



SalisburyTM

Greenway

PREPARED FOR THE CITY OF SALISBURY



DEVELOPED BY
JOHNSON, MIRMIRAN & THOMPSON, INC.

MASTER PLAN
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DRAFT

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PROJECT

INTRODUCTION

PROJECT INTRODUCTION

INTRODUCTION

Imagine what it would be like to stroll or bike along a path that traverses Salisbury along the picturesque Wicomico riverfront. The Salisbury Greenway will connect people to communities, schools, parks, and businesses along the way by providing nine miles of paths spanning over six and a half miles.

On the west side of Salisbury, the multiuse path will begin at Pemberton Park and continue along Pemberton Drive to Pemberton Elementary School. From there the path follows Ellegood Street to Marine Road and connects to Fitzwater Street. At the Salisbury Marina, the path parallels the Wicomico River through downtown, where it will continue on both sides of the river through City Park and past the Salisbury Zoo. The path will continue east, connecting to the Salisbury Skate Park, the Ward Museum of Wildfowl Art, and Parkside High School, before finally linking to Schumaker Park and Mallard Landing Retirement Community on the east side of Salisbury.

The Greenway will provide a continuous, non-vehicular, east-west route to move across Salisbury that is fully accessible and comfortable for people of all ages and abilities. It will be an attractive iconic symbol of Salisbury and serve as a regional destination. The Salisbury Greenway will be a legacy accomplishment for future generations to enjoy.



PROJECT PURPOSE

Salisbury has the potential to reap significant benefits by providing a continuous non-vehicular east-west route. The construction of the Greenway would benefit people of all ages, abilities, and economic interests. Studies have shown that greenways can benefit:

- Individual Health
- Access to Open Space
- Environmental Sustainability
- Alternative Modes of Transportation
- Economic Growth
- Increased Property Value

INDIVIDUAL HEALTH

Individual health has been shown to be improved by low-impact, cardio-vascular exercise, such as bicycling and walking, that burns calories, tones muscles, and reduces stress. Studies have shown that exercise can also improve moods and productivity, and be therapeutic by releasing endorphins. Furthermore, studies have shown that access to nature can improve one's mood, attention span, attitude, and overall health.¹ By creating spaces for walking and bicycling through the installation of the Salisbury Greenway, the City of Salisbury is introducing more opportunities for individuals to add exercise into their daily routine at any age or ability.

ACCESS TO OPEN SPACE

Salisbury is full of attractive resources and destinations, such as City Park, the Salisbury Zoo, Pemberton Historical Park, the Ward Museum of Waterfowl Art, and Schumaker Park. Many of these amenities can be found along the Wicomico River, but are currently not well connected to each other. The Greenway will link these amenities creating a continuous ribbon of parks and destinations that invite people to enjoy the riverfront and its neighboring destinations.

ENVIRONMENTAL SUSTAINABILITY

Bicycling and walking are energy efficient and indirectly reduce negative environmental impacts. Both are human-powered and emission-free modes of transportation with little to no carbon footprint.

Bicycle facilities require less space for travel lanes and parking, which limits the impact on the environment. The pavement associated with this Greenway will meet all environmental standards and regulations creating a net improvement by redeveloping sites that currently do not.

ALTERNATIVE MODES OF TRANSPORTATION

Bicycling and walking are alternatives to automobile transportation that can have positive side effects on a person's health, the local economy, and the surrounding environment. In urban settings, such as Salisbury, non-vehicular modes of transportation, such as walking or bicycling, can also foster connections within and between neighborhoods.

Another benefit is reduced travel time. As more people choose non-vehicular modes of transportation, overall congestion is reduced as there are less people in personal vehicles or on public transit.

By implementing the Salisbury Greenway, walking and bicycling can become a preferred mode of transportation, as it will provide a low-stress and safe alternative to driving for people of all ages and abilities. With the right infrastructure, walking or bicycling around Salisbury, can become viable alternatives that are fast, safe, and cost-effective.

¹Louv. 2005. Last Child in the Woods. Algonquin Books

PROJECT PURPOSE

ECONOMIC GROWTH

Non-vehicular modes of transportation provide significant direct and indirect economic benefits to a community's residents and businesses.

Direct benefits include:

- A reduction in fuel usage
- Decreased vehicle maintenance
- Decreased costs associated with traffic crashes

Indirect benefits include:

- Reduced need to new or expanded roads
- Reduced costs attributed to pollution
- Increased tourism

Salisbury can expect that the Greenway will improve tourism, increase business growth, and generate revenue through special events. Precedents from across the United States display similar economic improvements. The following are a list of examples of tourism, local business growth, and organized events that have occurred around the country after areas have implemented non-vehicular, transportation alternatives.

LOCAL BUSINESS

- Investments to improve bicycle infrastructure have demonstrated a positive economic impact on job growth. For every \$1 million invested in bikes lanes, the City of Baltimore has seen an increase of 14.4 jobs. This is compared to an increase of 7 jobs for every \$1 million spent on roadway projects.⁸
- Communities can capitalize from linking their towns to trail networks. There were 12 out of 18 businesses surveyed along the Great Allegheny Passage (GAP) that stated that the trail impacted their decisions to expand their business.³
- Businesses surveyed along the GAP reported that in 2013, 34% of their annual business originated from the trail; in 2014 the average increased to 41%.³
- A conservative estimate of the economic impact bicyclists' have on the northern Outer Banks is \$60 million annually. This impact produces additional benefits to the local economy, including creation or support of 1,400 jobs and increased sales to local restaurants, retail stores, and lodging establishments.⁹

TOURISM

- Trail users in Pennsylvania and New Jersey are spending \$273 per year on bicycle hard goods, such as bikes, shoes, clothes, etc. They also report spending \$16.30 per day trip on soft goods such as food, beverages, etc.²
- The 45-mile Mon River trail system in Morgantown, West Virginia is credited by the Convention and Visitors Bureau for revitalizing an entire district of the city, with a reported \$200 million in private investment as a direct result of the trail.³
- Along the Great Allegheny Passage (GAP) users report spending approximately \$18 on day trips. Of all trail users along the GAP, 62% plan overnight visits and spend an average of \$124.58 per night.⁴
- A study found that trail users typically spend \$18 to \$30 per person per day on cycling trips.⁵
- Cyclists touring in the State of Montana spend on average \$75.75/person/day and stay 8 nights or more in the state on average. That's an average of \$606/person. Economically, small town communities could see considerable benefits from encouraging bicycle tourism in their community that they may otherwise not experience through traditional tourism.⁶
- In 2015, about one-fifth of Central Ohio trail users reported spending between \$15 and \$20 for refreshments and dining on a trail visit.⁷

² Rails to Trails Conservancy. Rural Trails Survey Data. 20 Rails-to-Trails Conservancy Pennsylvania and New Jersey Surveys. 2006-2016. Accessed September, 2016. <http://www.railstotrails.org/resourcehandler.ashx?id=7591>

³ Danzer. R. (2006) "Trails and tourism." Rails to Trails Magazine, Summer 2006

⁴ Trail Town Program. Trail User Survey and Business Survey Report-Great Allegheny Passage. March 2016. Accessed September, 2016. <http://www.trailtowns.org/wp-content/uploads/2015/08/2015-GAP-Report.pdf>

⁵ Betz et al, A Contingent Trip Model for Estimating Rail-Trail Demand. Journal of Environmental Planning and Management. 2003.

⁶ Institute for Tourism and Recreation Research, University of Montana. Analysis of Touring Cyclists: Impacts, Needs, and Opportunities for Montana. December, 2013. Accessed September, 2016. http://scholarworks.umt.edu/itrr_pubs/226/

⁷ University of Minnesota prepared for the cities of Columbus, Hilliard, New Albany, Westerville, and Canal Winchester, and Franklin County Metro Parks, Ohio Parks and Recreation Association, and Rails-to-Trails Conservancy. The Impacts of Central Ohio Trails. June 2015. Accessed September, 2016. <http://morpc.org/Sustainability/greenways-water-quality/impact-of-trails-study/index>

⁸ Garrett-Peltier. Political Economy Research Institute (PERI) University of Massachusetts. Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts. June, 2011. Accessed September, 2016. http://www.peri.umass.edu/fileadmin/pdf/published_study/PERI_ABikes_October2011.pdf

⁹ North Carolina Department of Transportation, Division of Bicycle and Pedestrian Transportation. Pathways to Prosperity-The Economic Impact of Investments in Bicycle Facilities. April, 2004. Accessed September, 2016. <https://www.dep.state.fl.us/gwt/community/PDF/NCbikeinvest.pdf>

¹⁰ Salisbury University. Sea Gull Century's Economic Impact. September, 2001. Accessed September, 2016. <http://www.salisbury.edu/news/article.html?id=1459>

PROJECT PURPOSE

ORGANIZED BICYCLE RIDES AND EVENTS

- It is estimated that the SeaGull Century (nationally acclaimed bicycling event), held on Lower Eastern Shore roads in Maryland, brings \$1.4 million to the local economy, some of which will be re-spent locally, for a total economic boost of \$2.5 million.¹⁰
- In the 2012, Oregon travelers who participated in bicycle-related activities spent \$174.6 million on accommodations and food services, \$53.5 million on groceries, \$71.5 million on motor fuel, \$31.9 million on bicycle/cycling event fees, and \$27.9 bicycle repairs, clothing, and gear.¹¹
- While in Menomonie, Wisconsin, the Nature Valley Bicycle Festival brought an estimated \$1.2 million in sales of food, transportation, and other tourism products to the local economy. Of that total, \$65,453 was from direct event and spectator expenses from the Menomonie Road Race (Stage 5 of the professional bicycling road race of the festival).¹²
- Race Across America (RAAM), the annual 3,000-mile bicycle race, which begins in Oceanside, CA and ends in Annapolis, MD, generated \$37.4 million nationwide between 2008 and 2014. The local economy of Oceanside, CA generates \$3 million in revenue annually due to the bump in visitor spending the week of the race.¹³

¹¹ Dean Runyan Associates prepared for Travel Oregon. The Economic Significance of Bicycle-Related Travel in Oregon. 2012. Accessed September, 2016. http://www.deanrunyan.com/doc_library/bicyclertravel.pdf

¹² University of Wisconsin Department of Economics. The Economic Impact of the Nature Valley Bicycle Festival: A Pilot Study of the Stage 5 Menomonie, WI Road Race. August, 2010. Accessed September, 2016.

¹³ Endurance Sportswire. Economic Impact of the Race Across America is in the Millions. February, 2015. Accessed September, 2016. <http://www.endurancesportswire.com/economic-impact-of-the-race-across-america-is-in-the-millions-14/>

¹⁴ National Association of Realtors and National Association of Home Builders. (2002) Consumer's Survey on Smart Choices for Home Buyers

¹⁵ Lindsey et al, Property Values, Recreation Values, and Urban Greenways. Journal for Park and Recreation Administration. V.22, No.3. 2004.

¹⁶ Nicholls, S. and J Crompton (2005) "The impact of greenways and trails on property values: evidence from Austin, Texas." Journal of Leisure Research 37: 321-341

¹⁷ Center for Applied Demography & Survey Research, University of Delaware. Property Value/Desirability Effects of Bike Paths Adjacent to Residential Areas. November, 2006. Accessed September, 2016. <https://www.railstotrails.org/resourcehandler.ashx?id=4482>

¹⁸ Economy League of Greater Philadelphia, Ecoconsult Corporation, & Keystone Conservation Trust prepared for The GreenSpace Alliance & The Delaware Valley Regional Planning Commission. The Economic Value of Protected Open Space. January 2011. <http://www.dvrpc.org/reports/11033A.pdf>

¹⁹ www.railstotrails.org

²⁰ Brown, S. (2006) "Making tracks to the Kay Trail: Urban path is an amenity that developers are rushing to incorporate into plans." Dallas Morning News, December 22

²¹ Hopey, D. (1999) "Prime location on the trail." Rails-to-Trails Magazine, Fall/Winter

²² Brabec, E. (1992) "On the value of open spaces." Scenic America, Technical Information Series, Vol. 1, No. 2

INCREASE IN PROPERTY VALUE

Research has found that the presence of paths and bicycle facilities can increase property values and resale value. Potential home owners are often enticed to purchase homes in areas with connections to bicycle facilities and trails, as these amenities provide access to nature, exercise, and community interaction. The National Homebuilding Association conducted a survey that ranked access to trails as the second most important community amenity. Trails were cited by 57 percent of prospective buyers in a 2004 survey by the association, ahead of public parks and outdoor pools.¹⁴ Additionally the following areas that saw increased property value from greenway or trail development.

- A 2004 study in the Journal for Parks and Recreation assessing communities across the country found that communities with good access to bicycle facilities are more desirable and home prices are on average 11% higher than communities without bicycle facilities.¹⁵
- In Austin, Texas, increased property values associated with a single greenway were estimated to result in \$13.64 million of new property tax revenue.¹⁶
- A study done in Delaware found that properties within 500 meters (3/10 mile) of bike paths in New Castle County, Delaware show a positive significance with a property value increase of at least \$8,800.¹⁷
- A 2011 study developed for the GreenSpace Alliance and the Delaware Valley Regional Planning Commission found that properties within a quarter-mile of the Radnor Trail in Radnor Township, Pennsylvania, were valued on average \$69,139 higher than other properties in the area located away from the trail.¹⁹
- In Dallas, developers report that there is a 25% premium for properties adjacent to the Katy Trail.²⁰
- The Shepard's Vineyard housing development in Apex, North Carolina, added \$5,000 to the price of 40 homes adjacent to the regional greenway – and those homes were still the first to sell.²¹
- Land adjacent to a greenbelt in Salem, Oregon, was found to be worth about \$1,200 an acre more than land only 1,000 feet away.²²

PLANNING METHODOLOGY

The Greenway has been proposed for decades by the City of Salisbury, but this Master Plan is the culmination of the first detailed feasibility analysis conducted by the City. Summer 2016, the analysis process occurred. This included multiple field visits to collect data and analyzing the data and subsequent potential alignments to identify the best alignments, proposed costs, potential constraints, and potential funding sources.

During the process, various alignments were studied and reviewed with stakeholders (see Reviewed Alignments). The selected alignment (see Overall Alignment) was chosen because it maximized connectivity, safety, scenic quality, and access to key destinations, while minimizing construction costs, impacts to environmentally sensitive sites, and impacts to properties. The proposed alignment uses existing trails where possible and identifies where key links were created to span existing gaps in the network.



