

LOWER POQUESSING CREEK TRAIL

Advanced Feasibility Study



FINAL REPORT | March 2023



Philadelphia
City Planning Commission
CITY OF PHILADELPHIA



PHILADELPHIA
PARKS &
RECREATION



LOWER POQUESSING CREEK TRAIL

Advanced Feasibility Study: Executive Summary



The Philadelphia City Planning Commission (PCPC), Philadelphia Parks and Recreation (PPR), and the Philadelphia Department of Streets work together to build a robust and accessible trail network. This network connects Philadelphia's neighborhoods and offers residents of all ages a place to safely recreate, walk, bike, commute, and more.

Poquessing Creek watershed is a meaningful gap in the City's trail network in **Northeast Philadelphia**. This segment starts at the existing Poquessing Creek Trail in the north and stretches approximately 4.3 miles south to the Delaware River. It will connect to existing trails, neighborhoods, and other popular destinations like:

- Junod Playground
- Parkwood neighborhood
- Philadelphia Mills Shopping Center
- SEPTA's City Line Loop Bus Stop at Frankford Ave and Knights Rd
- Millbrook neighborhood
- Jefferson Torresdale Hospital
- Crestmont Farms neighborhood
- Holy Family University and Nazareth Academy K-12
- SEPTA's Torresdale Regional Rail Station
- Glen Foerd on the Delaware historic mansion

The **Lower Poquessing Creek Trail Advanced Feasibility Study** is the first step to filling the gap in the trail network. Driven by stakeholder and public engagement, this study:

1. **Reviews current conditions in the area.**
2. **Identifies a preferred trail alignment.**
3. **Sets goals for trail development and use.**

CURRENT CONDITIONS

Area residents and visitors use trails for a variety of reasons. According to our poll (Final Report, Pg 22), the most popular were walking, access to nature, bicycling, and exercising. People also use trails to access public transit, shopping destinations, and work. To support all users, this study identifies both opportunities and constraints.

Opportunities

- **Economic Development:** Connect to shopping centers, historical assets, employment, and other regional destinations.
- **Access and Recreation:** Connect to existing parks, trails, bicycle facilities, and sidewalks.
- **Transit:** Improve access to bus stops and rail stations.

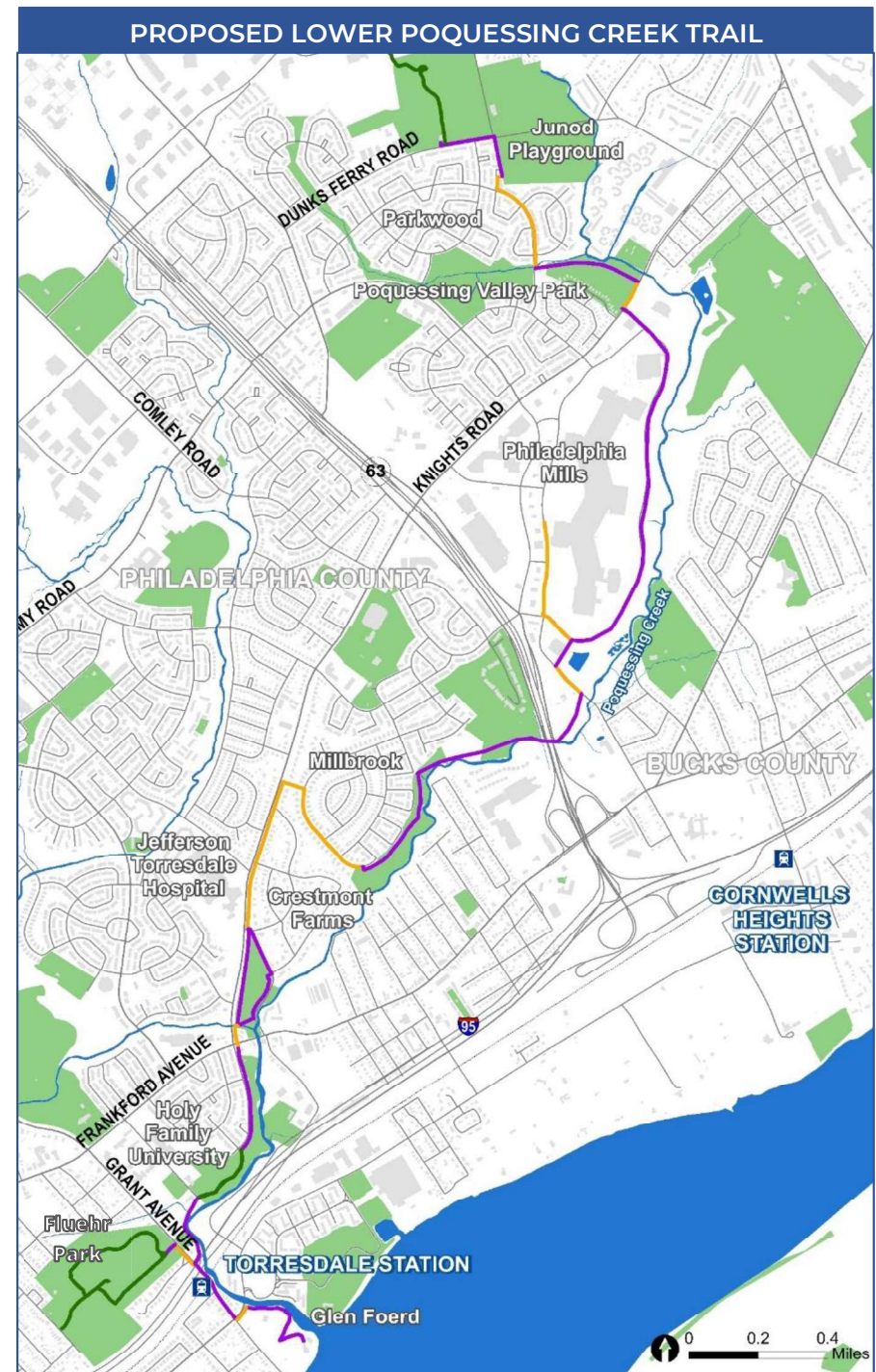
Constraints

- **Access and Recreation:** Lack of safe bicycle and pedestrian infrastructure throughout the study area.
- **Transit:** Lack of transit shelters, poor wayfinding, and difficult access to popular stops.
- **Environmental:** Narrow wooded areas with steep slopes contribute to flooding and erosion, which limits off-road options.

PREFERRED TRAIL ALIGNMENT

Stakeholder and public input shaped the preferred trail alignment. The alignment takes advantage of the opportunities while recognizing constraints with a mix of on-road and off-road segments.

The proposed alignment begins at Junod Playground, the southern end of the existing Poquessing Creek Trail. As the trail extends southward, it will link to other bicycle and pedestrian infrastructure, including off-road trails at Poquessing Valley Park in Parkwood, Holy Family University, and Fluehr Park; bicycle lanes on Knights Road; and the proposed East Coast Greenway along State Road. It will also connect to the area's transit network, including SEPTA's Torresdale Station and twelve surrounding SEPTA bus routes.



The proposed alignment creates new connections between the Parkwood, Millbrook, Crestmont Farms, and Torresdale neighborhoods. It will also provide new pathways to Philadelphia Mills, Chalfont Recreation Center, Jefferson Torresdale Hospital, and Glen Foerd.

Completion of this trail supports an interconnected region of parks, shopping centers, residential neighborhoods, educational institutions, historic sites, and a hospital for the 30,000 people and 10,000 workers in the immediate surrounding area.

TRAIL DEVELOPMENT

Trail development includes the following phases:

- Idea / Opportunity
- Planning
- Design
- Construction

The Lower Poquessing Creek Trail is currently in the planning phase. The next phase, design, will consider paving materials, amenity locations, and trailhead designs. The trail is split into eight sections to make future phases of design and construction more manageable.

The trail design and construction phases will consider some of the ideas and concerns shared during this Study. These include desired trail amenities, wayfinding, maintenance, natural resource preservation, and security. Community engagement efforts will continue as the project moves into these future phases. After the trail is complete, we plan to extend the community engagement to promote stewardship of the trail. With the right tools trail users and near neighbors can help provide the eyes and ears for City Services to ensure the trail and surrounding is well maintained.

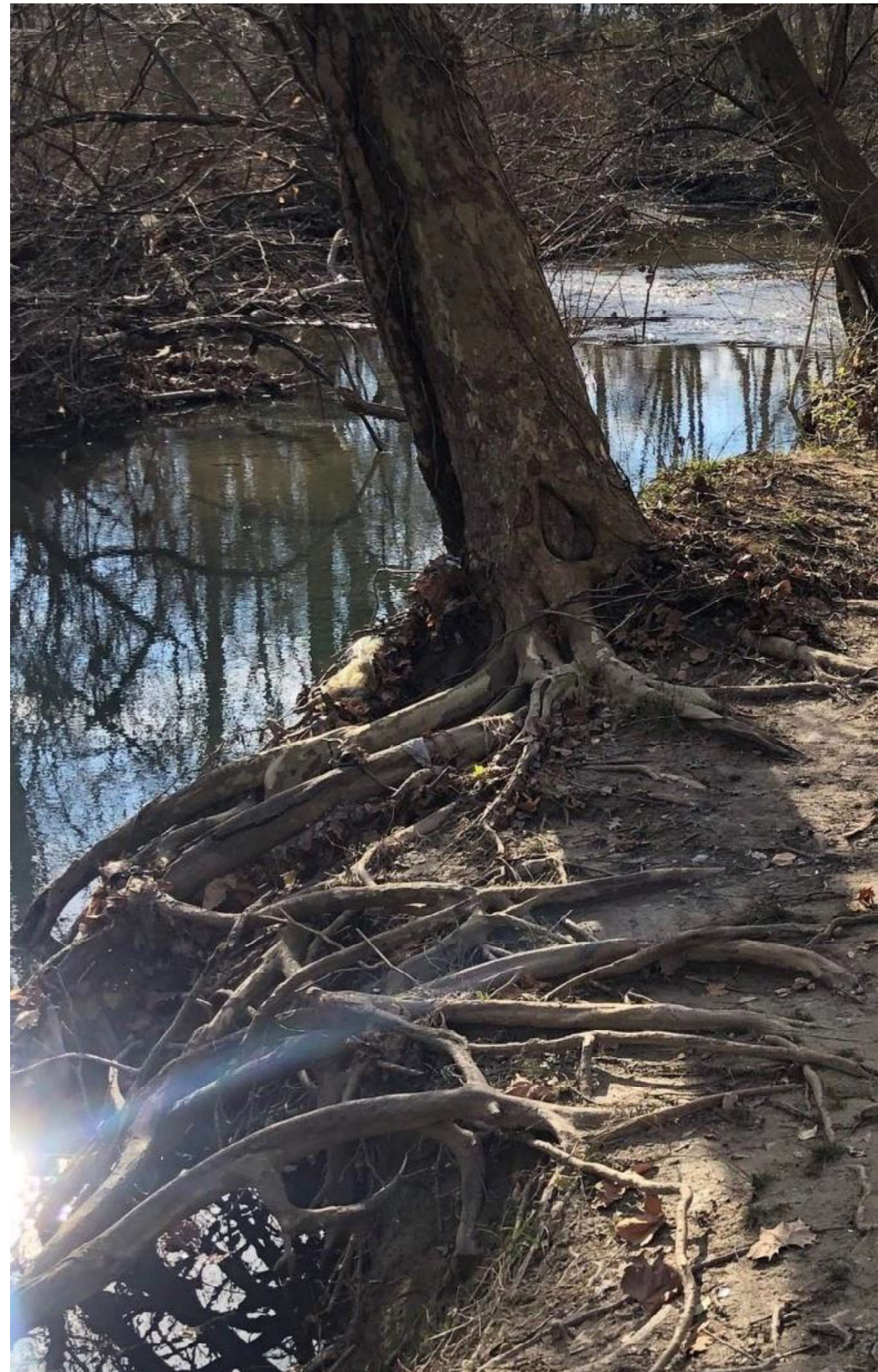


TABLE OF CONTENTS

INTRODUCTION

PROJECT PURPOSE & GOALS	3
HISTORY & RELATIONSHIP TO EXISTING PLANS	4
STUDY AREA OVERVIEW	8

PLANNING PROCESS & ENGAGEMENT

PLANNING PROCESS	18
RESEARCH AND ANALYSIS	19
STEERING & TECHNICAL COMMITTEES	20
PUBLIC ENGAGEMENT	21

EXISTING CONDITIONS

ENVIRONMENTAL, CULTURAL, HISTORIC FEATURES	25
OPPORTUNITIES	27
CONSTRAINTS	32

TRAIL ALTERNATIVES & PREFERRED ALIGNMENT

TRAIL SEGMENTS	35
LOWER POQUESSING CREEK TRAIL PREFERRED ALIGNMENT	53
CONSIDERATIONS FOR DESIGN PHASE	54

IMPLEMENTATION PLAN

PHASING & COST ESTIMATES	63
MAINTENANCE AND STEWARDSHIP	64

CONCLUSION

CONCLUSION	66
ACKNOWLEDGEMENTS	67



INTRODUCTION

PROJECT PURPOSE & GOALS

The Philadelphia City Planning Commission (PCPC), Philadelphia Parks and Recreation (PPR), and the Philadelphia Department of Streets work together to make connections between City residents and neighborhoods through building a robust and accessible trail network. In Northeast Philadelphia, a key step towards achieving this vision is determining the feasibility of implementing a trail along Poquessing Creek. This area is identified as an important segment in the Philadelphia Trail Master Plan. It will create a new connection to valued destinations in Northeast Philadelphia. The segment analyzed in this study is crucial to improving access and quality of life in this area of the City as it would offer residents of all ages a place to safely recreate, walk, bike, commute, and more.

