Cohansey Green Corridor Planning Study

FINAL VERSION: June 19th, 2026

Prepared for:

THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF CUMBERLAND NEW JERSEY

SJTPO South Jersey Transportation Planning Organization

Prepared by:

akrf

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EXECUTIVE SUMMARY

Purpose and Goals

The Cohansey Green Corridor planning study lays the groundwork for design and implementation of an approximately 7-mile long route through three (3) municipalities in Cumberland County. The route follows the Cohansey River and its tributaries, beginning at the Greater Bridgeton Amish Market in Hopewell Township and ending at the Wildlife Management Area in Fairfield Township. The project is funded by the South Jersey Transportation Planning Organization (SJTPO) and aims to expand multi-modal transportation in the region. The goals of this study are to assess the feasibility of the proposed corridor, document and incorporate community feedback, provide design guidance for the proposed corridor, and develop an implementation plan.

Existing Planning Efforts

Cumberland County has developed several planning documents that align with the proposed green corridor including regional and local master plans and planning studies.

These documents highlight other trail planning projects, such as the Maurice River Corridor Study and the Rails to Trails projects, that would create a larger network of multi-modal transportation throughout the County and the region. Documents such as Forward 2050 and the Bridgeton Master Plan have goals that are directly supported by the proposed Cohansey Green Corridor. The Southeast Gateway plan provides key insights into previous transportation planning and community engagement along the southern end of the proposed corridor. These documents provide useful tools to understand regional momentum, community support, and the findings from previous analyses.

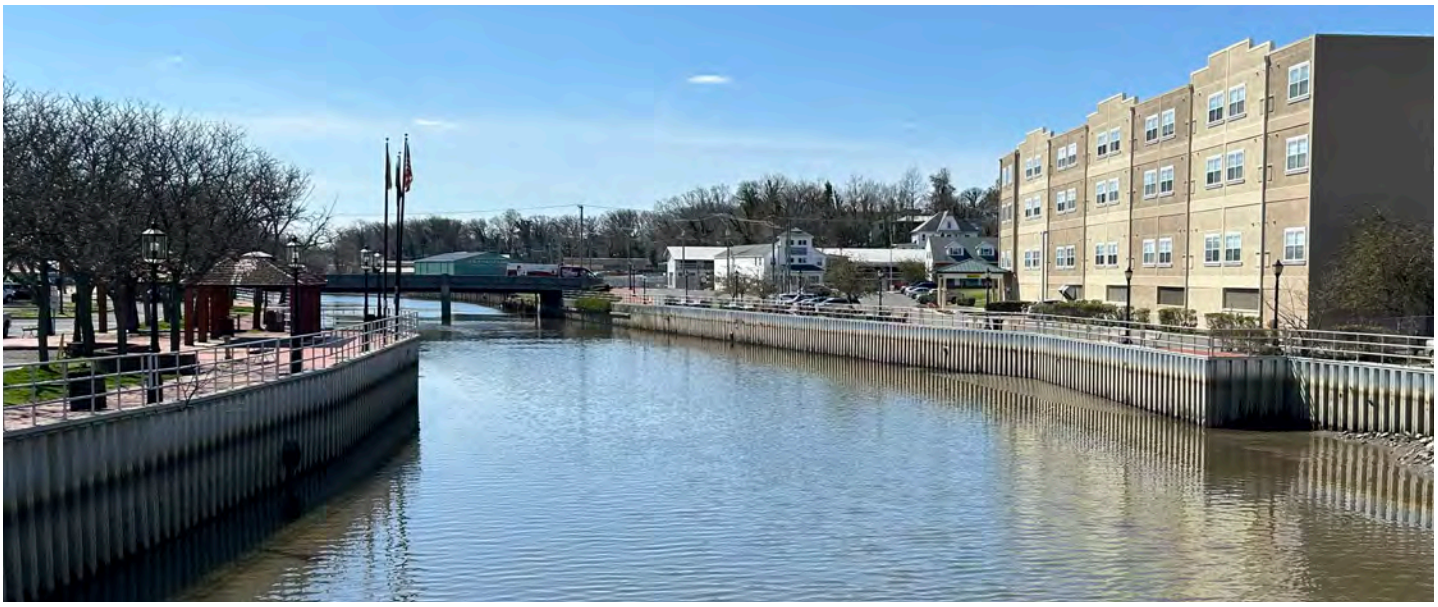


Figure 1: View of Cohansey River from Commerce St. Bridge, Image Credit: AKRF

Existing Conditions Analysis

The physical characteristics along the corridor present both opportunities and constraints. The preliminary alignment of the corridor includes approximately 6.9 miles of trail stretching through three municipalities. The alignment includes existing trails, new off-road trails, and trails within the rights-of-way and connects to existing state bicycle routes, regional bus routes, and existing roadways.

The corridor includes sections located within ecologically sensitive areas such as wetlands, flood-prone areas, and areas that are vulnerable to extreme heat. Topography is relatively mild with the exception of sections travelling across or within stream banks. Key Takeaways from this analysis include:

- The trails offers key connections to a regional bike route.
- The trail can be accessed via walking, bus, biking, and car. Existing parking facilities are located at several locations within Hopewell Township, the City of Bridgeton, and Fairfield Township.
- When the trail is located within flood hazard areas, flood-damage resistant materials should be used.
- Elevate trails at risk from future sea level rise where feasible.
- Consider increasing shade within the center of the City Bridgeton along the proposed route to mitigate extreme heat.
- Protect mature canopy trees and wooded areas along the corridor.
- Minimize disturbance to ecological systems including riparian habitat, wetlands, and vernal pools.
- Construction along streams should be located outside of bank slopes.
- Where steep slopes are unavoidable, trail switch backs should be considered for slopes greater than 5% to provide ADA-accessible routes.

Community Engagement

Two public engagement meetings were held throughout the study process to gather information and feedback on the proposed corridor project. The first session focused on information gathering and review of the preliminary trail route. Key Takeaways from the first session included the following feedback:

- Off-road trail routes with separation from traffic were a priority. Traffic calming strategies that provide separation from vehicles, such as vegetative buffers, were preferred.
- Several amenities were desired along trails including seating, restrooms, signage, and wildlife habitat structures throughout the corridor and trees in central Bridgeton.
- Participants did not have a strong desire for recreation opportunities along the trail with the exception of waterfront recreation.
- Security and lighting of less visible portions of the trail were desirable as long as impacts to wildlife are minimal.

Figure 2: Photo from the first community engagement session. Map enlargements were used to discuss the initial trail alignment., Image Credit: AKRF

A second community engagement session was held to review the draft trail alignment. Key Takeaways included:

- Advanced warning signage and traffic calming measures should be used at high-traffic areas such as E. Broad St. and W. Park Drive.
- Wayfinding signage, metal picnic tables, and vault restrooms were the most popular furnishings.
- The highest priority trail sections were identified along Barretts Run and Mary Elmer Lake. The second highest priority sections were along Grove Street.

Alternative Route Analysis

Based on the preliminary engineering analysis and community feedback, alternative routes to the initial alignment developed by the County were evaluated. These alternatives were driven by a desire to minimize on-road routes and navigate environmental constraints. Key route decisions included:

- Cassidy Court to Shiloh Pike Alternative: An alternative route through Hopewell Township properties was considered. The Cassidy Court to Shiloh Pike route was preferred due to future plans for the Township-owned parcels.
- Barretts Run Alternative: Alternative alignments to the north and south of Barretts Run were considered. The northern alignment was preferred to minimize stream crossings and eliminate the need for a new crossing on Shiloh Pike. The southern alignment may be reconsidered pending negotiations of property easements.
- Mary Elmer Lake Alternative: An alternative to using Mary Elmer Drive was considered that creates a new path connection to the existing trail along the southern bank of Mary Elmer Lake. The alternative route was selected to avoid vehicular conflicts.
- W. Park Dr. to Mayor Aitken Alternative: An alternative to using W. Park Dr. to access Mayor Aitken was considered that utilized existing paths within Bridgeton City Park. This alternative was selected to avoid conflicts with a planned roundabout.
- E. Commerce St. and S. Laurel St. Alternative: An alternative to Commerce St. and S. Laurel St. was considered which utilized the riverfront plaza in Bridgeton. This alternative was selected to minimize conflicts with vehicles and parking.
- Wildlife Management Area Alternative: Alternative routes through the Wildlife Management Area were considered to avoid environmentally sensitive areas. The route minimizing wetlands disturbance was selected.
- Rails-to-Trails Alternative: An alternative that bypassed the Commerce St. Bridge was considered which utilizes abandoned rail tracks. This alternative was not selected due to ownership restrictions on the tracks.

Where trails are proposed within the rights-of-way, multi-use paths are preferred over two-way bicycle lanes with adjacent sidewalks. These multi-use paths are intended for two-way traffic of both pedestrians and cyclists.

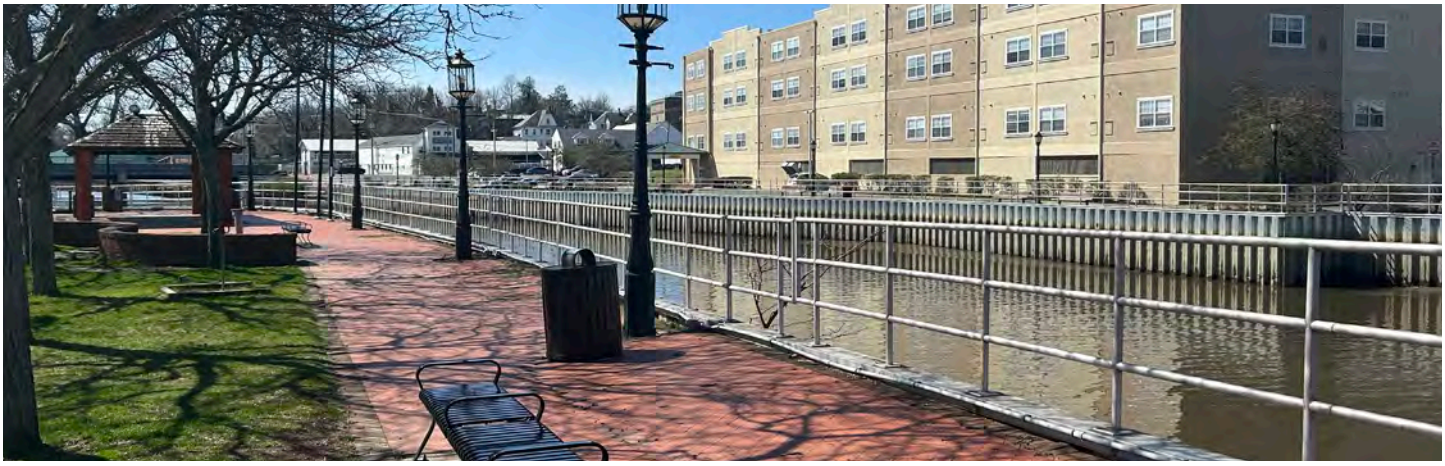


Figure 3: City of Bridgeton's Riverfront Plaza, Image Credit: AKRF

Final Corridor Recommendations

The final proposed alignment is approximately 7.4 miles in length and responds to community feedback, existing conditions, traffic safety, and constructability. The proposed corridor includes 5 different types of trail configurations: Right-of-way multi-use trails, new off-road trails, existing off-road trails, shared roads, and bicycle lanes. The final route includes 21 unique sections that stretch from Cassidy Court to an existing parking lot in the Wildlife Management Area. The route includes the addition of 8 new roadway crossings and two new pedestrian bridges.

Trail materials should meet ADA accessibility requirements for stable surfaces where feasible. Materials should also be porous to the maximum extent practical to avoid the need for stormwater management infrastructure. Where frequent inundation and wetland habitat are located, boardwalks and flexible porous pavement are recommended. Stone dust and porous asphalt are recommended in other off-road locations.

Trail amenity recommendations include adding benches, trash and recycling receptacles, drinking fountains, pet waste stations, bicycle racks and rental stations, wildlife habitat structures, native plantings, restrooms, and signage.

Recommendations for adapting to climate change include installing gages, signage, and warning systems that will prepare trail users for increasing frequent tidal inundation. Durable trail materials should be used to account for inland flooding such as concrete and decay-resistant wood. Facilities to mitigate extreme heat impacts should also be considered such as water bottle filling stations. Expansion of tree canopy, use of materials with low conductance, and shaded seating will also reduce impacts from higher temperatures.

Traffic safety recommendations include providing adequate buffers, using signalized crossings, providing ADA-compliant accessible crossings, and clear pavement markings and signage. Trail security measures can also be implemented including lighting in urban areas, and security call stations and trail cameras in remote areas. Maintaining "dawn to dusk" hours for off-road trails is also recommended.

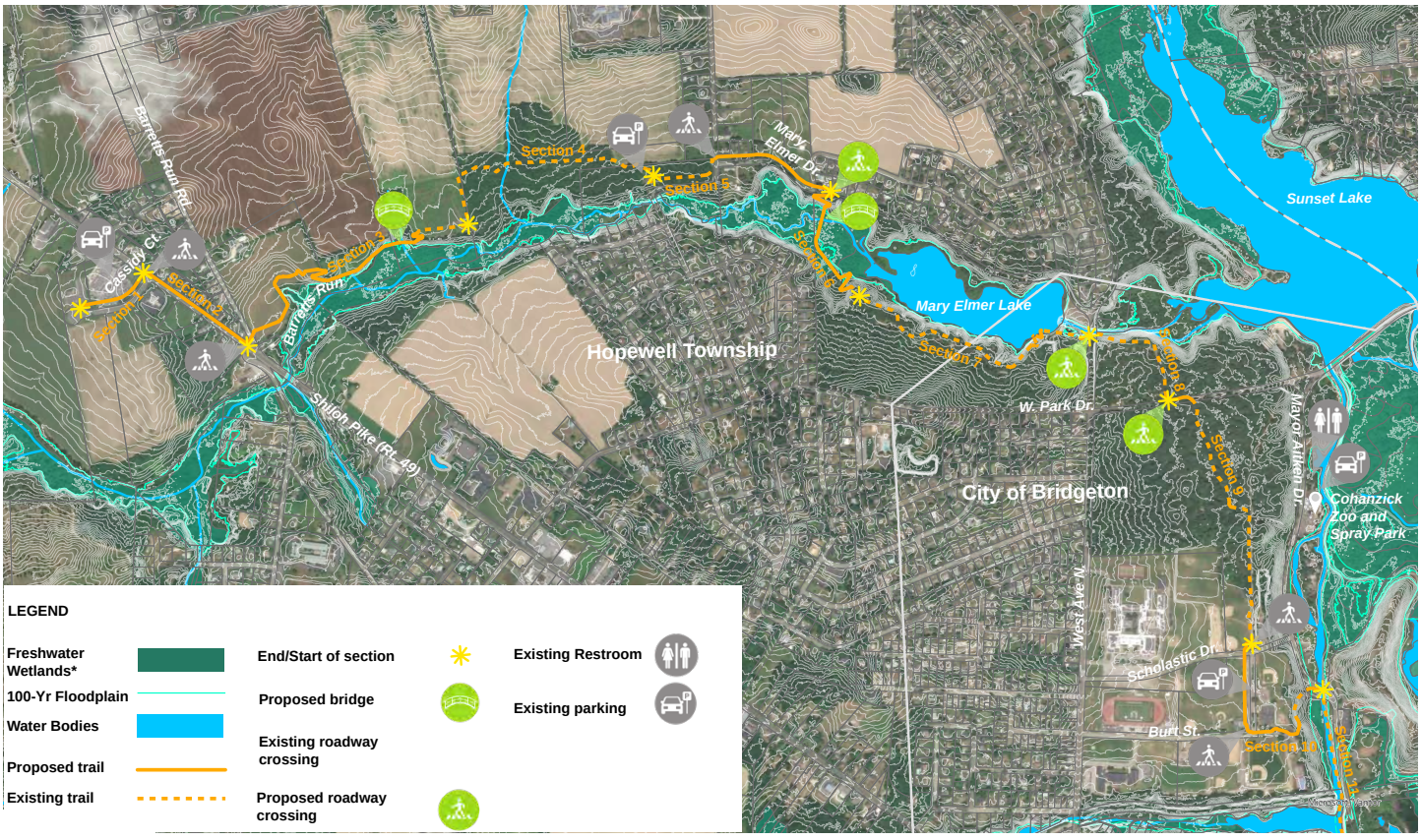


Figure 4: Northern section of proposed corridor, Image Credit: AKRF

Implementation

Realizing the vision for the proposed corridor will require permitting, funding, and phasing.

Trail construction and roadway modification work will trigger a number of permitting requirements from local and state regulatory agencies including New Jersey Department of Environmental Protection (NJDEP) for compliance with regulations related to freshwater wetlands, flood hazard area, coastal area facility review act, and stormwater management; New Jersey Department of Transportation (NJDOT) for work within state right-of-ways; Cumberland Salem Soil Conservation District for proposed disturbance; and municipal coordination. This permitting process requires thoughtful trail design to meet regulations and careful planning to ensure that permits do not delay planned construction.

Transportation projects such as the Cohansey Green Corridor are eligible for a number of local, state, and federal grant opportunities. Understanding opportunities, eligibility requirements, and application processes will expedite the implementation of the proposed corridor. Additional funding information can be found in Appendix C.

The corridor will require multiple phases to construct the improvements discussed in Chapter 6. Prioritization of phases is based on community feedback from engagement session 2. Priority 1 Sections include areas between Cassidy Court and the Bridgeton Walking Trails, excluding sections of existing trails to be resurfaced. Priority 1 Sections includes approximately 1.6 miles of trail. Priority 2 Sections include approximately 2.5 miles of trails along Grove Street. Priority Section 3 Sections include 2.9 miles of new trails central Bridgeton, new trails near the Bridgeton Walking Trails and Raceway, and refinishing of existing trails. The phasing recommendations include short-, medium, and long-term actions.

Short-term Steps (1-Year):

- **NJDOT Coordination for work in State rights-of-way**
- **Hopewell Township Coordination for work within Township properties and rights-of-way**
- **City of Bridgeton Coordination for work within City properties and rights-of-way**
- **NJDEP Coordination for work within the Wildlife management Area**
- **Grant Applications to support future funding for implementation.**

Medium-term Steps (2-5 Years):

- **Ongoing Grant Applications**
- **Develop trail signage package**
- **Release of Request for Proposals (RFPs) for survey, design, and permitting for Priority 1 sections**
- **Construction of Priority 1 Sections**

Long-term Steps (5-10 Years):

- **Ongoing Grant Applications**
- **Release of RFPs for survey, design, and permitting for Priority 2 and 3 trail sections**
- **Construction of remaining trail sections**

DEFINITIONS AND ACRONYMS

Acronyms:

AASHTO: American Association of State Highway and Transportation Officials

CAFE: Coastal Area Flood Elevation

CAFRA: Coastal Area Facilities Review Act

FEMA: Federal Emergency Management Agency

FHA: Flood Hazard Area

FWW: Freshwater Wetlands

NJDEP: New Jersey Department of Environmental Protection

NJDOT: New Jersey Department of Transportation

SJTPO: South Jersey Transportation Planning Organization

Definitions:

100-Year Floodplain: Areas mapped by the Federal Emergency Management Agency as having a 1% chance of flooding in any given year.

500-Year Floodplain: Areas mapped by the Federal Emergency Management Agency as having a 0.2% chance of flooding in any given year.

Bike Lane: A path dedicated for use by bicyclists only.

Buffered Bike Lane: A bike lane separated from vehicular lanes by some amount of space.

Legal Crossing: A legal crossing is established by State Law at the intersection of two streets, whether marked or unmarked. A new legal crossing not at an intersection requires an engineering study to confirm if a marked crosswalk should be implemented with appropriate warning signage and safety enhancements.

Multi-Modal: Multiple forms of transport such as walking, biking, and driving.

Multi-Use: Paths intended to be used by pedestrians, bicyclists, and other non-motorized means of travel.

Permeable: A material quality that allows stormwater runoff to pass through the material into the soil below.

Protected Bike Lane: A bike lane separated from vehicular lanes by some amount of space and physical barriers that prevent vehicles from entering the lane.

Right-of-Way: Property acquired and designated for transportation.

Shared Lane: A lane of travel dedicated to both bicycle and vehicular use.

Sharrow: A symbol used to indicate where bicycles should travel along a shared lane.

INTRODUCTION

The County of Cumberland in South Jersey is proposing a new green corridor along the Cohansey River. With approximately 7 miles of existing and proposed trails, the corridor will run through Hopewell Township, the City of Bridgeton, and Fairfield Township. This "green corridor" represents a multi-modal transportation route for pedestrians and bicyclists who will benefit from improved access to existing natural greenways and larger transportation networks. The goals of this planning document are to:

- **Provide a feasibility assessment for the proposed corridor**
- **Document and incorporate community feedback into the final design**
- **Provide design guidance for the proposed corridor; and**
- **Develop an implementation plan for the corridor**

The project is funded by the South Jersey Transportation Planning Organization and aligns with the Regional Transportation Plan, Forward 2050.

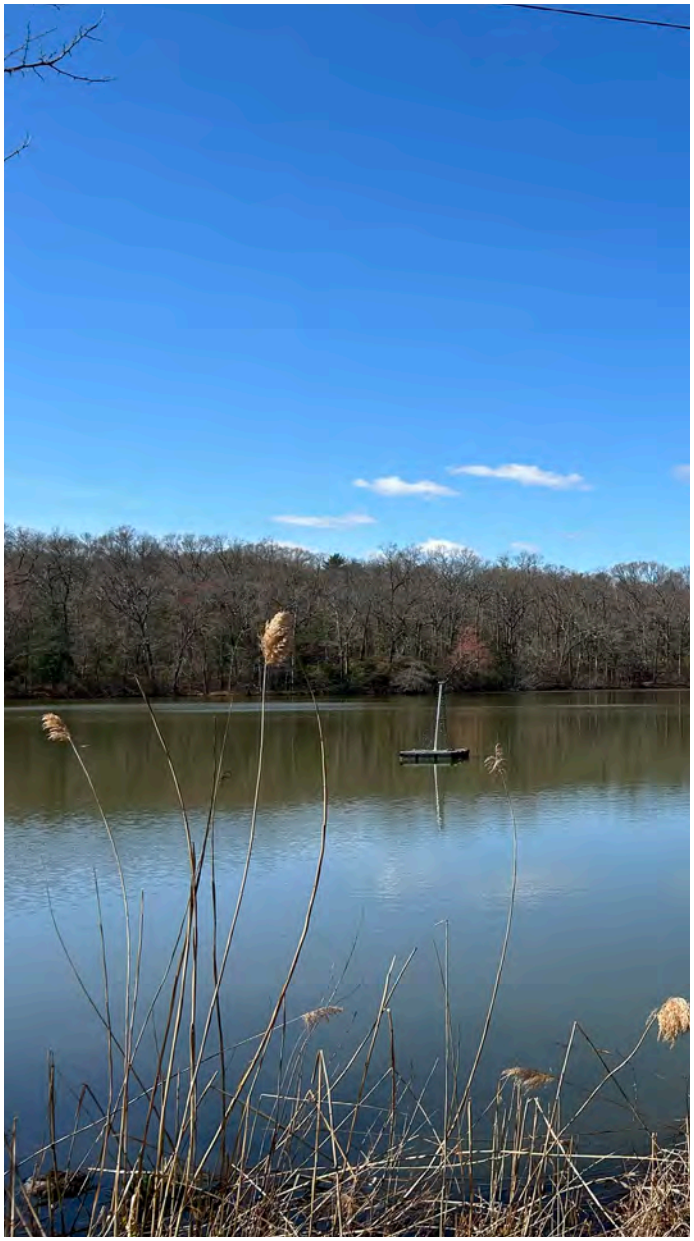


Figure 5: View of Mary Elmer Lake from Mary Elmer Drive, Image Credit: AKRF

CHAPTER 2
EXISTING PLANNING EFFORTS

Cumberland County has several existing plans related to transportation in the area of the proposed green corridor. The following planning documents provide guidance for the development of the Cohansey Green Corridor:

- Forward 2050, Regional Transportation Plan (2025)
- Maurice River Corridor Study (2024)
- City of Bridgeton Master Plan (2008)
- Bridgeton Southeast Gateway Multi-Modal Community Transportation Plan (2023)
- Feasibility Study for Various Rails to Trails Projects within the County of Cumberland (2010)

Forward 2050

Forward 2050 is the Regional Transportation Plan for the South Jersey Transportation Planning Organization, which includes Atlantic, Cumberland, Cape May, and Salem Counties. The document highlights critical transportation issues related to lack of government funding for transportation projects, regulatory burdens in this area, vulnerability to climate hazards, and inequitable access to transportation assets.

As a response to these issues, Forward 2050 identifies ten goals. **The Cohansey Green Corridor project aligns with several of the goals**, including the first priority goal of "promoting accessibility and mobility for the movement of people and goods". Through the advancement of bicycle and pedestrian networks, the proposed corridor would expand multi-modal access to waterfront recreation and make progress towards regional connections.

The project would also "mitigate traffic congestion and promote efficient system operation" by offering alternatives to vehicular travel and providing off-road transportation routes. In addition to these first two goals, the project will provide a number of other benefits that "increase and enhance opportunities for travel and tourism" through improved access to the waterfront, existing trail networks, parks, and commercial areas.

Maurice River Corridor Study (2024)

The Maurice River Corridor Study is a separate corridor planning project for an area east of the Cohansey River, along the Maurice River. The goal of the Maurice River Corridor Study is to develop a plan to "promote beneficial, sustainable economic development that utilizes the river as an amenity while preserving and enhancing its ecological integrity and assets". This goal is supported by plans to expand multi-modal transportation within Maurice River Township, Commercial Township, and the City of Millville, all located east of the Cohansey Green Corridor Study.

Maurice River Township currently has the largest bicycle network in the County with over 26 miles of bikeways, followed by Commercial Township, which has over 9 miles of bikeways. The proposed bike route map is shown in Figure 6. Notably, the bike route extends down Route 49 through Millville Township, approximately 5.2 miles from the proposed Cohansey Green Corridor. The route also comes in close proximity to the High Point to Cape May bikeway. If developed, this Maurice River Corridor network would serve as a critical connection between the proposed Cohansey Green Corridor and coastal bike routes.

City of Bridgeton Master Plan (2024)

Given that the majority of the proposed Cohansey Green Corridor route is within the City of Bridgeton, the Bridgeton Master Plan document provides key insights on how to align trail planning efforts with the municipal vision.

The City's circulation and transportation goals include:

- Provide a safe, effective, and attractive circulation system for pedestrians, automobiles, bicyclists, and public transportation
- Enhance the City's walkability, by improving pedestrian street crossings and enhancing the pedestrian environment throughout the City
- Encourage the use of alternative modes of transportation

Open Space, Recreation and Riverfront Access goals include:

- Develop a greenway from the City of Bridgeton to Upper Deerfield Township along both sides of the Cohansey River. This includes extending the greenway south of Broad Street to the City's southern border.

These goals directly align with the creation of a multi-modal trail that connects Upper Deerfield Township to Fairfield Township. Additional programming goals within the Master Plan could complement the proposed corridor such as kayak rentals, summer movie nights, concerts, and mobile food trucks along the river. These adjacent uses should be considered when planning local municipal trail routes which may tie into the Cohansey Green Corridor.

