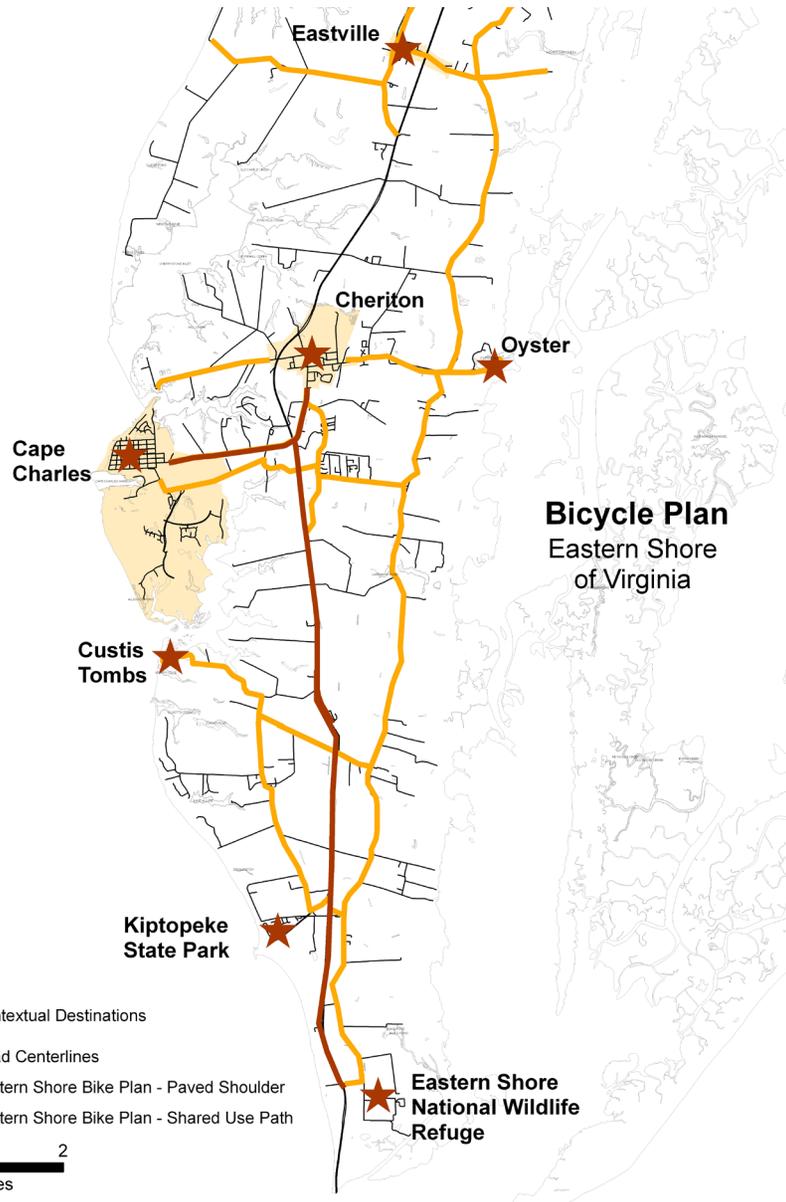
- Develop a Shared Use Path from Cape Charles to Cheriton.
- Develop a Shared Use Path from Cape Charles to Eastern Shore National Wildlife Refuge that is not on the old railroad right-of-way.

Eastern Shore of Virginia Heritage Trail

The Eastern Shore of Virginia Heritage Trail is a driving tour of the historic, scenic, birding and natural sites in Accomack and Northampton Counties, Virginia. Four loops make up the Heritage Trail with Cape Charles being a major destination on the southern loop.

Virginia Birding and Wildlife Trail

The Virginia Birding and Wildlife Trail is the first state-wide program of its kind in the United States. It celebrates the diversity of wildlife within Virginia. Three phases of the trail link wildlife viewing sites throughout the state. Cape Charles is located along the Eastern Shore Loop within the Coastal Trail phase. The proposed Cape Charles Community Trail lies along the route of the Virginia Birding and Wildlife Trail. Once complete, it will link a variety of identified wildlife viewing areas and provide a safe alternative transportation mode for trail users.



Town History



Above: One of the Cape Charles “Storyboards” placed throughout the town. This particular storyboard is located at the town harbor and highlights the waterman.

Below: Early 1900’s aerial of Cape Charles.



The Town of Cape Charles was laid out in 1884 to serve as the southern rail terminus along the eastern shore and a transfer point where barges and ferries completed the journey across the Bay to Norfolk. The town flourished for many years until the 1950’s when many of the steamers and ferries moved service to the Kiptopeke Terminal seven miles south. However, freight passage continues to this day and is one of the few such operations in the United States.

The town that grew up around the harbor and railroad yards retains much of its architectural integrity. It was designated in 1989 as a National Historic District (see Appendix F for historic district boundary map). The district encompasses nearly all of the town as originally laid out, as well as the Sea Cottage Addition, an area to the west of the original town plan that was developed in 1911. The integrity and uniqueness of the town’s physical plan along with its intact architectural fabric make it one of the best preserved towns of the period in Virginia. A walk or bike ride through Cape Charles is complementary to a visit to the Cape Charles Museum.

Town Plan / Landscape

Cape Charles was laid out by civil engineer William Bauman. The plan consisted of twenty-seven blocks formed by six north-south streets named for fruits and seven east-west streets named for Virginia statesmen. The most defining feature of the town is the large central block designated as a park, from which four wide streets terminate at the midpoint of each side of the park forming a modified cross axis for convenient park access and town circulation. No other such town plan is known to exist in Virginia.

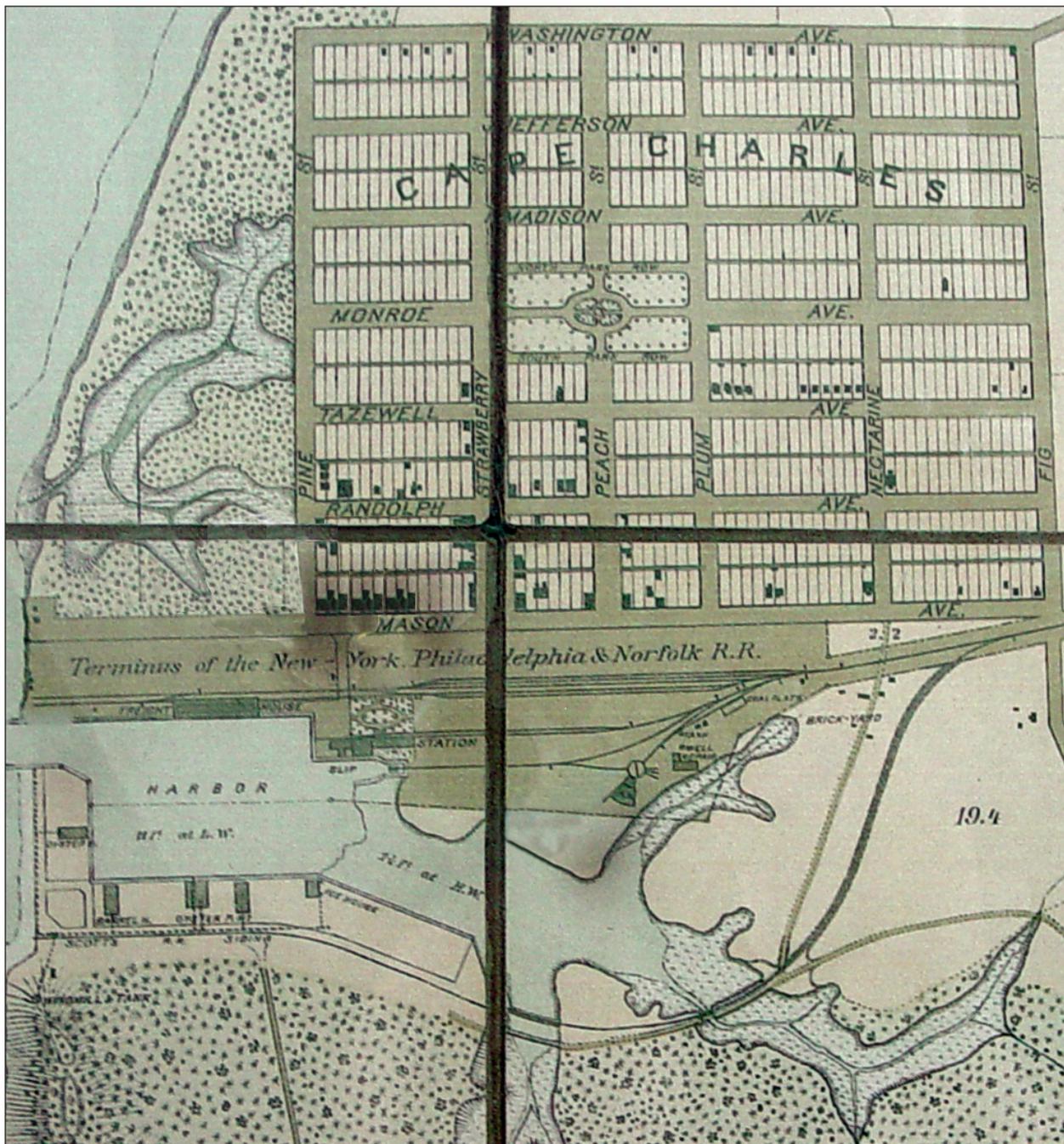
Most of the residential streets are lined with concrete sidewalks that were mostly put in place in 1913 by a local concrete manufacturer and builder. They are separated from the streets they border by a generous green space planted with a row of trees. Along three of the four wide streets radiating from the park, a central median marks their importance in the town’s overall layout.

Town Building Fabric

The town’s building fabric, ranging from small vernacular workers’ houses of the 1880’s to architect-designed commercial, municipal, and residential buildings of the early twentieth century, is remarkably well preserved. Architectural styles represented include the Queen Anne, Victorian, Italianate, Gothic Revival, Neoclassical, Colonial Revival, Bungalow, American Foursquare, Spanish Colonial Revival, and Art Deco styles.

Historic Interpretation

The town has embraced its rich history and interprets it in a variety of forms for citizens and visitors. A historic walking tour brochure is available that locates and describes the many historic elements and structures. Also, a series of interpretive exhibit storyboards that tell the history of Cape Charles can be seen as you walk through the town.



Left: Late 1800's map of Cape Charles depicting the original twenty-seven blocks and the town's relationship to the railroad

Top Right: Early Cape Charles street scene of the area where ferry passengers gathered to board

Bottom Right: 1910 view of Monroe Avenue, the east-west wide street radiating from the park, looking west



Land Use



Above: Typical residential lot in the historic district

Bottom Left: Cape Charles beach

Bottom Right: Mason Avenue

Land use is an important component in a trail's overall success. Trails linking diverse environments and land uses add to the visual interest of the network and serve as not only recreational amenities, but transportation corridors. A wide variety of land uses are present within the small town of Cape Charles, making it an interesting destination and appealing area to live. Below is a discussion of each of the major land uses.

Commercial

The main concentration of commercial land uses resides it always has, along four blocks on the north side



of Mason Avenue. Smaller concentrations of commercial land uses extend north up Strawberry Street and Peach Street and east along Mason Avenue and Rt. 184. These commercial areas are well within walking distance of many of the surrounding residences.

Residential

Until recently, the original 27 town blocks housed most of the residential properties in the town. New residential community developments surround the core of the town to the north, east, and south. These developments are primarily made up of the Bay Creek development, a golf course community to the south, and Marina Villages to the north.

Recreational / Open Space

Cape Charles is rich in recreational opportunities. Below is a description of each.

Beach / Central Park

The town has two primary public recreational lands, the public beach and central park, that play an important role in the quality of life of town residents. The public beach spans along the entire west side of Bay Avenue. It is the primary recreational area in the town and is one of two public beaches on the eastern shore in Virginia.



Recent beach replenishment and stabilization activities make this area a prime recreational spot for residents and visitors alike. The four-acre central park is also a key recreational resource for the area, being the only public open green space located within the town. Currently, the park houses a small playground, arbor, and small stage for community events and activities.

Coastal Habitat Natural Area Preserve

In conjunction with the development of the Sustainable Technology Industrial Park (STIP), the Cape Charles Coastal Habitat Natural Area Preserve was developed. A boardwalk takes visitors through several natural communities and ends with an overlook of the beach and Bay. Northampton County currently owns the land and controls access to the property.

Harbor

Recreational boating opportunities are common along the eastern shore. Within the town, there are two marinas that serve the boating needs of town residents and surrounding areas, the town owned deepwater harbor and a privately owned marina at Kings Creek. The town's deepwater harbor serves recreational, commercial and industrial operations. Views of these operations greatly add to the visual interest of the town. Railcars loaded onto barges and commercial fisherman unloading their catches can all be seen.

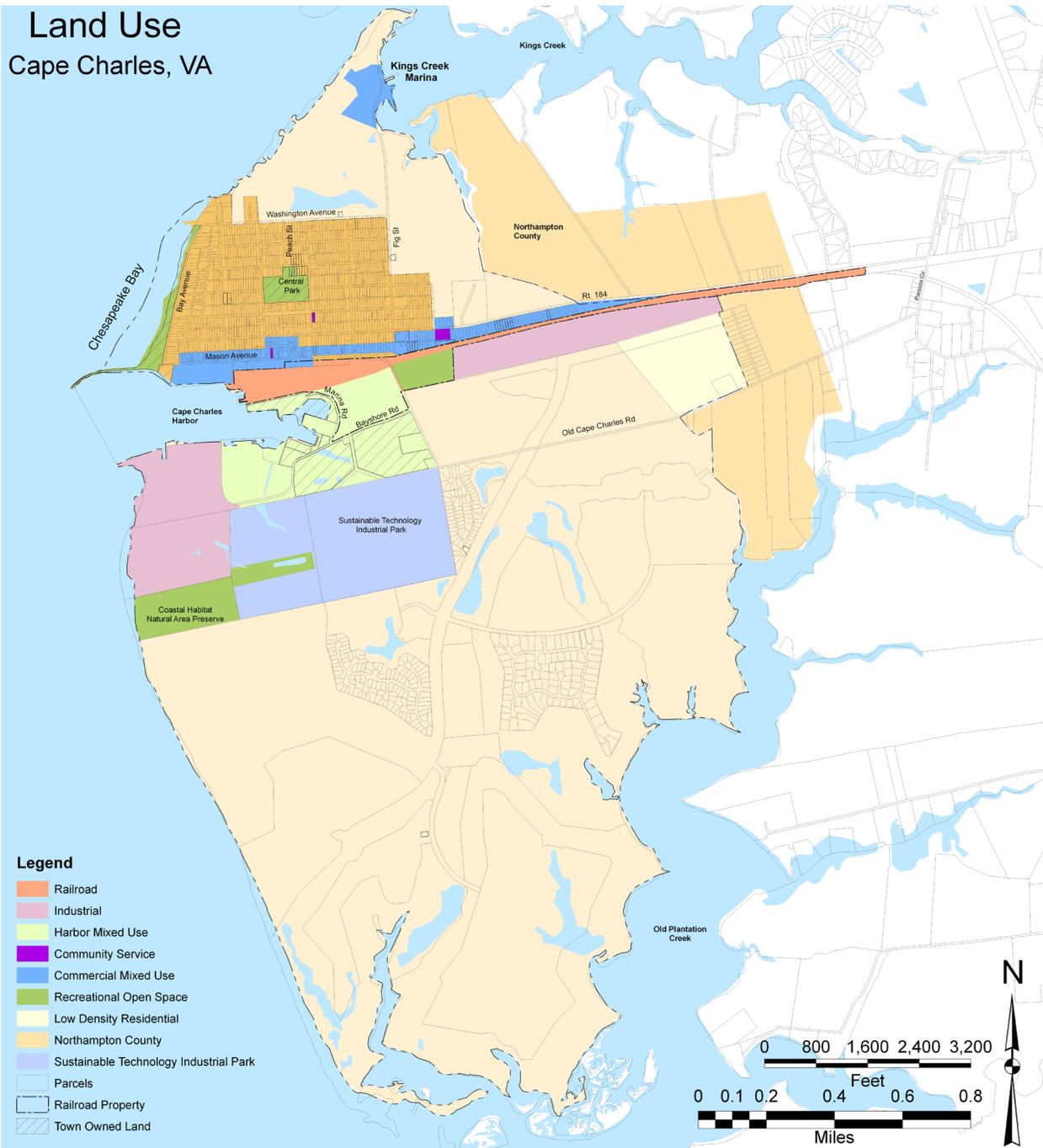
Industrial

Primarily, industrial land uses surround the deepwater harbor. Included in these industrial areas is the original rail yard to the north of the harbor, a concrete plant on the southwest corner of the harbor, and a sustainable technology industrial park to the south.

Mixed Use

The town recently underwent a master planning process for the area surrounding the deepwater harbor. This area is planned for future mixed use development, including residential, commercial, and office land uses.

Land Use Cape Charles, VA



Left: Current Cape Charles land use map

Top Right: Railroad property

Bottom Right: Commercial fisherman at the town's deep-water harbor



Circulation



Above: Bicyclist taking advantage of the typical paved shoulders along Rt. 184

Below: Typical view of Old Cape Charles Road

Both vehicular and pedestrian circulation patterns were analyzed to identify opportunities to build upon the existing pedestrian patterns and identify potential conflict points. It is also noted that throughout the town where speed limits are 25 mph, golf carts are a common mode of transportation.

Vehicular Circulation

Much of the Cape Charles transportation network is on a grid system. The only corridors that aren't, are those



that provide access to areas on the outer fringes of the town's corporate limits and access to the town's deep water harbor and surrounding industrial lands. Most of the streets within Cape Charles have a 70-foot right of way, except for Harbor Drive which has a 60-foot right of way, and Monroe, Bay and Peach Avenues which each have a 100-foot right of way.

The "Hump"

The "Hump", an elevated roadway above the rail line, was first constructed in 1912 when this was the only access to town. Currently, the "Hump" provides the only vehicular connection from the historic residential and commercial areas north of the railroad to the harbor and other areas south of the railroad property. Future plans call for the extension of Fig Street with an at-grade crossing of the railroad and the conversion of the "Hump" into a pedestrian and emergency access facility.

Gateways to Town

Two transportation corridors provide access to the town from Rt. 13. The most heavily traveled is Rt. 184, a two lane roadway with paved shoulders, serving approximately 4,100 vehicles per day. This roadway serves as the primary gateway into town, intersecting the original town grid at Fig Street and Randolph Avenue. The second, Old Cape Charles Road, serves just under 1,000 vehicles per day and provides access to the deepwater harbor area and the Bay Creek development without having to go over the "Hump". It is a fairly narrow two lane road just west of the Bay Creek development with no paved shoulder and a dangerous sharp curve.

Pedestrian Circulation

Pedestrian circulation is currently only accommodated for within the historic town grid area, except for a newly constructed path along the north end of Fig Street leading to Kings Creek Marina. Within the national historic area, most of the roadways are very pedestrian friendly, being aligned with a 4-foot concrete sidewalk separated from the roadway. Wider pedestrian sidewalks are lo-

cated along the intense commercial areas of Mason Avenue, Strawberry Street, and Peach Street.

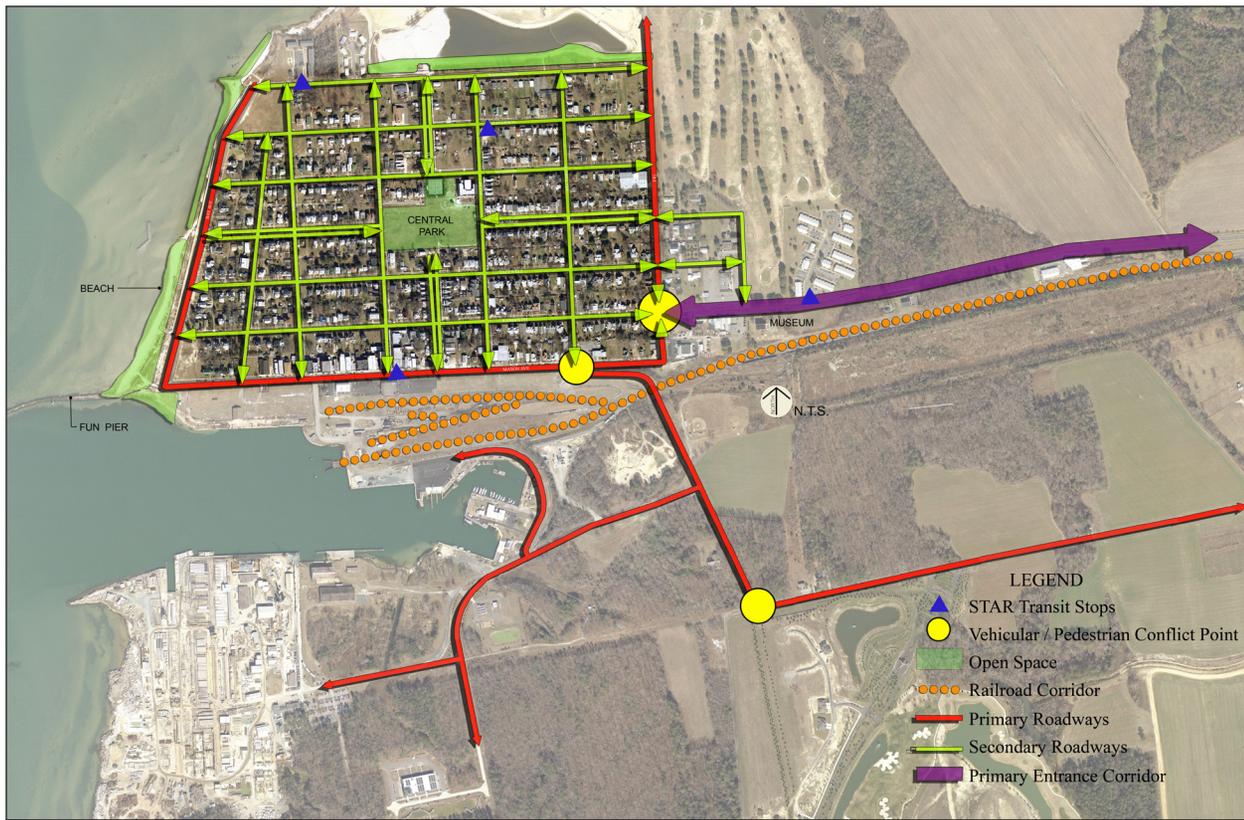
Crosswalks

Crosswalks were only noted in two locations: at the intersection of Mason Avenue with Strawberry Street and Mason Avenue at Bay Avenue. At both of these locations, pedestrian safety can be further improved through better delineation of the crosswalk area (at Strawberry) and relocation of the crosswalk from angled to perpendicular (at Bay) .