EXISTING EXPERIENCE ON
PEMBERTON DRIVE

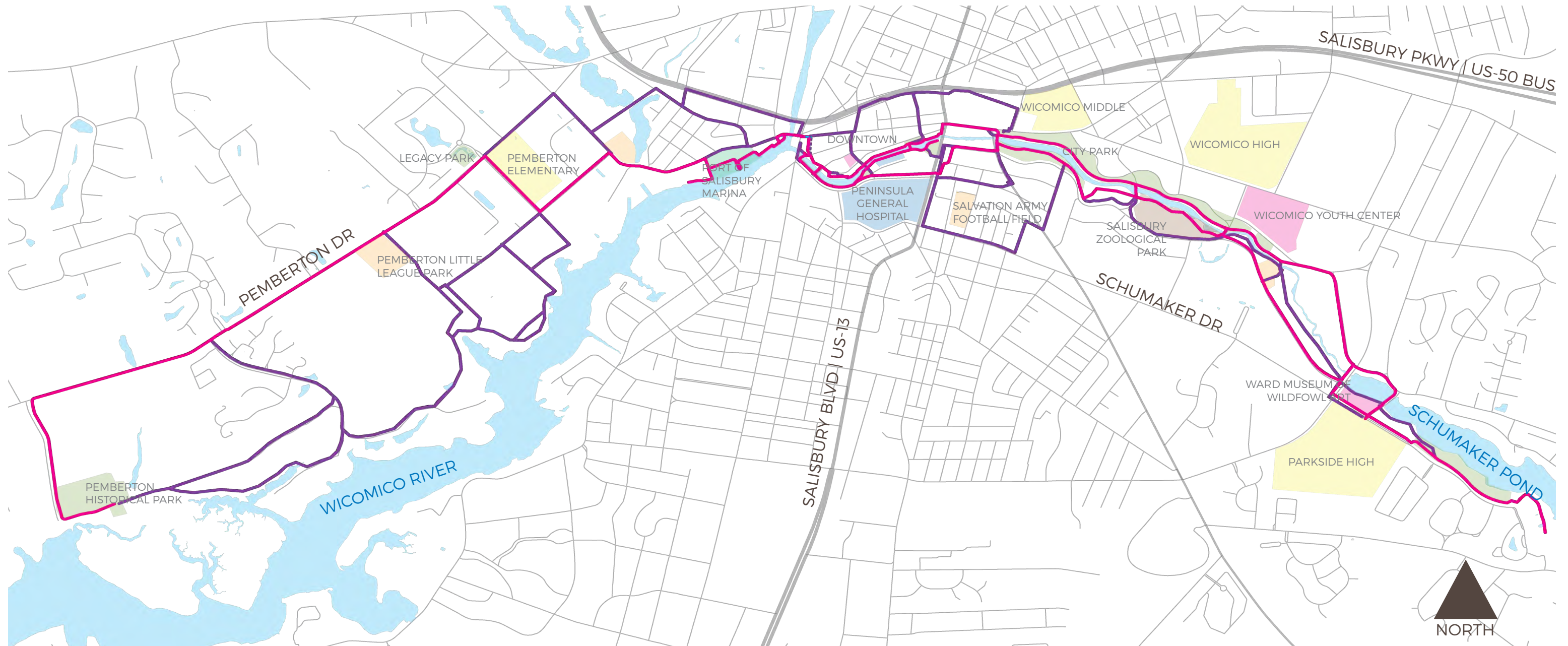


NEWLY INSTALLED CONCRETE
BULKHEAD ALONG THE
PROPOSED GREENWAY



EXISTING MEANDERING
CRUSHER RUN PATHS
THROUGH CITY PARK

REVIEWED ALIGNMENTS



— PROPOSED GREENWAY
 — ALTERNATIVE ALIGNMENTS REVIEWED

 PARK	 SCHOOL
 ZOO	 HOSPITAL
 MARINA	 CIVIC BUILDING

PROPOSED ALIGNMENT

After reviewing all potential alignments, the proposed Greenway alignment was chosen based on its connectivity to amenities, potential user safety, and scenic quality. The proposed alignment was also chosen because it minimized construction costs and impacts to the Chesapeake Bay Critical Area, while using many existing paths.

The overall proposed alignment for the Greenway can be seen on the adjacent page with key areas of interest called out.

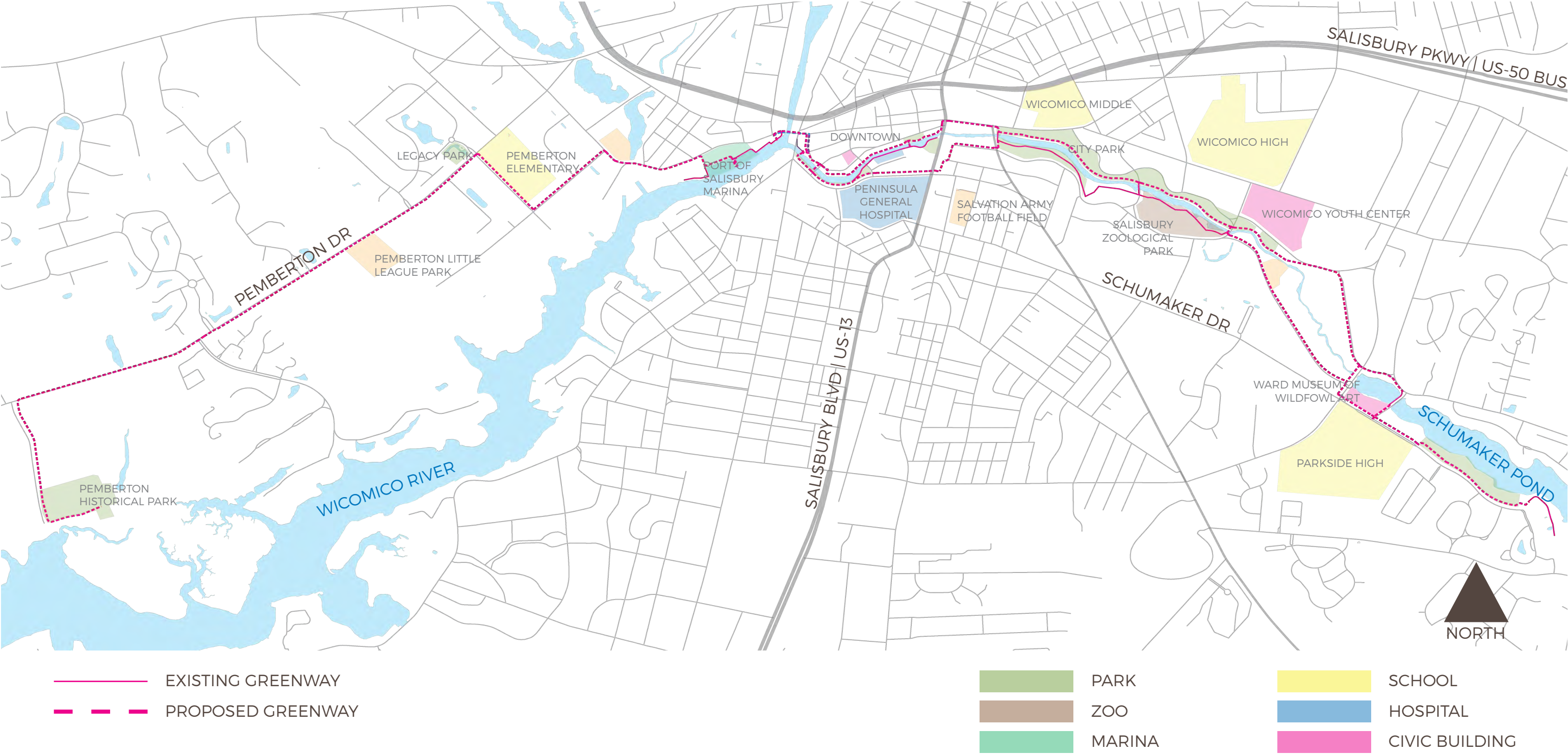
ANTICIPATED PERMITTING REQUIREMENTS

Sensitive environmental features have been a consideration in developing alignments and selecting a preferred alignment. The goal is to avoid and minimize impacts to the natural, cultural, and socioeconomic environment as much as possible. However, not all impacts are avoidable. There are a number of environmental permits that may be required depending on the resource as well as funding mechanism. If only local money is used, then only local regulations will apply. State or Federal funding sources will require State and Federal environmental compliance.

It is recommended to conduct a comprehensive environmental assessment for the entire alignment rather than segments. Although some of the phases may have independent utility and will not be constructed at the same time, the greenway as a whole would be considered as a single project by regulatory agencies. An effort to segment permitting requirements and separate the cumulative impacts would likely not be approved by regulatory agencies.

APPLICABLE PERMITS & REGULATIONS		
REGULATION	REQUIREMENTS	LEAD AGENCY
NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)	An assessment of all impacts to all possible resources along with a public involvement process. It's anticipated that a trail of this magnitude would require an Environmental Assessment level of analysis to determine whether impacts are significant. NEPA is required whenever there is a federal action, including a Federal permit or Federal funding.	Federal Highway Administration (FHWA) & State Highway Administration (SHA)
SECTION 404 OF THE CLEAN WATER ACT	Permit for impacts to tidal and non-tidal wetlands, floodplains, and Waters of the US.	Army Corps of Engineers (USACE)
MARYLAND WATER QUALITY CERTIFICATION, SECTION 401	Certification for any floodplain, waterway, tidal or non-tidal wetland impact to ensure that state water quality standards are maintained. This certification is necessary for any Section 404 permit and is part of a joint permit application process.	Maryland Department of the Environment (MDE)
SECTION 10 OF THE CLEAN RIVERS AND HARBORS ACT	Permit for the placement of structures in Waters of the US or disposal of dredged material, including jurisdictional wetlands.	Army Corps of Engineers (USACE)
SECTION 7 OF THE ENDANGERED SPECIES ACT	Agency coordination and screening for impacts to rare, threatened, or endangered species.	U.S. Fish and Wildlife Service
MARYLAND NONGAME AND ENDANGERED SPECIES CONSERVATION ACT	Agency coordination and screening for impacts to rare, threatened, or endangered species.	Maryland Department of Natural Resources (DNR)
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT	Agency coordination and screening for impacts to historic and cultural resources, including historic properties, historic districts, and archeologically sensitive areas. A Memorandum of Agreement is needed to concur on allowable impacts and appropriate mitigation measures.	Maryland Historic Trust (MHT)
SECTION 4(F) OF THE U.S. DEPARTMENT OF TRANSPORTATION ACT OF 1966	A Section 4(f) Evaluation is required in instances where a transportation project impacts public parkland, recreation areas, wildlife or waterfowl refuge, or a significant historic site. Impacts to these resources are only allowable if no other feasible and prudent alternative exists.	Federal Highway Administration (FHWA) & State Highway Administration (SHA)
SECTION 402 OF THE CLEAN WATER ACT, NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)	Permit for erosion and sediment control during construction and for stormwater drainage requiring stormwater management in accordance with the Maryland Stormwater Design Manual.	Maryland Department Of The Environment (MDE)
CHESAPEAKE BAY CRITICAL AREAS	Coordination and approval from the Critical Areas Commission on impacts to areas within 1,000 feet of tidal waters of the Chesapeake Bay.	Critical Areas Commission (CAC)
FOREST CONSERVATION ACT	Approval on a Forest Stand Delineation and Forest Conservation Plan for impacted areas over 40,000 square feet outside of the Chesapeake Bay Critical Area.	Maryland Department of Natural Resources
COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERLCA)	An environmental assessment of potential hazardous materials should be conducted in areas with a history of industrial use or areas with potential for hazardous contamination. The Phase I assessment would identify potential risks. If any risk is identified, further assessment and clean up measures would be required.	Environmental Protection Agency (EPA)

PROPOSED ALIGNMENT



FACILITY

TYPOLOGY

FACILITY TYPOLOGY



LIVING SHORELINE

This typical section was developed for the area adjacent to the Market Street Inn where the living shoreline was recently installed. The objective is to maintain parking for the restaurant and adjacent businesses, while creating a 10-foot trail adjacent to the living shoreline. A bioswale adjacent to the parking lot will remediate the stormwater runoff from the parking lot before entering the river, as well as provide a two-foot buffer from the Greenway. Along Market Street a five-foot sidewalk is maintained with a three-foot ornamental grass strip buffering the parking lot drive aisle from pedestrians. Existing on-street parking is expected to remain adjacent to the sidewalk.

FACILITY TYPOLOGY



BULKHEAD

Along the Wicomico River in downtown Salisbury, much of the Greenway has been installed using this typical section. It is proposed that the newly installed Greenway be expanded four-feet to create a 12-foot typical section. This added width will allow for a railing to be installed as a safety precaution and maintain the typical 10-foot walkway. Vegetation, seating, signage, and lighting are proposed to be installed adjacent to the concrete path. Specific locations are preliminarily discussed in each phase of the alignments section of this document.



OFF-ROAD TRAIL

The proposed greenway includes multiple areas where the trail veers away from the roadway, creating its own alignment. In these Off-Road Trail sections, a shared-use path will exist for pedestrians, cyclists, and other non-motorized users, such as skate boarders and roller bladers. The American Association of State Highway Officials (AASHTO) suggests the minimum width for these facilities is eight feet in restricted areas, however a 10 to 12-footwidth is recommended. The trail should also include a two-foot clear zone or shoulder area along each side, which does not need to be paved. The suggested design speed is 14 miles per hour with a minimum curve radius of 36 feet.

The proposed greenway includes multiple areas where Off-Road Trails are proposed. The material may also change for the trail depending on its context, but must always follow the Americans with Disabilities (ADA) standards for cross slope (2% maximum), grade (5% maximum), a smooth surface texture, and handicap-accessible ramps where needed. A concrete path is recommending for areas in Phases 1-4,. An asphalt path is recommended for areas in Phases 5, 6, 8-11. Additionally, a smoothly graded and compacted aggregate surface (crusher run) is recommended for Phase 7.

FACILITY TYPOLOGY

TWO-WAY PROTECTED CYCLE TRACK

A cycletrack is an on-road bicycling facility that is physically separated from vehicular and pedestrian traffic. It can improve user safety and comfort for both cyclists and pedestrians because each has their own dedicated space. The cycletrack proposed for Carroll Avenue is a two-way route with five to six foot lanes in each direction located along the north side of the road, closest to the waterfront. It will be physically separated from the roadway with a painted buffer strip and space for parked cars, and physically separated from pedestrians by a curb and green strip between the cycletrack and sidewalk.

Today, Carroll Avenue is a four-lane road without any designated bicycle facility or on street parking. With average daily traffic around 10,000 cars, there is excess capacity that can be reduced to create a new typical section. The proposed roadway would be reduced to two through lanes with on-street parking, a buffer strip, and the cycletrack without the need for any roadway widening. In places where left turn lanes are necessary, the on-street parking lane can be removed to ensure adequate space for safe traffic operations.