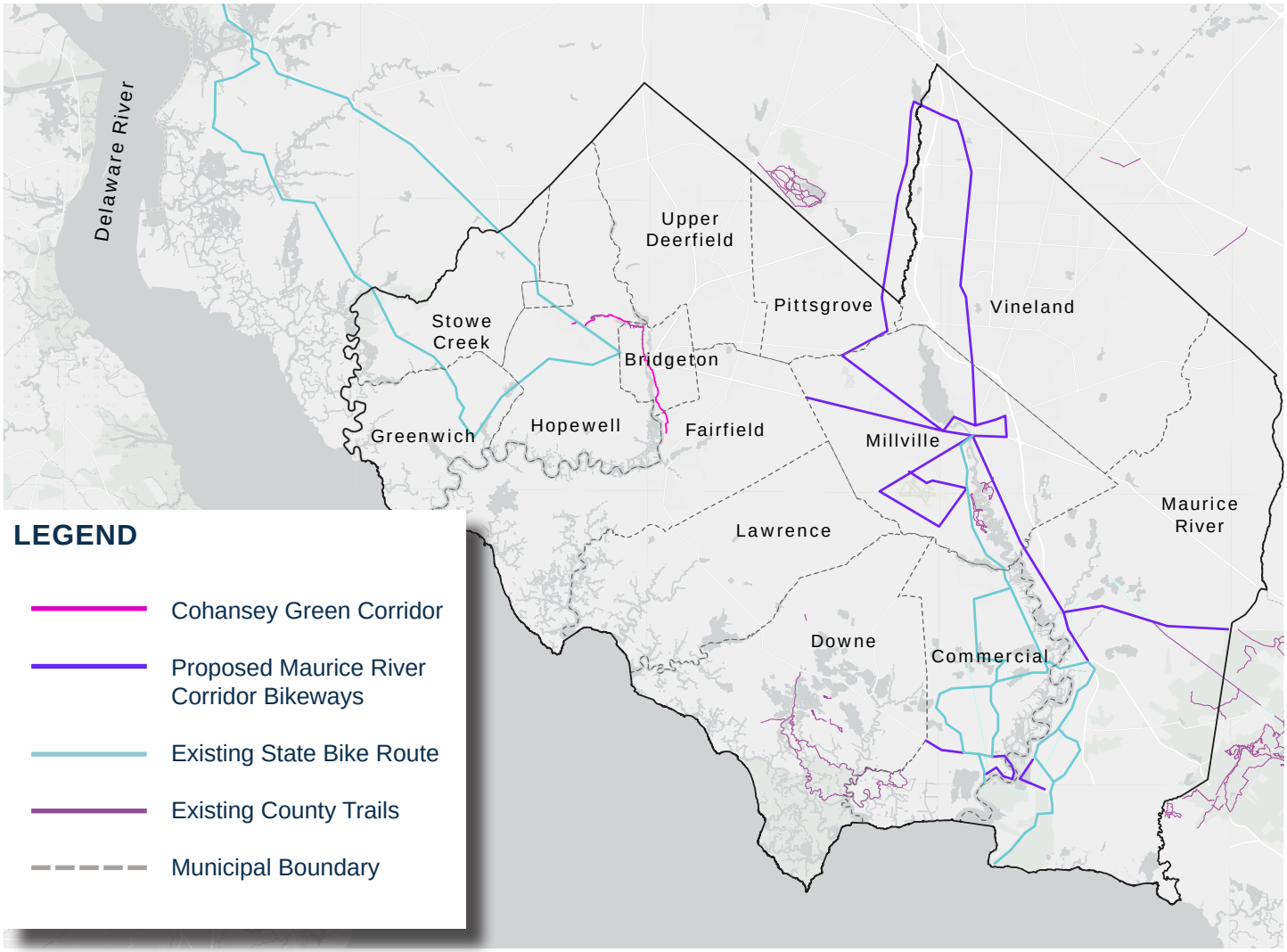


Figure 6: Regional bike route map including the future Maurice River Corridor improvements

Bridgeton Southeast Gateway Multi-Modal Community Transportation Analysis (2023)

A section of the proposed Cohansey Green Corridor overlaps with a separate local planning effort completed in 2023. The Bridgeton Southeast Gateway study envisions new streetscapes for the Southeast Gateway neighborhood, which includes areas bounded by Route 49 in the north, Rocap's Run in the south, East Avenue in the east, and the Cohansey River in the west. The section of the proposed Cohansey Green Corridor within this neighborhood travels along Grove Street.

The Gateway study analyzes three alternative circulations plans that consider making the route parallel to Grove Street, South Avenue, a single lane northbound street and adding a dedicated bicycle lane. Grove Street is currently a two-way roadway due to construction of a culvert at Rocap's Run but is planned to be a one-way route once again when construction is completed. The one-way road will become a two-way road near Shoemaker Lane. The study highlights feedback from the community that a bicycle route on Grove Street instead of South Avenue is preferred.

The gateway study clearly outlines the need for bicycle routes in this neighborhood and identifies Grove Street as a potential alternative for bicycle infrastructure.

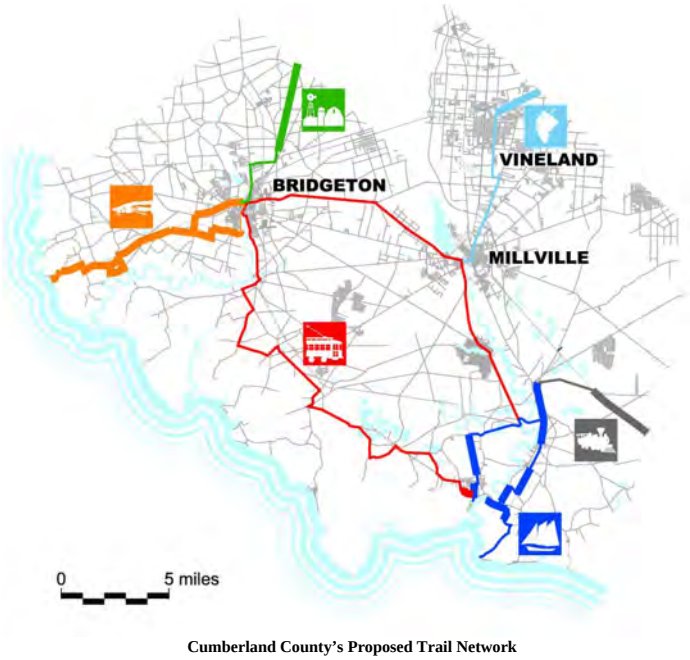


Figure 7: Rails to trails map from 2010 Feasibility Study

Feasibility Study for Various Rails to Trails Projects within the County of Cumberland

The Feasibility Study for Various Rails to Trails Projects within the County of Cumberland analyzes the feasibility of converting rail lines into trails throughout Cumberland County and includes three routes that directly connect to Bridgeton. The proposed Bridgeton to Camden Trail would include 8 miles of trail within Upper Deerfield and Bridgeton. However, the first three miles within Bridgeton, which would be in close proximity to the proposed Cohansey Green Corridor alignment, is proposed as an in-road trail. At the time of the study, the railroad owner would not permit rails-to-trails within the railroad right-of-way. This route therefore does not offer an alternative to the proposed Cohansey Green Corridor section along Mayor Aitken Drive and is further discussed in Chapter 5.

Key Takeaways

The existing planning documents highlight a collective energy to re-envision the transportation routes in the area of the proposed Cohansey Green Corridor and create a vibrant, safe, and accessible multi-modal trail network. These existing planning documents inform recommended routes and amenities along the corridor. Key takeaways include:

- **The proposed corridor aligns with regional plans to provide alternative and reliable transportation routes to traditional vehicular travel. This alignment can bolster grant applications.**
- **The proposed corridor abuts and overlaps with existing and planned bicycle and trail networks, including a network along the Maurice River Corridor Study. Opportunities to connect to this planned network should be explored.**
- **The corridor is consistent with the Bridgeton Master Plan goals. Coordination with Bridgeton to realize this vision will be essential and can be complemented by other City programming goals such as waterfront recreation.**
- **Other transportation studies provide background information on which routes communities were interested in, such as a bicycle lane on Grove Street, and routes that are not feasible, such as the off-road rails to trails route through Bridgeton. The Cohansey Green Corridor alignment should be informed by this previous analysis.**

CHAPTER 3
EXISTING CONDITIONS ANALYSIS

This chapter examines the natural and man-made features of the corridor's landscape and built environment, building upon the prior planning studies discussed in Chapter 2. These physical features create unique opportunities and constraints for the proposed multi-modal trail.

Location

Prior to the beginning of this Study, the County prepared a draft route (see Figure 9) for the corridor which included 6.9 miles of trail based on existing trail locations and key destinations. The trail was proposed to stretch from the Greater Bridgeton Amish Market on Cassidy Court to the former Country Club along the Cohansey River. This route would extend from Hopewell Township, through the City of Bridgeton, and to Fairfield Township.

As part of this study, the alignment has been adjusted to reflect the existing conditions analysis, planning document review, community engagement, and alternatives analysis (See Chapter 5). The final alignment is detailed in Chapter 6 and is 7.4 miles in length.

The initial route included 3.3 miles of trail within rights-of-way, 1.7 miles of new trails outside of rights-of-way, and 1.9 miles of existing trails including sections of Barretts Run Trail, the Bridgeton Walking Trail, and the Piney Point Trail. Key natural features along the trail include Barretts Run Creek, Mary Elmer Lake, and a Wildlife Management Area in Fairfield Township. Key man-made features include the Cohanzick Zoo, Bridgeton City Park, downtown Bridgeton, the Greater Bridgeton Amish Market, and Bridgeton Dog Park.

Property Ownership

The initial layout for the trail took advantage of properties with public ownership and located trails within the existing street rights-of-way when constrained by private property. An exception is within properties owned near Barretts Run where an easement agreement has been discussed. Figures 8 and 10 shows the property ownership for the draft trail route.

Approximately 41% of the trail was located within municipally-owned land, 7% within state-owned land, and 4% with privately-owned land. The remaining 48% was located within public rights-of-way.

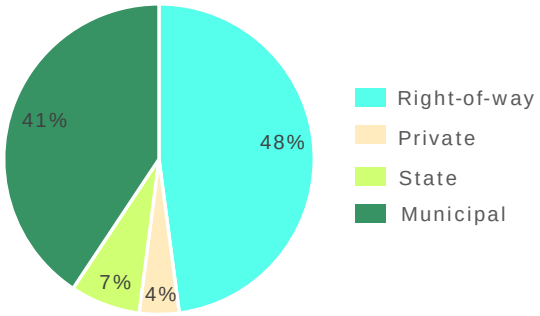


Figure 8: Property ownership for the initial alignment.

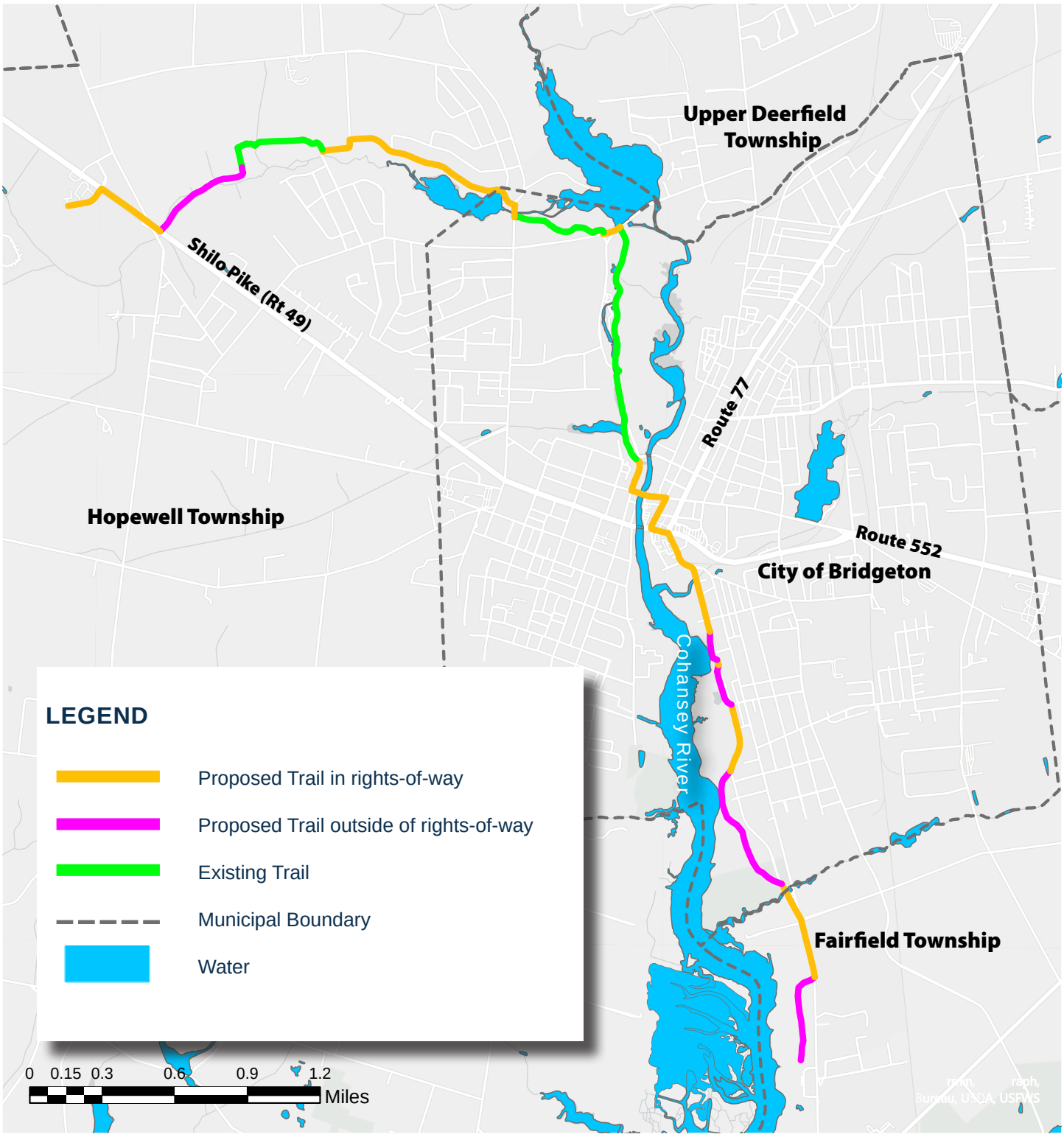


Figure 9: Initial alignment proposed for the corridor.

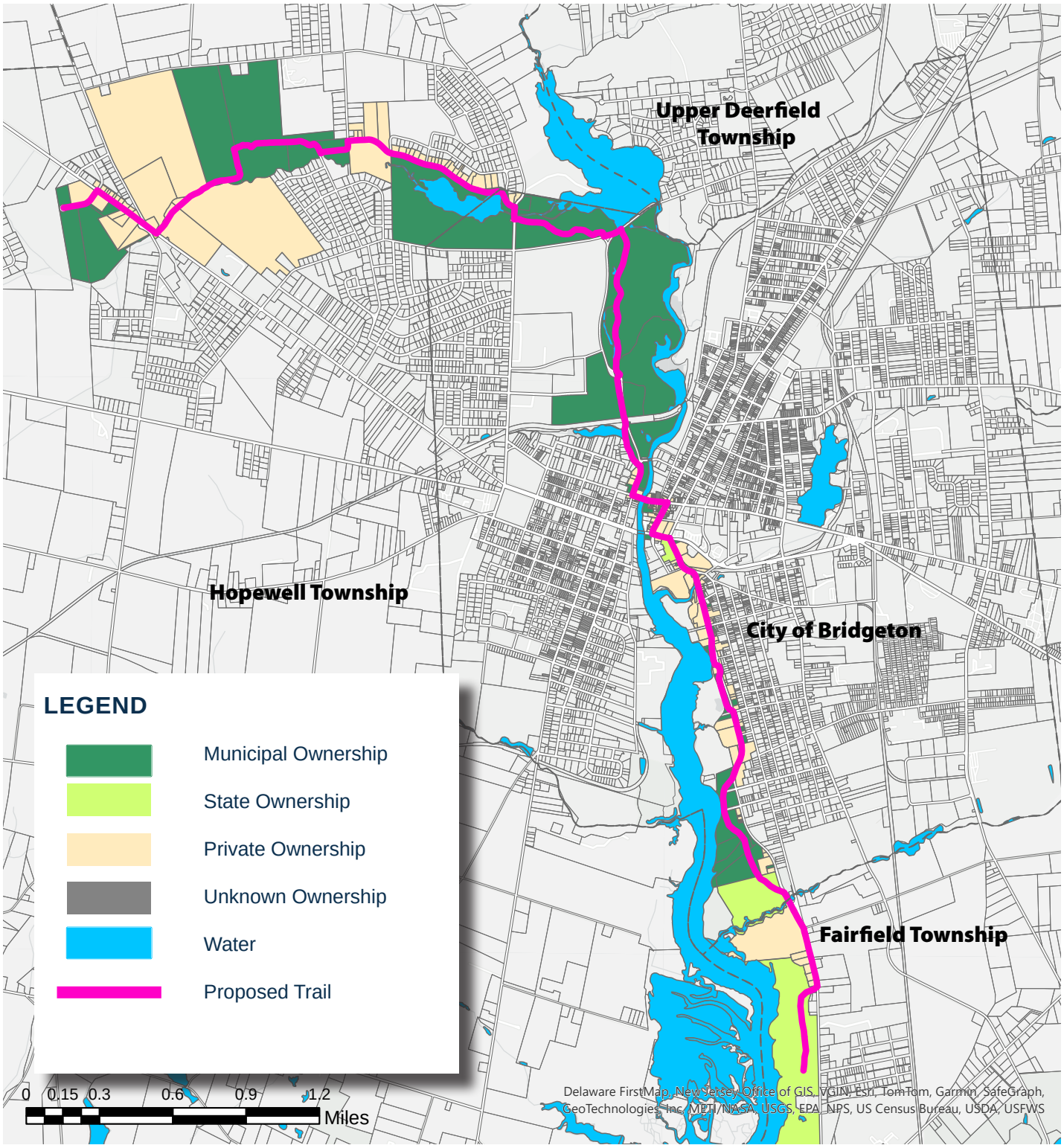


Figure 10: Property ownership map

Transportation

The existing transportation network supports a variety of connection opportunities along the corridor. Figure 11 highlights existing transportation surrounding the proposed corridor.

The trail is accessible by walking for many areas of Upper Deerfield, Fairfield, and Bridgeton, with 80% of Bridgeton within a 20 minute walk of the trail.

Both NJ Transit Bus Routes and the Greater Bridgeton Area Transit Routes would bring regional visitors within walking distance of trail facilities. A recognized state bicycle route connects to the proposed corridor where it overlaps Shiloh Pike (Route 49). This route connects Bridgeton to the Fort Mott Ferry along the Delaware Bay. Riders can then take the Ferry to Delaware.

No passenger rail lines provide service to the corridor. Several rail lines are not used and/or are abandoned in the area.

The corridor may also be accessed via driving. Existing parking lots are located at Hopewell Township Park, Bridgeton City Park, Cohanzick Zoo, and in the Wildlife Management Area. Street parking is also available throughout the City of Bridgeton.

Environmental Constraints

The improvements within the corridor should be designed with a changing climate in mind, recognizing that sea level rise, increased precipitation, and higher temperatures will impact the durability and usability of infrastructure. The corridor also represents an opportunity to mitigate these hazards, protect against biodiversity loss, and create a reliable transportation resource for the surrounding community.

Flooding

Flooding represents the primary environmental constraint along the corridor. The Cohansey River is a tidal waterway that is not only impacted by increased precipitation but also by rising sea levels. Figure 12 illustrates flood risk. Approximately 14% of the trail is within the floodway, 11% is within the 100-Year (or 1% annual chance) floodplain, and 7% is within the 500-year floodplain. The projected additional extents of inundation due to sea level rise are based on the NJDEP Geoweb inundation risk zone, which estimates impacts from four (4) feet of sea level rise during a 100-year flood event and was developed as part of the Climate Adjusted Flood Elevation layer. As shown in Figure 12, sea level rise will have the greatest impact along the area of the corridor in the center of the City of Bridgeton.

The nature of a waterfront trail requires navigating permitting within regulated flood areas and designing for frequent flooding. Per the New Jersey Department of Environmental Protection (NJDEP) flood hazard area rules, trails within floodplains may be up to 10 feet in width, should not clear vegetation within 25 feet of a stream's top of bank, and maintain a tight limit of disturbance. Additional information on permitting can be found in Chapter 7.

Trail design standards for the corridor should include flood damage-resistant materials such as decay-resistant wood and concrete. Loose aggregate trails may experience frequent washout from flood events and should be avoided in areas known to flood. Asphalt trails may also experience deterioration over time where erosive forces wear the material. Trails should also be elevated where feasible to account for more frequent tidal inundation of the Cohansey River's floodplain given sea level rise projections.

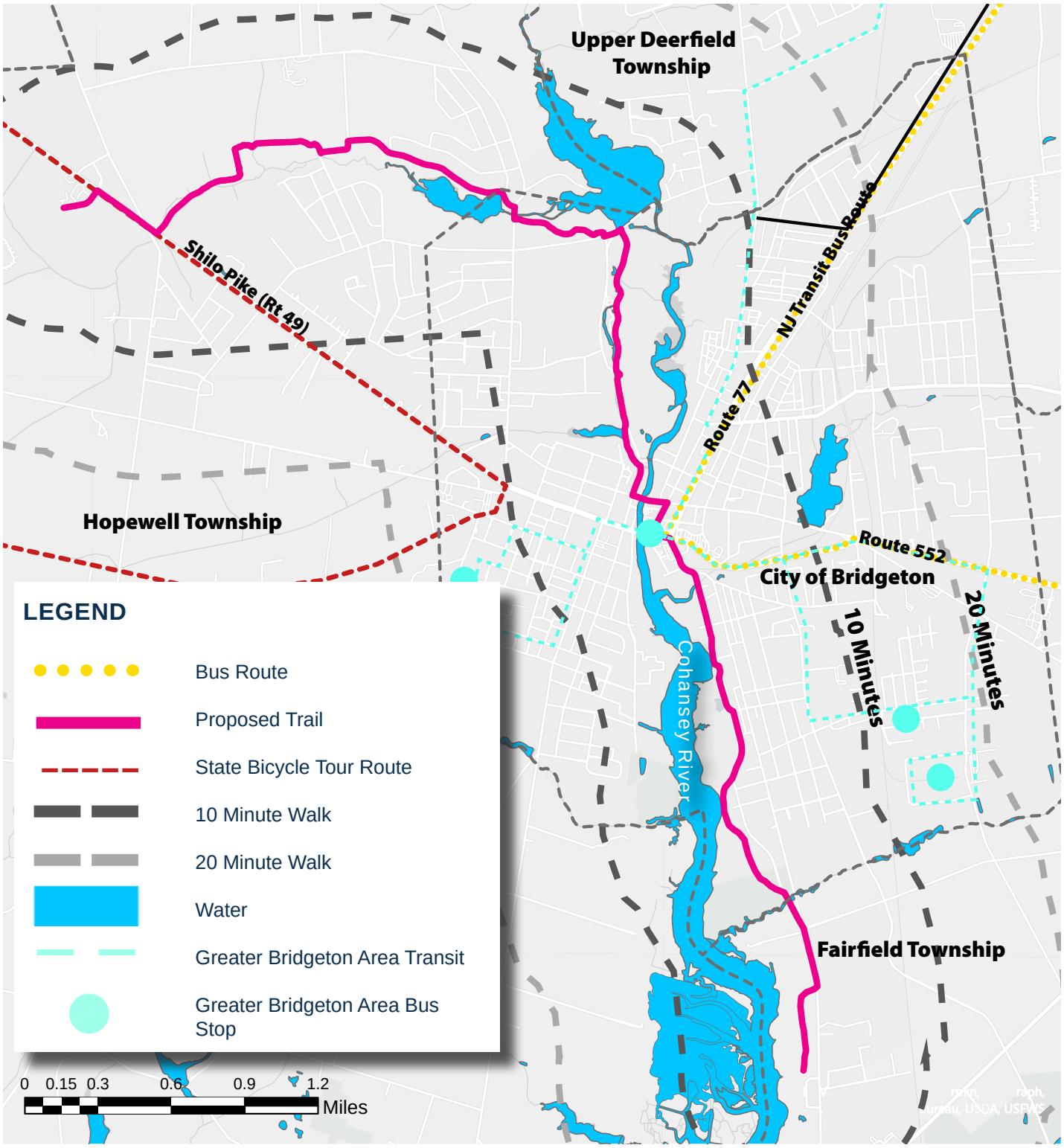


Figure 11: Transportation map

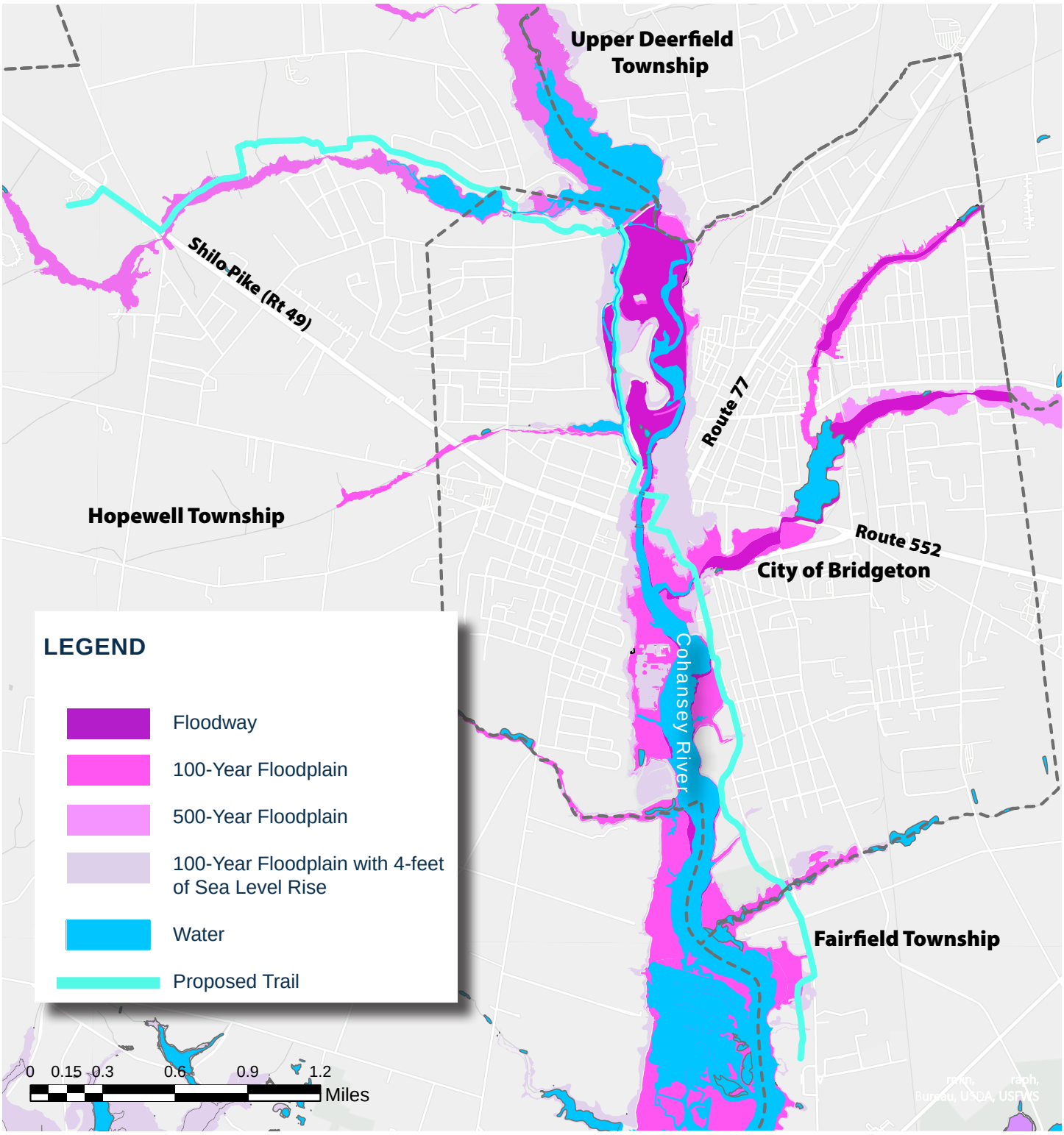


Figure 12: Flood map

Extreme Heat

Extreme heat is a stressor that will impact the usability of the trail during summer months. Warming temperatures exacerbate urban heat island effects, which causes urban areas with large amounts of impervious surfaces to be warmer than surrounding areas. This heat stress may deter community members from using the trail. This is particularly a concern in the center of the City of Bridgeton and along Grove Street, as shown in Figure 13. Additional tree canopy cover and other shade interventions should be considered in these areas. In other areas, mature tree canopy cover should be preserved to maintain the "green" corridor and the various benefits that the existing canopy provides.