This feasibility study will help advance the completion of the Lower Poquessing Creek Trail. Study goals include identifying a preferred trail alignment, establishing goals and strategies for a user-based trail system, and documenting existing conditions for the study area. This study will also identify environmental and budgetary opportunities and constraints, necessary easements or property acquisitions, and potential trailhead locations and trail amenities. This process will help align the study with identified priorities in other existing City plans, including Philadelphia 2035, the Far Northeast District Plan, and the Philadelphia Trail Master Plan.

This feasibility study proposes a preferred trail alignment plan to fill in gaps in the existing trail network in Northeast Philadelphia while connecting users to a variety of important local destinations. This trail will connect to existing trails at Junod Playground and Holy Family University, existing bicycle lanes on Knights Road, and the East Coast Greenway along State Road. It will also connect to the area's transit network, including SEPTA's Torresdale Regional Rail Station and 12 surrounding SEPTA bus routes. Completion of this trail will ultimately foster an interconnected region of 30,000 people and 10,000 workers that can use the trail network to access parks, shopping centers, residential neighborhoods, educational institutions, historic sites, and a hospital.

Developing a new trail follows four typical steps: (1) idea/opportunity, (2) planning, (3) design, and (4) construction. The Lower Poquessing Creek Trail is in the planning phase. After preferred alignments are identified through this feasibility study, the trail can enter the design phase, which will specify the design and configuration of the fully proposed trail. The design phase will also propose paving materials, amenity locations, and trailhead designs. Concept plans for several complex roadway intersections and other locations were also developed as part of this feasibility study. Designs will be finalized in the design phase, and concept plans in this study are not yet finalized.

FEASIBILITY STUDY GOALS

- **Determine feasibility of implementing the Lower Poquessing Creek Trail.**
- **Develop a preferred trail alignment.**
- **Establish goals and strategies for a user-based trail system.**
- **Document existing conditions in the study area.**
- **Identify environmental and budgetary opportunities and constraints.**
- **Identify any necessary easements or property acquisitions.**
- **Determine locations for trailheads.**
- **Identify types of trail amenities to include.**

HISTORY & RELATIONSHIP TO EXISTING PLANS

The **Trail Master Plan for Poquessing Creek Park** (2001) identifies the need to establish an official trail system along Poquessing Creek. This system would work to enable user access to natural landscapes while minimizing any potential adverse impacts. Many parks in the City of Philadelphia are heavily used for recreation while providing vital natural lands. The plan describes the existing trail system in Poquessing Creek Park as “one of rouge trails, illegal uses, and past infrastructure in a discontinued patchwork of park fragments within the Poquessing Creek watershed.” The plan identifies the protection and recognition of the natural lands that support and sustain the stream network of Poquessing Creek as a high priority for the City. The plan identifies a number of landmarks and natural resources to protect and connect to when developing a trail network, many of which are referenced in this feasibility study.

The Fairmount Park Master Plan (FPC, 1997) was developed for seven watershed parks in the Fairmount Park System through the Natural Lands Restoration and Environmental Education Program (NLREEP). Each of the master plans document important ecological sites throughout the park system and describes a variety of area wide and site-specific restoration activities to be implemented. The Trail Master Plan for Poquessing Creek Park expanded on this effort to restore, renew, and protect watersheds throughout the Fairmount Park system, studying a specific recommendation from the Fairmount Park Master Plan. The five-year initiative was initially funded by a \$26 million grant from the William Penn Foundation.

Chapter 8 in the Trail Master Plan for Poquessing Creek Park describes how to develop a user-based trail program, which can support stronger user engagement and shared maintenance and protection of natural resources. Several goals for successful trail development, and strategies for implementation are listed below. Strategies for implementation may be advanced in future phases of planning and design of the Lower Poquessing Creek Trail.

LEARNING FROM THE 2001 TRAIL MASTER PLAN FOR POQUESSING CREEK

In the late 1990's and early 2000's, Philadelphia's Fairmount Park Commission partnered with the Academy of Natural Sciences to develop the Natural Lands Restoration and Environmental Education Program (NLREEP) for the City. Funded by a \$26 million grant from the William Penn Foundation, the program was designed to restore portions of the natural landscape in the seven watershed parks of the Fairmount Park system, the project produced master plans to account for each watershed. To compliment the plans, the NLREEP also produced comprehensive Trail Master Plans for each of the watersheds.

In the Spring of 2001, the Fairmount Park Commission released the Poquessing Creek Park Trail Master Plan, to:

“develop an appropriate vision of the park trail system that acknowledges and confronts today's realities by reconciling the most serious problems faced by these landscape in the future”.

These turn of the century watershed reports have helped inform policy over the past 20 years and planted the seeds for future grant-funded projects, including this trail feasibility report. One common element among plans is that they strove to be big. They demanded excellent parks, with eyes squarely on the forces eroding them. Per design, their recommendations to address existing challenges went beyond the capacity of the City and required the support of park users.

Goals for Successful Trail Development

- Be fair and inclusive of all park users (except for illegal trail and park uses).
- Ensure the protection of natural resources in the park.
- Include recommendations of appropriate standards for infrastructure and maintenance to ensure that the chosen use can be adequately accommodated.

Strategies for Implementation

- Develop a highly participatory trail management program that educates, integrates, and relies upon the users themselves to become more responsible.
- Create stable funding for trail management.
- Provide security and enforcement of park rules.

The implementation of the Lower Poquessing Creek Trail is identified in many relevant existing plans, listed in callout box to the right. These include Philadelphia 2035, The Far Northeast District Plan, and the Philadelphia Trail Master Plan.

Various goals and strategies from the [Philadelphia 2035: Citywide Vision](#) support the implementation of trails to connect transportation assets and corridors, and to renew the City's natural resources. Specifically, the [Connect: Objective 4.1.3.h.](#) applies by stating: "Facilitate active transportation by establishing safe, marked walking and biking routes between stations and other key destinations such as schools, recreation centers, waterfronts, and neighborhood centers." For the Plan's goals to renew natural resources, another initiative is identified which applies to the study area under [Renew: Objective 7.2.2.](#) which states: "Improve water quality, habitat conditions, and recreation opportunities along all waterways..."

In the [Far Northeast District Plan](#), there are a number of goals and strategies that support this feasibility study and trail plan:

The plans introduced the City to a "User-Based Trail Program," intended to organize park stewards to take responsibility in realizing plan goals.

During the planning process for this preferred trail alignment study, community members shared their local knowledge to impress upon the team pitfalls and obstacles a successful Poquessing Trail should avoid. A goal of the User Based Trail Program is to encourage continued, targeted feedback through formal communication channels.



Friends of the Poquessing, a volunteer group, are the eyes and ears of the Creek. In addition to their monthly cleanups, they have also used grants to measure the impacts from runoff.

- **Recommendation #24:** Expand the bicycle and pedestrian network throughout the districts and connect residents and visitors to shopping, employment centers, schools, and open space within and outside the districts.
- **Recommendation #21:** Expand, improve and maintain existing bicycle and pedestrian infrastructure that connects to major transit nodes, such as along Frankford, Grant, and Morrell Avenues as well as Knights, Red Lion, and Welsh
- Roads.
- **Recommendation #32:** Complete the Poquessing Creek Trail.
- **Recommendation #37:** Improve water quality and enhance recreation opportunities in the Poquessing Creek Watershed as outlined in the *Poquessing Creek Watershed River Conservation Plan*.

The implementation of a trail along Poquessing Creek is noted as a priority project in the [Philadelphia Trail Master Plan](#). In accordance with the plan's goals for connectivity, safety, open space, and encouragement of physical activity, the project increased its priority rank between the initial 2013 Plan and the 2022 Update. As with most projects that are "In Planning," the Lower Poquessing Creek Trail is given priority status as a Tier 2 Project.

Other plans and reports across the City also describe the value of increasing safety and access to public transportation through trails. For example:

- The **Delaware Valley Regional Planning Commission (DVRPC)'s Trenton Line Access Study** recommends implementation of high-priority bicycle and pedestrian infrastructure upgrades to enhance service and attract riders in this area.
- The Federal Transit Administration's **Manual on Pedestrian and Bicycle Connections to Transit** states, "By approaching transit service as door-to-door, not just stop-to-stop, transit agencies and their jurisdictions can improve safety and increase public transportation use. Walking and bicycling are important tools for making it easier and more convenient for riders to use public transportation."

Tier 1 Projects	See Methodology Paper in 2013 Trail Plan Appendix for Criteria and Scoring of Tiers Note: Rank is within Location Category only, not overall
Tier 2 Projects	
Tier 3 Projects	
New projects in 2021	

Watershed Parks		
Proposed Trail	RANK 2022	RANK 2021
Cobbs Creek Connector D	1	1
Cobbs Creek Connector B.1	2	2
Frankford Creek Greenway, Phase 3	3	3
Cobbs Creek Connector B.2	4	4
Cobbs Creek Connector C	5	5
Poquessing A	6	6
Cobbs Creek Morris Park Connector B	7	7
Cobbs Creek Morris Park Connector A	8	8
Lower Poquessing Creek Trail A	9	9
Lower Poquessing Creek Trail B	10	10
Poquessing B	11	11
Randolph Creek Trail	12	12

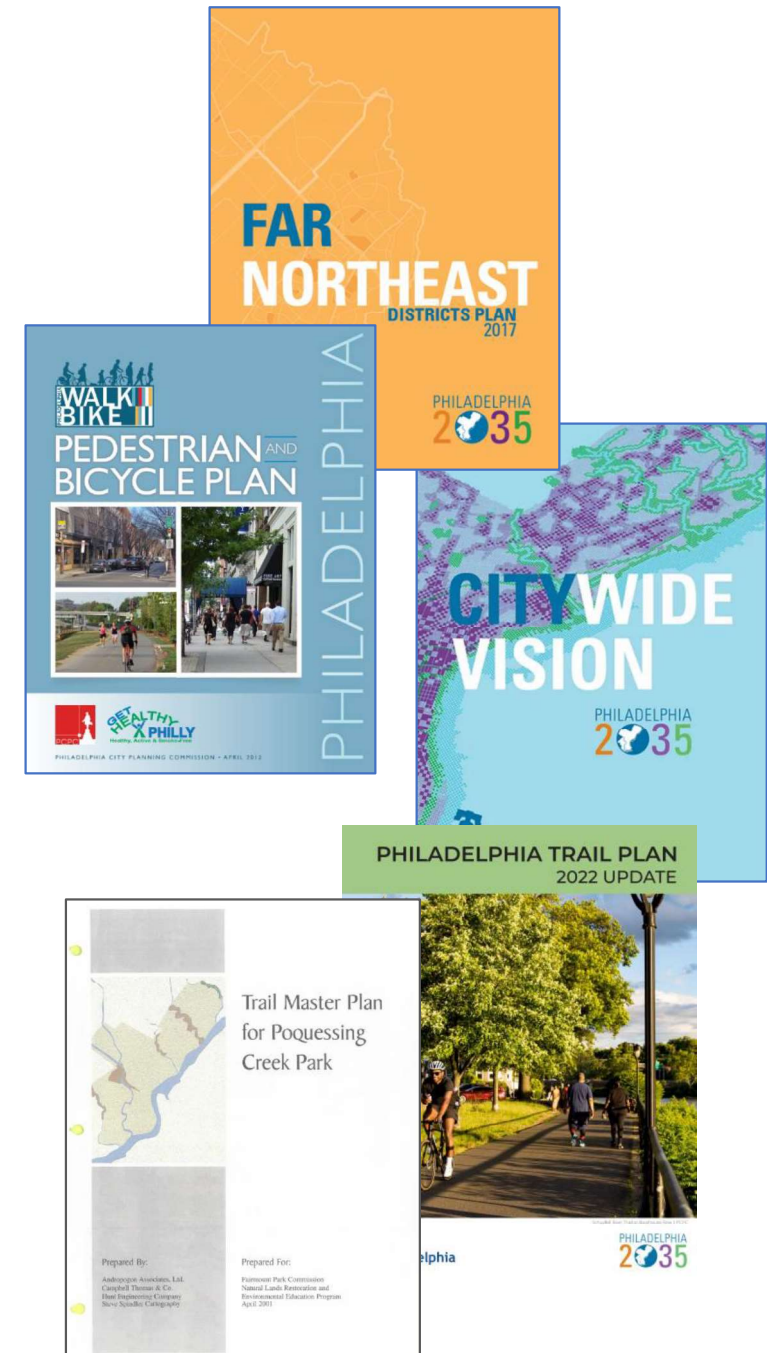
Philadelphia Trail Plan. 2022 Priority Status Update. Studies like this one help elevate a proposed trail's status.