FACILITY TYPOLOGY

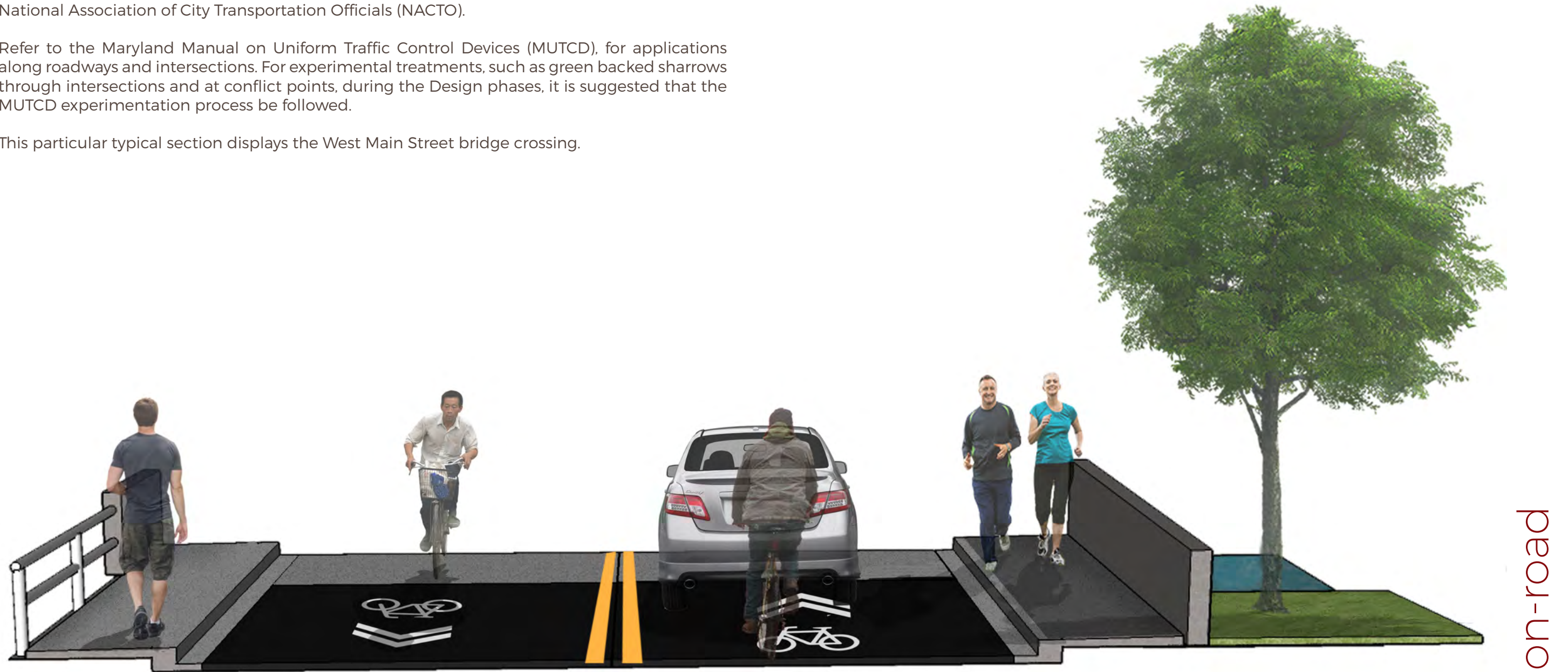
SHARROWS

Throughout the Greenway there are roadway crossings and areas where right-of-way becomes limited. In these locations, bicyclists will be directed by sharrows and signage to use the roadway. A sharrow is a roadway symbol of a bicycle with two chevrons above it. Sharrows indicate to cyclists and motor vehicles that they should share the lane.

Green backed sharrows have been used for high-conflict points to draw attention to drivers and should be considered through intersections and at driveways crossings, according to the National Association of City Transportation Officials (NACTO).

Refer to the Maryland Manual on Uniform Traffic Control Devices (MUTCD), for applications along roadways and intersections. For experimental treatments, such as green backed sharrows through intersections and at conflict points, during the Design phases, it is suggested that the MUTCD experimentation process be followed.

This particular typical section displays the West Main Street bridge crossing.



on-road

FACILITY TYPOLOGY

SIDEPATH TRAIL

A Sidepath Trail is a shared-use path that parallels a roadway. In these sections, a shared-use path will exist for pedestrians, cyclists, and other non-motorized users, such as skate boarders and roller bladers. The same standards and guidelines from AASHTO and ADA are used for these facility types, however, they typically follow the same alignment as the roadway. The AASHTO suggests the minimum width for these facilities is eight feet in restricted areas, such as around a utility pole or mailbox. However, a 10 to 12-foot width is recommended. The trail should also include a two-foot clear zone or shoulder area parallel to each side of the path, which does not need to be paved.

The proposed greenway includes multiple areas where Sidepath Trails are proposed. The material may also change for the trail depending on its context, but must always follow the Americans with Disabilities (ADA) standards for cross slope (2% maximum), grade (5% maximum), a smooth surface texture, and handicap-accessible ramps where needed. A concrete path is recommending for areas in Phases 1-4. An asphalt path is recommended for areas in Phases 5, 6, and 8-11. Additionally, a smoothly graded and compacted aggregate surface (crusher run) is recommended for Phase 7.



FACILITY TYPOLOGY



PLANTATION LANE

Phase 7 is located at the entrance to Pemberton Historical Park and runs parallel to Plantation Lane. The typical section depicts Plantation Lane, the existing gravel road, adjacent to the existing grass swale and allee (row of trees). North of the allee, a 10-foot wide crusher run path completes the farthest west segment of the Salisbury Greenway. Crusher run was chosen for this section due to the historical context of the site. The material is ADA compliant and roughly one-third of the cost of an asphalt path. There is long-term maintenance associated with crusher run, as it has a shorter life expectancy than asphalt.

For vegetation, seating, signage, and lighting locations along this typical section, refer to the alignments section of this document.

FACILITY TYPOLOGY

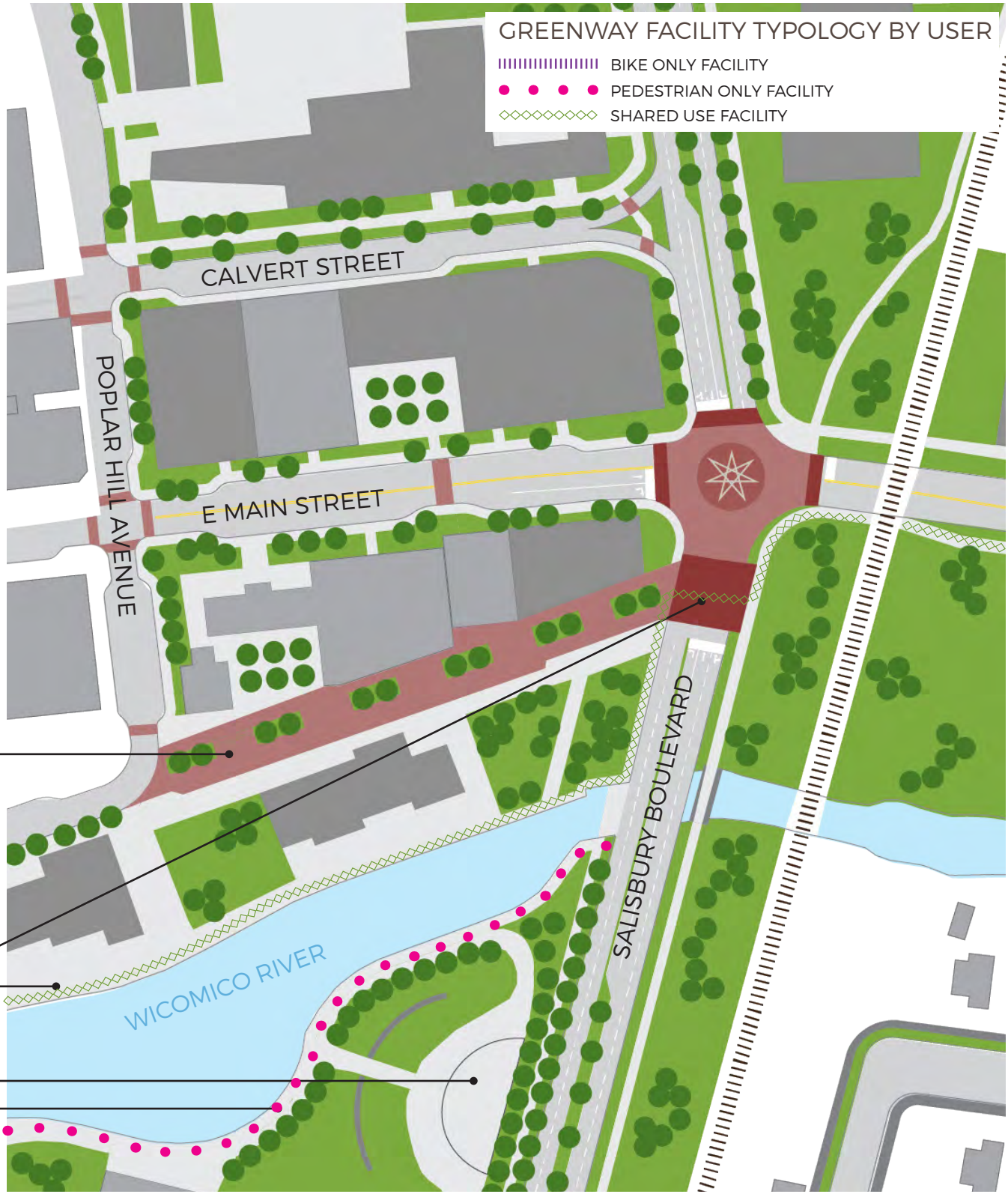
SALISBURY BLVD | MARKET ST | EAST MAIN ST

The Greenway will cross Salisbury Boulevard at Main Street helping to draw people into downtown Salisbury. Conversely the Greenway will draw people from downtown to patronize businesses along the Wicomico River or continue to amenities along the corridor to the east of Salisbury Boulevard.

Due to the five-point intersection that currently exists at East Main Street and Salisbury Boulevard, the Salisbury Boulevard Master Plan proposes that the existing Market Street between Poplar Hill Avenue and Salisbury Boulevard be transformed into a woonerf²³ and direct traffic to make a safer connection to Salisbury Boulevard from East Main Street by following Market Street to Poplar Hill Avenue to East Main Street.

East Main Street is a logical crossing (phase 3 alignment) location for the Greenway at Salisbury Boulevard staying central to the city and following the riverfront closely. However, the railroad bridge crossing over East Main Street today serves as a pinch point minimizing space available for pedestrian and bicycle use with limited visibility on either side. Expanding the bridge opening, would allow for more space to accommodate the Greenway and better connect the community east of Salisbury Boulevard with downtown.

Until this accommodation can be made, the Greenway will take an alternative route (phase 2 alignment) to the south, following Carroll Street to the railroad tracks to Pond Street and along Park Drive to City Park. At City Park the Greenway continues towards the Salisbury Zoo and Ward Museum.



²³Woonerf means residential yard in Dutch. The concept stems from the idea that the living environment predominates the street, rather than vehicular infrastructure. A woonerf is designed to share the space between pedestrians, bicyclists, and motor vehicles; however pedestrians have priority over cars. Additionally, the street is designed without clear division between pedestrian and auto space (no curb). Woonerfs are also known as shared streets.

FACILITY TYPOLOGY

MARKET STREET

In Phase 1, along Market Street to the east of Circle Avenue, is the Market Street Inn, a well-known restaurant in downtown Salisbury on the Wicomico River. This area has a variety of typical sections that occur, as well as a few unique existing constraints, a metered parking lot and a living shoreline. Due to these constraints, this area required a more detailed Greenway plan than most other areas where a typical section can be applied to an alignment line.

In an effort to retain the existing living shoreline, maximize the parking, and add a ten-foot wide shared-use path for the Greenway, as well as include a standard sidewalk adjacent to the roadway, the following schematic plan was developed.

On the west at the intersection of Circle Avenue and Market Street, the Greenway separates pedestrians and cyclists. Users can cross the Wicomico River on the Circle Avenue bridge or continue on the north side of the Wicomico River along Market Street.

To reduce implementation costs, bridge widening was not considered and cyclists are to share the road in either option. Green backed sharrows are displayed through the intersection to draw attention to cyclists crossing through the intersection.

Once across Circle Avenue on the north side of the river, pedestrians follow the sidewalk and cyclists continue on the roadway for about 50-feet. After the Market Street Inn, cyclists can rejoin pedestrians on the 10-foot shared use path that is the Greenway. The path runs parallel to the Wicomico River at this point, adjacent to the living shoreline (see Living Shoreline Typical Section for details), and connects with the recently constructed bulkhead section of the Greenway, where it is proposed to be widened to a 12-foot path.

The parking lot has been realigned to allow for a consistent 24-foot drive aisle. Traffic can enter and exit at the west side approach, but traffic can only exit at the east side approach to allow for better parking lot circulation.



ALIGNMENTS

OVERALL ALIGNMENT



EXISTING VIEW ALONG THE GREENWAY (PHASE 2).

PHASING

The alignment for the Greenway is broken up into eleven phases that can serve an independent purpose. The phases may either be built in stages or grouped so that several phases are built together. However, not all phases need to be built at the same time spread out the public investments over time and to take advantage of different grant funding programs. The highest priority phases are in the downtown area where it's expected to be the most visible and get the highest use. This can help build support and momentum for subsequent phases that spread out east and west.

The design for each phase varies based on the context, as illustrated earlier with the proposed typical sections. The conceptual design for the greenway uses standards from the American Association of State Highway and Transportation Officials (AASHTO) and National Association of City Transportation Officials (NACTO) for shared-use path and bicycle facility design. The greenway would also be compliant with the Americans with Disabilities Act (ADA) standards. Some of the existing paths used along the proposed Greenway would require some improvements to meet these standards.

A limit of disturbance (LOD) is shown for the entire alignment, which is based on a ten-foot buffer from the trail edge to accommodate grading, drainage, lighting, or trail amenities. This offset has been used for estimating purposes only to determine potential impacts to properties or environmental features. The actual LOD will vary and become refined during the final design process based on grading, drainage, stormwater management, utilities, ramps, and appurtenances along the Greenway.