Figure 13: Commerce St. in Bridgeton, Image Credit: AKRF

Ecological Systems

The ecological systems surrounding the corridor were analyzed to understand potential impacts and opportunities. Figure 14 illustrates ecologically sensitive areas along the proposed route. Sections of the trail may fall within wetland areas, per New Jersey Geoweb 2020 mapping. Where feasible, trails should avoid disturbance within wetlands and reduce disturbance in adjacent wetland buffer areas. Boardwalks should be considered for sections that must cut through wetlands due to other constraints. Vernal pool habitats are also located near the trail as it crosses a tributary of the Cohansey River in Fairfield Township. Vernal pools are depressions that seasonally fill with water and provide critical breeding habitat for a variety of species. Work should avoid disturbing or fragmenting these pools from adjacent habitat.

Even when trails are outside of wetlands, they may fall within riparian habitats that abut Barretts Run and the Cohansey River. Clearing of native habitat should be minimized where feasible to protect the wildlife that depend on it which, according to New Jersey Geoweb, may include Wood Thrush, Bald Eagle, and Great Blue Heron.

New Jersey's Connecting Habitat Across New Jersey (CHANJ) mapping provides additional insight into habitat through highlighting wildlife "corridors", or areas of contiguous land that provides habitat for native species. The area of the corridor along Barretts Run and within Fairfield Township overlap with this corridor. Trail construction should be conscious of construction that may interrupt wildlife breeding or long-term mobility within the corridor.

Extreme Heat in New Jersey

According to New Jersey's "Heat Hub", 15 of the 20 hottest years since 1895 have occurred since 2000. To address the challenges of a warming climate, New Jersey has developed a Heat Resilience Action Plan, which identifies several priorities for heat mitigation. One priority is to "Strengthen the Resilience of New Jersey's Ecosystems" through actions such as the protection and enhancement of forested areas. Enhancement of forests includes planning for species transitions as warmer temperatures threaten species native to the region. The Cohansey Green Corridor can support this study by minimizing disturbance in forested areas and expanding planted areas with species suited to extreme temperatures.

Protecting and expanding forested ecosystems along the Cohansey River should be prioritized.

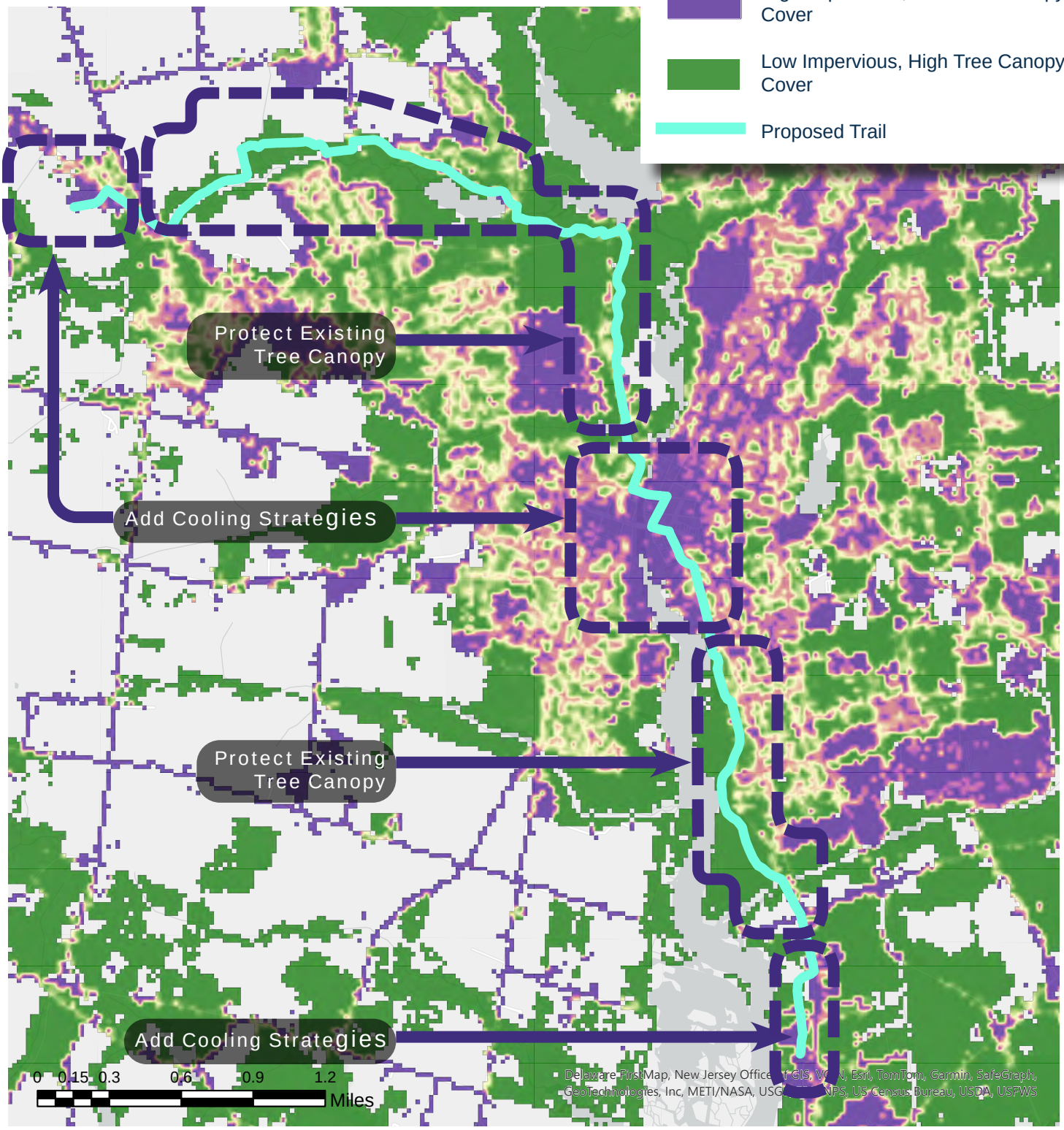


Figure 14: Heat vulnerability map

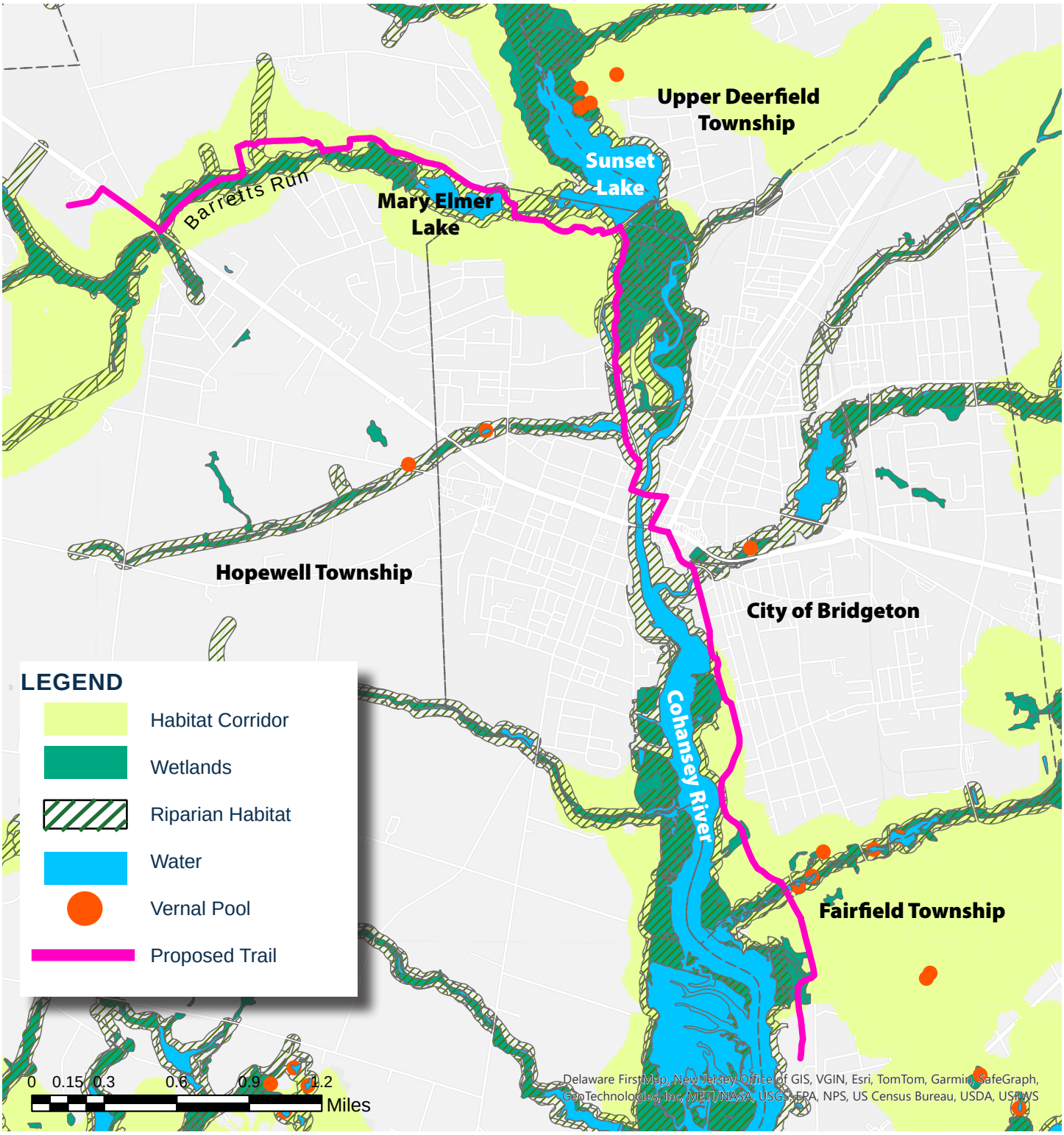


Figure 15: Biodiversity map

Topography

The proposed corridor is largely located on moderate slopes ranging from 1 to 40%. Slopes increase along the banks of the Cohansey River and its tributaries. In some instances, these banks will overlap with proposed trail alignments in order to access stream crossings and existing trails. In these instances, trail switchbacks may be considered to maintain accessibility.

Key Takeaways

The existing conditions analysis highlights key layout and design considerations for the future corridor. Key takeaways include:

- The trail offers key connections to a regional bicycle route.
- The trail can be accessed via walking, bus, biking, and car. Existing parking facilities are located at several locations within Hopewell Township, the City of Bridgeton, and Fairfield Township.
- When the trail is located within flood hazard areas, use flood-damage resistant materials.
- Elevate the trail at risk from future sea level rise where feasible.
- Consider increasing shade within center of the City of Bridgeton along the proposed route to mitigate extreme heat.
- Protect mature canopy trees along the corridor.
- Minimize disturbance to ecological systems including riparian habitat, wetlands, and vernal pools.
- Construction along streams should be located outside of bank slopes.
- Where steep slopes are unavoidable, trail switch backs should be considered for slopes greater than 5% to provide ADA-accessible routes.

Figure 16: View of Mary Elmer Lake at the confluence of Barretts Run, Image Credit: AKRF

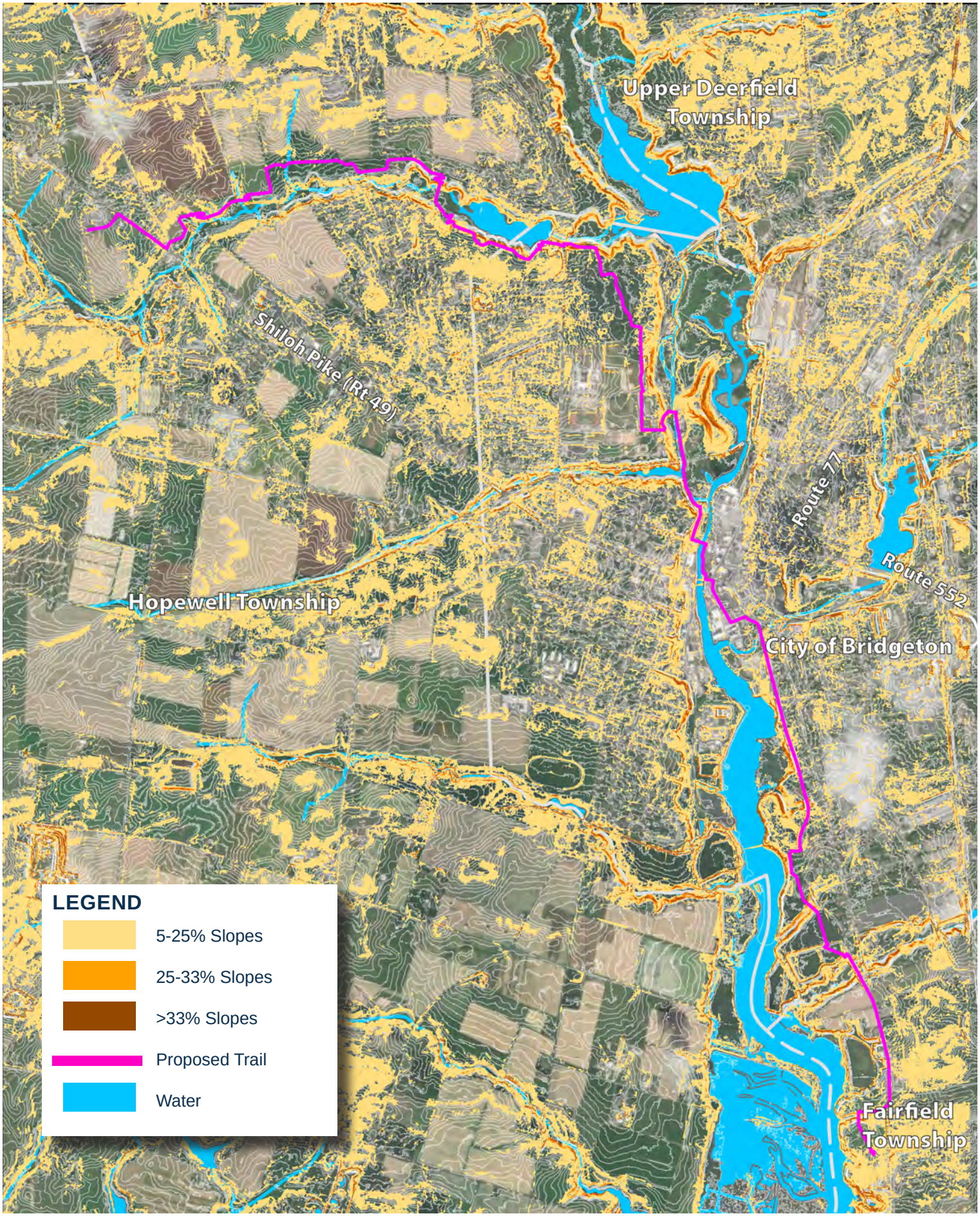


Figure 17: Topographic map

CHAPTER 4
COMMUNITY ENGAGEMENT

As part of the planning process, Cumberland County hosted two community engagement sessions. The first session was held on March 10 and was designed to gather initial feedback on the preliminary corridor alignment. The second session was held on May 18 and was designed to collect feedback on the draft alignment of the corridor. Materials were provided in both English and Spanish.

Engagement Session 1

The evening began with a brief presentation on the existing conditions of the corridor and proposed trail alignment before proceeding to breakout activities. Breakout activities included the following stations:

- Amenities Board: Participants used different color stickers to represent different categories of amenities and placed them along the corridor route. Amenities included recreation, lighting, canopy trees, seating, and art.
- Traffic Safety Board: The traffic safety board included a variety of traffic calming and safety measures to protect bicycles and pedestrians. Participants placed green dots on strategies they liked and red dots on strategies they didn't like.
- Materials Board: This board included a variety of material options for trail surfacing. Participants placed green dots on strategies they liked and red dots on strategies they didn't like.
- Map Enlargements: Large maps of the proposed trail with aerial imagery and key location callouts were printed for discussion and note taking.
- Survey Cards: Survey cards were used to gather information on how people would use the trail and what they wanted to see along the trail.

Figure 18: Community engagement session 1, Image Credit: AKRF

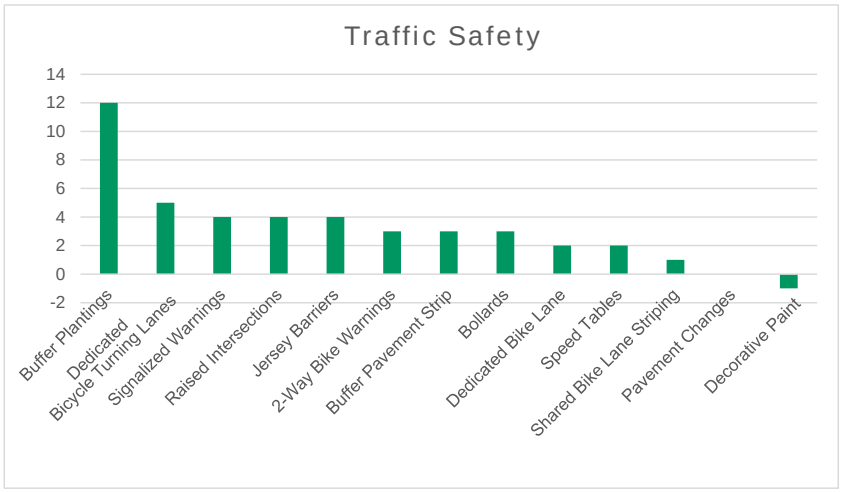


Figure 19: Results from community engagement boards

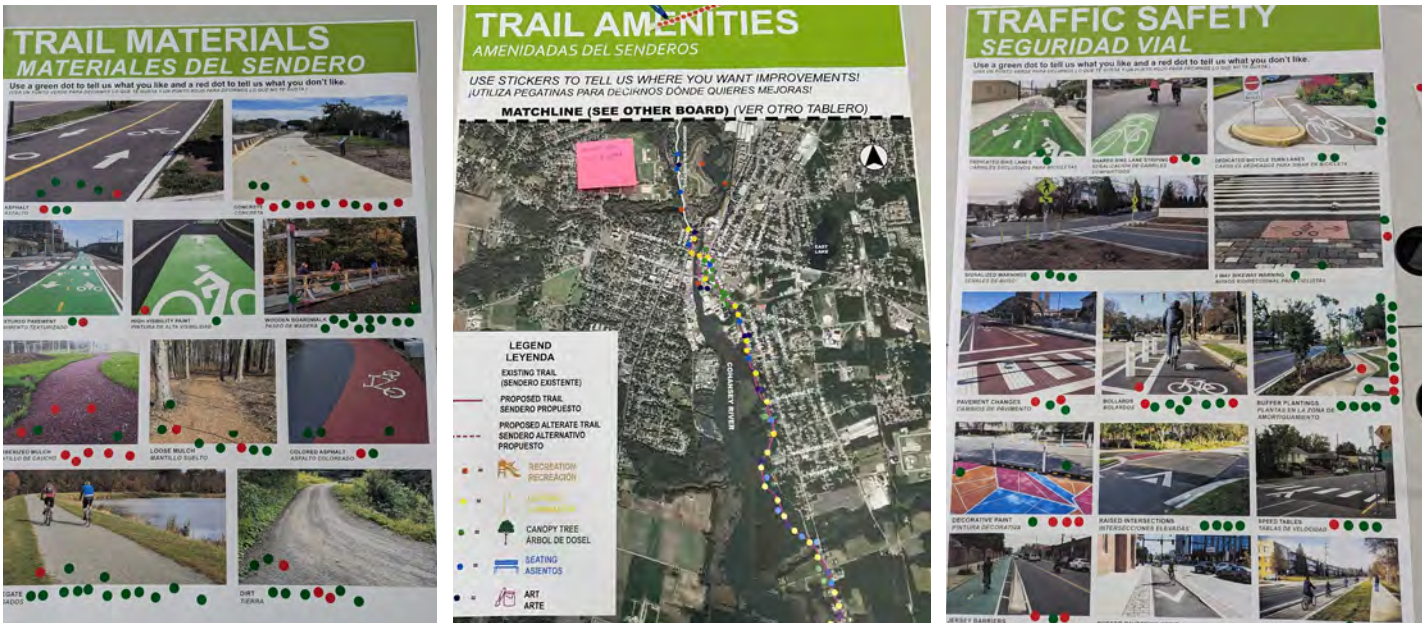


Figure 20: Community engagement boards, Image Credit: AKRF

Engagement Session 1 Takeaways

Feedback from the engagement session was analyzed to inform the next stage of planning. Key takeaways were as follows:

Trail Amenities

- Participants identified the need for seating throughout trail at regular intervals
- Safety and security in wooded areas is a concern
- Options for lights and/or other security that are wildlife friendly should be explored
- New waterfront recreation and connections to existing waterfront recreation are desirable
- Trees in central Bridgeton are a priority

Trail Materials

- The most desirable trail materials were wooden boardwalks and aggregate trails followed by loose mulch, asphalt, and dirt trails.
- Rubberized mulch was the least popular and was considered difficult terrain for bikers.

Traffic Safety

- The most popular traffic safety measure is buffer plantings.
- Overall, measures that delineated separate bike lanes were most favorable while shared vehicle and bike lanes were not desirable.

Map Enlargements

- Consider off-road routes where possible .
- Consider utilizing rails to trails.
- Security along less visible areas is a priority.
- Traffic safety for bikers and walkers is a priority.
- Consider spur trails to make more connections to the waterfront for recreation.
- Parking for trailheads is desirable.
- Restroom access is desirable.

Survey Results

- Only eight (8) participants returned a survey. The results show that most people would either bike or walk the trail followed by running and then commuting.
- Wildlife habitat structures were the most desirable amenity followed by educational and wayfinding signage .
- Comfort stations, seating and furnishings, and art were desirable.
- The least desirable amenity along the corridor was recreation.

Community feedback from session 1 was critical in the development of alternative trail alignments and other trail design elements in Chapters 5 and 6.

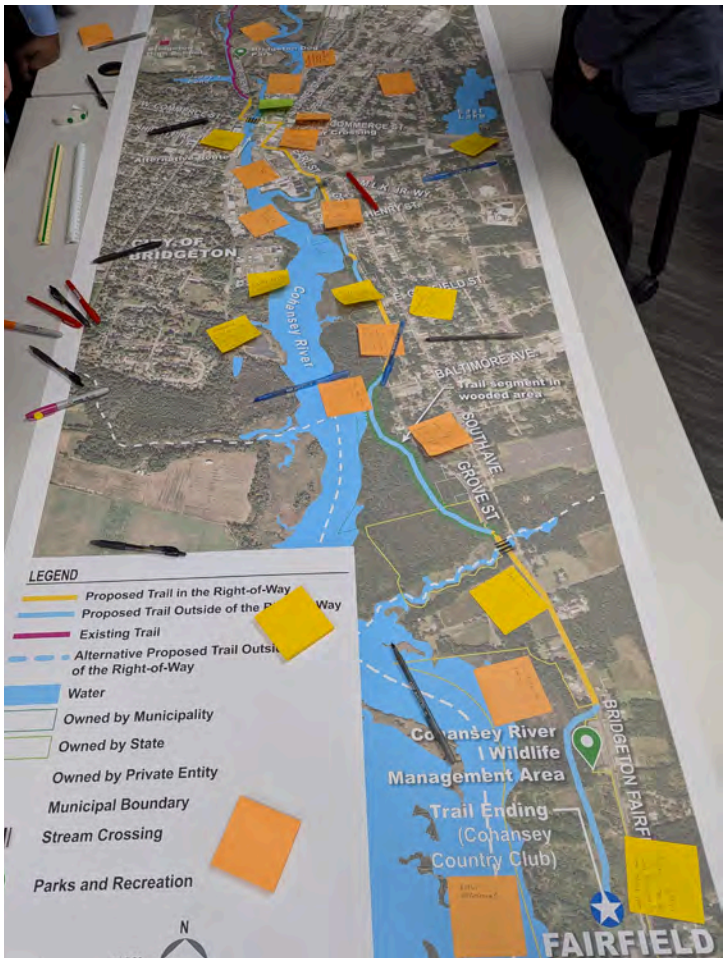


Figure 21: Map enlargement with community comments, Image Credit: AKRF

Engagement Session 2

Engagement session 2 focused on gathering feedback on the draft trail alignment. The evening began with a presentation walking through the proposed alignment, different path configurations, and alternatives considered. The presentation was followed by a question and answer period before the breakout sessions began.

Breakouts sessions included four (4) stations:

- Furnishings Board: Participants used green dots to indicate which furnishings they liked and red dots to indicate which furnishings they did not like. The furnishings board included a variety of trail amenities including benches, tables, habitat structures, signage, and bicycle facilities.
- Priority Sections Board: The priority section board was designed to highlight individual sections along the trail. Trail sections were generally separated by roadway intersections and connections to existing trails. Each participants was given two stickers to vote on the sections they would like to see constructed first.
- Traffic Safety Board: This board included plan layouts for key intersections along the trail. The purpose of this board was to collect information on traffic safety concerns and questions.
- Map Enlargements: Map enlargements of the proposed trail were printed on large sheets of paper. Trail sections were color coded to indicate trail type. This map provided greater detail on the proposed alignment and was designed to collect comments on specific alignments and connections.

Engagement Session 2 Takeaways

Feedback from the engagement session was analyzed to inform the final trail planning recommendations. Key takeaways were as follows:

Furnishings

- The most popular furnishings were wayfinding signs, metal picnic tables, and vault restrooms.
- The second most popular furnishings included bird houses, trash bins, educational signs, blue light stations, and bicycle racks.
- Drinking fountains, dog waste stations, bee houses, wooden benches, and metal benches received positive feedback but are not as popular as other furnishings.
- Wooden picnic tables, and bicycle rental stations were disliked. Participants commented that bicycle rental stations would require too much upkeep and would not be used significantly in this area.

Figure 22: Participants discuss traffic safety concerns with AKRF's Traffic Engineer, Image Credit: AKRF

Prioritization

- The most popular trail areas were located near Barretts Run and Mary Elmer Lake. The new trails, particularly those along Barretts Run and the new section of trail and stream crossing across Mary Elmer Lake, received the most votes. The new roadway crossing connecting Piney Run Trail to the Bridgeton Walking Trails was also popular.
- The second most popular trails were along Grove Street. These included both the right-of-way multi-use trails and the new off-road trails.
- The remainder of trails received little to no votes, indicating that these are the lowest priority.
- In general, the results indicated that the focus of trail improvements should begin in the northern section of the corridor, followed by the southern section, and finally the central area in the City of Bridgeton.

Traffic Safety

- Section 1 (Cassidy Court): Concerns were raised about the increased traffic and driveways crossing the multi-use trail on days when the Amish Market is open (Wed-Sat) and when there are summer events. Signage and clear driveway trail crossing delineation should be used in the final design.
- Section 2 (Multi-use Shiloh pike/Route 49): Concerns were raised about cars speeding along Shiloh Pike. The County should coordinate with a traffic engineer and NJDOT to discuss sight lines, advanced warning signage, and speed limits near the trail crossing.
- Section 4 (Barretts Run Trail): Participants noted that a new subdivision is proposed near the trail and that this may increase traffic along Mary Elmer Drive.
- Section 5 (Mary Elmer Drive): Participants communicated concerns about traffic and speed along Mary Elmer Drive. Traffic calming measures such as curb extensions to narrow intersections and crosswalks were suggested. These should be evaluated for feasibility with existing roadway widths. Sight lines were also a concern giving the winding nature of Mary Elmer Drive. Adequate advanced warning signage should be installed.
- Section 8/9 (Piney Run Trail and Bridgeton Walking Trails): The proposed crossing between Piney Run Trail and the Bridgeton Walking Trails was considered important. Participants noted concerns about speed in this area. Speed restrictions and traffic calming measures such as speed bumps should be considered leading up to the crossing.
- Section 15 (E. Broad St.): The section of trail that will be shared use with vehicles along E. Broad St. was noted as a concern given high traffic volumes. Although the length of trail on E. Broad St. is minimized, signage, advanced warning, striping, and other traffic calming measures should be considered to raise awareness of pedestrian and bicycle traffic in this area. Public messaging should also be used to bolster awareness.

