Lower Cobb Neck Peninsula Greenway Trail Feasibility Study

Prepared for Charles County Department of Planning and Growth Management

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1. Introduction

Residents of Cobb Island and Swan Point have requested that Charles County Department of Planning and Growth Management evaluate the feasibility of establishing a recreational trail between them via Southern Park, a county-owned facility in Newburg. In 2016, the community associations from Swan Point and Cobb Island were awarded a grant from the Southern Maryland Heritage Consortium to initiate public engagement and conceptualize potential alignments. Project proponents hope that a recreational trail will make the area's environmental assets more accessible for recreational experiences, highlight historic and cultural resources, and draw visitors to southern Charles County. They value having a quality bicycle facility that is safe and accessible to people of all ages and abilities. Proponents also understand that the recreational trail must be affordable in terms of construction and ongoing maintenance costs; avoid or minimize environmental impacts; limit the impacts to private property and sensitive environmental resources, and consider the views of all stakeholders.

1.1 The Benefits of Greenway Trails

Greenways can serve an important role in communities by connecting people with open space, offering opportunities for recreation, providing transportation alternatives, and fostering economic development. Trail and greenway corridors attract visitors, both local and from afar, who contribute to the local economy by spending on accommodations, dining, shopping, and other services. They also serve as a catalyst for the growth of small businesses, such as bike rental shops, outdoor adventure outfitters, and eateries located along the greenway routes. By offering a pleasant and accessible environment for physical activity, greenways promote the health and well-being of residents. Greenways also provide opportunity to reduce traffic and greenhouse gas emissions by replacing some short vehicular trips with zero-emission walking or biking. Additionally, greenways enhance property values, making nearby residential and commercial real estate more attractive to investors and potential buyers. Overall, greenways serve as economic engines driving investment, creating jobs, and fostering sustainable growth, while simultaneously providing social and environmental benefits to the community.

Although this proposed greenway is not expected to draw significant tourism, it is expected to support the local community and visitors with connections to local destinations like parks, marinas, and restaurants. There is potential for some impacts to private property or environmental resources, and Charles County is committed to minimize and mitigate any impacts. Any impacts to environmental resources will follow regulatory and permitting requirements, and any right of way acquisition needs will be negotiated with property owners. As a part of the permitting and property acquisition negotiation process, additional mitigation may be incorporated. Mitigation and enhancements may include improvements to properties, drainage systems, landscaping, pavement, fencing, or other benefits as identified by stakeholders.

1.2 Project Goals

Today, the study area has limited pedestrian and bicycle accommodations making it difficult to travel by any means other than a car. People biking or walking need to share the roadways with

traffic that sometimes speed excessively on country roads. The project goals would be to:

- Improve access to Southern Park and public waterfront destinations.
- Connect local communities with a recreational trail.
- Improve pedestrian and bicycle safety.
- Provide enhanced recreational amenities serving the local community and visitors.
- Support small-scale tourism for heritage and environmental appreciation with connections to scenic areas and local destinations.

1.3 Study Purpose

The purpose of this feasibility study is to establish one or more viable concepts for a trail between Cobb Island and Swan Point that meet the project goals using feasibility considerations or to determine that no alternative is acceptable relative to those considerations. See Section 3. Feasibility Considerations for more details.

This feasibility study:

- Establishes design criteria appropriate to the intended uses of the trail, such as riding surface (natural vs. paved),

Figure 1 - Project Study Area

maximum grades and curvature to comply with county, state and federal standards, trail width, etc.

- Identifies potential trail alignments, including opportunities for trailheads, turnouts, scenic and overlooks.
- Documents the constraints and impacts of alternatives so that there is a clear understanding of major cost drivers, potential property impacts, and environmental permitting requirements.
- Summarizes views, ideas, and concerns expressed by residents, public agencies, and other stakeholders regarding the study.
- Provides a rough order of magnitude cost estimate for capital programming the project design, permitting, and construction.
- Suggests a path forward for implementation of the viable approaches including potential funding sources and partners, right of way acquisition, further design development, and coordination with permitting agencies.

1.4 Related Plans and Studies

Charles County Bicycle and Pedestrian Master Plan (2012)

Charles County developed its first Bicycle and Pedestrian Master Plan in 2012, and this plan remains current without subsequent updates. This plan establishes priority locations and policies to improve bicycle and pedestrian accessibility countywide. The plan recommends potential bike facilities on Rock Point Road (MD 257) and Cobb Island Road (MD 254). The type of facility or design elements for bicycle infrastructure are not specified.

Charles County Comprehensive Plan (2016)

– The County's Comprehensive Plan is updated every ten years and establishes the foundation for planning decisions to support countywide goals and priorities. An overarching transportation goal is to support multimodal transportation network for the safe and efficient movement of people and goods. The comprehensive Plan also supports recommendations from the 2012 Bicycle and Pedestrian Master Plan including bike facilities on Rock Point Road (MD 257) and Cobb Island Road (MD 254). Furthermore, the Comprehensive Plan recommends private development projects include pedestrian and bicycle infrastructure.

MDOT Bicycle and Pedestrian Master Plan (2019)

- The 2019 Maryland Bicycle and Pedestrian Master Plan Update highlights the benefits of active transportation and offers solutions to Maryland's current bicycle and pedestrian challenges, providing opportunities to better meet the needs of all transportation system users. With The plan incorporates MDOT SHA's Bicycle Spine Network by reference. The planned spine network includes a bicycle route along Rock Point Road (MD 257) and Cobb Island Road (MD 254). The MD 257 route is noted as a higher priority. The type of facility or design elements for bicycle infrastructure are not specified.

No other plans or studies are known to reference a bicycle facility or greenway trail on Cobb Neck Peninsula.

1.5 Location

The Lower Cobb Neck Peninsula is the southernmost point of Charles County sitting along the Potomac River south of the US 301 Harry Nice/Thomas "Mac" Middleton Bridge and northwest of the confluence with the Wicomico River. The rural community sits approximately 25 minutes driving time from the nearest town and

County Seat in La Plata and about 35 minutes from several Navy Installations at Colonial Beach, Dahlgren, and Indian Head. The study area is also about 90 minutes from Washington, DC and Annapolis, MD, and two hours from Baltimore, MD.

Swan Point is on the west side and Cobb Island is in the east of the study area. Southern Park is in between. The driving distance between the central Country Club clubhouse in Swan Point and the gateway to Cobb Island is 5.15 miles.

2. Existing Conditions

2.1 Transportation

Traversing the Lower Cobb Neck Peninsula is Rock Point Road (MD 257), a two-lane rural open section roadway with paved shoulders, drainage ditches, and utility poles on one or both sides for its entire length. Shoulder widths vary between five and ten feet. The posted speed limit on Rock Point Road is 50 miles per hour. Unsignalized cross streets occur every 1/3 to ½ mile along MD 257. Average daily traffic on Rock Point Road ranges from approximately 4,200 vehicles per day at the north end near US 301 and diminishes to approximately 2,000 vehicles per day as MD 257 transitions to Cobb Island Road (MD 254) and on Cobb Island itself. Like Rock Point Road, Cobb Island Road is state owned- and maintained until it crosses onto Cobb Island where it becomes owned and maintained by Charles County. The posted speed limit of Cobb Island Road varies from 40 to 30 miles per hour. There are no sidewalks or marked bicycle facilities at any point along these roads.

All other roads in the study area two lane minor collector or residential roadways. While most are publicly owned roads, certain roads in the Swan Point, Potomac View, and Woodland Point subdivisions are privately-owned with public easement. Some roads are fully asphalt-paved, while others are paved with crushed aggregate. There are no sidewalks or dedicated or marked bicycle facilities on these local roads.

Figure 2 - Bicycle Level of Stress map showing high stress roadways along Rock Point Road and Cobb Island Road. Other streets are designated as Low Stress Roadways. (Source: MDOT)

2.2 Land Use

The Lower Cobb Neck is generally a rural area although three subdivisions exist in between Cobb Island and Swan Point that are relevant to this study. From north to south, Swan Point is a golf course community of 1/3 to 1/2 acre lots originally built starting in the early 1990s. Approximately 300 homes are present in Swan Point with land for an additional 300 – 400 homes. Potomac View and Woodland Point subdivisions are composed of 94 lots along the Potomac River and Neale Sound.

Figure 3 – Charles County's Land Use Plan – Lower Cobb Neck Peninsula excerpt (Image Source – [Land Use Plan Map | Charles County, MD (charlescountymd.gov)](#))

2.3 Communities

Swan Point is a planned mixed-use subdivision development with homes and private country club with golf course, restaurant, tennis, beach, and other private recreational amenities. It is located on the western end of Lower Cobb Neck Peninsula. Members of the Swan Point Property Owners Association have been actively involved in promoting this Greenway Trail Feasibility Study.

Figure 4 - Central clubhouse of Swan Point, which can serve as a greenway destination and end point. (Image Source: swanpointinfo.com)

Figure 5 - Swan Point Road at the entrance gateway to the Swan Point subdivision – this roadway has no paved shoulders. As is, this roadway does not accommodate pedestrian and bicycle use.

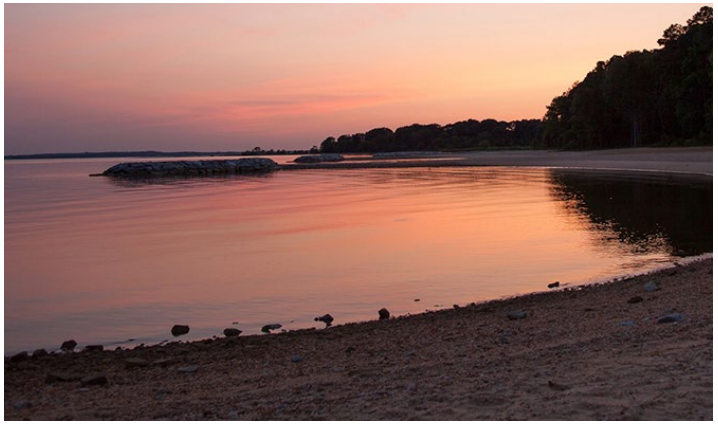


Figure 6 - Private Beach on the Potomac River for Swan Point residents and Country Club members (Image Source: swanpointinfo.com)

Figure 7 - A gated and unpaved maintenance access driveway on Swan Point property traversing through undeveloped forested land.

Cobb Island was initially constructed as a summer resort and has approximately 500 homes, most of which are a single-story on ¼ acre lots. Today, the community includes both permanent residents, second home residents, and rental properties. Although Cobb Island is a small waterfront community, there is no public access to the waterfront on the island. There are public rights-of-way to the waterfront at each roadway terminus, however, adjacent property owners have encroached these areas essentially claiming them as their own private land or the land has been gated preventing public access.

Figure 8 - Cobb Island Road on Cobb Island is a low traffic, slow speed, open section, narrow, two-lane roadway with a center median. This road serves as the main street of Cobb Island. (Image source – Google Street View)

Figure 9 - Gated waterfront at the terminus of Cobb Island Road on the south side of Cobb Island

Figure 10 - Bridge on Cobb Island Road connecting to the mainland. There are 11 foot lanes and a five foot sidewalk on one side, but no bicycle facilities.

Southern Park is a public waterfront park between Swan Point and Cobb Island. Today, the park has a large parking lot, two softball fields, two tennis and basketball courts, a tot lot, a picnic pavilion, and a fishing pier. There are also open grassy areas where people occasionally bring dogs to run. In general, community members have expressed concerns that the park is not well utilized, and that a connecting trail would increase utilization.

Figure 11 – Wilson Road and the Entrance to Southern Park

Figure 12 - Waterfront in Southern Park across from Woodland Point

Figure 13 - Softball field and parking lot in Southern Park

Figure 14 - Tot lot in Southern Park

Additional Small Communities in the middle section of the Study Area include Matthews Manor, Potomac View, and residences along the Cobb Island Road corridor. There is also farmland and individual homesteads on large lots. These communities are not organized with a community association and had not been involved in the early project advocacy work led by the Swan Point Property Owners Association and Cobb Island Citizens Association. These communities are more likely to be impacted with new construction with the greenway trail potentially requiring right-of-way or easements from existing property owners.

Figure 15 - Potomac View Road is a two-way, low volume and low speed residential road. The widths vary from 12 to 20 feet. Properties along this road are waterfront homes, some of which are a second home or vacation rental property.

Figure 16 - Woodland Point Road is a two-way local access road connecting Potomac View Road with Rock Point Road (MD 257). The posted speed is 35 mph, and the width is typically 20 feet.

Figure 17 - Terminus of Matthews Manor Road ending at the Potomac River. The waterfront here is privately owned.

Figure 18 - Rock Point Road (MD 257) along Levine Farm. Shoulder widths vary from 5 to 10 feet. Speed limit is 50 mph.

Figure 20 -Aerial view over Neal Sound and Levine Farm with the western tip of Cobb Island seen in the foreground.

Figure 19 -Cobb Island Road (MD 254) north of Cobb Island lined with residential properties with shoulders that vary between 5 feet and 10 feet. Speed limits vary between 50 mph and 30 mph.

Figure 21 - Unpaved maintenance access drive along the western edge of Levine Farm

2.4 Environment

The area between Cobb Island and Swan Point is replete with environmental resources that are regulated by state and federal agencies. (See Section 7 starting on page 28 for more detail on permitting requirements.) Figure 22 on the following page indicates the location of environmental resources based on open-source GIS data including:

- Water Resources requiring coordination and permitting with Maryland Department of the Environment and the US Army Corps of Engineers
  - Estuary waterways including the Potomac and Wicomico Rivers, and their tributaries including Neale Sound, Shaws Branch, Weir Creek, and Wise Marsh.
  - Wetlands including both tidal and non-tidal wetlands throughout the study area.
  - Associated with the waterways in the study area, there are also 100-year FEMA Floodplains representing a one percent annual chance of flooding.
- The Chesapeake Bay Critical Area is a strip of land along the tidal shoreline extending 1,000 feet landward from the water's edge, or from the landward boundary of any adjacent tidal wetlands. This area is regulated by the Critical Areas Commission to ensure sensitive development practices are in place to protect water quality in the Chesapeake Bay. The Potomac River and Neale Sound are the basis for the Critical Area designation in the study area.
- Forested areas which are protected by the Maryland Forest Conservation Act and regulated by the Maryland Department of Natural Resources. The program aims to conserve forest resources during development activities by identifying existing forest stands, reducing impacts to forested areas, protecting the most desirable forests, and locating areas mitigation of forest impacts with reforestation. Much of the study area includes forest stands.
- Conservation easements held by the Department of Natural Resources, Maryland Historic Trust, Maryland Environmental Trust, and the Maryland Agricultural Land Preservation Fund.
- There is also potential for rare, threatened, endangered, or critical habitat areas for fish and wildlife, such as forest interior dwelling species habitat, colonial waterbird nesting sites, anadromous fish spawning, and other sensitive plant and wildlife habitats.

For each of the above resources, a regulatory scheme governs the permitting process. Regulatory agencies will require efforts for avoidance, minimization, and mitigation of disturbances caused by the construction of a new trail.

Climate change is also a consideration, although not currently regulated or a definitive area of impact. A greenway trail has potential to reduce some greenhouse gas emissions by replacing some vehicular trips with emission-free walking and biking trips. However, the study area is a low-lying coastal landscape at risk of erosion and inundation from major storms or sea-level rise. A greenway trail project may include additional green infrastructure enhancements to improve flood resiliency.

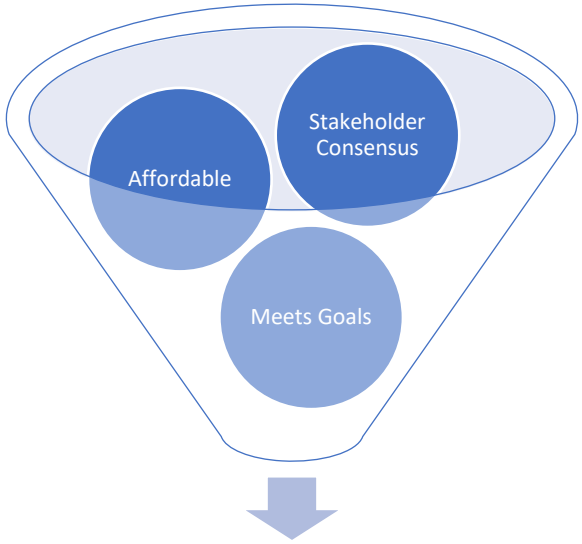
Figure 22 - Environmental Resources

3. Feasibility Considerations

This feasibility study is focused on the preliminary assessment of opportunities, constraints, and design requirements. These are based on technical analysis at a conceptual scale, but this is not a detailed engineering study. The feasibility evaluation criteria include:

- Opportunities – Making safe, convenient, and efficient connections to local destinations for people walking or biking.
- Constraints – Avoiding or minimizing potential impacts to sensitive landscapes including private properties, environmental resources, and active farmland.
- Requirements – The design for the greenway trail will need to comply with standards and guidelines from local, state, and federal agencies. These include:
    - Charles County Detail Manual
    - Maryland Department of Transportation State Highway Administration (MDOT SHA) Bicycle Policy and Design Guidelines
    - Maryland Department of Transportation State Highway Administration (MDOT SHA) Bridge Design Guidelines (if bridges are used)
    - Maryland Manual of Uniform Traffic Control Devices (MdMUTCD)
    - American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities
    - Public Right of Way Accessibility Guidelines (PROWAG)

Additional considerations in the feasibility analysis include stakeholder input, costs, and master plan consistency. This study is a public investment initiated by local community members. It has potential to affect residents and businesses in the study area in beneficial or negative ways. Cost estimating is also important in stewardship of public dollars to compare costs of different alignments and identify funding needed for future capital programming. Community support and cost-effectiveness is important in considering the feasibility of a project.



4. Concept Design

4.1 Facility types

For this study, several different facility types of were considered:

Off-Road Shared-Use Trails are bicycle- and pedestrian-specific transportation corridors. Pathways are ideally 10 to 12 feet wide to accommodate bidirectional walking and bicycling, with two-foot-wide grass shoulder areas. Off road trails follow their own alignment separated from roadways. These offer the greatest opportunity to make direct links and to experience more scenic landscapes but are more costly and potentially more impactful to private properties, environmental resources, and active farmland.

Sidepath Shared-Use Trails are trails adjacent to roadways. Like off-road trails, these are ideally 10 to 12 feet wide with two-foot grass shoulders. They are separated from the roadway either with a setback outside the roadway clear zone or with a barrier such as curb or guardrail protecting trail users from errant traffic. The roadway clear zone is typically 30 feet from the edge of a travel lane. Sidepaths offer a safer and more comfortable alternative than biking or walking along roadways, but may require impacts to private properties, environmental resources, and active farmland.

Figure 23 - Off-Road Shared-Use Trail Concept Typical Section

Figure 24 - Sidepath Shared-use Trail Concept Typical Section

Boardwalks and bridges can be used when shared-use trails need to cross wetlands and waterways. The study area includes wetlands, tidal marshes, and open water that may be spanned with a bridge or boardwalk to minimize the impacts to sensitive natural resources. However, these add significant cost for construction and still require extensive permitting from regulatory agencies for approval. Bridges over open water may also need to accommodate local boat traffic with a navigable opening for safe passage.

Figure 25 - Boardwalk Concept Typical Section

Bicycle Lanes are roadway lanes that provide designated space for people bicycling but do not provide any dedicated space for pedestrians. The roadway shoulders within the study limits vary from two feet to ten feet. Separated bicycle lanes can be implemented on the existing shoulder when at least seven feet is available with at least two feet creating a shy zone buffer and at least five feet as a dedicated bike lane. When less than seven feet is available, there would be no shy zone buffer and the entire shoulder would become the bike lane. Additional barriers can be added into the shy zone such as flex posts or bumps to help keep traffic from merging into the bike lane. These facilities are less costly to build and less impactive to properties and environmental resources, but they are less comfortable for most bikers and are not ideal for pedestrians.

Figure 26 - Bike Lanes Concept Typical Section

Shared Streets with "Advisory Bike Lanes" delineate space for bicycling on low volume and low speed roads that are otherwise too narrow to accommodate full travel lanes and bike lanes. The bike lanes are demarked with a dashed line to delineate a space for bicyclists as a car passes, and cars should merge left when passing. Additional traffic calming with speed humps and signage can be used. These facilities are a low-cost solution that do not create any impacts to right of way or sensitive environmental resources. However, they can be confusing and less comfortable for users, and they do not provide any dedicated space for pedestrians. Pedestrians would share the bike lanes.