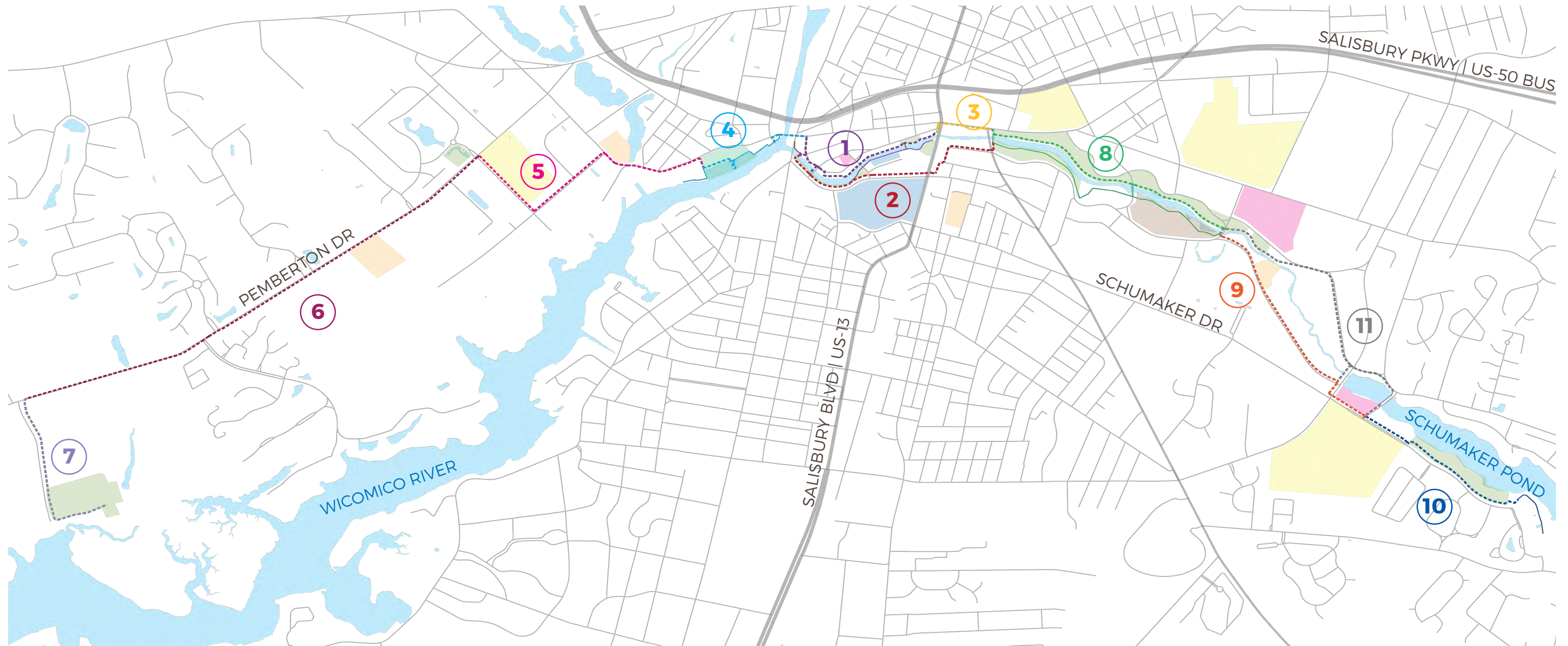
EXISTING 8-FOOT WIDE STAMPED CONCRETE GREENWAY ALONG THE NORTH SIDE OF THE WICOMICO RIVER (PHASE 1).



VIEW OF SCHUMAKER POND AND WATER ACCESS LOCATED WITHIN SCHUMAKER PARK ALONG THE GREENWAY (PHASE 10).

PLANNING LEVEL COST ESTIMATE
TOTAL \$15,217,380

OVERALL ALIGNMENT



1 RIVERWALK

4 MARINA

7 HISTORIC CONNECTION

10 SCHUMAKER PARK

2 SOUTH CONNECTION

5 SAFE ROUTES TO SCHOOL

8 CITY PARK

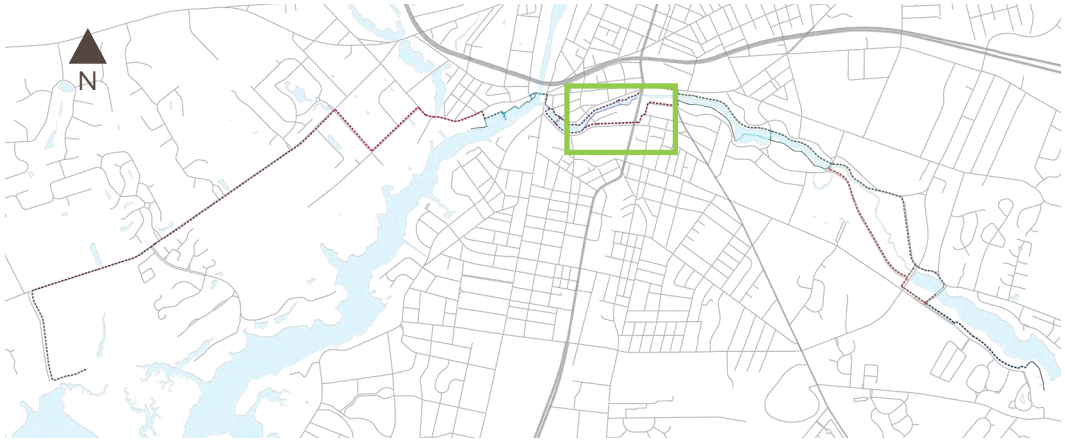
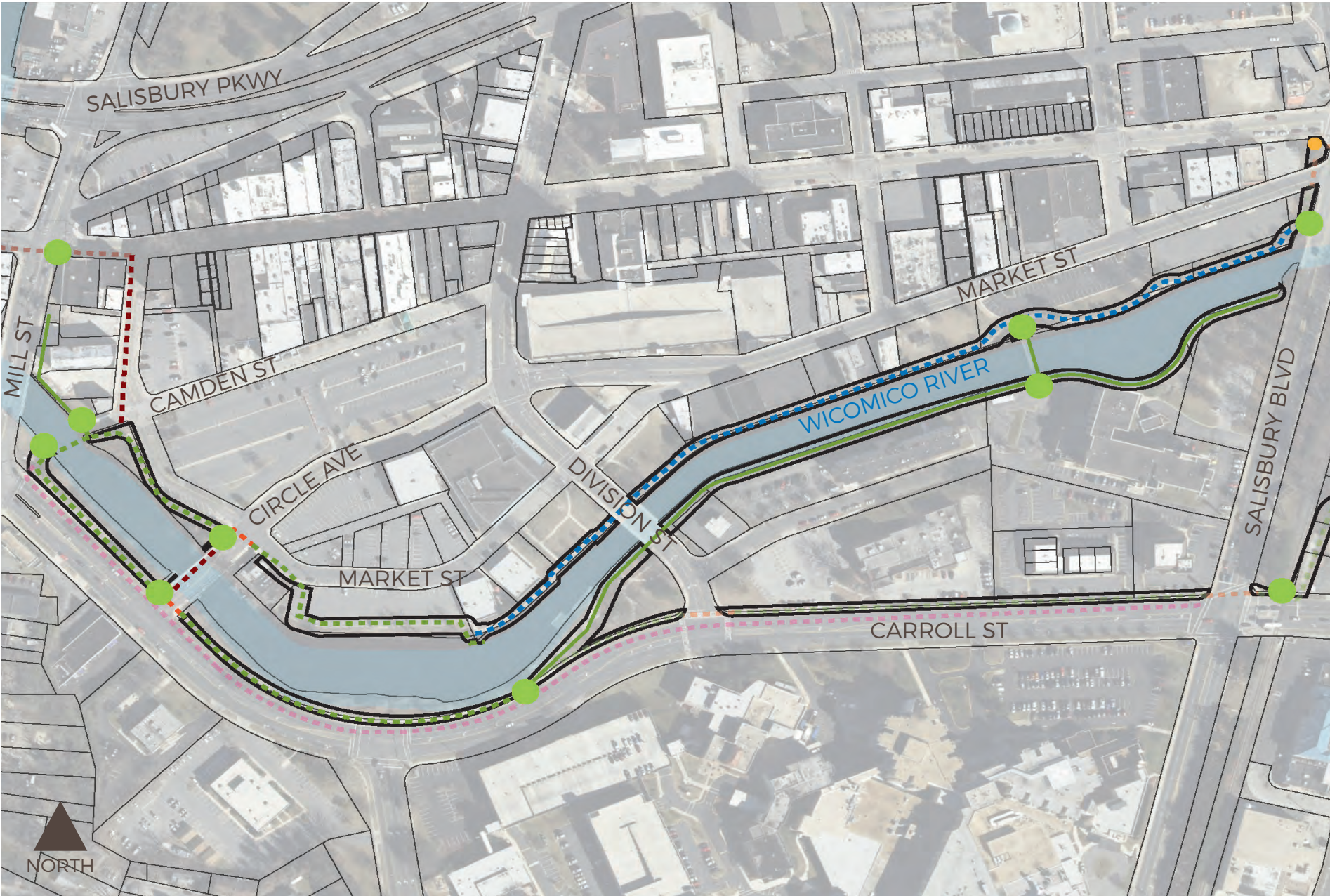
11 NORTH PARK DRIVE

3 NORTH CONNECTION

6 PEMBERTON DRIVE

9 ZOO TO WARD

PHASE 1 | RIVERWALK



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- SHARED USE PATH - PAVED NEW
- SHARED USE PATH - PAVED WIDENING
- SHARED USE PATH - GRAVEL
- ON-ROAD - SHARROW
- ROADWAY CROSSING
- TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER

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PHASE 1 | RIVERWALK

Phase 1 of the Greenway is focused on movement within downtown Salisbury along the Wicomico River. The 0.5 mile segment starts on the western edge at the intersection of West Main Street/West Market Street and extends to Salisbury Boulevard/East Market Street on the east. The route includes a six-foot wide ADA compliant sidewalk on the west side of West Market Street with a parallel on-road shared bicycle facility with sharrow lane markings until Camden Street, where Phase 2 begins with a proposed bridge that cyclists will be direct to. Phase 1's installation continues along the north side of the Wicomico River for pedestrians with a 10-foot wide paved stamped concrete path to Circle Avenue. Crossing Circle Avenue, cyclists will remain on the roadway and pedestrians will cross with a crosswalk and remain on the 6-foot wide sidewalk.

The sidewalk will connect to a 10-foot wide stamped concrete path between the parking lot and the living shoreline. This path will connect to the existing 8-foot wide stamped concrete path, which is proposed to be widened to 12-feet. The widening is to allow for higher volumes of pedestrians during festivals and as downtown development occurs. For added safety, a railing is proposed to be installed along the bulkhead sections of the Greenway.

PLANNING LEVEL COST ESTIMATE

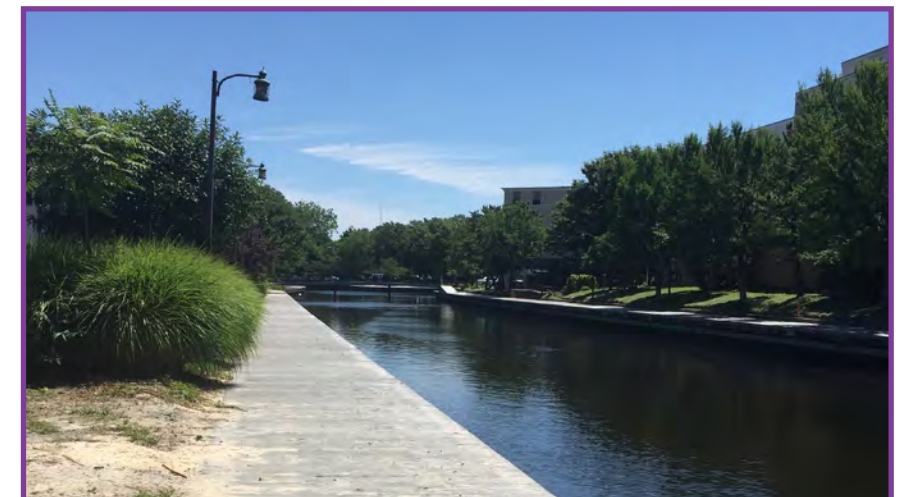
ITEMIZED CONSTRUCTION COST		\$910,000
CONTINGENCY	30%	\$273,000
NEAT CONSTRUCTION COST		\$1,183,000
DESIGN AND PERMITTING	15%	\$177,450
CONSTRUCTION MANAGEMENT	10%	\$118,300
TOTAL RIGHT OF WAY		\$34,000
TOTAL COST		\$1,512,750

EXISTING EXPERIENCE AT CAMDEN STREET WHERE THE GREENWAY IS TO BE INSTALLED AS A 10-FOOT WIDE, STAMPED CONCRETE PATH.

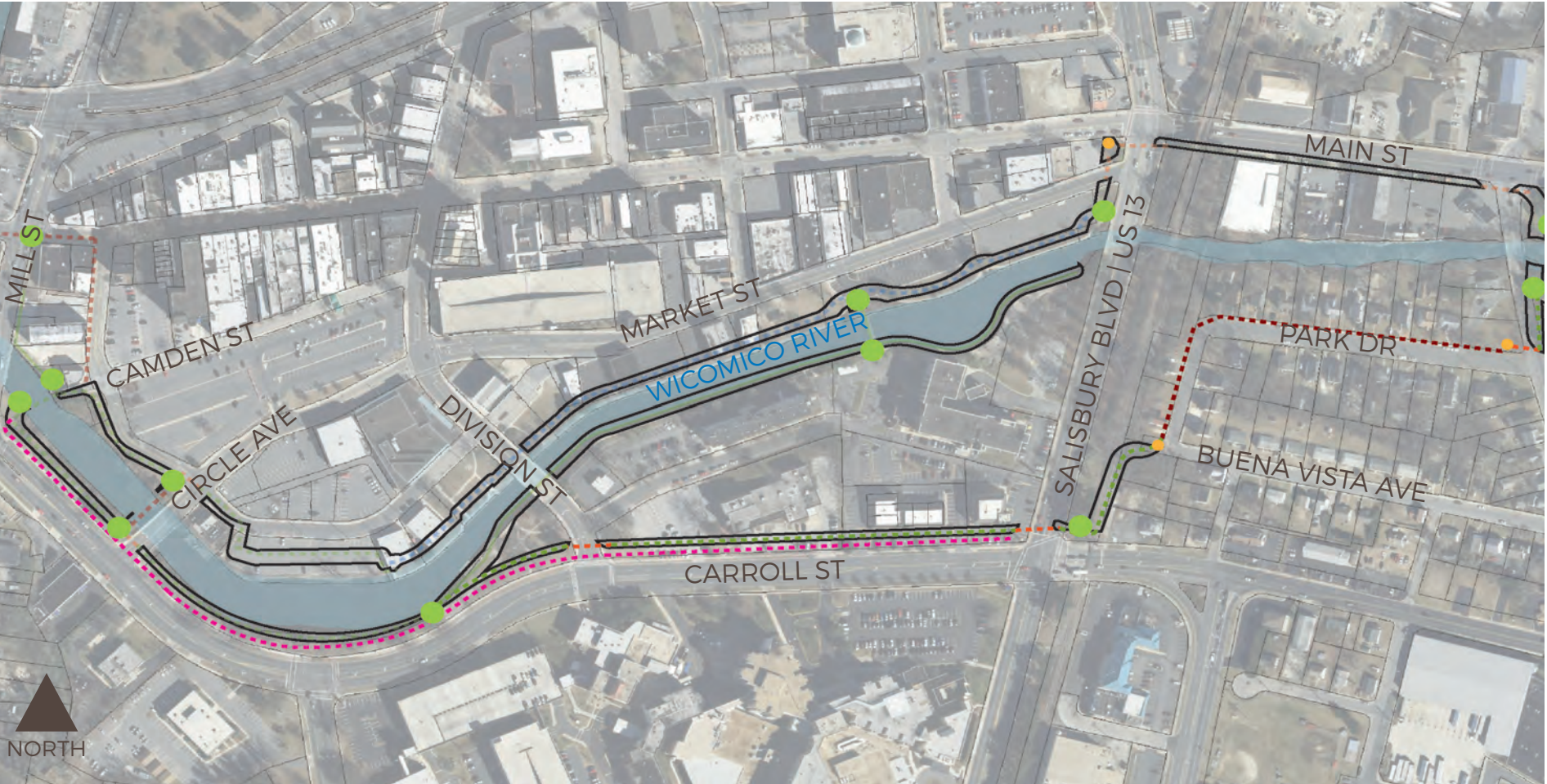
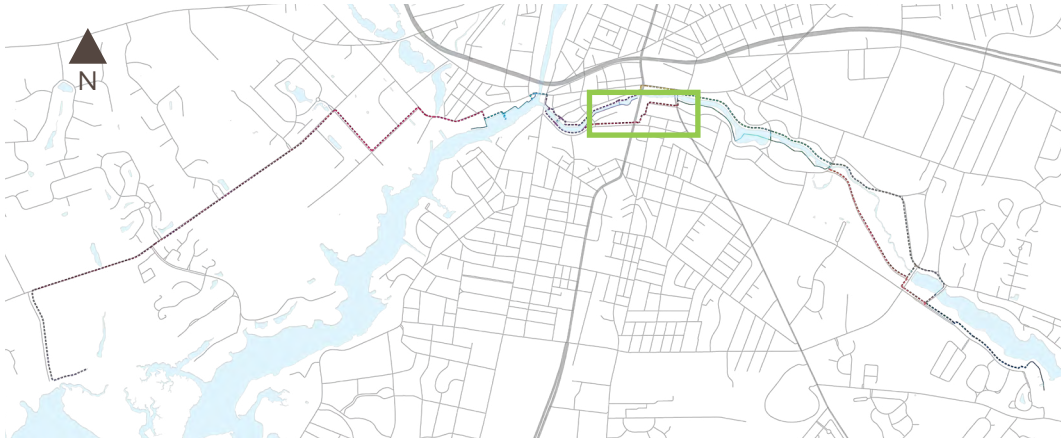