Figure 23: Results from the priority section map indicated that trails along Barretts Run and Mary Elmer Lake are the highest priority, Image Credit: AKRF

Trail Alignment

- Section 4 (Existing Barretts Run Trail): Participants noted that the existing parking for Hopewell Township Park could be used as trailhead parking. A new restroom along the existing park access road was also suggested. Hopewell Township should be consulted to determine maintenance capacity for additional restroom facilities.
- Section 5 (Mary Elmer Drive): Participants identified a section of existing trail parallel to Mary Elmer Drive that could be utilized in lieu of an on-road shared route. The trail alignment was adjusted accordingly.
- Section 9 (Existing Bridgeton Walking Trail): Participants suggested a spur trail connection to the Cohanzick Zoo from the Bridgeton Walking Trails. This spur should be considered in future trail expansion projects. The trail would require a new mid-block crossing along Mayor Aitken Drive.
- Section 10 (Proposed Trail connection at sports fields): Participants suggested adding seating near the bridge in the wooded area. Benches are recommended throughout the trail. The feasibility of this location for a seating area should be reviewed in detailed design.
- Section 12 (Mayor Aitken Drive): Participants recommended that existing cement benches along Mayor Aitken Drive be relocated near the connection to the Raceway. Participants also noted that the restroom near the Bridgeton City Park entrance should be re-opened.
- Sections 16 & 17 (S. Laurel Street): Participants suggested a restroom be located on S. Laurel St. Given the lack of publicly-owned land along the S. Laurel St. trail section, an alternative location in the City of Bridgeton should be considered for restrooms.
- Section 18 (Grove St. Multi-Use Trail): Participants noted that the section of trail along Grove Street is long and that trail amenities such as benches, drinking fountains, and restrooms should be considered in this area. Off-road areas along Sections 19 and 21 may also accommodate these amenities.
- Section 19 (Grove St. Off-Road Trail): Concerns were raised related to projected sea level rise along the Cohansey River where it overlaps with Section 19. See Chapter 7 for sea level rise design recommendations.
- Section 21 (Grove St. Off-Road Trail): The feasibility of adding a restroom near the trail's Grove Street termination should be considered.

The feedback from Community Engagement Session 2 was used to inform the final trail alignment and recommendations.

Figure 24: Participants review the map enlargements and leave comments on the proposed alignment, Image Credit: AKRF

CHAPTER 5
ALTERNATIVE ALIGNMENT ANALYSIS

The County prepared an initial trail alignment prior to the start of the study to conceptually outline a potential route for the proposed corridor. This study refines the initial alignment based on an assessment of constructability, traffic safety, property ownership, and community support. In addition to the document review, community engagement, and existing conditions analysis discussed in Chapters 2-4, the route is informed by an analysis of public right-of-way availability and existing roadway geometry.

Trails can accommodate all types of user groups such as pedestrians, bikers, equestrians, and motorized vehicles. The County's intent is to create a route that is safe and welcoming for bicyclists and pedestrians. Pedestrians include walkers, hikers, joggers, runners, bird watchers, dog walkers, walkers pushing strollers, and other on-foot traffic. Bicyclists include those using the trail for commuting, touring, and recreation. The AASHTO's Guide for Bicycle Facilities is viewed as the national standard for bikeway design and is used to inform the design of the proposed route. The route is not intended for motorized vehicles such as dirt bikes and ATVs.

In support of a shared pedestrian and bike use, the hierarchy of trail safety is as follows:

1) Off-road trails

2) In-road trails with dedicated bicycle lanes

3) Shared vehicular and bicycle lanes with pedestrian sidewalks

Principles of Bicycle Network Design

The Federal Highway Administration has identified seven principles to guide designers in developing bicycle networks:

Safety
Conflicts with motor vehicles are limited

Comfort
Conditions do not deter bicyclists due to stress or concerns for safety

Connectivity
No gaps or missing links, network reaches all destinations

Directness
Bicycle distances and trip times are minimized

Attractiveness
Routes direct people through lively areas

Unbroken Flow
Stops at traffic lights are limited.

Cohesiveness
Distances between parallel or intersecting bicycle routes are minimized

For this recreational route, safety, comfort, and connectivity are key principles guiding design decisions.

Route Alternatives

Several alternative routes and trail configurations were evaluated. Figure 27 depicts the location of the initial route and alternatives considered. These alternatives were presented to the County for review and selection of preferred routes. Alternative Routes analyzed include:

- Cassidy Court to Shiloh Pike Alternative
- Barretts Run Alternative
- Mary Elmer Lake Alternative
- W. Park Dr. to Mayor Aitken Alternative
- Commerce St. and S. Laurel St. Alternative
- Wildlife Conservation Area Alternative
- Rails-to-Trails Alternative

Alternative configurations analyzed included:

- Multi-Use Path
- Two-Wake Bike Lanes
- Shared Lanes

Cassidy Court to Shiloh Pike Alternative

During the first community engagement session, several community members made suggestions to re-route the initial stretch of the trail from Cassidy Court and Shiloh Pike to an off-road route in Hopewell Township property. The property appears to be currently used for agricultural purposes and includes a connection to Shiloh Pike at Barretts Run Road. The route avoids making modifications to a State Route and the NJDOT coordination that requires. However, per discussions with Hopewell Township, future sale of this property is anticipated.

Based on future plans for the alternate parcels, Cassidy Court to Shiloh Pike is the preferred route.

Figure 25: The initial route (orange) was preferred.

Barretts Run Alternative

Alternative routes were considered for navigating the stretch along the Barretts Run stream and the existing Barretts Run trail. One alternative would take the trail users south of the stream and would require two stream crossings to reconnect with the Barretts Run trail. This would also require traveling on Shiloh Pike, removing a section of guardrail, and descending the adjacent slope. A second alternative would be to travel along the northern side of Barretts Run. This would require one stream crossing of a tributary. The route would depart from the first turn on Barretts Run Road. If allowable through easements, this trail could remain elevated above wetlands and bank slopes.

Based on the location of the access point from the Barretts Run Road and the less extensive stream crossings, the alternative on the northern side of Barretts Run was selected.

Figure 26: The northern alignment (orange) was preferred.

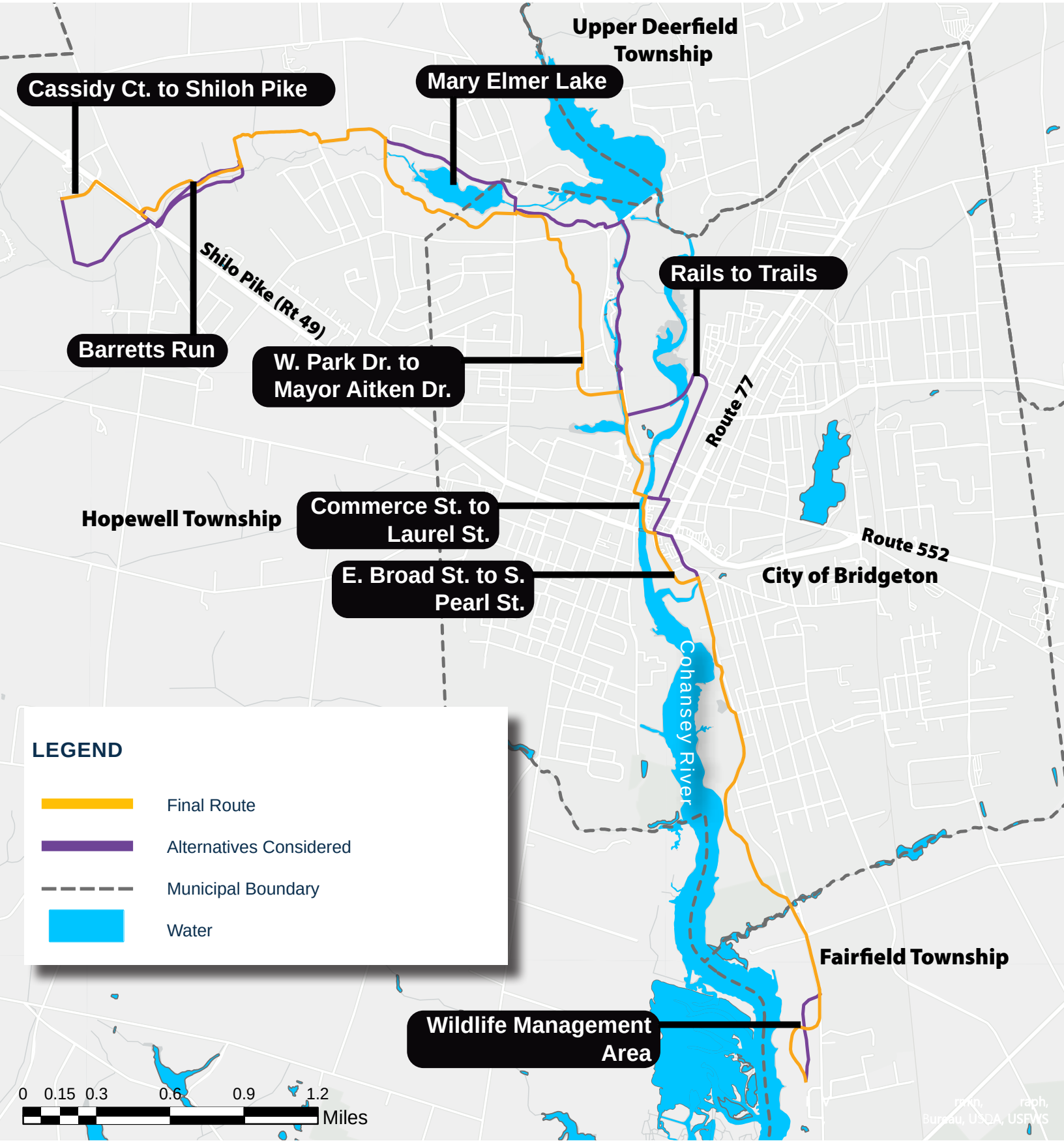


Figure 27: Alternative Route Map

Mary Elmer Lake Alternative

The initial trail alignment followed Mary Elmer Drive along the north side of Mary Elmer Lake before connecting to W. Park Drive. This alignment was reviewed through field investigation and poses challenges as it approaches the eastern edge of the lake. This section includes a winding, narrow, unmarked, two-way road with limited sight lines due to trees and turns. Several community members flagged this area as a concern for bicycle safety.

An alternative alignment to this section of trail would utilize the existing wide trail used to access the boat ramp along the southern side of Mary Elmer Lake. A new section of off-road trail would be required, departing from Mary Elmer Drive at the beginning of Hopewell Township property. Through field investigation, there is an informal trail leading down from the roadway to the lake's edge. This trail could be utilized and connected via pedestrian bridge to the southern side of Mary Elmer Lake. It is recommended that this crossing occur as far west as possible to locate the bridge over a narrow section of Barretts Run, before it widens at the lake.

Based on safety concerns, the route to the south of Mary Elmer Lake was selected.

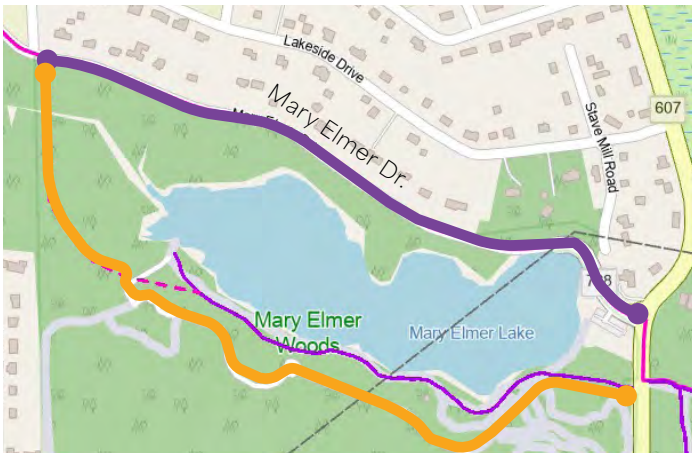


Figure 28: The off-road trail south of Mary Elmer Lake (orange) was preferred.

W. Park Dr. to Mayor Aitken Alternative

The initial route proposed connecting the trail to W. Park Drive before turning onto Mayor Aitken Drive at the intersection. However, there are plans to turn the existing intersection into a roundabout, posing challenges for bicyclists using the route. To avoid the roundabout, an alternative route was proposed which uses a branch of Piney Point Trail to reach W. Park Ave. After crossing W. Park Ave, there are a number of City of Bridgeton Walking Trails which extend southward. Following one of these spurs, the trail passes Scholastic Drive and follows the sports complex to connect to the Raceway located on the western side of Mayor Aitken Drive.

The alternative using Bridgeton Walking Trails was selected to bypass the future traffic circle, avoid the need for a new bridge crossing to connect to the Raceway, and minimize time spent on roadways.

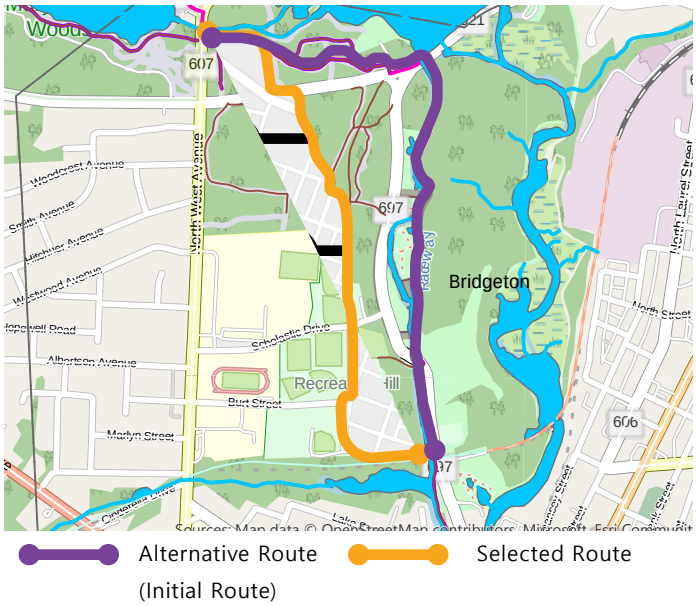


Figure 29: The route utilizing the Bridgeton City Walking Trails (orange) was preferred.

Commerce St. and S. Laurel St. Alternative

The initial route traversed Commerce St. Bridge and turned right onto S. Laurel St. before turning left onto E. Broad St. This route offers trail users access to the downtown commercial district. However, if bicycle lanes were to be created rather than a shared route, this alternative would require removal of parking.

Another route would use the existing Riverfront Plaza area, turning right after the Commerce St. Bridge and bypassing

a stretch of S. Laurel St. Cyclists could be routed onto the existing brick walkway, which ranges in width from 15 to 40 feet, or through the parking lot. Given the increased hazards of routing cyclists through active parking areas, the existing brick walkway would offer greater safety. Measures to indicate how cyclists and pedestrians could share this space should be considered such as signage and pavement markings.

The route along the riverfront walkway was selected to provide the maximum separation from vehicular traffic and to avoid impacting existing parking

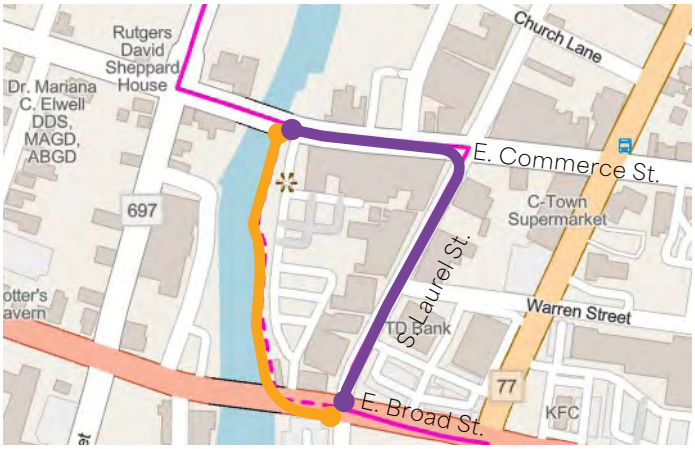


Figure 30: The route through the riverfront plaza (orange) was preferred.

E. Broad St. to S. Pearl St. Alternative

The initial alignment proposed continuing east down Broad Street before turning right onto S. Pearl Street. Given the lane widths in this section, bicyclists would be required to share vehicular turning lanes and navigate an area with relatively heavy traffic.

Alternatively, a route was proposed that continues south down S. Laurel Street, turns left onto Glass Street, and then connects to Grove Street. In this alternative, the trail would be located on a less-trafficked roadway, with enough width to accommodate bike lanes. Some concerns were raised about the visibility of this area, given the industrial buildings and the less populated streetscape.

The alternative route down S. Laurel St. and Glass St. was selected due to traffic safety concerns. Measures for trail security and safety should be considered on this route.

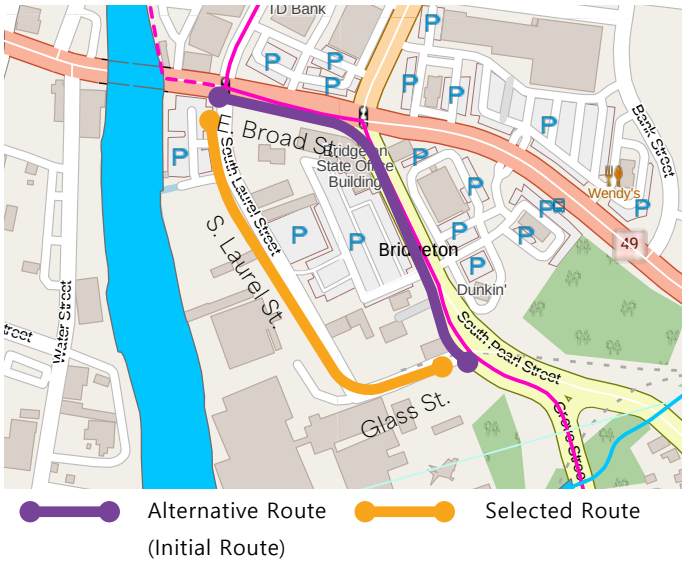


Figure 31: The route down S. Laurel St. and Glass St. (orange) was preferred.

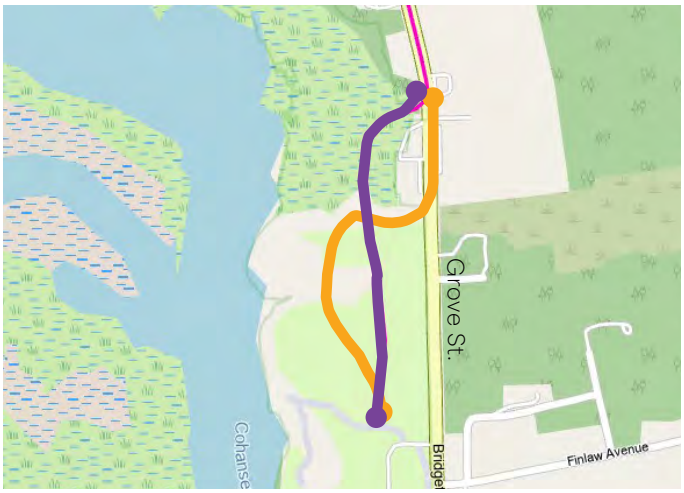
Figure 32: View looking south on S. Pearl St., Image Credit: Google Streetview

Figure 33: View looking south on S. Laurel St., Image Credit: Google Streetview

Wildlife Management Area Alternative

When the route enters the NJDEP Wildlife Conservation Area near the former Cohanzick Country Club, two alternatives were considered. The first (initial route) enters the Conservation Area as soon as Grove Street reaches the state-owned property. In this alternate, the trail would need to traverse challenging topography, wetlands, and flood-prone areas. A second alternative was considered that remains on Grove Street until south of the Cohansey Country Club and then enters the state-owned property to minimize areas traversing wetlands and flood hazard areas.

The alternative that exits Grove St. south of the former Country Club was selected based on constructability, cost, and permitting.



Alternative Route (Initial Route) Selected Route

Figure 34: The route exiting Grove St. after the Country Club (orange) was preferred.

Rails-to-Trails Alternative

Through community engagement and review of existing planning documents, an alternative route for the trail that uses an abandoned rail bridge over Sunset Lake was reviewed. This alternative would create a trail on the former rail line, bypassing the Commerce St. Bridge crossing and would create a greater stretch of off-road trail.

Per the previous Rails to Trails study discussed in Chapter 2, use of this rail line would not be permitted by the owner within the City of Bridgeton limits.

Due to ownership restrictions, the rails to trails route was not recommended.

Alternative Route Selected Route (Initial Route)

Figure 35: The initial route (orange) was preferred.

Trail Configuration Alternatives

As discussed in Chapter 4, the initial trail alignment had 48% of the trail within public rights-of-way. These rights-of-way were evaluated for their capacity to accommodate different trail configurations such as multi-modal (pedestrian and cyclists), separated pedestrian routes and bicycle lanes, and shared bicycle and vehicular routes.

The alternatives were based on the following design criteria:

- One-way bicycle lanes with a minimum 5-foot width and no buffer required between vehicular traffic
- Two-way bicycle lanes with a minimum 5-foot width each and 2-feet of buffer between vehicular traffic
- A multi-use path with a 10-foot width
- Roadway lanes suitable for bus routes and frequent emergency vehicles or trucks should have a minimum width of 11-feet. Roadways without bus routes or frequent emergency vehicle or truck use should have a minimum width of 10-feet.
- Right or left turning lanes should have a minimum width of 10 feet
- On-street parking has a recommended width of 8 feet with a minimum width of 7 feet

In addition to these considerations, the existing conditions adjacent to the roadways were evaluated based on site inspections, aerial imagery, GIS data, and Google Street View imagery. The presence and width of sidewalks, buffer strips, and other adjacent infrastructure was documented in addition to right-of-way obstructions such as utility poles and hydrants (see Appendix B). Width measurements were informed by Google Earth imagery, County GIS data, and NJDOT straight line diagrams.

When the right-of-way was wide enough and minimal obstructions are present, a multi-use off-road alternative was considered. Where roadway width is sufficient to narrow or eliminate lanes, in-road designated bicycle routes were considered. Where roadways were too narrow and right-of-ways were insufficient to accommodate off-road options, a shared vehicular and bicycle lane was considered. In general, continuity of traffic patterns was prioritized. For instance, a roadway with a two-way bicycle lane should continue in this configuration as long as possible and should only change configuration at a legal traffic crossing.

Figure 36 demonstrates examples of several of these alternatives. Based on discussions with the County, the following decisions were made on configurations:

- Eliminating parking in the City of Bridgeton was deemed infeasible due to existing parking demand. Share routes were preferred over dedicated bicycle lanes that eliminated parking.
- Eliminating one of the lanes in Grove Street was considered acceptable in order to create a multi-use path or dedicated bicycle lane. A vegetative buffer strip between a multi-modal path and Grove Street was considered challenging to maintain.

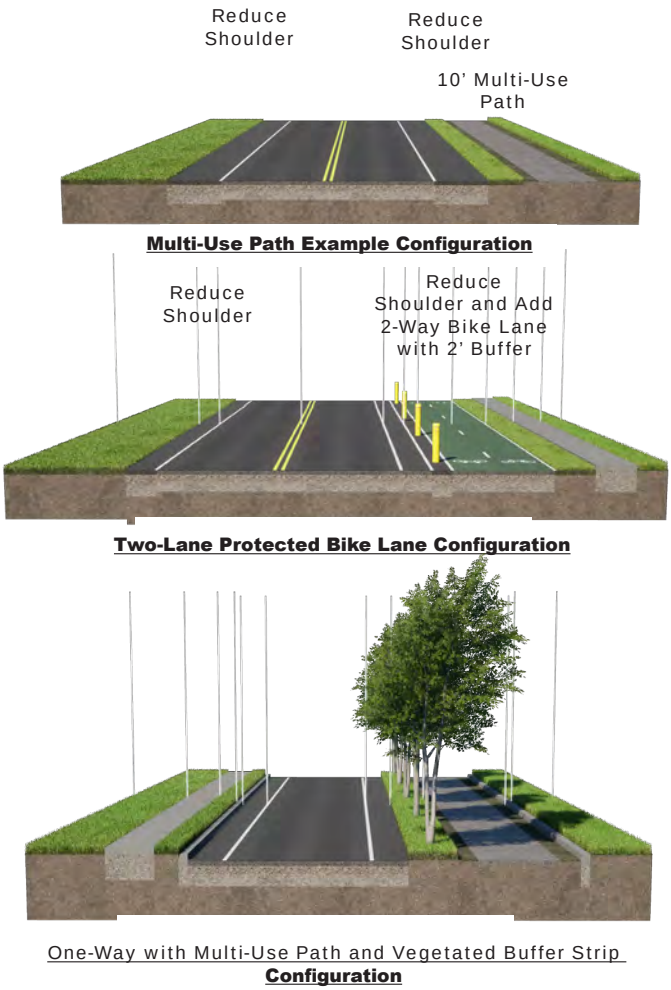


Figure 36: Conceptual Section Alternatives

CHAPTER 6
CORRIDOR RECOMMENDATIONS

Proposed Route

Given the results of the alternatives analysis and additional feedback received in engagement session 2, a final proposed trail alignment was developed. The alignment takes into account traffic safety and security, stream and roadway crossings, maintaining accessibility where there are steep slopes, minimizing impacts to environmentally sensitive areas, and accounting for climate change impacts.