Figure 27 - Shared Street Concept Typical Section with Advisory Bike Lanes and Speed Humps

4.2 Alternatives Considered

A range of alternative alignments and facility types have been studied to connect between Swan Point, Southern Park, and Cobb Island. The alternatives are divided into segments that can be pieced together to make a continuous path and possibly to add spur or loop connections.

Together there are 33 possible segments studied, and additional spurs were requested by community members during the public engagement process. It is not intended that all 33 segments would be built, but rather, to identify a single recommended path to focus on implementation.

Each segment includes a start and end point and designated facility type that can tie into other segments to make a continuous path. Additionally, each segment is analyzed to identify a concept-level cost estimate and an estimate of impacts to environmental resources and private properties. Different segments offer different benefits and constraints between safety, comfort and convenience verses impacts to private properties and environmental resources. Although some segments include roadway retrofits without widening that would cause impacts to right of way and environmental resources, it is not possible to build a new greenway trail across Lower Cobb Neck Peninsula without some impacts to private properties or environmental resources. Charles County is not planning to use its condemnation authority to acquire land for a greenway trail in the study area.

See Figure 28 on the following page for a map of all segments, Appendix A for detail pages of each segment, and Appendix B for Cost estimates per each segment.

Figure 28 - Potential Cobb Neck Greenway Alignments

5. Stakeholder Engagement

5.1 Engaging with Partners

Community Members

– The study team met with community advocates for a meeting and site visit on January 24, 2023. This meeting including a discussion around the study background and goals, and a site visit to observe existing conditions along potential trail alignments.

State Highway Administration

- The study team met on May 12, 2023 with representatives from the MDOT SHA Regional and Intermodal Planning Division and District 5 Traffic Division.

MDOT SHA noted support for a bicycle facility in concept in the study area, and requests that this study consider linking to other regional trails and the proposed bikeway spine noted in the current (2109) MDOT Pedestrian and Bicycle Master Plan (page 41). The State bikeway spine does include a proposed connection from Lower Cobb Neck Peninsula north along MD 257 (Rock Point Road) to La Plata, Maryland. A project in this study area could be eligible for design and construction funding from the MDOT Kim Lamphier Bikeways grant program and the Transportation Alternatives Program (TAP).

It was noted that a maintenance agreement is needed with the County to take care of any maintenance needs in the bikeway, even if part of SHA ROW or on an SHA roadway shoulder with a separation from the travel lane. For any improvements along SHA right-of-way (ROW), the design must meet MDOT SHA standards.

Councilman Bowling's Open House

County Councilman Gilbert Bowling hosted an open house on Cobb Island on June 24, 2023. Several community members attended to learn about the project and share input. Community members were directed to submit comments using the online survey.

Swan Point

On July 7, 2023, members of the study team met with representatives from the Swan Point development company, Brookfield Properties. This meeting included a review of the study background, goals, and potential alignments. Brookfield Properties has ongoing development plans for Swan Point that including new housing, a hotel resort, and additional recreational amenities. As a part of the ongoing development planning and approval process, Brookfield Properties is also considering the additional of a new recreational trail network throughout the property linking between residential neighborhoods and the development's amenities, including the beach area. There are also plans to potentially extend a recreational trail along the main roadway, Swan Point Boulevard beyond the Swan Point property limits up to Rock Point Road.

These plans are in development and are not yet approved through the County's the development review process. However, should these plans move forward, Brookfield Properties may construct all sections of the proposed Lower Cobb Neck Greenway Trail west of Rock Point Road.

5.2 Public Engagement

Website – A website for the feasibility study was launched in May 2023 to introduce the study, share information, and collect feedback from community members. An online survey was included on the study website to collect feedback from local community members. The website also featured interactive maps where individuals could pan and zoom to different areas of the study area and get more detailed information about specific alignments and facility types proposed as well as the associated costs, right way impacts, and environmental resource impacts.

Social Media – The website link was publicized on social media through partnership with the Charles County Office of Communications, Cobb Island Citizens Association, and Swan Point Property Owners Association.

Direct Mail – An informational flier was prepared to introduce and summarize the study, publicize the website and public survey, and let people know that the study team would be attending a local festival to talk directly with interested parties.

Cobb Island Day – The study team hosted a public engagement booth during a local festival on June 6, 2023, Cobb Island Day. The booth was staffed by members of the study team and local community advocates during the entire festival from 10:00am until 4:30pm, and the booth was well attended throughout the day by community members. At the information booth, people were able to review maps, design alternatives, take the public survey, and speak one-on-one with members of the study team. This was an opportunity to answer questions, share information, clear up misconceptions, and collect valuable feedback about community preferences.

Throughout the day, 20 individuals completed a paper survey, and many more stopped to speak with the study team.

Figure 29 - Study team members at the Public Engagement Booth during Cobb Island Day on June 3, 2023

5.3 Community Feedback

Feedback from community stakeholders has been collected through a variety of means including:

- Responses to the online survey
- Letters, phone calls, and emails to the lead County staff member, Mr. Joel Binkley
- In person discussions during the pop-up engagement booth during the Cobb Island Day festival.
- Paper surveys were also collected during Cobb Island Day and have been integrated into the online survey results.

Feedback has generally been divided between support and opposition. Overall, supporters of a greenway trail have voiced a desire for:

- Greater access and safe places to walk and bike
- A desire for greater access to a public waterfront
- More recreational opportunities for local youth
- A separated path is preferable to on road facilities
- Amenities including wayfinding signage, educational signage, benches, lighting, small boat launches, and fishing piers
- A place for public parking at trail heads, possibly using the existing parking lot at Southern Park
- Improvements to Southern Park to make it a more attractive destination with waterfront access
- A separate place for offroad skill biking, such as a pump track for pedal bikes only located in Southern Park
- Opportunity to ride electric vehicles, such as golf carts and e-bikes safely and separately from higher speed roadways

Figure 30 - Example of a moveable pump track for pedal bikes, which could be an amenity added in Southern Park (image source: klekfm.org)

Figure 31 - Existing Fishing Pier at Southern Park

Common themes from people who expressed concerns or opposition to a greenway trail include:

- Right-of-way acquisition, although the county would not purchase right-of-way or an access easement from property owners who are unwilling to sell.
- Overall project costs, although state and federal grant money may be pursued to limit costs incurred by the County.
- Environmental impacts, although the County will follow all environmental regulations for permitting and mitigation requirements.
- Pavement conditions along proposed shared roadways or roadway shoulders, which may be upgraded to higher standard if the segment becomes part of a greenway trail.
- Safety concerns for alignments that share a roadway or are on the roadway shoulders, particularly with speeding traffic.
- Trash, noise, or other nuisances by trail users.
- Trespassing and crime along adjacent properties by trail users who divert off the greenway.
- Proximity to hunting grounds potentially leaving trail users in harms way during hunting season.
- A desire for seclusion without more people from the general public coming to visit the area.
- Additionally, several stakeholders expressed an interest in the County prioritizing other public services such as more policing or emergency medical services.

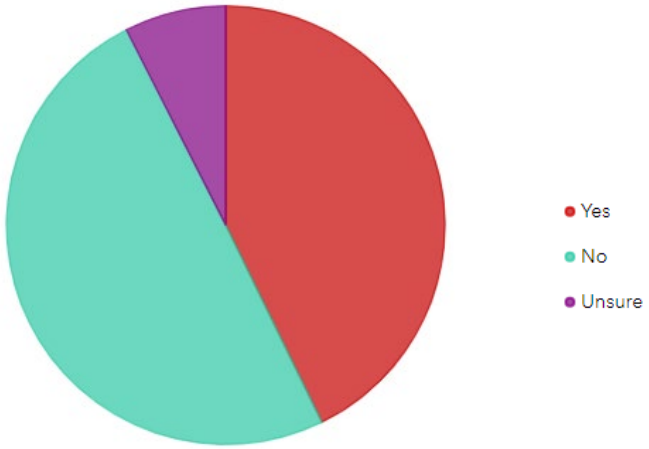


Figure 32 - Out of 189 survey responses received by June 30, 43% support a greenway trail, 49% do not support a greenway trail, and 8% are unsure.

Public comments were collected from May 18 through June 30, 2023. 189 survey responses were received. A summary of common questions, comments, and concerns was posted online at the close of the survey period and shared with constituents, and is included in Appendix C. Figure 33 on the following page is a map of site-specific comments received.

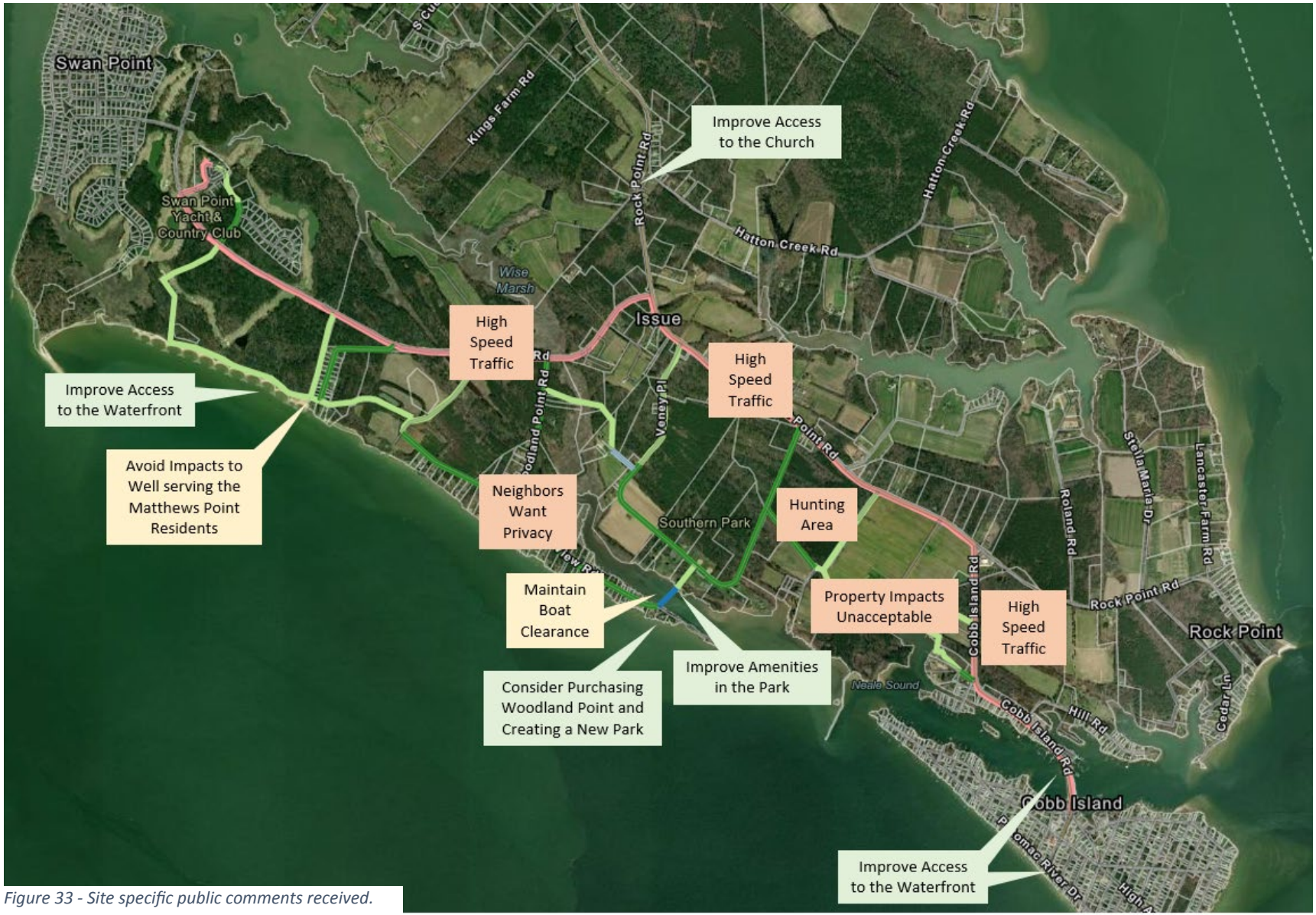


Figure 33 - Site specific public comments received.

6. Preferred Alignment

In consideration of public input, safety, costs, and master plan consistency, the preferred alignment is to follow the existing roadways with a sidepath shared-use trail connecting between Cobb Island and Swan Point, and to add a shared street spur along Wilson Road to connect with Southern Park. The sidepath shared-use trail would follow along the south side of Swan Point Boulevard, Swan Point Road, Rock Point Road (MD 257), and Cobb Island Road (MD 254) with no major road crossings. It would end at the bridge to Cobb Island before crossing the bridge, and people biking and walking would use the existing bridge as is to access the Island. This route is 5.0 miles between the eastern and western points, plus a 0.8 mile spur along Wilson road.

The ongoing development planned at Swan Point may include construction of this Greenway Trail, including segments along Swan Point Road, Swan Point Boulevard, and trails off road connecting to destinations such as the Swan Point Beach.

The remaining alignments and trail segments studied are not recommended for the greenway trail due to community concerns, impacts, and safety considerations.

A plan view map is on the following page. Table 1 on page 26 shows costs, and Table 2 on page 27 shows environmental and property impact estimates.

Why is this alignment the preferred alignment?

- ✓ Consistent with County and State master plans proposing bikeways along Rock Point Road and Cobb Island Road.
- ✓ Safer and more comfortable facility type using a separated path along busy, high-speed roadways.
- ✓ Follows along or adjacent to existing public right-of-way without creating new public right-of-ways bisecting private properties.
- ✓ Minimizes costs and impacts to properties and sensitive environmental resources by using Wilson Road to connect to Southern Park.
- ✓ Avoids areas with strong community opposition to alignments off road and along Potomac View Road.
- ✓ Although a sidepath will cost more and have greater impacts to properties and environmental resources when compared to on road options, it has lower costs and impacts compared to options that are off road.

Figure 34 - Recommended shared street spur along Wilson Road to Southern Park with advisory bike lanes and traffic calming speed humps to help slow down speeding cars.

Figure 35 - Recommended sidepath shared-use trail along Swan Point Road, Rock Point Road, and Cobb Island Road (south side)

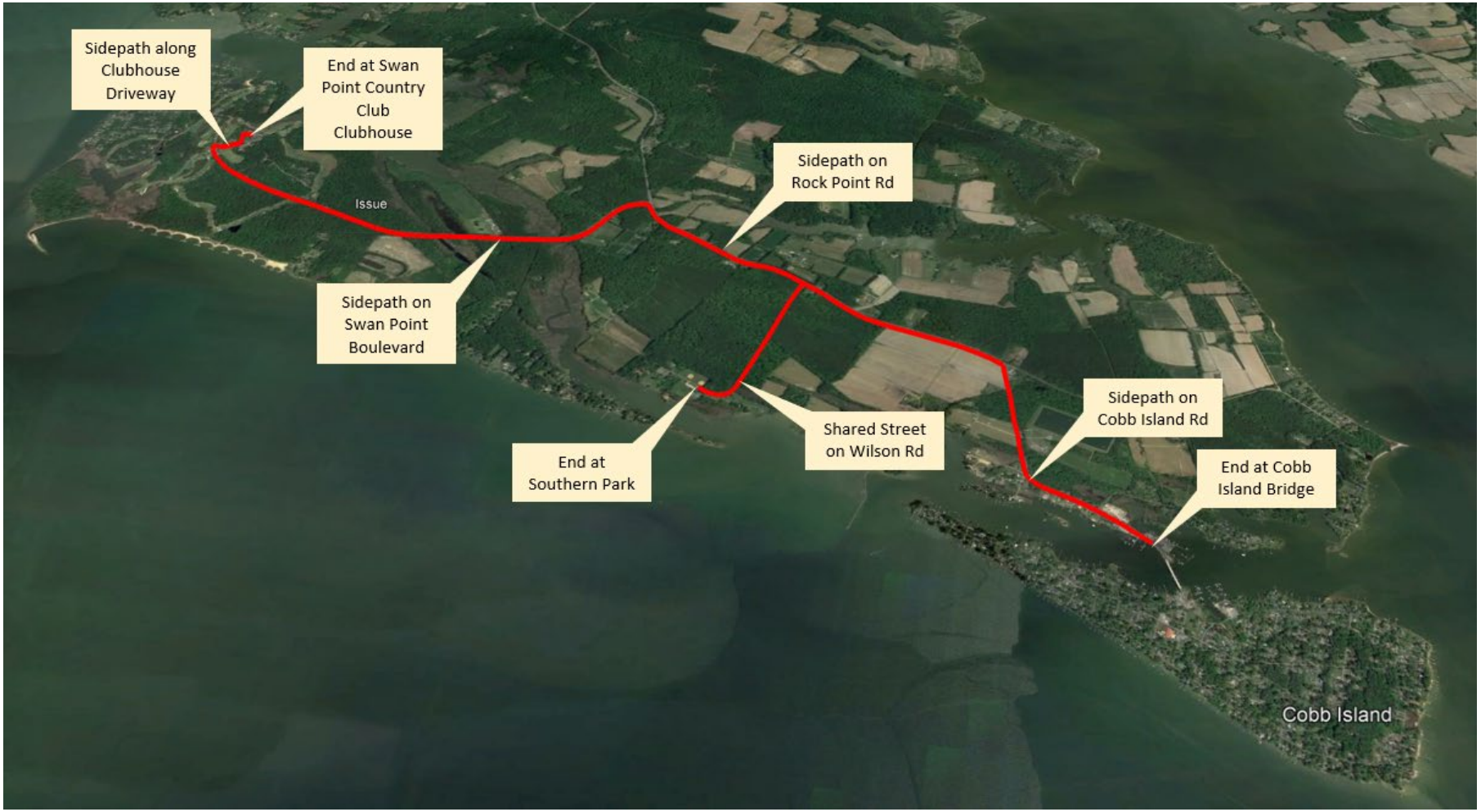


Figure 36 - Preferred Alignment for the Lower Cobb Neck Peninsula Greenway Trail

Table 1 - Preferred Alignment Cost Estimate

Segment*	Facility Type	Construction with 3% Annual Escalation to 2029	Design, Permits & Construction Management	Right-of-Way**	Total Segment Cost	Low Estimate (-20%)	High Estimate (+20%)
8a	On Road	$40,147	$13,048	$0	$53,195	$42,556.07	$63,834.10
8b	On Road	$28,102	$9,133	$0	$37,236	$29,788.58	$44,682.88
AA	Sidepath	$1,428,459	$571,384	$1,593,425	$3,593,268	$2,874,614.13	$4,311,921.20
BB	Sidepath	$124,933	$49,973	$142,877	$317,783	$254,226.10	$381,339.14
CC	Sidepath	$558,179	$223,272	$216,058	$997,508	$798,006.40	$1,197,009.60
D	Sidepath	$679,936	$271,974	$94,090	$1,046,000	$836,800.11	$1,255,200.16
E* **	Sidepath	$289,145	$115,658	$0	$404,802	$323,841.94	$485,762.91
F* **	Sidepath	$377,842	$151,137	$0	$528,979	$423,182.95	$634,774.42
G* **	Sidepath	$285,093	$114,037	$0	$399,131	$319,304.61	$478,956.91
H* **	Sidepath	$475,160	$190,064	$0	$665,224	$532,179.22	$798,268.83
I* **	Sidepath	$255,312	$102,125	$0	$357,437	$285,949.95	$428,924.93
J* **	Sidepath	$253,719	$101,488	$0	$355,207	$284,165.59	$426,248.38
Total		$4,796,028	$1,913,293	$2,046,449	$8,755,770	$7,004,616	$10,506,923

*** Refer to Appendix A for segment locations**

****excludes right-of-way costs on any property owned by Swan Point Country Club**

***** Segment may be constructed by Brookfield Properties as part of the ongoing development at Swan Point**

ROW estimate based on fee simple acquisition

Potential impacts to properties and environmental resources have also been estimated based on an estimated thirty-foot wide limit of disturbance for trail construction along the proposed alignment. The final trail would be ten feet wide, but the additional width accommodates potential grading and drainage needs. Some of these impacts may be avoided or reduced with more detailed engineering design. Charles County will follow all regulatory compliance and permitting processes and will provide mitigation for any impacts associated with the final design. Regulatory requirements are outlined in Table 3 on the following page.