EXISTING PLANS AND STUDIES

- Philadelphia 2035
- Far Northeast District Plan (2017)
- Philadelphia Trail Master Plan (2022)
- North Delaware District Plan (2016)
- SEPTA Cycle-Transit Plan (2015)
- Trenton Line Bicycle Access and Parking Analysis (2014)
- Bensalem Greenway Master Plan (2012)
- Bucks County Bicycle Master Plan (2012)
- Poquessing Creek Watershed Rivers Conservation Plan (2007)
- Trail Master Plan for Poquessing Creek Park (2001)

- Since the adoption of the **City's 2012 Pedestrian and Bicycle Plan**, the City has steadily worked to implement its bicycle network, which now has over 270 miles of bikeways. Critical gaps still exist in the current network, and the City of Philadelphia has placed a strong emphasis on implementing high-quality bicycle and pedestrian infrastructure and trails; defined as in a state of good repair, safe from crime and crashes, litter-free, and with plenty of interesting streetscapes.
- According to **SEPTA's Cycle-Transit Plan**, bicycle ridership has grown more than three-fold in 20 years in Philadelphia. Based on demographic trends and continued expansion of the Indego bike share, bicycling in Philadelphia and the surrounding region is anticipated to continue growing.

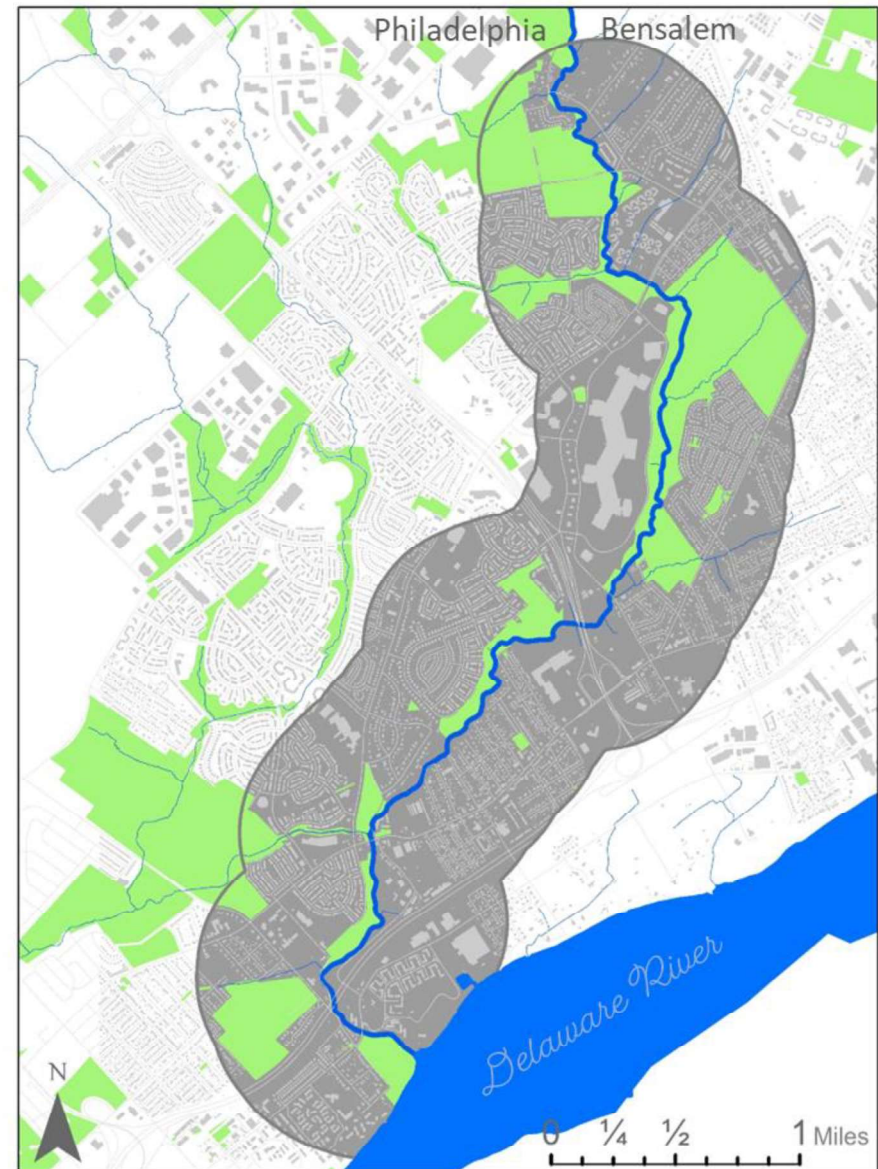
While conducting the Lower Poquessing Creek Trail Feasibility Study, SEPTA was undertaking a project to reimagine the region's bus network, titled **SEPTA Forward: Bus Revolution**. This process will offer SEPTA and its planning partners the opportunity to create a more frequent, interconnected, and easy-to-understand bus system that better connects more people to more places. This effort will review bus routing, stop spacing, frequencies, span of service, and a variety of other elements related to SEPTA's bus network. The Lower Poquessing Creek Trail Feasibility Study proposes prioritizing trail connections to high ridership stops, served by multiple bus routes at key destinations near the proposed trail. It is anticipated that these stops are less likely to be significantly altered during the bus network redesign process. The City of Philadelphia will continue to coordinate with SEPTA throughout the bus network redesign process to prioritize and maximize the impacts of potential trail connections to transit.



STUDY AREA OVERVIEW

The Lower Poquessing Creek Trail study area is generally defined as the area within one-half mile of Poquessing Creek, between Junod Playground and the Delaware River. The study area includes portions of the Lower Far Northeast and North Delaware Planning Districts in the City of Philadelphia, as well as parts of Bucks County. The border between the City and Bucks County generally follows Poquessing Creek. The study area starts in the north at the existing Poquessing Creek Trail at Junod Playground and stretches approximately 4.3 miles south to the historic Glen Foerd on the Delaware. Along the way, it passes several parks, shopping centers, residential neighborhoods, hospitals, schools, and more. Within the study area, there are an estimated 30,000 people and 10,000 jobs. Once implemented, this trail will connect many of these destinations and serve as an amenity to local residents, workers, and visitors.

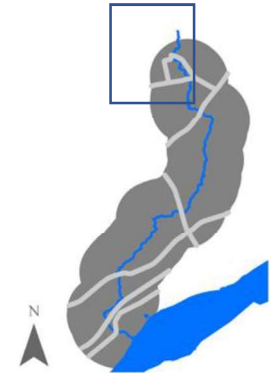
There are several points of interest in the study area. These include popular destinations in the community and locations with specific challenges and considerations for design. Possible trail alignments consider how to connect trail users to local neighborhoods and destinations. Stakeholder and public engagement showed that residents find these potential connections important, particularly to existing trails. Notable connections include Junod Playground, Philadelphia Mills Shopping Center, Torresdale Station, and Glen Foerd. These locations, and others, are described in more in this section.



Lower Poquessing Creek Trail Advanced Feasibility Study. Half-mile study area in dark gray, existing open space in green, building footprints in lighter gray

Junod Playground

Junod Playground is the northernmost section of the study area, just north of the Parkwood neighborhood. It is a full-service Park and Recreation center, complete with dedicated grounds for soccer, tennis, basketball, and baseball; an indoor facility for youth programming, and of course, a playground. The existing Poquessing Creek Trail begins here. Completed in 2014, this existing 1.3-mile-long asphalt trail winds north through the woods separating the creek-side Mechanicsville neighborhood from an industrial village, before terminating at Benjamin Rush State Park, a 500-acre open space. Along the way, the trail meanders through a vibrant wooded and wetland area, passing ruins of the old prison farm and two century old pedestrian bridges under restoration at the time of this Study.