The final trail alignment is shown in Figures 38-40. The proposed trail includes four typologies:

- **Right-of-Way (ROW) Multi-Use: Trails that are within the right-of-way adjacent to a road. Trails are typically 10-feet wide and constructed with porous material.**
- **New Off-Road: Trails are located on private or public property through undeveloped areas. Trails are 10-feet wide where permitting allows and are constructed with porous material.**
- **Existing Off-Road: A section of existing trail will be connected to the corridor. In some instances, these sections may be re-surfaced to make them more accessible and suitable for bicyclists. Trail width varies.**
- **Shared Road: Where no feasible alternative exists, striping and signage will be used to indicate that roadways are intended for bicyclists and vehicles. Pedestrians will use existing sidewalks or shoulders or may use alternate routes with sidewalks.**
- **Bicycle Lanes: Sections of trail in public rights-of-way that cannot accommodate a multi-use path but are wide enough for two one-way bicycle lanes in the road.**

Figure 37: Trail signage at Barretts Run Trail, Image Credit: AKRF

TABLE 1: CORRIDOR SECTIONS					
Segment	**Section Type**	**Beginning**	**End**	**Material**	**Property Ownership**
1	ROW Multi-Use	Cassidy Court	Shiloh Pike (Rt. 49)	Porous Asphalt	Hopewell Township
2	ROW Multi-Use	Shiloh Pike (Rt 49)	Barretts Run Intersection	Porous Asphalt	NJDOT
Roadway Crossing					
3	New Off-Road	Barretts Run Intersection	Barretts Run Trail	Stone Dust	Private Property
4	Existing Off-Road Trail	Barretts Run Trail	Mary Elmer Drive	Stone Dust	Hopewell Township
5	Shared Road	Mary Elmer Drive	New Mary Elmer Lake Trail	Asphalt	Hopewell Township
6	New Off-Road	New Mary Elmer Lake Trail	Existing Boat Launch	Stone Dust, Boardwalk	Hopewell Township
7	Existing Off-Road Trail	Existing Boat Launch	Piney Point Trail	Stone Dust	Hopewell Township
8	Existing Off-Road Trail	Piney Point Trail	W. Park Drive	Stone Dust	City of Bridgeton
Roadway Crossing					
9	Existing Off-Road Trail	W. Park Drive	Scholastic Drive	Asphalt	City of Bridgeton
10	New Off-Road	Scholastic Drive	Bridgeton Raceway	Stone Dust	City of Bridgeton
11	Existing Off-Road	Bridgeton Raceway	Mayor Aitken Drive	Stone Dust	City of Bridgeton
12	Shared Road	Mayor Aitken Drive	W. Commerce St.	Asphalt	City of Bridgeton
13	Shared Road	W. Commerce St.	Riverfront Plaza	Asphalt	City of Bridgeton
14	Existing Off-Road Trail	Riverfront Plaza	E. Broad St.	Brick	City of Bridgeton
Roadway Crossing					
15	Shared Road	E. Broad St.	S. Laurel St.	Asphalt	City of Bridgeton
16	Bicycle Lanes and Sidewalk	S. Laurel St.	Glass St.	Asphalt	City of Bridgeton
17	Shared Road	Glass St.	S. Pearl St.	Asphalt	City of Bridgeton
18	ROW Multi-Use	S. Pearl St.	First Detour from Grove St.	Porous Asphalt	County of Cumberland
19	New Off-Road	First Detour from Grove St.	Grove St. Re-entry	Stone Dust	Bridgeton Municipal Port Authority and NJDEP
20	ROW Multi-Use	Grove St. Re-entry	Second Detour from Grove St.	Porous Asphalt	County of Cumberland
21	New Off-Road	Second Detour from Grove St.	Country Club	Stone Dust and Boardwalks	NJDEP

Barretts Run Rd.
Cassidy Ct.
Section 1
Section 2
Section 3
Barretts Run
Section 4
Section 5
Mary Elmer Dr.
Section 6
Hopewell Township
Shiloh Pike (Rt. 49)
Sunset Lake
Mary Elmer Lake
Section 7
Section 8
W. Park Dr.
Section 9
City of Bridgeton
Mayor Aitken Dr.
Cohanzick Zoo and Spray Park
West Ave N.
Scholastic Dr.
Burt St.
Section 10
Section 11
Microsoft Vantor

LEGEND

- Freshwater Wetlands*
- 100-Yr Floodplain
- Water Bodies
- Proposed trail
- Existing trail
- End/Start of section
- Proposed bridge
- Existing roadway crossing
- Proposed roadway crossing
- Existing Restroom
- Existing parking

Figure 38: Corridor Route

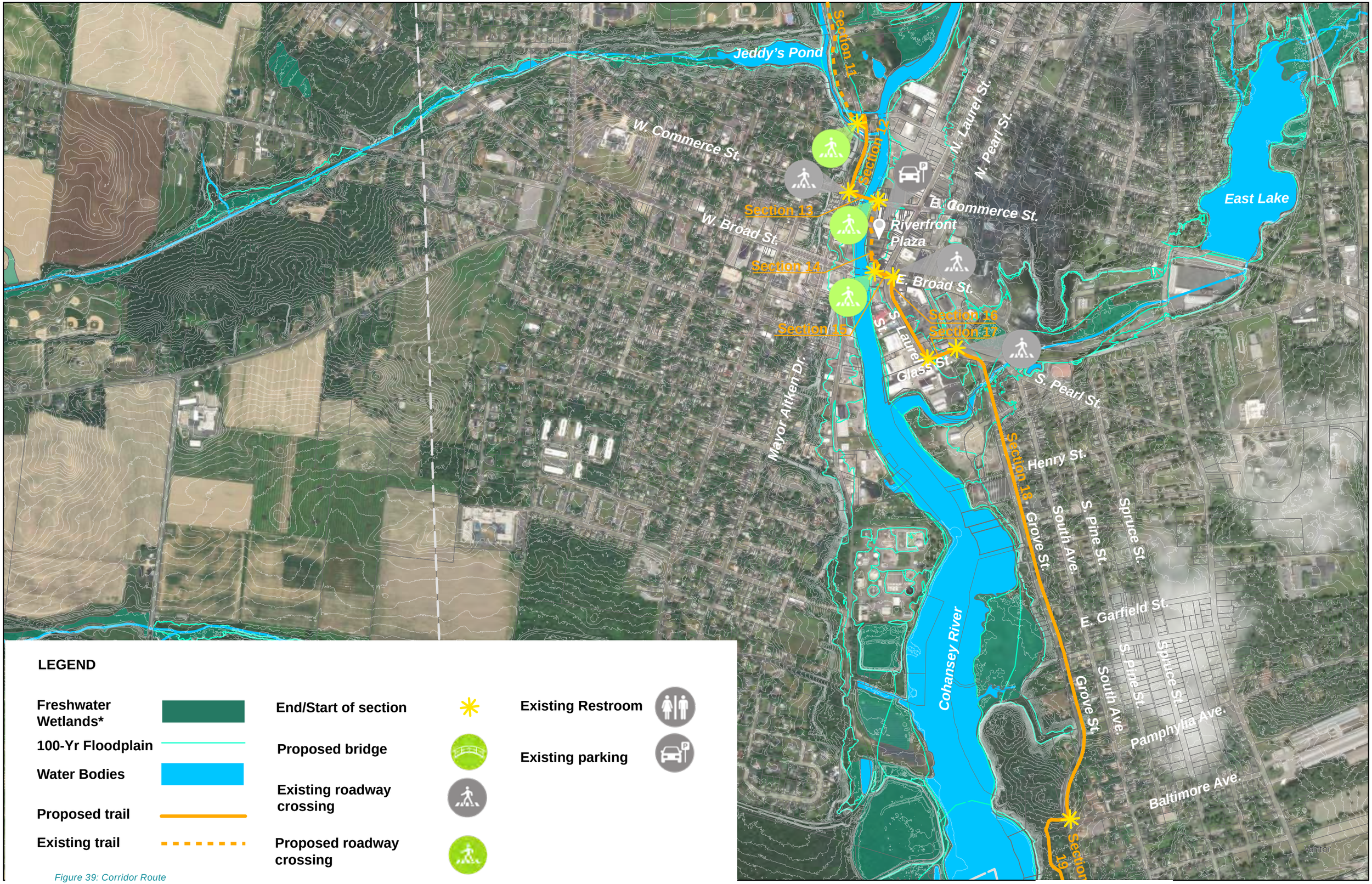


Figure 39: Corridor Route

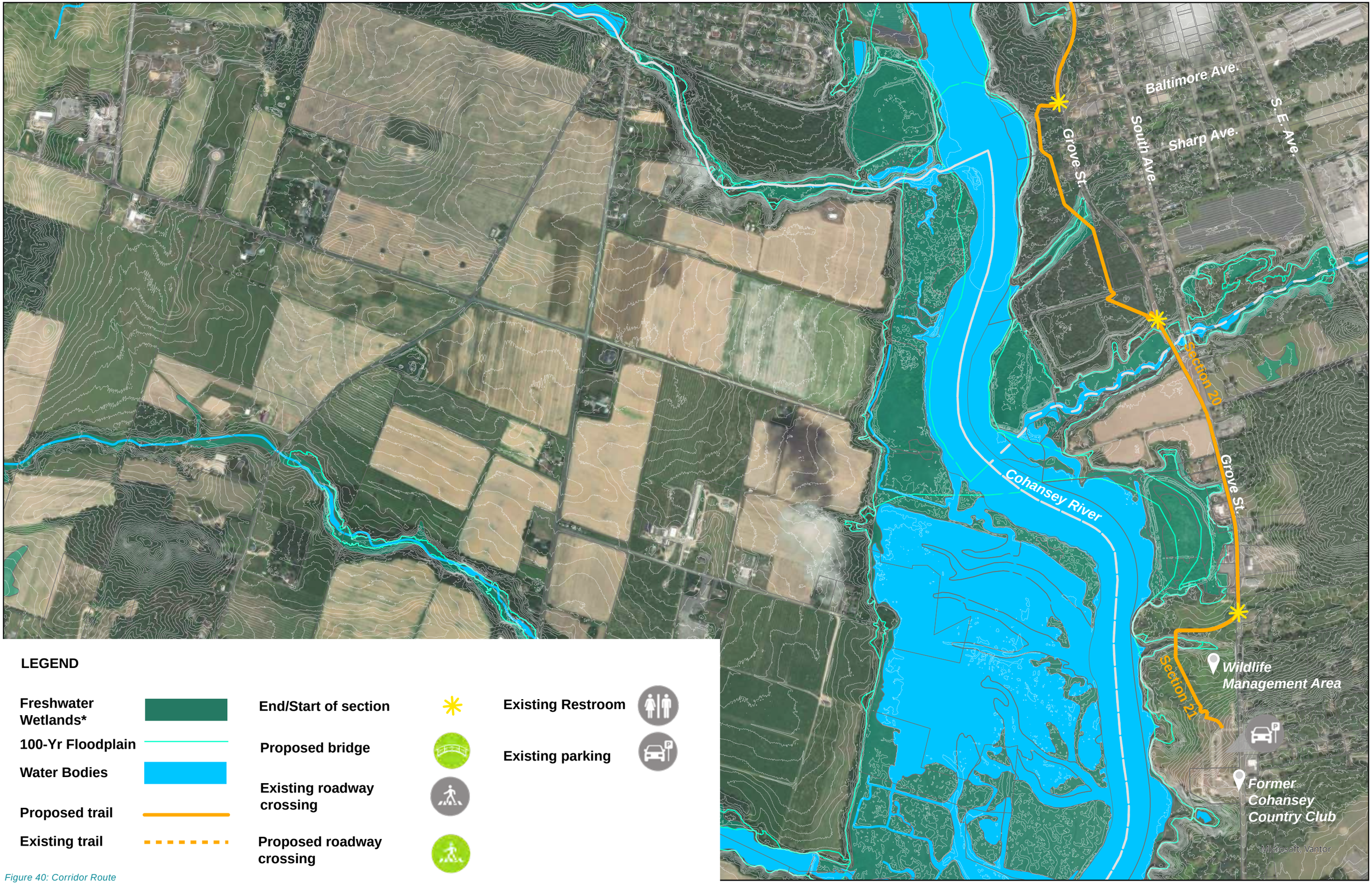


Figure 40: Corridor Route

Accessibility

Accessibility Standards

Trail accessibility was considered in the development of the trail alignment. Accessibility depends on the slope and material of trail surfacing. According to the U.S. Forestry Service Trail Accessibility Guide (2013), an accessible trail material must be both firm and stable. Loose materials that may lead to ruts and uneven surfaces over time should be avoided.

The running slope of trails should be 1:20 feet (5%) or less wherever feasible, which is consistent with American with Disabilities Accessibility Standards for walkways. The inset below provides additional details on trail accessibility.

Trail Route and Accessibility

The proposed trail route will traverse several areas with steep slopes in order to navigate stream banks and crossings. These areas are highlighted in Figure 43.

Slopes range from 1% to 40% and may require switchbacks to provide accessible slopes.

New trail sections should consider firm and durable materials such as those discussed in the materials section of this chapter. Existing trails, such as those along Barretts Run and Piney Point are predominantly composed of compacted earth. To maintain accessibility on these routes, frequent inspection and maintenance caused by erosion and trail traffic may be required. Alternatively, the County may consider paving sections of trails which will reduce maintenance and support increases to trail traffic.

Figure 41: Eroded earth surface along Barretts Run Trail, Image Credit: AKRF

Figure 42: Existing un-paved section of Barretts Run Trail, Image Credit: AKRF

Trail Accessibility

The U.S. Forestry Service provides specific guidelines for accessibility along trails that differ from the Americans with Disabilities Act standards for walkways. Per the U.S. Forestry Service, the slope shall:

- Never exceed 1:8 feet.
- Slopes between 1:10 and 1:12 are allowable for distances up to 30 feet at a time.
- Slopes between 1:12 and 1:20 are allowable for distances of up to 200 ft.
- Ideally cross slopes will meet ADA accessibility standards and maintain a cross slope of 2% or less. For trails, the U.S. Forestry Service considers cross slopes of 1:20 or less acceptable.

In general, the corridor should minimize slopes where ever feasible to provide accessible routes for all forms of mobility.

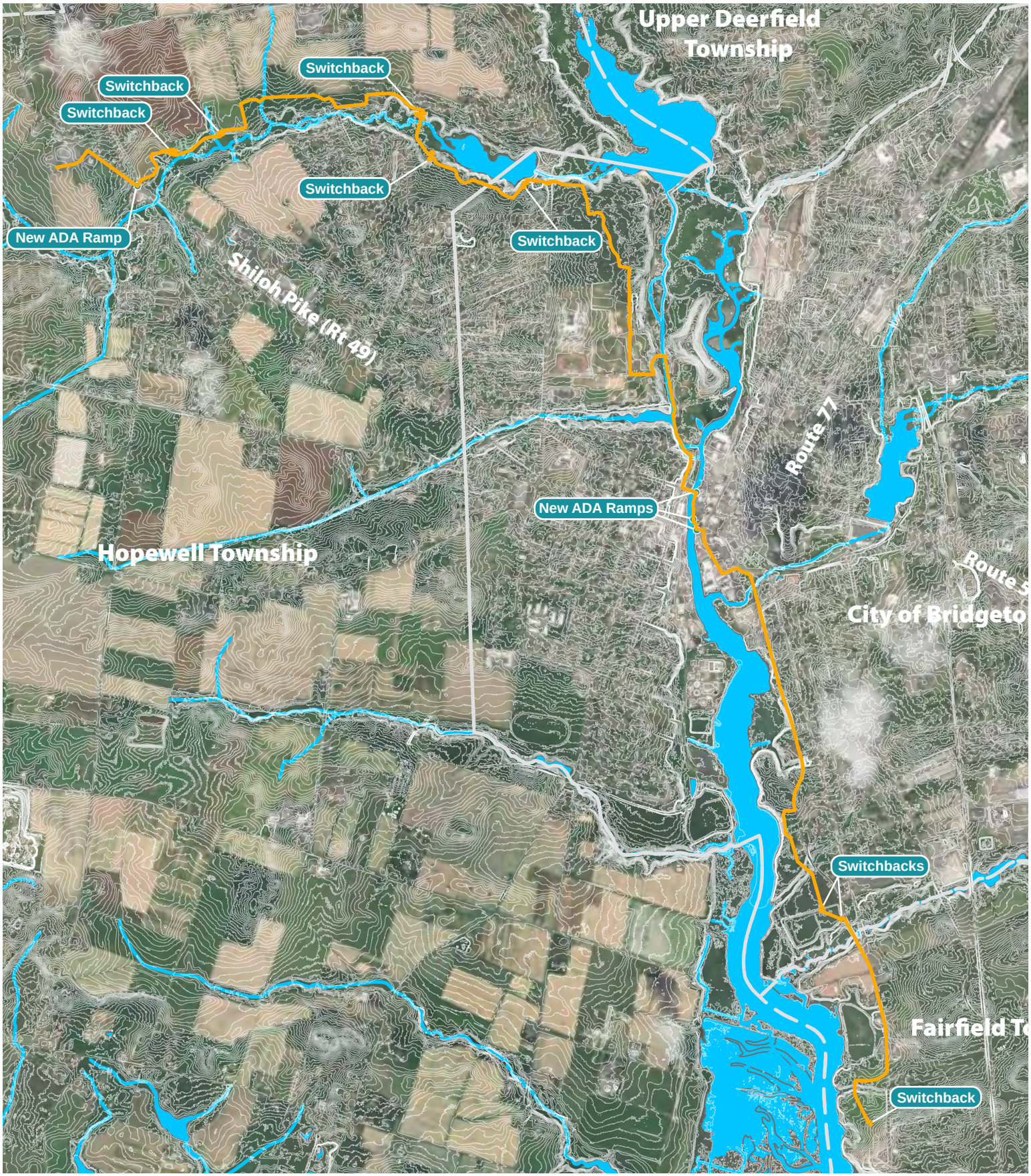


Figure 43: Accessibility Map

Trail Amenities

Through engagement and analysis of existing conditions, several amenities are recommended to support the proposed trail including seating, restrooms, habitat structures, plantings, and signage and wayfinding.

Furnishings

Seating was a high-demand amenity identified during the first community engagement session. Installing seating at periodic locations along the trail will make the trail more accessible for different user groups and will likely increase the use of the trail. Benches with backs and spaces for wheel chair parking are recommended, as shown in Figure 44, to support trail accessibility. Picnic tables may also be considered, particularly for areas within publicly-owned land or within existing recreation areas such as Mary Elmer Lake. Per feedback from engagement session 2, metal picnic tables are preferred over wood.

In addition to seating, the corridor should also include trash and recycling receptacles and furnishings that support dog walkers such as bag dispensers.

Drinking fountains should be considered for the trail route, given its length and potential to connect to larger networks of bicycle trails. Locating drinking fountains at key points along the trail will provide relief to users. Fountains with pet bowls may also be considered for trail users walking dogs. Drinking fountains along Grove Street are recommended, per community feedback and the heat analysis performed in Chapter 3.

Bicycle racks should be included throughout the trail, particularly at key destination points such as the Cohanzick Zoo, downtown Bridgeton, and Bridgeton's Riverfront Plaza.

Figure 44: Bench with wheelchair space

Figure 45: ADA-accessible picnic table, Image Credit: AKRF

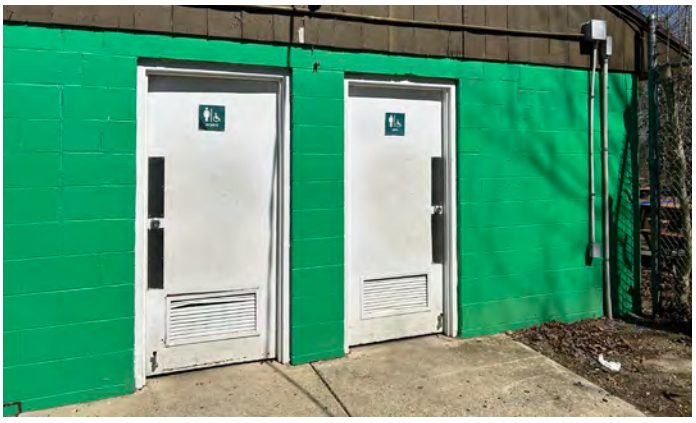


Figure 46: Existing restroom at Cohanzick Zoo, Image Credit: AKRF

Figure 47: Bicycle racks

Restrooms

Restrooms were another frequently requested amenity at the first community engagement session. There are existing restrooms located outside of the Cohanzick Zoo and adjacent sprayground, one located at Sunset Lake/Sunset Beach Point, and one located at the intersection of Mayor Aitken Drive and Washington Street. These three restrooms are closed seasonally. There is one restroom open year-round within the Cohanzick Zoo that is publicly available.

To support year-round use of the trail, the County and municipalities may consider opening the restrooms year-round. Additional restrooms may also be considered in the center of the City of Bridgeton along the Riverfront Plaza and within Hopewell Township Park. If located adjacent to public sewer, the restroom may be connected to sanitary service. If this is not feasible, a vault restroom may be considered which can be serviced by a vendor on a regular basis (See Figure 48).

Habitat Creation

Habitat structures were desirable based on the survey distributed in Community Engagement Session 1. Habitat structures support local wildlife and may include structures such as bird houses or bee houses, which create nesting opportunities. These structures provide ecological benefits while supporting environmental education initiatives.

Plantings

Trail development in environmentally sensitive areas should prioritize minimally invasive construction techniques that preserve existing vegetation and habitat. In cases where disturbance is necessary to create connections and/or maintain accessibility, native plantings can be used to restore disturbed areas. Species should be selected based on the hydrology, shade/sun conditions, native wildlife needs, and changing planting zones the area. Vegetation can also be used to stabilize areas prone to erosion, as discussed in the Climate Resilience section of this chapter.

Figure 48: Vault Restroom

Figure 49: Owl / Kestrel House

Figure 50: Bird House

Figure 51: Trees along bicycle route

Figure 52: Stormwater plantings along bicycle route, Image Credit: AKRF

Figure 53: Tree protection fencing during trail construction

In more urban spaces, native plantings can be introduced to improve aesthetics, provide shade, and create new habitat. A diverse range of species should be selected to support local wildlife and increase resilience of plantings against disease and adverse environmental conditions. Plantings along public rights-of-way should be salt-tolerant to withstand de-icing salts that can wash into adjacent plant beds.

Signage and Wayfinding

Signage along the corridor can provide a variety of benefits to trail users by promoting safety, communicating directions, locating adjacent amenities, and providing educational opportunities. Wayfinding sign was the most popular furnishing element in Community Engagement Session 2.

Existing signage can be found along sections of existing trail, particularly in Hopewell Township Park which includes both educational signage on native wildlife and wayfinding signs.

The County should consider a cohesive signage treatment for the corridor that clearly identifies the "Cohansey Green Corridor" and the various stretches of existing trail, on-road routes, and new trails that will be connected. Gateway signs for sections of the corridor entering/exiting each municipality can be an opportunity to tie-in municipal branding.

Wayfinding signage may include delineators of where trail users will enter and exit on-road sections of the corridor, markers along off-road sections of trail to guide users, and maps with the overall route and nearby amenities such as restrooms, parks, and viewpoints.

Traffic signage will be crucial for navigating sections of the trail within the public right-of-way and should clearly communicate whether a route is intended to be shared and where bicyclists and pedestrians have designated paths. These signs should communicate traffic conditions to vehicles, cyclists, and pedestrians. Additional signage may indicate specific information for other users such as electronic bicycle and scooter speed limits, restrictions on use of ATVs, and location of dirt bike tracks.

Signage can also be a tool for providing environmental education. Existing educational signage can be found along the Barretts Run trails and includes information about birds, pollinators, and plants. Additional environmental education signage may include:

- Signs along streams and lakes to provide information on water quality and promote stewardship of waterways.
- Signs within sensitive wetland areas that provide information on wetland benefits and unique habitat characteristics
- Signs that identify threatened and endangered species in the area such as bald eagles.

The County and municipalities could partner with educational facilities such as the Cohanzick Zoo or Cohansey River Watershed Association to develop signage content.

Figure 54: Existing trail map at Barretts Run Trail, Image Credit: AKRF

Figure 55: Existing educational signage at Barretts Run Trail, Image Credit: AKRF

Figure 56: Trail rules sign

Figure 57: Wayfinding signage

Materials

Trail material recommendations are based on community feedback, environmental conditions, accessibility, and permitting considerations. For new off road trails, materials such as footbridges, boardwalks, stone dust, flexible porous pavement, or asphalt are recommended.

For areas within NJDEP riparian or wetland buffers, porous trail materials are required. Aggregate trails can satisfy this requirement, if designed with the appropriate drainage profiles. However, this trail typology is prone to washout and should not be used in frequently flooded areas. Instead, boardwalks or flexible porous pavement may be considered if costs allow. Boardwalks are also appropriate for wetland crossings to avoid adversely impacting sensitive areas. In cases where there is a stream crossing, footbridges are recommended. These footbridges can be pre-fabricated or customized. Flexible porous pavement is typically composed of stone and recycled rubber and provides a stable surface resistant to washout.

For multi-use trails within the right-of-way, asphalt is a cost-effective approach to installing long stretches of linear trails. Asphalt trails can be designed to be porous in compliance with NJDEP stormwater design practices, which would eliminate the need for additional stormwater measures.

For on-road trails, high-thermoplastic paints should be used. These paints are highly durable and provide reflective coatings for traffic safety.

Figure 58: Aggregate trail at Mercer Meadows in Mercer County, New Jersey, Image Credit: AKRF

Figure 59: Stony Brook Pedestrian Bridge at Mercer Meadows in Mercer County, New Jersey, Image Credit: AKRF

Figure 60: Boardwalk trail at Mercer Meadows in Mercer County, New, Jersey Image Credit: AKRF

Figure 61: Porous Asphalt Trail in Allentown, New Jersey, Image Credit: AKRF

Climate Resilience

As discussed in Chapter 3, the corridor will face climate stressors as sea level rises, increases in rainfall contribute to riverine flooding, and extreme heat impacts urban areas. The future trail should include measures to adapt to and mitigate impacts from these hazards.

Sea-Level Rise

Signage and warnings related to tidal inundation: The County should consider monitoring tidal levels where sections of the trail abut the Cohansey River in low-lying areas, such as the Wildlife Management Area. Depending on the frequency of tidal inundations, the County may consider several strategies:

- Routine inspections of trails after high-tide events by County or municipal staff; This may require regular desktop monitoring of tide gage elevations for the existing gages located in the Delaware Bay. If inundation is expected, the County can erect barriers to close the sections of trail impacted (Figure 64). Online mapping can also be used to share trail closure information with the public.
- Signage to warn trail users which sections of trail can become inundated with high-tide timing noted on the sign (Figure 63).
- If the frequency of tidal inundation make inspections or gage monitoring impractical, the County may consider installing water level sensors at key points along the trail to notify County staff when sections of trail should be closed (Figure 62).

Given the extent of sea level rise projected by 2100 by Rutgers University used to inform NJDEP's "inundation risk zone", it may not be feasible to avoid locating trails outside of inundation areas and maintain the desired connections to the waterfront. The County may consider an adaptive long-term planning effort to relocate trails that become frequently inundated. This will most likely impact off-road trails adjacent to Grove Street.

Inland Flooding:

Sections of the trail may also face more frequent flooding from increased precipitation contributing to riverine flooding. In riverine flooding, streams and river banks overtop and flood adjacent areas due to increased precipitation and runoff in the watershed. This type of flooding could impact the Cohansey River, areas adjacent to Mary Elmer Lake, Barretts Run, and other tributaries connecting to the Cohansey River. In addition to considering trail closure strategies described in the sea-level rise section, the durability of trails and adjacent materials should be considered to mitigate erosion caused by this flooding. Boardwalks that utilize decay-resistant woods and concrete surfaces are considered flood-damage resistant and could be used in areas along steep slopes near streams and rivers.

Figure 62: Water level sensor

Figure 63: Trail signage for tidal flooding along the Hudson River

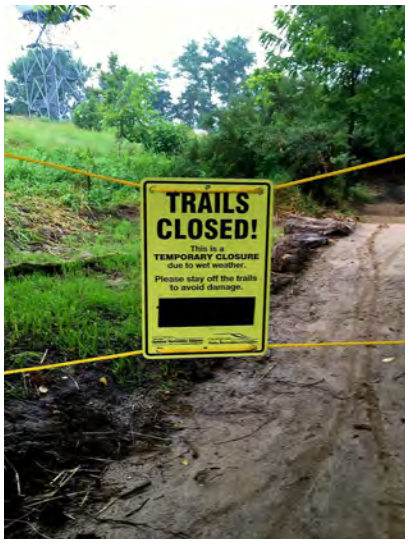


Figure 64: Temporary trail closure signage

Slope stabilization along areas adjacent to these trails will also reduce the need for clean up after a storm event. Stabilization strategies may include vegetation, bio-engineering techniques such as live staking or wattles, rip-rap, and gabion baskets. Footings of boardwalks and pedestrian bridges should include adequate scour protection from erosive forces.

Extreme Heat

Extreme heat will most impact sections of the trail in the City of Bridgeton, particularly areas with sparse or no canopy trees such as Commerce St., Broad St. S. Laurel St., and Glass St. Canopy trees are recommended wherever feasible in these areas to cool pavement surfaces and provide shade for trail users.

Where seating or other furnishings are selected for placement along corridor, metal materials should be avoided in un-shaded areas. These surfaces have high heat conductance and can become unusable when air temperatures are high. Benches with built in shade, such as those shown in Figure 61, offer additional cooling benefits.

Figure 65: Streambank stabilization, Image Credit: AKRF

Figure 66: Benches with built in shade, Image Credit: AKRF

Traffic Safety

Traffic safety is a priority for this multi-use corridor route where vehicles, pedestrians, and bicycles must navigate shared spaces. Per community engagement session 1, bicycle lanes that are separated from vehicle lanes by a physical buffer are the most desirable traffic calming approach. The proposed corridor prioritizes a multi-use path off road, providing separation between pedestrians, bicyclists, and motor vehicles. The separation should be at least two feet at all points.

Where the corridor utilizes an existing crossing, clear crosswalks and pedestrian light signals should be used to safely cross roadways. ADA accessible ramps and detectable warning surfaces should also be used at all crossing points.

Several sections of the corridor, such as the mid-block crossing of W. Park Drive from Piney Point Trail, will require new legal crossings. Legal crossings are established by State Law at the intersection of two streets, whether marked or unmarked. A new legal crossing not at an intersection can be created if an engineering study confirms a marked crosswalk should be implemented with appropriate warning signage and safety enhancements.

Where roadways are shared, the "sharrow" symbol should be used to remind drivers and bicyclists of the shared use. Sharrows can be accompanied by signage to reinforce messaging.

The shared nature of the multi-use paths should also be indicated by signage to alert bicyclists and pedestrians of multi-use paths. The County may consider adding signs to indicate that bicyclists should yield to pedestrians on this path (Figure 70).