Table 2 – Preferred Alignment Estimated Impacts

Segment*	Total Length in Miles	Total Number of Properties	Total Property Acreage**	Acres of Swan Point Property	Acres of Chesapeake Bay Critical Area	Acres of Tidal Wetland	Acres of Non-Tidal Wetland	Acres of FEMA 100-Year Floodplain	Acres of Forest
8	0.85	0	0	0	0	0	0	0	0
AA	1.64	28	2.76	0	2.55	0	0	2.42	0.46
BB	0.40	4	0.41	0	0	0	0	0	0.69
CC	0.58	5	0.62	0	0	0	0	0	1.19
D	0.73	10	0.27	0.04	1.15	0	0	0.44	0.71
E	0.25	1	0	0.30	0.86	0	0.03	0.28	0.26
F	0.36	1	0	0.15	0.05	0	0.09	0.62	0.40
G	0.27	1	0	0.01	0.75	0	0	0	0.58
H	0.52	1	0	0.89	0	0	0.01	0	1.49
I	0.26	1	0	0.55	0	0	0.01	0	0.59
J	0.23	1	0	0.54	0.57	0	0	0	0.01
Total	6.09	47***	4.06	2.48	5.93	0	0.14	3.76	6.38

* Refer to Appendix A for segment locations
** Excludes acreage of properties owned by Swan Point Country Club
*** Swan Point Country Club property is impacted by multiple segments, but counted once in the total

7. Permitting Requirements

Depending on the final alignment and area of impact of the final design, there could be several permitting requirements:

Table 3 - Applicable Permits and Regulations

Regulation	Application and 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 4(F) of the US 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. Recreational enhancements are not considered an impact to parklands.	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. Requires a wetland delineation and coordination to ensure that all reasonable and feasible opportunities to avoid, minimize, and mitigate for impacts.	Army Corps of Engineers (USACE)
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)
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 402 of the Clean Water Act – National Pollution Discharge and 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)

Table 3 - Applicable Permits and Regulations		
Regulation	**Application and Requirements**	**Lead Agency**
Section 7 of the Endangered Species Act	Agency coordination and screening for impacts to rare, threatened, or endangered species. Requires a request to US Fish to identify potential sensitive species habitat and reasonable and feasible opportunities to avoid, minimize, and mitigate for impacts.	US Fish and Wildlife Service
Maryland Nongame and Endangered Species Conservation Act	Agency coordination and screening for impacts to rare, threatened, or endangered species. Requires a request to Department of Natural Resources to identify potential sensitive species habitat and reasonable and feasible opportunities to avoid, minimize, and mitigate for impacts.	Maryland Department of Natural Resources (DNR)
Section 106 of the Historic Preservation Act	Agency coordination and screening for impacts to historic and cultural resources, including historic properties, historic districts, and archeologically sensitive areas. For undeveloped areas, Phase I assessment determines if there is a likely presence of archeological resources, a Phase II assessment samples locations, and a Phase III assessment is for artifact recovery. A Memorandum of Agreement is needed to concur on allowable impacts and appropriate mitigation measures.	Maryland Historic Trust (MHT)
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.	Charles County / Maryland Department of Natural Resources (DNR)
Comprehensive Environmental Response Compensation and Liability Act (CERCLA)	An environmental assessment of potential harmful or hazardous materials should be conducted in areas with a history of industrial or agricultural use or areas with potential for 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)
Bridge Permit	An assessment of potential impacts to boat navigation and safe passage and permit for any bridge over navigable waterways.	United States Coast Guard (USCG)

8. Funding Opportunities

Charles County's Capital Improvement Budget includes funding for trail planning, design, construction, and maintenance countywide. This budget may be used to fund the greenway trail in part or in full. However, A great benefit to greenway projects is that there are many grant funding opportunities available from both the State and Federal governments and private entities. Often, grants also require a match, in which the County's programmed trail funding may be used. Grants are typically awarded annually, and each have their own application deadlines and administrative requirements. The Lower Cobb Neck Greenway Trail would be eligible under various funding programs including:

8.1 State and Regional Grants

Kim Lamphier Bikeways Grant Program is state funded MDOT program that supports projects that maximize bicycle access, fill missing links in the state's bicycle network, and enhance last-mile connections to work, school, shopping, and transit. The Bikeways Program seeks to leverage past investments in bicycle facilities, complement existing state, local, and federal programs, and promote biking as a fun, healthy transportation mode. 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 because it is included in the State's Bicycle Master Plan, therefore, the State would fund 80% of the total project cost, and the project must have a 20% 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. Funding from this state grant program can be used as the match for federal grant programs.

Program Open Space is a program managed by the Maryland Department of Natural Resources to provide financial and technical assistance for the planning, acquisition, and/or development of recreation land or open space areas. 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.

Transportation Alternatives Program (TAP) is a federally funded program administered by the State Highway Administration. The program awards grant funding to projects that enhance mobility and accessibility, as well as the cultural, aesthetic, historic, and environmental aspects of Maryland's transportation network. TAP funds projects create bicycle and pedestrian facilities, restore historic transportation buildings, convert abandoned railway corridors to pedestrian trails and mitigate highway runoff. The program requires a 20% match, which may come from State, County, or private sources, and may include in-kind services.

Recreational Trails Program is a federally funded program administered by the State Highway Administration. It 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% of the project cost.

8.2 Federal Grants

Rural and Tribal Assistance Pilot Program – Under the Bipartisan Infrastructure Law (BIL) passed in 2021, the Rural and Tribal Assistance Pilot Program was established to provide technical assistance grants to rural and tribal communities. The Program makes $10 million available over five years into fiscal year 2026 to advance infrastructure projects in rural and tribal communities. The grants may be used to hire staff or advisors to assist with early development-phase activities including, but not limited to, feasibility studies; preliminary engineering and design; environmental review; revenue forecasting; financial feasibility analysis; statutory and regulatory analysis and drafting and negotiation of agreements. Individual awards will range in value up to the statutory limit of $360,000. There is no local funding match required to participate in this program. Eligible applicants include local governments or political subdivisions with projects located outside of an urbanized area. This program could be used to fund preliminary engineering, environmental review, and right-of-way acquisition services for the Lower Cobb Neck Greenway project.

Safe Streets and Roads for All (SS4A) - Under the Bipartisan Infrastructure Law (BIL), SS4A was established as a discretionary funding program to support roadway safety. Pedestrian and bicyclist safety is a primary concern and the program supports the implementation of bikeways, complete streets, and traffic calming. SS4A may fund planning and design, and design projects should be identified as part of a Roadway Safety Action Plan. This funding program may be used to create an Action Plan and implement roadway retrofit improvements to that enhance safety for people walking and biking. This program could be used to fund design and construction of Greenway Trail segments that follow existing roads. Awards are competitive and it requires a 20% local match as well as an evaluation program to assess safety measures after implementation.

Rebuilding American Infrastructure with Sustainability and Equity (RAISE) – Previously known as the Better Utilizing Investments to Leverage Development (BUILD) and Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants, the RAISE program is a federal discretionary grant program to fund major multimodal transportation infrastructure projects for improved safety, accessibility, sustainability, and economic vitality. In Maryland and across the country, design and construction for major trail projects have been funded by the RAISE program. Typically, the scale of RAISE-funded projects are larger than this proposed greenway project, but it may be grouped with other regional trail improvements to warrant a competitive grant award. It requires a 20% local match and awards are competitive based on merit criteria and benefit-cost analyses.

8.3 Private Grants

PeopleForBikes Community Grant Program is a private grant for public 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 requires a 50% match. This program could be used to implement biking amenities along the Greenway, in Southern Park, or as part of a local match requirement for larger federally-funded projects.

Outride Fund is a private grant to support cycling programs that help participants improve their social, emotional, and cognitive health. This may include projects that support biking for health, recreation, and social activities as well as educational programs about biking. In general, grants awarded are typically between $5,000 and $15,000 and required a 50% match. This program could be used to implement recreational biking amenities, programs, and events along the Greenway and in Southern Park. It may also be used as part of a local match requirement for larger federally-funded projects.

The Conservation Fund is a private financing program providing money for projects that community leaders have collaboratively planned for strategic conservation and to build a network of connected greenways for people and wildlife. Funds are bridge financing from a revolving fund. This can be 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 to preserve the corridor as open space – particularly in areas that may be developed more intensely in the future.

8.4 Other Partnership Opportunities

Private developers may also be partners who contribute to the greenway trail's implementation. As part of the development review and approval process, any new development that occurs along the proposed greenway corridor could be required to construct portions of the trail as a part of the property's site development plan. Additionally, developers may build portions of the trail as a site amenity to enhance the property. Such developments must go through the county's standard zoning and development review process and would not be expedited or enabled simply due to the presence of the greenway trail.

9. Next Steps

This feasibility study is focused on identifying a preferred alignment based on a variety of considerations and to estimate costs and impacts. The next steps to advance this project are to begin negotiations with property owners for right-of-way acquisition, to secure additional funding, obtain topographic surveys and other base mapping information, and to develop a preliminary design suitable for determining more precise areas of impact. The right-of-way acquisition has been among the most sensitive concerns from the public and should be the focus for the next steps moving forward. The existing right-of-way is not wide enough to accommodate a new greenway trail, and the project is not feasible without the ability to acquire right-of-way.

As a critical path element, it is recommended to engage with affected property owners along the preferred alignment as the next step. Property owner approval to obtain topographic surveys and environmental resource delineations will be needed before any preliminary design can begin. The specific area of impact is not known at this time, and cannot be determined without a preliminary design. Topographic surveys and environmental delineations can be done non-invasively, but some areas may

require invasive soil borings to test soil conditions for drainage and geotechnical studies needed for preliminary design.

Once topographic surveys, environmental resource delineations, and soil borings are completed, a preliminary design can be developed to define a more precise limit of disturbance that can be used to determine the specific area for right-of-way acquisition. Throughout this process, it will be imperative to coordinate with property owners to ensure cooperation and agreement to proceed. Property owners may provide valuable input that may help reduce impacts. As a part of the right-of-way negotiation process and preliminary design, property enhancements may also be incorporated into the project. Examples of property enhancements may include landscaping, fencing, driveway repaving, drainage improvements, or other amenities desired by property owners to mitigate property impacts. Once the property owner agrees to a design, mitigation, and area of impact, acquisition can take place where property owners are compensated for the land based on fair market value determined by independent appraisals. Property acquisition may either be a fee-simple purchase or an agreement for a public easement allowing the greenway trail to cross the property while the property owner maintains ownership.

While the property owner coordination is ongoing, the County may also pursue supplemental grant money to help fund preliminary design, which can include topographic surveys, environmental delineations, and public engagement activities. Subsequent to the preliminary design stage, additional grant funding may be pursued to fund final design, property acquisition, and construction.

Public engagement should also continue throughout the next phases of this project to ensure people are informed and able to provide input as the project progresses.

A potential schedule for next steps is as follows:

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Alignment A

Bikes Lanes/ Shoulder Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
1.65	0	0	0	0	0	0	0	0	$276.8K	$90K	0	$366.8K

Alignment AA

Side Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
1.64	28	2.76	0	2.55	.36	0	2.42	.46	$1,428.5K	$571K	$1,593.4K	$3,593.3K

Alignment B

Bikes Lanes/ Shoulder Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.40	0	0	0	0	0	0	0	0	$66.8K	$21.7K	0	$88.6K

Alignment BB

Side Path Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.40	4	.41	0	0	0	0	0	.69	$124.9K	$49.9K	$142.9K	$317.8K

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Alignment C

Bikes Lanes/ Shoulder Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.58	0	0	0	0	0	0	0	0	$97K	$31.5K	0	$128.5K

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Alignment CC

Side Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.58	5	.62	0	0	0	0	0	1.19	$558.2K	$223.3K	$216.1K	$997.5K

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Alignment D

Side Path Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.73	10	0.31	0.04	1.15	0	0	.44	.71	$679.9K	$272K	$94.1K	$1,046K

Alignment E

Side Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.25	1	0.30	0.30	0.86	0	0.03	0.28	0.26	$289.1K	$115.7K	0	$404.8K

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Alignment F

Side Path Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.36	1	0.15	0.15	0.05	0	0.09	0.62	0.40	$337.8K	$151.1K	0	$529K

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Alignment G

Side Path Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.27	1	0.01	0.01	0.75	0	0	0	0.58	$285.1K	$114K	0	$399.1K

Alignment H

Side Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.52	1	0.89	0.89	0	0	0.01	0	1.49	$475.2K	$190.1K	0	$665.2K

Alignment I

Side Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.26	1	0.55	0.55	0	0	0.01	0	0.59	$255.3K	$102.1K	0	$357.4K

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Alignment J

Side Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.23	2	0.54	0.54	0.57	0	0	0	0.01	$253.7K	$101.5K	0	$355.2K

Alignment K

Off-Road Path Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.18	2	0.24	0.24	0.64	0	0	0	0.22	$235.7K	$100.2K	0	$355.8K

Alignment L

Shared Roadway Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.19	0	0	0	0	0	0	0	0	$21.3K	$6.9K	0	$28.2K

Alignment M

Off-Road Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
1.12	2	3.16	3.16	3.73	0.25	0.05	1.80	2.16	$1,097K	$466.2K	0	$1,563K

Alignment N

Off-Road Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.04	3	0.12	0.12	0.17	0	0	0.11	0.02	$54.4K	$21.8K	0	$76.2K

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Alignment O

Off-Road Path Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.45	4	1.65	1.65	1.64	0	0.46	0.08	0.97	$454.6K	$181.9K	0	$636.5K

Alignment P

Shared Roadway Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.52	0	0	0	0	0	0	0	0	$55.2K	$17.9K	0	$73.1K

Alignment Q

Off-Road Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.54	4	.91	0	1.75	0.22	0	0.72	0.46	$4,232K	$1,691K	$317K	$6,240.5K

Alignment R

Shared Roadway Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.71	0	0	0	0	0	0	0	0	$76.4K	$24.8K	0	$101.2K

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Alignment S

Shared Roadway Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.55	0	0	0	0	0	0	0	0	$59.2K	$19.2K	0	$78.5K

Alignment T

Shared Roadway Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.30	0	0	0	0	0	0	0	0	$8.3K	$2.7K	0	$11.1K

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Alignment U

Off-Road Path Typical Section

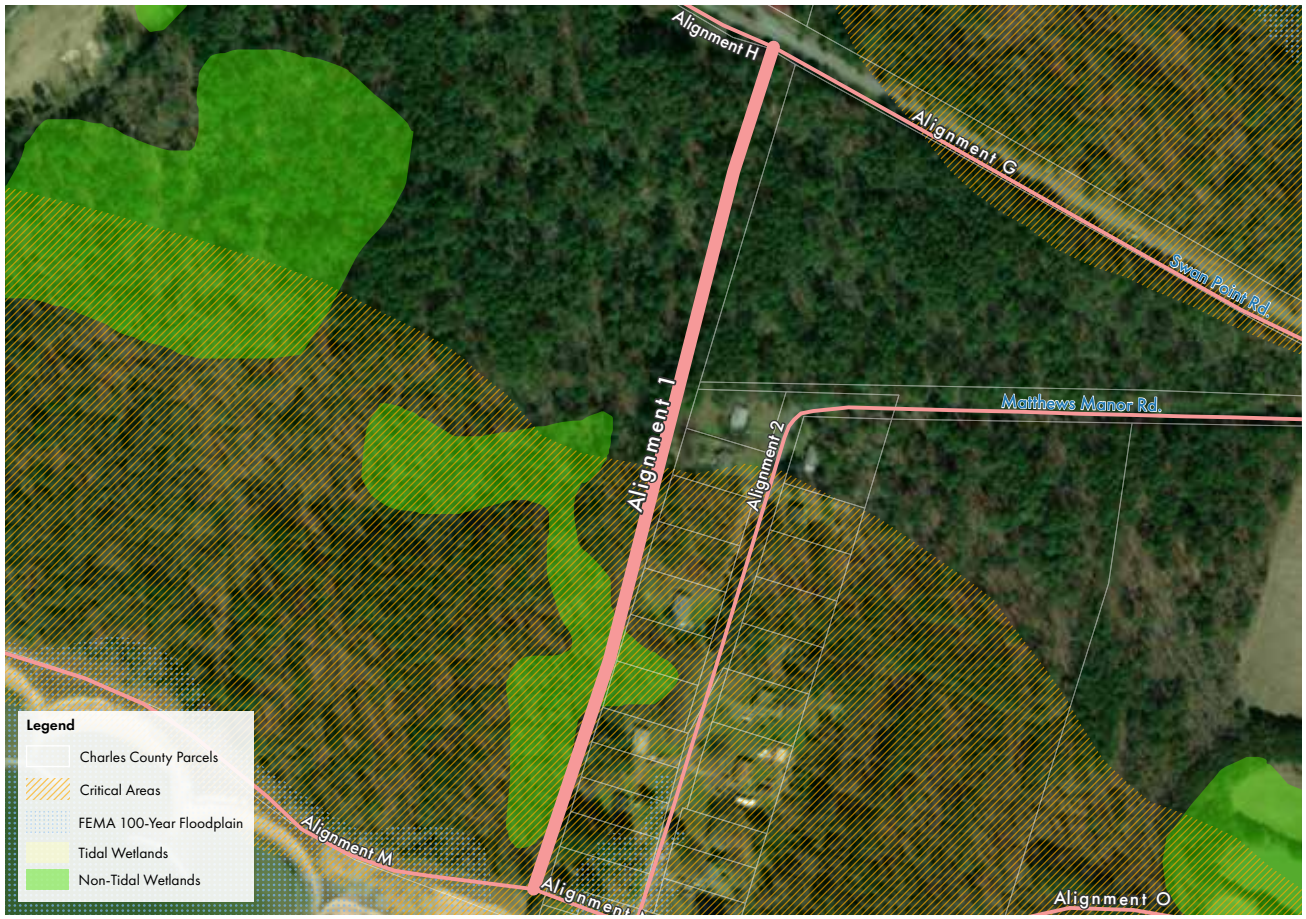
	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.69	5	2.52	0	1.12	0.01	0.12	1.07	0.67	$1,580K	$632K	$878.2K	$3,090K

Alignment V

Off-Road Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.45	3	0.48	0	0.67	0.42	0	1.13	0.16	$7,471K	$2,987K	$167.3K	$10,624K

Alignment 1



Off-Road Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.34	1	1.24	1.24	0.63	0	0.16	0	1.25	$312K	$124.8K	0	$436.7K