EXISTING LIVING SHORELINE ADJACENT TO THE MARKET STREET INN. GREENWAY IS TO BE INSTALLED AS A 10-FOOT WIDE, STAMPED CONCRETE PEDESTRIAN PATH BETWEEN LIVING SHORELINE AND PARKING LOT.

EXISTING 8-FOOT WIDE STAMPED CONCRETE GREENWAY ALONG THE RIVER EAST OF DIVISION STREET. GREENWAY IS TO BE EXPANDED BY 4-FEET ALONG THIS STRETCH AND A RAILING IS TO BE INSTALLED ADJACENT TO THE RIVER FOR SAFETY.



PHASE 2 | SOUTH CONNECTION



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- SHARED USE PATH - PAVED NEW
- SHARED USE PATH - PAVED WIDENING
- SHARED USE PATH - GRAVEL
- ON-ROAD - SHARROW
- ROADWAY CROSSING
- TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER

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PHASE 2 | SOUTH CONNECTION

Phase 2 of the Greenway is focused on expanding the Greenway parallel to the Wicomico River along the south side and connecting to City Park for 0.55 miles. The limits begin at the intersection of Camden Street/Market Street where cyclists will be directed across the Wicomico River to the separated, two-way cycle track on Carroll Street.

Pedestrians and cyclists alike will cross the river on a new 20-foot by 80-foot pedestrian bridge. This bridge will be further developed during the 30% Design Phase. If pedestrians choose to continue on the Greenway on the south side of the river, they will walk along a 10-foot wide stamped concrete path.

The path splits just before Division Street, providing two routes. One route provides pedestrians access to the river front and the amphitheater area. This path currently an 8-foot wide stamped, concrete path and connects to an ADA accessible bridge that crosses the Wicomico River. The alternative route parallels Carroll Street and crosses Salisbury Boulevard at the signalized intersection. At this point cyclist rejoin pedestrians on an asphalt multiuse path along the railroad for a short distance to Pond Street.

The Greenway, along Pond Street and Park Drive, will require cyclists to share the road with vehicles, and pedestrians will walk on a 6-foot sidewalk until Snow Hill Road. At this point a new crosswalk will be added and the Greenway will continue through City Park, and Phase 8.

EXISTING CONDITIONS AT THE TERMINUS OF CAMDEN STREET AT THE WICOMICO RIVER. A GREENWAY PEDESTRIAN BRIDGE IS PROPOSED TO SPAN THE WICOMICO RIVER AT THIS POINT.



EXISTING SIDEWALK PARALLEL TO CARROLL STREET. GREENWAY PROPOSED PROTECTED TWO-WAY CYCLE TRACK ALONG THIS SECTION.

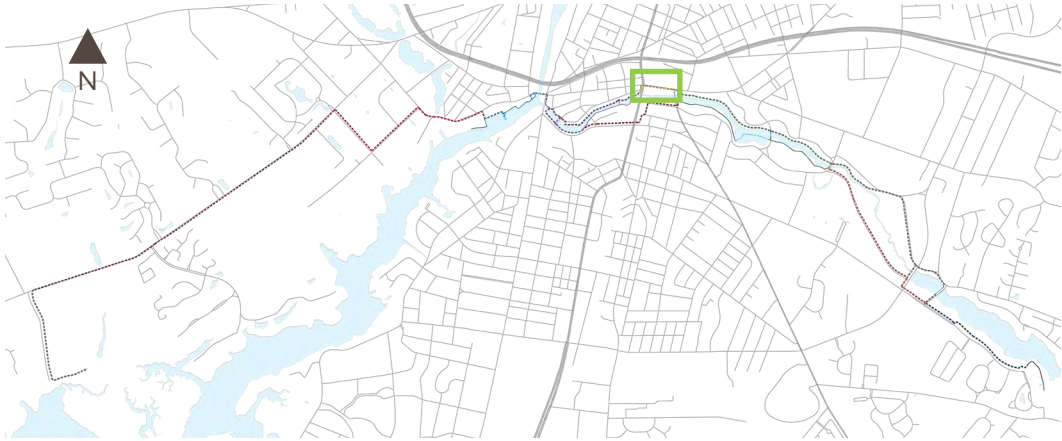
PLANNING LEVEL COST ESTIMATE

ITEMIZED CONSTRUCTION COST		\$393,000
CONTINGENCY	30%	\$117,900
NEAT CONSTRUCTION COST		\$510,900
DESIGN AND PERMITTING	15%	\$76,635
CONSTRUCTION MANAGEMENT	10%	\$51,090
TOTAL RIGHT OF WAY		\$60,500
TOTAL COST		\$699,125

EXISTING GREENWAY SEGMENT ADJACENT TO THE PROPOSED OUTDOOR AMPHITHEATER ON THE SOUTH SIDE OF THE WICOMICO RIVER.



PHASE 3 | NORTH CONNECTION



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- - - SHARED USE PATH - PAVED NEW
- - - SHARED USE PATH - PAVED WIDENING
- - - SHARED USE PATH - GRAVEL
- - - ON-ROAD - SHARROW
- - - ROADWAY CROSSING
- - - TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



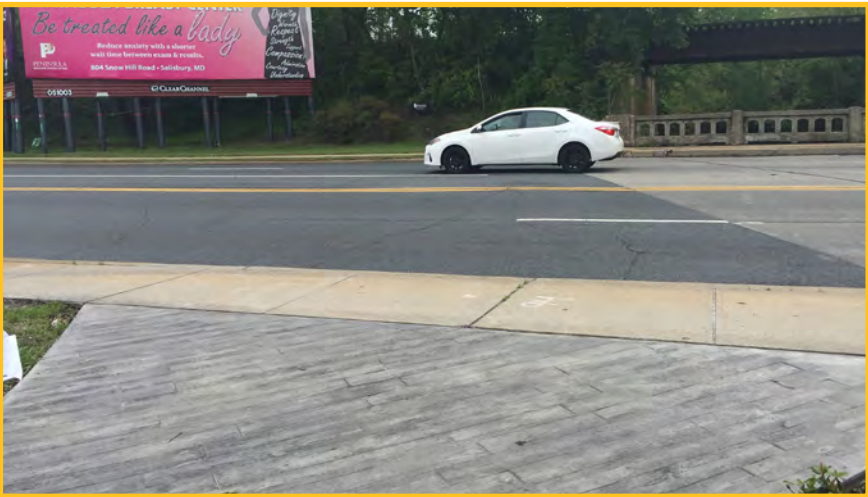
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PHASE 3 | NORTH CONNECTION

Phase 3 of the Greenway is 0.2 miles, the shortest segment, connecting Phase 1 at Salisbury Boulevard/East Market Street to City Park, Phase 8, along the north side of the Wicomico River. This is a pedestrian-only connection, as a pinch point occurs at East Main Street and Salisbury Boulevard under the existing Rail Road bridge.

The Greenway, at this point, is comprised of 10-foot wide concrete sidewalks parallel to Salisbury Boulevard between the river and East Main Street. Pedestrians will cross at a 30-foot wide, extended crossing time, pedestrian signalized crosswalk at Market Street (see Facility Typology, Salisbury Blvd| Market St| East Main St for more information) to cross the busy Salisbury Boulevard safely. Along East Main Street, to the east of Salisbury Boulevard, a 10-foot wide concrete sidewalk connects pedestrians City Park at Snow Hill Road. At this point a new crosswalk will be added and the Greenway will continue through City Park, and Phase 8.

EXISTING GREENWAY CONNECTION TO PHASE 3 AT SALISBURY BOULEVARD. GREENWAY TO PROVIDE A 30-FOOT WIDE, EXTENDED CROSSING TIME, PEDESTRIAN SIGNALIZED CROSSWALK ACROSS SALISBURY BOULEVARD HERE.



PLANNING LEVEL COST ESTIMATE

ITEMIZED CONSTRUCTION COST		\$208,000
CONTINGENCY	30%	\$62,400
NEAT CONSTRUCTION COST		\$270,400
DESIGN AND PERMITTING	15%	\$40,560
CONSTRUCTION MANAGEMENT	10%	\$27,040
TOTAL RIGHT OF WAY		\$121,830
TOTAL COST		\$459,830

*Extra cost items may be required to adjust the rail road bridge height to allow for 8-foot clearance and a 10-foot wide path on the south side of Main Street. Further design development and cost estimating is needed regarding the rail road bridge reconfiguration.

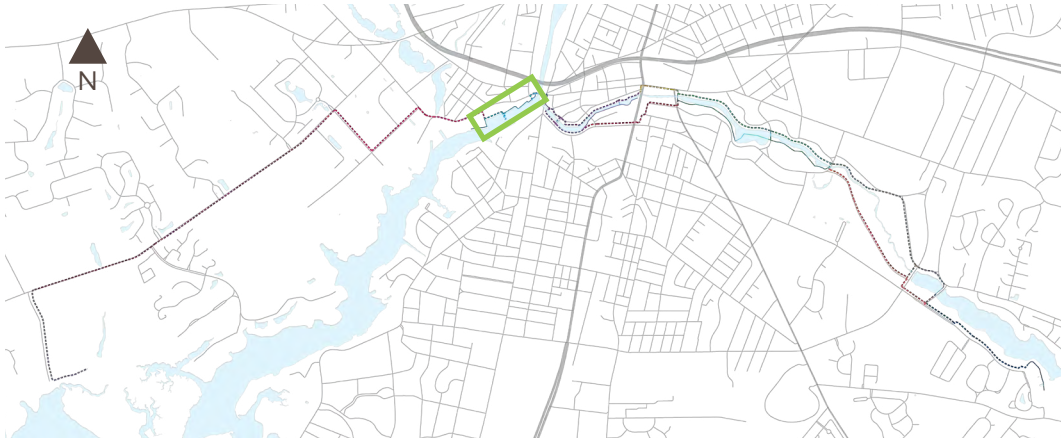
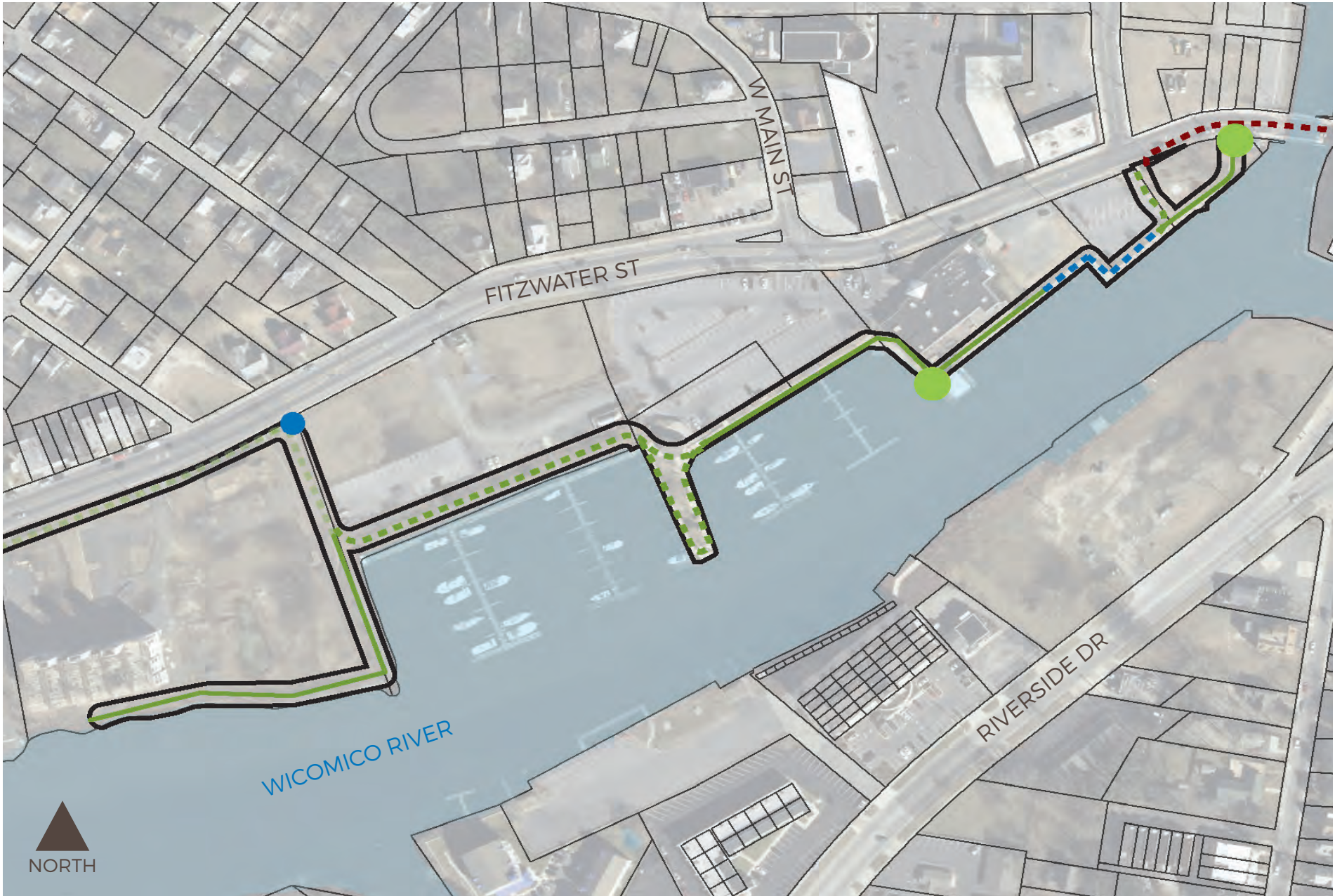


EXISTING PINCH POINT FOR PEDESTRIAN MOVEMENT UNDER THE EXISTING RAILROAD BRIDGE. SALISBURY BOULEVARD MASTER PLAN PROPOSES A RECONFIGURATION OF THE RAILROAD BRIDGE TO ALLOW FOR SAFER PEDESTRIAN AND CYCLIST MOVEMENT ALONG THE NORTH PORTION OF THE GREENWAY.