Figure 67: Shared roadway sign

Figure 68: Sharrow

Figure 69: Pedestrian crossing signage and signal

Figure 70: Porous Asphalt Trail in Allentown, New Jersey

Security

During Community Engagement Session 1, several participants voiced their concerns about security in areas along the trail that were less visible, particularly in wooded areas. The existing wooded trails at Barretts Run and Piney Point did not have any visible security measures for trail monitoring. Lighting was suggested as one measure to add safety, however, others were concerned about the adverse impacts of lighting on wildlife. Additionally, the cost and technical feasibility of installing consistent lighting along the trail could be challenging.

In lieu of consistent lighting, solar-powered security call stations, sometimes known as "blue light" systems may be installed at key points of concern. These stations are illuminated and provide a resource to call for help when trail users feel unsafe.

Trail cameras and police monitoring are additional measures to improve security. Trail cameras can be installed in wooded areas and provide remote monitoring for law enforcement.

Local police may also consider adding points along the trail to routine monitoring work. In general, maintaining dawn to dusk hours for off-road trails will reduce activity in wooded areas at night.

In more urban areas with less visibility, such as the section of the corridor along S. Laurel St. and Glass St. where there is minimal pedestrian and vehicular traffic, the route may benefit from improved street lighting, traditional security cameras, and police presence.

These design recommendations and corridor alignment reflect engagement, feasibility, and discussions with the County and municipalities and should guide future design and construction of the proposed corridor.

Figure 71: Blue light call station

Figure 72: Dawn till dusk signage

Figure 73: Trail cameras

CHAPTER 7
IMPLEMENTATION

Implementing the approximately 7-mile long network of proposed multi-modal bicycle and pedestrian improvements will require strategies to obtain funding, delineate manageable phases for the project, and obtain a number of permits from local and state agencies. This chapter details potential permit requirements, grant opportunities, and phasing recommendations to support the design and construction of the proposed corridor.

Permitting

As part of the planning process, permitting requirements were considered. Each section of the proposed trail alignment will be subject to various permitting requirements based on the location and proposed intervention. Anticipated permitting includes coordination with NJDEP for Flood Hazard Area Permitting, Freshwater Wetlands Permitting, Coastal Area Facility Review Act Permitting, and stormwater management; NJDOT for improvements within State Route rights-of-way; County Engineering for work within County rights-of-way, municipal engineering for work within local rights-of-way and properties, and Cumberland Salem Soil Conservation District for disturbance over 5,000 square feet.

NJDEP Flood Hazard Area Permitting

Portions of the trail which traverse a mapped Flood Hazard Area (FHA) are subject to N.J.A.C. 7:13 Flood Hazard Area Control Act Rules and are regulated by NJDEP. There are several permit pathways for constructions of trails, boardwalks, and footbridges within an FHA and associated riparian zone.

An activity that meets the requirements of a permit-by-registration may be conducted after online registration with NJDEP. A general permit-by-certification requires a licensed

TABLE 2: FHA PERMITS FOR TRAILS AND BOARDWALKS

Permit	Uses	Width	Tree Clearing in Riparian Zone	Required Disturbance Offset from Top of Bank	Vegetation Loss in Riparian Zone
Permit-by-registration 13 – Construction of a trail and/or boardwalk		6 ft	None	25 ft	Up to 0.25 acres
General Permit 9 – Construction of trails and boardwalks	Pedestrians, livestock, and/or light vehicles such as bicycles, golf carts, or lawn tractors	10 ft	Up to 6 SF per linear foot of trail None within 25 ft of top of bank[1]	10 ft	Minimum necessary to successfully implement the project and is limited to actively disturbed areas, where possible

[1] Where disturbance within 25 feet of any top of bank is proposed, engineering certification is required confirming the area is stable and suitable for the proposed activities, and not subject to erosion or undermining due to its proximity to the top of bank.

TABLE 3: FHA PERMITS FOR FOOTBRIDGES					
Permit	**Uses**	**Width**	**Tree Clearing in Riparian Zone**	**Required Disturbance Offset from Top of Bank**	**Vegetation Loss in Riparian Zone**
Permit-by-registration 14 -- construction of a footbridge		8 ft	6 in	None	No pinning or anchoring within channel
General permit-by-certification 4 -- construction of a footbridge	Pedestrians only	10 ft	14 in	None	No pinning or anchoring within channel
General Permit 8 – Construction of footbridges	Pedestrians, livestock, and/or light vehicles such as bicycles, golf carts, or lawn tractors	10 ft	N/A	Width of clearing, cutting, and/or removal of vegetation cannot exceed 20 feet	Footings and abutments within 10 ft of top of bank must extend at least 3 ft below channel invert

architect or engineer to prepare an application and submit for authorization through NJDEP's online application system. Authorization is issued automatically. A general permit requires a licensed architect or engineer to prepare an application for review by NJDEP. The application is subject to NJDEP comments in order to receive authorization.

Activities allowed in a permit-by-registration are the most stringent, while a general permit typically allows greater areas of disturbance. Primary differences between permit types are included in the tables above. These tables are not an exhaustive list of permit requirements. Developments which exceed the limitations for a general permit require an Individual Permit. An Individual Permit can allow for multiple activities and more disturbed areas but has more stringent documentation requirements.

NJDEP Freshwater Wetlands Permitting

Similar to FHA permitting, trail sections which traverse Freshwater Wetlands will require permitting through NJDEP in accordance with N.J.A.C. 7:7A Freshwater Wetlands Protection Act Rules. The proposed trail alignment avoids mapped wetlands where possible. However, there are several segments which are proposed through mapped wetlands and/or associated wetland buffers.

A wetlands delineation will be required to confirm online mapping. The proposed project is anticipated to require a General Permit 17A – Non-Motorized, Multiple-use paths (GP 17A). GP 17A authorizes the construction of trails for use by pedestrians, bicycles, and other non-motorized methods of transport, but does not authorize ancillary structures such as restrooms or gazebos. The following requirements must be met:

- The total disturbance with freshwater wetlands, transition areas, and/or State open waters disturbed cannot exceed one-quarter acre within privately owned parcels. This limit does not apply to publicly owned sites.
- The path is designed in accordance with American Association of State Highway and Transportation Officials (AASHTO) "Guide for the Development of Bicycle Facilities"
- Adverse environmental impacts must be minimized.

If disturbances that exceed the above requirements are needed, an Individual Permit would be required.

Coastal Area Facility Review Act (CAFRA)

Because the proposed trail alignment south of the E. Broad Street section lies within the mapped CAFRA zone, trail construction within the southern sections may require CAFRA permitting through NJDEP. Portions of off-road trail within the CAFRA zone will potentially require a General Permit 13 for Construction of Recreation Facilities at Public Parks. Trail widths within wetlands areas that are regulated by CAFRA rules are limited to a 6-foot width.

Striping and right-of-way improvements are anticipated to be exempt from CAFRA permitting as public right-of-way improvements that include "Public highway lane widening, intersection and shoulder improvement projects (including new paving or repaving) which do not increase the number of travel lanes."

It is recommended that an Applicability Determination is submitted to NJDEP for areas of development within the mapped CAFRA area.

Stormwater Management and Soil Erosion and Sediment Control

All projects exceeding 5,000 SF of land disturbance in New Jersey are required to obtain certification from the location Soil Conservation District for soil erosion and sediment control associated with the project. The Cumberland Salem Conservation District provides reviews for Cumberland County.

Developments involving greater than one acre land disturbance are considered Major Developments by NJDEP and are subject to N.J.A.C. 7:8 Stormwater Management Rules. Major Developments are required to provide post-construction management for stormwater runoff quality, stormwater runoff quantity, and groundwater recharge. Public pedestrian access ways such as trails are exempt from these requirements provided:

- Trail width does not exceed 14 feet.
- Trail is constructed of permeable material.
- Temporarily disturbed vegetated areas are revegetated with native, noninvasive vegetation.

Disturbance thresholds will apply to each section undertaken as an individual construction project and do not apply to the trail as a whole.

NJDOT Coordination

Coordination with NJDOT is anticipated for all improvements proposed within State Route 49. This includes a section of Shiloh Pike in Hopewell Township and a section of Broad Street E in Bridgeton. NJDOT approval for all layout and striping modifications and crossings within the right-of-way will be required.

Figure 74: Boardwalks can be used in ecologically sensitive areas to minimize disturbance and impacts to hydrology, Image Credit: AKRF

County Coordination

Sections of the proposed route will be within County rights-of-way and require modifications to the County roads. Coordination and review by County Engineering will be required to permit proposed improvements.

Municipal Coordination

Early coordination with Hopewell Township, Fairfield Township, and the City of Bridgeton will be key for the portions of trail which run through rights-of-way and properties managed by each municipality.

Funding

Potential funding opportunities are identified in the following section. Funding eligibility and award amounts are based on information available at the time of this study.

NJDEP Green Acres Program

The Green Acres Program is administered by NJDEP and provides grants and zero interest loans to municipal and county governments and non-profit organizations to acquire open space and develop outdoor recreation facilities. The mission of the program is to achieve a system of interconnected open spaces, whose protection will preserve and enhance New Jersey's natural environment and its historic, scenic, and recreational resources for public use and enjoyment.

Local and Nonprofit Assistance Program

In 2026, Green Acres offered three funding avenues as part of the Local and Nonprofit Assistance Program:

- Land Acquisition - Eligible land acquisition projects include the purchase of natural areas, for active or passive recreation purposes and can include linear parkland for trails.
- Park Development – Eligible projects create, restore, or expand outdoor recreation opportunities and include recreational trails and trail amenities, as well as facilities for biking, hiking, and nature and historic interpretation.
- Stewardship - Trail restoration and creation are eligible for funding and may include education signage, directional signage, boardwalk portions over wet areas, and observation platforms. The trail must run through a natural area and must be ADA-compliant and pervious.

New Jersey Recreational Trails Program

The Federal Highway Trust Fund allocates funds as part of the federal Recreational Trails Program (RTP). In New Jersey, the Green Acres Program administers these funds via the New Jersey Trails Program to construct new trails and maintain and restore existing trails and trail-related facilities. According to the Green Acres website, program staff are creating guidance regarding new eligibility and programmatic changes as a result of revised RTP funding rules.

National Fish and Wildlife Foundation (NFWF) Grants

Delaware Watershed Conservation Fund (DWCF)

Launched in 2018, the Delaware Watershed Conservation Fund aims to conserve and restore natural areas, corridors, and waters on public and private lands that support native fish, wildlife and plants, and to contribute to the vitality of the communities in the Delaware River watershed.

In 2026, NFWF offered DWCF grant funding for projects ranging from $75,000 to no more than $1,500,000 in four categories:

- Implementation Grants – For shovel-ready conservation and restoration projects that result in quantifiable benefits for fish, wildlife, and people within the Delaware River watershed (approximately 70% of funding)
- Planning Grants – For engagement, planning and prioritization; feasibility, suitability, or alternatives analyses; site assessment and conceptual design; or final design and permits for planning conservation and restoration projects (approximately 10% of funding)
- Capacity Building Grants – For projects aimed at building capacity within the watershed, strengthening the ability of local communities, organizations, and partners to collaboratively enhance fish and wildlife habitat and improve access to nature (approximately 10% of funding)
- Research, Monitoring & Evaluation Grants – For high-performing science that advances or enhances the efficiency of conservation delivery in the Delaware River watershed (approximately 10% of funding)

Projects were required to contribute to one of four Strategic Program Areas. Improvements along the Cohansey Green Corridor could qualify for Strategic Program Area 4: Improve Opportunities for Public Access and Recreation in the

Basin Consistent with the Ecological Needs of Fish and Wildlife Habitat.

Acres for America

Acres for America is a public-private partnership funding program between NFWF and Walmart. The program priorities include:

- Conserving critical habitats for birds, fish, plants and wildlife
- Connecting existing protected lands to unify wild places and protect migration routes
- Providing access for people to enjoy the outdoors
- Ensuring the future of local economies that depend on forestry, ranching and recreation

In 2026, the program awarded seven new grants across the US totaling $5.4 million. Individual grant amounts ranged from $535,000 to $1,000,000.

Open Space Institute

The Open Space Institute (OSI) is a national conservation leader, partnering in the protection of more than 2.5 million acres across the Eastern U.S. Their focus is on protecting land for cleaning drinking water, public recreation, and healthy communities, and wildlife habitat. OSI currently offers two funding opportunities for the Delaware River Watershed.

Delaware River Watershed Revolving Fund

With seed funding from the William Penn Foundation, the Delaware River Watershed Revolving Fund seeks to achieve watershed protection goals in the Delaware River Basin by providing interim financing for projects where available capital is insufficient at the time it is required. The fund makes simple-interest loans and financial guarantees generally of at least $100,000 and no more than $1 million at no more than 1.5% annual interest, for a term generally not to exceed 18 months.

Eligible projects include:

- Forest protection and agricultural restoration in eight sub-watershed "clusters" within the Delaware River Watershed Initiative
- Reducing stormwater run-off through the installation of green infrastructure in Philadelphia and elsewhere
- Creation and enhancement of the Circuit Trail network
- Increasing and diversifying the constituency for watershed protection through support for capital projects in the 23 environmental education centers participating in the Alliance for Watershed Education network

Projects must also be located within one of the eight DRWI clusters; the entirety of the proposed trail alignment is within one of these clusters.

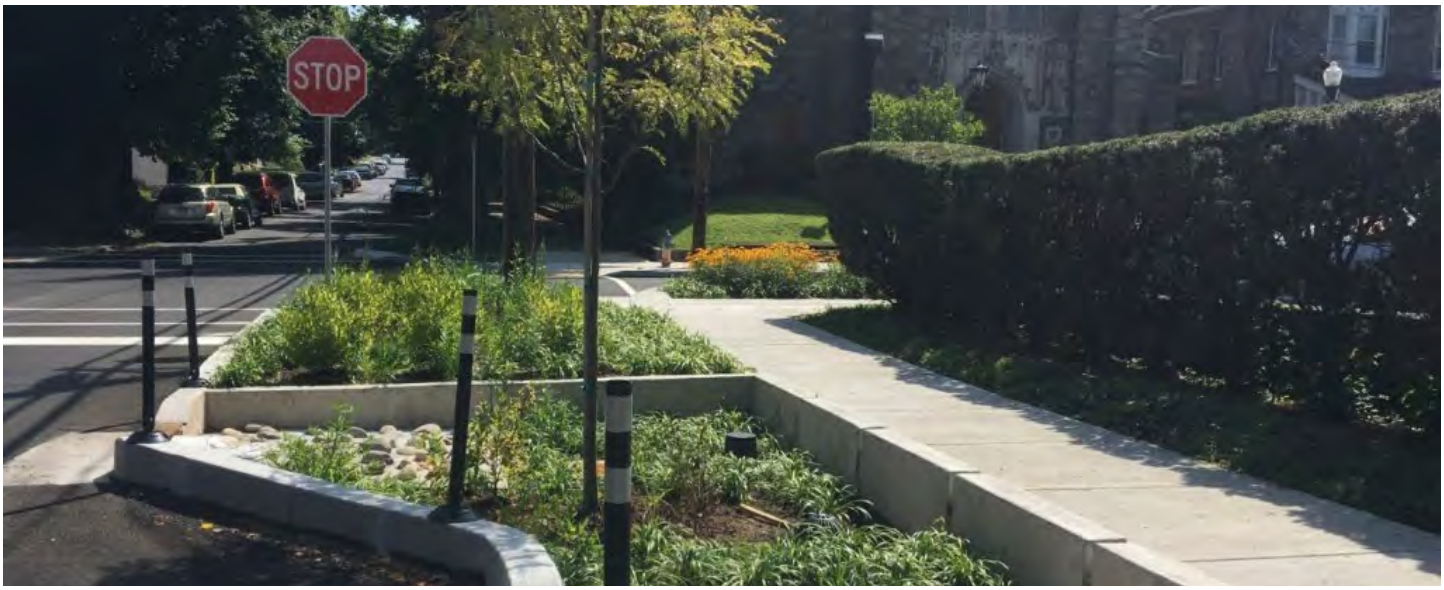


Figure 75: Transportation projects that incorporate stormwater management, such as linear stormwater bumpouts, may be eligible for my diverse funding opportunities, Image Credit: AKRF

Delaware River Watershed Protection Fund

Since 2014, the Delaware River Watershed Protection Fund has sought to ensure abundant, clean water through support of land protection and improved land use planning. Three types of grants are available:

- Capital Grants – for the purchase of land and easements to protect important watershed lands
- Transaction Grants – to jumpstart land conservation efforts
- Catalyst Grants – to integrate water quality science into conservation plans and Open Space Plans to address climate change, flood hazards, and water injustice.

Association of New Jersey Environmental Commissions

The Association of New Jersey Environmental Commissions (ANJEC) is a non-profit organization that helps NJ environmental commissions, individuals, local and state agencies preserve natural resources and promote healthy communities. In 2026, ANJEC offered small grants of up to $1,500 each to environmental commissions to support projects that advance local open space stewardship and help to raise the profile of the environmental commission in the community through publicity and public participation or collaboration with local groups on the project. Eligible applicants are New Jersey environmental commissions that are established by an ordinance.

Eligible projects included:

- Trail building, signage, maintenance
- Printed or online guides, maps, inventories of open space, trails
- Open space or trails assessments, plans, maps
- Multi-town plans to link open space or trails
- Conservation easement inventory, monitoring, outreach, education
- Management of invasive species
- Habitat enhancement on open lands
- Restoration or maintenance of riparian areas within preserved public open space
- Educational stormwater management projects on preserved public open space

<u>New Jersey Department of Transportation (NJDOT)</u>

Transportation Alternatives (TA) Set-Aside Program

TA Set-Aside funds are intended for surface transportation projects that improve quality of life while reaching the greatest number of people. For the 2025 solicitation, eligible projects would fall into one of the following seven categories:

- Design and construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, example elements may include sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques and lighting
- Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, and other non-motorized transportation users
- Construction of scenic turnouts, overlooks, and viewing areas
- Historic preservation and rehabilitation of historic transportation facilities both land and water such as building structures and canals
- Community improvement activities, specifically: streetscaping and corridor landscaping
- Environmental mitigation to address stormwater management, control, water pollution prevention or abatement related to highway construction or due to highway runoff, vegetation management and invasive species prevention
- Reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats

Bikeway Grant Program

NJDOT's Bikeway Grant Program is a state program which provides funds to counties and municipalities to promote bicycling as an alternate mode of transportation and to support the State's goal of constructing 1,000 new miles of dedicated bike paths. Requirements include providing new bikeway mileage and separation of the proposed bikeway from motor vehicle traffic through a barrier or an open space. Shared-lane sections of the proposed corridor would be ineligible.

Eligible project activities include:

- Construction including construction inspection and material testing according to the Transportation Trust Fund Authority Act
- Preliminary and final design for municipalities eligible for Urban Aid or Depressed Rural Centers according to the Transportation Trust Fund Authority Act
- Per N.J.S.A. 27:1B-25.1, a grant recipient under the local aid program shall be permitted to expend up to five percent of its aid allotment for design purposes.

Right-of-way purchases, operating costs associated with any project, and planning activity costs are not eligible. Five grants were awarded for fiscal year 2026, ranging from $100,000 to $1,000,000.

County Aid

County Aid funds are appropriated by the State Legislature annually for the improvement of public roads and bridges under County jurisdiction. New Jersey counties with an Annual Transportation Program are eligible to apply. Program benefits include:

- Improvement of County roads and bridges
- Advancement of public transportation and other transportation projects
- Advancement of projects in County Annual Transportation Program
- Annual allotment of county Local Aid funds

Local Aid Infrastructure

The Local Aid Infrastructure Fund was established to address emergencies and regional needs throughout the State. Counties and municipalities may apply at any time. Selection criteria include the following:

- Repairs & Replacements – Emergency bridge repairs, guide rail replacements, and repairs to drainage failures at critical transportation locations.
- Multi-modal Improvements – Safety improvements to critical bike and pedestrian locations.
- Unforeseen Circumstances – Projects that arise due to unforeseen circumstances.

Safe Streets to Transit

The Safe Streets to Transit (SSTT) program provides funding to counties and municipalities to improve access to transit facilities and all nodes of public transportation. Projects within 0.5-mile radius of a transit facility are given priority, but projects within 1 mile of a transit facility will also be considered. Goals of the program are to:

- Improve the overall safety and accessibility for mass transit riders walking to transit facilities

Figure 76: Bridgeton Raceway, Image Credit: AKRF

- Encourage mass transit users to walk to transit stations
- Facilitate the implementation of projects and activities that will improve safety in the vicinity of transit facilities (approximately one-half mile for pedestrian improvements)

Bicycle facilities are not eligible for funding under the SSTT program, but pedestrian focus improvements are.

Eligible project types include:

- Intersection safety improvements that eliminate pedestrian barriers
- Constructing new sidewalks, curb ramps, sidewalk widening and major reconstruction
- Safety enhancements for pedestrian access to transit stops
- Traffic control devices that benefit pedestrians
- Traffic calming measures
- Pedestrian signals and push buttons at key intersections
- Pedestrian oriented lighting
- Major sidewalk reconstruction

Eligible project activities include:

- Construction including construction inspection and material testing according to the Transportation Trust Fund Authority Act
- Preliminary and final design for municipalities eligible for Urban Aid or Depressed Rural Centers according to the Transportation Trust Fund Authority Act
- Per N.J.S.A. 27:1B-25.1, a grant recipient under the local aid program shall be permitted to expend up to five percent of its aid allotment for design purposes.

Twelve grants were awarded for fiscal year 2026, ranging from $116,000 to $800,000.

Phasing

Phasing for design, permitting, and construction of the corridor is a key component of the implementation strategy. For all off-road trail construction and multi-use paths requiring roadway alterations, the County should assume that full construction documentation will need to be prepared based on a topographic survey. The County may choose to release one RFP to capture all areas within the corridor that will need a survey or can release individual survey scopes for each section. Table 4 summarizes phasing sections, proposed improvements, and coordination requirements.

Based on discussions with the County and feedback from Community Engagement Session 2, three groups of trail sections have been identified based on priority; Priority 1 Sections should be constructed as soon as funding becomes available; Priority 2 Sections should be constructed after Priority 1 Sections are completed; and Priority 3 Sections can be completed last in the sequence (See Table 4). Priorities may shift given available funding, related or overlapping projects, and land use and ownership changes. A proposed timeline of corridor implementation is outlined below. Actions are broken down into short (within 1-year), medium (2-5 years), and long (5-10 years) steps.

Figure 77: Existing trail along Mary Elmer Lake

Table 4: Corridor Improvements by Section				
Trail Section	**Priority**	**Right-of-Way or Off-Road**	**Proposed Improvements**	**Permitting and Construction**
Cassidy Court and Shiloh Pike (Sections 1 & 2)	1	Right-of-Way	Roadway reconfiguration to add a multi-use path; New curbs, pavement, utility relocation, signage	• Coordination with Hopewell for ROW improvements on Cassidy Court • Coordination with NJDOT for ROW improvements on Shiloh Pike (Route 49)
Barretts Run (Sections 3 & 4)	1	Off-Road	Proposed stone dust trail, signage, benches, and restoration plantings; Improvements to existing trail	• Wetlands Delineation • NJDEP Permitting for FWW and FHA
Mary Elmer Lake (Sections 5 & 6)	1	Right-of-Way	Shared lane striping and signage	• Coordination with Hopewell for ROW improvements
		Off-Road	Proposed stone dust trail, pedestrian bridge, signage, and benches to existing dirt/gravel paths and benches	• Wetlands Delineation • NJDEP Permitting for FWW and FHA
Mary Elmer Lake (Section 7)	3	Off-Road	Proposed resurfacing of existing dirt trail, signage, and benches	• Wetlands Delineation • NJDEP Permitting for FWW and FHA
Mary Elmer Lake (Section 7)	1	Right-of-Way	Right-of-way crossing striping and signage	• Coordination with County Engineering for crossing on C.R. 607
Piney Point Trail (Sections 8)	3	Off-Road	Improvements to existing dirt/gravel paths, signage, and benches	• Coordinate with Hopewell Township • Wetlands Delineation • NJDEP Permitting for FWW and FHA
Bridgeton Walking Trails (Sections 9)	3	Right-of-Way	Right-of-way crossing striping and signage	• Coordination with County Engineering for crossing on C.R. 621 • Coordination with Bridgeton for ROW improvements
Scholastic Dr. to Bridgeton Raceway (Sections 10 & 11)	3	Off-Road	Proposed multi-use porous asphalt trail and improvements to existing stone trail	• Coordinate with Hopewell Township • Wetlands Delineation • NJDEP Permitting for FWW and FHA
Mayor Aitken Drive Bridge to Commerce St. (Sections 12 & 13)	3	Right-of-Way	Shared lane striping and signage	• Coordination with Bridgeton for ROW improvements
Waterfront Plaza (Sections 14 & 15)	3	Off-Road	Signage upgrades for bicycle traffic	• Coordination with Bridgeton

Table 4: Corridor Improvements by Section				
Trail Section	**Priority**	**Right-of-Way or Off-Road**	**Proposed Improvements**	**Permitting and Construction**
E. Broad St., S. Laurel St., Glass St. (Sections 15, 16, & 17)	3	Right-of-Way	Shared lane striping and signage; New bike lane striping and painting on Laurel and Glass St.	• Coordination with NJDOT for ROW improvements on E Broad St. (Route 49) • Coordination with Bridgeton for ROW improvements on Cassidy Court
Grove St. (Sections 18 & 20,)	2	Right-of-Way	Roadway reconfiguration to add a multi-use path, paving, and signage	• Coordination with County Engineering
Grove St. Spurs (Sections 19 & 21)	2	Off-Road	Proposed stone dust trail, board-walks, signage, and benches	• Wetlands Delineation • NJDEP Permitting for FWW, FHA, and CAFRA

Short-term Steps (1-Year):

- NJDOT Coordination: The County of Cumberland should coordinate a pre-application meeting with NJDOT to discuss the sections of the corridor that run along and/ or cross state routes. NJDOT will need to confirm the proposed approach before the County proceeds to design and permit these areas.
- Hopewell Township Coordination: The corridor proposes new trails and improvements to existing trails within Hopewell Township property. A meeting should be held to discuss the proposed alignment and materiality of trails along with strategies for implementation.
- City of Bridgeton Coordination: Improvements to existing trails and striping within City rights-of-way are proposed within the City of Bridgeton. A conversation should be held with the City to confirm the proposed improvements and discuss implementation strategies.
- NJDEP Coordination: While NJDEP permitting will be required as the design moves forward, additional coordination is needed specific to the NJDEP Wildlife Management Area. A trail is proposed within this NJDEP-owned property and may overlap with other plans for improvements and conservation work. The discussion should also include the potential for any facilities that support the proposed trail such as restrooms, trailhead parking, and furnishings.
- Grant Applications: After coordination meetings are held to confirm and refine the proposed design, the County can proceed to support future funding for implementation. This may include working with municipalities to pursue grant opportunities outlined in Chapter 7.
- Release of Request for Proposals (RFPs) for survey, design, and permitting for Priority 1 Trail Sections: The project will require detailed construction documentation and permitting. RFPs should be released for any work the County or municipalities cannot perform in-house.

Medium-term Steps (2-5 Years):

- Ongoing Grant Applications: This project will require continuous pursuit of funding for design, permitting, and construction of trails.
- Continued survey, design, and permitting for Priority 1 Trail Sections
- Develop trail signage package: As discussed in Chapter 6, consistent signage will be a helpful wayfinding and branding tool for the corridor. Establishing a set of sign standards will support design and construction of trails.
- Release of Request for Proposals (RFPs) for survey, design, and permitting for Priority 1 Trail Sections will require detailed construction documentation and permitting. RFPs should be released for any work the County or municipalities cannot perform in-house.

- Construction of Priority 1 Trail Sections: After permits are obtained and construction documentation is complete for priority trail sections, construction can begin.

Long-term Steps (5-10 Years):

- Ongoing Grant Applications: This project will require continuous pursuit of funding for design, permitting, and construction of trails.
- Release of RFPs for survey, design, and permitting for Priority 2 and 3 Trail Sections: RFPs for remaining design and permitting work can be released as funding becomes available.
- Construction of Priority 2 and 3 Trail Sections: After design is complete and permits are obtained, the final segments of the corridor can be completed.