Alignment 2

Shared Roadway Typical Section

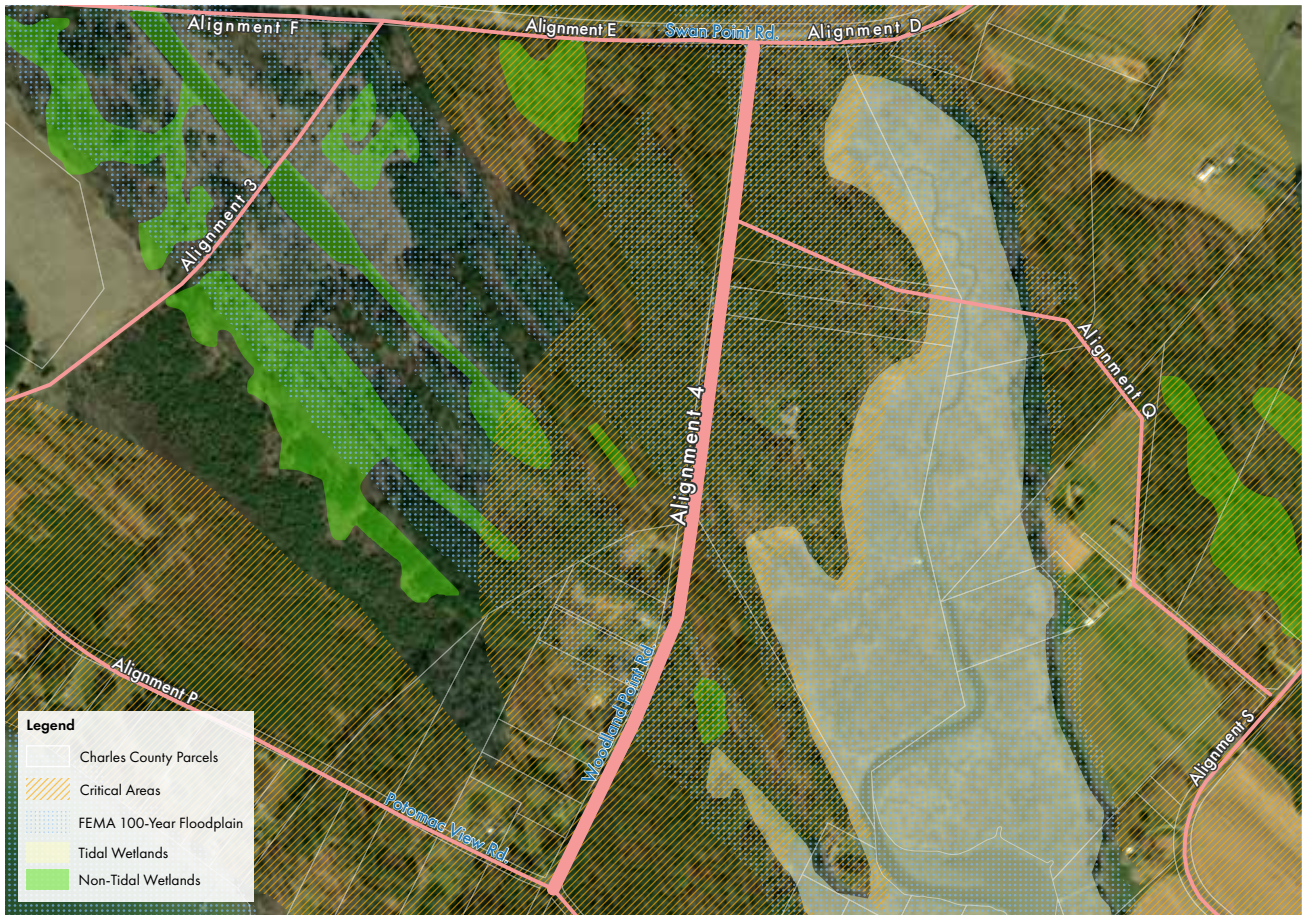
	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.44	0	0	0	0	0	0	0	0	$35.9K	$11.7K	0	$47.6K

Alignment 3

Off-Road Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.41	1	1.48	1.48	0.23	0	0.04	0.71	0.12	$452.3K	$192.2K	0	$644.5K

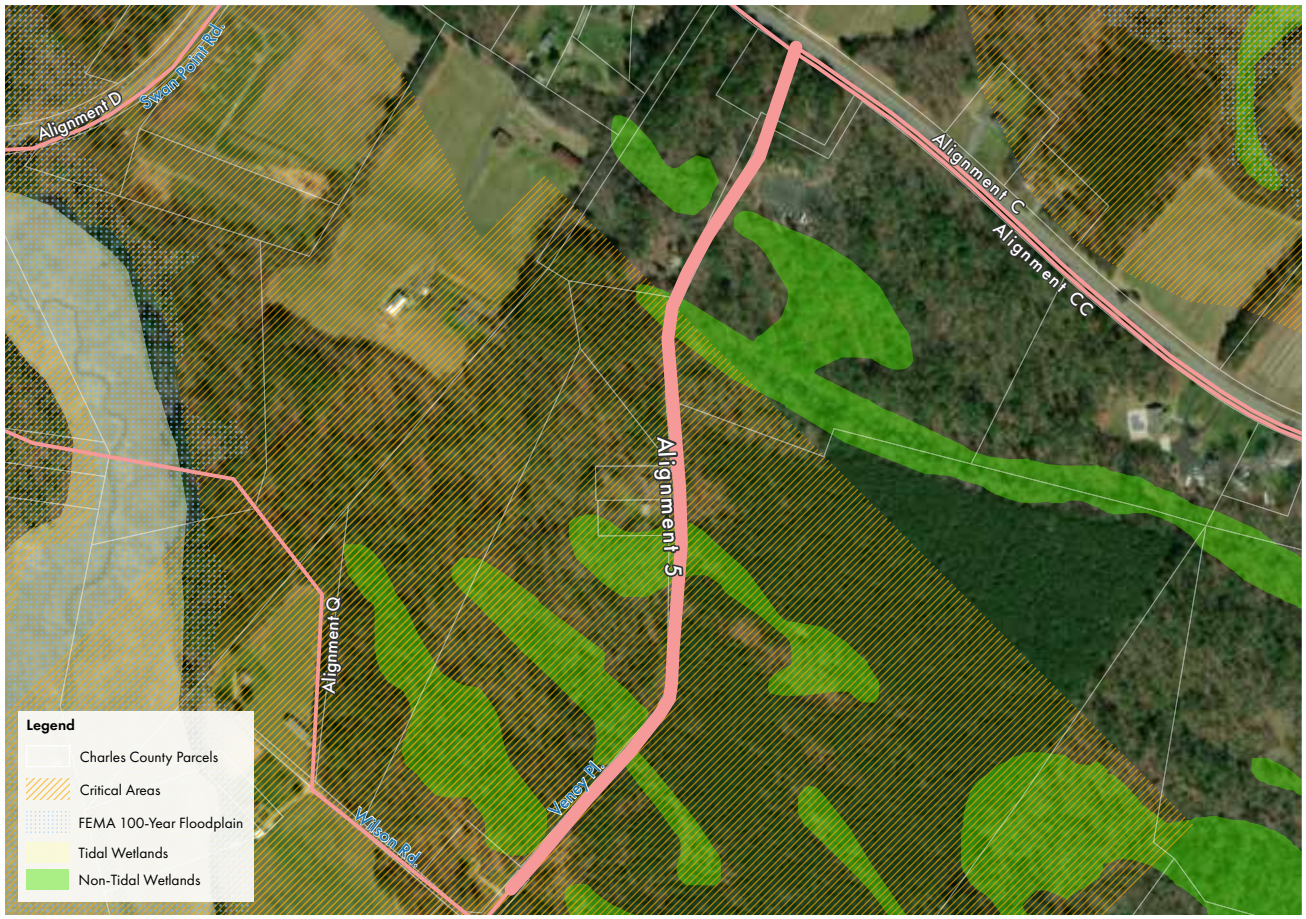
Alignment 4



Shared Roadway Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.58	0	0	0	0	0	0	0	0	$46.4K	$15.1K	0	$61.4K

Alignment 5



Off-Road Path Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.52	6	1.52	0	0.20	0	0.22	0	0.83	$125.6K	$16.5K	$529.7K	$1,255.5K

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Alignment 6 & 7

Off-Road Path Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.22	0	0	0	0.53	0.38	0	0.62	0.13	$5,964.7K	$2,535K	0	$8,499.8K

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Alignment 8

Shared Roadway Typical Section

Segment Length (Miles)	Environmental Impacts								Cost Impacts			
	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.50	0	0	0	0	0	0	0	0	$40.1K	$13K	0	$53.2K
.35	0	0	0	0	0	0	0	0	$28.1K	$9.1K	0	$37.2K

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Alignment 9

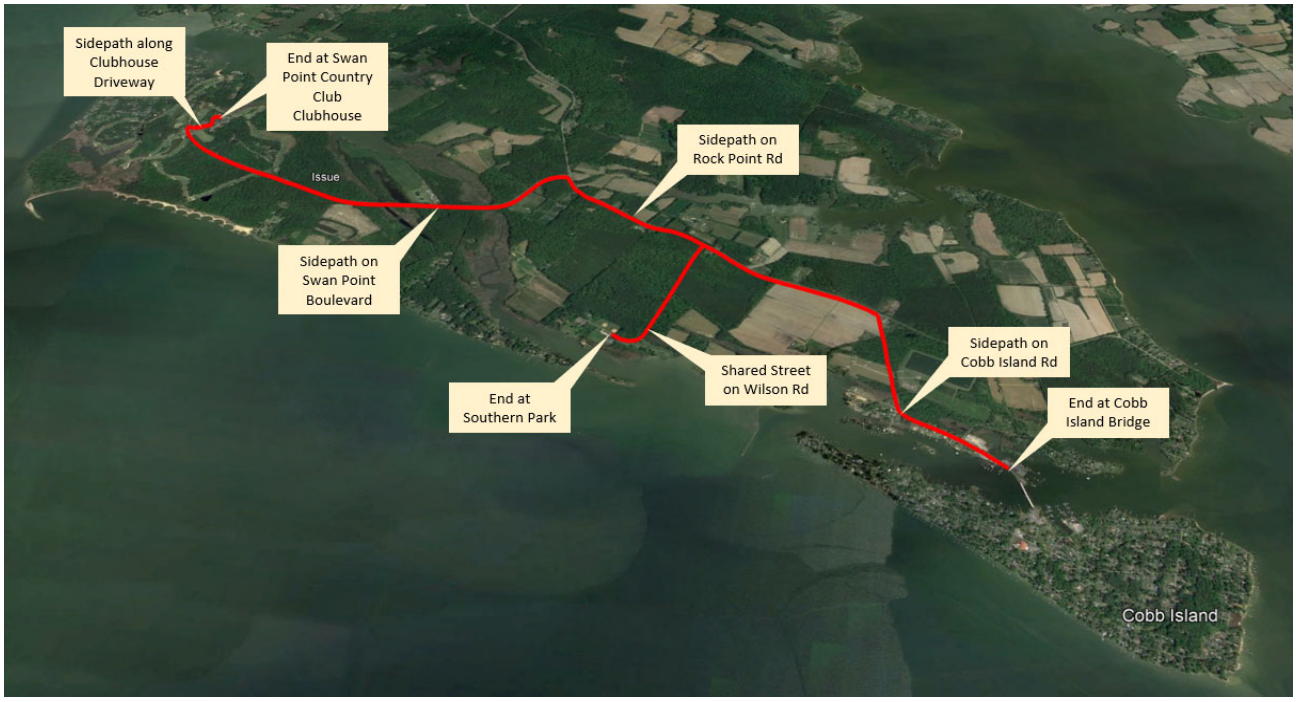
Off-Road Path Typical Section

	Environmental Impacts								Cost Impacts			
Segment Length (Miles)	ROW - # of Private Properties Impacted	ROW - Impacted Private Property (Acres)	Swan Point Country Club Property (Acres)	Critical Areas (Acres)	Tidal Wetlands (Acres)	Non-Tidal Wetlands (Acres)	FEMA 100-Year Floodplain (Acres)	Forest (Acres)	Construction Cost	Design & CM Cost	ROW Cost	Total Segment Cost
.41	3	1.45	0	0.79	0	0	0	0.94	$417.4K	$166.9K	$505.3K	$1,089.6K

Lower Cobb Neck Greenway Trail - Preferred Alignment

Segment	Facility Type	2029 Construction	Design, Permits & CM	ROW*	Total Segment Cost	Low Estimate (-20%)	High Estimate (+20%)
8a	On Road	$40,147	$13,048	$0	$53,195	$42,556.07	$63,834.10
8b	On Road	$28,102	$9,133	$0	$37,236	$29,788.58	$44,682.88
AA	Shared Use Path	$1,428,459	$571,384	$1,593,425	$3,593,268	$2,874,614.13	$4,311,921.20
BB	Shared Use Path	$124,933	$49,973	$142,877	$317,783	$254,226.10	$381,339.14
CC	Shared Use Path	$558,179	$223,272	$216,058	$997,508	$798,006.40	$1,197,009.60
D	Shared Use Path	$679,936	$271,974	$94,090	$1,046,000	$836,800.11	$1,255,200.16
E	Shared Use Path	$289,145	$115,658	$0	$404,802	$323,841.94	$485,762.91
F	Shared Use Path	$377,842	$151,137	$0	$528,979	$423,182.95	$634,774.42
G	Shared Use Path	$285,093	$114,037	$0	$399,131	$319,304.61	$478,956.91
H	Shared Use Path	$475,160	$190,064	$0	$665,224	$532,179.22	$798,268.83
I	Shared Use Path	$255,312	$102,125	$0	$357,437	$285,949.95	$428,924.93
J	Shared Use Path	$253,719	$101,488	$0	$355,207	$284,165.59	$426,248.38
		$4,796,028	$1,913,293	$2,046,449	$8,755,770	$7,004,616	$10,506,923

*excludes ROW costs on any property owned by Swan Point Country Club
ROW estimate based on fee simple acquisition



Lower Cobb Neck Greenway Trail - Feasibility Level Cost Estimates for All Segments

Segment	Facility Type	2029 Construction	Design, Permits & CM	ROW*	Total Segment Cost	Low Estimate (-20%)	High Estimate (+20%)
1	Shared Use Path	$311,957	$124,783	$0	$436,740	$349,391.64	$524,087.46
2	On Road	$35,900	$11,667	$0	$47,567	$38,053.68	$57,080.52
3	Shared Use Path	$452,256	$192,209	$0	$644,465	$515,572.30	$773,358.45
4	On Road	$46,367	$15,069	$0	$61,436	$49,148.85	$73,723.28
5	Shared Use Path	$125,593	$216,484	$529,690	$1,255,547	$1,004,437.61	$1,506,656.41
6+7	Shared Use Path	$5,964,741	$2,535,015	$0	$8,499,756	$6,799,805.02	$10,199,707.53
8a	On Road	$40,147	$13,048	$0	$53,195	$42,556.07	$63,834.10
8b	On Road	$28,102	$9,133	$0	$37,236	$29,788.58	$44,682.88
9	Shared Use Path	$417,353	$166,941	$505,296	$1,089,590	$871,671.65	$1,307,507.48
A	On Road	$276,839	$89,973	$0	$366,812	$293,449.78	$440,174.67
AA	Shared Use Path	$1,428,459	$571,384	$1,593,425	$3,593,268	$2,874,614.13	$4,311,921.20
B	On Road	$66,840	$21,723	$0	$88,563	$70,850.41	$106,275.61
BB	Shared Use Path	$124,933	$49,973	$142,877	$317,783	$254,226.10	$381,339.14
C	On Road	$96,993	$31,523	$0	$128,515	$102,812.30	$154,218.46
CC	Shared Use Path	$558,179	$223,272	$216,058	$997,508	$798,006.40	$1,197,009.60
D	Shared Use Path	$679,936	$271,974	$94,090	$1,046,000	$836,800.11	$1,255,200.16
E	Shared Use Path	$289,145	$115,658	$0	$404,802	$323,841.94	$485,762.91
F	Shared Use Path	$377,842	$151,137	$0	$528,979	$423,182.95	$634,774.42
G	Shared Use Path	$285,093	$114,037	$0	$399,131	$319,304.61	$478,956.91
H	Shared Use Path	$475,160	$190,064	$0	$665,224	$532,179.22	$798,268.83
I	Shared Use Path	$255,312	$102,125	$0	$357,437	$285,949.95	$428,924.93
J	Shared Use Path	$253,719	$101,488	$0	$355,207	$284,165.59	$426,248.38
K	Shared Use Path	$235,654	$100,153	$0	$335,807	$268,645.88	$402,968.81
L	On Road	$21,287	$6,918	$0	$28,205	$22,563.79	$33,845.69
M	Shared Use Path	$1,096,913	$466,188	$0	$1,563,101	$1,250,480.55	$1,875,720.83
N	Shared Use Path	$54,447	$21,779	$0	$76,226	$60,981.09	$91,471.63
O	Shared Use Path	$454,623	$181,849	$0	$636,472	$509,177.89	$763,766.83
P	On Road	$55,153	$17,925	$0	$73,077	$58,461.94	$87,692.90
Qa	Shared Use Path	$4,214,075	$1,685,630	$317,117	$6,216,822	$4,973,457.68	$7,460,186.52
Qb	On Road	$17,916	$5,823	$0	$23,739	$18,991.24	$28,486.87
Q		$4,231,991	$1,691,453	$317,117	$6,240,561	$4,992,449	$7,488,673
R	On Road	$76,387	$24,826	$0	$101,213	$80,970.15	$121,455.23
S	On Road	$59,210	$19,243	$0	$78,453	$62,762.46	$94,143.69
T	On Road	$8,341	$2,711	$0	$11,052	$8,841.85	$13,262.77
Ua	Shared Use Path	$353,152	$141,261	$487,872	$982,285	$785,827.91	$1,178,741.87
Ub	Shared Use Path	$1,226,609	$490,644	$390,298	$2,107,550	$1,686,040.11	$2,529,060.16
U		$1,579,761	$631,904	$878,170	$3,089,835	$2,471,868	$3,707,802
Va	Shared Use Path	$7,451,694	$2,980,678	$167,270	$10,599,643	$8,479,714.14	$12,719,571.21
Vb	On Road	$18,881	$6,136	$0	$25,017	$20,013.57	$30,020.35
V		$7,470,575	$2,986,814	$167,270	$10,624,660	$8,499,728	$12,749,592

*excludes ROW costs on any property owned by Swan Point Country Club
ROW estimate based on fee simple acquisition

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: 1 | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.342									
Width (feet)	10									
Total Linear Ft.		1805.8	LF							
Total Square Ft.		18058	SF							
CONSTRUCTION ACTIVITIES							**COST PER**	**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	2006						$30	SY	$60,192	
Top Soil (2" Depth)	2408						$16	SY	$38,523	6' Either Side
Soil Stabilization	2408						$6	SY	$14,446	
ADA Ramps	1						$3,500	EA	$3,500	
Concrete Driveway Apron	0						$100	SF	$0	at every driveway
Concrete Curb and Gutter	0						$55	LF	$0	
Lane Striping	0						$2	LF	$0	5" Thermoplastic
Crosswalk	0						$30	LF	$0	
Bollard (Precast Concrete)	1						$750	EA	$750	At every road crossing
Refuge Island	0						$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas							$ 15,000	EA	$0	
Bench	3						$2,200	EA	$6,600	
Fence	0						$55	LF	$0	
Gate	0						$4,000	EA	$0	
Lighting	1						$4,000	EA	$4,000	At every road crossing
									$128,011	**Subtotal 1**
STRUCTURES									**COST**	**NOTES:**
Bridge	0	LF	10	H	0	SF	$ 275	SF	$0	
Boardwalk	0	LF	10	H	0	SF	$ 150	SF	$0	
Retaining Wall	0	LF		W	0	SF	$ 25	SF	$0	
									$0	**Subtotal 2**
CONTINGENT CATEGORIES									**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)							$6,401	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)							$6,401	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)							$38,403	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)							$1,280	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)							$1,280	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)							$6,401	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)							$12,801	Percent of Subtotal 1 & 2
									$72,966	**Subtotal 3**
CONSTRUCTION COST									**COST**	**NOTES:**
Neat Construction Cost									$200,977	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%								$60,293	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)							$50,686	
									$311,957	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT									**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)							$23,397	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)							$23,397	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)							$38,995	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)							$38,995	Percent of Subtotal 4
									$124,783	**Subtotal 5**
RIGHT OF WAY									**COST**	**NOTES:**
Residential	0	AC		0	SF	$ 8.00	SF		$0	fee simple (multiply by half if
Commercial		AC		0	SF	$ 29.00	SF		$0	easement)
Agricultural		AC		0	SF	$ 8.00	SF		$0	
									$0	**Subtotal 6**
TOTAL SEGMENT COST									**COST**	
									$436,740	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: 2 | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	5					$ 3,000	EA	$14,100	
Paved Median / Island	0					$ 125	SF	$0	
								$14,100	**Subtotal 1**

TRAFFIC						COST PER	UNIT	COST	NOTES:
Lane Striping	2350					$ 2	LF	$4,700	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	5					$ 25	EA	$118	
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$218	**Subtotal 2**

AMENITIES						COST PER	UNIT	COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$2,864	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$716	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$1,432	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$716	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$5,727	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$20,045	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$10,022	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$5,833	Percent of Subtotals 1, 2, 3 & 4)
			$35,900	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$2,692	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$4,487	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$4,487	Percent of Subtotal 5
			$11,667	**Subtotal 6**

RIGHT OF WAY						COST PER	UNIT	COST	NOTES:
Residential	0	AC	0	SF		$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF		$ 29.00	SF	$0	
Agricultural	0	AC	0	SF		$ 8.00	SF	$0	
								$0	**Subtotal 7**