EXISTING EAST MAIN STREET LOOKING WEST FROM SNOW HILL ROAD. GREENWAY WILL INCORPORATE 10-FOOT WIDE CONCRETE SIDEWALKS ON THE SOUTH SIDE OF EAST MAIN STREET.



PHASE 4 | MARINA



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- - - SHARED USE PATH - PAVED NEW
- - - SHARED USE PATH - PAVED WIDENING
- - - SHARED USE PATH - GRAVEL
- - - ON-ROAD - SHARROW
- - - ROADWAY CROSSING
- - - TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



PHASE 4 | MARINA

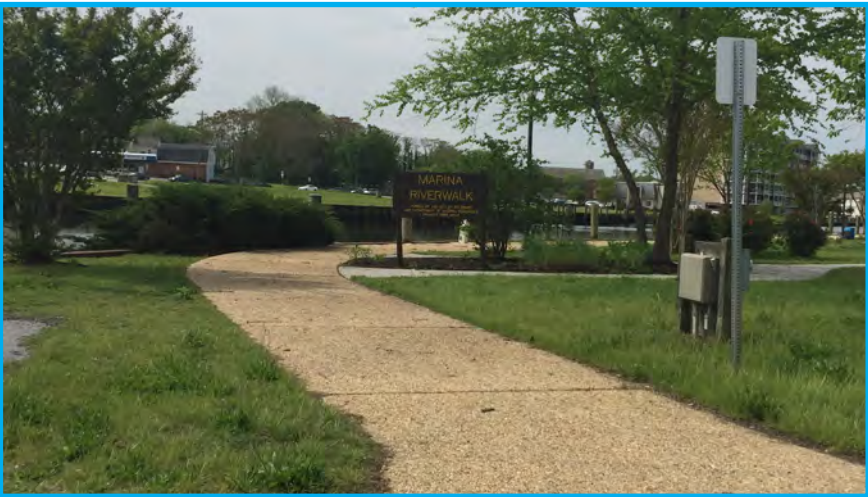
Phase 4 expands the Greenway west of Phase 1 to the Port of Salisbury Marina and the existing trail at the Rivers Edge Apartments and Studio for the Arts for a 0.58 mile stretch.

This phase includes three facility typologies. On West Main Street, between Mill Street and Small Street, cyclists will share the road with vehicles, while pedestrians will walk along the existing 5-foot wide sidewalk across the bridge. Between Small Street and the existing trail at the Rivers Edge Apartments, the Bulkhead and Concrete facility typologies will be implements. In this portion of the Greenway, cyclists share the path and access to the Wicomico River with pedestrians.

PLANNING LEVEL COST ESTIMATE

ITEMIZED CONSTRUCTION COST		\$306,000
CONTINGENCY	30%	\$91,800
NEAT CONSTRUCTION COST		\$397,800
DESIGN AND PERMITTING	15%	\$59,670
CONSTRUCTION MANAGEMENT	10%	\$39,780
TOTAL RIGHT OF WAY		\$29,950
TOTAL COST		\$527,200

EXISTING SIDEWALK AT WEST MAIN STREET AND SMALL STREET. GREENWAY PROPOSES A TEN-FOOT WIDE, STAMPED CONCRETE PATH FOR PEDESTRIANS AND CYCLISTS.



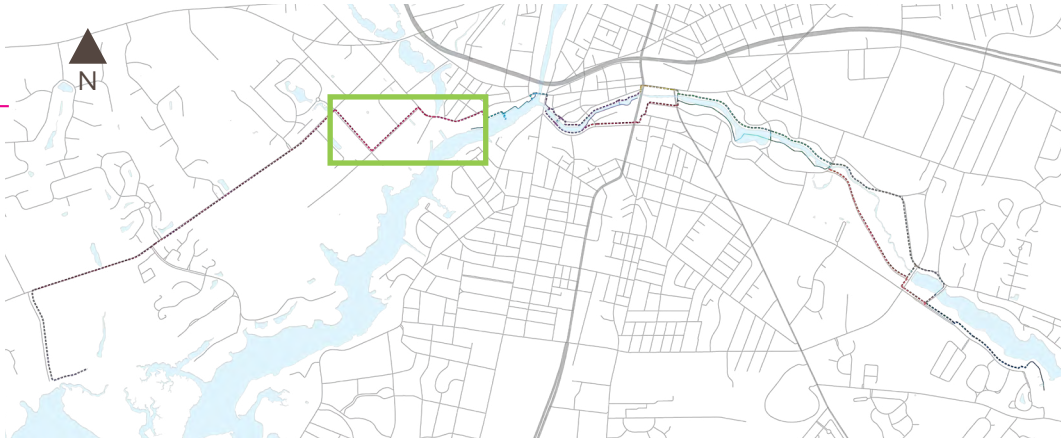
EXISTING CONDITIONS SHOW THAT PEDESTRIANS ALREADY USE THE ROUTE ALONG THE PORT OF SALISBURY MARINA, WHERE A 10-FOOT, STAMPED CONCRETE, MULTIUSE PATH IS PROPOSED TO CONNECT TO THE EXISTING CONCRETE PATH.



EXISTING GREENWAY CONDITIONS ALONG THE PATH AT RIVERS EDGE APARMENTS AND STUDIO FOR THE ARTS. THE GREENWAY WILL CONNECT TO THIS PATH.



PHASE 5 | SAFE ROUTES TO SCHOOL



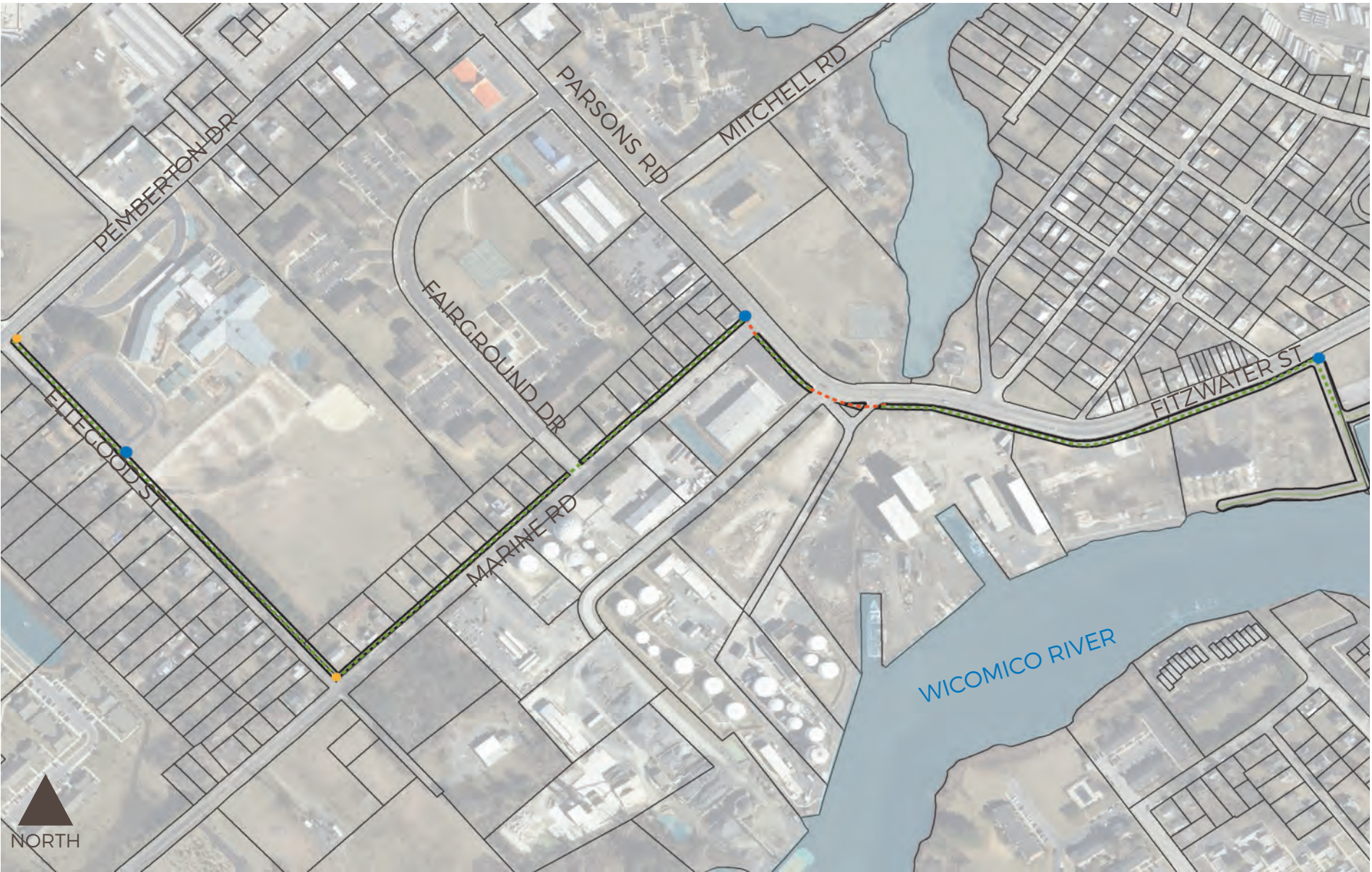
— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- SHARED USE PATH - PAVED NEW
- SHARED USE PATH - PAVED WIDENING
- SHARED USE PATH - GRAVEL
- ON-ROAD - SHARROW
- ROADWAY CROSSING
- TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



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PHASE 5 | SAFE ROUTES TO SCHOOL

Phase 5 expands the Greenway west 0.92 miles from the Port of Salisbury Marina and the Rivers Edge Apartments and Studio for the Arts, to Pemberton Elementary School. Throughout this phase, a multiuse 10-foot wide, asphalt path (see facility typology Asphalt Path for more information) will occur.

The eastern most segment connects Fitzwater Street south to Phase 4. Parallel to Fitzwater Street, the Greenway will continue west towards Parsons Road and continue across the median. At all roadway crossings, new crosswalks and signage will be installed to heighten the awareness of the path to motorists and increase safe roadway crossings.

At the intersection of Parsons Road and Marine Road, the Greenway will turn southwest to parallel Marine Road along the northwest side of the road. At Ellegood Street, the Greenway will not cross the street, but turn northwest and continue to Pemberton Elementary School. Phase 5 terminates at Pemberton Drive.

This phase provides a Safe Routes to School (SRTS) connection for the neighborhoods adjacent to the path.

EXISTING CONDITIONS ALONG FITZWATER STREET, LOOKING NORTH FROM THE RIVERS EDGE APARTMENTS AND STUDIO FOR THE ARTS.



EXISTING CONDITIONS ALONG FITZWATER STREET. THE GREENWAY WILL BE A 10-FOOT WIDE, MULTIUSE, ASPHALT PATH AT THIS POINT.

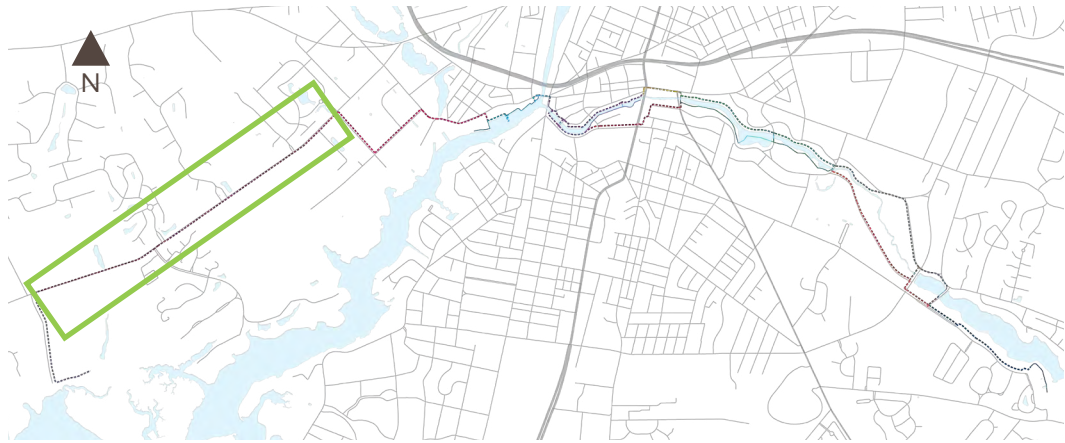
PLANNING LEVEL COST ESTIMATE

ITEMIZED CONSTRUCTION COST		\$939,000
CONTINGENCY	30%	\$281,700
NEAT CONSTRUCTION COST		\$1,220,700
DESIGN AND PERMITTING	15%	\$183,105
CONSTRUCTION MANAGEMENT	10%	\$122,070
TOTAL RIGHT OF WAY		\$324,300
TOTAL COST		\$1,850,175

EXISTING ROADWAY AND PROPERTY CONDITIONS ALONG MARINE ROAD. GREENWAY PROPOSED ON THE NORTHWEST SIDE OF THE ROAD (RIGHT OF PICTURE).



PHASE 6 | PEMBERTON DRIVE



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- SHARED USE PATH - PAVED NEW
- SHARED USE PATH - PAVED WIDENING
- SHARED USE PATH - GRAVEL
- ON-ROAD - SHARROW
- ROADWAY CROSSING
- TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



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PHASE 6 | PEMBERTON DRIVE

During stakeholder meetings, Phase 6 of the Greenway had the most concerns from stakeholders and community members. Some of the concerns were roadway speed and the lack of pedestrian and cyclist facilities that were separated from vehicular traffic. Currently, there are intermittent segments of sidewalk on both sides of Pemberton Drive. During the design phase these concerns strongly influenced the proposed Greenway alignment. The southeast side of Pemberton Drive provided the best opportunity for a protected multiuse path.

Thus, the Greenway parallels Pemberton Drive for a continuous 1.63 miles on the southeast side of the road. The facility will be a protected, multiuse, 10-foot wide, asphalt path (see facility typology Asphalt Path for more information) accessible to all ages and abilities. This phase also, expands the Safe Routes to School (SRTS) network further west to the neighborhoods along Pemberton Drive.