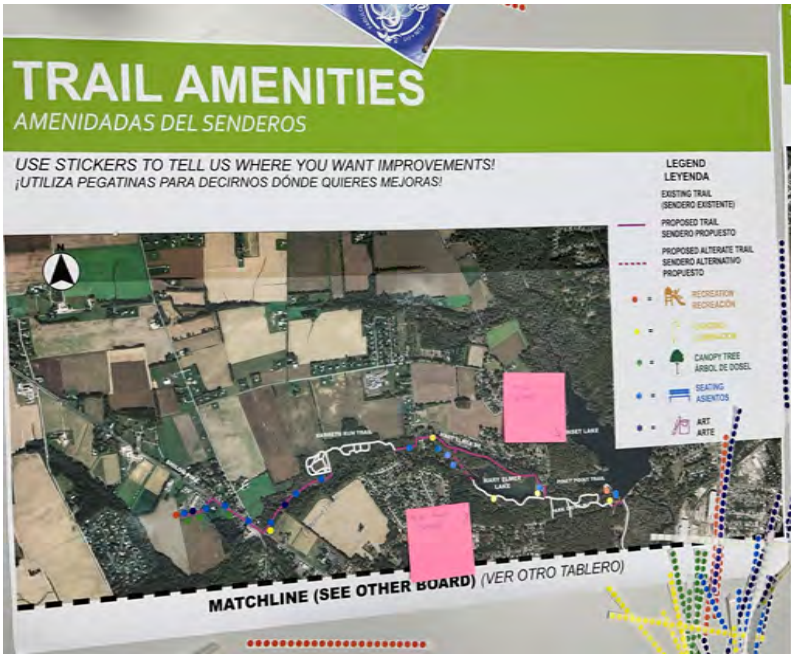
Pending funding availability, the full corridor may be realized within 10 years. This process can be repeated for any additional segments or spur trails that are identified in future plans to extend the reach of the Cohansey Corridor and build a robust transportation network throughout the region.

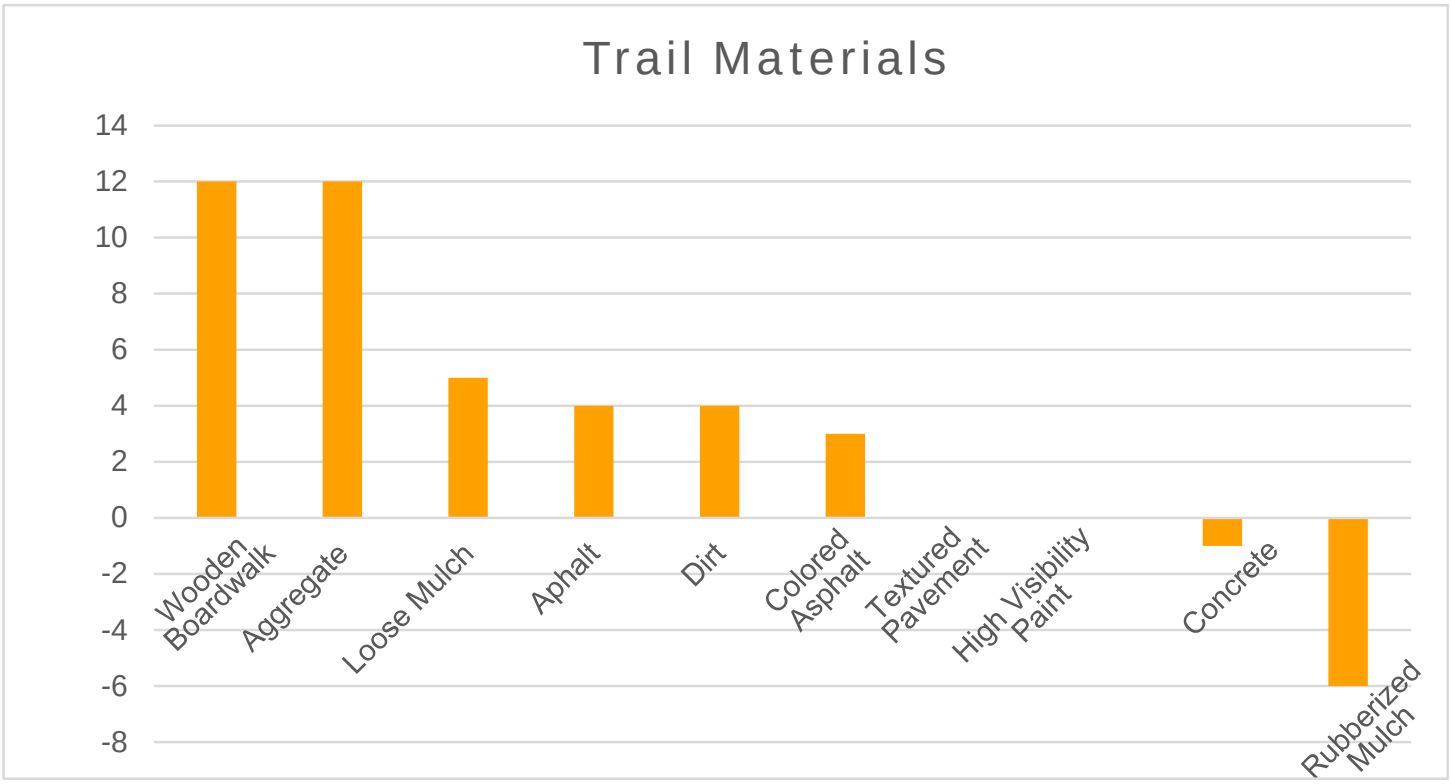
Figure 78: Existing Bridgeton walking trails

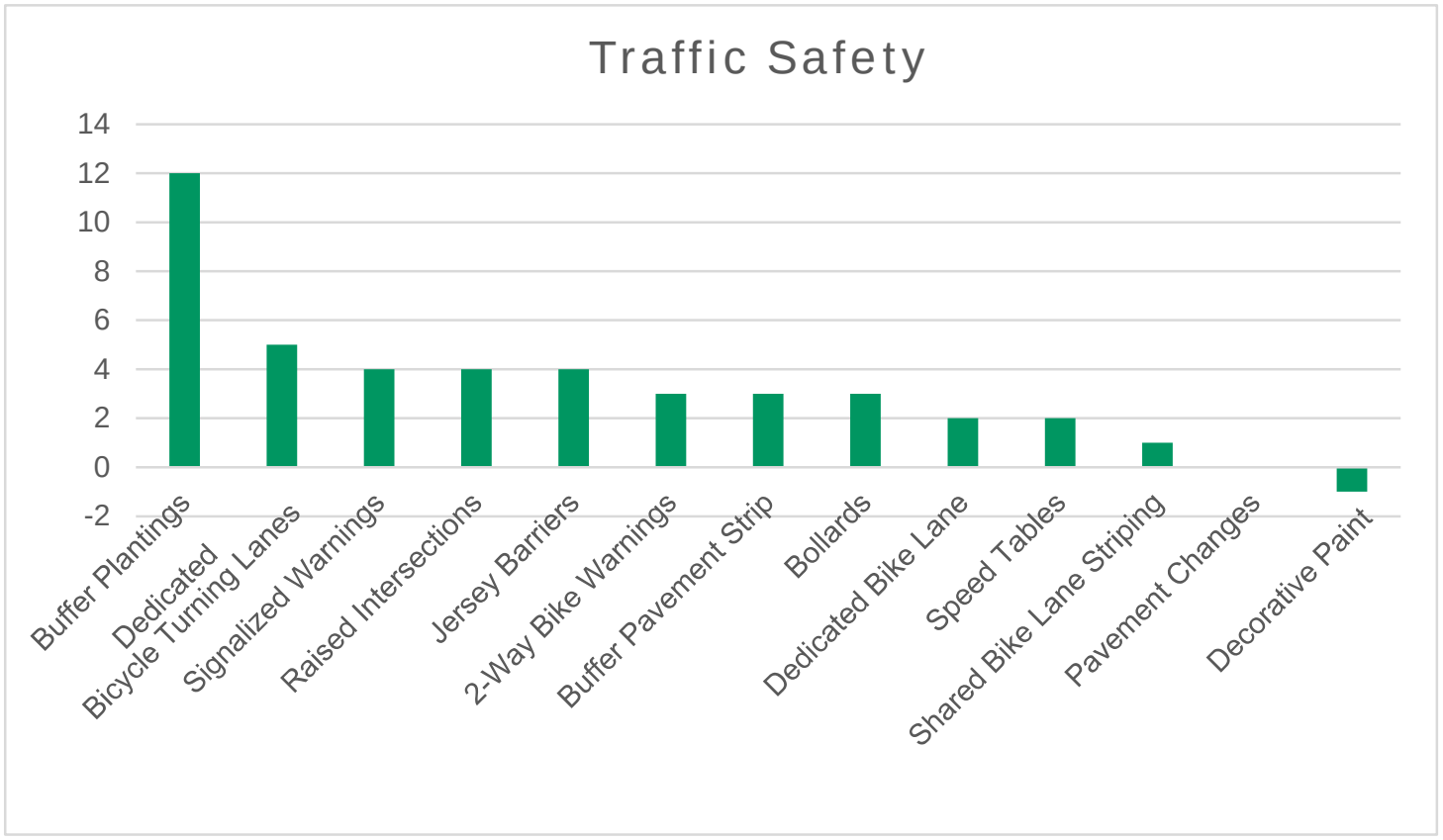
APPENDIX A

ENGAGEMENT MATERIALS AND RESULTS

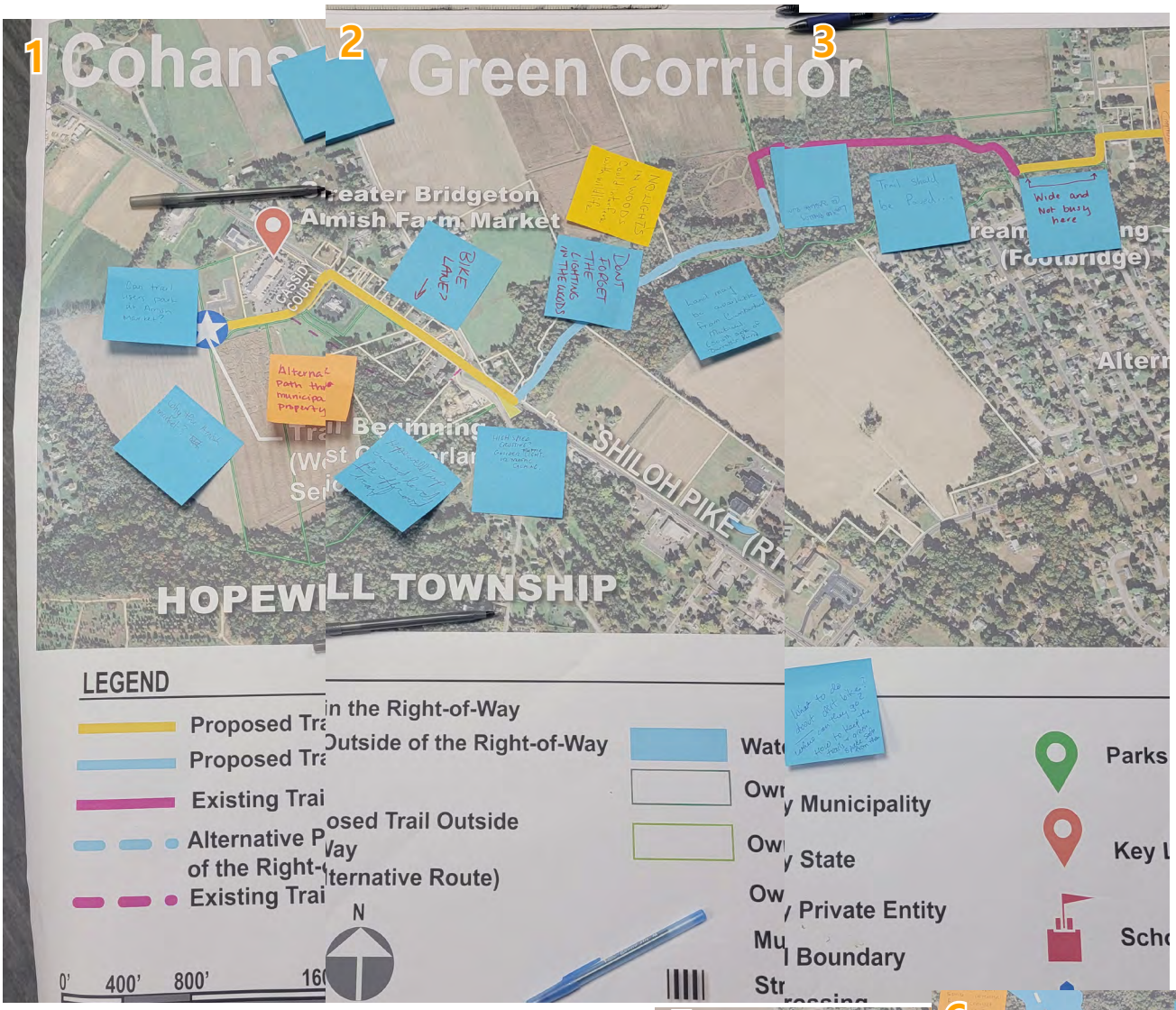
Community Engagement Meeting 1

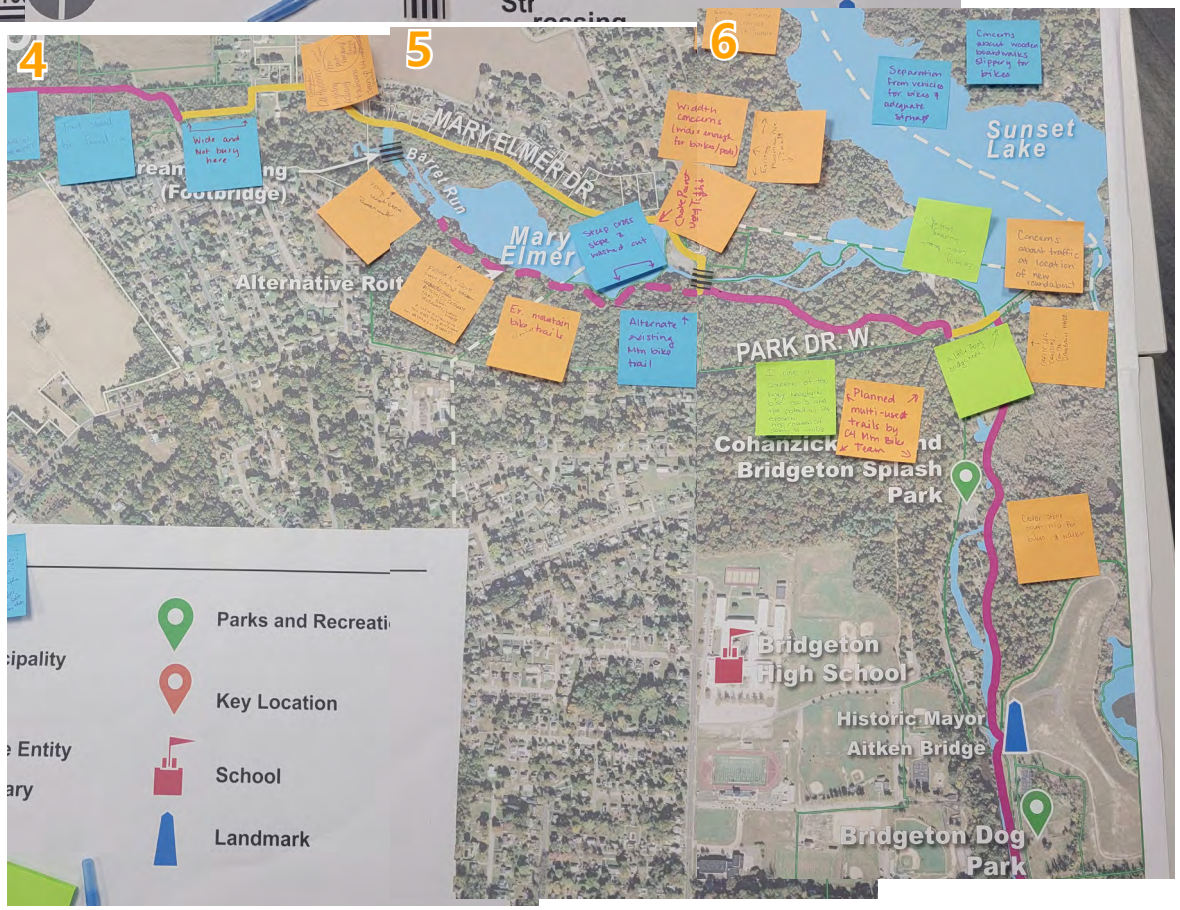



Trail Materials
14
12
10
8
6
4
2
0
-2
-4
-6
-8
Wooden Boardwalk
Aggregate
Loose Mulch
Aphalt
Dirt
Colored Asphalt
Textured Pavement
High Visibility Paint
Concrete
Rubberized Mulch


Traffic Safety
14
12
10
8
6
4
2
0
-2
Buffer Plantings
Dedicated Bicycle Turning Lanes
Signalized Warnings
Raised Intersections
Jersey Barriers
2-Way Bike Warnings
Buffer Pavement Strip
Bollards
Dedicated Bike Lane
Speed Tables
Shared Bike Lane Striping
Pavement Changes
Decorative Paint

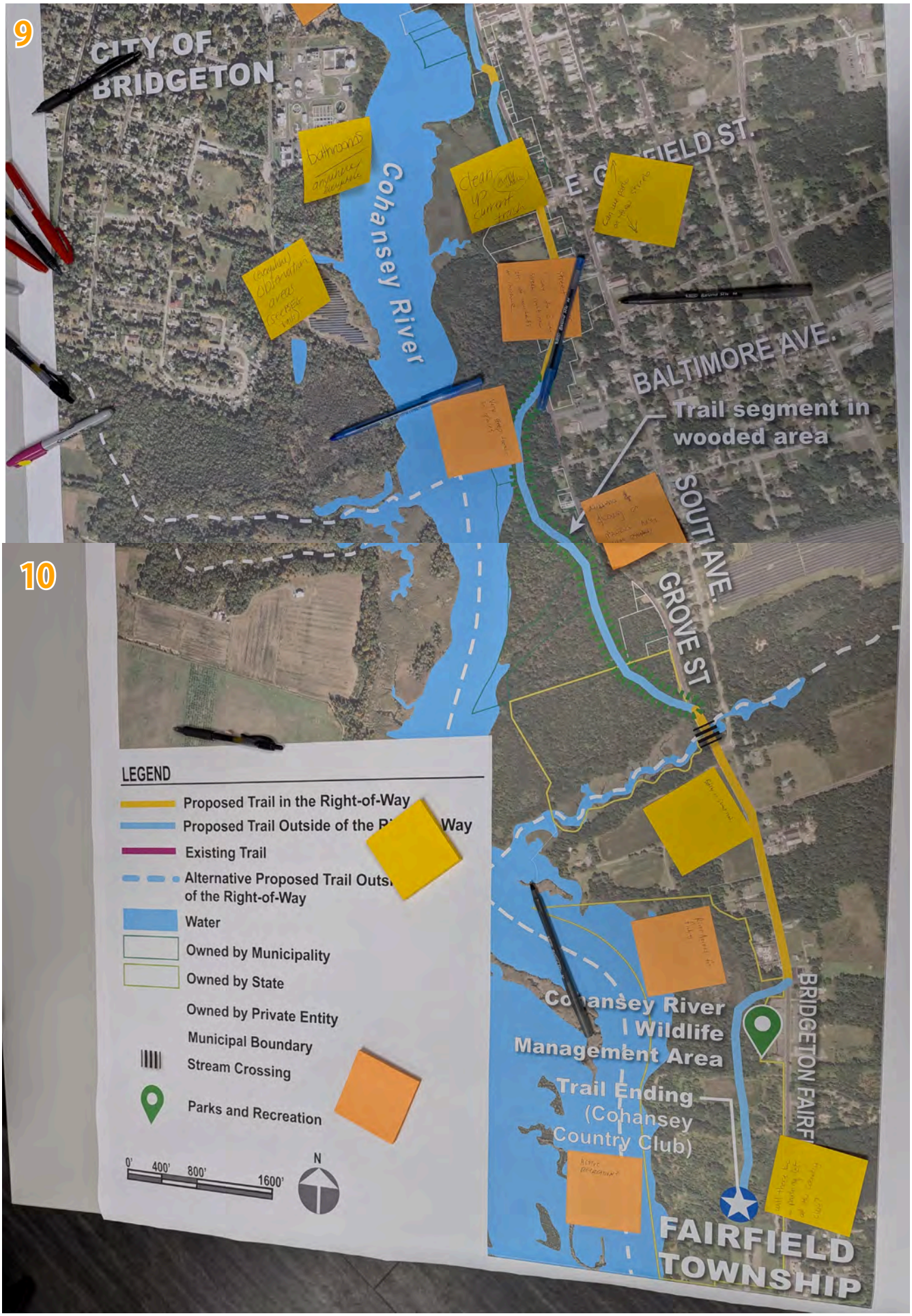
Engagement Map Collage



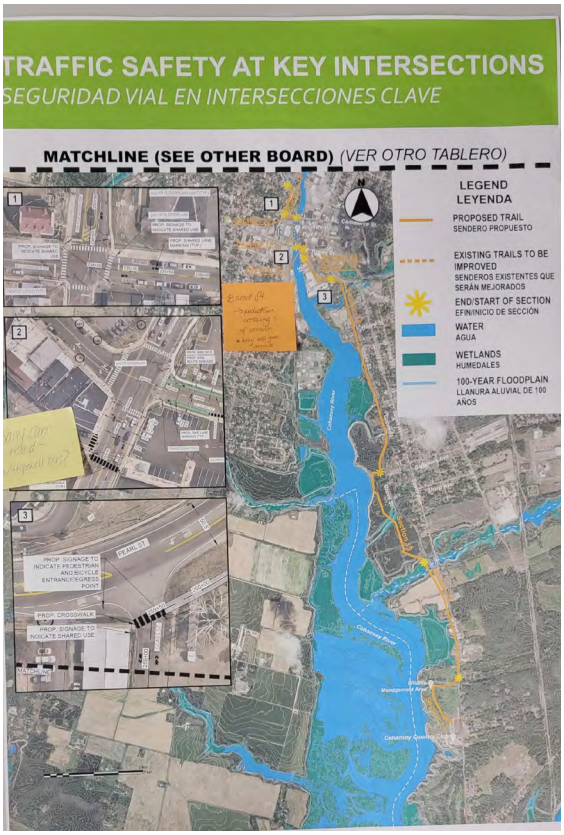


Engagement Map Collage (continued)

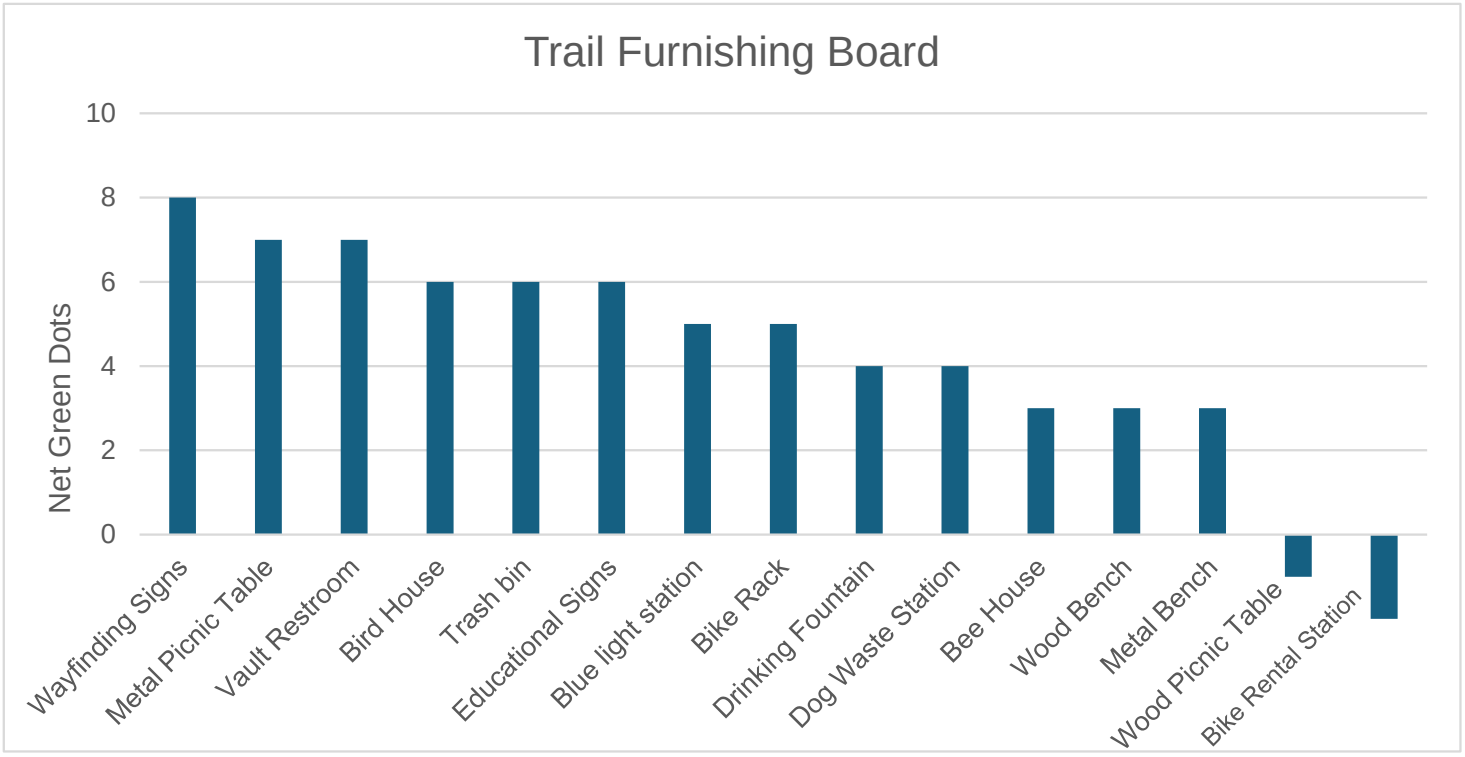
Engagement Map Collage (continued)



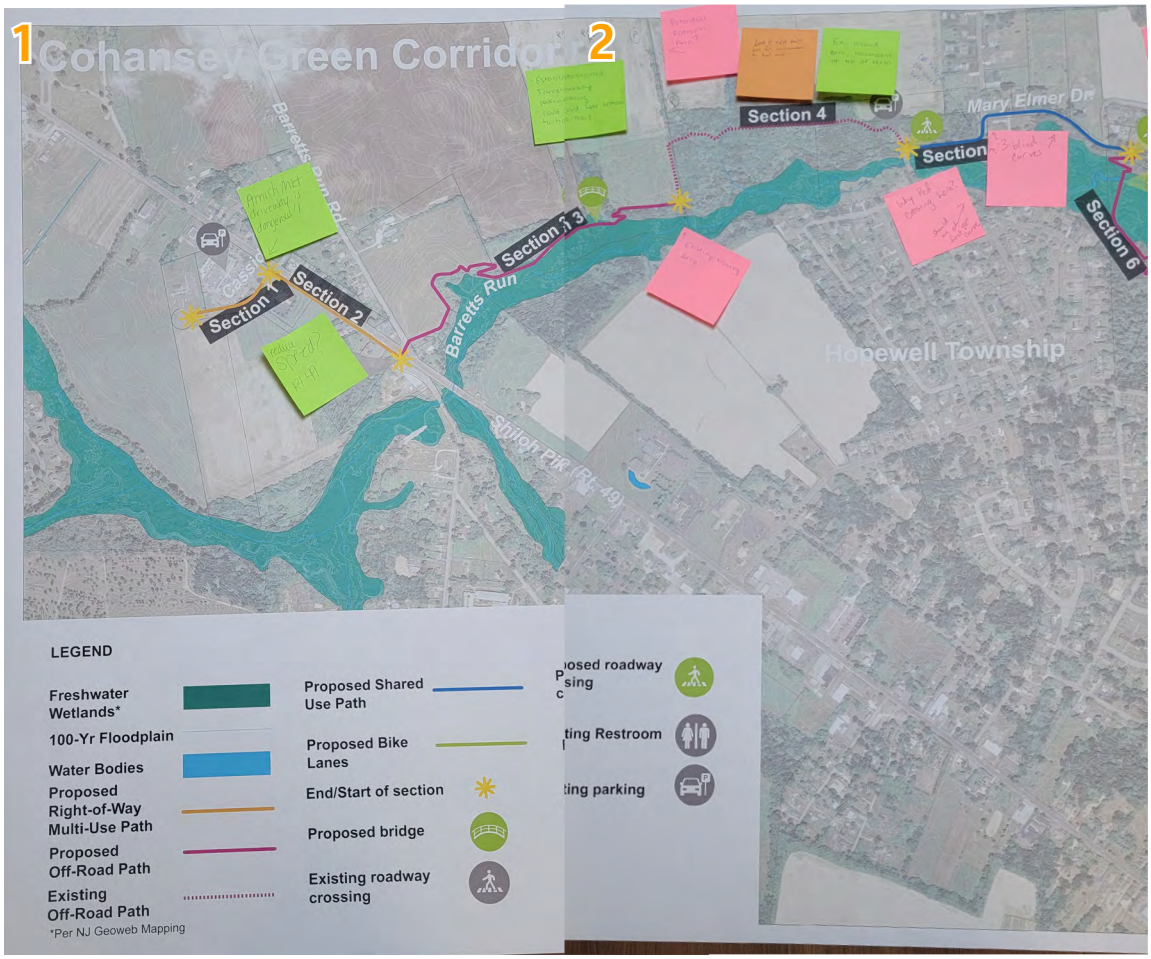
Community Engagement Meeting 2




TRAIL AMENITIES
AMENIDADAS DEL SENDER
Use a green dot to tell us what you like and a red dot to tell us wha