Vehicular / Pedestrian Conflict Points

Four areas were identified as potential vehicular / pedestrian conflict points. The first is the intersection of Rt. 184 and Fig Street. The vehicular pattern at this intersection can be confusing to pedestrians and motorists. Vehicles coming into town on Rt. 184 and those leaving town and making a right onto Rt. 184 have the right of way. All others must stop. This type of traffic pattern is not what is expected and can be very confusing, especially for individuals not familiar with the town. The second vehicular / pedestrian conflict point is where the "Hump" intersects Mason Avenue. The turning radius of cars and trucks needed at this intersection is extreme and makes for a very long and unsafe pedestrian crossing. The town is in the process of putting a formal request in to VDOT for a series of road improvements related to the "Hump" and the Rt. 184 / Fig Street intersection.

The last two areas where vehicular / pedestrian conflicts were noted are along Mason Avenue and Bay Avenue, where there is on-street parallel parking and a high volume of pedestrians crossing the street to either access the beach or commercial district. The wide widths of these roadways contribute to higher than desired vehicular speeds and decreased pedestrian safety.



Top Left: Existing circulation network

Top Right: The "Hump" as seen from Mason Avenue

Bottom Left: Gateway intersection of Rt. 184 and Fig Street

Bottom Middle: Mason Avenue

Bottom Right: Typical sidewalks within the residential portion of the historic district



Master Plan Recommendations

Bottom Left: Existing trail along the north section of Fig Street providing access to Kings Creek Marina

Bottom Right: Rt. 184 heading toward Cape Charles, note the water tower in the background



Community Trail Network

The proposed Community Trail Network links Cape Charles residents and visitors to the town's many destinations. It also links to and incorporates the bicycle and trail recommendations of adjacent localities and planning district commissions. New and existing developments along the network are encouraged to incorporate trails into their parcels that link into the community network. For planning and implementation purposes, the trail network has been broken up into two areas: the historic district area and the surrounding perimeter area. In each of these areas, trail amenities such as lighting, benches, and trash receptacles should be consistent with adopted historic district guidelines.

Perimeter Character & Linkages

The perimeter trail network focuses on linking the core area of the town and its many destinations to surrounding areas. Four main spines radiate from the central core. Each is discussed below.

Rt. 184

The proposed trail along Rt. 184 includes both a shared use path separated from the roadway and an on-road bicycle facility, such as the paved shoulder that exists today. This trail ties directly into the Accomack-Northampton Planning District Commission's and Northampton County's plans to develop a shared use path from Cape Charles to Cheriton.



Old Cape Charles Road

The proposed trail along Old Cape Charles Road includes both a shared use path separated from the roadway and an on-road bicycle facility, such as paved shoulders. The shared use path is only proposed to go as far as the entrance to the Bay Creek development, coming from town. Roadway improvements to the ninety degree turn just prior to the Bay Creek development should be addressed prior to, or concurrent with, bicycle and pedestrian accommodations in this area.

Bay Shore Road

Bay Shore Road lies within the harbor mixed use district. With the likely development and redevelopment of this area, roadway alignments may shift. Should they shift, the recommended trail facilities should be an integral part of their alignments. The proposed trail along Bay Shore Road is a shared use path separated from the roadway. This section of the trail network provides direct access to the deepwater harbor from the southern sections of town and to the Sustainable Technology Industrial Park (STIP), Bay Shore Concrete, and the Coastal Habitat Natural Area Preserve trail. The town should work with Northampton County and the Department of Game and Inland Fisheries to ensure that public access to the natural area preserve is granted. There is also a shared use trail proposed along the northern property line of the STIP, providing alternative access.

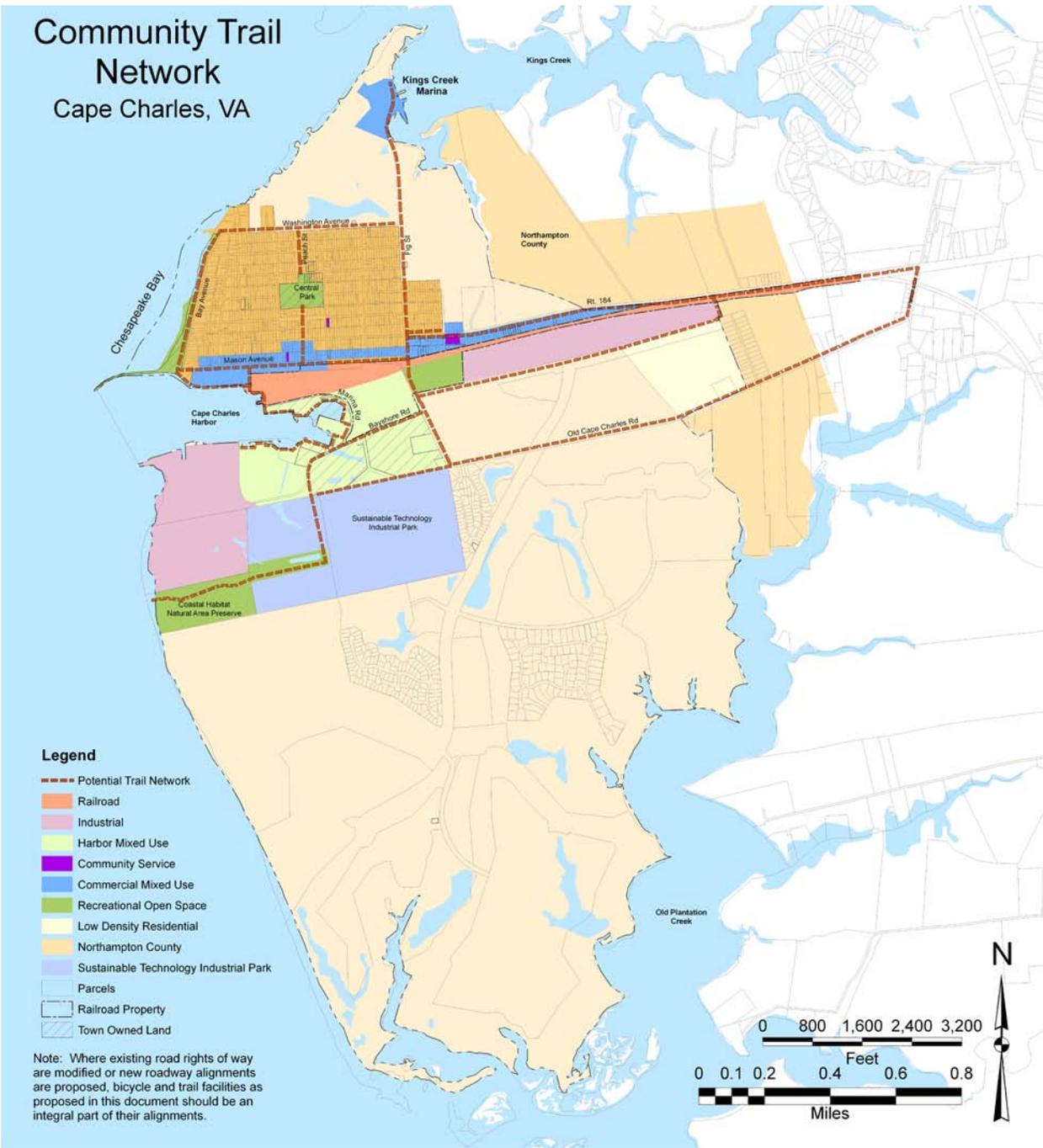
North Section of Fig Street

An existing trail along the northern section of Fig Street links the core historic area to Marina Villages and Kings Creek Marina. It is included on the trail network as an important connection to preserve.

Historic District Character & Linkages

The historic trail network makes key linkages within the town's core. In this area, time has been spent detailing the character of the trail, its nodes, and alignments to ensure that the proposed trail remains consistent with the historic character of the town. The character of the trail in this area and its individual alignments are discussed in detail on the following pages.

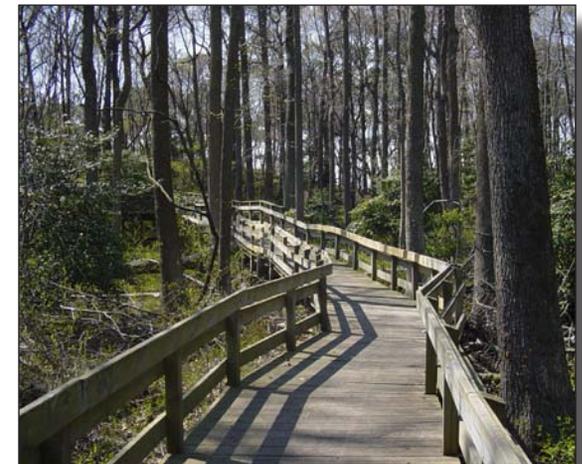
Community Trail Network Cape Charles, VA



Left: Proposed community trail network

Top Right: View of Old Cape Charles Road at the intersection to the Bay Creek development

Bottom Right: Boardwalk trail located within the Coastal Habitat Natural Area Preserve





Historic District Character & Linkages

Above: Mason Avenue in the early 1900's

Below: Existing streetscape pattern along Monroe Avenue, the east-west wide street radiating from the park

Opposite Page: Historic District Community Trail Network

Care must be taken in designing and implementing the proposed trail in and around the historic district. The town's listing as a national historic district is not only due to its numerous architecturally intact buildings, but also because of its unique layout and landscape architectural patterns.

It was the goal of the trail in this area to assist in the protection, preservation, and interpretation of the town's historic character and qualities while meeting the needs of modern day trail users.

In general, the trail network in this area has four distinct quadrants, one along each of the roadways that define the original grid: Fig Street, Washington Avenue, Bay Avenue, and Mason Avenue. Each of these areas are distinct from each other, and as such is the trail. However, within each of these areas there are three common elements that tie the network together and tie the trail

back to the patterns established by the original town layout.

The first common element is the idea that trail should remain on the outskirts of the national historic district as much as possible, limiting any unnecessary disturbance of the existing historical elements and streetscape patterns. Therefore, the trail alignments along Fig Street, Washington Avenue, Bay Avenue, and Mason Avenue all lie on the opposite edge of the street related to the historic district. This also provides the trail user the opportunity to easily view, from across the street, those historic elements and offers the opportunity to experience them intact, if desired.

The second common element is that the trail throughout this district, except within the commercial areas, be separated from the roadway with a green space. This will preserve the historic streetscape pattern throughout town and provide additional safety to trail users.

The third common element is the establishment of major nodes at each end of the widened roadway sections radiating from the park to the outside edge of the grid. This enforces the town's original layout and helps to tie the trail into that layout. The details of these nodes along with the individual character of each quadrant are located on the following pages.

Many of the interpretative "storyboards" are located along the proposed trail at key nodes. These storyboards should be incorporated into the design at each of these nodes.







Gateway

Above: Existing town water tower along Rt. 184

Middle: Existing gateway intersection at Rt. 184 & Fig Street

Bottom Left: Existing gateway corridor along Rt. 184

Bottom Right: Proposed gateway intersection at Rt. 184 & Fig Street

Opposite Page: Proposed gateway improvements



Rt. 184 serves as the town's primary access route averaging 4,100 vehicles daily. The proposed trail along Rt. 184 provides linkage to the Cape Charles Museum and offers multiple opportunities for improving the town's gateway. Several recommendations for the area's future development are listed below.

Cape Charles Museum

The Cape Charles Museum is one of the major destinations along the trail. It lies along Rt. 184 a little over a tenth of a mile east of the Rt. 184 and Fig Street intersection. The museum is located in the 1947 late Industrial Deco style building that served as an electric power generating station for 40 years. The building and its lot mark the beginning of the Cape Charles National, State, and Local Historic Districts and concurrently can mark the beginning of the gateway to town.

Rt. 184 Corridor

The trail along this one-tenth of a mile section of Rt. 184 is proposed to be located on both sides of the street. This is the only section on the network where a trail is proposed on both sides, as it will help to designate this area as the town's gateway. The town's Comprehensive Plan calls for future commercial development

in this area. The development of the trail and various streetscape improvements will help to spark private investment in the area. Any trail and / or streetscape improvements should take into account future anticipated roadway improvements.

Rt. 184 / Fig Street Intersection

Improvements to the Rt. 184 and Fig Street intersection are desired by the town. The current traffic pattern at this intersection can be confusing and dangerous to pedestrians and motorists not familiar with the area. The latest request to VDOT includes, among other road improvements, the implementation of a roundabout at this intersection. Roundabouts can improve motorist and pedestrian safety, when designed correctly, such that pedestrians need to only cross the path of traffic moving in one direction at a time. They also provide the opportunity to improve the aesthetics of key intersections.

Gateway Plaza

The southeast corner of Rt. 184 and Fig Street is town owned property. The site was the previous location of the town's water tower and would be a nice location for a gateway plaza.







Fig Street

Above: Historic residential structure along Fig Street

Bottom Left: Existing large sycamore trees along Fig Street

Bottom Right: Proposed streetscape along Fig Street looking north, with the trail added to the east side

Opposite Page: Proposed Fig Street improvements

Existing Character

Fig Street forms the eastern boundary of the original town grid and is primarily a connector street surrounded mostly by residential homes on all but its southern most block. It serves as the only linkage to the new Marina Villages development, to the north of town, and as a primary connection to Mason Avenue, the town's commercial corridor. It serves approximately 1,000 vehicles a day. The southern end of the street is mostly developed, while the northern section has many vacant lots.

Trail Alignment

The trail along Fig Street is proposed on its east side to preserve the historical integrity of the streetscape pattern on its west side. Generally, a 10-foot wide trail is ideal, but due to the presence of some large trees between the curb and proposed trail, certain sections may need to be reduced to 8-feet. Along all sections, except for the block south of Rt. 184 where commercial land uses ex-

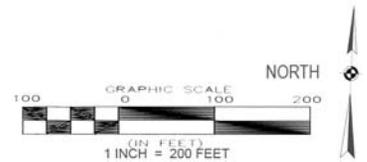
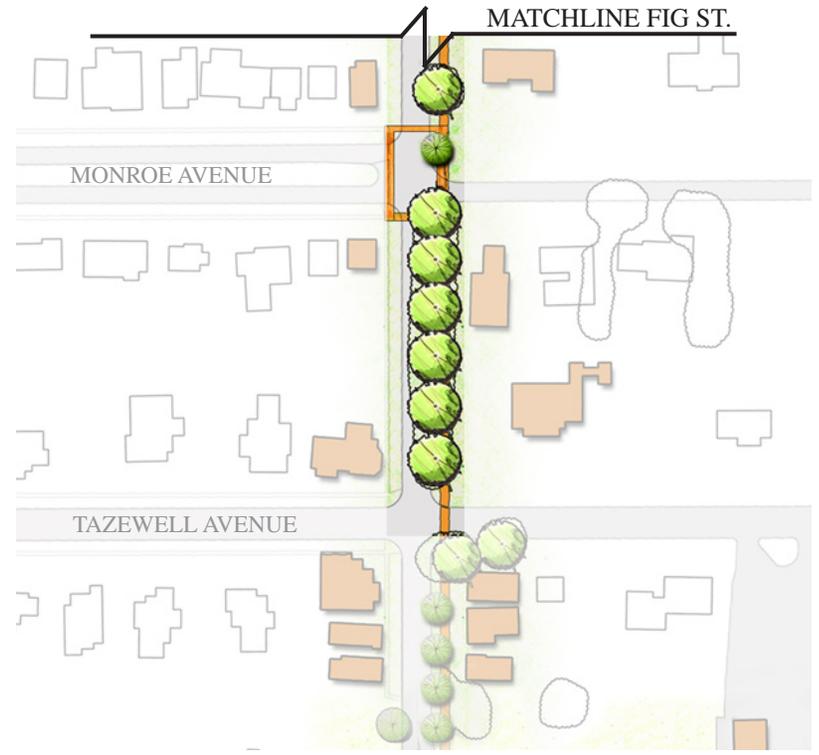
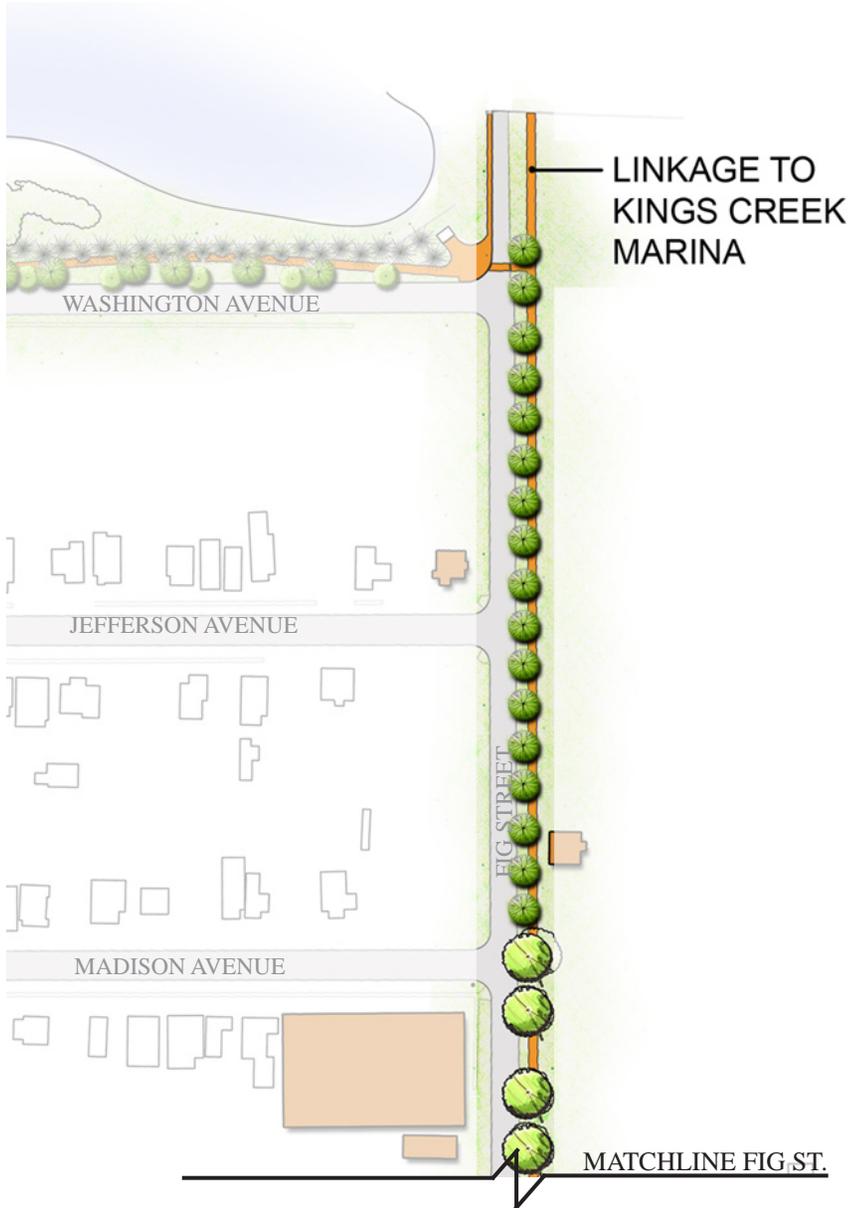
ist, the trail should be separated from the roadway with a planting strip to preserve the historical integrity of the streetscape.

In order to accommodate the trail on its southern most block, the street width may be able to be narrowed slightly, especially if VDOT approves the extension of Fig Street and at-grade crossing of the railroad tracks.