EXISTING ROADWAY AND
SIDEWALK CONDITIONS
ALONG PEMBERTON DRIVE.
GREENWAY IS PROPOSED TO
BE PROTECTED (OFF-ROAD)
FOR THE ENTIRE LENGTH OF
THIS PHASE.



EXISTING CONDITIONS ALONG
PEMBERTON DRIVE. GREENWAY
TO BE LOCATED ON THE
SOUTHEAST SIDE OF THE ROAD
(RIGHT OF PICTURE).



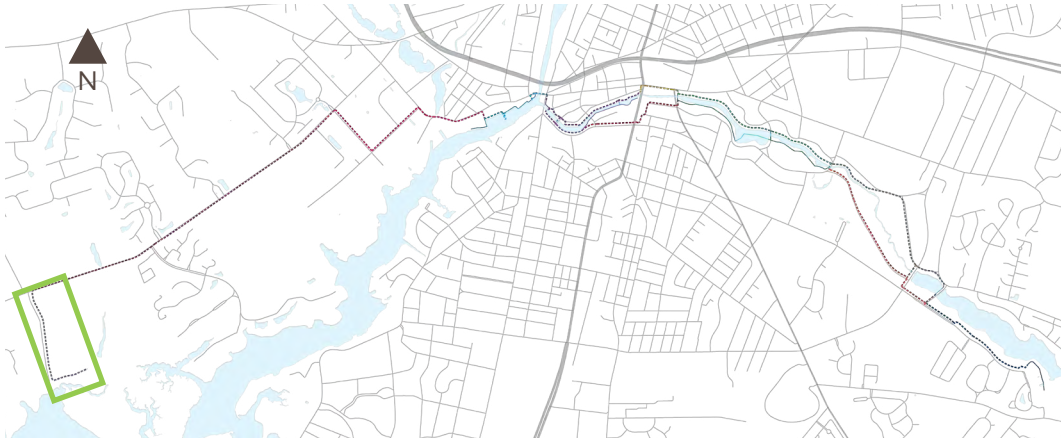
EXISTING CONDITIONS
ALONG PEMBERTON DRIVE
NEAR PLANTATION LANE.
GREENWAY FACILITY TO BE A
10-FOOT WIDE, ASPHALT PATH
BETWEEN PLANTATION LANE
AND PEMBERTON ELEMENTARY
SCHOOL.



PLANNING LEVEL COST ESTIMATE

ITEMIZED CONSTRUCTION COST		\$2,136,000
CONTINGENCY	30%	\$640,800
NEAT CONSTRUCTION COST		\$2,776,800
DESIGN AND PERMITTING	15%	\$416,520
CONSTRUCTION MANAGEMENT	10%	\$277,680
TOTAL RIGHT OF WAY		\$334,300
TOTAL COST		\$3,805,300

PHASE 7 | HISTORIC CONNECTION



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- SHARED USE PATH - PAVED NEW
- SHARED USE PATH - PAVED WIDENING
- SHARED USE PATH - GRAVEL
- ON-ROAD - SHARROW
- ROADWAY CROSSING
- TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



PHASE 7 | HISTORIC CONNECTION

Phase 7 is the furthest west section of the Greenway, connecting Pemberton Drive along Plantation Lane to Pemberton Historical Park. The Greenway purposely preserves the historical character of Plantation Lane’s viewshed by placing the Greenway on the north side of the allee (row of trees), as seen in the Plantation Lane facility typology. The typology is implemented throughout this 0.61 mile stretch.

The Salisbury Greenway terminates at the historical park due to existing environmental restrictions. Although, a network of hiking trails exists to explore on foot.

EXISTING CONDITIONS ALONG PLANTATION LANE. GREENWAY WILL PARALLEL THE GRAVEL ROAD TO THE NORTH (LEFT SIDE OF PICTURE). SEE PLANTATION LANE TYPOLOGY FOR SECTION DETAILS.



VIEW FROM PLANTATION LANE AND PHASE 7 OF THE GREENWAY.



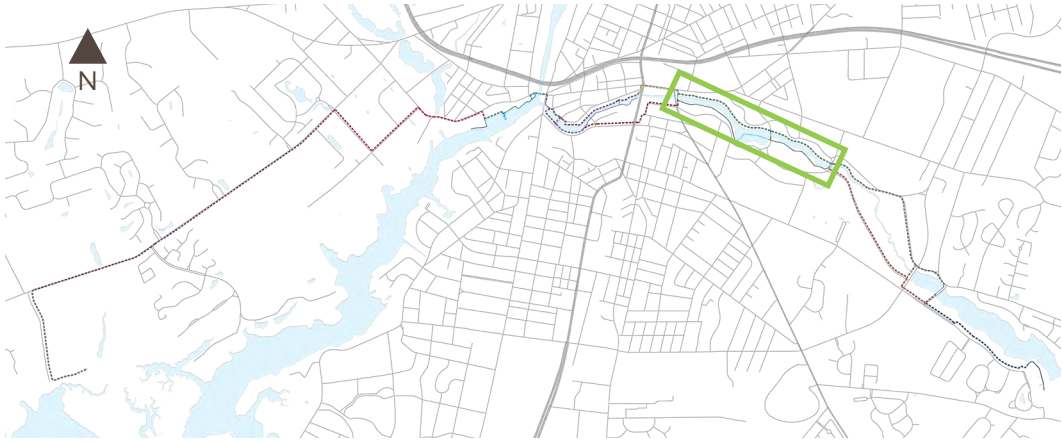
PEMBERTON HISTORICAL PARK IS THE WESTERN TERMINUS OF THE SALISBURY GREENWAY. AT THIS POINT, THERE IS ACCESS TO HIKING TRAILS.



PLANNING LEVEL COST ESTIMATE

ITEMIZED CONSTRUCTION COST		\$404,000
CONTINGENCY	30%	\$121,200
NEAT CONSTRUCTION COST		\$525,200
DESIGN AND PERMITTING	15%	\$78,780
CONSTRUCTION MANAGEMENT	10%	\$52,520
TOTAL RIGHT OF WAY		-
TOTAL COST		\$656,500

PHASE 8 | CITY PARK



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- - - SHARED USE PATH - PAVED NEW
- - - SHARED USE PATH - PAVED WIDENING
- - - SHARED USE PATH - GRAVEL
- - - ON-ROAD - SHARROW
- - - ROADWAY CROSSING
- - - TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



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PHASE 8 | CITY PARK

Phase 8 of the Greenway is comprised of 0.88 miles of trails through City Park. Beginning at Snow Hill Road, where Phase 2 and Phase 3 ended, the Salisbury Greenway splits around Park Lake. On the north side a 10-foot wide, asphalt multiuse path continues, while the south side of lake will continue to have crusher run only paths. As multiple crusher run paths currently exist within the park on the north and south sides of the lake, further analysis will need to occur during 30% Design Development to determine which alignment is most feasible to pave on the north side.

Additionally, this phase uniquely contains an existing walking-only, not-pet-friendly, path through the Salisbury Zoo. Access through the Zoo is only available between 9am and 4:30pm. All segments of this phase terminate at Memorial Plaza.

EXISTING CITY PARK TRAILS ON THE NORTH SIDE OF THE WICOMICO RIVER. GREENWAY WILL PROVIDE ONE 10-FOOT WIDE, ASPHALT PATH ALONG THE NORTH AND SOUTH SIDES OF PARK LAKE. THE REST OF THE EXISTING PATHS WILL REMAIN CRUSHER RUN.



PLANNING LEVEL COST ESTIMATE

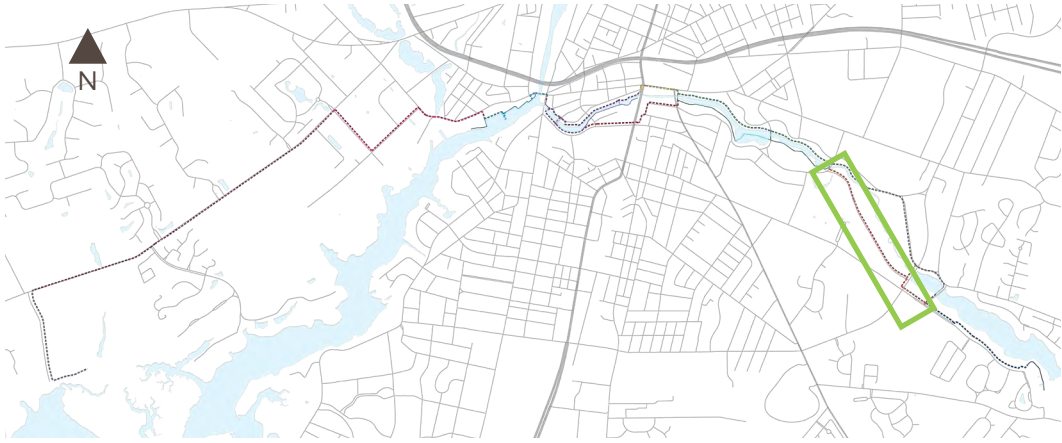
ITEMIZED CONSTRUCTION COST		\$763,000
CONTINGENCY	30%	\$228,900
NEAT CONSTRUCTION COST		\$991,900
DESIGN AND PERMITTING	15%	\$148,785
CONSTRUCTION MANAGEMENT	10%	\$99,190
TOTAL RIGHT OF WAY		-
TOTAL COST		\$1,239,875

EXISTING EXERCISE ACTIVITIES CURRENTLY EXISTING THROUGHOUT SALISBURY. THE GREENWAY WILL CONNECT THEM, EXPANDING THE PUBLICS ACCESS TO HEALTHY ACTIVITIES FOR ALL AGES AND ABILITIES.



EXISTING CONDITIONS ALONG THE SOUTH SIDE PARK LAKE IN CITY PARK. IN ORDER FOR THE GREENWAY TO BE ADA COMPLIANT AND ACCESSIBLE TO ALL AGES AND ABILITIES, A NEW 10-FOOT WIDE, ASPHALT PATH WILL BE PAVED THROUGHOUT THIS AREA.

PHASE 9 | ZOO TO WARD



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- SHARED USE PATH - PAVED NEW
- SHARED USE PATH - PAVED WIDENING
- SHARED USE PATH - GRAVEL
- ON-ROAD - SHARROW
- ROADWAY CROSSING
- TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



PHASE 9 | ZOO TO WARD

Phase 9 of the Salisbury Greenway begins on the east side of Memorial Plaza on the north side of South Park Drive. This phase is 0.81 miles of 10-foot wide, asphalt path connecting many amenities. From west to east, the path provides an ADA compliant route to Delmarva PONY League, Salisbury Skate Park, and the Ward Museum of Waterfowl Art to adjacent neighborhoods. Additionally, the Greenway provides a safer route to school for Parkside High School students*.

This portion of the Greenway includes five roadway crossings. At all roadway crossings, new crosswalks and signage will be installed to heighten the awareness of the path to motorists and increase safe roadway crossings.

*Safe Routes to School (SRTS) funding does not apply to high schools currently. Although this phase is within two-miles of Wicomico Middle School, so SRTS funding could be considered.

PLANNING LEVEL COST ESTIMATE

ITEMIZED CONSTRUCTION COST		\$988,000
CONTINGENCY	30%	\$296,400
NEAT CONSTRUCTION COST		\$1,284,400

DESIGN AND PERMITTING	15%	\$192,660
CONSTRUCTION MANAGEMENT	10%	\$128,440
TOTAL RIGHT OF WAY		-
TOTAL COST		\$1,605,500

CURRENTLY THE SALISBURY ZOO IS ACCESSIBLE THROUGH THE TRAILS IN CITY PARK. THE GREENWAY WILL CONNECT TO THE SALISBURY ZOO, BUT DOES NOT CONTINUE THROUGH THE ZOO, AS A MULTIUSE TRAIL.



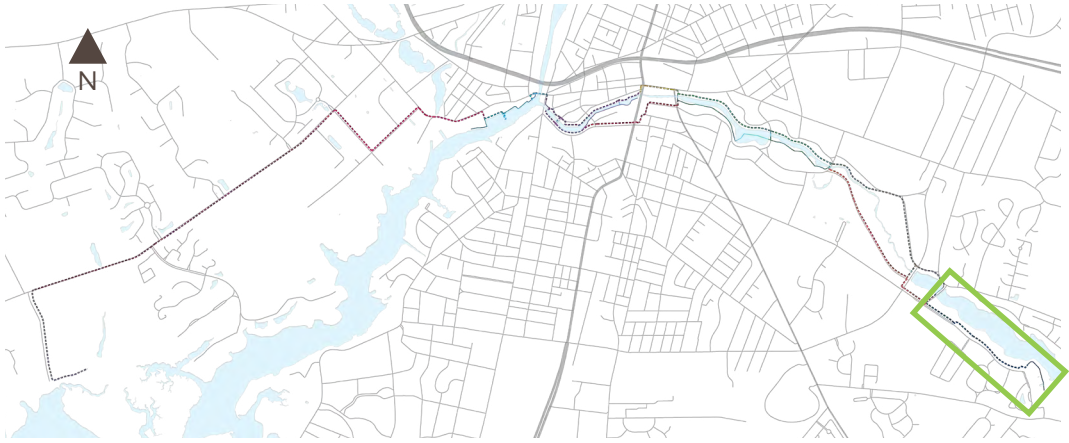
EXISTING CRUSHER RUN PATH ALONG SOUTH PARK DRIVE, ADJACENT TO THE SALISBURY SKATE PARK. THE GREENWAY WILL FOLLOW THIS PATH, BUT BE PAVED WITH ASPHALT INSTEAD.



THE SALISBURY GREENWAY WILL CONNECT TO THE WARD MUSEUM OF WATERFOWL ART, WHERE THERE IS A NATURAL TRAIL AND ACCESS TO SCHUMAKER POND.



PHASE 10 | SCHUMAKER PARK



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- - - SHARED USE PATH - PAVED NEW
- - - SHARED USE PATH - PAVED WIDENING
- - - SHARED USE PATH - GRAVEL
- - - ON-ROAD - SHARROW
- - - ROADWAY CROSSING
- - - TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



PHASE 10 | SCHUMAKER PARK

Phase 10 of the Salisbury Greenway is the furthest east segment. It begins at the east edge of Phase 9, east of the Ward Museum of Waterfowl Art and north of Parkside High School. The Greenway alignment follows an existing crusher run path along South Schumaker Drive and connects to the existing asphalt path located within Mallard Landing Retirement Community. The crusher run path will be replaced with a 10-foot wide, asphalt, multiuse path and connect to the trail network within Schumaker Park.

FRISBEE GOLF, ACCESS TO SCHUMAKER POND, AND A LARGE PICNIC SHELTER ARE JUST A FEW OF THE AMENITIES AVAILABLE AT SCHUMAKER PARK. THE GREENWAY WILL CONNECT TO THE PARK ALONG A 10-FOOT WIDE, ASPHALT PATH PARALLEL TO SCHUMAKER DRIVE.