TOTAL SEGMENT COST	COST	
	$47,567	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: 3 | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.46											
Width (feet)	10											
Total Linear Ft.		2428.8	LF									
Total Square Ft.		24288	SF									
CONSTRUCTION ACTIVITIES									**COST PER**	**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	2699								$30	SY	$80,960	
Top Soil (2" Depth)	3238								$16	SY	$51,814	6' Either Side
Soil Stabilization	3238								$6	SY	$19,430	
ADA Ramps	1								$3,500	EA	$3,500	
Concrete Driveway Apron	0								$100	SF	$0	at every driveway
Concrete Curb and Gutter	0								$55	LF	$0	
Lane Striping	0								$2	LF	$0	5" Thermoplastic
Crosswalk	0								$30	LF	$0	
Bollard (Precast Concrete)	1								$750	EA	$750	At every road crossing
Refuge Island	0								$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1								$ 15,000	EA	$15,000	
Bench	2								$2,200	EA	$4,400	
Fence	0								$55	LF	$0	
Gate	0								$4,000	EA	$0	
Lighting	1								$4,000	EA	$4,000	At every road crossing
											$179,855	**Subtotal 1**
STRUCTURES											**COST**	**NOTES:**
Bridge	0	LF	10	H	0	SF	$	275	SF		$0	Engineers Concept Estimate
Boardwalk	0	LF	10	H	0	SF	$	150	SF		$0	Engineers Concept Estimate
Retaining Wall	0	LF		W	0	SF	$	25	SF		$0	Precast modular block up to 3' Height
											$0	**Subtotal 2**
CONTINGENT CATEGORIES											**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)									$8,993	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)									$8,993	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)									$53,956	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)									$1,799	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)									$1,799	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)									$8,993	Percent of Subtotal 1 & 2
Environmental Mitigation	15%	(1% to 15% depending on complexity)									$26,978	Percent of Subtotal 1 & 2
											$111,510	**Subtotal 3**
CONSTRUCTION COST											**COST**	**NOTES:**
Neat Construction Cost											$291,365	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%										$87,409	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)									$73,482	
											$452,256	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT											**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)									$33,919	Percent of Subtotal 4
Environmental Permitting	10.0%	(5% to 10% depending on complexity)									$45,226	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)									$56,532	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)									$56,532	Percent of Subtotal 4
											$192,209	**Subtotal 5**
RIGHT OF WAY											**COST**	**NOTES:**
Residential	0	AC	0	SF	$	8.00	SF				$0	fee simple (multiply by half if easement)
Commercial		AC	0	SF	$	29.00	SF				$0	
Agricultural		AC	0	SF	$	8.00	SF				$0	
											$0	**Subtotal 6**
TOTAL SEGMENT COST											**COST**	
											$644,465	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: 4 | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	6					$ 3,000	EA	$18,240	
Paved Median / Island	0					$ 125	SF	$0	
								$18,240	**Subtotal 1**

TRAFFIC						COST PER	UNIT	COST	NOTES:
Lane Striping	3040					$ 2	LF	$6,080	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	6					$ 25	EA	$152	
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$252	**Subtotal 2**

AMENITIES						COST PER	UNIT	COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$3,698	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$925	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$1,849	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$925	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$7,397	**Subtotal 4**

CONSTRUCTION COST			NOTES:
Neat Construction Cost		$25,889	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50% (0% to 50% depending on design stage)	$12,944	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4% (Add 3% per year from 2023 to 2029)	$7,534	Percent of Subtotals 1, 2, 3 & 4)
		$46,367	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			NOTES:
Preliminary Design	7.5% (5% to 10% depending on complexity)	$3,478	Percent of Subtotal 5
Environmental Permitting	0% (0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5% (10% to 15% depending on complexity)	$5,796	Percent of Subtotal 5
Construction Management	12.5% (10% to 15% depending on complexity)	$5,796	Percent of Subtotal 5
		$15,069	**Subtotal 6**

RIGHT OF WAY						COST PER	UNIT	COST	NOTES:
Residential	0	AC	0	SF		$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF		$ 29.00	SF	$0	
Agricultural	0	AC	0	SF		$ 8.00	SF	$0	
								$0	**Subtotal 7**

TOTAL SEGMENT COST		
	$61,436	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: 5 | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.522									
Width (feet)	10									
Total Linear Ft.		2756.2	LF							
Total Square Ft.		27562	SF							
CONSTRUCTION ACTIVITIES							**COST PER**	**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	3062						$30	SY	$91,872	
Top Soil (2" Depth)	3675						$16	SY	$58,798	6' Either Side
Soil Stabilization	3675						$6	SY	$22,049	
ADA Ramps	1						$3,500	EA	$3,500	
Concrete Driveway Apron	0						$100	SF	$0	at every driveway
Concrete Curb and Gutter	0						$55	LF	$0	
Lane Striping	0						$2	LF	$0	5" Thermoplastic
Crosswalk	0						$30	LF	$0	
Bollard (Precast Concrete)	1						$750	EA	$750	At every road crossing
Refuge Island	0						$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1						$ 15,000	EA	$15,000	
Bench	3						$2,200	EA	$6,600	
Fence	0						$55	LF	$0	
Gate	0						$4,000	EA	$0	
Lighting	1						$4,000	EA	$4,000	At every road crossing
									$202,569	**Subtotal 1**
STRUCTURES									**COST**	**NOTES:**
Bridge	0	LF	10	H	0	SF	$ 275	SF	$0	Engineers Concept Estimate
Boardwalk	0	LF	10	H	0	SF	$ 150	SF	$0	Engineers Concept Estimate
Retaining Wall	0	LF		W	0	SF	$ 25	SF	$0	Precast modular block up to 3' Height
									$0	**Subtotal 2**
CONTINGENT CATEGORIES									**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)							$10,128	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)							$10,128	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)							$60,771	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)							$2,026	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)							$2,026	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)							$10,128	Percent of Subtotal 1 & 2
Environmental Mitigation	15%	(1% to 15% depending on complexity)							$30,385	Percent of Subtotal 1 & 2
									$125,593	**Subtotal 3**
CONSTRUCTION COST									**COST**	**NOTES:**
Neat Construction Cost									$328,162	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%								$98,449	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)							$82,763	
									$509,374	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT									**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)							$38,203	Percent of Subtotal 4
Environmental Permitting	10.0%	(5% to 10% depending on complexity)							$50,937	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)							$63,672	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)							$63,672	Percent of Subtotal 4
									$216,484	**Subtotal 5**
RIGHT OF WAY									**COST**	**NOTES:**
Residential	1.52	AC		66211	SF		$ 8.00	SF	$529,690	fee simple (multiply by half if easement)
Commercial	0	AC		0	SF		$ 29.00	SF	$0	
Agricultural	0	AC		0	SF		$ 8.00	SF	$0	
									$529,690	**Subtotal 6**
TOTAL SEGMENT COST									**COST**	
									$1,255,547	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Mead & Hunt

Project: Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL

Segment: 6 + 7 | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.22										
Width (feet)	10										
Total Linear Ft.		1161.6	LF								
Total Square Ft.		11616	SF								
CONSTRUCTION ACTIVITIES							**COST PER**		**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	1291						$30		SY	$38,720	
Top Soil (2" Depth)	1549						$16		SY	$24,781	6' Either Side
Soil Stabilization	1549						$6		SY	$9,293	
ADA Ramps	1						$3,500		EA	$3,500	
Concrete Driveway Apron	0						$100		SF	$0	at every driveway
Concrete Curb and Gutter	0						$55		LF	$0	
Lane Striping	0						$2		LF	$0	5" Thermoplastic
Crosswalk	0						$30		LF	$0	
Bollard (Precast Concrete)	1						$750		EA	$750	At every road crossing
Refuge Island	0						$50		LF	$0	~5' Width
Trail Gateway/Wayside Areas	1						$ 15,000		EA	$15,000	
Bench	3						$2,200		EA	$6,600	
Fence	0						$55		LF	$0	
Gate	0						$4,000		EA	$0	
Lighting	1						$4,000		EA	$4,000	At every road crossing
										$102,644	**Subtotal 1**
STRUCTURES										**COST**	**NOTES:**
Bridge	600	LF	10	H	6000	SF	$	275	SF	$1,650,000	Engineers Concept Estimate
Boardwalk	300	LF	10	H	3000	SF	$	150	SF	$450,000	Engineers Concept Estimate
Retaining Wall	0	LF		W	0	SF	$	25	SF	$0	Precast modular block up to 3' Height
										$2,100,000	**Subtotal 2**
CONTINGENT CATEGORIES										**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)								$110,132	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)								$110,132	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)								$660,793	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)								$22,026	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)								$22,026	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)								$110,132	Percent of Subtotal 1 & 2
Environmental Mitigation	15%	(1% to 15% depending on complexity)								$330,397	Percent of Subtotal 1 & 2
										$1,365,639	**Subtotal 3**
CONSTRUCTION COST										**COST**	**NOTES:**
Neat Construction Cost										$3,568,283	Sum of Subtotals 1, 2 and 3
Construction Contingency	40%									$1,427,313	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)								$969,146	
										$5,964,741	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT										**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)								$447,356	Percent of Subtotal 4
Environmental Permitting	10.0%	(5% to 10% depending on complexity)								$596,474	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)								$745,593	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)								$745,593	Percent of Subtotal 4
										$2,535,015	**Subtotal 5**
RIGHT OF WAY										**COST**	**NOTES:**
Residential	0	AC			0	SF	$	8.00	SF	$0	fee simple (multiply by half if easement)
Commercial	0	AC			0	SF	$	29.00	SF	$0	
Agricultural	0	AC			0	SF	$	8.00	SF	$0	
										$0	**Subtotal 6**
TOTAL SEGMENT COST										**COST**	
										$8,499,756	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: 8a | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	5					$ 3,000	EA	$15,780	
Paved Median / Island	0					$ 125	SF	$0	
								$15,780	**Subtotal 1**

TRAFFIC						COST PER	UNIT	COST	NOTES:
Lane Striping	2630					$ 2	LF	$5,260	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	5					$ 25	EA	$132	
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$232	**Subtotal 2**

AMENITIES						COST PER	UNIT	COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$3,202	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$801	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$1,601	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$801	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$6,405	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$22,416	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$11,208	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$6,523	Percent of Subtotals 1, 2, 3 & 4)
			$40,147	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$3,011	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$5,018	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$5,018	Percent of Subtotal 5
			$13,048	**Subtotal 6**

RIGHT OF WAY						COST PER	UNIT	COST	NOTES:
Residential	0	AC	0	SF		$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF		$ 29.00	SF	$0	
Agricultural	0	AC	0	SF		$ 8.00	SF	$0	
								$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$53,195	**Total Cost (Sum Subtotals 5, 6 & 7)**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: 8b | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	4					$ 3,000	EA	$11,016	
Paved Median / Island	0					$ 125	SF	$0	
								$11,016	**Subtotal 1**

TRAFFIC								COST	NOTES:
Lane Striping	1836					$ 2	LF	$3,672	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	4					$ 25	EA	$92	
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$192	**Subtotal 2**

AMENITIES								COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$2,242	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$560	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$1,121	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$560	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$4,483	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$15,691	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$7,845	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$4,566	Percent of Subtotals 1, 2, 3 & 4)
			$28,102	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$2,108	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$3,513	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$3,513	Percent of Subtotal 5
			$9,133	**Subtotal 6**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$37,236	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: 9 | **Date:** | **Date:**

Length (Miles)	0.409								
Width (feet)	10								
Total Linear Ft.		2159.52	LF						
Total Square Ft.		21595.2	SF						

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	2399	$30	SY	$71,984	
Top Soil (2" Depth)	2879	$16	SY	$46,070	6' Either Side
Soil Stabilization	2879	$6	SY	$17,276	
ADA Ramps	2	$3,500	EA	$7,000	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	1	$30	LF	$30	
Bollard (Precast Concrete)	2	$750	EA	$1,500	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	2	$2,200	EA	$4,400	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	2	$4,000	EA	$8,000	At every road crossing
				$171,260	**Subtotal 1**

STRUCTURES								COST	NOTES:
Bridge	0	LF	10	W	0	SF	$ 275 SF	$0	Engineers Concept Estimate
Boardwalk	0	LF	10	W	0	SF	$ 150 SF	$0	Engineers Concept Estimate
Retaining Wall	0	LF		H		SF	$ 25 SF	$0	Precast modular block up to 3' Height
								$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$8,563	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$8,563	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$51,378	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,713	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,713	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$8,563	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$17,126	Percent of Subtotal 1 & 2
			$97,618	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$268,878	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$80,663	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$67,811	
			$417,353	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$31,301	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$31,301	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$52,169	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$52,169	Percent of Subtotal 4
			$166,941	**Subtotal 5**

RIGHT OF WAY							COST	NOTES:
Residential	1.45	AC	63162	SF	$	8.00 SF	$505,296	fee simple (multiply by half if
Commercial	0	AC	0	SF	$	29.00 SF	$0	easement)
Agricultural	0	AC	0	SF	$	8.00 SF	$0	
							$505,296	**Subtotal 6**

TOTAL SEGMENT COST		
	$1,089,590	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: A | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	0					$ 3,000	EA	$0	
Paved Median / Island	0					$ 125	SF	$0	
								$0	**Subtotal 1**

TRAFFIC								COST	NOTES:
Lane Striping	17392					$ 2	LF	$34,784	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	10					$ 50	EA	$500	
Green Paint	0					$ 2	SY	$0	
Crosswalk	3					$ 30	LF	$90	
Stop Bar	3					$ 20	LF	$60	
Bike Lane Markings	35					$ 25	EA	$870	
Flex Post	1159					$ 60	EA	$69,568	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$105,872	**Subtotal 2**

AMENITIES								COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$21,174	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$5,294	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	15%	(1% to 15% depending on complexity)	$15,881	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,059	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$5,294	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$48,701	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$154,573	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$77,286	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$44,981	Percent of Subtotals 1, 2, 3 & 4)
			$276,839	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$20,763	Percent of Subtotal 5
Environmental Permitting	0.0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$34,605	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$34,605	Percent of Subtotal 5
			$89,973	**Subtotal 6**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 7**

TOTAL SEGMENT COST		
	$366,812	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: AA | **Date:** | **Date:** 19-Apr-23

Length (Miles)	1.643							
Width (feet)	10							
Total Linear Ft.		8675.04	LF					
Total Square Ft.		86750.4	SF					
CONSTRUCTION ACTIVITIES				**COST PER**		**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	9639			$30	SY		$289,168	
Top Soil (2" Depth)	11567			$16	SY		$185,068	6' Either Side
Soil Stabilization	11567			$6	SY		$69,400	
ADA Ramps	2			$3,500	EA		$7,000	
Concrete Driveway Apron	0			$100	SF		$0	at every driveway
Concrete Curb and Gutter	0			$55	LF		$0	
Lane Striping	0			$2	LF		$0	5" Thermoplastic
Crosswalk	1			$30	LF		$30	
Bollard (Precast Concrete)	2			$750	EA		$1,500	At every road crossing
Refuge Island	0			$50	LF		$0	~5' Width
Trail Gateway/Wayside Areas	1			$ 15,000	EA		$15,000	
Bench	5			$2,200	EA		$11,000	
Fence	0			$55	LF		$0	
Gate	0			$4,000	EA		$0	
Lighting	2			$4,000	EA		$8,000	At every road crossing
							$586,166	**Subtotal 1**
STRUCTURES							**COST**	**NOTES:**
Bridge	0					LS	$0	Engineers Concept Estimate
Boardwalk	0					LS	$0	Engineers Concept Estimate
Retaining Wall	0			$ 25	SF		$0	Precast modular block up to 3' Height
							$0	**Subtotal 2**
CONTINGENT CATEGORIES							**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)					$29,308	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)					$29,308	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)					$175,850	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)					$5,862	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)					$5,862	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)					$29,308	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)					$58,617	Percent of Subtotal 1 & 2
							$334,115	**Subtotal 3**
CONSTRUCTION COST							**COST**	**NOTES:**
Neat Construction Cost							$920,280	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%						$276,084	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)					$232,095	
							$1,428,459	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT							**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)					$107,134	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)					$107,134	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)					$178,557	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)					$178,557	Percent of Subtotal 4
							$571,384	**Subtotal 5**
RIGHT OF WAY							**COST**	**NOTES:**
Residential	2.76	AC	120225.6	SF	$ 8.00	SF	$961,805	fee simple (multiply by half if easement)
Commercial	0.5	AC	21780	SF	$ 29.00	SF	$631,620	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$1,593,425	**Subtotal 6**
TOTAL SEGMENT COST							**COST**	
							$3,593,268	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: B | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	0					$ 3,000	EA	$0	
Paved Median / Island	0					$ 125	SF	$0	
								$0	**Subtotal 1**

TRAFFIC								COST	NOTES:
Lane Striping	4192					$ 2	LF	$8,384	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	4					$ 50	EA	$200	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	8					$ 25	EA	$210	
Flex Post	279					$ 60	EA	$16,768	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$25,562	**Subtotal 2**

AMENITIES								COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$5,112	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$1,278	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	15%	(1% to 15% depending on complexity)	$3,834	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$256	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$1,278	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$11,758	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$37,320	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$18,660	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$10,860	Percent of Subtotals 1, 2, 3 & 4)
			$66,840	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$5,013	Percent of Subtotal 5
Environmental Permitting	0.0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$8,355	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$8,355	Percent of Subtotal 5
			$21,723	**Subtotal 6**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$88,563	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: BB | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.0397							
Width (feet)	10							
Total Linear Ft.		209.616	LF					
Total Square Ft.		2096.16	SF					
CONSTRUCTION ACTIVITIES				**COST PER**		**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	233			$30	SY		$6,987	
Top Soil (2" Depth)	279			$16	SY		$4,472	6' Either Side
Soil Stabilization	279			$6	SY		$1,677	
ADA Ramps	2			$3,500	EA		$7,000	
Concrete Driveway Apron	0			$100	SF		$0	at every driveway
Concrete Curb and Gutter	0			$55	LF		$0	
Lane Striping	0			$2	LF		$0	5" Thermoplastic
Crosswalk	1			$30	LF		$30	
Bollard (Precast Concrete)	2			$750	EA		$1,500	At every road crossing
Refuge Island	0			$50	LF		$0	~5' Width
Trail Gateway/Wayside Areas	1			$ 15,000	EA		$15,000	
Bench	3			$2,200	EA		$6,600	
Fence	0			$55	LF		$0	
Gate	0			$4,000	EA		$0	
Lighting	2			$4,000	EA		$8,000	At every road crossing
							$51,266	**Subtotal 1**
STRUCTURES							**COST**	**NOTES:**
Bridge	0					LS	$0	Engineers Concept Estimate
Boardwalk	0					LS	$0	Engineers Concept Estimate
Retaining Wall	0			$ 25		SF	$0	Precast modular block up to 3' Height
							$0	**Subtotal 2**
CONTINGENT CATEGORIES							**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)					$2,563	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)					$2,563	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)					$15,380	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)					$513	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)					$513	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)					$2,563	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)					$5,127	Percent of Subtotal 1 & 2
							$29,222	**Subtotal 3**
CONSTRUCTION COST							**COST**	**NOTES:**
Neat Construction Cost							$80,488	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%						$24,146	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)					$20,299	
							$124,933	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT							**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)					$9,370	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)					$9,370	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)					$15,617	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)					$15,617	Percent of Subtotal 4
							$49,973	**Subtotal 5**
RIGHT OF WAY							**COST**	**NOTES:**
Residential	0.41	AC	17859.6	SF	$ 8.00	SF	$142,877	fee simple (multiply by half if easement)
Commercial		AC	0	SF	$ 29.00	SF	$0	
Agricultural		AC	0	SF	$ 8.00	SF	$0	
							$142,877	**Subtotal 6**
TOTAL SEGMENT COST							**COST**	
							$317,783	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: C | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	0					$ 3,000	EA	$0	
Paved Median / Island	0					$ 125	SF	$0	
								$0	**Subtotal 1**

TRAFFIC								COST	NOTES:
Lane Striping	6098					$ 2	LF	$12,196	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	4					$ 50	EA	$200	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	12					$ 25	EA	$305	
Flex Post	407					$ 60	EA	$24,392	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$37,093	**Subtotal 2**