Nodes

Two nodes are proposed along Fig Street; one at the gateway intersection of Fig Street and Rt. 184, previously discussed, and the other at the intersection of Monroe Avenue and Fig Street. This intersection marks the location of the wide east-west street radiating from the central park. However, at this intersection there is limited area for a node of any significance, so the plan just calls for decorative crosswalks to mark the node and safely make the connection to central park.







Washington Avenue

Above: Historic church structure along Washington Avenue

Bottom Left: Existing open space along the north side of Washington Avenue

Bottom Right: Proposed typical section of Washington Avenue looking west

Opposite Page: Proposed Washington Avenue improvements



Existing Character

Washington Avenue forms the northern boundary of the original town grid. It is a fairly passive street serving an average of 350 vehicles a day within a 70-foot right of way. A large storm water management pond for the Marina Villages development to the north adjoins much of the roadway. A wide open area has been left between the roadway and the fence surrounding the storm water management pond. This open area spans much of the roadway except at its western end in the area of the Sea Cottage addition. In this area a small grouping of coast guard houses and a small apartment complex lie to the north of the roadway. Residential homes dominate much of the land to the south of the roadway.

Trail Alignment

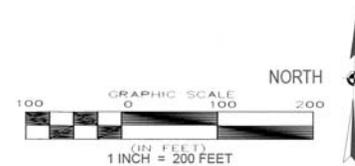
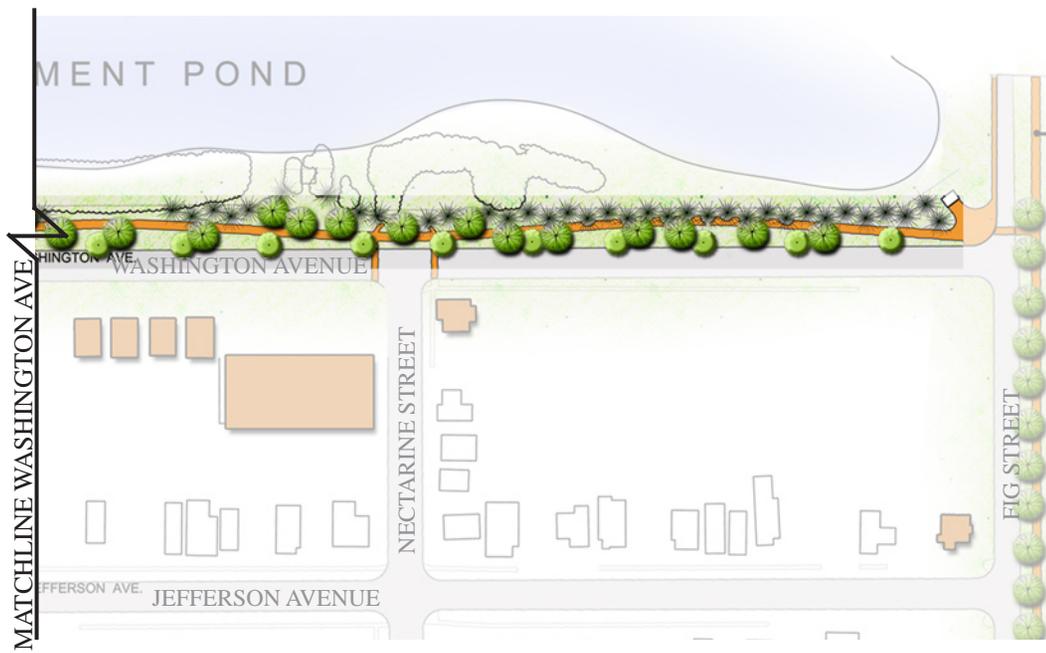
The trail along Washington Avenue is proposed on its northern side to preserve the historical integrity of the streetscape pattern on its southern side. A 10-foot wide

trail is recommended in this area separated from the roadway. It is also recommended that the town work with the developer to the north to obtain a trail easement along the open space area in front of the storm water management pond. This would provide an opportunity for the creation of a small linear park with associated seating and landscaping.

Nodes

One node is proposed along Washington Avenue. It is located at its intersection with Peach Street, the wide north-south street radiating from the central park. Decorative crosswalks signify the importance of this intersection and make the connection south along Peach Street to the park.







Bay Avenue

Above: Historic home along Bay Avenue

Bottom Left: Existing boardwalk along Bay Avenue looking south

Bottom Right: Proposed boardwalk section along the west side of Bay Avenue at the Monroe Avenue intersection

Opposite Page: Proposed Bay Avenue improvements



Existing Character

Bay Avenue forms the western boundary of the Sea Cottage Addition, an area to the west of the original town plan that was developed in 1911. This area quickly became the prominent residential area in the town and stately homes were built facing the Bay. Within the 100-foot right of way, the roadway section is very wide, approximately 64-feet that encompasses two travel lanes, a small central median, and parallel parking on each side. During the summer months, this roadway is heavily utilized by individuals accessing the beach, one of only two public beaches on the eastern shore. A concrete boardwalk adjoins the west side of the street with beach access points located at each crossing road intersection. The town previously received a grant to construct breakwaters to protect and replenish their beach. Sand fencing has also been installed along the areas on the northern end of the boardwalk to encourage additional sand dune development. The Pavilion, originally built in 1922 to house entertainment, and then reconstructed in 1991, sits on the boardwalk at the Randolph Avenue intersection.

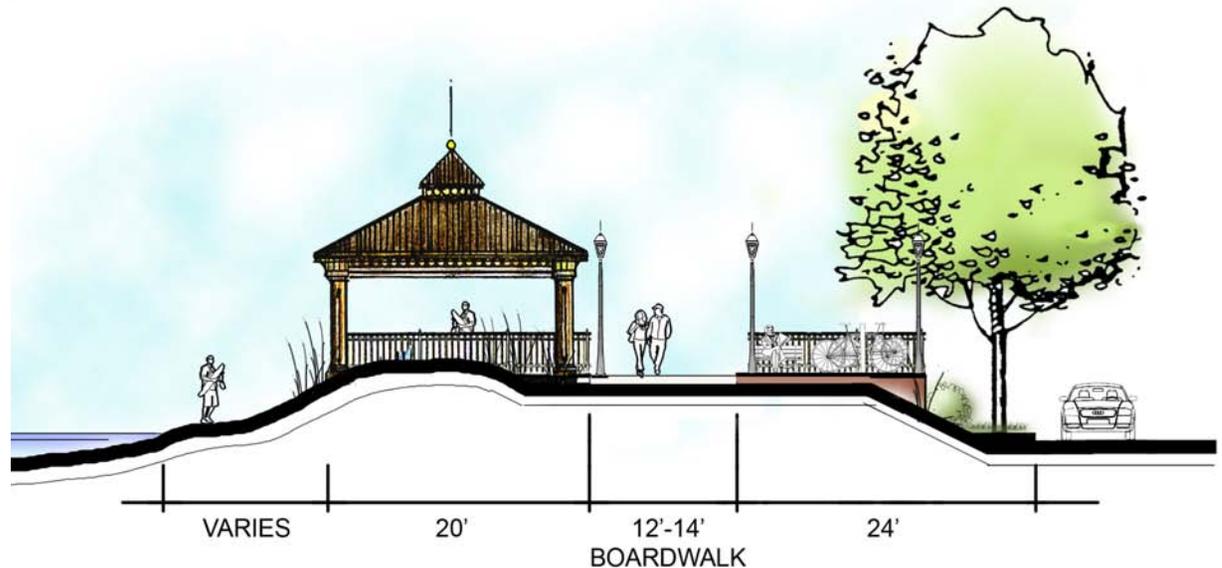
The southern end of Bay Avenue is a popular gathering point for residents and visitors. The Fun Pier, dedicated

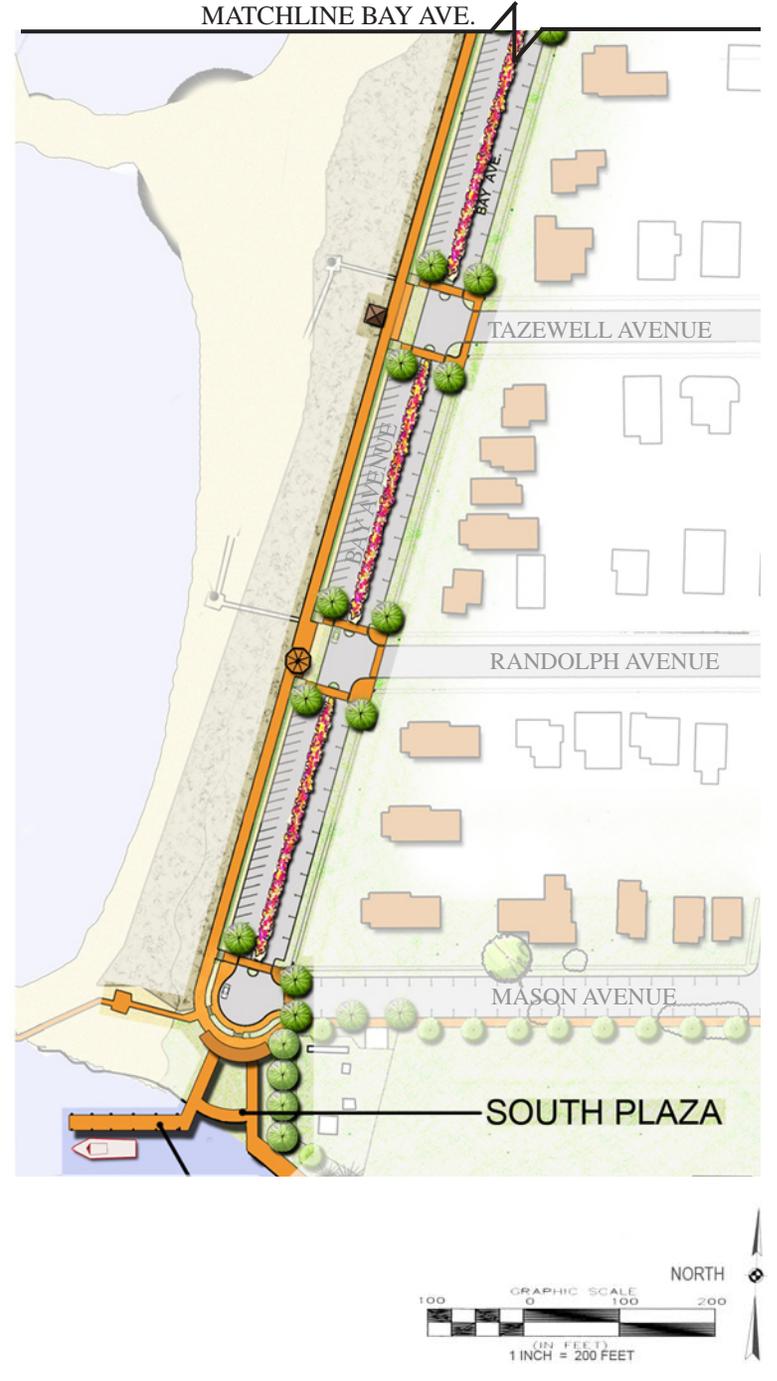
in 1995, was built on top of the government jetty which dates back to the creation of the harbor in the 1880's. It is a popular spot for fishing, bird watching, and viewing the harbor and Bay. This general area is also the location of one of the town's interpretative storyboards that highlights the Chesapeake Bay Impact Crater, the sixth largest impact crater on earth.

Trail Alignment

The trail along Bay Avenue is proposed on its western side where the existing boardwalk is located. Given the anticipated activity along this corridor, the trail is recommended to be 12 to 14-feet wide. Decorative crosswalks and curb bump outs are proposed at each cross street intersection so that on-street parking does not block pedestrian beach access areas. The existing elevations at the intersections range from a couple of inches to almost 4 feet. Final designs in this area should accommodate ADA accessibility.

Modifications to the south bound lane are also recommended to improve pedestrian safety and provide additional parking spaces. Angled parking replaces the parallel parking and the median is increased in size, providing a safe half-way point for pedestrians and nar-







Above: Existing dolphin sculpture along the boardwalk

Bottom Left: Existing Pavilion along Bay Avenue at the Randolph Avenue intersection

Bottom Right: Existing view of the southern end of Bay Avenue

Opposite Page: Proposed southern terminus of Bay Avenue

rowing the visual image of the lanes, reducing vehicle speeds.

Nodes

Nodes are proposed at each block; three major nodes and four minor nodes. At each of these, hardened beach accesses are proposed with covered areas, providing relief from the sun. The Pavilion will serve as the covered area for the Tazewell node. All other covered areas will be set back from the boardwalk so they do not compete with this historic structure. The major nodes are located at each end and in the center. They are further discussed below.

Northern Node (North Plaza)

Restrooms, water fountains, foot washes, and bicycle racks are proposed at this node, along with a hardened beach access point.

Central Node

The central node is located at the intersection of Monroe Avenue, the wide east-west street that radiates from the central park. At this location, a widened boardwalk area provides space for sitting, bicycle parking, foot washes, and a covered area providing relief from the sun.

Southern Node (South Plaza)

The proposed southern node builds on the variety of activities that currently exist at this node. The roadway intersection is modified to accommodate short-term parking, and a covered educational display area is added with restrooms, water fountains, foot washes, bicycle racks, and sitting areas. On the south side of the educational display area, an informal amphitheater with access to one of four proposed water taxi stops is proposed.







Mason Avenue

Above: Existing northern side of Mason Avenue

Bottom Left: Existing southern side of Mason Avenue

Bottom Right: Proposed typical section along Mason Avenue with the trail on the southern side

Opposite Page: Proposed Mason Avenue improvements



Existing Character

Mason Avenue forms the southern boundary of the original town plan and serves as its commercial corridor. Within the 70-foot right of way, the roadway section is fairly wide, approximately 44-feet, including two travel lanes and parallel parking on either side. The three blocks on Mason Avenue between Harbor Avenue and Peach Street house most of the commercial business and consequently are the most active. Almost all of the commercial buildings lie along the north side of the street, because historically the south side of Mason Avenue was owned by the railroad. This provides a very unique one-sided main street with views overlooking the activity of the railroad and harbor. Future plans call for mixed-use development of the south side of Mason Avenue. Many historic structures lie along this corridor, from a Neoclassical limestone bank building to an Art Deco historic theater.

Trail Alignment

The trail along Mason Avenue is proposed on its south side to avoid the regular pedestrian activity along the north side streetscape and to provide views of the his-

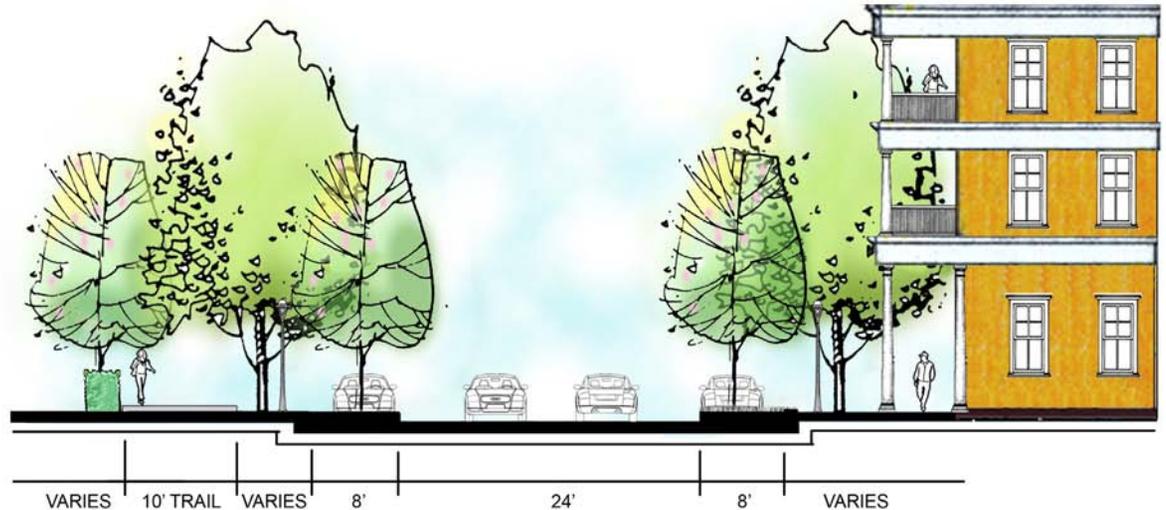
toric structures and patterns. A 10-foot wide trail area should be incorporated on the southern side of the roadway. Ideally, it should be set back from the roadway approximately 3-feet to allow for periodic planting areas adjacent to the roadway. Curb bump outs and decorative crosswalks are proposed at several key intersections to safely facilitate pedestrian movement and visually reduce the width of the roadway, slowing traffic speeds.

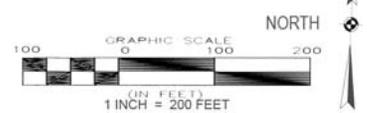
Nodes

One node is proposed along Mason Avenue at Peach Street, the wide north-south street that radiates from the central park. Decorative crosswalks and a public plaza on the south side of Mason are proposed at this intersection. The lot to the east of this area is owned by Bay Coast Railroad and will be the future boarding site for various passenger railroad excursions.

Harbor Linkage

Linkage to the harbor from Mason Avenue is proposed at the east and west ends. These linkages are discussed in detail on page 36.







Peach Street

Above: Existing businesses along the southern block of Peach Street

Middle Left: Existing character of the northern section of Peach Street

Bottom Left: Existing intersection of Peach and Madison Avenue, also the historical northern entrance node to the park where tennis courts have recently been placed

Bottom Right: Existing southern block of Peach Street

Opposite Page: Proposed Peach Street improvements



Existing Character

Peach Street runs north-south through the center of town. It is the wide north-south street radiating from the central park with a 100-foot right of way. It is surrounded by single family residences on all but its southern most block. The section of Peach Street south of the park has a wide central median and parallel parking on each side, except for its southern most commercial block in which there is no central median. Parking, to serve the adjacent businesses, informally occurs in the center of the street. The northern section of Peach Street is as wide at its other sections, although it does not have a central median. The absence of a central median within this wide streetscape is inconsistent with the town's historical streetscape patterns and appears out of place among the single family residential homes that surround it.

Trail Alignment

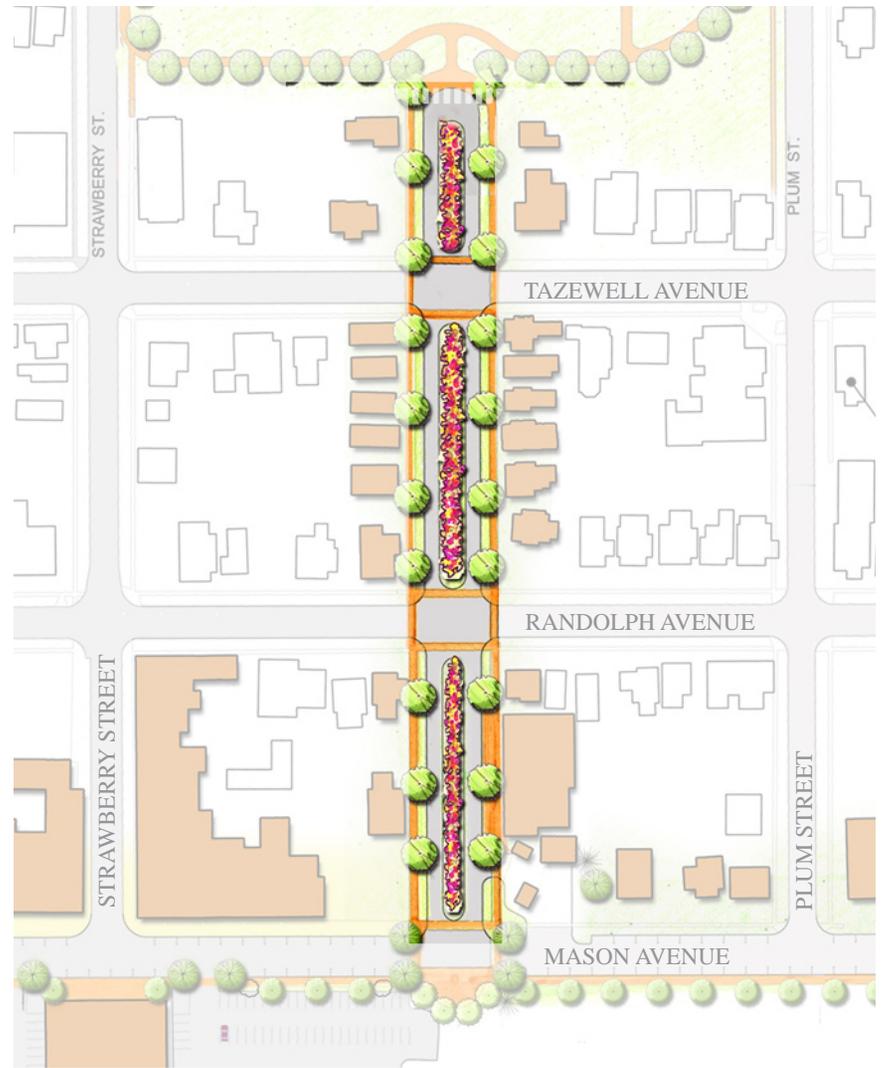
Much discussion was held about how to ensure that the trail along Peach Street complements, rather than

distracts from, the historic streetscape pattern. Out of those discussions, it was concluded that, given the historically wide width of this corridor, making the modification to wider sidewalks through this area would not distract from the original streetscape pattern. It is also recommended that the trail be implemented along both sides of the street, equally balancing the streetscape through this historic area. The recommended trail width along Peach Street is reduced slightly to 8 feet. The trail should be separated from the roadway with a planting strip to preserve the historical integrity of the streetscape. Wide medians are proposed where they currently do not exist, making these blocks consistent with the others and reducing the visual width of the roadway. Space for parallel parking on either side of the roadway should be accommodated to serve adjacent residences and businesses.