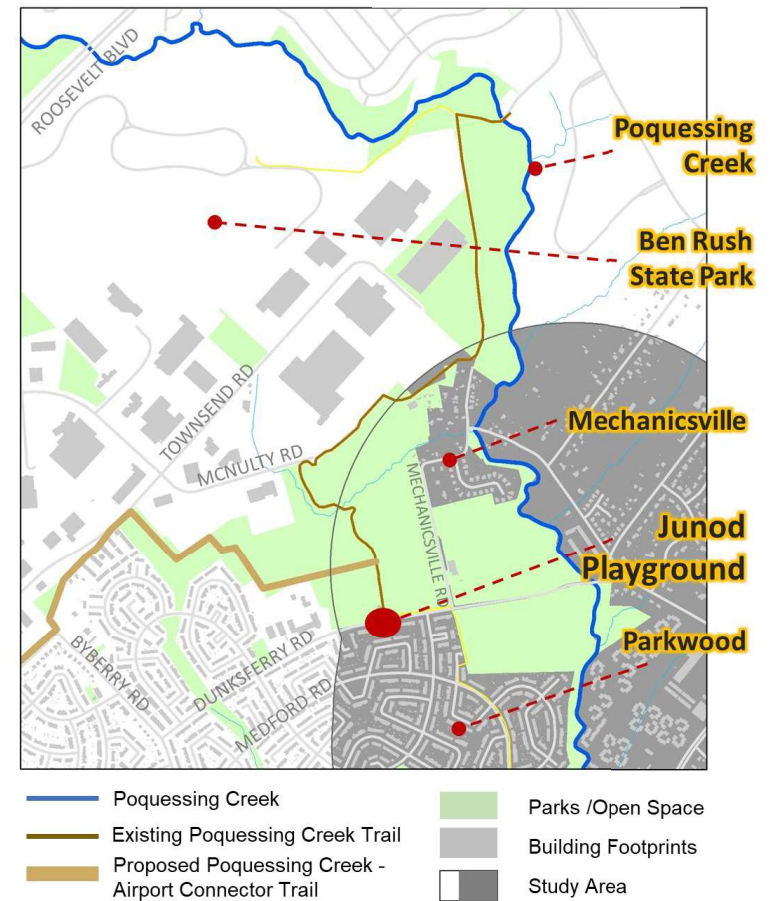
Entrance to Junod Playground



Existing Sidewalk on Dunks Ferry Road

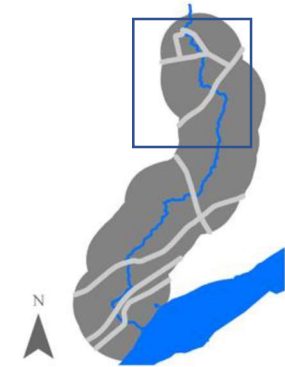


Existing Poquessing Creek Trail



Parkwood Neighborhood

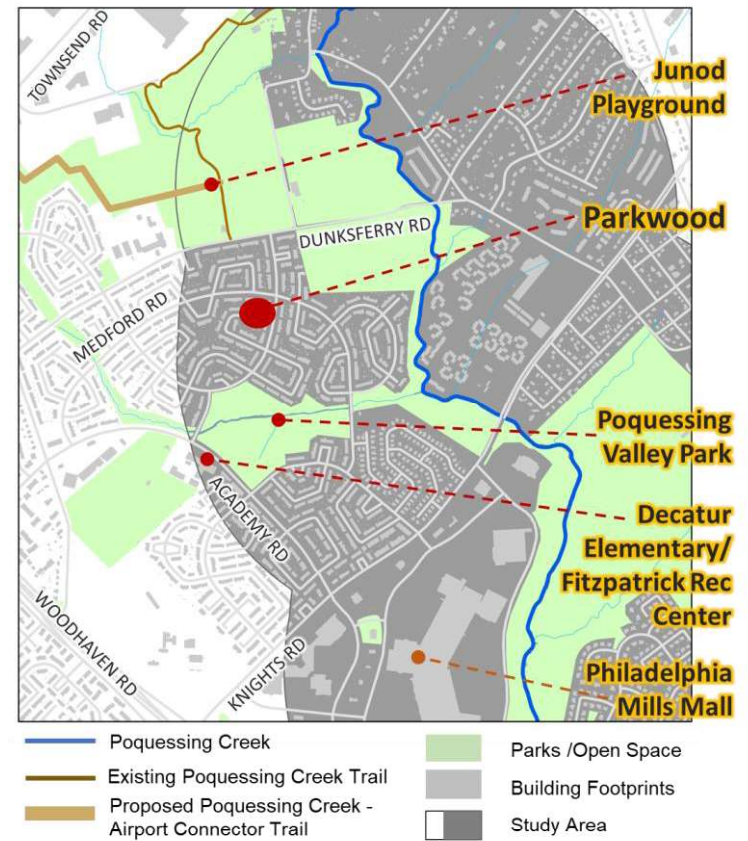
Parkwood is a residential neighborhood between Junod Playground and the Philadelphia Mills Shopping Center. The neighborhood consists primarily of detached homes with garages along winding local loop roads and cul-de-sacs. Gibert's Run, a tributary of Poquessing Creek, courses through the middle of Parkwood, providing excellent walking paths (pictured below) and creating an alternative route to Decatur Elementary and Fitzpatrick Recreation Center. The proposed trail will aim to connect with these existing paths. When traveling through the study area, it is important to consider how the proposed trail will align with different neighborhood areas. The trail should be located in a place that is easily accessible to residents but that does not compromise privacy. Trail placement must also be sensitive to environmental hazards like flooding. This narrow section of woods between Poquessing Creek and Parkwood is flood-prone. Photographs below show existing paths and open space in the neighborhood.



Worn dirt trails in the Poquessing Valley Park



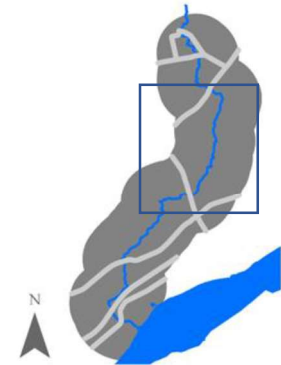
Parkwood neighborhood backyards close to Poquessing Creek.



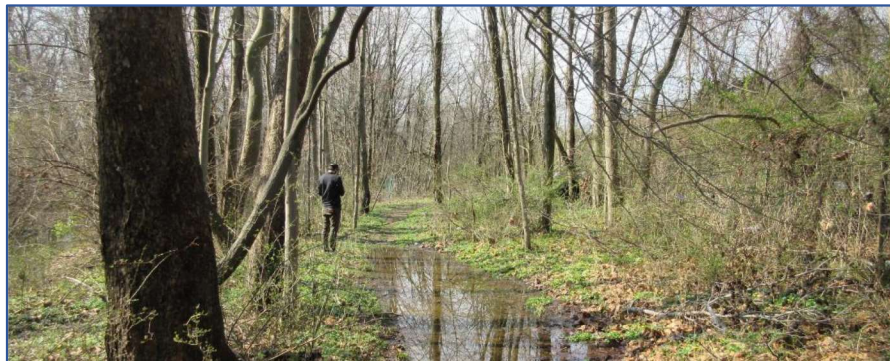
Philadelphia Mills Mall

Philadelphia Mills is an important commercial destination conveniently located between Parkwood and Woodhaven Road. Flanked by freestanding department stores and fast-food drive throughs, the main building occupies 47 acres and offers a full spectrum of shopping and entertainment. With over 150 stores, it is the biggest outlet mall in the City. Although the shopping center is predominantly commercial, in the last 10 years there has been a subtle change in uses (e.g., Bethel Church and Brightwood Career Institute), with more mix proposed (hotel, storage facility). Nationwide, malls have been shifting from strictly retail to include residential and entertainment.

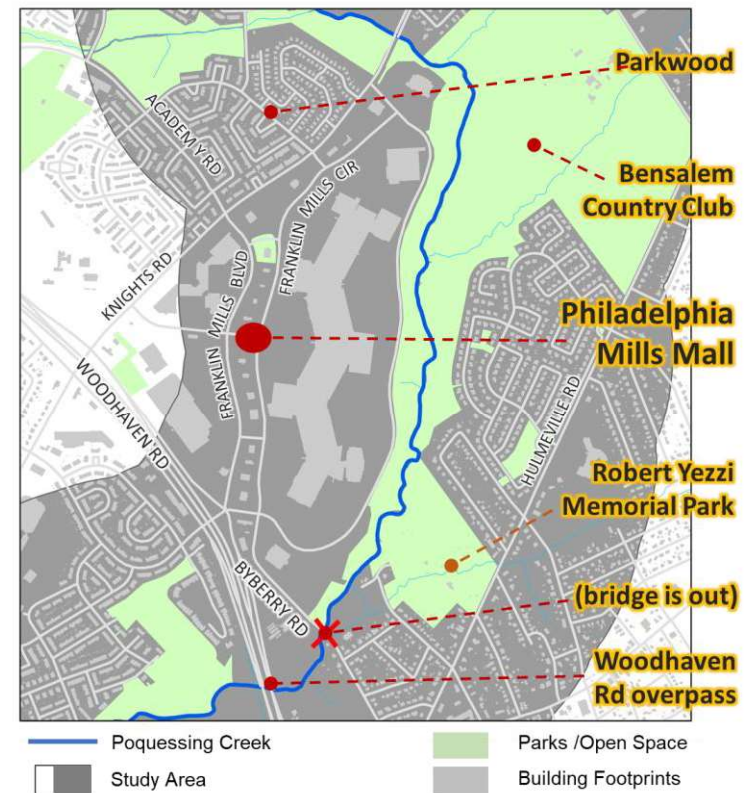
Geographically, the shopping center sits on a plateau above Poquessing Creek. Behind the Mall, and beyond the Franklin Mills Circle, a dense buffer of woods conceals a steep, but traversable, drop to a broad flood plain. Here, the Poquessing flows uninterrupted for 1.25 miles. Debris and trail maintenance suggest off road vehicles and fisherman are among the primary visitors. Existing green space at the parking lot level and unused portions of the parking lot area are suitable for the proposed trail, in addition to connections to the area at creek level.



Franklin Mills Circle loops around the Mall parking lot.

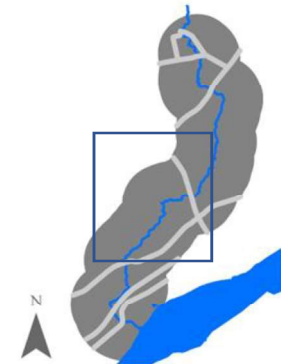


A trail in the floodplain beneath Franklin Mills Circle after a rain.



Millbrook Neighborhood

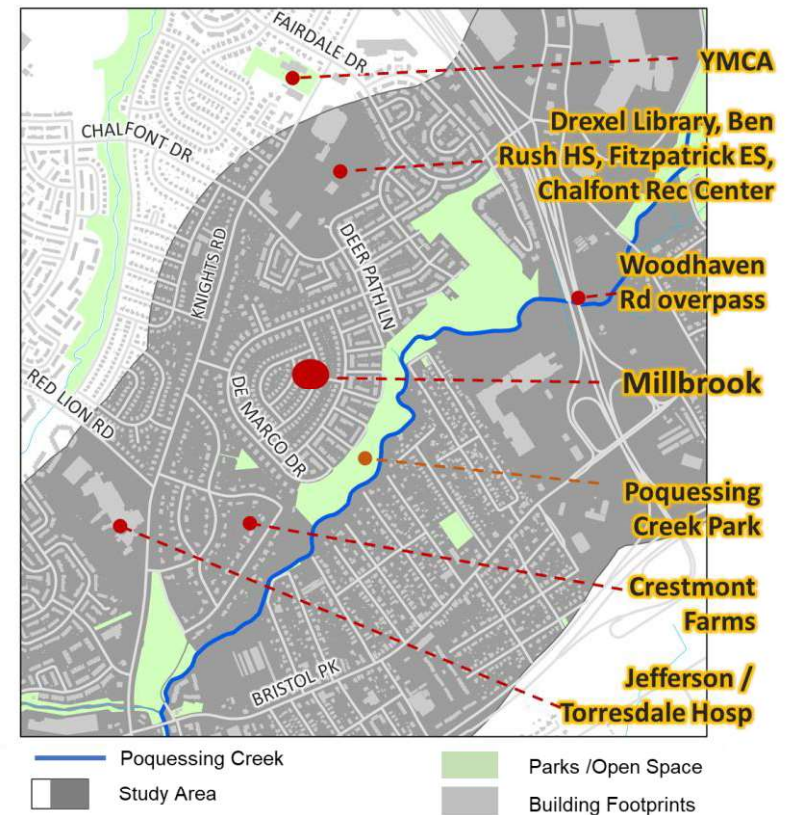
Millbrook is a residential neighborhood across Woodhaven Road from Philadelphia Mills. It includes a mix of twins and attached rowhomes in a suburban style network of local roads. The existing Poquessing Creek Park, identified on the map, provides an amenity for the neighborhood. The park has two parallel sections: a densely wooded area with paths along the Creek's floodplain, and a mowed linear open space in the plateau above the Creek. Several streets lead directly to this open space, which gives residents easy access. Aligning the trail along this area will activate the open space and optimize its use. At the northern end of the park, Poquessing Creek passes beneath Woodhaven Road. At the southern end, the Park ends next to a steep gully, beyond which private residences in Crestmont Farms extend down to the creek. Chalfont Recreation Center serves the neighborhood and would make for an ideal service stop along the trail.



The intersection of Deerpath Lane and Poquessing Creek Park, Millbrook neighborhood.

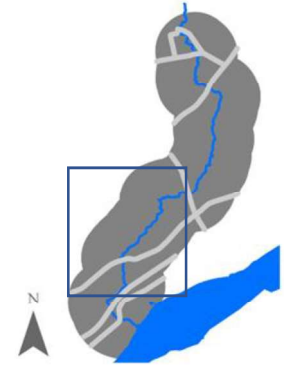


Poquessing Creek Park in Millbrook (l). Primitive dirt trail hugging the Creek behind Millbrook (r).



Jefferson Torresdale Hospital / Crestmont Farms

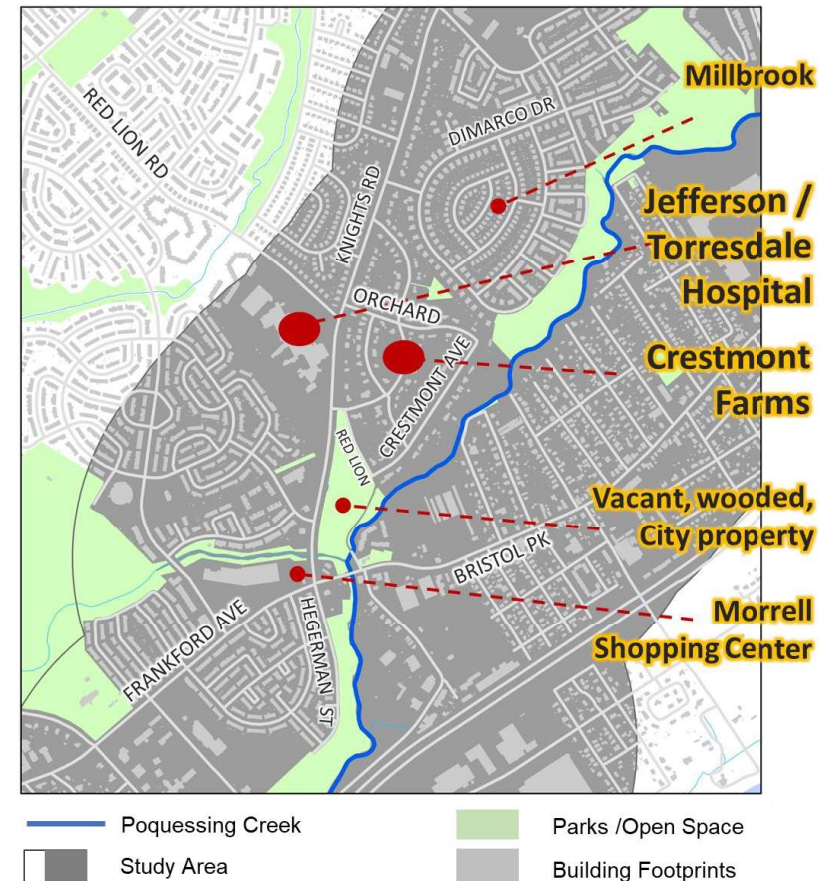
Just south of Millbrook is the Crestmont Farms neighborhood, a low-density residential hamlet dotted with large single-family homes. Here, unlike Millbrook, public access to the Creek is cut off by a deep gulley and a row of private lots that extend to the Creek's center. Knights Road, the arterial serving this neighborhood, has a bike lane. Knights Road runs parallel to, but at times a distance from, Poquessing Creek. Jefferson Torresdale Hospital campus is across Knights Road, and has a strong community presence. Below Crestmont Farms is a 10 acre, unimproved "Poquessing Creek Park". These woods were observed to be relatively flat, but unaffected by flooding. The Park is experienced along the leafy Red Lion Road, which is limited to outbound traffic. There is an old Cemetery along this walk, and at the foot of the park, a historic bridge marks the hidden confluence of Byberry and Poquessing Creeks.