AMENITIES								COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$7,419	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$1,855	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	15%	(1% to 15% depending on complexity)	$5,564	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$371	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$1,855	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$17,063	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$54,156	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$27,078	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$15,759	Percent of Subtotals 1, 2, 3 & 4)
			$96,993	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$7,274	Percent of Subtotal 5
Environmental Permitting	0.0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$12,124	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$12,124	Percent of Subtotal 5
			$31,523	**Subtotal 6**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$128,515	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: CC | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.577						
Width (feet)	10						
Total Linear Ft.		3046.56	LF				
Total Square Ft.		30465.6	SF				

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	3385	$30	SY	$101,552	
Top Soil (2" Depth)	4062	$16	SY	$64,993	6' Either Side
Soil Stabilization	4062	$6	SY	$24,372	
ADA Ramps	2	$3,500	EA	$7,000	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	1	$30	LF	$30	
Bollard (Precast Concrete)	2	$750	EA	$1,500	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	3	$2,200	EA	$6,600	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	2	$4,000	EA	$8,000	At every road crossing
				$229,048	**Subtotal 1**

STRUCTURES				NOTES:
Bridge	0	LS	$0	Engineers Concept Estimate
Boardwalk	0	LS	$0	Engineers Concept Estimate
Retaining Wall	0	$ 25 SF	$0	Precast modular block up to 3' Height
			$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$11,452	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$11,452	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$68,714	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$2,290	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$2,290	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$11,452	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$22,905	Percent of Subtotal 1 & 2
			$130,557	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$359,605	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$107,881	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$90,692	
			$558,179	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$41,863	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$41,863	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$69,772	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$69,772	Percent of Subtotal 4
			$223,272	**Subtotal 5**

RIGHT OF WAY						COST	NOTES:
Residential	0.62	AC	27007.2	SF	$ 8.00 SF	$216,058	fee simple (multiply by half if easement)
Commercial		AC	0	SF	$ 29.00 SF	$0	
Agricultural		AC	0	SF	$ 8.00 SF	$0	
						$216,058	**Subtotal 6**

TOTAL SEGMENT COST	COST	
	$997,508	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: D | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.728							
Width (feet)	10							
Total Linear Ft.		3843.84	LF					
Total Square Ft.		38438.4	SF					
CONSTRUCTION ACTIVITIES				**COST PER**		**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	4271			$30	SY		$128,128	
Top Soil (2" Depth)	5125			$16	SY		$82,002	6' Either Side
Soil Stabilization	5125			$6	SY		$30,751	
ADA Ramps	2			$3,500	EA		$7,000	
Concrete Driveway Apron	0			$100	SF		$0	at every driveway
Concrete Curb and Gutter	0			$55	LF		$0	
Lane Striping	0			$2	LF		$0	5" Thermoplastic
Crosswalk	1			$30	LF		$30	
Bollard (Precast Concrete)	2			$750	EA		$1,500	At every road crossing
Refuge Island	0			$50	LF		$0	~5' Width
Trail Gateway/Wayside Areas	1			$ 15,000	EA		$15,000	
Bench	3			$2,200	EA		$6,600	
Fence	0			$55	LF		$0	
Gate	0			$4,000	EA		$0	
Lighting	2			$4,000	EA		$8,000	At every road crossing
							$279,011	**Subtotal 1**
STRUCTURES							**COST**	**NOTES:**
Bridge	0					LS	$0	Engineers Concept Estimate
Boardwalk	0					LS	$0	Engineers Concept Estimate
Retaining Wall	0			$ 25	SF		$0	Precast modular block up to 3' Height
							$0	**Subtotal 2**
CONTINGENT CATEGORIES							**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)					$13,951	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)					$13,951	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)					$83,703	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)					$2,790	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)					$2,790	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)					$13,951	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)					$27,901	Percent of Subtotal 1 & 2
							$159,036	**Subtotal 3**
CONSTRUCTION COST							**COST**	**NOTES:**
Neat Construction Cost							$438,047	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%						$131,414	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)					$110,475	
							$679,936	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT							**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)					$50,995	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)					$50,995	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)					$84,992	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)					$84,992	Percent of Subtotal 4
							$271,974	**Subtotal 5**
RIGHT OF WAY							**COST**	**NOTES:**
Residential	0.27	AC	11761.2	SF	$ 8.00	SF	$94,090	fee simple (multiply by half if easement)
Commercial		AC	0	SF	$ 29.00	SF	$0	
Agricultural		AC	0	SF	$ 8.00	SF	$0	
							$94,090	**Subtotal 6**
TOTAL SEGMENT COST							**COST**	
							$1,046,000	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: E | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.25						
Width (feet)	10						
Total Linear Ft.		1320	LF				
Total Square Ft.		13200	SF				

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	1467	$30	SY	$44,000	
Top Soil (2" Depth)	1760	$16	SY	$28,160	6' Either Side
Soil Stabilization	1760	$6	SY	$10,560	
ADA Ramps	2	$3,500	EA	$7,000	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	1	$30	LF	$30	
Bollard (Precast Concrete)	2	$750	EA	$1,500	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	2	$2,200	EA	$4,400	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	2	$4,000	EA	$8,000	At every road crossing
				$118,650	**Subtotal 1**

STRUCTURES		COST PER	UNIT	COST	NOTES:
Bridge	0		LS	$0	Engineers Concept Estimate
Boardwalk	0		LS	$0	Engineers Concept Estimate
Retaining Wall	0	$ 25	SF	$0	Precast modular block up to 3' Height
				$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$5,933	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$5,933	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$35,595	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,187	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,187	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$5,933	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$11,865	Percent of Subtotal 1 & 2
			$67,631	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$186,281	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$55,884	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$46,980	
			$289,145	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$21,686	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$21,686	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$36,143	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$36,143	Percent of Subtotal 4
			$115,658	**Subtotal 5**

RIGHT OF WAY				COST PER		COST	NOTES:
Residential	0 AC	0	SF	$ 8.00	SF	$0	fee simple (multiply by half if easement)
Commercial	0 AC	0	SF	$ 29.00	SF	$0	
Agricultural	0 AC	0	SF	$ 8.00	SF	$0	
						$0	**Subtotal 6**

TOTAL SEGMENT COST	
COST	
$404,802	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: F | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.36						
Width (feet)	10						
Total Linear Ft.		1900.8	LF				
Total Square Ft.		19008	SF				

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	2112	$30	SY	$63,360	
Top Soil (2" Depth)	2534	$16	SY	$40,550	6' Either Side
Soil Stabilization	2534	$6	SY	$15,206	
ADA Ramps	2	$3,500	EA	$7,000	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	1	$30	LF	$30	
Bollard (Precast Concrete)	2	$750	EA	$1,500	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	2	$2,200	EA	$4,400	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	2	$4,000	EA	$8,000	At every road crossing
				$155,047	**Subtotal 1**

STRUCTURES		COST PER	UNIT	COST	NOTES:
Bridge	0		LS	$0	Engineers Concept Estimate
Boardwalk	0		LS	$0	Engineers Concept Estimate
Retaining Wall	0	$ 25	SF	$0	Precast modular block up to 3' Height
				$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$7,752	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$7,752	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$46,514	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,550	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,550	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$7,752	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$15,505	Percent of Subtotal 1 & 2
			$88,377	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$243,423	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$73,027	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$61,391	
			$377,842	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$28,338	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$28,338	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$47,230	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$47,230	Percent of Subtotal 4
			$151,137	**Subtotal 5**

RIGHT OF WAY					COST	NOTES:
Residential	0	AC	0 SF	$ 8.00 SF	$0	fee simple (multiply by half if easement)
Commercial		AC	0 SF	$ 29.00 SF	$0	
Agricultural		AC	0 SF	$ 8.00 SF	$0	
					$0	**Subtotal 6**

TOTAL SEGMENT COST		
	$528,979	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: G | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.27						
Width (feet)	10						
Total Linear Ft.		1425.6	LF				
Total Square Ft.		14256	SF				

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	1584	$30	SY	$47,520	
Top Soil (2" Depth)	1901	$16	SY	$30,413	6' Either Side
Soil Stabilization	1901	$6	SY	$11,405	
ADA Ramps	1	$3,500	EA	$3,500	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	0	$30	LF	$0	
Bollard (Precast Concrete)	1	$750	EA	$750	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	2	$2,200	EA	$4,400	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	1	$4,000	EA	$4,000	At every road crossing
				$116,988	**Subtotal 1**

STRUCTURES		COST PER	UNIT	COST	NOTES:
Bridge	0		LS	$0	Engineers Concept Estimate
Boardwalk	0		LS	$0	Engineers Concept Estimate
Retaining Wall	0	$ 25	SF	$0	Precast modular block up to 3' Height
				$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$5,849	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$5,849	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$35,096	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,170	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,170	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$5,849	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$11,699	Percent of Subtotal 1 & 2
			$66,683	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$183,671	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$55,101	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$46,322	
			$285,093	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$21,382	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$21,382	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$35,637	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$35,637	Percent of Subtotal 4
			$114,037	**Subtotal 5**

RIGHT OF WAY					COST	NOTES:
Residential	0	AC	0 SF	$ 8.00 SF	$0	fee simple (multiply by half if easement)
Commercial		AC	0 SF	$ 29.00 SF	$0	
Agricultural		AC	0 SF	$ 8.00 SF	$0	
					$0	**Subtotal 6**

TOTAL SEGMENT COST		
	COST	
	$399,131	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: H | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.524						
Width (feet)	10						
Total Linear Ft.		2766.72	LF				
Total Square Ft.		27667.2	SF				

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	3074	$30	SY	$92,224	
Top Soil (2" Depth)	3689	$16	SY	$59,023	6' Either Side
Soil Stabilization	3689	$6	SY	$22,134	
ADA Ramps	0	$3,500	EA	$0	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	0	$30	LF	$0	
Bollard (Precast Concrete)	0	$750	EA	$0	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	3	$2,200	EA	$6,600	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	0	$4,000	EA	$0	At every road crossing
				$194,981	**Subtotal 1**

STRUCTURES				COST	NOTES:
Bridge	0		LS	$0	Engineers Concept Estimate
Boardwalk	0		LS	$0	Engineers Concept Estimate
Retaining Wall	0	$ 25	SF	$0	Precast modular block up to 3' Height
				$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$9,749	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$9,749	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$58,494	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,950	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,950	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$9,749	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$19,498	Percent of Subtotal 1 & 2
			$111,139	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$306,120	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$91,836	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$77,204	
			$475,160	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$35,637	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$35,637	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$59,395	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$59,395	Percent of Subtotal 4
			$190,064	**Subtotal 5**

RIGHT OF WAY						COST	NOTES:
Residential	0	AC	0 SF	$ 8.00	SF	$0	fee simple (multiply by half if easement)
Commercial		AC	0 SF	$ 29.00	SF	$0	
Agricultural		AC	0 SF	$ 8.00	SF	$0	
						$0	**Subtotal 6**

TOTAL SEGMENT COST		
	$665,224	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: I | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.258						
Width (feet)	10						
Total Linear Ft.		1362.24	LF				
Total Square Ft.		13622.4	SF				

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	1514	$30	SY	$45,408	
Top Soil (2" Depth)	1816	$16	SY	$29,061	6' Either Side
Soil Stabilization	1816	$6	SY	$10,898	
ADA Ramps	0	$3,500	EA	$0	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	0	$30	LF	$0	
Bollard (Precast Concrete)	0	$750	EA	$0	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	2	$2,200	EA	$4,400	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	0	$4,000	EA	$0	At every road crossing
				$104,767	**Subtotal 1**

STRUCTURES				COST	NOTES:
Bridge	0		LS	$0	Engineers Concept Estimate
Boardwalk	0		LS	$0	Engineers Concept Estimate
Retaining Wall	0	$ 25	SF	$0	Precast modular block up to 3' Height
				$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$5,238	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$5,238	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$31,430	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,048	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,048	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$5,238	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$10,477	Percent of Subtotal 1 & 2
			$59,717	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$164,484	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$49,345	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$41,483	
			$255,312	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$19,148	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$19,148	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$31,914	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$31,914	Percent of Subtotal 4
			$102,125	**Subtotal 5**

RIGHT OF WAY						COST	NOTES:
Residential	0	AC	0 SF	$ 8.00	SF	$0	fee simple (multiply by half if easement)
Commercial		AC	0 SF	$ 29.00	SF	$0	
Agricultural		AC	0 SF	$ 8.00	SF	$0	
						$0	**Subtotal 6**

TOTAL SEGMENT COST		
	$357,437	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: J | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.231						
Width (feet)	10						
Total Linear Ft.		1219.68	LF				
Total Square Ft.		12196.8	SF				

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	1355	$30	SY	$40,656	
Top Soil (2" Depth)	1626	$16	SY	$26,020	6' Either Side
Soil Stabilization	1626	$6	SY	$9,757	
ADA Ramps	1	$3,500	EA	$3,500	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	1	$30	LF	$30	
Bollard (Precast Concrete)	1	$750	EA	$750	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	2	$2,200	EA	$4,400	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	1	$4,000	EA	$4,000	At every road crossing
				$104,113	**Subtotal 1**

STRUCTURES		COST PER	UNIT	COST	NOTES:
Bridge	0		LS	$0	Engineers Concept Estimate
Boardwalk	0		LS	$0	Engineers Concept Estimate
Retaining Wall	0	$ 25	SF	$0	Precast modular block up to 3' Height
				$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$5,206	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$5,206	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$31,234	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,041	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,041	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$5,206	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$10,411	Percent of Subtotal 1 & 2
			$59,345	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$163,458	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$49,037	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$41,224	
			$253,719	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$19,029	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$19,029	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$31,715	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$31,715	Percent of Subtotal 4
			$101,488	**Subtotal 5**

RIGHT OF WAY						COST	NOTES:
Residential	0	AC	0 SF	$ 8.00	SF	$0	fee simple (multiply by half if easement)
Commercial		AC	0 SF	$ 29.00	SF	$0	
Agricultural		AC	0 SF	$ 8.00	SF	$0	
						$0	**Subtotal 6**

TOTAL SEGMENT COST	COST	
	$355,207	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: K | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.177								
Width (feet)	10								
Total Linear Ft.		934.56 LF							
Total Square Ft.		9345.6 SF							
CONSTRUCTION ACTIVITIES						**COST PER**	**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	1038					$30	SY	$31,152	
Top Soil (2" Depth)	1246					$16	SY	$19,937	6' Either Side
Soil Stabilization	1246					$6	SY	$7,476	
ADA Ramps	2					$3,500	EA	$7,000	
Concrete Driveway Apron	0					$100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$55	LF	$0	
Lane Striping	0					$2	LF	$0	5" Thermoplastic
Crosswalk	0					$30	LF	$0	
Bollard (Precast Concrete)	1					$750	EA	$750	At every road crossing
Refuge Island	0					$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1					$ 15,000	EA	$15,000	
Bench	2					$2,200	EA	$4,400	
Fence	0					$55	LF	$0	
Gate	0					$4,000	EA	$0	
Lighting	2					$4,000	EA	$8,000	At every road crossing
								$93,716	**Subtotal 1**
STRUCTURES								**COST**	**NOTES:**
Bridge	0	LF	10	W	0 SF	$ 275	SF	$0	Over river
Boardwalk	0	LF	10	W	0 SF	$ 150	SF	$0	over floodplain
Retaining Wall	0	LF		H	SF	$ 25	SF	$0	
								$0	**Subtotal 2**
CONTINGENT CATEGORIES								**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)						$4,686	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)						$4,686	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)						$28,115	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)						$937	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)						$937	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)						$4,686	Percent of Subtotal 1 & 2
Environmental Mitigation	15%	(1% to 15% depending on complexity)						$14,057	Percent of Subtotal 1 & 2
								$58,104	**Subtotal 3**
CONSTRUCTION COST								**COST**	**NOTES:**
Neat Construction Cost								$151,820	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%							$45,546	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)						$38,289	
								$235,654	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT								**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)						$17,674	Percent of Subtotal 4
Environmental Permitting	10.0%	(5% to 10% depending on complexity)						$23,565	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)						$29,457	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)						$29,457	Percent of Subtotal 4
								$100,153	**Subtotal 5**
RIGHT OF WAY								**COST**	**NOTES:**
Residential	0	AC	0	SF		$ 8.00	SF	$0	fee simple (multiply by half if
Commercial		AC	0	SF		$ 29.00	SF	$0	easement)
Agricultural		AC	0	SF		$ 8.00	SF	$0	
								$0	**Subtotal 6**
TOTAL SEGMENT COST								**COST**	
								$335,807	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: L | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	2					$ 3,000	EA	$6,156	
Paved Median / Island	0					$ 125	SF	$0	
								$6,156	**Subtotal 1**

TRAFFIC						COST PER	UNIT	COST	NOTES:
Lane Striping	1026					$ 2	LF	$2,052	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	1					$ 30	LF	$30	
Stop Bar	2					$ 20	LF	$40	
Bike Lane Markings	2					$ 25	EA	$51	
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$2,273	**Subtotal 2**

AMENITIES						COST PER	UNIT	COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$1,686	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$421	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$843	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$84	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$421	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$3,456	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$11,885	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$5,943	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$3,459	Percent of Subtotals 1, 2, 3 & 4)
			$21,287	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$1,596	Percent of Subtotal 5
Environmental Permitting	0.0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$2,661	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$2,661	Percent of Subtotal 5
			$6,918	**Subtotal 6**

RIGHT OF WAY						COST PER	UNIT	COST	NOTES:
Residential	0	AC	0	SF		$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF		$ 29.00	SF	$0	
Agricultural	0	AC	0	SF		$ 8.00	SF	$0	
								$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$28,205	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: M | **Date:** | **Date:** 19-Apr-23

Length (Miles)	1.118									
Width (feet)	10									
Total Linear Ft.		5903.04	LF							
Total Square Ft.		59030.4	SF							
CONSTRUCTION ACTIVITIES						**COST PER**	**UNIT**	**COST**	**NOTES:**	
Asphalt Pavement	6559					$30	SY	$196,768		
Top Soil (2" Depth)	7871					$16	SY	$125,932	6' Either Side	
Soil Stabilization	7871					$6	SY	$47,224		
ADA Ramps	2					$3,500	EA	$7,000		
Concrete Driveway Apron	0					$100	SF	$0	at every driveway	
Concrete Curb and Gutter	0					$55	LF	$0		
Lane Striping	0					$2	LF	$0	5" Thermoplastic	
Crosswalk	0					$30	LF	$0		
Bollard (Precast Concrete)	2					$750	EA	$1,500	At every road crossing	
Refuge Island	0					$50	LF	$0	~5' Width	
Trail Gateway/Wayside Areas	3					$ 15,000	EA	$45,000		
Bench	4					$2,200	EA	$8,800		
Fence	0					$55	LF	$0		
Gate	0					$4,000	EA	$0		
Lighting	1					$4,000	EA	$4,000	At every road crossing	
								$436,224	**Subtotal 1**	
STRUCTURES								**COST**	**NOTES:**	
Bridge	0	LF	10	W	0 SF	$ 275	SF	$0	Over river	
Boardwalk	0	LF	10	W	0 SF	$ 150	SF	$0	over floodplain	
Retaining Wall	0	LF		H	SF	$ 25	SF	$0		
								$0	**Subtotal 2**	
CONTINGENT CATEGORIES								**COST**	**NOTES:**	
Mobilitation / MOT	5%	(5% to 20% depending on complexity)						$21,811	Percent of Subtotal 1 & 2	
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)						$21,811	Percent of Subtotal 1 & 2	
Drainage and SWM	30%	(10% to 30% depending on complexity)						$130,867	Percent of Subtotal 1 & 2	
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)						$4,362	Percent of Subtotal 1 & 2	
Utilities and Conduit	1%	(1% to 10% depending on complexity)						$4,362	Percent of Subtotal 1 & 2	
Landscape Enhancements	5%	(2% to 15% depending on complexity)						$21,811	Percent of Subtotal 1 & 2	
Environmental Mitigation	15%	(1% to 15% depending on complexity)						$65,434	Percent of Subtotal 1 & 2	
								$270,459	**Subtotal 3**	
CONSTRUCTION COST								**COST**	**NOTES:**	
Neat Construction Cost								$706,683	Sum of Subtotals 1, 2 and 3	
Construction Contingency	30%							$212,005		
Escalation	19.4%	(Add 3% per year from 2023 to 2029)						$178,225		
								$1,096,913	**Subtotal 4**	
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT								**COST**	**NOTES:**	
Preliminary Design	7.5%	(5% to 10% depending on complexity)						$82,268	Percent of Subtotal 4	
Environmental Permitting	10.0%	(5% to 10% depending on complexity)						$109,691	Percent of Subtotal 4	
Final Design	12.5%	(10% to 15% depending on complexity)						$137,114	Percent of Subtotal 4	
Construction Management	12.5%	(10% to 15% depending on complexity)						$137,114	Percent of Subtotal 4	
								$466,188	**Subtotal 5**	
RIGHT OF WAY								**COST**	**NOTES:**	
Residential	0	AC	0	SF		$ 8.00	SF	$0	fee simple (multiply by half if easement)	
Commercial		AC	0	SF		$ 29.00	SF	$0		
Agricultural		AC	0	SF		$ 8.00	SF	$0		
								$0	**Subtotal 6**	
TOTAL SEGMENT COST								**COST**		
								$1,563,101	**Total Cost**	