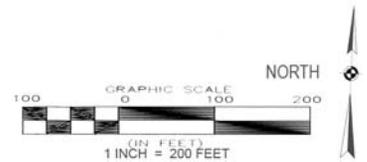




NORTH PEACH STREET



SOUTH PEACH STREET





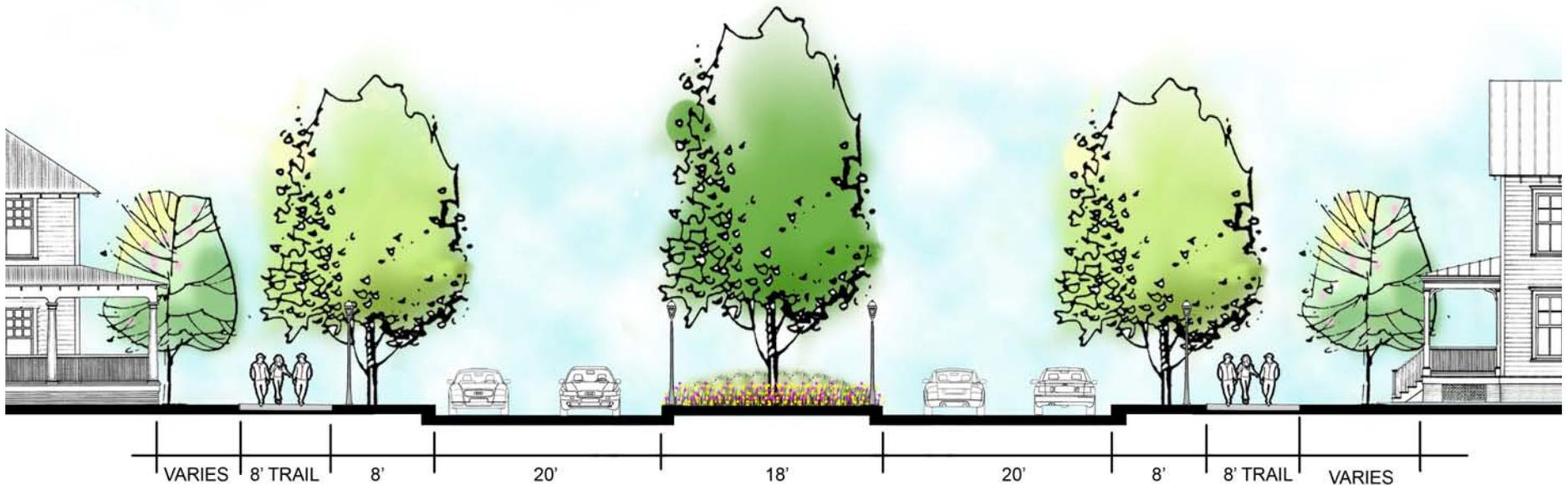
Above: Existing block of Peach Street just south of the park with an existing central median

Below: Proposed typical section of Peach Street with the trail located on both sides of the street

Opposite Page: Proposed block of Peach Street just south of the park, looking north

Nodes

Nodes are proposed at each end of Peach Street and at the points where Peach Street links to the central park, four in total. The nodes at each end of Peach Street (Washington and Mason) were discussed previously on pages 22 & 28. The two other nodes, located at the north and south gateways to the central park, are key elements in attracting people into this central open space. The northern node has some obstacles to overcome due to the placement of tennis courts at the end of Peach Street. However, with the removal or relocation of the adjacent bleacher area, an approximately 24-foot wide area is available for making the connection to the park. The southern node has ample space to provide an open inviting transition from the Peach Street streetscape and pedestrian pattern to a trail encircling the town's central open space.







Central Park

Existing Character

This central open space has played a key role in the town since its inception. As originally envisioned, this space was to serve as a central open green for town citizens, with wide boulevards radiating from the center of each side, providing convenient park access and town circulation. It has gone through a series of transformations, but in general, has always remained as open green space. In 1912, the Cape Charles High School was constructed on the northeast block adjacent to the park. Over the years the school took over the park, fencing its perimeter and utilizing it for a variety of school related sports and activities. With the merging of the county and town school system, the school was closed and the open space was available again to town citizens. Much of the fence has been removed, but some sections still stand. The park does have some drainage problems. During and after heavy rains, pools of water can be seen in areas of the park. Recent years have seen the addition of a playground, arbor, stage, and tree plantings. A very active Central Park Committee is responsible for guiding proposed improvements to the park.

Trail Alignment

The proposed trail encircles the park, leaving much of the park as open green space. This central open space will provide opportunities for informal passive recreation as well as a venue for a variety of community events. The trail should be 10-feet wide and may include an adjacent crushed stone path for joggers. Plantings of large trees along the trail will provide much needed shade during the summer months.

Nodes

Four nodes are proposed around the park. These nodes will help to celebrate and re-establish the original town plan concept. The northern node has been somewhat compromised by the placement of tennis courts in this area, but access can still be sufficiently accommodated. There is ample space and opportunity to create inviting gateways into the park at each of the three other nodes. All nodes should accommodate safe pedestrian access, seating areas, and landscaping. A water feature is proposed at the west node.

Above: Existing play structure

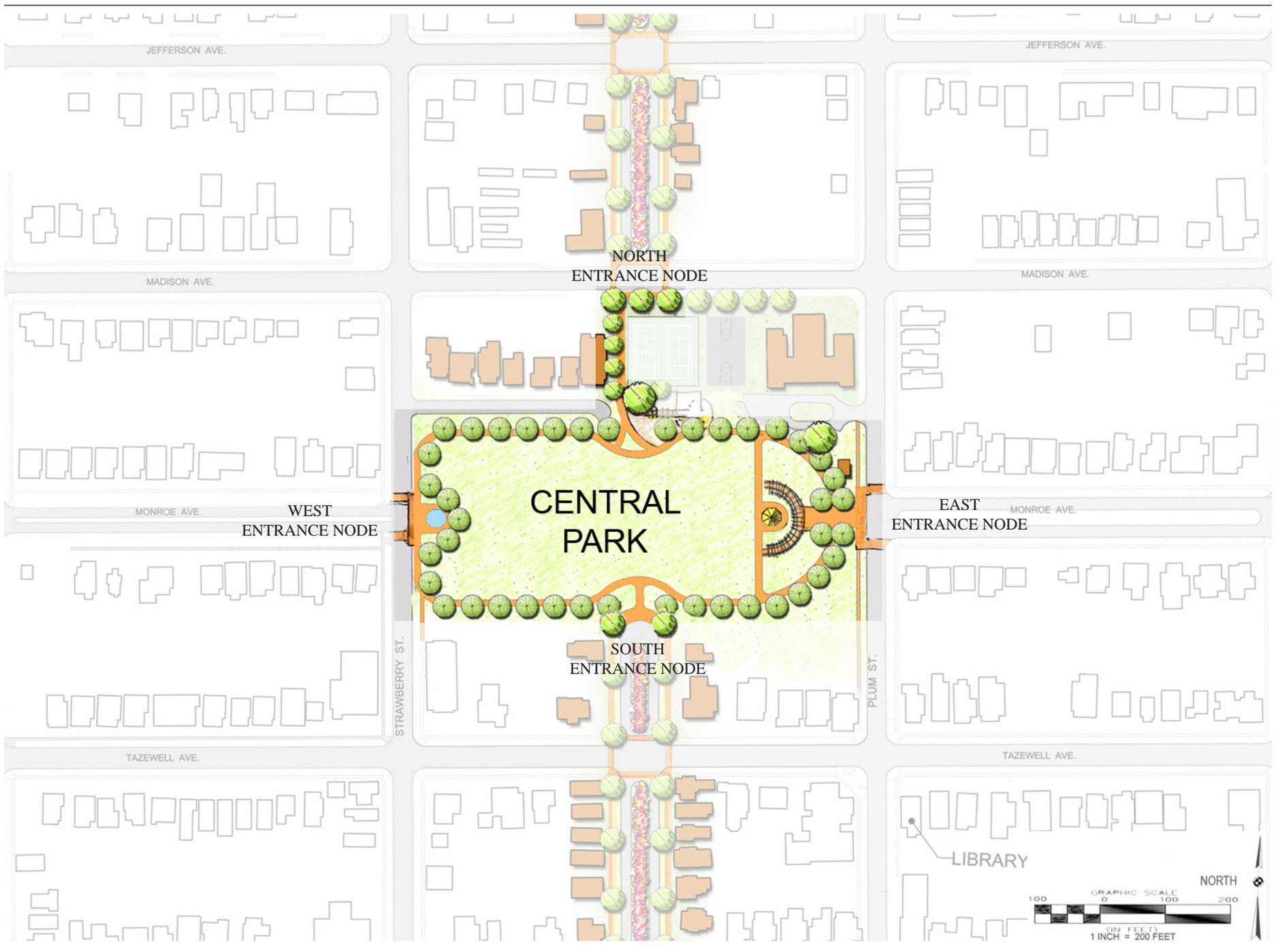
Middle: Old Cape Charles High School

Bottom Left: Recently added arbor and benches

Bottom Right: Proposed western park node at Monroe Avenue

Opposite Page: Proposed Central Park improvements







Harbor Linkage

Above: Sailboats docked at the deepwater harbor

Bottom Left: Informal right of way just east of Pine Street where, historically, ferry passengers gathered

Bottom Middle: Aerial view of the “Hump”

Bottom Right: Eastern Shore Tug positioning a carfloat for unloading, photo by Russell Underwood

Opposite Page: Proposed Harbor trail alignment



Existing Character

Historically, the link between the railroad and the town was strong. The two entities greatly depended on each other, and both prospered. The removal of passenger ferries in the 1950’s forced the railroad to focus its energies in a solely industrial business. This marked the beginning of the separation between the town and railroad, although, new management of the railroad is interested in utilizing the rail line, once again, for passenger excursions. These activities may help to reignite an active relationship between the railroad and the town.

An existing road right of way, accessing some of the few remaining railroad buildings, marks the general location where hundreds of ferry passengers would gather daily. This informal right of way, located on the south side of Mason Avenue just east of Pine Street, also provides informal pedestrian access to the harbor’s edge. From this point, it is possible to view the railroad freight passage that continues to this day and is one of the few such operations in the United States. No other pedestrian circulation is accommodated for, either on railroad property or across it to the town’s deepwater harbor just



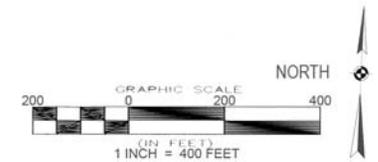
south of the rail yard. In order to access the harbor, individuals must drive over the “Hump” on the east side of town. The harbor is an active working harbor and an interesting environment to experience, with everything from recreational and commercial fishermen to industrial barge type operations.

Trail Alignment

Three pedestrian trail linkages to the harbor have been included in this master plan. The first is located at the west end of Mason Avenue at its intersection with Bay Avenue. This linkage should be made in conjunction with the South Plaza improvements discussed on page 26, and improvements to the private property adjoining the harbor. This linkage will provide access to the harbor’s edge, but not directly to the harbor area.

The second linkage is in the general area where ferry passengers gathered to board the ferries and where informal pedestrian access occurs today. It directly links the harbor area to the town’s commercial core and is the most desired linkage point. However, at this time, the railroad has denied the linkage and it is included in this







Above: Existing railroad crossing / No trespassing sign

Top Left: Desired linkage crossing point of the railroad from the town's commercial district to the harbor

Bottom Left: Commercial fishermen unloading their catch

Bottom Middle: Existing harbor's edge just west of the public boat ramp

Bottom Right: Proposed typical section of the harbor boardwalk

Opposite Page: Proposed harbor nodes



document as a desired linkage for future consideration. In the interim, due to the potential economic importance of a direct pedestrian link from the town's commercial area to the town's harbor, other options have been explored. The first entails the utilization of a small golf cart or train taxi to transport individuals from the harbor across the tracks or the "Hump" to town. The second utilizes the same concept in the form of a water taxi service. A series of four nodes have been identified within the harbor area that could serve as potential locations for this type of service. Each of these options require additional research and would require the incorporation of several other town destinations along the route to make it a viable business. Other localities have utilized public private partnerships on similar ventures.

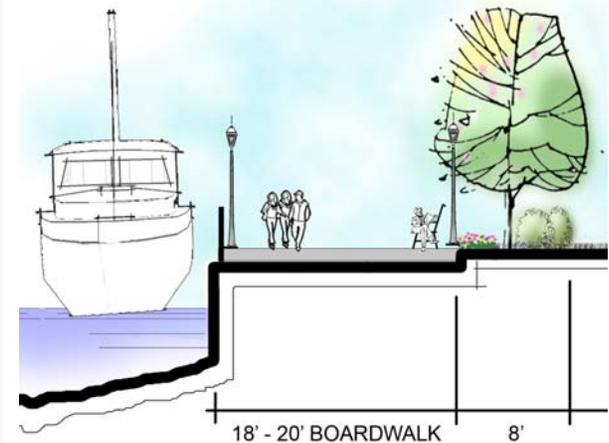
The third pedestrian linkage would mainly serve the eastern side of the town. The desired trail alignment is over the "Hump", provided it is converted into a pedestrian facility, with an alternate at grade crossing at Fig Street.

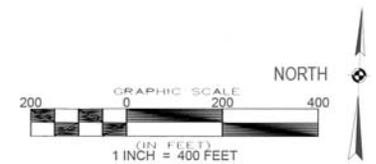
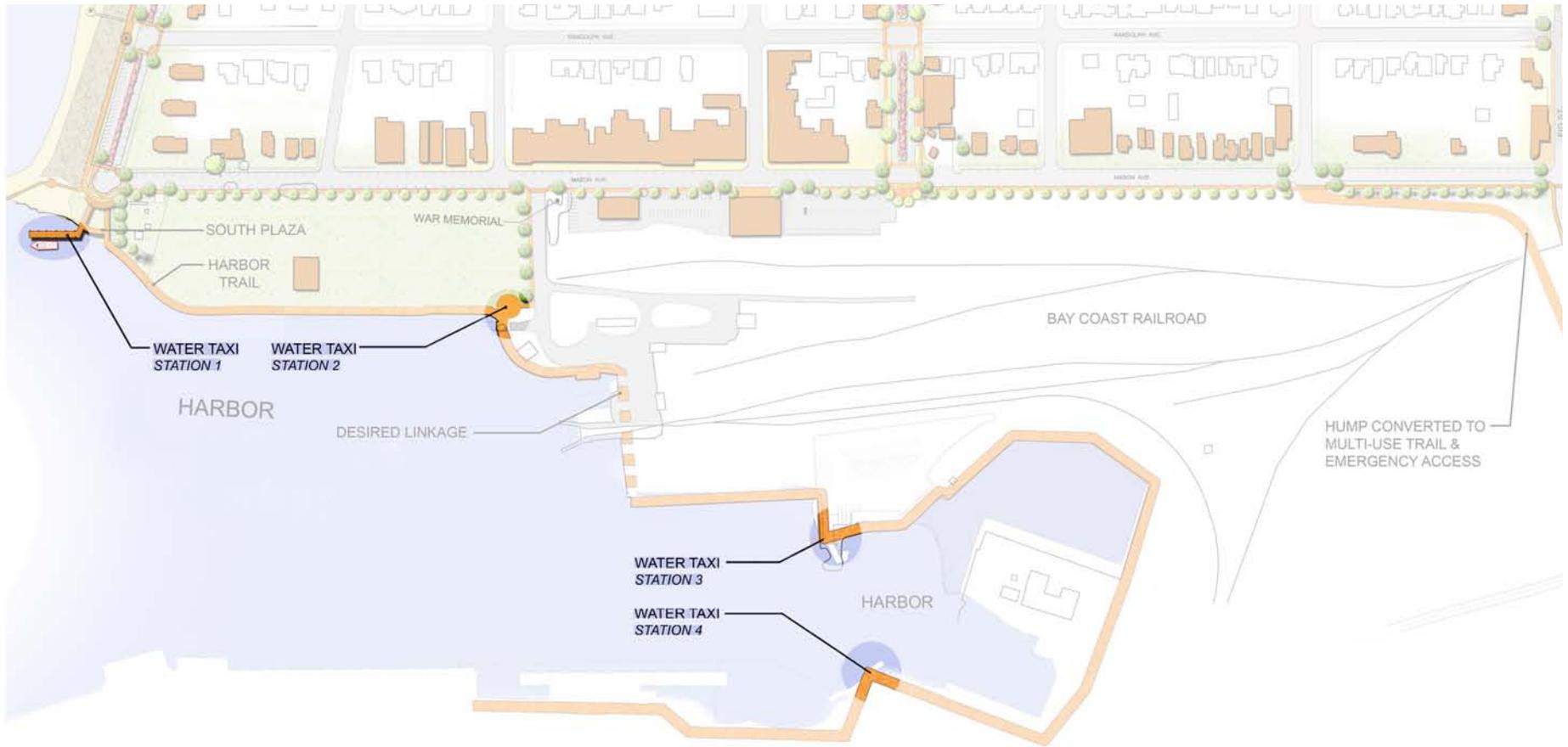


In addition to the pedestrian linkages desired between the town and harbor, a trail or "harbor boardwalk" is proposed along the entire edge of the harbor, within the 30-foot proposed public easement identified in the *Harbor Area Conceptual Master Plan + Design Guidelines*. The trail should be approximately 20-feet in width, although, the trail width and alignment must be sensitive to the necessary operations of the working harbor.

Nodes

Four nodes are proposed around the harbor area. Each of these nodes could also serve as taxi stations, should that service be established. The first is located near the intersection of Bay and Mason Avenues and should be developed in conjunction with the south plaza discussed on page 26. The second node is located at the point where ferry passengers historically gathered to access the ferries and greet passengers. This is an ideal place for the development of a viewing area and interpretative displays of the adjacent rail to barge operation. The third node is adjacent to the public boat ramps and proposed market area. The final node is across the harbor on its south side. It is currently located on town owned land, but could be incorporated into the proposed mixed use development directly to the west.





Implementation Strategies

Opposite Page: Identification of proposed phases and top two phasing priorities

While trails are extremely popular once they open, they can face significant obstacles in the planning phase. All trails, whether regional or local in scale, require land, people, and funding. The implementation strategy proposed is comprised of a series of action items related to each of these elements that, together, will advance the progression of this plan into a constructed trail network.

Plan Adoption and Integration into Various City Plans

Adoption of the plan by Town Council and its incorporation into the town's Comprehensive Plan is a first step in any implementation program. It signifies community buy-in and political support. It also fosters coordination with other adopted town plans, ordinances, and programs.

Once the plan has been adopted as part of the community's vision for the future, additional tasks and activities will work together to begin the trail implementation. The table at the end of this section, page 45, recommends a series of action items to further the trail's development.

Phasing Priorities

The identification of phasing priorities is a necessity for all large projects. A number of factors play a role in identifying initial phasing priorities from land acquisition / development costs to the desire to establish some important linkages. Initial phases help to exemplify what is possible.