Knights Road (l). Red Lion Rd traffic is limited to traffic leaving Crestmont Farms (r).

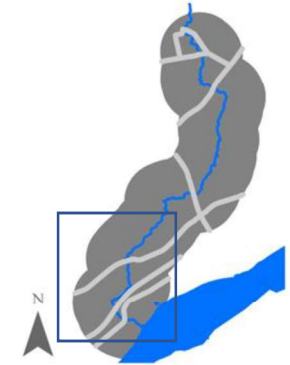


Red Lion Rd bridge to Crestmont neighborhood was built in 1845.

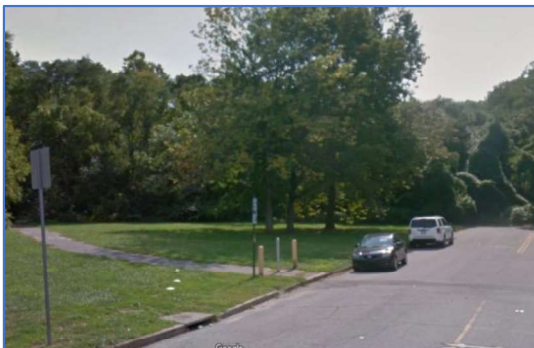


Hegerman Street / Holy Family University

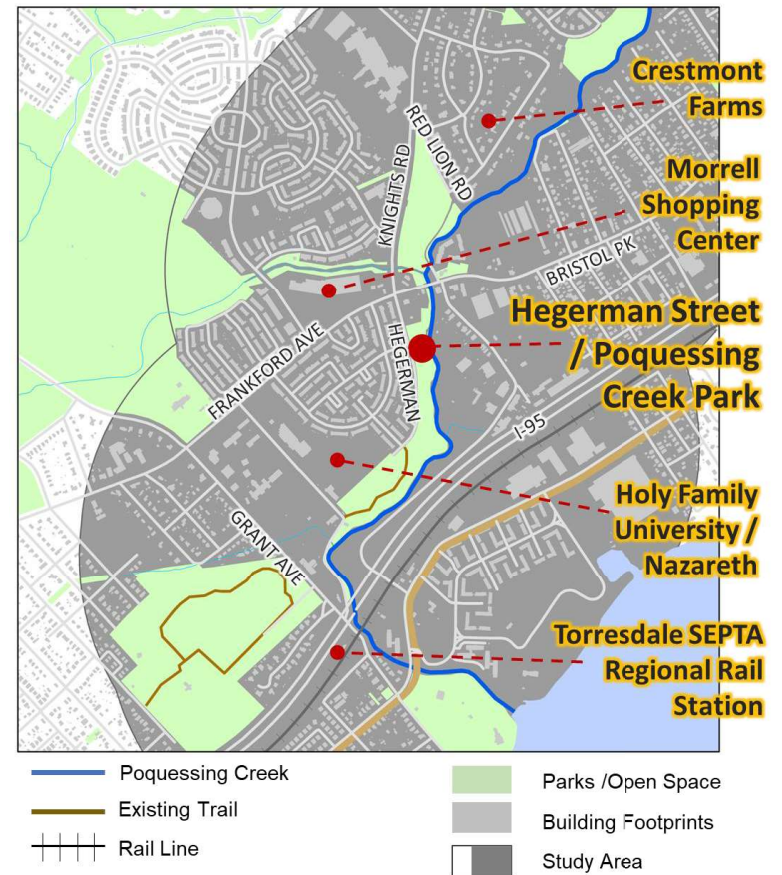
South of Frankford Avenue, Knights Road becomes Hegerman Street. Hegerman Street is a local street lined with rowhomes on one side, and another Poquessing Creek Park on the other. Like in the Millbrook neighborhood, the linear park has two parallel sections: a densely wooded area with paths along the Creek's flood plain, and a mowed linear open space in the plateau above the Creek. During field observations, several people were seen walking dogs throughout this mowed plateau area, suggesting there may be demand for a more formalized walking path. At the southern end of Hegerman Street, the open space meets a densely wooded area. From there, a quarter mile long asphalt path traverses through the woods behind Holy Family University until it connects with privately-owned Stevenson Street and continues another quarter mile past Nazareth Academy High School to Grant Avenue.



Poquessing Creek Park is a linear, passive park parallel with Hegerman St.



Existing trail connects Hegerman St with Holy Family at Stevenson St.

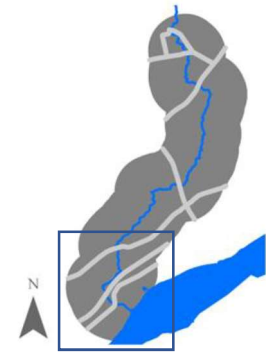


Torresdale Station / Grant Avenue

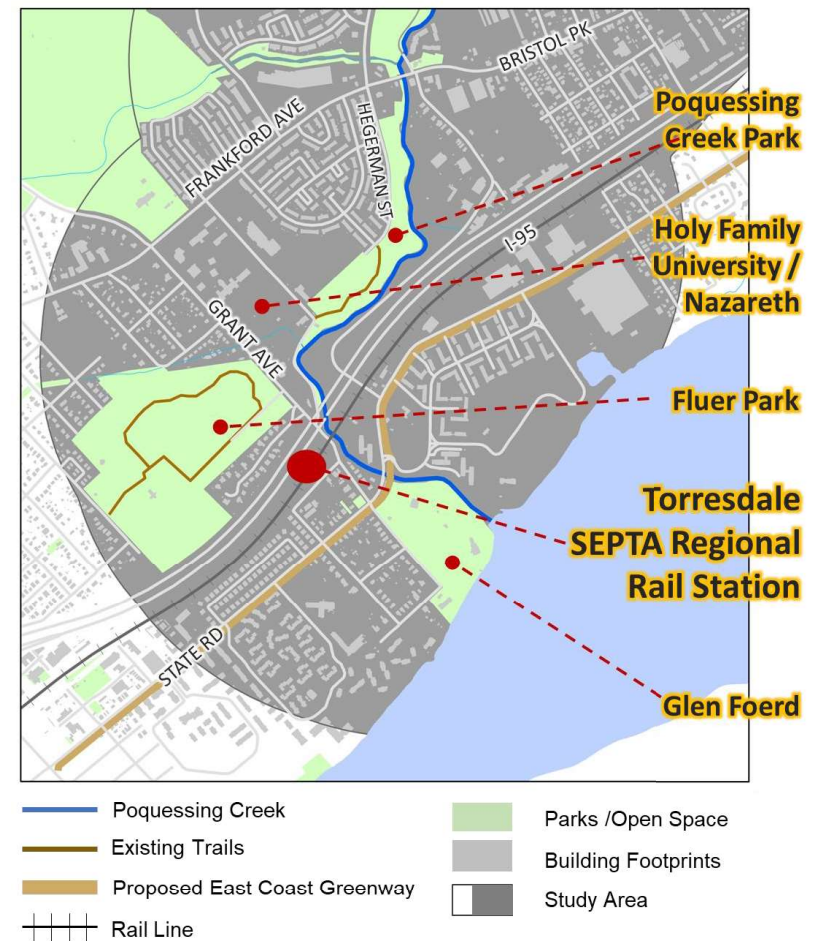
Torresdale Station is located on Grant Avenue, to the east of the I-95 overpass. Positioning the trail near the station provides trail-to-transit access for residents. The station acts as a gateway on the trail to Glen Foerd, a historical destination on the Delaware River. The proposed trail can connect to existing trails on the way to Glen Foerd.

Torresdale Station is an essential transit connection in the study area, which is served by SEPTA's Trenton Regional Rail line. This service provides direct links to Trenton, Temple University, Center City, and University City. From Trenton, riders can connect with trains to NYC. Average daily weekday ridership is over 11,100 passengers, making it the 6th busiest regional rail line in SEPTA's network (SEPTA, 2020). Bus Routes 19 and 84 bring riders to this station and can enhance trail-to-transit access.

The area around Torresdale Station presents some challenges for designing and constructing a trail. There are missing sidewalks on Grant Avenue south of Torresdale Station. I-95 and SEPTA/Amtrak rail overpasses also present challenges to routing a trail through this area.

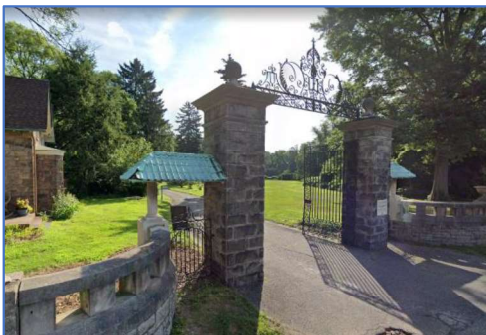
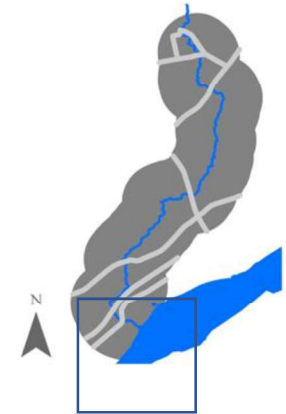


SEPTA rail overpass and Torresdale Station off of Grant Ave.

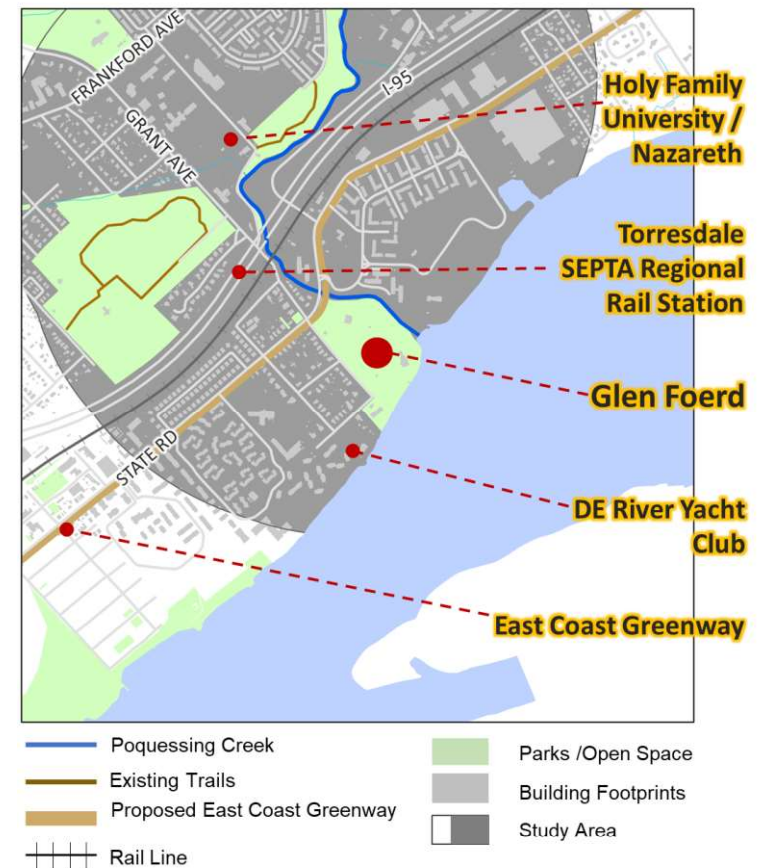


Glen Foerd

The southern limit of the study area is Glen Foerd, an historic 21-acre estate and mansion next to the mouth of Poquessing Creek on the Delaware River. It offers cultural workshops and exhibits in architecture, art, music, and history; as well as natural resources including walking paths and kayaking. Perhaps most importantly, Glen Foerd is owned by the City of Philadelphia. Operated by the Glen Foerd Conservation Society, in partnership with the Philadelphia Department of Parks and Recreation, it is largely open to the public. The aesthetically pleasing site and the Society's scheduled activities make this site a key destination for potential trail users.