PLANNING LEVEL COST ESTIMATE

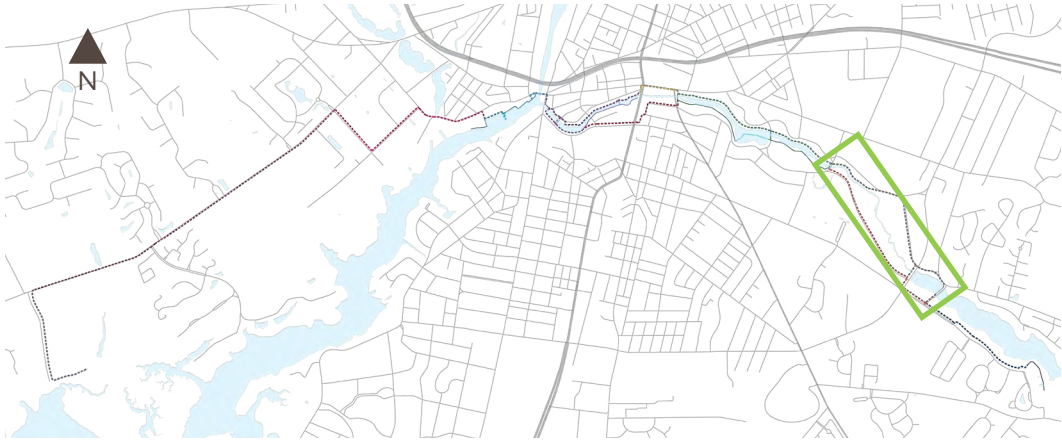
ITEMIZED CONSTRUCTION COST		\$686,000
CONTINGENCY	30%	\$205,800
NEAT CONSTRUCTION COST		\$891,800
DESIGN AND PERMITTING	15%	\$133,770
CONSTRUCTION MANAGEMENT	10%	\$89,180
TOTAL RIGHT OF WAY		\$46,500
TOTAL COST		\$1,161,250

THE SALISBURY GREENWAY WILL TERMINATE ON THE EASTERN EDGE OF SALISBURY ALONG THIS PATH AT MALLARD LANDING RETIREMENT COMMUNITY.



A PART OF THIS PHASE IS TO PAVE A 10-FOOT WIDE, ADA COMPLIANT, ASPHALT PATH HERE. ADDITIONAL AMENITIES WILL INCLUDE LIGHTING, TRASH RECEPTICALS, AND ADDITIONAL SEATING.

PHASE 11 | NORTH PARK DRIVE



— LOD

FACILITY TYPOLOGY

- EXISTING PAVED PATH
- SHARED USE PATH - PAVED NEW
- SHARED USE PATH - PAVED WIDENING
- SHARED USE PATH - GRAVEL
- ON-ROAD - SHARROW
- ROADWAY CROSSING
- TWO-WAY PROTECTED CYCLE TRACK

WAYFINDING SIGNAGE

- KIOSK
- DIRECTIONAL
- TRAIL MARKER



PHASE 11 | NORTH PARK DRIVE

Phase 11 phase provides an ADA compliant, multiuse path that completes the loop around the chain of water bodies that run east to west in Salisbury. This segment is 1.07 miles of new 10-foot wide asphalt path. The alignment follows an existing crusher run trail that starts at the eastern edge of Phase 8 at Memorial Plaza, near the Salisbury City Dog Park. The existing trail continues east, popping out of the woods and aligning parallel to North Park Drive, where it provides two route options at Beaglin Park Drive. Crossing the bridge on Beaglin Park Drive, pedestrians can connect to Phase 9. Otherwise, pedestrians and cyclists can continue across Beaglin Park Drive, along North Park Drive to the pedestrian only bridge and connect to Phase 10, just east of the Ward Museum of Waterfowl Art.

TYPICAL EXISTING CONDITIONS
ALONG THE NORTH SIDE OF
BEAVERDAM CREEK. THE
GREENWAY WILL INCLUDE A
10-FOOT WIDE, ASPHALT PATH
THROUGHOUT THIS PHASE.



EXISTING CONDITION ALONG
THE WESTERN EDGE OF PHASE
11, NEXT TO THE SALISBURY CITY
DOG PARK. THE GREENWAY
ALIGNMENT PROPOSES
FOLLOWING THIS PATH, BUT
WIDENING IT TO 10-FEET AND
PAVING IT WITH ASPHALT.

PLANNING LEVEL COST ESTIMATE

ITEMIZED CONSTRUCTION COST		\$1,043,000
CONTINGENCY	30%	\$312,900
NEAT CONSTRUCTION COST		\$1,355,900
DESIGN AND PERMITTING	15%	\$203,385
CONSTRUCTION MANAGEMENT	10%	\$135,590
TOTAL RIGHT OF WAY		\$5,000
TOTAL COST		\$1,699,875

THE SALISBURY GREENWAY
FOLLOWS THE EXISTING
CRUSHER RUN TRAIL
ALIGNMENT ALONG NORTH
PARK DRIVE. THE TRAIL WILL
BE 10-FEET WIDE AND ASPHALT
WITH A BUFFER FROM THE
ROADWAY.



FUNDING

FUNDING

There are numerous funding opportunities for greenways available at all levels of government as well as the private sector. The following matrices compare funding sources that may be used for planning, design, right-of-way acquisition, and construction of the Salisbury Greenway. Funding used for the preparation of this plan may also be used to match funding for a grant, or may be reimbursable depending on the grant program.

Additionally, donations from private entities, citizens, or local business have not been included, but are other potential sources of funding. Fundraising programs are another opportunity that may provide the initial investment needed to help fill gaps in grant funding.

FEDERAL FUNDING OPPORTUNITIES				
PROGRAM	ADMINISTRATOR	DESCRIPTION	APPLICABILITY	REFERENCE
TRANSPORTATION ALTERNATIVES PROGRAM (TAP)	STATE HIGHWAY ADMINISTRATION	The project must relate to surface transportation and meet the criteria for one of nine categories including provision of facilities for pedestrians and bicyclists; infrastructure-related projects and systems that will provide safe routes for non-drivers and conversion and use of abandoned railroad corridors for trails. TAP funding can be requested for up to 80 percent of the total reimbursable cost of the project. The money may be used to fund design and construction. Planning and conceptual design is not eligible. The sponsoring agency must pay for the project before it can be reimbursed through this program. The sponsor must provide a non-federal match of 20 percent of the project's total reimbursable costs. SHA will review and approve plans during design development, provide support for navigating the federal procurement process, and obtain environmental permits and NEPA clearances.	This is an option for funding after 30% design is complete. The project design must meet applicable standards, such as ADA, AASHTO, and SHA's bicycle facility design standards, to serve as a transportation alternative.	http://roads.maryland.gov/OPPEN/TAP-Process-Manual.pdf
SAFE ROUTES TO SCHOOL (SRTS)	STATE HIGHWAY ADMINISTRATION	This program supports activities that enable and encourage children to safely walk, bicycle, or roll to school. To qualify, the project must benefit elementary and middle school students with education programs, encouragement programs, enforcement programs, infrastructure, or evaluation programs that help children use non-motorized means to get to school. The state will fund 80 percent of the total project cost, and the project must have a 20 percent cash match contribution. All phases of planning, design and construction are eligible. SHA will review and approve plans during design development, provide support for navigating the federal procurement process, and obtain environmental permits and NEPA clearances.	This is an option to fund design and construction of trail segments within two miles of Pemberton Elementary School and Wicomico Middle School.	http://www.roads.maryland.gov/Index.aspx?PageId=735
FEDERAL TRANSIT PROGRAM	MPO	Federal Transit Program allows the Urbanized Area Formula Grants, Capital Investment Grants and Loans, and Formula Program for Other than Urbanized Area transit funds to be used for improving bicycle and pedestrian access to transit facilities and vehicles. Eligible activities include investments in "pedestrian and bicycle access to a mass transportation facility" that establishes or enhances coordination between mass transportation and other transportation. TEA-21 also created a similar Transit Enhancement Activity program with a one percent set-aside of Urbanized Area Formula Grant funds designated for, among other things, pedestrian access and walkways, and "bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles". Funds are managed by the regional MPO.	There is little transit infrastructure in the project area, so this project would not be prioritized by FTA and funding would be unlikely.	http://www.fhwa.dot.gov/environment/bicycle_pedestrian/
PROGRAM OPEN SPACE (POS)	DEPARTMENT OF NATURAL RESOURCES	This program provides funds for local governing bodies to purchase land for use as open space for the public to enjoy. It only covers costs of acquiring new land to be made into public parkland. Each local governing body submits an annual Local Land Preservation and Recreation plan to state government. A project proposal can be included in that document or can be submitted separately. If funds are available, the state will cover the full eligible cost of the project, but in the form of a reimbursement.	This funding source may be used to purchase right-of-way for the Greenway.	http://dnr2.maryland.gov/land/Documents/POS/

FUNDING

STATE FUNDING OPPORTUNITITES				
PROGRAM	ADMINISTRATOR	DESCRIPTION	APPLICABILITY	REFERENCE
MARYLAND BIKEWAYS	MARYLAND DEPARTMENT OF TRANSPORTATION	The Program supports projects that maximize bicycle access and fill missing links in the state's bicycle system, focusing on connecting bicycle-friendly trails and roads and enhancing last-mile connections to work, school, shopping and transit. On-road bicycle projects, such as bike lane striping, sharrows, and wayfinding signage are eligible for funding. The project must either be located substantially within the Priority Funding Area (PFA), provide or enhance bicycle access along any gap identified in the Statewide Trails Plan "A Greener Way to Go", or be identified as a transportation priority in a County's most recent annual priority letter submitted to MDOT. Funding may be used for feasibility studies, planning, design, or construction. Projects meeting enhanced eligibility requirements for "priority project" designated receive reduced match requirements. The proposed Greenway meets multiple eligibility requirements to be considered a Priority Project, therefore, the State would fund 80 percent of the total project cost, and the project must have a 20 percent cash match contribution. For Projects that do not qualify as priority projects, the state will fund up to half the cost of the projects. Eligible activities for funding include planning and feasibility studies, design, and construction. Design and installation of wayfinding signage is also eligible.	This is a good source to fund preliminary engineering (up to 30%) and wayfinding signage. It can also be used to increase matching funds for Federal grants in subsequent phases. Funding used to develop this Master Plan may be used towards the match.	http://www.mdot.maryland.gov/newMDOT/Planning/Bike/Bikeways.html http://www.mdot.maryland.gov/newMDOT/Planning/Bike/Documents/Bikeways_Project_Guidelines_2016_Update.pdf
RECREATIONAL TRAILS PROGRAMS	STATE HIGHWAY ADMINISTRATION	This program provides funds to develop and maintain recreational trails and related facilities for motorized and non-motorized recreational trail uses. Eligible projects include maintaining and restoring existing trail, developing and rehabilitating trail facilities and connections, purchasing/leasing trail construction equipment, and constructing new recreational trails. The program will reimburse up to 80 percent of the project cost issued as a reimbursement, and the institution/agency must raise a 20 percent match.	This is a good source for segments, but typically funding is limited to smaller amounts or shorter segments. This may be used for one phase as a time, and help increase matching funds for Federal grants.	http://www.sha.state.md.us/Index.aspx?PagelId=98 aspX?PagelId=735
SIDEWALK AND ADA RETROFIT PROGRAM (Fund 33)	STATE HIGHWAY ADMINISTRATION	The ADA Retrofit program, previously called the Sidewalk Retrofit Program, provides funding for the construction of new and the retrofit of existing sidewalks and pathways to meet ADA compliance.	This is a potential source for sidewalk and crossing improvements along Salisbury Boulevard (US 13), Main Street (US 50), and Snow Hill Rd (MD 12).	Contact: SHA Program Coordinator (410) 545-5652
BICYCLE RETROFIT PROGRAM (Fund 79)	STATE HIGHWAY ADMINISTRATION	Bicycle Retrofit Program funds on-road improvements on state highways that benefit bicycling. Applicants submit project requests to SHA's Bicycle and Pedestrian Coordinator on an on-going basis.	This is a potential source for trail improvements along Main Street (US 50) between US 13 and City Park.	Contact: Maryland Bicycle and Pedestrian Coordinator (410) 545-5656
NEIGHBORHOOD CONSERVATION PROGRAM (Fund 84 – Currently Inactive)	STATE HIGHWAY ADMINISTRATION	This state program had been used to fund streetscape improvements on SHA highways in urban areas. Eligible activities include streetscape enhancements, improved accommodations for pedestrians and cyclists, traffic calming, drainage improvements, lighting, and similar activities. SHA would implement these projects and fully fund them when the program is active.	This program may be a source for streetscape and crossing improvements along Salisbury Boulevard (US 13), Main Street (US 50), and Snow Hill Rd (MD 12). Current program funding by MDOT is very low and new projects have not recently been programmed for project development.	https://www.roads.maryland.gov/OHD2/CDD-Urban-Reconstruction-Program-Description.pdf
MARYLAND GREEN PRINT PROGRAM	DEPARTMENT OF NATURAL RESOURCES	Maryland's GreenPrint Program is a land preservation initiative to acquire ecologically sensitive lands. A network of green infrastructure has been identified by the Department of Natural Resources. Counties. Apply to DNR with eligible land acquisition, greenway, trail, and bicycle projects.	This funding source may be used to purchase right-of-way for the Greenway.	http://www.greenprint.maryland.gov

FUNDING

PRIVATE FUNDING OPPORTUNITIES				
PROGRAM	ADMINISTRATOR	DESCRIPTION	APPLICABILITY	REFERENCE
PeopleForBikes COMMUNITY GRANT PROGRAM		PeopleForBikes focuses most grant funds on bicycle infrastructure projects such as bike paths, lanes, trails, and bridges; mountain bike facilities; bike parks and pump tracks; BMX facilities; and end-of-trip facilities such as bike racks, bike parking, and bike storage. The organization accepts requests for funding up to \$10,000, and will not consider requests where its funding would amount to half or more of the project budget.	This may be a good option to provide match funding towards an initial State or Federal grant.	http://www.peopleforbikes.org/pages/grant-guidelines
THE CONSERVATION FUND		The Conservation Fund provides money for projects that community leaders collaborate and plan for strategic conservation and build a network of connected greenways for people and wildlife. Funds include bridge financing from a revolving fund as a critical tool that allows recipients to act quickly on conservation opportunities.	This funding source may be used to purchase right-of-way for the Greenway.	http://www.conservationfund.org/ Contact: Leigh Anne McDonald, American Greenways Coordinator The Conservation Fund 1800 North Kent Street Ste. 1120 Arlington, VA 22209 Phone: 703-525-6300

NEXT STEPS

NEXT STEPS

Completion of this master plan is just the beginning. The next steps in making the Salisbury Greenway a reality is to move forward with public outreach and preliminary design. As the project moves forward, it is import that the City maintain transparency,

by keeping the public informed during all stages of the process. This will in turn perpetuate the public support and momentum of the project.