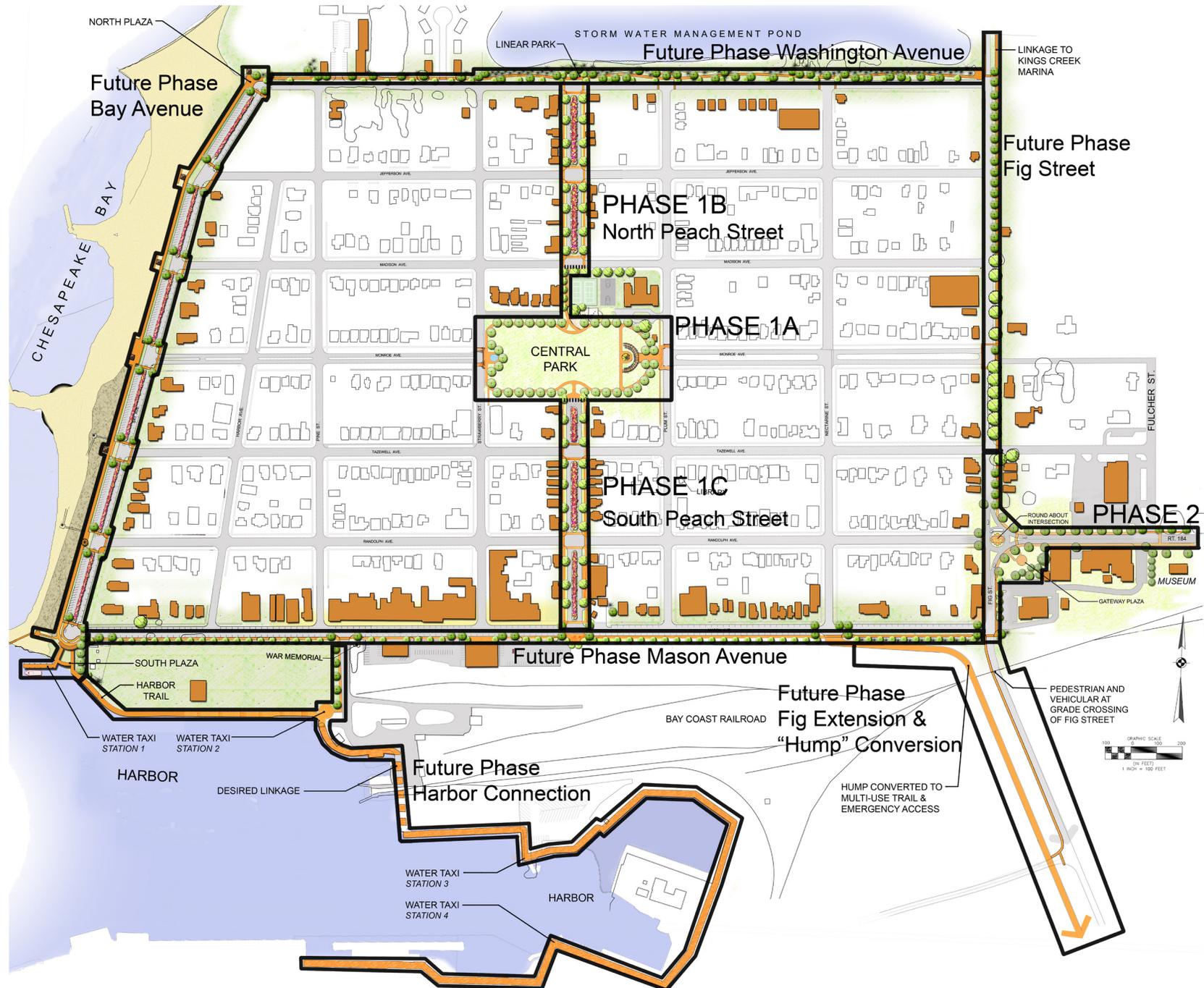
The historic district area of the Cape Charles Community Trail, has been broken out into a series of phases. The top two priorities within this area, as identified during the second public open house are noted as phase one and two respectively. The first phase focuses on the town's central park area and linkages north and south along Peach Street. Phase two centers around the trail's

linkage to the Cape Charles Museum and related improvements to the town gateway. Other phases have not been prioritized at this time, but have been identified to assist with future project cost estimating. Preliminary cost estimates for each of the areas not prioritized at this time can be found in Appendix C.

The trails identified in the surrounding perimeter area have not been ranked or phased at this time. These areas will more than likely be implemented over time through partnerships established with other planning bodies and localities or through combination with various roadway improvements.

Preliminary Cost Estimate

Preliminary cost estimates have been developed for all phases. These figures are just to help guide future budgeting for various phases' design and implementation costs. As the plans are refined and decisions on materials, phasing, etc., are further defined, these preliminary figures will be adjusted. See Appendix C for preliminary estimates for each of the phases.



Opposite Page: Identification of key parcels located along the proposed trail network

Land Acquisition

The good will and cooperation of private landowners is a vital component in the establishment of many trails. Fortunately, much of the proposed Cape Charles Community Trail lies either on town owned land or within the public right of way. Trails on land already in public ownership make implementation much easier. However, adjacent private property owners still must be included in the planning and design of the trail to avoid unforeseen obstacles and opposition. The outreach required for these trails can, in time, build support through educated and active community members promoting the trail.

There are a few key privately owned parcels in the project area in which a trail easement or a transfer of land will be required. These parcels are highlighted on the following page along with town owned land and public right of way along the trail's alignment. The town owns a number of key parcels that will assist in the implementation of the community trail network. Private ownership of the key parcels identified ranges from individuals to large development corporations. As part of the public involvement phase for this project, many of these stakeholders were contacted and information concerning the project was dispersed. Additionally, some of these individuals either met with us or came to one of the public involvement meetings. Continued outreach to these individuals and all those that own property adjacent to the proposed trail is recommended as an important component in furthering the development of the trail.

There are a variety of tools that can be utilized to work with private property owners to make such lands available for public use as trails and / or preserved open space. Two options recommended for use are discussed below.

Fee Purchase

The outright purchase of land is primarily recommended for those parcels on which a trail easement is not possible. The town's Capital Improvement Budget in con-

junction with other federal and state grant programs are potential sources of funding for this type of purchase.

Trail Easements

Landowners can grant a license or easement for trails. Trail easements are permanent, but licenses can be withdrawn. That license or easement does not expose the landowner to liability suits for injuries suffered on their property unless unlawful, wanton or reckless conduct can be proven. An example trail easement document can be found in Appendix D. The easement or lease holder can be made responsible for construction and maintenance of the trail and specific conditions of use can be imposed by the landowner.

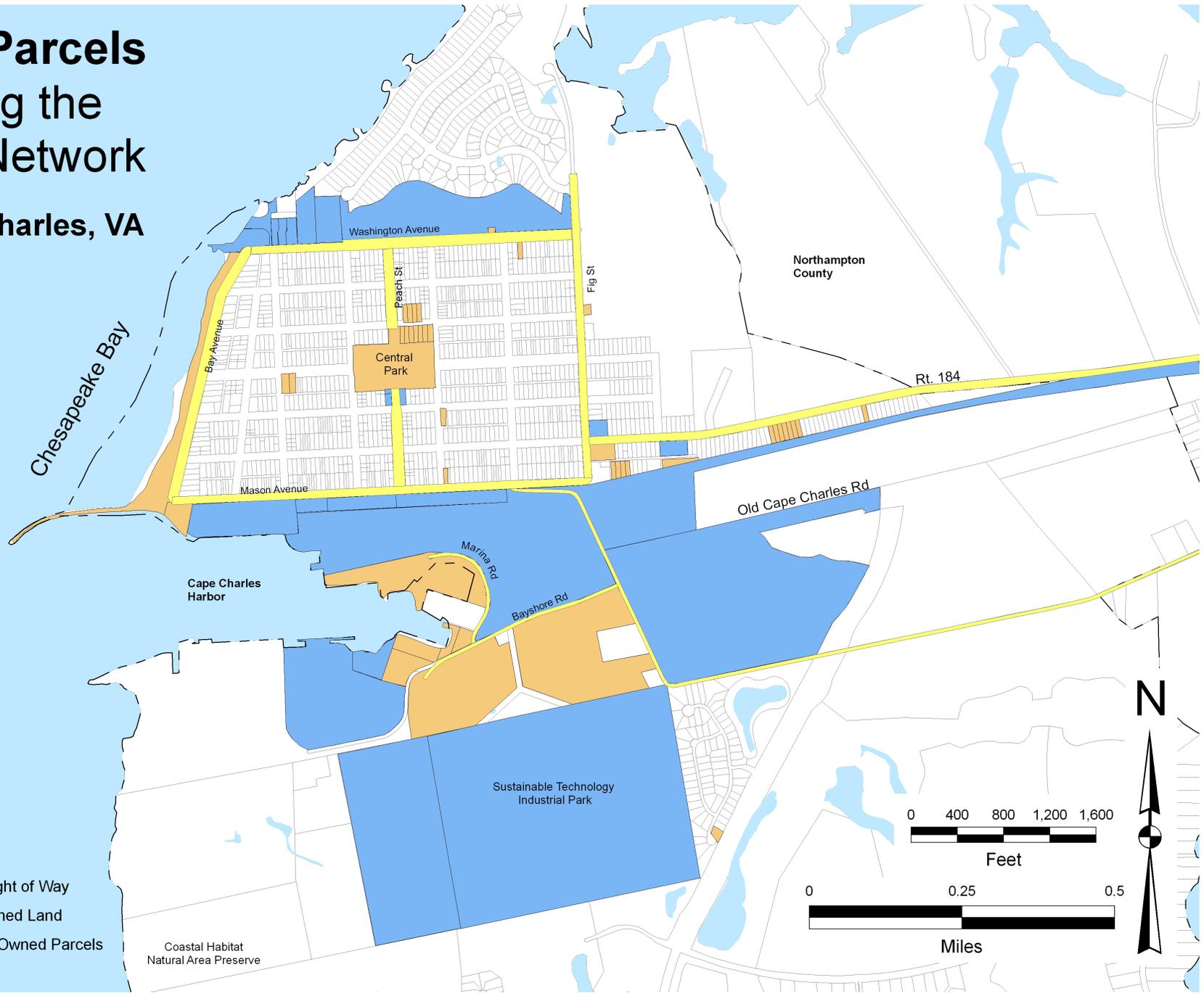
Partnerships

Everyone who has built or used a trail knows and understands the benefits of trails to communities, whether it be positive economic impacts, improved quality of life, or public health benefits. Nonetheless, some projects run into opposition. However, in many cases, strong opponents become trail advocates. The key to turning initial opposition into support is to plan properly, anticipate concerns and obstacles, create strong partnerships, and involve the public early and throughout the process.

The most common concerns shared by many people include safety, vandalism, liability and environmental impacts. If you take the initiative from the outset to inform the public about the trail project, listen to their concerns, and keep them involved in the planning process, you will have a much easier time building strong support and creating a trail for your community.

The town of Cape Charles is going through a rebirth. Establishing partnerships with those private entities directly involved in that rebirth has many benefits. Most importantly, the trail and the new developments are able to complement each other, important linkages are made, and the town's overall quality of life is improved.

Key Parcels Along the Trail Network Cape Charles, VA



- Legend**
- VDOT Right of Way
 - Town Owned Land
 - Privately Owned Parcels

Some Common Grant Funding Sources for Trails

SAFETEA Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2003; VDOT Enhancement and Scenic Byways Division; Grant Deadline - November 1st annually

Recreational Access Program; VDOT Secondary Roads Division; Year-round, competitive

Scenic Byways Program; VDOT Byway Coordinator; Grant Deadline - June 15th annually

Virginia Recreational Trails Program; Department of Conservation and Recreation; Grant Deadline - January 31st annually

Funding Alternatives

A variety of funding and development alternatives are available for implementation of the trail network.

Coordination with Current or Planned Capital Improvement Projects

Implementation of portions of the network can be accomplished through coordination with current or planned Capital Improvement Projects (CIP). However, to be effective, such coordination must begin as early as possible in the design phase. There are several projects currently underway or in the town's 2007-08 Capital Projects Budget with which ongoing coordination is recommended in order to take advantage of potential multiple outcome projects. They are the South Harbor Improvements Project, Sidewalk Repair Program, Storm Water Management Study, and Streetscape Project.

The Virginia Department of Transportation (VDOT) Highway Construction Funds are the most common source of funding for bicycle and trail facilities. New VDOT policies related to the inclusion of these facilities as the norm, rather than the exception, make this an important source of funding. With this source, bicycle facilities are built in conjunction with the construction of new roadways and roadway improvements. The roadway project itself must be in the VDOT Six Year Improvement Program. Roadway projects get into the program by first being identified in the Regional Transportation Plan as approved by the local planning District Commission. Funds are then allocated by the Commonwealth Transportation Board for a portion of the projects in the Regional Transportation Plan, resulting in the formation of the VDOT Six year Improvement Plan.

Specialized Capital Improvement Project Funding

Many communities utilize the designation of a specific capital improvement project specifically for the development of bikeways and trail facilities in accordance with

their adopted plans. Yearly allocations can be combined with state and federal grants obtained or used outright to implement various facilities.

Developer Dedication and / or Implementation

Where a section of the trail network is located adjacent to a proposed development, the reservation of adequate right of way or easement should be required. In some circumstances, developers may also agree to implement, at their expense, portions of trails that run through their properties.

Grants

Grants for trail development fall under a number of major funding categories such as: transportation, recreation, sports, health, the environment, and safety. Therefore, numerous diverse sources of grant funding are available, several of which have been listed to the left.

Action Items Table

<i>Action</i>	<i>Lead</i>	<i>Stakeholders</i>	<i>Resource Requirements</i>	<i>Time Frame</i>
<i>Adoption of the plan and incorporation of it into the town's Comprehensive Plan</i>	Town Planner	Planning Commission and Town Council	N/A	FY 2007
<i>Coordination with and obtainment of a letter of support from the Accomack - Northampton Planning District Commission and Northampton County</i>	Assistant Town Manager	Accomack-Northampton Planning District Commission and Northampton County	N/A	FY 2007
<i>Coordination with the private property owners/developers to obtain a trail easement along the north side of Washington Avenue and east of Pine Street from Mason Avenue to the harbor</i>	Town Attorney and Assistant Town Manager	Bay Creek Development & Creative Property Development	N/A	FY 2007
<i>Execution of contract with consultant to begin the construction document for Phase 1 of the trail</i>	Town Manager	Private Consultant	\$10,000 in matching funds or in kind services	FY 2007
<i>Completion of revisions to various town planning documents such as the zoning ordinance as needed to support the ultimate construction of the trail network</i>	Town Planner	Planning Commission & Town Council	N/A	FY 2007-08
<i>Work with the Department of Game and Inland Fisheries and Northampton County to ensure that any public access deed restrictions on the Coastal Habitat Natural Area Preserve trail are lifted</i>	Assistant Town Manager	Department of Game and Inland Fisheries & Northampton County	N/A	FY 2007-08
<i>Establishment of regular community events at Central Park to encourage its use and raise funds and support for the continuation of the trail's implementation</i>	Central Park Committee	Parks and Recreation Director	N/A	Ongoing
<i>Completion of yearly transportation enhancement grant applications</i>	Assistant Town Manager	VDOT Enhancement and Scenic Byways Division	N/A	Ongoing
<i>Research and pursuit of other funding options</i>	Various Town Staff	Various	N/A	Ongoing
<i>Coordination with key landholding developers, such as Gallagher and Creative Properties, to ensure that their future developments incorporate the trail</i>	Town Planner	Gallagher Associates and Creative Properties Development	N/A	Ongoing
<i>Continue dialogue with individual property owners adjacent to the proposed trail to discuss its implementation and any concerns they may have</i>	Assistant Town Manager	Town Citizens	Potential development of informational flyer/packet	Ongoing
<i>Coordination with current and future CIP's</i>	Various Town Staff	Various Town Departments	N/A	Ongoing
<i>Coordination with the town's Public Works Director and VDOT on inclusion of the proposed trails with future roadway improvements</i>	Town Planner and Public Works Director	Public Works Director and VDOT	N/A	Ongoing
<i>Coordination with other entities directly or indirectly vested in trails in Cape Charles such as the Virginia Birding and Wildlife Trail through the Virginia Department of Game and Inland Fisheries and the Eastern Shore Heritage Trail</i>	Assistant Town Manager	Virginia Department of Game and Inland Fisheries, Eastern Shore of Virginia Tourism Commission, Eastern Shore of Virginia Economic Development Commission, and the Northampton County Chamber of Commerce	N/A	Ongoing

References

Accomack-Northampton Planning District Commission, *Eastern Shore Bicycle Plan*. 2003.

Cape Charles Historical Society, *A Walking Tour of Historic Cape Charles Virginia*, 7th Edition. 2005.

Department of Conservation and Recreation, *Virginia Outdoors Plan*. Richmond, VA 2007.

Eastern Shore of Virginia Tourism Commission, Eastern Shore of Virginia Economic Development Commission, Chincoteague Chamber of Commerce and Northampton County Chamber of Commerce, *Eastern Shore Heritage Trail*. Virginia 2001 Community Program, www.easternshore.org/trail/

United States Department of the Interior National Park Service, National Register of Historic Places Registration Form, *Cape Charles Historic District*. http://www.dhr.virginia.gov/registers/Counties/Northampton/182-0002_Cape_Charles_Historic_District_1991_Final_Nomintation.pdf. November 1990.

Town of Cape Charles, *Comprehensive Plan*. Cape Charles, VA, August 2007.

Town of Cape Charles, *Harbor Area Conceptual Master Plan + Design Guidelines*. By Renaissance Planning Group & Paradigm Design. Cape Charles, VA, August 2006.

Town of Cape Charles Planning Commission, *Preservation Plan for the Town of Cape Charles Northampton County, Virginia*. By John Milner Associates, Inc. Cape Charles, VA, March 1996.

Town of Cape Charles Web Site, Cape Charles Online, www.capecharles.org. 2007

Appendix

Appendix A

Project Information Sheet

Appendix B

Public Meeting Summaries

Appendix C

Preliminary Project Cost Estimates

Appendix D

Sample Trail Easement

Appendix E

Economic Benefits of Trails Reference Material

Appendix F

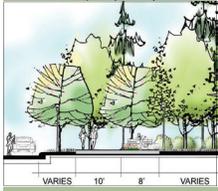
Historic District Boundary Map

Appendix A

Project Information Sheet



July 10, 2007



Washington Avenue Trail Concept

TOWN OF CAPE CHARLES

Community Trail

Cape Charles Community Trail Master Plan



The Town of Cape Charles Community Trail will link area residents and visitors to the town harbor, historic district, business district, beach, primary town park, and museum. It will serve a variety of transportation modes. The town's rich history, community patterns, and desire to meet the growing needs and desires of its citizens,

are serving as the foundation for the development of the trail master plan.

The town has received two Transportation Enhancement grants to date, totaling \$289,000. A small portion of that funding is going toward the development of the trail master plan. The remaining funding will be utilized to design and con-

struct a portion of the trail, as prioritized through the master planning process. The developed master plan will then be utilized to assist the town in gaining additional funding for the design and construction of future phases.

Project Goals

The master planning process and final document will focus on achieving the following four goals.

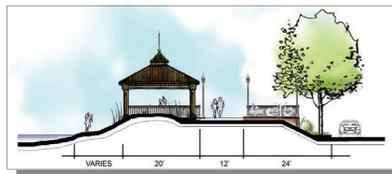
- Opening up a dialogue and building consensus for the development of the community trail with all the various stakeholders and public/private property owners.
- Providing a network of trails for exercise, transportation, and recreation, linking area residents and

visitors to a variety of town destinations.

- Assisting in the preservation and interpretation of the town's rich history, through the design and

alignment of the trail.

- Providing a tool for coordinated development of the trail as the area continues to grow and redevelop.



Bay Avenue Boardwalk Concept



Preliminary Trail Network

A preliminary concept for the community trail network, depicted below, was developed to spark interest and discussion about the trail. This preliminary rendering captures the basic framework of the trail and some of the opportunities for linkages. As the process moves forward and further public and stakeholder input is obtained, additional opportunities may present themselves and some originally envisioned may disappear. Your continued interest and involvement in the design process will ensure the successful development of a trail network that safely links area residents and visitors to all the town's destinations.

Timeline:

Research and Analysis	Complete
1st Public Workshop	Complete
Conceptual Trail Development	Complete
2nd Public Workshop	July 07
Trail Master Plan Finalization	Aug 07
Public Open House	Sept 07
Council Presentation	Sept 07

For More Information Contact:

Carol Rizzio, Land Studio pc
crizzio@landstudiopc.com
757.858.8585

Heather Arcos, Town of Cape Charles
heather.arcos@capecharles.org
757.331.3259



Above: Conceptual Trail Master Plan for the Cape Charles Community Trail

Left: One of three conceptual plans for Central Park



Appendix B

Public Meeting Summaries

Town of Cape Charles TEA-21 Multi-Use Trail
1st Public Workshop
May 16, 2007
2 Plum Street

Meeting Summary

Meeting Objective

The main objective of the meeting was to gain public input toward the development of the Cape Charles Trail Master Plan. This served as the initial public input meeting and introduction to the trail project. Two supplement public input meetings will be held as the project moves forward.

Evening activities

- Power Point Presentation
 - Project background and process
 - Trail types, users, and components
 - Analysis / opportunities / constraints
- Mapping Exercise to identify desired
 - Trail alignment
 - Nodes
 - Connections

Comments Received

Group discussions were held on a variety of issues from the anticipated use of the trail to desired trail alignments and site specific concerns. Topics of discussion primarily surrounded ideas and issues raised in the analysis/opportunities/constraints presentation. Each of the main points raised have been categorized below.