Publicly owned & enjoyed, privately operated: Glen Foerd on the Delaware, mansion and grounds.





PLANNING PROCESS & ENGAGEMENT



Silt deposit beneath Woodhaven Rd on Philly side makes a case for an underpass trail.

RESEARCH AND ANALYSIS

- Field research and data collection
- Mapping analysis
- Opportunities and constraints identification
- Potential trail alignments development
- Preferred trail alignments identification
- Concept plans at key sites development
- Implementation plan development
- Technical and steering committee creation

STAKEHOLDER AND PUBLIC ENGAGEMENT

- Three steering committee meetings
- Three technical committee meetings
- Community outreach
- Two public meetings
- Wikimapping survey
- Project website feedback

The planning process for the Lower Poquessing Trail Advanced Feasibility Study was centered around two main components: research and development, and stakeholder engagement. Research and analysis tasks were driven by stakeholder and public input; for example, public input helped to determine research topics, to identify points of interest, and to identify barriers to trail development. Similarly, stakeholder and public engagement was driven by research and analysis findings, such as presentations of environmental considerations and assets in the study area. The planning process took place between February 2021 and August 2022. Stakeholder engagement was done virtually to ensure the safety of all participants during the COVID pandemic. Key tasks are listed in the tables above.

RESEARCH AND ANALYSIS

This Study's core team consisted of professionals in the fields of community planning, transportation planning, engineering, and environmental planning. Opportunities and constraints were identified before potential trail alignments were developed. "Opportunities" look at connections to existing parks and bicycle and walking paths, connections to public transit, employment and shopping centers, and environmental benefits. "Constraints" identify considerations that will inform locations that are more challenging or otherwise not ideal to align the trail. This includes roadway and bridge crossings, narrow or otherwise limited public spaces private property near the creek, steep slopes, areas prone to flooding, and drainpipe locations and erosion.

The study area is divided into eight trail segments for future phases of design and construction. This helps to implement the trail through a phased approach, which can make achieving the full trail more attainable. Potential trail alignments were developed for each segment. Alignments considered how the trail could connect residents and users to neighborhoods, parks, schools, shopping centers, and other destinations. Input from stakeholder and public engagement was also used to identify preferred alignments. A combination of on-road and off-road options helps best connect residential neighborhoods to nearby natural areas and existing trails.

Concept plans for unique or challenging locations were developed. These include a crossing at Dunks Ferry Road, a loop around Philadelphia Mills Shopping Center, an off-road trail segment at Woodhaven Road, and a portion of Grant Avenue near the underpass at Torresdale Station. These are not final design plans, but initial concepts for potential site-specific improvements and design solutions.

The implementation plan identifies cost estimates, potential funding sources, and opportunities for trail maintenance and stewardship. This plan also outlines supporting actions, such as requiring an easement, identifying grant opportunities, or other steps that will make the trail a reality.

STEERING & TECHNICAL COMMITTEES

Two committees guided this feasibility study: a steering committee and a technical committee. The steering committee consisted of City department representatives, local organizations, and other stakeholders. Organizations represented in the steering committee are listed in the table to the right. This committee engaged with a variety of stakeholders to gather input on points of interests, opportunities and constraints, and possible trail alignments.

The technical committee consisted of representatives from City departments, the Bucks County Planning Commission, and SEPTA. Technical committee member organizations are listed in the table to the right. This committee was engaged in general information sharing and discussions of feasibility between agencies.

Both committees had three meetings throughout the planning process. Note that PCPC and the Philadelphia Streets Department met separately to discuss safety, roadway crossing, and related topics.

Steering Committee Meetings

- April 8, 2021: Kick-Off Meeting
- September 17, 2021: Potential Trail Alignments
- May 19, 2022: Preferred Alignments

Technical Committee Meetings

- April 14, 2021: Kick-Off Meeting
- September 17, 2021: Potential Trail Alignments
- May 19, 2022: Preferred Alignments

The first meeting of each committee presented study goals, an overview of the schedule and project outputs, a description of the study area and points of interest, opportunities and constraints, and information on upcoming community engagement. Action items were identified for members of both committees for information sharing and to continue conversations about specific community concerns.

STEERING COMMITTEE MEMBERS

Bicycle Coalition of Greater Philadelphia
Councilmember Bobby Henon's Office
Councilmember Brian O'Neill's Office
East Coast Greenway
East Torresdale Civic Association
Friends of Poquessing Watershed
Glen Foerd
Holy Family University
Nazareth Academy
Parkwood Area Civic Association
Pennsylvania Department of Conservation and Natural Resources
Philadelphia City Planning Commission (PCPC)
Philadelphia Office of Transportation, Infrastructure, and Sustainability (OTIS)
Philadelphia Parks and Recreation (PPR)
Riverfront North Partnership
Simon Property Group / Philadelphia Mills

TECHNICAL COMMITTEE MEMBERS

Bucks County Planning Commission
Pennsylvania Department of Transportation (PennDOT)
Philadelphia City Planning Commission
Philadelphia Office of Transportation, Infrastructure, and Sustainability (OTIS)
Philadelphia Parks and Recreation (PPR)
Philadelphia Streets Department
Philadelphia Water Department (PWD)
Southeastern Pennsylvania Transportation Authority (SEPTA)

The second meeting provided an overview of data collection and stakeholder input learned since the first meeting.. The technical committee identified areas where further discussion was needed to review alternatives for roadway crossings or potential on-street trail alignments.

The final meeting was used to present and discuss preferred trail alignments, with an emphasis on opportunities and challenges to address in the implementation plan. The steering committee was given discussion questions to help prioritize implementation of trail segments. These were also given during the final public meeting and are outlined below.

PUBLIC ENGAGEMENT

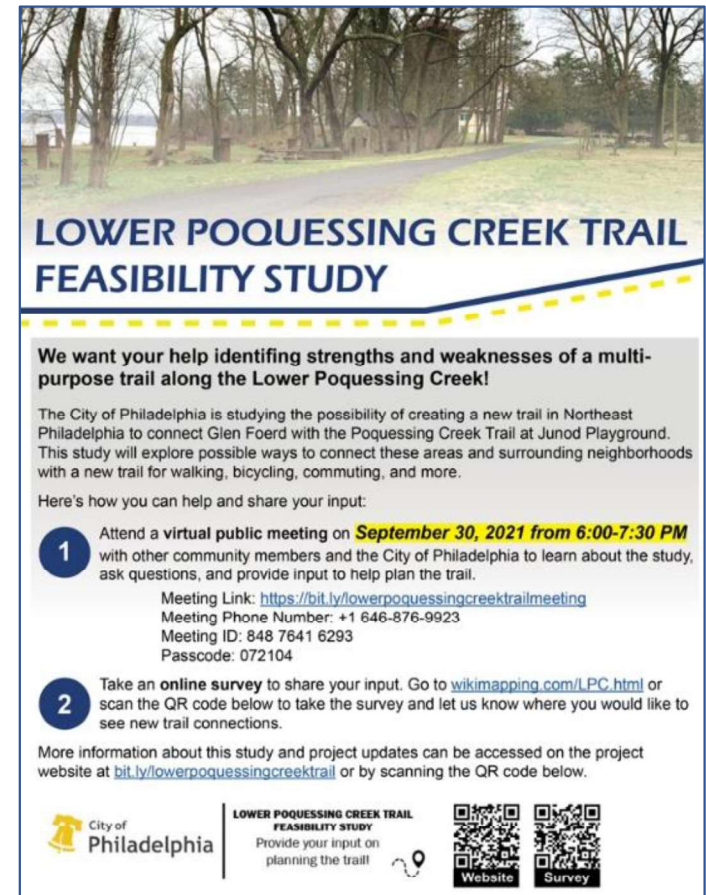
Public engagement took place through two main areas, public meetings and an interactive mapping survey. The first public meeting was held in September 2021. This provided attendees a project overview, what has been learned so far through data collection and analysis, and a review of draft alternatives. Polling questions were used at this meeting to start identifying preferred trail alignments. There were two categories of polling questions, general questions and interactive questions, listed below. The public meetings were promoted to the community with fliers, social media, and promotion from planning partners. The flier for the first public meeting is shown here.

General Questions

- Do you live or work in the study area? If so, which neighborhood?
- Which locations do you visit in the study area?
- How do you typically access trails in your neighborhood?
- What Activities would you use the trail for if it was built?

Interactive Questions

- Overall, which alternative do you prefer?
- Would you use a new trail in this area?
- Any ideas for other alternatives or potential trail connections in this area?
- Any questions, comments, or concerns about the alternatives presented?



The flier features a header image of a park path with trees. Below the title, it states the purpose of the study and provides two main ways to participate: a virtual public meeting and an online survey. It includes contact information for the meeting and QR codes for the website and survey.

LOWER POQUESSING CREEK TRAIL FEASIBILITY STUDY


We want your help identifying strengths and weaknesses of a multi-purpose trail along the Lower Poquessing Creek!



The City of Philadelphia is studying the possibility of creating a new trail in Northeast Philadelphia to connect Glen Foerd with the Poquessing Creek Trail at Junod Playground. This study will explore possible ways to connect these areas and surrounding neighborhoods with a new trail for walking, bicycling, commuting, and more.

Here's how you can help and share your input:

- 1** Attend a **virtual public meeting** on **September 30, 2021 from 6:00-7:30 PM** with other community members and the City of Philadelphia to learn about the study, ask questions, and provide input to help plan the trail.
Meeting Link: <https://bit.ly/lowerpoquessingcreektrailmeeting>
Meeting Phone Number: +1 646-876-9923
Meeting ID: 848 7641 6293
Passcode: 072104
- 2** Take an **online survey** to share your input. Go to wikimapping.com/LPC.html or scan the QR code below to take the survey and let us know where you would like to see new trail connections.

More information about this study and project updates can be accessed on the project website at bit.ly/lowerpoquessingcreektrail or by scanning the QR code below.

 **LOWER POQUESSING CREEK TRAIL
FEASIBILITY STUDY**
Provide your input on
planning the trail!

 
Website Survey

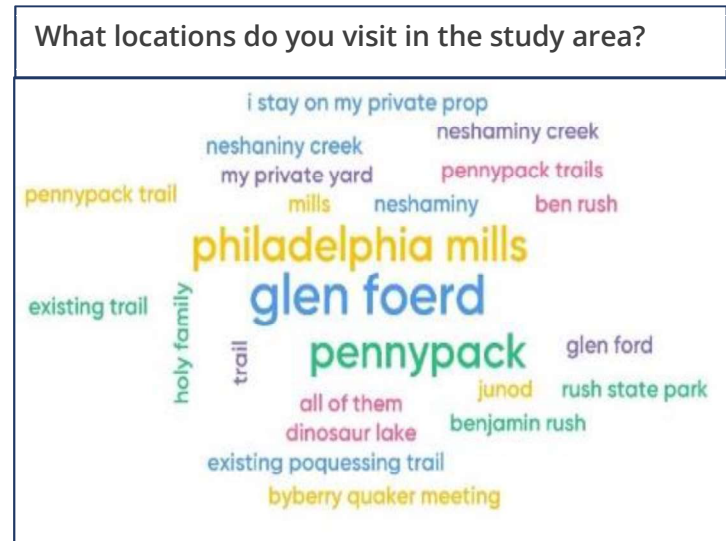
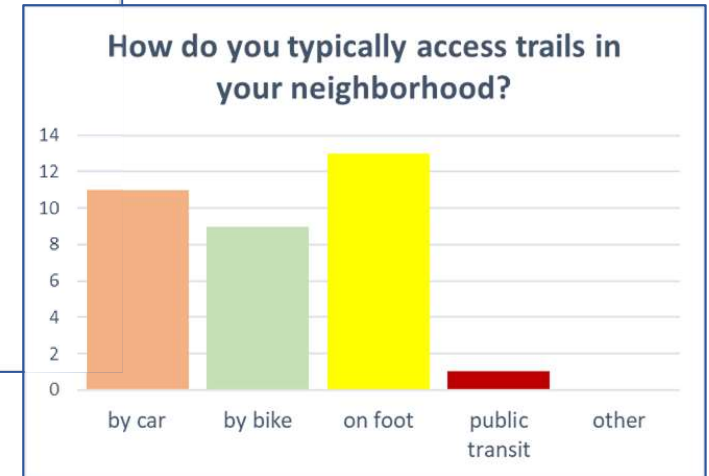
Local Trail Usage

During the first public meeting, the project team asked 60 participants questions about locations they visit and how they use trails in their neighborhood. Charts showing their responses are included to the right. Popular destinations in the study area and nearby include Glen Foerd, Philadelphia Mills Shopping Center, and Pennypack Trails. Connecting the proposed trail to these locations will greatly benefit residents.