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: N | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.0425		
Width (feet)	10		
Total Linear Ft.	224.4	LF	
Total Square Ft.	2244	SF	

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	249	$30	SY	$7,480	
Top Soil (2" Depth)	299	$16	SY	$4,787	6' Either Side
Soil Stabilization	299	$6	SY	$1,795	
ADA Ramps	1	$3,500	EA	$3,500	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	1	$30	LF	$30	
Bollard (Precast Concrete)	1	$750	EA	$750	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	0	$ 15,000	EA	$0	
Bench	0	$2,200	EA	$0	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	1	$4,000	EA	$4,000	At every road crossing
				$22,342	**Subtotal 1**

STRUCTURES							COST	NOTES:
Bridge	0	LF	10	W	0 SF	$ 275 SF	$0	Over river
Boardwalk	0	LF	10	W	0 SF	$ 150 SF	$0	over floodplain
Retaining Wall	0	LF		H	SF	$ 25 SF	$0	
							$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$1,117	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$1,117	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$6,703	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$223	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$223	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$1,117	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$2,234	Percent of Subtotal 1 & 2
			$12,735	**Subtotal 3**

CONSTRUCTION COST			NOTES:
Neat Construction Cost		$35,078	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%	$10,523	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$8,847	
		$54,447	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$4,084	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$4,084	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$6,806	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$6,806	Percent of Subtotal 4
			$21,779	**Subtotal 5**

RIGHT OF WAY						COST	NOTES:
Residential	0	AC	0 SF	$	8.00 SF	$0	fee simple (multiply by half if
Commercial		AC	0 SF	$	29.00 SF	$0	easement)
Agricultural		AC	0 SF	$	8.00 SF	$0	
						$0	**Subtotal 6**

TOTAL SEGMENT COST		
	$76,226	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: O | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.45								
Width (feet)	10								
Total Linear Ft.		2376	LF						
Total Square Ft.		23760	SF						

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	2640	$30	SY	$79,200	
Top Soil (2" Depth)	3168	$16	SY	$50,688	6' Either Side
Soil Stabilization	3168	$6	SY	$19,008	
ADA Ramps	2	$3,500	EA	$7,000	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	0	$30	LF	$0	
Bollard (Precast Concrete)	2	$750	EA	$1,500	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	2	$2,200	EA	$4,400	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	1	$4,000	EA	$4,000	At every road crossing
				$180,796	**Subtotal 1**

STRUCTURES							COST	NOTES:
Bridge	0	LF	10 W	0 SF	$ 275	SF	$0	Over river
Boardwalk	0	LF	10 W	0 SF	$ 150	SF	$0	over floodplain
Retaining Wall	0	LF	H	SF	$ 25	SF	$0	
							$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$9,040	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$9,040	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$54,239	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,808	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,808	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$9,040	Percent of Subtotal 1 & 2
Environmental Mitigation	15%	(1% to 15% depending on complexity)	$27,119	Percent of Subtotal 1 & 2
			$112,094	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$292,890	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$87,867	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$73,867	
			$454,623	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$34,097	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$34,097	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$56,828	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$56,828	Percent of Subtotal 4
			$181,849	**Subtotal 5**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple (multiply by half if easement)
Commercial		AC	0	SF	$ 29.00	SF	$0	
Agricultural		AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 6**

TOTAL SEGMENT COST		
	$636,472	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: P | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	5					$ 3,000	EA	$16,320	
Paved Median / Island	0					$ 125	SF	$0	
								$16,320	**Subtotal 1**

TRAFFIC						COST PER	UNIT	COST	NOTES:
Lane Striping	2720					$ 2	LF	$5,440	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	5					$ 25	EA	$136	
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$5,676	**Subtotal 2**

AMENITIES						COST PER	UNIT	COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$4,399	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$1,100	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$2,200	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$1,100	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$8,798	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$30,794	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$15,397	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$8,961	Percent of Subtotals 1, 2, 3 & 4)
			$55,153	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$4,136	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$6,894	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$6,894	Percent of Subtotal 5
			$17,925	**Subtotal 6**

RIGHT OF WAY						COST PER	UNIT	COST	NOTES:
Residential	0	AC	0	SF		$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF		$ 29.00	SF	$0	
Agricultural	0	AC	0	SF		$ 8.00	SF	$0	
								$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$73,077	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: Qa | **Date:** | **Date:** April 23 2023

Length (Miles)	0.419								
Width (feet)	10								
Total Linear Ft.		2212.3	LF						
Total Square Ft.		22123	SF						
CONSTRUCTION ACTIVITIES					**COST PER**		**UNIT**	**COST**	**NOTES:**
Asphalt Pavement	2458				$30		SY	$73,744	
Top Soil (2" Depth)	2950				$16		SY	$47,196	6' Either Side
Soil Stabilization	2950				$6		SY	$17,699	
ADA Ramps	2				$3,500		EA	$7,000	
Concrete Driveway Apron	0				$100		SF	$0	at every driveway
Concrete Curb and Gutter	0				$55		LF	$0	
Lane Striping	0				$2		LF	$0	5" Thermoplastic
Crosswalk	0				$30		LF	$0	
Bollard (Precast Concrete)	2				$750		EA	$1,500	At every road crossing
Refuge Island	0				$50		LF	$0	~5' Width
Trail Gateway/Wayside Areas	1				$ 15,000		EA	$15,000	
Bench	3				$2,200		EA	$6,600	
Fence	0				$55		LF	$0	
Gate	0				$4,000		EA	$0	
Lighting	2				$4,000		EA	$8,000	At every road crossing
								$176,739	**Subtotal 1**
STRUCTURES								**COST**	**NOTES:**
Bridge	0	LF	10	W	0	SF	$ 275 SF	$0	
Boardwalk	1035	LF	10	W	10350	SF	$ 150 SF	$1,552,500	over floodplain
Retaining Wall	0	LF		H		SF	$ 25 SF	$0	
								$1,552,500	**Subtotal 2**
CONTINGENT CATEGORIES								**COST**	**NOTES:**
Mobilitation / MOT	5%	(5% to 20% depending on complexity)						$86,462	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)						$86,462	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)						$518,772	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)						$17,292	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)						$17,292	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)						$86,462	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)						$172,924	Percent of Subtotal 1 & 2
								$985,666	**Subtotal 3**
CONSTRUCTION COST								**COST**	**NOTES:**
Neat Construction Cost								$2,714,905	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%							$814,471	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)						$684,699	
								$4,214,075	**Subtotal 4**
DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT								**COST**	**NOTES:**
Preliminary Design	7.5%	(5% to 10% depending on complexity)						$316,056	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)						$316,056	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)						$526,759	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)						$526,759	Percent of Subtotal 4
								$1,685,630	**Subtotal 5**
RIGHT OF WAY								**COST**	**NOTES:**
Residential	0.91	AC	39640	SF	$ 8.00	SF		$317,117	fee simple (multiply by half if easement)
Commercial		AC	0	SF	$ 29.00	SF		$0	
Agricultural		AC	0	SF	$ 8.00	SF		$0	
								$317,117	**Subtotal 6**
TOTAL SEGMENT COST								**COST**	
								$6,216,822	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: Qb | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	2					$ 3,000	EA	$6,000	~every 500'
Paved Median / Island	0					$ 125	SF	$0	
								$6,000	**Subtotal 1**

TRAFFIC								COST	NOTES:
Lane Striping	630					$ 2	LF	$1,260	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	2					$ 25	EA	$50	~every 500'
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$1,410	**Subtotal 2**

AMENITIES								COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$1,482	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$371	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	5%	(1% to 15% depending on complexity)	$371	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$371	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$2,594	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$10,004	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$5,002	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$2,911	Percent of Subtotals 1, 2, 3 & 4)
			$17,916	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$1,344	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$2,240	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$2,240	Percent of Subtotal 5
			$5,823	**Subtotal 6**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$23,739	**Total Cost (Sum Subtotals 5, 6 & 7)**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: R | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	8					$ 3,000	EA	$22,632	
Paved Median / Island	0					$ 125	SF	$0	
								$22,632	**Subtotal 1**

TRAFFIC						COST PER	UNIT	COST	NOTES:
Lane Striping	3772					$ 2	LF	$7,544	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	8					$ 25	EA	$189	
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$7,833	**Subtotal 2**

AMENITIES						COST PER	UNIT	COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$6,093	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$1,523	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$3,046	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$1,523	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$12,186	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$42,650	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$21,325	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$12,411	Percent of Subtotals 1, 2, 3 & 4)
			$76,387	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$5,729	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$9,548	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$9,548	Percent of Subtotal 5
			$24,826	**Subtotal 6**

RIGHT OF WAY						COST PER	UNIT	COST	NOTES:
Residential	0	AC	0	SF		$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF		$ 29.00	SF	$0	
Agricultural	0	AC	0	SF		$ 8.00	SF	$0	
								$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$101,213	**Total Cost (Sum Subtotals 5, 6 & 7)**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: S | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	6					$ 3,000	EA	$17,526	~every 500'
Paved Median / Island	0					$ 125	SF	$0	
								$17,526	**Subtotal 1**

TRAFFIC								COST	NOTES:
Lane Striping	2921					$ 2	LF	$5,842	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	6					$ 25	EA	$146	~every 500'
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$6,088	**Subtotal 2**

AMENITIES								COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$4,723	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$1,181	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$2,361	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$1,181	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$9,446	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$33,060	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$16,530	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$9,620	Percent of Subtotals 1, 2, 3 & 4)
			$59,210	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$4,441	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$7,401	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$7,401	Percent of Subtotal 5
			$19,243	**Subtotal 6**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$78,453	**Total Cost (Sum Subtotals 5, 6 & 7)**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: T | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	0					$ 3,000	EA	$0	~every 500'
Paved Median / Island	0					$ 125	SF	$0	
								$0	**Subtotal 1**

TRAFFIC								COST	NOTES:
Lane Striping	1574					$ 2	LF	$3,148	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	3					$ 25	EA	$79	~every 500'
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$3,327	**Subtotal 2**

AMENITIES								COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$665	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$166	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$333	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$166	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$1,331	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$4,657	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$2,329	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$1,355	Percent of Subtotals 1, 2, 3 & 4)
			$8,341	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$626	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$1,043	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$1,043	Percent of Subtotal 5
			$2,711	**Subtotal 6**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$11,052	**Total Cost (Sum Subtotals 5, 6 & 7)**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: Ua | **Date:** | **Date:** 19-Apr-23

Length (Miles)	0.347								
Width (feet)	10								
Total Linear Ft.		1832.16	LF						
Total Square Ft.		18321.6	SF						

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Asphalt Pavement	2036					$30	SY	$61,072	
Top Soil (2" Depth)	2443					$16	SY	$39,086	6' Either Side
Soil Stabilization	2443					$6	SY	$14,657	
ADA Ramps	2					$3,500	EA	$7,000	
Concrete Driveway Apron	0					$100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$55	LF	$0	
Lane Striping	0					$2	LF	$0	5" Thermoplastic
Crosswalk	0					$30	LF	$0	
Bollard (Precast Concrete)	2					$750	EA	$1,500	At every road crossing
Refuge Island	0					$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1					$ 15,000	EA	$15,000	
Bench	3					$2,200	EA	$6,600	
Fence	0					$55	LF	$0	
Gate	0					$4,000	EA	$0	
Lighting	0					$4,000	EA	$0	At every road crossing
								$144,915	**Subtotal 1**

STRUCTURES									COST	NOTES:
Bridge	0	LF	10	W	0	SF	$ 275	SF	$0	
Boardwalk	0	LF	10	W	0	SF	$ 150	SF	$0	over floodplain
Retaining Wall	0	LF		H	0	SF	$ 25	SF	$0	
									$0	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$7,246	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$7,246	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$43,475	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$1,449	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$1,449	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$7,246	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$14,492	Percent of Subtotal 1 & 2
			$82,602	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$227,517	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$68,255	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$57,380	
			$353,152	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$26,486	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$26,486	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$44,144	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$44,144	Percent of Subtotal 4
			$141,261	**Subtotal 5**

RIGHT OF WAY								COST	NOTES:
Residential	1.4	AC	60984	SF	$	8.00	SF	$487,872	fee simple (multiply by half if easement)
Commercial	0	AC	0	SF	$	29.00	SF	$0	
Agricultural	0	AC	0	SF	$	8.00	SF	$0	
								$487,872	**Subtotal 6**

TOTAL SEGMENT COST	COST	
	$982,285	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: Ub | **Date:** | **Date:** April 23 2023

Length (Miles)	0.345									
Width (feet)	10									
Total Linear Ft.		1571.6	LF							
Total Square Ft.		15716	SF							

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	1746	$30	SY	$52,387	
Top Soil (2" Depth)	2095	$16	SY	$33,527	6' Either Side
Soil Stabilization	2095	$6	SY	$12,573	
ADA Ramps	1	$3,500	EA	$3,500	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	0	$30	LF	$0	
Bollard (Precast Concrete)	1	$750	EA	$750	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	3	$2,200	EA	$6,600	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	1	$4,000	EA	$4,000	At every road crossing
				$128,337	**Subtotal 1**

STRUCTURES									COST	NOTES:
Bridge	0	LF	10	W	0	SF	$ 275	SF	$0	
Boardwalk	250	LF	10	W	2500	SF	$ 150	SF	$375,000	over floodplain
Retaining Wall	0	LF		H	0	SF	$ 25	SF	$0	
									$375,000	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$25,167	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$25,167	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$151,001	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$5,033	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$5,033	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$25,167	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$50,334	Percent of Subtotal 1 & 2
			$286,902	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$790,239	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$237,072	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$199,298	
			$1,226,609	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$91,996	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$91,996	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$153,326	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$153,326	Percent of Subtotal 4
			$490,644	**Subtotal 5**

RIGHT OF WAY							COST	NOTES:
Residential	1.12	AC	48787.2	SF	$ 8.00	SF	$390,298	fee simple (multiply by half if easement)
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$390,298	**Subtotal 6**

TOTAL SEGMENT COST		
	$2,107,550	**Total Cost**

SHARED-USE PATH CONCEPT COST ESTIMATER

Project: Lower Cobb Neck Trail Feasibility Study | **Computed By:** MP | **Checked By:** ANL
Segment: Va | **Date:** | **Date:** April 23 2023

Length (Miles)	0.383									
Width (feet)	10									
Total Linear Ft.		2.24	LF							
Total Square Ft.		22.4	SF							

CONSTRUCTION ACTIVITIES		COST PER	UNIT	COST	NOTES:
Asphalt Pavement	2	$30	SY	$75	
Top Soil (2" Depth)	3	$16	SY	$48	6' Either Side
Soil Stabilization	3	$6	SY	$18	
ADA Ramps	1	$3,500	EA	$3,500	
Concrete Driveway Apron	0	$100	SF	$0	at every driveway
Concrete Curb and Gutter	0	$55	LF	$0	
Lane Striping	0	$2	LF	$0	5" Thermoplastic
Crosswalk	0	$30	LF	$0	
Bollard (Precast Concrete)	1	$750	EA	$750	At every road crossing
Refuge Island	0	$50	LF	$0	~5' Width
Trail Gateway/Wayside Areas	1	$ 15,000	EA	$15,000	
Bench	2	$2,200	EA	$4,400	
Fence	0	$55	LF	$0	
Gate	0	$4,000	EA	$0	
Lighting	1	$4,000	EA	$4,000	At every road crossing
				$27,790	**Subtotal 1**

STRUCTURES									COST	NOTES:
Bridge	0	LF	10	H	0	SF	$ 275	SF	$0	Engineers Concept Estimate
Boardwalk	2020	LF	10	H	20200	SF	$ 150	SF	$3,030,000	Engineers Concept Estimate
Retaining Wall	0	LF		W	0	SF	$ 25	SF	$0	Precast modular block up to 3' Height
									$3,030,000	**Subtotal 2**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	5%	(5% to 20% depending on complexity)	$152,890	Percent of Subtotal 1 & 2
Erosion / Sediment Control	5%	(5% to 10% depending on complexity)	$152,890	Percent of Subtotal 1 & 2
Drainage and SWM	30%	(10% to 30% depending on complexity)	$917,337	Percent of Subtotal 1 & 2
Traffic Markings and Signage	1%	(1% to 5% depending on complexity)	$30,578	Percent of Subtotal 1 & 2
Utilities and Conduit	1%	(1% to 10% depending on complexity)	$30,578	Percent of Subtotal 1 & 2
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$152,890	Percent of Subtotal 1 & 2
Environmental Mitigation	10%	(1% to 15% depending on complexity)	$305,779	Percent of Subtotal 1 & 2
			$1,742,941	**Subtotal 3**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$4,800,731	Sum of Subtotals 1, 2 and 3
Construction Contingency	30%		$1,440,219	
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$1,210,744	
			$7,451,694	**Subtotal 4**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$558,877	Percent of Subtotal 4
Environmental Permitting	7.5%	(5% to 10% depending on complexity)	$558,877	Percent of Subtotal 4
Final Design	12.5%	(10% to 15% depending on complexity)	$931,462	Percent of Subtotal 4
Construction Management	12.5%	(10% to 15% depending on complexity)	$931,462	Percent of Subtotal 4
			$2,980,678	**Subtotal 5**

RIGHT OF WAY							COST	NOTES:
Residential/Agricultural	0.48	AC	20909	SF	$ 8.00	SF	$167,270	fee simple (multiply by half if easement)
Commercial		AC	0	SF	$ 29.00	SF	$0	
							$167,270	**Subtotal 6**

TOTAL SEGMENT COST	COST	
	$10,599,643	**Total Cost**

ROADWAY REPURPOSING CONCEPT COST ESTIMATER

Project: Cobb Neck Trail Feasibility Study | **Computed By:** ANL | **Checked By:**
Segment: Vb | **Date:** 19-Apr-23 | **Date:**

CONSTRUCTION ACTIVITIES						COST PER	UNIT	COST	NOTES:
Pavement Removal	0					$ 30	SY	$0	
Curb and Gutter Removal	0					$ 10	LF	$0	
Sidewalk	0	Length (Ft)	5	Width (Ft)	0 SF	$ 9	SF	$0	5" Depth
ADA Ramps	0					$ 3,500	EA	$0	
Concrete Driveway Apron	0					$ 100	SF	$0	at every driveway
Concrete Curb and Gutter	0					$ 55	LF	$0	
Speed Hump	2					$ 3,000	EA	$6,000	~every 500'
Paved Median / Island	0					$ 125	SF	$0	
								$6,000	**Subtotal 1**

TRAFFIC								COST	NOTES:
Lane Striping	690					$ 2	LF	$1,380	5" Thermoplastic
Pavement Marking Removal	0					$ 2	LF	$0	
Traffic Signal	0					$ 150,000	EA	$0	
Pedestrian or Bike Signal	0					$ 10,000	EA	$0	
Signal Adjustment	0					$ 500	EA	$0	
Traffic Sign	2					$ 50	EA	$100	
Green Paint	0					$ 2	SY	$0	
Crosswalk	0					$ 30	LF	$0	
Stop Bar	0					$ 20	LF	$0	
Bike Lane Markings	2					$ 25	EA	$50	~every 500'
Flex Post	0					$ 60	EA	$0	Recommend 10' to 15' On Center
Mountable Barrier	0					$ 30	LF	$0	
								$1,530	**Subtotal 2**