General Comments

- Use pervious trail materials
- Trash bins that blend with environment
- Benches in tree canopied areas
- Mini gazebos
- Landscaping for color periodically

Primary Trail Use

- Recreation,
- Exercise, and
- Transportation

Primary Users

- Bicyclist,
- Walkers,

- Roller Blades,
- Joggers, and
- Golf Carts (on road where speed limit is less than 25mph or on separate path)

The Hump

- Retain and use for pedestrian linkage and potential emergency vehicle access when necessary
- Potential scenic overlook
- Pursue extension of Fig providing an at grade crossing for both vehicles and pedestrians
- Address pedestrian safety issues at intersection of Mason and the Hump

Harbor Linkage

- Very important linkage to make that will serve a variety of individuals
- At least two linkages are needed (Fig/Hump and one to the west)
- Explore other alternative opportunities for a connection such as a water or golf cart taxi at the west connection

Town Gateway / Linkage to the Museum

- Gateway improvements are needed
- Connect trail to museum along Rt. 184
- Address pedestrian safety issues at Rt. 184 and Fig St
- Potential round-about at Fig and Rt. 184

Fig Street

- Support alignment on east side of Fig St
- At certain locations trail may need to narrow to retain existing trees
- Linkage to Kings Creek Marina

Washington Avenue

- Meander trail along north side of Washington Avenue
- Add plantings
- Sitting areas/Benches

Bay Avenue

- Additional sitting areas/benches
- More formalized beach access points (covered decks)
- Gazebo at north node (Terminus of Washington Ave)
- Viewing areas/platforms
- Explore options for re-orienting parking
- Public plaza at southern end

Mason Avenue

- Vehicular speeds are high on Mason
- Need new light fixtures
- Support trail on south side of mason

-
- Explore options for curb bump outs but retain parking spaces

Central Park

- Primary uses should be passive
- Locate trail encircling park
- Explore reinstatement of historic pattern
- Reestablish north linkage of Peach Street
- Relocate tennis courts, potentially to city owned land across Madison Ave
- Potential pond?

Park linkages along Peach Street and Monroe Avenue

- Explore potential of widening sidewalks along Peach Street linking the park to Mason Ave and Washington Ave.
- Maintain sidewalk widths along Monroe

Priority Areas for Implementation

- Central Park
- Boardwalk along Bay Ave

Next Steps

Based on the comments received consultant will develop a conceptual trail plan. Several conceptual alternatives will be developed for various sections of the trail. Next public input meeting will be held in the beginning of July, date to be determined.

Town of Cape Charles TEA-21 Multi-Use Trail 2nd Public Workshop

July 18, 2007
Palace Theatre, 305 Mason Ave.

MEETING SUMMARY

MEETING OBJECTIVE

The main objective of the meeting was to gain public input on the conceptual master plan developed and several identified nodes. This meeting served as the 2nd public input meeting. Approximately 20 citizens attended. One final public input meeting will be held around the end of August.

EVENING ACTIVITIES

- Power Point Presentation
 - Project background and process
 - 1st public meeting summary
 - Conceptual master plan overview
 - Questions
- Workgroup Sessions
 - Master plan discussion
 - Review and comment on primary features
- Priority Voting
- Conclusion / Next Steps

COMMENTS RECEIVED

At the conclusion of the presentation the group was divided into three smaller groups to go over the master plan in detail. Groups were given a list of topics to guide their discussions. Each group's comments have been categorized based on topic in the table on the following page.

PRIORITY VOTING

Each individual that attended the meeting was given a series of dots to vote on their top priorities. One red dot was given to each individual to identify their top priority. Two blue dots were also given to each individual to identify their secondary priorities. Charts depicting each areas ranking are located on the last page.

NEXT STEPS

Consultant will review all comments received and make recommendations as to the final master plan components/alternatives. Consultant will then discuss recommendations with the steering committee and based on their comments develop the final master plan. A final public meeting will be held in the end of August, date to be determined.

COMMENTS SUMMARY TABLE

TOPIC	GROUP 1 FACILITATOR: CAROL RIZZIO	GROUP 2 FACILITATOR: BILL SPIVEY	GROUP 3 FACILITATOR: CLAY MASSEY
Trail Network and Linkages – General Comments	<ul style="list-style-type: none"> Liked the proposed trail network Thought that the trail along the spoil site was a low priority Another low priority is the trail along Old Cape Charles Rd. past the Bay Creek Development. Discussed the safety concern at the sharp bend in Old Cape Charles Rd and thought that should be addressed. Desired mostly a hardened trail surface, asphalt preferred Suggested providing separate trail surfaces to serve different users. Favored closing the hump to pedestrian traffic and extending Fig St. for an at grade crossing of the rail road. 	<ul style="list-style-type: none"> Favored most of the trail network Suggested that the trail along the spoil site should be relocated to the north of the spoil site along the rail road in order to connect to Route 13, thus complying with the intend of the county and VDOT’s plan’s Thought the trail should connect to the historic school along Old Cape Charles Road Suggested the trail connect Central Park to Bay Ave. via Monroe St; there was some opposition and concern that the width of the trail would alter the existing charm on residential streets, mainly along Monroe Low priority is the trail along Old Cape Charles Rd. past the Bay Creek Development 	<ul style="list-style-type: none"> Joggers in the group. Liked the suggestion to use materials to accommodate joggers, even if only a few feet of the width, Concern about safety and wanted to see streetlights on the trail, preference for the drop-neck style that directed light to the walkways. Preferences for Phase 1 / initial investment / priority are “Where the people go and use”, i.e. intersection, Mason and Bay. (In voting, this group was pretty consistent to these three choices with maybe one or two dots on Fig and the park. The intersection appeared to be their overwhelming priority.
Gateway	<ul style="list-style-type: none"> Liked option 1 with the separate right turn lane from Fig St. onto Rt. 184. They suggested modifying it to include a separate right hand turn lane from Rt. 184 to Fig St. Discussed the idea of placing the right turn lanes so that the future implementation of a round about would be possible if desired. 	<ul style="list-style-type: none"> Liked option 2 with the round about at the intersection of Fig St. and Rt. 184. Desired extending Fig south beyond Mason and provide an at grade crossing for pedestrians Liked the idea of a Gate Way Plaza as you enter the town 	<ul style="list-style-type: none"> Liked option 2 with the roundabout but was concerned about the occasional large trucks carrying pre-cast members from concrete plant, Acknowledged RTE 642 is principal route to concrete plant, Responded favorably to roll curbs and small hard surface interior edge to allow large vehicle tracking, Keep views through roundabout median with low level planting, Strongly in favor of moving sign out on 184, Did not favor closing Fulcher Street intersection at 184, Favorable response to gazebo or other pedestrian scale imp. Recommended to shift Fig St. geometry to slow traffic and prohibit direct north – south movement without at least partially negotiating circle.

TOPIC	GROUP 1 FACILITATOR: CAROL RIZZIO	GROUP 2 FACILITATOR: BILL SPIVEY	GROUP 3 FACILITATOR: CLAY MASSEY
Fig	<ul style="list-style-type: none"> Liked the Fig St. alignment on the east side of the road Didn’t see the need for any benches along this section 	<ul style="list-style-type: none"> Thought the alignment was OK Was concerned about the width between existing tree line and adjacent property line. Recommended possibly using a pervious trail surface 	<ul style="list-style-type: none"> Concern about damage to trees to Fig Street with trail construction, favored method or material to prevent root damage, Suggested Fulcher Street as an alternate trail route as a means avoid damage to trees on Fig Street, Favorable response to closing hump to vehicles and extending Fig Street with at-grade crossing on Mason, Concern about speed on Fig Street and was interested in traffic calming measures: <ul style="list-style-type: none"> Stop sign mid-length – Madison and Monroe both suggested, Favored bump out design for benefits to pedestrian crossings and as traffic calming,
Washington	<ul style="list-style-type: none"> Liked the alignment of Washington Trail and the placement of benches at various points. Also, desired the placement of trash cans along the trail. 	<ul style="list-style-type: none"> Liked the alignment of Washington Trail and the placement of benches at various points. Liked the Nodes, especially at Washington and Peach Desires connection to the storm water management pond. 	
Bay	<ul style="list-style-type: none"> Liked the crosswalks at every intersection Also liked limiting parking in front of the step locations accessing the boardwalk. Expressed a desire to ensure ADA accessibility Liked the large node at Bay and Monroe. Suggested adding similar nodes at Washington and Monroe. Smaller hardened access points at other intersections with foot washes. Desire restrooms at the north and south beach access points. 	<ul style="list-style-type: none"> Liked the crosswalks at every intersection Liked bump outs in front of the step locations accessing the boardwalk. Liked the large node at Bay and Monroe. Liked parking alignment 	<ul style="list-style-type: none"> Liked crosswalks at each intersection, Suggested public restroom facilities at each end of Bay – Mason and Washington. Strong preference for breaking up Bay Ave Boardwalk / Trail with nodes / iconic symbols at each intersection, Suggested drinking fountains at each intersection node

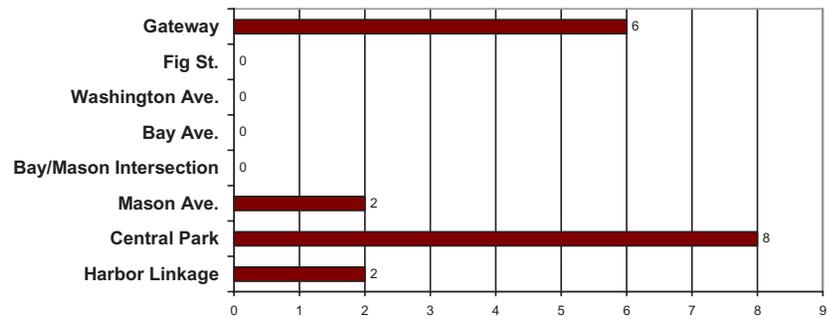
TOPIC	GROUP 1 FACILITATOR: CAROL RIZZIO	GROUP 2 FACILITATOR: BILL SPIVEY	GROUP 3 FACILITATOR: CLAY MASSEY
Bay & Mason Plaza	<ul style="list-style-type: none"> Discussed the unpleasant odors associated with the transfer station. Felt that a formal amphitheater is not needed and with the odors associated with the transfer station generally did not think it was a good idea. Liked the covered educational display area and expressed that this intersection is a popular one. Desire restrooms, showers, foot wash, and hardened access to the beach Thought the water taxi stop at this location is a good idea. 	<ul style="list-style-type: none"> Liked the amphitheater Liked the covered display area, but expressed a concern about the windy conditions Like the water taxi Station 1 at this location, but questioned the need for Station 2 	
Mason Avenue	<ul style="list-style-type: none"> Liked the trail on the south side of Mason. Expressed a desire for angled parking. We discussed VDOT's standards and agreed that it was unlikely. Generally liked the idea of curb bump outs. Some favored more, some thought that the amount shown was good. Liked the plaza at the intersection of Mason and Peach and thought that it would fit in nicely with the dinner train rides proposed on the adjacent lot. 	<ul style="list-style-type: none"> Thought the trail along the Southside was good. Liked node at Peach and Mason. Favored bump outs. 	<ul style="list-style-type: none"> Trail was favorable. Most discussion /comments dealt with streetscape type elements, such as the following; Favored going back to angled parking. We discussed the VDOT review of numbered streets and concluded that this option was highly unlikely to be approved, Concerns about parking availability. We discussed costs of parking garages / decks and the need for more surface parking, General assumption /conclusion are that local merchants / employees use on street spaces. Discussion on signage to help control time limits to encourage leaving on-street Mason Street spaces for visitors / customers. Desired lights in the trees. Discussion on the option of up lights for trees but this suggestion was not well received due to perceived light pollution. Would like to see Master Plan consider closing Strawberry Road between Mason and Randolph and create a pedestrian plaza.

TOPIC	GROUP 1 FACILITATOR: CAROL RIZZIO	GROUP 2 FACILITATOR: BILL SPIVEY	GROUP 3 FACILITATOR: CLAY MASSEY
Central Park	<ul style="list-style-type: none"> Preferred Concept 1 with the large open area. Suggested removing the existing stage and just utilizing the gazebo for performances. Did not see a need to extend Peach St. to the park at the north gate. Suggested just removing the bleacher area and utilizing that for a trail connection. Did not want to remove the tennis courts. 	<ul style="list-style-type: none"> Closer to option 2, with the historic pattern in the center, but would need to be modified. Questioned how many people the open area at the gazebo would accommodate. Suggested removing the basketball court. Liked the park linkages. 	<ul style="list-style-type: none"> Preferred option 2 with only one bandstand / gazebo structure, but suggested reducing the scale of the central feature. Liked passive park concept with lots of trees for shade.
Peach St.	<ul style="list-style-type: none"> Liked the idea of adding medians where there are none currently, although, though they should be scaled down to allow for either angled parking or parallel parking on the south block in the commercial district. Liked the trail being located on both sides of Peach St. Felt that the northern section of Peach St is more of a priority than the southern section. 	<ul style="list-style-type: none"> Questioned the need for a trail along both sides of the street Suggested having the trail in the median, once this option was explored and the need to have the trail cross mutable intersection this option was discarded Desired an enhancement to the north end of Peach St. 	<ul style="list-style-type: none"> Liked median but would like to see median broken to allow 90 degree parking from either direction, similar to how it is now.
Harbor Linkage	<ul style="list-style-type: none"> Desire a direct pedestrian trail crossing along the east side of rail road property, but understand that it is not likely in the near future. Liked the proposed harbor water taxi stops but suggested the addition of another one near the harbor master building. Discussed a proposal to have the rail road provide a golf cart taxi service across the tracks. Everyone liked the idea and though it was worth pursuing. 	<ul style="list-style-type: none"> Desire a direct pedestrian trail crossing along the east side of rail road property, but understand that it is not likely in the near future. Liked the proposed harbor water taxi stops but questioned the need for station 2 and suggested the adding another station at the town owned property on the north side of the harbor near the harbor master's building. 	<ul style="list-style-type: none"> Liked the proposed harbor linkages.
Street Furnishings	<ul style="list-style-type: none"> The park has had proposals for different styles of benches to be installed and maintained by the garden club. Group felt that the styles along the trail should be consistent with the Harbor Area Design Guidelines currently being developed. 	<ul style="list-style-type: none"> Some thought benches should be metal, preferably aluminum. Other's liked the wood and thought fit with the charm of the town, but had concerns about vandalism. 	

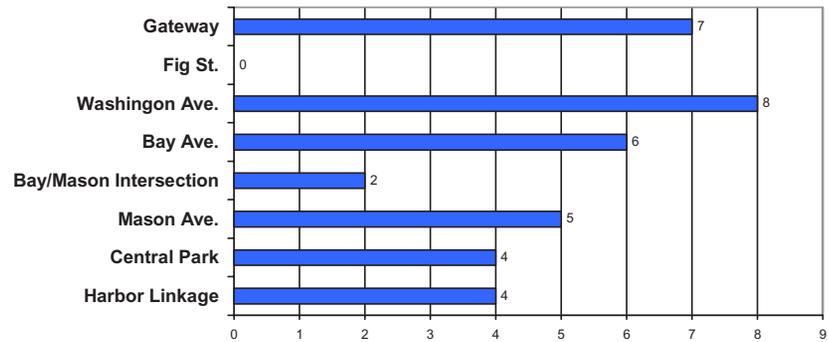
PRIORITY VOTING

Width of bar depicts number of votes each area received.

TOP PRIORITY



SECONDARY PRIORITIES



Appendix C

Preliminary Project Cost Estimates

Note: These figures are just to help guide future budgeting for various phases' design and implementation costs. As the plans are refined and decisions on materials, phasing, etc., further defined, these preliminary figures will be adjusted.

CAPE CHARLES COMMUNITY TRAIL IMPROVEMENTS PRELIMINARY BUDGET

9/5/2007

PHASE 1A - THE PARK

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Mobilization / Demolition / General Conditions	\$ 0.5 /SF	180600	\$ 90,300
Earthwork / Structural Fill	\$ 10,000 LS	1	\$ 10,000
Storm Drainage Improvements	\$ 20,000 LS	1	\$ 20,000
Asphalt Pavement Mill & Overlay	\$ 15 /SY	0	\$ -
Curb, Gutter & Medians	\$ 16 /LF	0	\$ -
Concrete Walkways / Entrances	\$ 28 /SY	2300	\$ 64,400
Paver or Brick Walkway / Entrance	\$ 65 /SY	500	\$ 32,500
Lighting & Electric Services (UG)	\$ 3,500 /EA	12	\$ 42,000
Street Signage Specialty Signage	\$ 6,000 LS	1	\$ 6,000
Pavement Markings	\$ 5 /LF	0	\$ -
Maintenance of Traffic	\$ 500 LS	1	\$ 500
Planting Soil Mix & Replacement	\$ 15 /SY	1000	\$ 15,000
Shrubs & Groundcover	\$ 4 /SY	1500	\$ 6,000
Street Trees	\$ 300 EA	45	\$ 13,500
Site Furniture (Bench, Bike, Trash)	\$ 1,500 EA	8	\$ 12,000
Testing Allowances	\$ 5,000 LS	1	\$ 5,000
			\$ 317,200
			Construction Contingency (20%)
			\$ 63,440
			TOTAL BASE CONSTRUCTION ITEMS \$ 380,640
<u>PLANNING AND ENGINEERING</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Design Services	0.10 Const.	\$ 380,640	\$ 38,064
			TOTAL PLANNING AND ENGINEERING \$ 38,064
			TOTAL RECOMMEND BUDGET \$ 418,704

1

CAPE CHARLES COMMUNITY TRAIL IMPROVEMENTS PRELIMINARY BUDGET

9/5/2007

PHASE 2 - THE INTERSECTION

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Mobilization / Demolition / General Conditions	\$ 100 /LF	1600	\$ 160,000
Earthwork / Construction Fill	\$ 10,000 LS	1	\$ 10,000
Storm Drainage Improvements	\$ 25,000 LS	1	\$ 25,000
Water Service Upgrades / Relocation	\$ 5,000 LS	1	\$ 5,000
Sanitary Sewer Upgrades/ Relocation	\$ 5,000 LS	1	\$ 5,000
Asphalt Pavement Mill & Overlay	\$ 10 /SY	8000	\$ 80,000
Asphalt Pavement - New Road (Circle)	\$ 25 /SY	2500	\$ 62,500
Concrete Curb/Gutter/Median Curb	\$ 16 /LF	2000	\$ 32,000
Concrete Walkways / Entrances	\$ 28 /SY	1300	\$ 36,400
Asphalt Walkway / Entrances	\$ 20 LS	0	\$ -
Paver or Brick Walkway	\$ 65 /SY	250	\$ 16,250
Paver or Brick Crosswalk	\$ 5,000 LS	3	\$ 15,000
Pedestrian Lighting w/ Private Service	\$ 3,500 /EA	16	\$ 56,000
Street Signage / Specialty Signage	\$ 10,000 LS	1	\$ 10,000
Pavement Markings	\$ 5 /LF	1600	\$ 8,000
Maintenance of Traffic	\$ 12 /LF	1600	\$ 19,200
Planting Soil Mix & Bed Replacement	\$ 15 /LF	1600	\$ 24,000
Shrubs & Groundcover	\$ 6 /SY	1000	\$ 6,000
Sod and Turf Improvements	\$ 3 /SY	4000	\$ 12,000
Street Trees	\$ 250 EA	34	\$ 8,500
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	6	\$ 7,200
Testing Allowances	\$ 10,000 LS	1	\$ 10,000
			\$ 608,050
			Construction Contingency (20%)
			\$ 121,610
			TOTAL BASE CONSTRUCTION ITEMS \$ 729,660
<u>PLANNING AND ENGINEERING</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Design Services	0.10 Const.	\$ 729,660	\$ 72,966
			TOTAL PLANNING AND ENGINEERING \$ 72,966
			3%/YR Escalation (3 Years)
			\$ 72,236
			TOTAL RECOMMENDED BUDGET \$ 874,862

2

CAPE CHARLES
COMMUNITY TRAIL IMPROVEMENTS
PRELIMINARY BUDGET

9/5/2007

PHASE 1B - PEACH STREET NORTH

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>	
Mobilization / Demolition / General Conditions	\$ 100 /LF	800	\$ 80,000	
Earthwork / Construction Fill	\$ 10,000 LS	1	\$ 10,000	
Storm Drainage Improvements	\$ 10,000 LS	1	\$ 10,000	
Water Service Upgrades	\$ 1 LS	0	\$ -	
Sanitary Sewer Upgrades	\$ 1 LS	0	\$ -	
Asphalt Pavement Mill & Overlay	\$ 10 /SY	2800	\$ 28,000	
Concrete Curb/Gutter/Median Curb	\$ 16 /LF	2000	\$ 32,000	
Concrete Walkways / Entrances	\$ 28 /SY	2100	\$ 58,800	
Asphalt Walkway / Entrances	\$ 20 /SY	0	\$ -	
Paver or Brick Walkway	\$ 65 /SY	0	\$ -	
Paver or Brick Crosswalk	\$ 5,000 EA	5	\$ 25,000	
Pedestrian Lighting (ASSUME DELMARVA)	\$ 3,500 /EA	0	\$ -	
Street Signage / Specialty Signage	\$ 2,000 LS	1	\$ 2,000	
Pavement Markings	\$ 5 /LF	800	\$ 4,000	
Maintenance of Traffic	\$ 8 /LF	800	\$ 6,400	
Planting Soil Mix & Bed Replacement	\$ 15 /LF	800	\$ 12,000	
Shrubs & Groundcover	\$ 6 /SY	1400	\$ 8,400	
Sod and Turf Improvements	\$ 6 /SY	500	\$ 3,000	
Street Trees	\$ 250 EA	23	\$ 5,750	
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	4	\$ 4,800	
Testing Allowances	\$ 5,000 LS	1	\$ 5,000	
			\$ 295,150	
			Construction Contingency (20%)	\$ 59,030
			TOTAL BASE CONSTRUCTION ITEMS	\$ 354,180
<u>PLANNING AND ENGINEERING</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>	
Design Services	0.10 Const.	\$ 354,180	\$ 35,418	
			TOTAL PLANNING AND ENGINEERING	\$ 35,418
			3%/YR Escalation for 1 Years	\$11,688
			TOTAL RECOMMEND BUDGET	\$ 401,286