People in the study area typically access trails on foot or by car. Some people also bike to trails when possible. Connecting trails together can allow people greater access on foot or by bike, reducing the need to drive to trails. However, it is important to recognize that some people do want to access trails by car, so adequate parking at trailheads should be considered.

Residents and visitors use trails for a variety of reasons. The most popular are walking, access to nature, bicycling, and exercising. People also use trails to access public transit, shopping destinations, and commute to and from work. If the proposed trail effectively connects all of these uses, it can benefit the greatest number of people in the study area.

Using input from the first public meeting, a variety of stakeholders, and online polling, preferred trail alignments were developed for the final public meeting in May 2022. Interactive questions, listed on the next page, were used to help prioritize implementation of different trail segments, and identify desired amenities for the trail. Please find the questionnaire results in Appendix C.



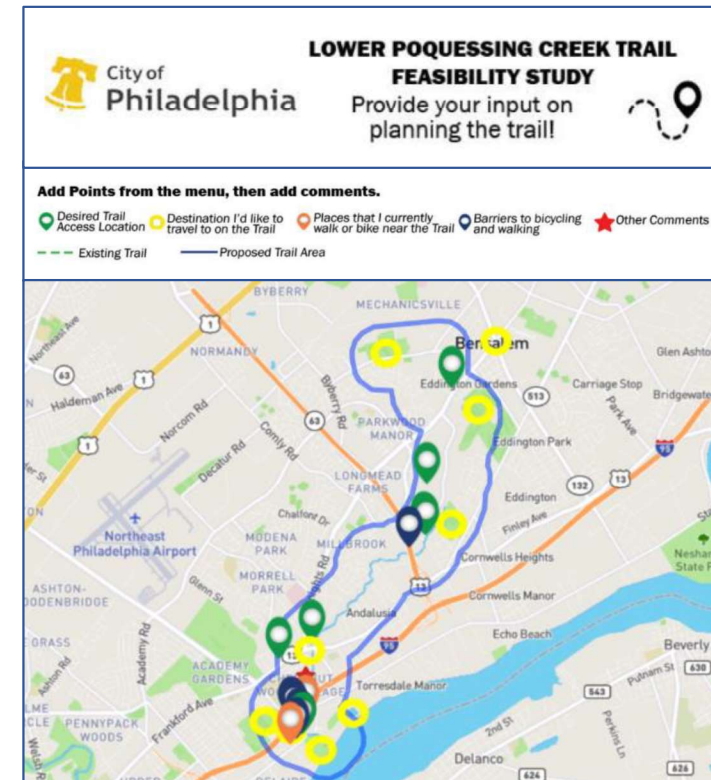
To help us prioritize implementation, which 3 trail segments are you most interested in seeing?



What amenities do you feel are most important to prioritize for the Lower Poquessing Creek Trail?



A project website was also created to provide project information and updates to the public.



An interactive mapping survey was used to collect direct input from the community. Survey respondents interacted with the study area using the map to plot items such as desired access points, destination locations, existing areas of bike or pedestrian usage, and any potential barriers to walking or biking. The map was updated to show the alternative trail alignments following the public meeting in September 2021. We had 100 survey respondents. Results guided how we framed the public meeting discussion. See Appendix C.



EXISTING CONDITIONS

ENVIRONMENTAL, CULTURAL, AND HISTORIC FEATURES

The study area is centered around Poquessing Creek. Pictures to the right show different areas of the creek. Many creeks and tributaries in the city have been converted into pipes and culverts. This creek and its tributaries still have open surface flow. It is important to preserve remaining natural lands in city areas, both for their leading role in environmental systems, such as the water and soil cycles, and for their recreational value.

Poquessing Creek serves as the border between Philadelphia and Bucks counties. Areas around the creek contain minor wetlands that are important for environmental health. Some portions of the proposed trail, especially those adjacent to the creek, may require disturbance to these wetlands. Design and construction of the trail must consider mitigation measures and erosion and sediment pollution control to protect these areas.

Segments of the proposed trail adjacent to the creek may also fall within soils that are predominately hydric, such as Hatboro Silt Loam. These soils require special consideration for drainage and runoff during construction and operation of the trail. Permitting is also stricter and more time-consuming. In the case of hydric soils and wetlands, it is critical to maintain a buffer and vegetation between the trail and creek to ensure any disturbance minimizes the impact to environmentally sensitive areas.

A more thorough investigation will be necessary in design of these segments, but there are a few cultural and historic areas in the vicinity of the project that must be preserved. Byberry Township Burial Ground is located along Red Lion Road between Crestmont Road and Ellicott Road. There are also multiple historic structures, such as the railroad bridge over Grant Avenue and a bridge on Red Lion Road.



Freshwater Emergent Wetland at the mouth of Poquessing Creek.

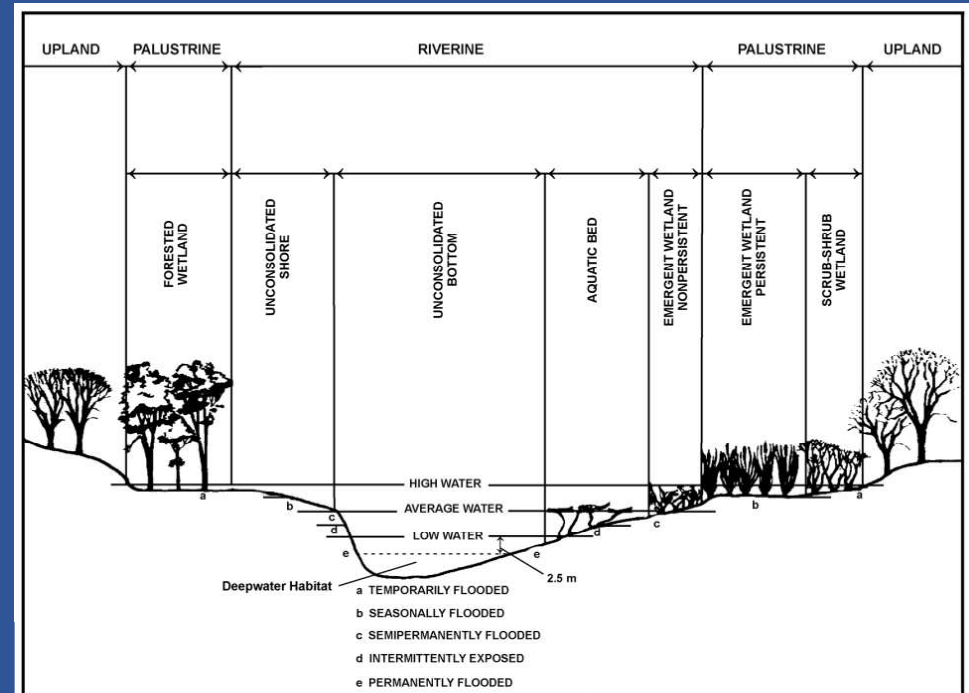
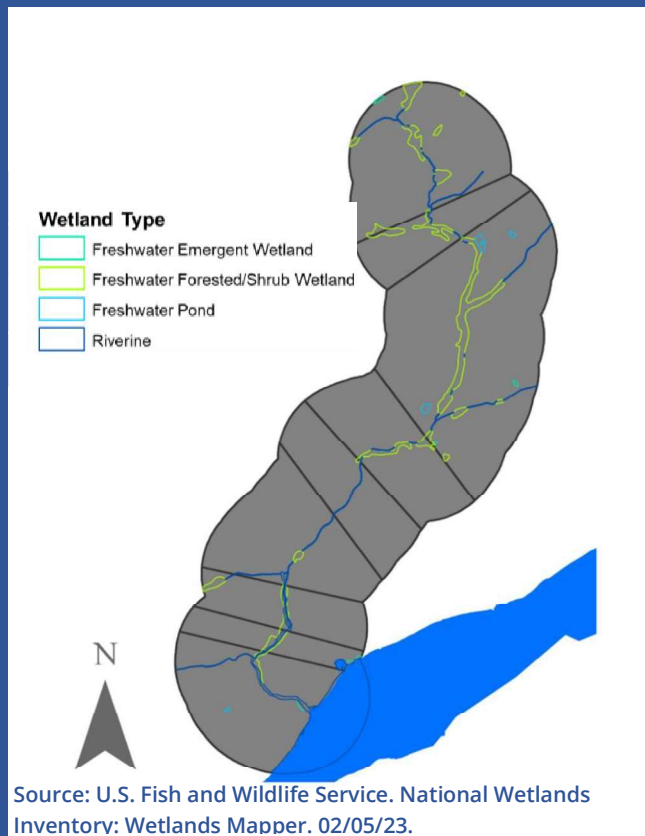


Current PennDOT restoration of the 1805 Byberry and Bensalem Turnpike Bridge in Ben Rush S.P. Privately built, this was the oldest bridge on the Lincoln Highway (McCarthy, P. "Bridges Over the Poquessing").

Riverine & Palustrine System

Generally speaking, wetlands are lands where saturation with water is the dominant factor determining the types of plant and animal communities in its surface and substrate. The defining characteristics of a wetland are its plant community composition, soil morphology, and site wetness. Wetlands serve many important purposes. They are essential breeding, rearing, and feeding grounds for many different types of fish and wildlife. They also provide flood protection and pollution control.

The United States Fish and Wildlife Service assigns wetlands according to 5 different systems. Lower Poquessing Creek is considered both a Palustrine System (characterized as non-tidal, ocean-derived salinity below .5%, areas less than 20 acres, and with shorelines devoid of wave action or bedrock) and a Riverine System (habitat contained within a channel, with over .5% ocean-derived salinity). Such wetland classifications speak to the unique sensitivities and needs across the watershed, and have implications on development impact and preservation needs. By educating users about keystone species and specific threats to the different wetlands, and posting contact information, we hope to build and leverage a sense of stewardship for maintaining the trail. For more information on stewardship and maintenance, refer to the User-Based Trail Program (Pages 5, 64).



Source: Federal Geographic Data Committee (2013). Classification of Wetlands and Deeper Habitats of the United States.

OPPORTUNITIES

To Build the Trail

Of the 5 miles of meandering Poquessing Creek in the study area, the City of Philadelphia owns land abutting 2.1 miles of the Creek. The Simon Group, the owners of the Philadelphia Mills Mall, control an additional 1.7 miles of abutting land. They have provided a letter of support for the trail development. Together, the City and the Mall account for 3.8 miles, or 78% of the length of the Creek, characterized as undeveloped flood plain served by informal dirt trails. A partnership improves the ability to assemble meaningful trail segments. Formalizing the existing dirt trails reduces negative environmental impacts, improves access to a broader segment of population, and connects previously disconnected trail segments.