AMENITIES								COST	NOTES:
Bike Rack						$1,000	EA	$0	
Bus Shelter						$16,000	EA	$0	
Fence						$55	LF	$0	4' Height, Ornamental
Gate						$4,000	EA	$0	~12'
Bollard (Precast Concrete)	0					$750	EA	$0	At every road crossing
Lighting	0					$4,000	EA	$0	
								$0	**Subtotal 3**

CONTINGENT CATEGORIES			COST	NOTES:
Mobilitation / MOT	20%	(5% to 20% depending on complexity)	$1,506	Percent of Subtotal 1, 2 & 3
Site Preparation / Grading	5%	(0% to 20% depending on complexity)	$377	Percent of Subtotal 1, 2 & 3
Erosion / Sediment Control	0%	(0% to 5% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Drainage and SWM	0%	(0% to 30% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Traffic Markings and Signage	10%	(1% to 15% depending on complexity)	$753	Percent of Subtotal 1, 2 & 3
Utilities and Conduit	0%	(1% to 10% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
Landscape Enhancements	5%	(2% to 15% depending on complexity)	$377	Percent of Subtotal 1, 2 & 3
Environmental Mitigation	0%	(0% to 15% depending on complexity)	$0	Percent of Subtotal 1, 2 & 3
			$3,012	**Subtotal 4**

CONSTRUCTION COST			COST	NOTES:
Neat Construction Cost			$10,542	Sum of Subtotals 1, 2, 3 & 4)
Construction Contingency	50%	(0% to 50% depending on design stage)	$5,271	Percent of Subtotals 1, 2, 3 & 4)
Escalation	19.4%	(Add 3% per year from 2023 to 2029)	$3,068	Percent of Subtotals 1, 2, 3 & 4)
			$18,881	**Subtotal 5**

DESIGN, PERMITTING & CONSTRUCTION MANAGEMENT			COST	NOTES:
Preliminary Design	7.5%	(5% to 10% depending on complexity)	$1,416	Percent of Subtotal 5
Environmental Permitting	0%	(0% to 10% depending on complexity)	$0	Percent of Subtotal 5
Final Design	12.5%	(10% to 15% depending on complexity)	$2,360	Percent of Subtotal 5
Construction Management	12.5%	(10% to 15% depending on complexity)	$2,360	Percent of Subtotal 5
			$6,136	**Subtotal 6**

RIGHT OF WAY							COST	NOTES:
Residential	0	AC	0	SF	$ 8.00	SF	$0	fee simple
Commercial	0	AC	0	SF	$ 29.00	SF	$0	
Agricultural	0	AC	0	SF	$ 8.00	SF	$0	
							$0	**Subtotal 7**

TOTAL SEGMENT COST		
	COST	
	$25,017	**Total Cost (Sum Subtotals 5, 6 & 7)**

Lower Cobb Neck Greenway Trail - Feasibility Level Cost Estimates (Waterfront Route)

Segment	Facility Type	2029 Construction	Design, Permits & CM	ROW*	Total Segment Cost	Low Estimate (-20%)	High Estimate (+20%)
6+7	Shared Use Path	$5,964,741	$2,535,015	$0	$8,499,756	$6,799,805.02	$10,199,707.53
8a	On Road	$40,147	$13,048	$0	$53,195	$42,556.07	$63,834.10
9	Shared Use Path	$417,353	$166,941	$505,296	$1,089,590	$871,671.65	$1,307,507.48
AA	Shared Use Path	$1,428,459	$571,384	$1,593,425	$3,593,268	$2,874,614.13	$4,311,921.20
I	Shared Use Path	$255,312	$102,125	$0	$357,437	$285,949.95	$428,924.93
J	Shared Use Path	$253,719	$101,488	$0	$355,207	$284,165.59	$426,248.38
M	Shared Use Path	$1,096,913	$466,188	$0	$1,563,101	$1,250,480.55	$1,875,720.83
N	Shared Use Path	$54,447	$21,779	$0	$76,226	$60,981.09	$91,471.63
O	Shared Use Path	$454,623	$181,849	$0	$636,472	$509,177.89	$763,766.83
P	On Road	$55,153	$17,925	$0	$73,077	$58,461.94	$87,692.90
R	On Road	$76,387	$24,826	$0	$101,213	$80,970.15	$121,455.23
T	On Road	$8,341	$2,711	$0	$11,052	$8,841.85	$13,262.77
		$10,105,596	$4,205,278	$2,098,721	$16,409,595	$13,127,676	$19,691,514

*excludes ROW costs on any property owned by Swan Point Country Club

Lower Cobb Neck Greenway Trail - Feasibility Level Cost Estimates (Roadways Route)

Segment	Facility Type	2029 Construction	Design, Permits & CM	ROW*	Total Segment Cost	Low Estimate (-20%)	High Estimate (+20%)
AA	Shared Use Path	$1,428,459	$571,384	$1,593,425	$3,593,268	$2,874,614.13	$4,311,921.20
BB	Shared Use Path	$124,933	$49,973	$142,877	$317,783	$254,226.10	$381,339.14
CC	Shared Use Path	$558,179	$223,272	$216,058	$997,508	$798,006.40	$1,197,009.60
D	Shared Use Path	$679,936	$271,974	$94,090	$1,046,000	$836,800.11	$1,255,200.16
E	Shared Use Path	$289,145	$115,658	$0	$404,802	$323,841.94	$485,762.91
F	Shared Use Path	$377,842	$151,137	$0	$528,979	$423,182.95	$634,774.42
G	Shared Use Path	$285,093	$114,037	$0	$399,131	$319,304.61	$478,956.91
H	Shared Use Path	$475,160	$190,064	$0	$665,224	$532,179.22	$798,268.83
K	Shared Use Path	$235,654	$100,153	$0	$335,807	$268,645.88	$402,968.81
L	On Road	$21,287	$6,918	$0	$28,205	$22,563.79	$33,845.69
		$4,475,688	$1,794,570	$2,046,449	$8,316,706	$6,653,365	$9,980,048

*excludes ROW costs on any property owned by Swan Point Country Club

Lower Cobb Neck Greenway Trail - Feasibility Level Cost Estimates (Boardwalks Route)

Segment	Facility Type	2029 Construction	Design, Permits & CM	ROW*	Total Segment Cost	Low Estimate (-20%)	High Estimate (+20%)
3	Shared Use Path	$452,256	$192,209	$0	$644,465	$515,572.30	$773,358.45
8a	On Road	$40,147	$13,048	$0	$53,195	$42,556.07	$63,834.10
A	On Road	$276,839	$89,973	$0	$366,812	$293,449.78	$440,174.67
E	Shared Use Path	$289,145	$115,658	$0	$404,802	$323,841.94	$485,762.91
K	Shared Use Path	$235,654	$100,153	$0	$335,807	$268,645.88	$402,968.81
L	On Road	$21,287	$6,918	$0	$28,205	$22,563.79	$33,845.69
M	Shared Use Path	$1,096,913	$466,188	$0	$1,563,101	$1,250,480.55	$1,875,720.83
N	Shared Use Path	$54,447	$21,779	$0	$76,226	$60,981.09	$91,471.63
O	Shared Use Path	$454,623	$181,849	$0	$636,472	$509,177.89	$763,766.83
Qa	Shared Use Path	$4,214,075	$1,685,630	$317,117	$6,216,822	$4,973,457.68	$7,460,186.52
Qb	On Road	$17,916	$5,823	$0	$23,739	$18,991.24	$28,486.87
S	On Road	$59,210	$19,243	$0	$78,453	$62,762.46	$94,143.69
Ua	Shared Use Path	$353,152	$141,261	$487,872	$982,285	$785,827.91	$1,178,741.87
Va	Shared Use Path	$7,451,694	$2,980,678	$167,270	$10,599,643	$8,479,714.14	$12,719,571.21
Vb	On Road	$18,881	$6,136	$0	$25,017	$20,013.57	$30,020.35
		$15,036,240	$6,026,546	$972,259	$22,035,045	$17,628,036	$26,442,054

*excludes ROW costs on any property owned by Swan Point Country Club

Lower Cobb Neck Peninsula Greenway Trail Feasibility Study
Common Comments, Concerns, and Questions

Charles County Department of Planning and Growth Management is conducting a greenway trail feasibility study for Lower Cobb neck Peninsula. Public comments have been sought to review and provide input on potential trail alignments, facility types, and locations. Charles County representatives took comments from May 18 through June 30th. The project was publicized through social media and direct mail to all property owners in the study area. People had the opportunity to share their comments by email, phone, at a project information booth during Cobb Island Day on June 3, and during an in-person meeting with Councilman Bowling on June 24. Nearly 200 comments were received. Below is a summary of comments heard and responses. Following the table is a map that summarizes comments for specific locations.

Common Comments, Concerns, and Questions:	Response:
Why is this trail being studied?	For more than five years the Cobb Island Citizens Association and the Swan Point Property Owners Association have worked together to study a trail connection between the two communities. This grassroots effort partnered with Charles County, the Tri County Council for Southern Maryland Bicycle, and Pedestrian Infrastructure Advisory Committee (BIAC), and the Southern Maryland Heritage Area Consortium to engage the Cobb Neck community and study the matter further. In 2022 funding was provided in the Charles County budget for the Department of Planning & Growth Management to hire a professional consultant to study the feasibility of developing such a trail.
The area is lacking recreational amenities and public waterfront access	Although Southern Park is a public park with waterfront access, there are no other publicly accessible parks or waterfront areas along Lower Cobb neck Peninsula. Outside of Southern Park, the entire waterfront is privately owned and controlled or inaccessible to the general public. This project is intended to expand space and access to recreational amenities for the local communities of Lower Cobb Neck Peninsula.
Trails can be good for business	Trails often help to support local businesses and economic growth. A study in Baltimore, Maryland found that for every $1M spent on Bike Infrastructure, an additional 14.4 jobs were created. By comparison - for every $1M in road spending, only 7 jobs were created.[1] Another study found that consistent sales revenue growth and jobs growth when new bicycle and pedestrian access is built in places nationwide.[2] That study included a ten year follow up, which found sales remained strong and continued to grow for the years that followed new pedestrian and bicycle investments.[3]
More amenities are needed in Southern Park	Additional recreational amenities and activities can be added to Southern Park as a part of this project.

[1] University of Massachusetts, Pedestrian and Bicycle Infrastructure: National Study of Employment Impacts, Garriett-Peltier (2011)
[2] New York City DOT, Economic Benefit of Sustainable Streets (2012)
[3] Streetsblog, Business Grew After Controversial Bike Lane Installed, Data Show, Coburn (2022)

Lower Cobb Neck Peninsula Greenway Trail Feasibility Study
Common Comments, Concerns, and Questions

Common Comments, Concerns, and Questions:	Response:
Concerns about traffic safety	Providing a place for people to walk and bike is a primary goal of this project. Today, the existing roads have high speed traffic and there are no bicycle facilities or sidewalks. The lack of safe places to walk or bike prevents people from doing so. Providing a safe, comfortable, and convenient place for people to walk and bike can improve safety.
Preference for a separated shared-use path	Many people voiced a preference for a greenway trail being a separate shared use path instead of being an on road facility. A shared use path would be safer and more comfortable for users, but would cause impacts to right of way and sensitive environmental features. Charles County would follow all regulations and procedures to obtain permits and negotiate with property owners to provide fair compensation for right-of-way.
Concerns about property infringement	Several options include potential trail segments that would not fit within existing public right of way. Charles County will not use its condemnation authority or force property owners to have a trail on their private property without permission. The County may purchase the right of way through a fee simple acquisition or as an easement with property owner permission and compensation. Payment would be assessed at fair market value based on independent appraisals and in negotiation with the property owners.
Concerns about crime	There is no evidence that trails cause crime. Charles County already has several popular trails, and there is no pattern that shows proximity to the trail increases crime. Furthermore, multiple research studies have been conducted to study whether trails have an effect on crime rates, and no study has found a correlation where trails increased crime rates. [4]
Concerns about privacy and trespassing	Through the right-of-way acquisition process, the trail would become public right of way. Fencing, hedgerows, or other barriers may be used along private properties to prevent people from straying off the trail.
Concerns about littering and maintenance	The County's Department of Parks and Recreation would maintain the trail, as they do other trails in the County. Additionally, trash receptacles can be placed along the trail.
Desire for seclusion and concerns about attracting outsiders to the area	Charles County is proud to have such beautiful natural resources and recreational amenities, and supports the use and enjoyment of all our facilities by people from near and far. Local businesses such as restaurants, marinas, and retail shops require public access and serve a market larger than the local vicinity. Attracting and accommodating people from outside the area is good for local business. However, this trail's purpose is to make local connections between neighborhoods and local parks and businesses so residents can stay local and enjoy recreational amenities without traveling far away. This trail is not intended to be a regional attraction.

[4] University of Nebraska, Nebraska Rural Trails: Three Studies of Trail Impact, Greer (2001), City of Seattle, EVALUATION OF THE BURKE-GILMAN TRAIL'S EFFECT ON PROPERTY VALUES AND CRIME, Puncochar and Lagerwey (1987), and Schenectady County Department of Planning, THE MOHAWK-HUDSON BIKE-HIKE TRAIL & ITS IMPACT ON ADJOINING RESIDENTIAL PROPERTIES, Feeney (1997)

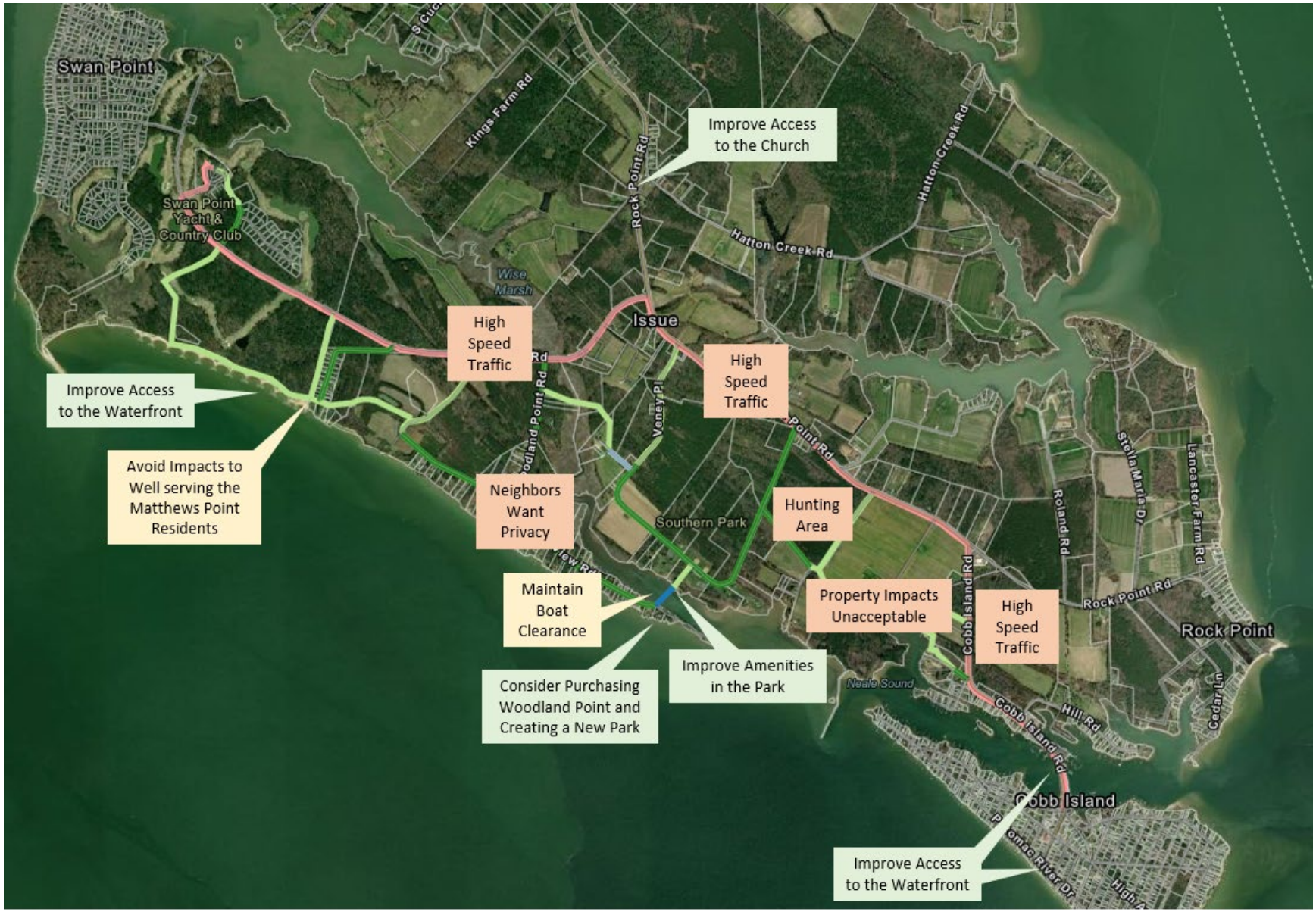
Common Comments, Concerns, and Questions:	Response:
Concerns about project costs	Currently, the cost to design, build, and maintain the proposed trail is not part of the County's Capital Improvement Program or Operations Budget. However, the County may pursue various grants to fund this project or the County may program the project in future Capital Improvement Plans. The County may also require trail construction by private developers who seek development approval along segments of the preferred alignment. Charles County already spends money each year to build and maintain bicycle and pedestrian trails. Any County funding for the future development of this project would come from that budget and not divert funding from other needs.
The trail may decrease property values	Research has shown that the presence of trails can increase property values. Potential homeowners are often enticed to purchase homes in areas trails because these amenities provide opportunity for recreation, exercise, access to nature, and opportunity for community interaction. A University of Delaware research study identified that homes within 50 meters of bike paths commanded a four percent price premium in New Castle County, Delaware.[5] Another research study identified that homes within one-quarter mile of trails benefited from a 10 percent price premium in Methow Valley, Washington.[6] The Journal for Parks and Recreation found that home within half mile of a trail was associated with an 11 percent price premium.[7] The Journal for Real Estate and Finance found that trail adjacency is associated with a 2% house price premium; Greenbelt adjacency is associated with a 3% house price premium; Greenway adjacency (trails with greenbelts) are associated with a 5% house price premium.[8] The National Realtors Association found that overall, people prefer to live in walkable communities.[9]
The existing roadways are not in good enough condition to be made into shared roads for people walking and biking	In the instances when a shared road is proposed, there may be additional enhancements to improve pavement, markings, and drainage or to provide traffic calming to help reduce speeding traffic.

[5] University of Delaware, Property Value/Desirability Effects of Bike Paths Adjacent to Residential Areas, Racca and Dhanju (2006)
[6] Methow Valley Sports Trails Association, ECONOMIC IMPACTS of MVSTA Trails and Land Resources in the Methow Valley, Resource Dimensions (2005)
[7] Journal of Park and Recreation Administration, Property Values, Recreation Values, and Urban Greenways, Lindsey, Man, Payton, and Dickson (2004)
[8] Journal of Real Estate Finance and Economics, The Relative Impacts of Trails and Greenbelts on Home Price, Asabere (2009)
[9] National Association of Realtors, Community and Transportation Preference Survey (2017)

Common Comments, Concerns, and Questions:	Response:
New lighting may cause light pollution that affects nighttime dark skies	Any new lighting will have downward directed light paths so that there is not light pollution reflecting upwards towards the sky.
Proximity to hunting grounds could be a safety hazard	The preferred alignment follows existing roadways and does not pass through hunting grounds.
Concerns about boat access	The bridge over Neal Sound would have been designed to accommodate small boats, but this alignment has been dropped from consideration.
Charles County should fund emergency services instead of trails	Charles County's capital improvement program includes an annual budget for trail planning, design, construction, and maintenance. This fund could be used for a new trail in the study area without impacting the County's emergency services funding and operations budget. The County's budget for emergency services is separate from any parks, recreation, and transportation infrastructure funding. The County continues to make investments to expand and improve emergency services in the Cobb Neck Peninsula vicinity.

For a map showing site specific comments, see the following page:

Lower Cobb Neck Peninsula Greenway Trail Feasibility Study
Common Comments, Concerns, and Questions



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