CAPE CHARLES
COMMUNITY TRAIL IMPROVEMENTS
PRELIMINARY BUDGET

9/5/2007

PHASE 1C - PEACH STREET SOUTH

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>	
Mobilization / Demolition / General Conditions	\$ 100 /LF	850	\$ 85,000	
Earthwork / Construction Fill	\$ 5,000 LS	1	\$ 5,000	
Storm Drainage Improvements	\$ 15,000 LS	1	\$ 15,000	
Water Service Upgrades	\$ 1 LS	0	\$ -	
Sanitary Sewer Upgrades	\$ 1 LS	0	\$ -	
Asphalt Pavement Mill & Overlay	\$ 10 /SY	2900	\$ 29,000	
Concrete Curb/Gutter/Median Curb	\$ 16 /LF	2100	\$ 33,600	
Concrete Walkways / Entrances	\$ 25 /SY	1600	\$ 40,000	
Asphalt Walkway / Entrances	\$ 20 /SY	1	\$ 20	
Paver or Brick Walkway	\$ 65 /SY	250	\$ 16,250	
Paver or Brick Crosswalk	\$ 5,000 EA	9	\$ 45,000	
Pedestrian Lighting w/ Private Service	\$ 3,500 /EA	24	\$ 84,000	
Street Signage / Specialty Signage	\$ 5,000 LS	1	\$ 5,000	
Pavement Markings	\$ 5 /LF	850	\$ 4,250	
Maintenance of Traffic	\$ 12 /LF	850	\$ 10,200	
Planting Soil Mix & Bed Replacement	\$ 15 /LF	850	\$ 12,750	
Shrubs & Groundcover	\$ 6 /SY	1600	\$ 9,600	
Sod and Turf Improvements	\$ 3 /SY	500	\$ 1,500	
Street Trees	\$ 250 EA	20	\$ 5,000	
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	6	\$ 7,200	
Testing Allowances	\$ 5,000 LS	1	\$ 5,000	
			\$ 413,370	
			Construction Contingency (20%)	\$ 82,674
			TOTAL BASE CONSTRUCTION ITEMS	\$ 496,044
<u>PLANNING AND ENGINEERING</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>	
Design Services	0.10 Const.	\$ 496,044	\$ 49,604	
			TOTAL PLANNING AND ENGINEERING	\$ 49,604
			3%/YR Escalation (2 Years)	\$ 32,739
			TOTAL RECOMMENDED BUDGET	\$ 578,387

CAPE CHARLES
COMMUNITY TRAIL IMPROVEMENTS
PRELIMINARY BUDGET

9/5/2007

FUTURE PHASE - FIG STREET

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Mobilization / Demolition / General Conditions	\$ 60 /LF	1900	\$ 114,000
Earthwork / Construction Fill	\$ 10,000 LS	1	\$ 10,000
Storm Drainage Improvements	\$ 5,000 LS	1	\$ 5,000
Water Service Upgrades	\$ 1 LS	0	\$ -
Sanitary Sewer Upgrades	\$ 1 LS	0	\$ -
Asphalt Pavement Mill & Overlay	\$ 10 /SY	0	\$ -
Concrete Curb/Gutter/Median Curb	\$ 16 /LF	400	\$ 6,400
Concrete Walkways / Entrances	\$ 28 /SY	1600	\$ 44,800
Asphalt Walkway / Entrances	\$ 20 /SY	2100	\$ 42,000
Paver or Brick Walkway	\$ 65 /SY	100	\$ 6,500
Paver or Brick Crosswalk	\$ 5,000 LS	4	\$ 20,000
Pedestrian Lighting (ASSUME DELMARVA)	\$ 3,500 /EA	0	\$ -
Street Signage / Specialty Signage	\$ 4,000 LS	1	\$ 4,000
Pavement Markings	\$ 5 /LF	250	\$ 1,250
Maintenance of Traffic	\$ 4 /LF	1900	\$ 7,600
Planting Soil Mix & Bed Replacement	\$ 15 /LF	400	\$ 6,000
Shrubs & Groundcover	\$ 6 /SY	200	\$ 1,200
Sod and Turf Improvements	\$ 3 /SY	100	\$ 300
Street Trees	\$ 250 EA	12	\$ 3,000
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	8	\$ 9,600
Testing Allowances	\$ 5,000 LS	1	\$ 5,000
			\$ 286,650
			\$ 57,330
			\$ 343,980
			\$ 343,980
			\$ 56,757
			\$ 435,135

CAPE CHARLES
COMMUNITY TRAIL IMPROVEMENTS
PRELIMINARY BUDGET

9/5/2007

FUTURE PHASE - WASHINGTON AVENUE

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Mobilization / Demolition / General Conditions	\$ 60 /LF	3200	\$ 192,000
Earthwork / Construction Fill	\$ 15,000 LS	1	\$ 15,000
Storm Drainage Improvements	\$ 20,000 LS	1	\$ 20,000
Water Service Upgrades	\$ 1 LS	0	\$ -
Sanitary Sewer Upgrades	\$ 1 LS	0	\$ -
Asphalt Pavement Mill & Overlay	\$ 10 /SY	200	\$ 2,000
Concrete Curb/Gutter/Median Curb	\$ 16 /LF	400	\$ 6,400
Concrete Walkways / Entrances	\$ 28 /SY	1600	\$ 44,800
Asphalt Walkway / Entrances	\$ 20 /SY	3600	\$ 72,000
Paver or Brick Walkway	\$ 65 /SY	250	\$ 16,250
Paver or Brick Crosswalk	\$ 5,000 EA	6	\$ 30,000
Pedestrian Lighting (ASSUME DELMARVA)	\$ 3,500 /EA	0	\$ -
Street Signage / Specialty Signage	\$ 1,500 LS	1	\$ 1,500
Pavement Markings	\$ 5 /LF	0	\$ -
Maintenance of Traffic	\$ 4 /LF	3200	\$ 12,800
Planting Soil Mix & Bed Replacement	\$ 15 /LF	800	\$ 12,000
Shrubs & Groundcover	\$ 6 /SY	500	\$ 3,000
Sod and Turf Improvements	\$ 3 /SY	400	\$ 1,200
Street Trees	\$ 250 EA	60	\$ 15,000
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	8	\$ 9,600
Testing Allowances	\$ 5,000 LS	1	\$ 5,000
			\$ 458,550
			\$ 91,710
			\$ 550,260
			\$ 55,026
			\$ 108,951
			\$ 714,237

CAPE CHARLES
COMMUNITY TRAIL IMPROVEMENTS
PRELIMINARY BUDGET

9/5/2007

FUTURE PHASE - BAY AVENUE

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Mobilization / Demolition / General Conditions	\$ 80 /LF	4600	\$ 368,000
Earthwork / Construction Fill	\$ 20,000 LS	1	\$ 20,000
Storm Drainage Improvements	\$ 40,000 LS	1	\$ 40,000
Water Service Upgrades	\$ 20,000 LS	1	\$ 20,000
Sanitary Sewer Upgrades	\$ 20,000 LS	1	\$ 20,000
Asphalt Pavement Mill & Overlay	\$ 6 /SY	17000	\$ 102,000
Concrete Curb/Gutter/Median Curb	\$ 16 /LF	9300	\$ 148,800
Concrete Walkways / Entrances	\$ 28 /SY	1500	\$ 42,000
Asphalt Walkway / Entrances	\$ 20 /SY	0	\$ -
Paver or Brick Walkway	\$ 65 /SY	800	\$ 52,000
Paver or Brick Crosswalk	\$ 5,000 EA	13	\$ 65,000
North Plaza Node w/ Restroom & Arch Feature	\$ 75,000 EA	1	\$ 75,000
Monroe Avenue Node	\$ 20,000 EA	5	\$ 100,000
South Node w/ Restroom & Education Display	\$ 100,000 EA	1	\$ 100,000
Minor Node Improvements	\$ 10,000 EA	4	\$ 40,000
Water Taxi Station / Wharf	\$ 200,000 EA	1	\$ 200,000
Pedestrian Lighting w/ Private Service	\$ 3,500 /EA	40	\$ 140,000
Street Signage / Specialty Signage	\$ 10,000 LS	1	\$ 10,000
Pavement Markings	\$ 5 /LF	4700	\$ 23,500
Maintenance of Traffic	\$ 12 /LF	4700	\$ 56,400
Planting Soil Mix & Bed Replacement	\$ 15 /LF	4700	\$ 70,500
Shrubs & Groundcover	\$ 6 /SY	2000	\$ 12,000
Sod and Turf Improvements	\$ 3 /SY	200	\$ 600
Street Trees	\$ 250 EA	32	\$ 8,000
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	16	\$ 19,200
Testing Allowances	\$ 15,000 LS	1	\$ 15,000
			\$ 1,748,000
Construction Contingency (20%)			\$ 349,600
TOTAL BASE CONSTRUCTION ITEMS			\$ 2,097,600
<u>PLANNING AND ENGINEERING</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Design Services	0.10 Const.	\$ 2,097,600	\$ 209,760
TOTAL PLANNING AND ENGINEERING			\$ 209,760
3%/YR Escalation for 7 Years			\$484,546
TOTAL RECOMMEND BUDGET			\$ 2,791,906

CAPE CHARLES
COMMUNITY TRAIL IMPROVEMENTS
PRELIMINARY BUDGET

9/5/2007

FUTURE PHASE - MASON AVENUE

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Mobilization / Demolition / General Conditions	\$ 80 /LF	3500	\$ 280,000
Earthwork / Construction Fill	\$ 10,000 LS	1	\$ 10,000
Storm Drainage Improvements	\$ 10,000 LS	1	\$ 10,000
Water Service Upgrades	\$ 1 LS	0	\$ -
Sanitary Sewer Upgrades	\$ 1 LS	0	\$ -
Asphalt Pavement Mill & Overlay	\$ 10 /SY	1400	\$ 14,000
Concrete Curb/Gutter/Median Curb	\$ 16 /LF	3200	\$ 51,200
Concrete Walkways / Entrances	\$ 28 /SY	800	\$ 22,400
Asphalt Walkway / Entrances	\$ 20 /SY	0	\$ -
Paver or Brick Walkway	\$ 65 /SY	4000	\$ 260,000
Paver or Brick Crosswalk	\$ 5,000 EA	2	\$ 10,000
Pedestrian Lighting w/ Private Service	\$ 3,500 /EA	30	\$ 105,000
Street Signage / Specialty Signage	\$ 10,000 LS	1	\$ 10,000
Pavement Markings	\$ 5 /LF	3500	\$ 17,500
Maintenance of Traffic	\$ 12 /LF	3500	\$ 42,000
Planting Soil Mix & Bed Replacement	\$ 15 /LF	3500	\$ 52,500
Shrubs & Groundcover	\$ 6 /SY	1000	\$ 6,000
Sod and Turf Improvements	\$ 3 /SY	2000	\$ 6,000
Street Trees	\$ 250 EA	77	\$ 19,250
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	12	\$ 14,400
Testing Allowances	\$ 15,000 LS	1	\$ 15,000
			\$ 945,250
Construction Contingency (20%)			\$ 189,050
TOTAL BASE CONSTRUCTION ITEMS			\$ 1,134,300
<u>PLANNING AND ENGINEERING</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Design Services	0.10 Const.	\$ 1,134,300	\$ 113,430
TOTAL PLANNING AND ENGINEERING			\$ 113,430
3%/YR Escalation (4 Years)			\$ 149,728
TOTAL RECOMMENDED BUDGET			\$ 1,397,458

CAPE CHARLES
COMMUNITY TRAIL IMPROVEMENTS
PRELIMINARY BUDGET

9/5/2007

FUTURE PHASE - FIG STREET EXT / HUMP CNVRSN

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Mobilization / Demolition / General Conditions	\$ 60 /LF	1650	\$ 99,000
Earthwork / Construction Fill	\$ 20,000 LS	1	\$ 20,000
Storm Drainage Improvements	\$ 50,000 LS	1	\$ 50,000
Water Service Upgrades	\$ 10,000 LS	1	\$ 10,000
Sanitary Sewer Upgrades	\$ 10,000 LS	1	\$ 10,000
Asphalt Pavement Mill & Overlay	\$ 10 /SY	500	\$ 5,000
New Asphalt Pavement (Roadway)	\$ 250 /LF	1000	\$ 250,000
Railway At- Grade Crossing	\$ 100,000 EA	1	\$ 100,000
Concrete Curb/Gutter/Median Curb	\$ 16 /LF	2000	\$ 32,000
Concrete Walkways / Entrances	\$ 28 /SY	600	\$ 16,800
Asphalt Walkway / Entrances	\$ 20 /SY	0	\$ -
Paver or Brick Walkway	\$ 65 /SY	0	\$ -
Paver or Brick Crosswalk	\$ 5,000 EA	1	\$ 5,000
Pedestrian Lighting (ASSUME DELMARVA)	\$ 3,500 /EA	0	\$ -
Street Signage / Specialty Signage	\$ 2,500 LS	1	\$ 2,500
Pavement Markings	\$ 5 /LF	1650	\$ 8,250
Maintenance of Traffic	\$ 12 /LF	1650	\$ 19,800
Planting Soil Mix & Bed Replacement	\$ 15 /LF	1650	\$ 24,750
Shrubs & Groundcover	\$ 6 /SY	200	\$ 1,200
Sod and Turf Improvements	\$ 3 /SY	1000	\$ 3,000
Street Trees	\$ 250 EA	10	\$ 2,500
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	0	\$ -
Testing Allowances	\$ 10,000 LS	1	\$ 10,000
			\$ 669,800
	Construction Contingency (20%)		\$ 133,960
TOTAL BASE CONSTRUCTION ITEMS			\$ 803,760
<u>PLANNING AND ENGINEERING</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Design Services	0.10 Const.	\$ 803,760	\$ 80,376
TOTAL PLANNING AND ENGINEERING			\$ 80,376
	3%/YR Escalation for 8 Years		\$212,193
TOTAL RECOMMEND BUDGET			\$ 1,096,329

CAPE CHARLES
COMMUNITY TRAIL IMPROVEMENTS
PRELIMINARY BUDGET

9/5/2007

FUTURE PHASE - HARBOR CONNECTION

<u>BASE CONSTRUCTION ITEMS</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Mobilization / Demolition / General Conditions	\$ 80 /LF	1850	\$ 148,000
Earthwork / Construction Fill	\$ 10,000 LS	1	\$ 10,000
Storm Drainage Improvements	\$ 15,000 LS	1	\$ 15,000
Water Service Upgrades	\$ 5,000 LS	1	\$ 5,000
Sanitary Sewer Upgrades	\$ 5,000 LS	1	\$ 5,000
Asphalt Pavement Mill & Overlay	\$ 10 /SY	0	\$ -
Concrete Curb/Gutter/Median Curb	\$ 12 /LF	2300	\$ 27,600
Concrete Walkways / Entrances	\$ 28 /SY	3200	\$ 89,600
Asphalt Walkway / Entrances	\$ 20 /SY	0	\$ -
Paver or Brick Walkway	\$ 65 /SY	500	\$ 32,500
Paver or Brick Crosswalk	\$ 5,000 EA	1	\$ 5,000
Water Taxi Stations 2 and 3	\$ 100,000 EA	2	\$ 200,000
Pedestrian Lighting w/ Private Service	\$ 3,500 /EA	20	\$ 70,000
Street Signage / Specialty Signage	\$ 10,000 LS	1	\$ 10,000
Pavement Markings	\$ 5 /LF	200	\$ 1,000
Maintenance of Traffic	\$ 12 /LF	200	\$ 2,400
Planting Soil Mix & Bed Replacement	\$ 15 /LF	2000	\$ 30,000
Shrubs & Groundcover	\$ 6 /SY	400	\$ 2,400
Sod and Turf Improvements	\$ 3 /SY	1600	\$ 4,800
Street Trees	\$ 250 EA	5	\$ 1,250
Site Furniture (Bench, Bike, Trash)	\$ 1,200 EA	12	\$ 14,400
Testing Allowances	\$ 15,000 LS	1	\$ 15,000
			\$ 688,950
	Construction Contingency (20%)		\$ 137,790
TOTAL BASE CONSTRUCTION ITEMS			\$ 826,740
<u>PLANNING AND ENGINEERING</u>	<u>UNIT COST</u>	<u>UNITS</u>	<u>TOTAL COST</u>
Design Services	0.10 Const.	\$ 826,740	\$ 82,674
TOTAL PLANNING AND ENGINEERING			\$ 82,674
	3%/YR Escalation (9 Years)		\$ 245,542
TOTAL RECOMMENDED BUDGET			\$ 1,154,956

Appendix D

Sample Trail Easement

Model Easement for a Trail

Source: Brandywine Conservancy

THIS GRANT OF EASEMENT AND DECLARATION OF RESTRICTIVE COVENANTS, hereinafter referred to as the "Easement" made the day of in the year of our Lord One Thousand Nine Hundred and Ninety-_____ (199_).

BETWEEN _____, (husband and wife) (single man) (single woman), having an address of _____ party of the first part, hereinafter called "Grantor," _____

AND

TOWNSHIP OF _____, party

WITNESSETH;

WHEREAS, Grantor is the owner of certain tracts of ground located in Township, County, Commonwealth of Pennsylvania, containing acres of land, more or less, hereinafter called the "Trail Easement Area", which includes the following parcels; as shown on a plan entitled dated _____, 199_, last revised _____, 199_, prepared for _____ by _____, and further revised on _____, attached hereto and made a part hereof as Exhibit "A", and as described by legal descriptions, attached hereto and made a part hereof as Exhibit "B"; and

WHEREAS, the trail easement area contains _____ feet/miles of public trail(s) which, by this Easement, will be available for outdoor recreation and transportation by and the education of the general public; and

WHEREAS, the Trail Easement Area contains greater than _____ miles of frontage along _____ Road, and _____ Road, and the public traveling these roads are afforded scenic views of the forestlands, grasslands, farm fields, and wetlands, whose beauty and open character shall be available for outdoor recreation and transportation by and the education of the general public by this Easement; and

WHEREAS, the _____ Township Comprehensive Plan, adopted in 19_, sets forth general community goals, which include ... [Indicate here any goal which would directly or indirectly relate to the development of the trails system]; and

WHEREAS, the _____ Township Zoning Ordinance, adopted in 19_ defines community objectives which include "Securing and protecting pedestrian and non-motorized transportation facilities consistent with the transportation plan and trails map..." and to this end the township requires dedication of land for transportation and recreation purposes; and

WHEREAS, Grantor further intends, as owner of the Property, to convey to Grantee the right to preserve and protect the Recreation and Transportation values of the Trail Easement Area in perpetuity; and

WHEREAS, Grantee is a publicly-supported, tax-exempt non-profit organization, qualified under Section 501(c)3 and 170(h) of the Internal Revenue Code, whose primary purpose is the...; and

WHEREAS, Grantee agrees by accepting this Easement to honor the intentions of Grantor stated herein and to preserve and protect in perpetuity the Recreation and Transportation Values of the Trail Easement Area for the benefit of this generation and generations to come.

NOW THEREFORE, for and in consideration of the above and the mutual covenants, terms, conditions, restrictions, and promises Herein contained, pursuant to the laws of _____ [state] and in particular _____ [specific statutory authority] _____, and for the further consideration of the sum of Five Dollars (\$5.00), lawful money of the United States of America, in hand paid by Grantee to Grantor, the receipt of which is hereby acknowledged, the parties hereto, intending to be legally bound, do hereby mutually agree, grant, convey, and declare as follows:

1. STATEMENT OF GRANT

Grantor hereby voluntarily, unconditionally and absolutely grants and conveys unto Grantee, its successors and assigns, an Easement in Gross and a Declaration of Restrictive Covenants, in perpetuity, over the Trail Easement Area, as more particularly hereinafter set forth exclusively for the purposes of preserving and protecting the present natural, scenic, open space, educational, and recreation and transportation values of the Trail Easement Area (such purposes hereinafter referred to as the "Recreation and Transportation Purposes"). Grantee hereby accepts the Easement and agrees to hold it exclusively for such Recreation and Transportation Purposes.

2. PUBLIC ACCESS

In furtherance of the Transportation and Recreation Purposes of this Easement set forth in Paragraph 1 above, Grantor hereby declares and covenants that the general public shall have and be allowed regular access to the Trail Easement Area for the transportation and recreation scientific, and educational purposes described in sub-paragraph A and subject to the limitations contained in subparagraphs B, C, and D of this Paragraph 2.