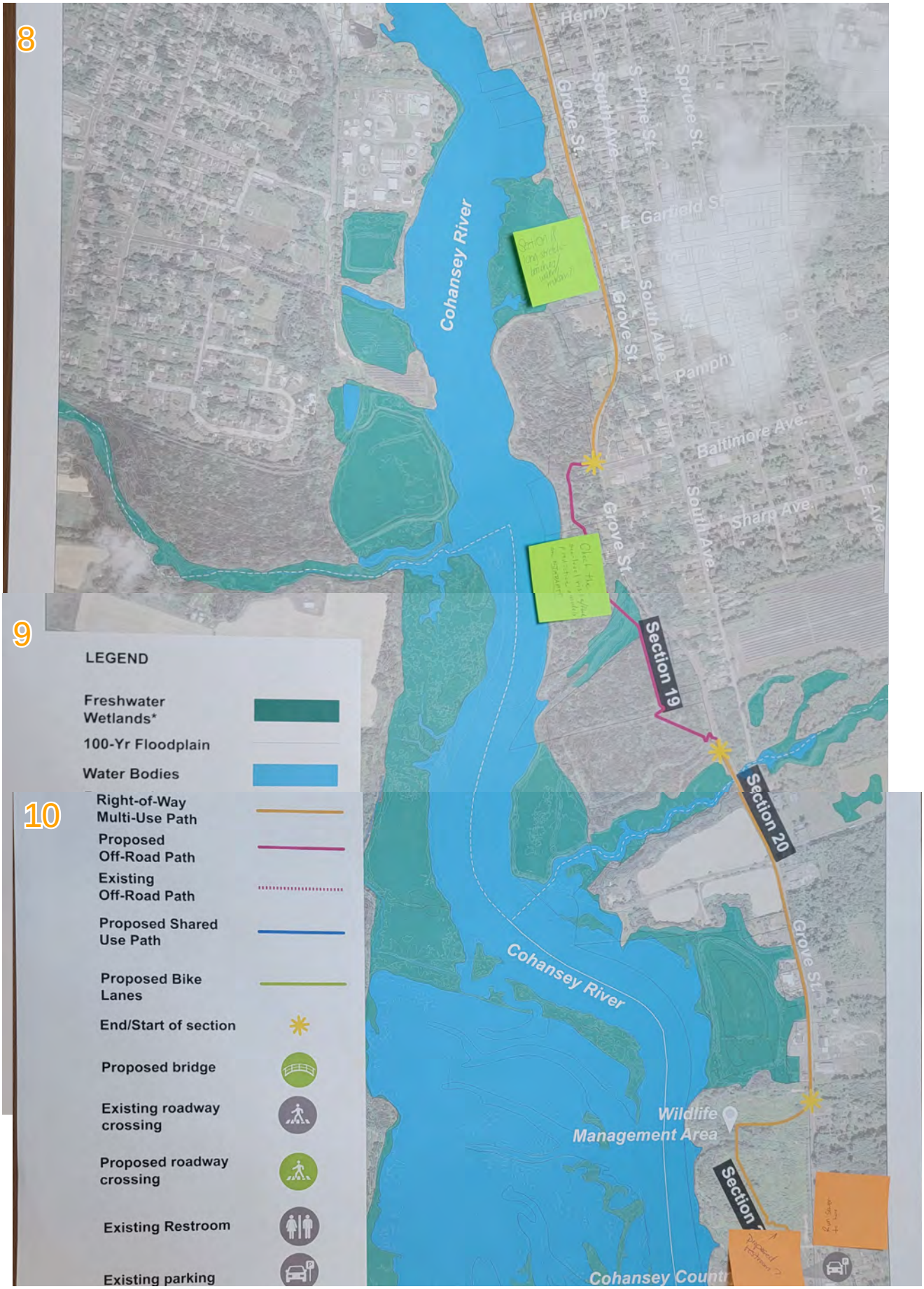

Trail Furnishing Board
Net Green Dots
10
8
6
4
2
0
Wayfinding Signs
Metal Picnic Table
Vault Restroom
Bird House
Trash bin
Educational Signs
Blue light station
Bike Rack
Drinking Fountain
Dog Waste Station
Bee House
Wood Bench
Metal Bench
Wood Picnic Table
Bike Rental Station

Engagement Map Collage



Engagement Map Collage (continued)

Engagement Map Collage (continued)



APPENDIX B

RIGHT-OF-WAY AVAILABILITY ANALYSIS

General												Left			Right		
Segment	ROW	Beginning	End	ROW width (ft)	Road Width (ft)	Speed limit (mph)	Lanes #	Lane width (typ.) ft	Lane notes	Shoulder width (ft)	Curbed?	Strip (ft)	Sidewalk (ft)	Encroach-ments	Strip (ft)	Sidewalk (ft)	Encroach-ments
1	Cassidy Court	Senior Center	Shiloh Pike	60	36	unk	2	18	unmarked, one each way		Y	2-3	4-5	Driveways			Driveway
2	Shiloh Pike	Cassidy Court	First Residence (on right)	66	42	50	2	12	one each way	9	N			Driveways	4	4-5’	
3	Shiloh Pike	First Residence	Barretts Run Rd	66	42	50	2	12	one each way	9	Y			Driveways	4	4-5’	Driveways
4	Shiloh Pike	Barretts Run Rd	ROW Exit	Varies (66 to ~140)	42	50	2	12	one each way, passing allowed	9	Y			Driveway	1-2	3-4’	Guardrail just off sidewalk near end
5	Mary Elmer Drive	Re-entry	Turn at Kinkle Rd	50	24	25	2	12	one each way		N						
6	Mary Elmer Drive	Turn at Kinkle Rd	Arcadia/ Lakeside Dr.	50	22	25	2	11	Assumptions, no markings. one each way		N			Driveway			Driveways, Parking for shop
7	Mary Elmer Drive	Arcadia/ Lakeside Dr.	Municipal Boundary	25	20	unk	2	10	Unknown road conditions		N						
8	Mary Elmer Drive	Municipal Boundary	Beebe Run Rd	50	22	unk	2	11	one each way	4	Y						Driveway for parking
9	Beebe Run Rd/ West Ave	Mary Elmer Dr	ROW Exit	66	42	unk	2	12	one each way	9	Y, guard rail & concrete barriers across bridge						
10	Park Dr West	Sunset Lake Access	Mayor Aitken Drive	50	28	unk	2	12	one each way	2	N						City of Bridgeton Sign
11	Park Dr West	Mayor Aitken Drive	Bridgeton Raceway	50	42	unk	2	13	one each way	8	N, Guardrail, Concrete barrier across bridge						
12	Mayor Aitken Dr	Re-entry	Bridge	50	34	30	2	12	one each way	5	Y		4			4	
13	Mayor Aitken Dr	Bridge	Widening	50	34	30	2	12	one each way	varies	Y	1-2’	3-4		1-2	3-4	Utility easement along right

General												Left			Right		
Segment	ROW	Beginning	End	ROW width	Road Width	Speed limit	Lanes	Lane width (typ.)	Lane notes	Shoulder width	Curbed?	Strip	Sidewalk	Encroach-ments	Strip	Sidewalk	Encroach-ments
14	Mayor Aitken Dr	Widening	W Commerce St	Varies	48	30	2	15	one each way, land-scape island separates lanes, apprx. 15' wide		Y	1-2'	3-4	Driveway	1-2	3-4, widens to 4-5'	
15	W Commerce St	Mayor Aitken Dr	Bridge	66	36	25	2	9	one each way	9	Y		12			12-13'	Stairs at buildings
16	W Commerce St	Bridge	Bridge	Undefined	36	25	2	18	one each way		Y		7			7	
17	W Commerce St	Bridge	Laurel St	66	42	25	2	12	one each way	9	Y		7-8	Driveways, Cohansey St		7-8	Driveway
18	S Laurel St	E Commerce St	E Broad St.	60	40	25	2	12	one each way	9	Y		8-10	Driveways		8-10	
19	E Broad St.	S Laurel St	S Pearl St.	70	52	30	4	12	Two each way		Y	1-2	4-5'	Driveway	2-3'	4-5'	Taco Bell Drivway has curbed stone island for pedes-trains
20	S Pearl St.	E Broad St.	ROW Widening	50	42	30	3	14	Straight/right, ded. Left NB, straight SB		Y				1-2'	3-4'	
21	S Pearl St.	ROW Widening	Commercial Driveways	66	54	30	3	14	Straight/right NB, ded. Left & straight/ right SB	8' on left, 5' on right	Y	2-3'	4-5'	Driveway to commer-cial area	Varies	4-5'	Driveway to office
22	S Pearl St.	Commercial Driveways	Glass St	72	54	30	3	14	Straight/right, ded. Left NB, straight SB. NB ded. Left closes and becomes yellow gore. SB right turn lane opens	8' on left, 5' on right tapers closed	Y	2-3'	4-5'	Driveway to commer-cial area	4-5'	4-5'	Driveways. Strange shoulder/ ROW conditions at right turn
23	Grove St.	Glass St	Pearl/South Curve	115	52	30	3	10	Straight/right, ded. Left NB, straight SB. NB ded. Left closes and becomes yellow gore.	8	Y	1-2'	4-5'		Varies	4-5'	

General												Left			Right		
Segment	ROW	Beginning	End	ROW width	Road Width	Speed limit	Lanes	Lane width (typ.)	Lane notes	Shoulder width	Curbed?	Strip	Sidewalk	Encroach-ments	Strip	Sidewalk	Encroach-ments
24	Grove St.	Pearl/South Curve	Henry St	50	30	30	2	12	One way	6	Y	2-3’	3-4’	Collapsed retaining wall obstructs path (2023), driveways, Eagle St,			Guardrail, driveway (seemingly abandned)
25	Grove St.	Henry St	ROW Exit at Church	50	30	40	2	12	One way	6	Y	2-3’	3-4’	Driveways			
26	Grove St.	ROW Re-entry	ROW Exit	50	30	40	2	12	One way	6	Y			Driveways			Guardrail
27	Grove St.	ROW Re-entry at Garfield Ave	Beginning of Curve	50	30	40	2	12	One way	6	Y			Driveways			Driveways
28 A (with former & future config.)	Grove St.	Beginning of Curve	ROW Exit at end of curve	50	30	40	2	12	One way	6	N, guardrails along initial curve			Driveway, dense vegetation			Driveways
28 B (current config.)	Grove St.	Beginning of Curve	ROW Exit at end of curve	50	30	40	2 transi-tion to one, approx 15’ yellow gore on the left	12	One way	6 at begin-ning, tapers down, widens back to 6’	N, guardrails along initial curve			Driveway, dense vegetation			Driveways
29 (with former & future config.)	Grove St.	ROW Re-entry at Rocaps Run	Traffic Hourglass	66	36	40	2	12	One way, left lane becomes turn lane Space becomes approx. 15’ gore striping with concrete hourglass on left	8 on right, 4 on left	N, guardrails						

General												Left			Right		
Segment	ROW	Beginning	End	ROW width	Road Width	Speed limit	Lanes	Lane width (typ.)	Lane notes	Shoulder width	Curbed?	Strip	Sidewalk	Encroach-ments	Strip	Sidewalk	Encroach-ments
30 (with former & future config.)	Grove St.	Traffic Hourglass	Shoemaker Lane	200	Varies-22' at thinnest	50	Varies	12	Entrance from left merges into one lane. Left turn lane opens at Shoemaker	6-8' on right, 8-10 on left tapers away for left turn lane	Y on left			Driveway through island			
31	Bridgeton Fairton Rd	Shoemaker Lane	ROW Exit at La Mexicana	50	38	50	2	10	one each way	9	Y on left			Driveways			Driveways

APPENDIX C

FUNDING OPPORTUNITIES

Organization	Funding Program	Past Award Amounts	Eliglbe Projects
NJDEP Green Acres Program	Local and Nonprofit Assistance Program		• Land Acquisition - Eligible land acquisition projects include the purchase of natural areas, for active or passive recreation purposes and can include linear parkland for trails. • Park Development – Eligible projects create, restore, or expand outdoor recreation opportunities and include recreational trails and trail amenities, as well as facilities for biking, hiking, and nature and historic interpretation. • Stewardship - Trail restoration and creation are eligible for funding and may include education signage, directional signage, boardwalk portions over wet areas, and observation platforms. The trail must run through a natural area and must be ADA-compliant and pervious.
	New Jersey Recreational Trails Program		• Construct new trails and maintain and restore existing trails and trail-related facilities.
Open Space Institute	Delaware River Watershed Revolving Fund		• Implementation Grants – For shovel-ready conservation and restoration projects that result in quantifiable benefits for fish, wildlife, and people within the Delaware River watershed (approximately 70% of funding) • Planning Grants – For engagement, planning and prioritization; feasibility, suitability, or alternatives analyses; site assessment and conceptual design; or final design and permits for planning conservation and restoration projects (approximately 10% of funding) • Capacity Building Grants – For projects aimed at building capacity within the watershed, strengthening the ability of local communities, organizations, and partners to collaboratively enhance fish and wildlife habitat and improve access to nature (approximately 10% of funding) • Research, Monitoring & Evaluation Grants – For highperforming science that advances or enhances the efficiency of conservation delivery in the Delaware River watershed (approximately 10% of funding)
	Delaware River Watershed Protection Fund		• Capital Grants – for the purchase of land and easements to protect important watershed lands • Transaction Grants – to jumpstart land conservation efforts • Catalyst Grants – to integrate water quality science into conservation plans and Open Space Plans to address climate change, flood hazards, and water injustice.
Association of New Jersey Environmental Commissions		$1,500	• Trail building, signage, maintenance • Printed or online guides, maps, inventories of open space, trails • Open space or trails assessments, plans, maps • Multi-town plans to link open space or trails • Conservation easement inventory, monitoring, outreach, education • Management of invasive species • Habitat enhancement on open lands • Restoration or maintenance of riparian areas within preserved public open space • Educational stormwater management projects on preserved public open space

Organization	Funding Program	Past Award Amounts	Eliglbe Projects
New Jersey Department of Transportation (NJDOT)	Transportation Alternatives (TA) Set-Aside Program		• Design and construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, example elements may include sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques and lighting • Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, and other non-motorized transportation users • Construction of scenic turnouts, overlooks, and viewing areas • Historic preservation and rehabilitation of historic transportation facilities both land and water such as building structures and canals • Community improvement activities, specifically: streetscaping and corridor landscaping • Environmental mitigation to address stormwater management, control, water pollution prevention or abatement related to highway construction or due to highway runoff, vegetation management and invasive species prevention • Reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats
	Bikeway Grant Program	$100,000 to $1,000,000	• Construction including construction inspection and material testing according to the Transportation Trust Fund Authority Act • Preliminary and final design for municipalities eligible for Urban Aid or Depressed Rural Centers according to the Transportation Trust Fund Authority Act • Per N.J.S.A. 27:1B-25.1, a grant recipient under the local aid program shall be permitted to expend up to five percent of its aid allotment for design purposes.
	County Aid		• Improvement of County roads and bridges • Advancement of public transportation and other transportation projects • Advancement of projects in County Annual Transportation Program • Annual allotment of county Local Aid funds
	Local Aid Infrastructure		• Repairs & Replacements – Emergency bridge repairs, guide rail replacements, and repairs to drainage failures at critical transportation locations. • Multi-modal Improvements – Safety improvements to critical bike and pedestrian locations. • Unforeseen Circumstances – Projects that arise due to unforeseen circumstances.
	Safe Streets to Transit	$116,000 to $800,000	• Intersection safety improvements that eliminate pedestrian barriers • Constructing new sidewalks, curb ramps, sidewalk widening and major reconstruction • Safety enhancements for pedestrian access to transit stops • Traffic control devices that benefit pedestrians • Traffic calming measures • Pedestrian signals and push buttons at key intersections • Pedestrian oriented lighting • Major sidewalk reconstruction

Organization	Funding Program	Past Award Amounts	Eliglbe Projects
National Fish and Wildlife Foundation (NFWF) Grants	Delaware Watershed Conservation Fund (DWCF)	$75,000 to $1,500,000	• Implementation Grants – For shovel-ready conservation and restoration projects that result in quantifiable benefits for fish, wildlife, and people within the Delaware River watershed (approximately 70% of funding) • Planning Grants – For engagement, planning and prioritization; feasibility, suitability, or alternatives analyses; site assessment and conceptual design; or final design and permits for planning conservation and restoration projects (approximately 10% of funding) • Capacity Building Grants – For projects aimed at building capacity within the watershed, strengthening the ability of local communities, organizations, and partners to collaboratively enhance fish and wildlife habitat and improve access to nature (approximately 10% of funding) • Research, Monitoring & Evaluation Grants – For highperforming science that advances or enhances the efficiency of conservation delivery in the Delaware River watershed (approximately 10% of funding)
	Acres for America	$535,000 to $1,000,000	• Conserving critical habitats for birds, fish, plants and wildlife • Connecting existing protected lands to unify wild places and protect migration routes • Providing access for people to enjoy the outdoors • Ensuring the future of local economies that depend on forestry, ranching and recreation

APPENDIX D

SITE PHOTOGRAPHS

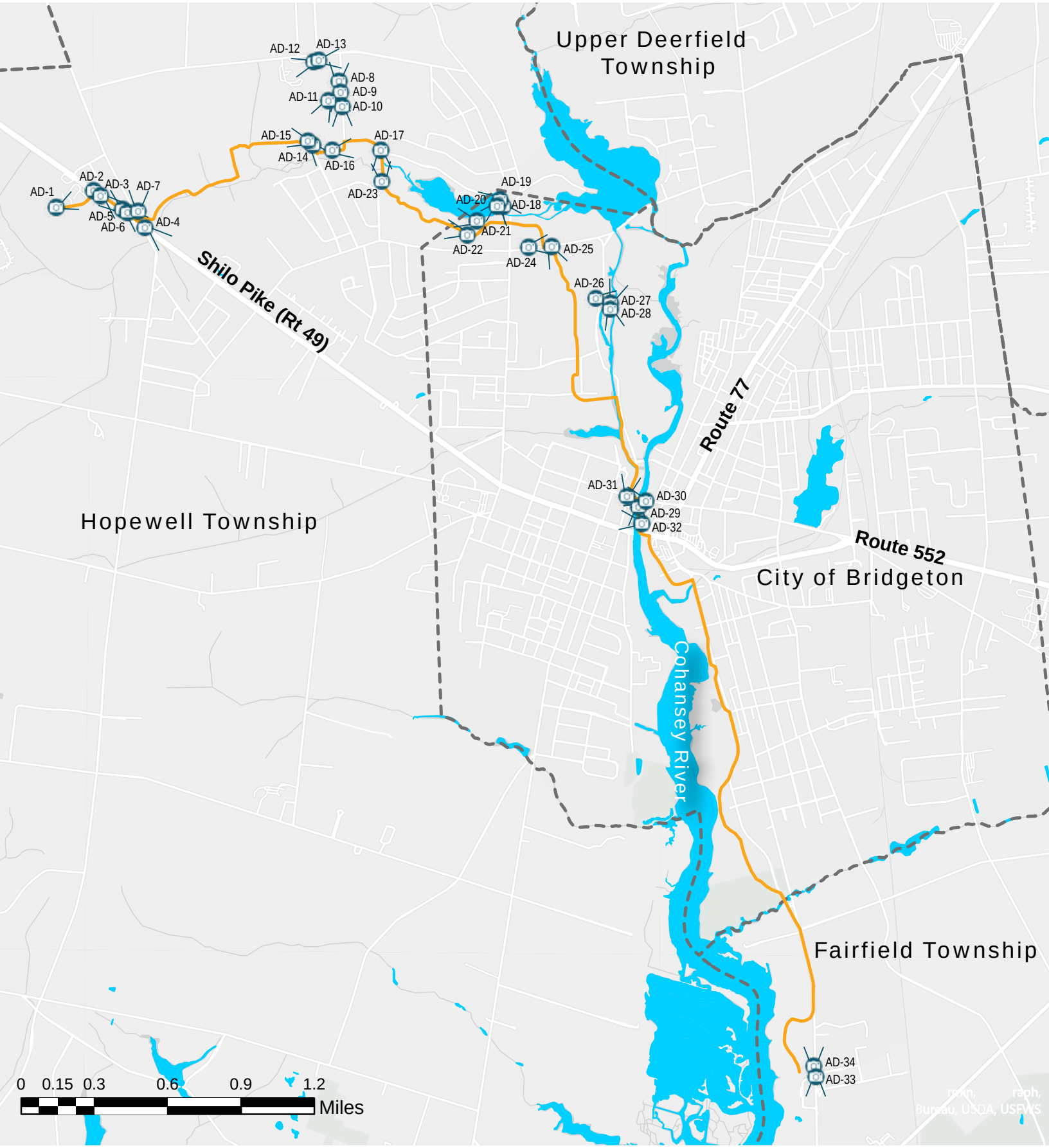


Photo Location Map

AD-1: Looking east along Cassidy Court

AD-2: ADA ramp at Cassidy Court and Shiloh Pike

AD-3: Crosswalk at Cassidy Court and Shiloh Pike

AD-4: Shiloh Pike crossing of Barretts Run stream

AD-5: Shiloh Pike looking south towards Barretts Run Rd.

AD-6: Intersection of Shiloh Pike and Barretts Run Rd

AD-7: Looking East along Barretts Run Rd

AD-8: Existing trail access road from Hopewell Township Park

AD-9: Vehicular barrier along access road at trail connection

AD-10: Barretts Run Trail

AD-11: Hopewell Township grasslands

AD-12: Hopewell Township Park

AD-13: Parking near Hopewell Township Park

AD-14: Parking along Mary Elmer Drive at Barretts Run trailhead

AD-15: Barretts Run trailhead at Mary Elmer Drive lot

AD-16: Mary Elmer Drive looking east

AD-17: Mary Elmer Lake looking south from potential crossing

AD-18: Mary Elmer Lake parking lot

AD-19: Looking west down Mary Elmer Drive from parking lot

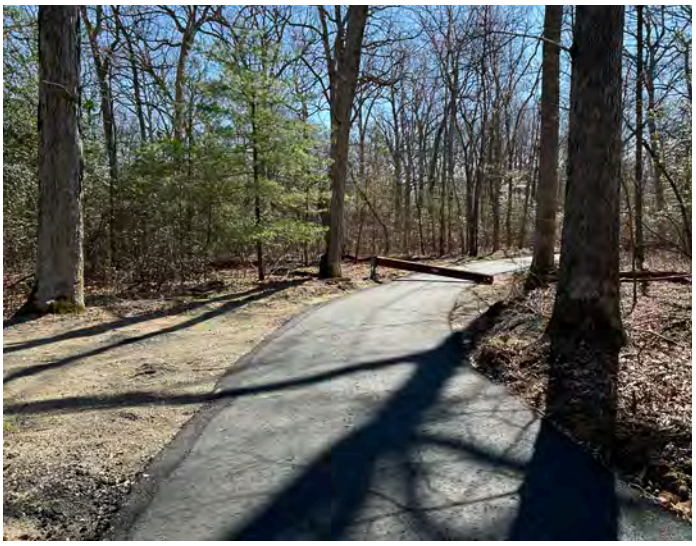
AD-20: Dam at Mary Elmer Lake

AD-21: Lakefront trail at Mary Elmer Lake

AD-22: Existing multi-use trail at Mary Elmer Lake

AD-23: Mary Elmer Lake looking south from potential crossing

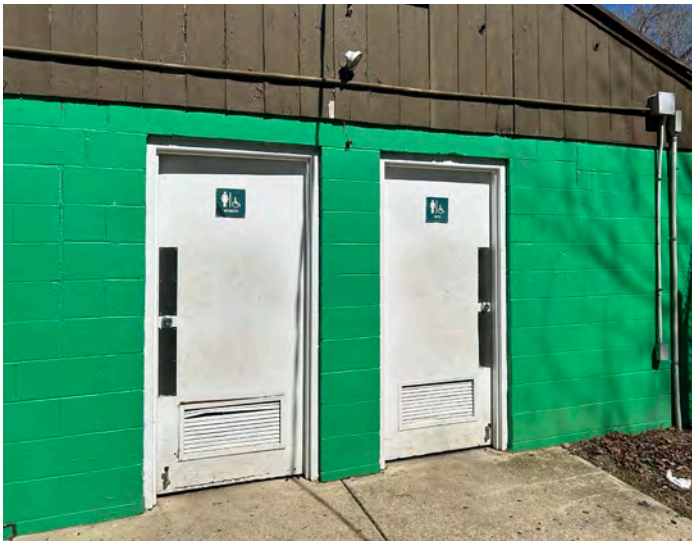
AD-24: W. Park Drive looking east



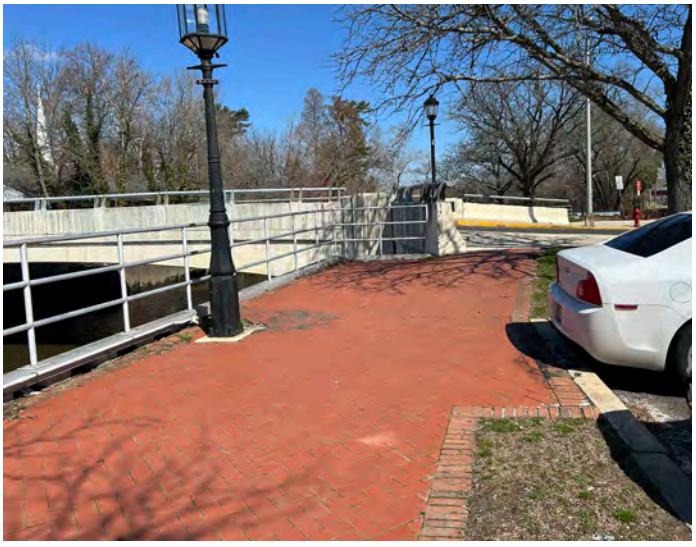
AD-25: Bridgeton Walking Trail

AD-26: Parking lot at Cohanzick Zoo

AD-27: Raceway at Cohanzick Zoo



AD-28: Restrooms at Cohanzick Zoo



AD-29: Riverfront plaza brick walkway

AD-30: Commerce St. Bridge

AD-31: Intersection of Mayor Aitken Dr. and Commerce St.

AD-32: Cohansey River from Riverfront Plaza

AD-33: Grove St. looking south at Country Club

AD-34: Grove St. looking north at Country Club