As used herein, Trail is defined as: A corridor of at least ten (10) feet in width through which passes, or will pass, a trail as part of the _____ Township Comprehensive Trail System or as otherwise authorized by the Township.

A trail is to serve transportation and recreation functions for one or more of the following: walkers, runners, bicyclists, horseback riders, and cross-country skiers; trails shall exclude all motorized vehicles except as authorized by the Township for maintenance, management and emergency purposes. Trail Easement Area is defined as: the area (a minimum of twenty (20) feet wide) that contains the trail and is restricted from development, which would inhibit the use of the trail.

A. The public shall be permitted access to the "Trail Easement Area", as shown on Exhibit "A", for the following activities, except to the extent that Grantee may determine that such activities are inconsistent with the Conservation Purposes for which this Easement is granted:

- (i) Nature study and scientific research, including bird watching and the study of fauna and flora, supervised by an organization described in Section 170(h)(3) of the Internal Revenue Code
- (ii) Horseback riding;
- (iii) Cross-country skiing;
- (iv) Hiking, biking and jogging; and
- (v) Painting, sketching, and photography.

B. Public access to the Trail Easement Area shall be restricted to the "Trail Easement Area" as shown on Exhibit "A": Grantee retains the right, as it may deem necessary, in order to preserve and protect the Transportation and Recreation Values of the Trail Easement Area and the Transportation and Recreation Purposes to repair the Trail Easement Area, relocate 60 the Trail within the Trail Easement Area, or temporarily prohibit public access to the Trail Easement Area.

C. The activities described in sub-paragraph A of this Paragraph 2 shall be conducted in such a manner as to preserve and protect the Transportation and Recreation Values of the Trail Easement Area, and in this connection the following specific limitations shall apply with respect to use of the Trail Easement Area by the general public and shall be enforceable by Grantor and/or Grantee:

- (i) Use of any motorized vehicle or similar mechanical means of locomotion, including automobiles, motorcycles, snowmobiles, or other all-terrain vehicles shall be prohibited;
- (ii) Smoking of tobacco or other substances, or lighting of fires of any kind shall be prohibited;
- (iii) Consumption of alcoholic beverages or use of any kind of stimulant or drug shall be prohibited;
- (iv) Trapping or hunting with firearms, bow and arrow, or any other form of arms or weapons shall be prohibited; and
- (v) Overnight camping or sleeping shall be prohibited.

Grantee shall have the right to impose any additional limitations with respect to the Trail Easement Area, as it deems necessary or appropriate in order to preserve and protect the Transportation and Recreation Values of the Trail Easement Area and the Transportation and Recreation Purposes for which this Easement is donated.

D. Grantee shall have the right to require Grantor to keep the Trail Easement Area free from obstructions which prevent reasonable pedestrian (and equestrian) access to and along the Trail Easement Area including but not limited to structures, fences and fallen trees.

3. NOTICE

All notices, consents, approvals, or other communication hereunder shall be in writing and shall be deemed properly given if sent by US. certified mail, return receipt requested, addressed to the appropriate party or successor in interest, at the address most recently provided

4. PROHIBITION OF PUBLIC ACCESS

Nothing herein shall be construed as a grant to the general public, or to a person or persons, the right to enter upon any part of the Grantor's property other than as described in Paragraphs 2, herein. Grantor reserves unto themselves and its successors in title to the Trail Easement Area, all rights, privileges, powers, and immunities, including the right of exclusive; possession and enjoyment, subject only to the terms and covenants of this Easement.

5. ENFORCEMENT RIGHTS OF GRANTEE

A. To accomplish the purposes of this Easement the following rights are conveyed to Grantee by this Easement:

(i) To preserve and protect the Transportation and Recreation Values of the Trail Easement Area;

(ii) To prevent any activity on or use of the Trail Easement Area that is inconsistent with the purpose of this Easement and to require the restoration of such areas or features of the Trail Easement Area that may be damaged by any inconsistent activity or use, pursuant to subparagraphs B, C, and D of this Paragraph 5.

B. In the event that a violation of the terms of this Easement by Grantor or by a third party comes to the attention of Grantee, Grantee shall notify Grantor in writing of such violation and demand corrective action sufficient to cure the violation, and where the violation involves injury to the Trail Easement Area resulting from any use or activity inconsistent with the purposes of this Easement, to restore the portion of the Trail Easement Area so injured. If Grantor fails to cure the violation within thirty (30) days after receipt of such notice thereof from Grantee, or under circumstance where the violation cannot reasonably be assured within the thirty (30) day period, fails-to-begin curing such violation within the thirty (30) day period, or fails to continue diligently to cure such violation until finally cured, Grantee may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this Easement, to enjoin the violation, ex parte as necessary, by temporary or permanent injunction, to recover any damages to which it may be entitled for violation of the terms of this Easement or injury to any Transportation and Recreation Values protected by the terms of this Easement, including damages for the loss of scenic, aesthetic, or environmental values, and to require the restoration of the Trail Easement Area to the condition that existing prior to any such injury. Without limiting Grantor's liability therefore, Grantee, in its sole discretion, may apply any damages recovered to the cost of undertaking any corrective action on the Trail Easement Area. If Grantee, in its sole discretion, determines that circumstance require immediate action to prevent or mitigate significant damage to the Recreation and Transportation Values of the Trail Easement Area, Grantee may pursue its remedies under this Paragraph 5 without prior notice to Grantor or without waiting for the period provided for cure to expire.

C. Grantee's rights under this Paragraph 5 apply equally in the event of either actual or threatened violations of the terms of this Easement, and Grantor agrees that Grantee's remedies at law for any violation of the terms of this easement are inadequate and that Grantee shall be entitled to the injunctive relief described in this Paragraph, both prohibitive and mandatory, in addition to such other relief to which Grantee may be entitled

including specific performance of the terms of this Easement, without necessity of proving either actual damages or the inadequacy of otherwise available legal remedies.

D. Any costs incurred by Grantee in enforcing the terms of this Easement against Grantor, including, without limitation, costs of suit and attorneys' fees, and any costs or restoration necessitated by Grantor's violation of the terms of this Easement shall be borne by Grantor.

6. MAINTENANCE AND ASSESSMENT OBLIGATIONS OF GRANTEE

Note: Obligations may vary depending on whether the municipality holds the Trail Easement Area by easement or by ownership. If it holds the area by ownership or if it agrees through the easement to accept responsibilities, it is responsible for maintenance and assessment. In general, the municipality should be prepared to accept maintenance responsibilities except where the trail is on high traffic-generating properties such as commercial higher density residential or institutional properties for example municipally owned trails are generally not assessed taxes. Where trail easement areas remain in private ownership, the municipality should support waiver of assessment by county assessment offices.

Grantee shall be [if trail is to be publicly owned and maintained] under no obligation to maintain the Trail Easement Area, or any portion thereof, or pay taxes or assessments thereon. Any action by Grantee such as maintenance of the Trail Easement Area or any other act by Grantor [Grantee-if privately held] to protect the Trail Easement Area shall be deemed merely a gratuitous act, which shall create no obligation on the part of Grantor [Grantee].

7. SUCCESSORS IN INTEREST

Except where the context requires otherwise, the term "Grantor" and "Grantee", as used in this instrument, and any pronouns used in place thereof, shall mean and include, respectively, Grantor and his personal representatives, heirs, successors in title, and assigns, and Grantee and its successors and assigns.

8. STATEMENT OF COMPLIANCE

Grantor hereby agrees to request in writing at least thirty (30) days prior to the sale, transfer, or long term [ten (10) years or more] lease of the property containing the Trail Easement Area, or any portion thereof, a written instrument from Grantee stating that Grantor is in compliance with the terms and conditions of this Easement, or if Grantor is not in compliance with the terms and conditions of this Easement, stating what violations of this Easement exist Grantee agrees in such cases or at any other time to acknowledge, execute, and deliver to Grantor or to any mortgagee, transferee, purchaser, or lessee such written instrument concerning compliance within thirty (30) days of written request from Grantor. Grantor shall provide a copy of Grantee's compliance statement to any purchaser, mortgagee, lessee, or assignee and shall advise Grantee in writing at least ten (10) days in advance of any transfer, long-term lease, or sale of the Trail Easement Area, or any portion thereof.

Any costs incurred by Grantee in determining compliance and advising Grantor as to compliance or costs incurred as a result of Grantor's failure to notify Grantee of transfer, sale,

assignment, or long term lease of the Trail Easement Area, or any portion thereof, shall be paid by Grantor, [if the municipality does not agree to absorb such costs] his successors or assigns.

9. LIMITATION OF GRANTOR LIABILITY

Grantor, and each subsequent owner of the Trail Easement Area, shall have no personal liability for the observance or performance of the covenants and obligations of Grantor hereunder after such party has conveyed his, her, its, or their interest in the Trail Easement Area, provided that the provisions of Paragraph 8, above, have been fulfilled and all obligations thereunder discharged.

10. HOLD HARMLESS

Grantee, and each subsequent holder of the Trail Easement Area, shall hold harmless, indemnify, and defend Grantor and its heirs, personal representatives, successors, and assigns from and against all liability, penalties, costs, losses, damages, expenses, causes of action, claims, demands, or judgments, including, without limitation, reasonable attorneys' fees, arising from or in any way connected with: (1) injury to or the death of any person, or physical damage to any property, resulting from any act, omission, condition, or other matter related to or occurring on or about the Trail Easement Area, regardless of cause, unless due solely to the gross negligence or willful misconduct of the Grantor and its heirs, personal representatives, successors, and assigns; (2) the obligations specified in Paragraph 6, herein; and (3) the existence or administration of this Easement.

11. STIPULATED VALUE OF GRANTEE'S INTEREST

A. Grantor acknowledges that this Easement constitutes a real property interest in the Trail Easement Area immediately vested in Grantee, and that such interest has a fair market value. For purposes of allocating net proceeds in an extinguishment of all or part of this Easement pursuant to Paragraph 12 herein, the share of Grantee's interest shall not be less than the percentage that the fair market value of this Easement on the date hereof bears to the fair market value of the Trail Easement Area prior to considering the effects of this Easement (hereinafter called the "Easement Percentage").

The values for calculating the Easement Percentage shall be based upon a Qualified Appraisal obtained by Grantor for federal income tax purposes. Upon receipt of such Qualified Appraisal, Grantor shall provide a copy of the Qualified Appraisal to Grantee. In the event that Grantor does not obtain a Qualified Appraisal, the Easement Percentage shall be thirty five (35) percent of fair market value.

B. Grantor and Grantee, and any successors in interests, shall exhaust all legal remedies in order to preserve and protect the Transportation and Recreation Purposes of this Easement. Grantor shall cooperate with Grantee in Grantee's performance of its obligations under this Paragraph 11.

C. In the event that all or part of this Easement is taken in exercise of eminent domain by public, corporate, or other authority so as to abrogate the transportation and recreation goals imposed by this Easement, Grantor and Grantee shall join in appropriate action at the time of such taking to

recover the full value of the taking and all incidental or direct damages resulting from the taking. All reasonable expenses incurred by Grantor and Grantee in an effort to prevent a taking or in an effort to recover the full value of a taking shall be shared on an equal basis out of any recovered proceeds except in the event that (i) Grantor and Grantee agree in writing to an alternative means for sharing such expenses, or (ii) all or part of this Easement is extinguished as a result of a judicial proceeding brought by or on behalf of Grantor which, in that event, then all expenses shall be paid by Grantor.

12. EXTINGUISHMENT OF EASEMENT AND DISTRIBUTION OF NET PROCEEDS

A. In the event that all or part of the Trail Easement Area interests subject to this Easement are involuntarily extinguished by (i) an action in eminent domain, (ii) other judicial proceedings, or (iii) settlement is reached between Grantor, Grantee, and condemner under threat of condemnation, and Grantor joins with Grantee in accordance with Paragraph 11.B. and 11. C. above, Grantee's share of any proceeds recovered from any compensation in eminent domain or judicial proceedings or from the first lawful sale of the Trail Easement Area, after the restrictions within this Easement have been extinguished, shall equal the Easement Percentage, provided that a larger percentage has not been stipulated by agreement between Grantee and Grantor.

B. In the event that all or part of the Trail Easement Area interests subject to this Easement are extinguished by (i) an action in eminent domain, (ii) other judicial proceedings, or (iii) settlement is reached between Grantor, Grantee, and condemner under threat of condemnation, where such action is brought by or on behalf of Grantor or where Grantor does not join with Grantee in accordance with Paragraph 11.B. and 11.C. above, the value of the interests so taken shall be determined by an independent appraisal and the net proceeds recovered from any compensation in eminent domain or judicial proceedings or from the first lawful sale of the Trail Easement Area after the restrictions within this Easement have been extinguished, shall be distributed between Grantor and Grantee in accordance with the findings of an independent appraisal of the interests taken which has been conducted by a Qualified Appraiser. Provided, however, that in no event shall Grantee's share of said net proceeds be less than the Easement Percentage.

C. Grantee shall use its share of any net proceeds recovered, as described in this Paragraph 12, exclusively for the protection or acquisition of interests in land or for Transportation and Recreation Purposes or for improvement to the trails system. For purposes of this Paragraph, proceeds shall not include an amount equal to the fair market value of any Improvements by the Grantor to the Trail Easement Area affected by the condemnation or judicial action or any improvements to the Trail Easement Area by the Grantee,

which were not included in the calculations by which the Easement Percentage was established.

13. FAILURE OF GRANTEE TO ENFORCE

If at any time any organization, agency, or person having rights or duties hereunder as Grantee shall fail to enforce the restrictions set forth in this Easement, Grantor, or any governmental unit of _____ County, shall have the right to bring suit against Grantee for specific performance.

14. TRANSFER OF GRANTEE'S INTEREST

A. Grantee, its successors and assigns, shall have the right to assign either wholly or partially its right, title, and interest hereunder only to an organization able to enforce - the restrictions contained herein which has purposes similar to: those of Grantee, and which encompasses the purposes set forth in this Easement. Such an organization must at the time of the assignment be a governmental unit qualified organization within the meaning of Section 170(h)(3) of the Internal Revenue Code of 1986 (or its successor provisions), hereinafter the "Code", and one which is organized or operated primarily or substantially for one of the conservation purposes specified in Section 170(h)(4)(A) of the Code. Any transfer or assignment of benefits by Grantee, its successors or assigns, must require the transferee or assignee to carry out the Transportation and Recreation Purposes of this Easement.

B. In the event Grantee shall cease to exist or to be a qualified organization as described in Subparagraph 14.A., herein, its rights and duties hereunder shall become vested in and fall upon one of the following named entities, or such other qualified organization as may then be determined, to the extent such entity shall evidence acceptance of and agree to fully enforce same:

- (i) _____ Land Trust;
- (ii) _____ Valley Association;
- (iii) The Nature Conservancy;
- (iv) _____ Watershed Association;
- (v) The Township(s) of _____, political subdivisions of _____ County and the Commonwealth of Pennsylvania;
- (vi) _____ County, a political subdivision of the Commonwealth of Pennsylvania; or
- (vii) Such other organizations as may be designated under the doctrine of cy pres by a court of competent jurisdiction; provided, however, that at the time of such designation, such entity shall be an organization as described in Subparagraph 14.A. herein.

[Use the following paragraph only if funds were received by a private organization or a municipality as Grantee.]

C. Upon the occurrence of any transfer or assignment of this Easement, Grantee shall also transfer to the transferee or assignee the then-value of any endowment funds received by Grantee from Grantor to support Grantee's obligation to monitor and enforce of this Easement, and the transferee shall hold such funds for such purposes and be subject to the provisions of this subparagraph C.

15. EASEMENT IN PERPETUITY

The provisions hereof shall inure to and be binding upon the heirs, executors, administrators, devisees, successors, and assigns, as the case may be, of the parties hereto and shall be covenants running with the land in perpetuity.

16. SEVERABILITY

This Easement shall be construed in its entirety, however, in the event that any provision or restriction of this Easement or the application thereof to any person or circumstance is found to be invalid, the remainder of the provisions and restrictions of this Easement, and the application of such provision or restriction to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby.

17. ACKNOWLEDGEMENTS

A. Grantor attests that Grantor is the owner of the Trail Easement Area and that the Trail Easement Area is not subject to a mortgage as of the date of this Easement. [Alternatively, a subordination agreement from the mortgagor for the Trail Easement Area must be obtained. Most mortgage companies will do so if the mortgage is for less than property value.]

IN WITNESS WHEREOF, and again stating their intention to be legally bound hereby, the said parties have hereunto set their hands and respective seals on the day and year first above written.

WITNESS _____
WITNESS _____

BY _____

(SEAL)

ATTEST _____

BE IT REMEMBERED that on this day of _____, 199__, personally appeared before me, the Subscriber, a Notary Public for the State and County aforesaid, _____, party to this Indenture, known to me personally to be such, and severally acknowledged this Indenture to be their deed.

GIVEN under my hand and seal of office, the day and year aforesaid.

Notary Public

BE IT REMEMBERED that on this day of _____ 199__, personally appeared before me, the Subscriber, a Notary Public for the State and County aforesaid, _____, President of Brandywine Conservancy, Inc., a corporation existing under the laws of the State of Delaware, party to this Agreement, and acknowledge this Indenture to be his act and deed and the act and deed of said corporation; that the signature of the President thereto is in his own proper handwriting and the seal affixed is the common and corporate seal of said corporation, and that his act of sealing, executing, acknowledging and delivering said Indenture was duly authorized by a resolution of the Board of Directors of said corporation.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.

Notary Public

Appendix E

Economic Impacts of Trail Reference Material

The Virginia Creeper Trail: An Assessment of User Demographics, Preferences, and Economics

Final Report Prepared for the Virginia Department of Conservation, December 8, 2004

Principal Investigators: J.M. Bowker, USDA Forest Service Southern Forest Research Station; John C. Bergstrom and Joshua K. Gill University of Georgia Department of Agricultural and Applied Economics <http://www.americantrails.org/resources/adjacent/docs/VACstudy04.pdf>

The Washington & Old Dominion Trail: An Assessment of User Demographics, Preferences, and Economics

Final Report Prepared for the Virginia Department of Conservation, December 9, 2004

Principal Investigators: J.M. Bowker, USDA Forest Service Southern Forest Research Station; John C. Bergstrom and Joshua Gill University of Georgia Department of Agricultural and Applied Economics Ursula Lemanski National Park Service <http://www.americantrails.org/resources/adjacent/docs/WODstudy04.pdf>

The Waterway at New River State Park: An Assessment of User Demographics, Preferences, and Economics

Final Report Prepared for the Virginia Department of Conservation and Recreation, December 9, 2004

Principal Investigators: J.M. Bowker, USDA Forest Service Southern Forest Research Station; John C. Bergstrom and Joshua Gill University of Georgia Department of Agricultural and Applied Economics <http://www.americantrails.org/resources/adjacent/docs/WNRstudy04.pdf>

Pathways to Prosperity: The economic impact of investments in bicycle facilities, a case study of the North Carolina northern outer banks.

North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation <http://www.americantrails.org/resources/economics/docs/NCbikeinvest.pdf>

The Economic and Social Benefits of Off-Road Bicycle and Pedestrian Facilities

Author: National Bicycle and Pedestrian Clearinghouse
Publisher: NBPC; Washington, DC; 1995

Length: 4 pp.

Availability: www.railtrail.org/ntec/resources.html or 1-888-388-NTEC.

Abstract: Technical assistance brief highlighting a number of economic (trail-related tourists & visitor expenditures in local communities, trailside property is at a premium, business is booming), social (close to home recreation, convenient transportation, health and fitness), and environmental (historic preservation, enhancing communities) benefits of trails.

Benefits of trails

Author: Minnesota Department of Natural Resources, Trails and Waterways Unit

Publisher: Minnesota Department of Natural Resources, Trails and Waterways Unit; St. Paul, MN; 1996

Length: 10 pp.

Availability: MN DNR, 612-297-1151.

Abstract: Short guide that discusses the economic, personal and social, and environmental benefits of trails.

Thinking green: A guide to the benefits and costs of greenways and trails

Author: Florida Department of Environmental Protection, Office of Greenways & Trails

Publisher: Florida Department of Environmental Protection, Office of Greenways Trails; Tallahassee, FL; 1998

Length: 23 pp.

Availability: FL, DEP, OGT, 877-822-5208 or www.dep.state.fl.us/gwt

Abstract: This report focuses on how greenways and trails affect communities in three areas: economic, ecological, and human/cultural. It includes a short look at the benefits and costs in each area and a worksheet to help identify and analyze them.

The Economic Impact of the Georgian Trail on the Town of Collingwood and Region

Author: Dunbar, Peter

Publisher: Town of Collingwood, Department of Parks, Recreation & Culture; Collingwood, Ontario, Canada; 1999

Length: 66pp.

Availability: pdunbar@town.collingwood.on.ca or 705-444-2500.

Abstract: Users along the 32-km Georgian Trail (rail-trail) in Ontario were surveyed to study the economic impact of the use of the trail. The study concludes that summer use generates about three million in expenditures from trail users.

Appendix F

Cape Charles Historic District Map