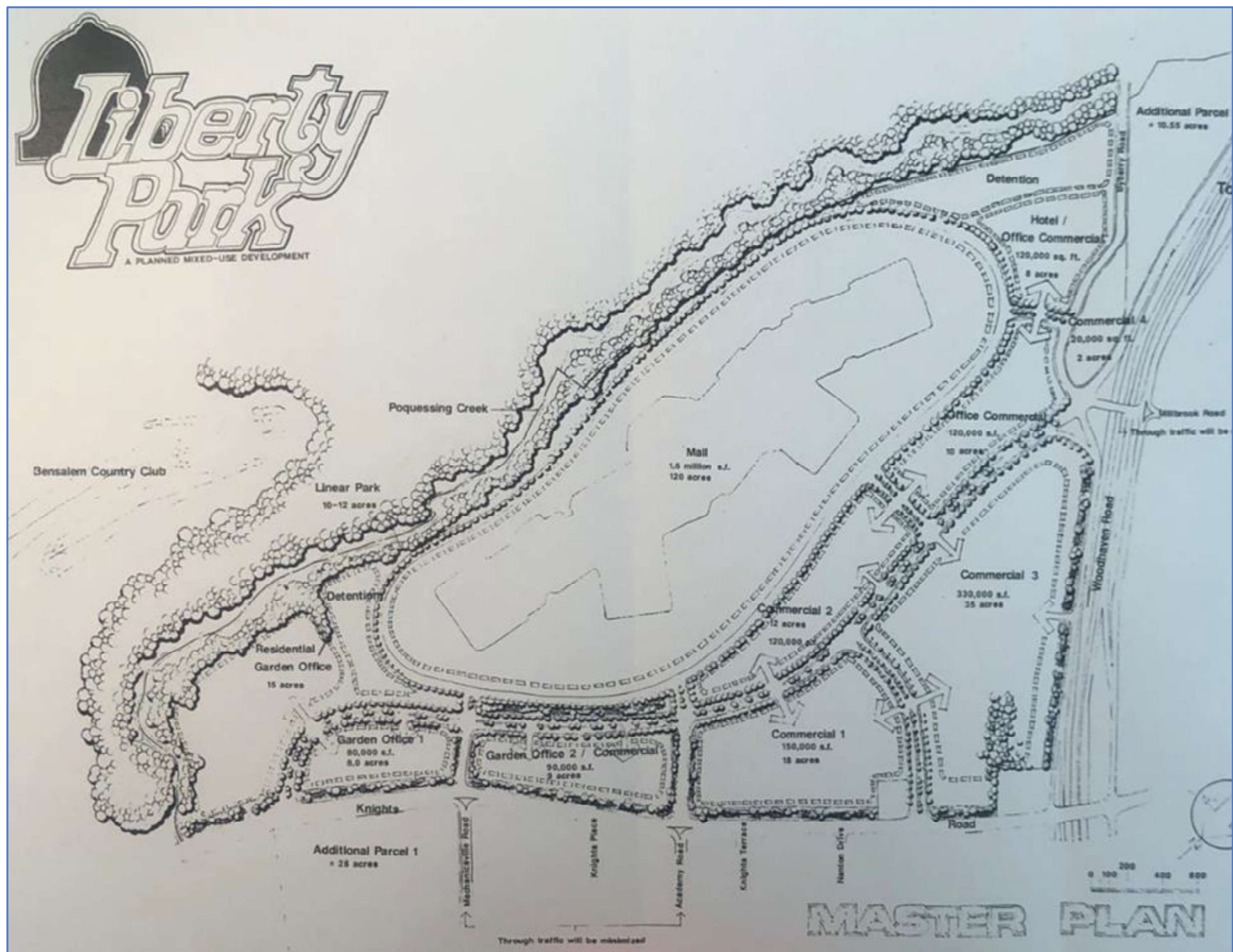
To Make the Trail an Amenity

The Study Area's land use is primed for a trail network. A key distinction of the Far Northeast as it relates to the rest of the City is that much of the street network is sensitive to the natural contours of the land. Instead of channelizing waterways, neighborhoods were built around them. Consequently, waterways physically define neighborhoods and buffer incompatible land uses (e.g., residential and industrial uses). Generally speaking, only arterial roads cross waterways. The result is a suburban landscape that hinders bike and pedestrian travel, especially between different land uses. A trail network would connect land uses for non-motorized travelers.

There are approximately 30,000 residents within the study area. A trail along Poquessing Creek can help promote more universal access between neighbors from Parkwood, Morrell Park, Millbrook, and Torresdale to the playgrounds, office parks, health centers, shopping centers, and schools that serve them. The generous mix of land uses helps promote trail ridership for commuting, recreation, and learning. More users increases the potential for enhanced safety and stewardship.

To Enhance the Community

Regional destinations and other economic drivers in the area provide a variety of opportunities when considering where to align the proposed Lower Poquessing Creek Trail. Connecting the trail to these regional destinations and economic drivers will not only bolster trail usage but will also help improve accessibility to those sites with added multi-modal infrastructure. The trail will provide a walkable connection to major transit hubs in the area, including Torresdale Station, City Line Loop, and Philadelphia Mills. This will give visitors and employees alternative means of traveling throughout the area, free from road congestion.



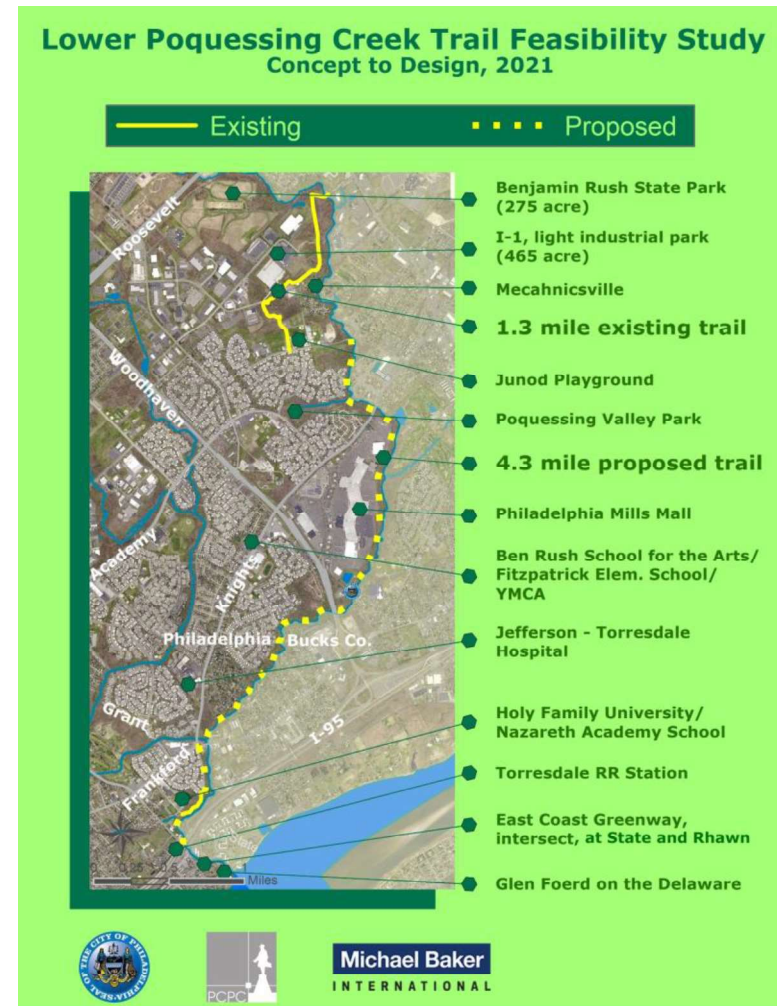
The Proposed Liberty Park imagined a mixed-use garden community anchored by the Mall and distinguished by a linear park along Poquessing Creek. Source: Western Development Corporation. Liberty Park: A Planned Mixed-Use Development. 1986.

To Connect to Existing Parks, Trails, Schools and Bicycle Facilities

There are several opportunities for the new trail to connect to the wider bicycle, and pedestrian networks. Major trail connections include the existing Poquessing Creek Trail to Ben Rush State Park, a potential future connection to the beloved Northeast Airport Loop Trail, the Poquessing Valley Creek trail west towards Stephen Decatur School and Fitzpatrick Playground, and the anticipated East Coast Greenway along State Road. These assets add value to the trail experience, and the trail improves connectivity to the assets.

Distributed along the study area, there are a number of parks, recreation centers, and shopping centers to serve the trail users. Beginning with Junod Playground in the north, there's also Fitzpatrick Recreation Center, Jimmy O'Conner Recreation Center, Fluehr Park, and Glen Foerd. All are within a quarter mile of Poquessing Creek, and would make excellent rest stops for local trail users. Morell Plaza and the Philadelphia Mills Mall are prominently located close to Poquessing Creek, one in the north, the other in the south. Schools in the study area include Northeast Community College, Decatur Elementary, Arts Academy at Ben Rush HS, Fitzpatrick Elementary, Holy Family University, and Nazareth Academy Elementary and HS. For only 4 miles of Creek, there are a tremendous number of trail amenities, trail user generators, and potential trail stewards.

Adding to trail and pedestrian connections, this trail project can also bolster connections to existing bicycle infrastructure. For example, the study area encompasses two streets featuring bicycle lanes (Knights Road and State Road). State Road also serves as a portion of the East Coast Greenway. These connections will help address network gaps for the 30,000 local residents living near study area, helping them reach for jobs, recreation, transportation, and shopping destinations. When constructed, this trail would connect to the regional Circuit Trails, which seeks to connect 800 miles of trails around Greater Philadelphia.



The current study began with the Fairmount Park 2001 Poquessing Creek Park Trail Master Plan alignment, but has since changed.

To Connect to Transit

A key opportunity and consideration for this study is exploring ways to connect the Lower Poquessing Creek Trail to transit, including SEPTA Regional Rail Stations and bus stops. While transit options throughout the study area are abundant, residents, visitors, and workers in the area may not have safe or convenient ways to access the bus and rail network. Creating trails near transit routes can help create missing first- and last-mile connections and provide safe, convenient, and accessible options to walk and bicycle as part of trips made by public transportation.

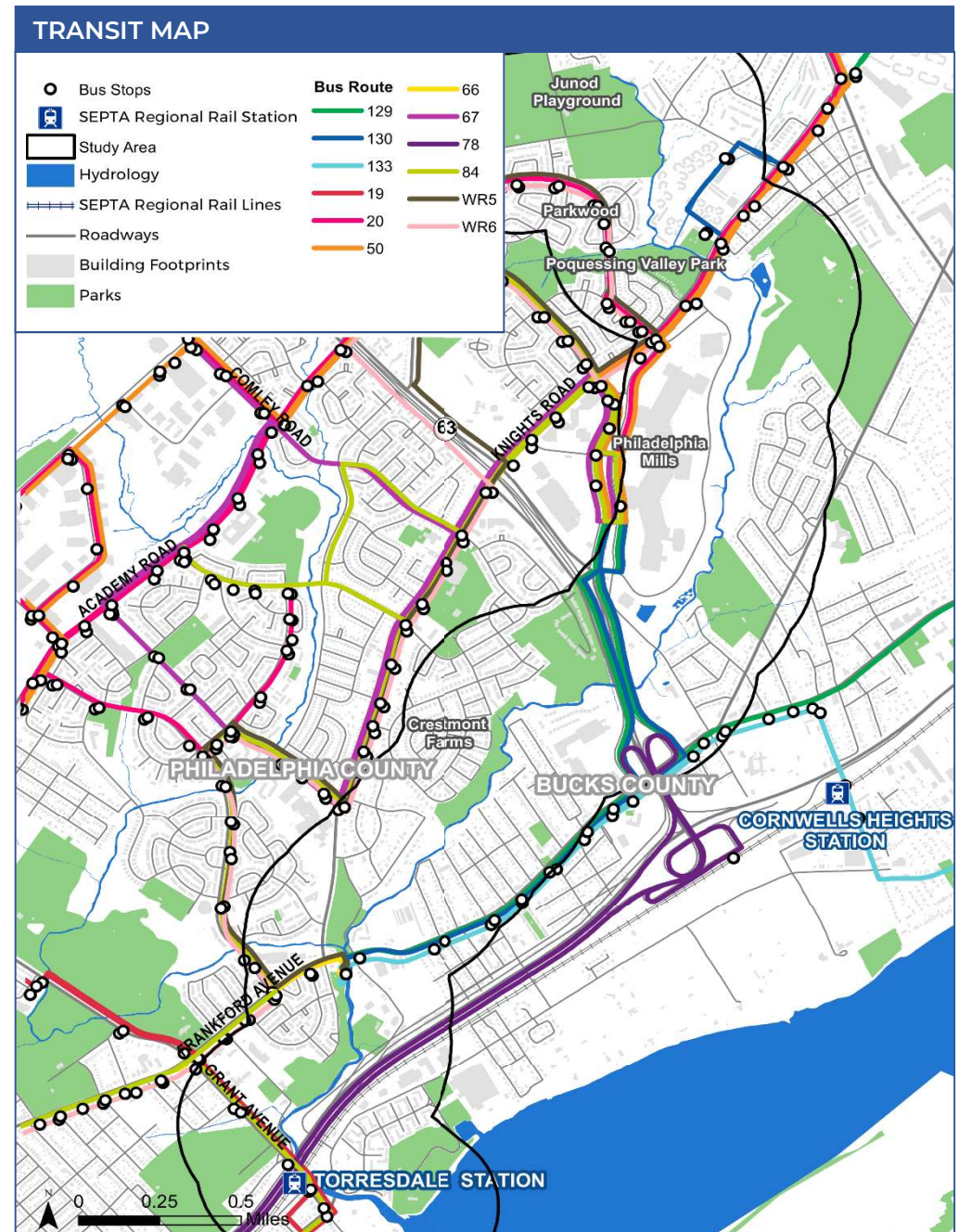
Key transit nodes in the study area include Philadelphia Mills Shopping Center, City Line Loop, Cornwell Heights Station, and Torresdale Station. See Appendix C for a detailed analysis on existing conditions and challenges in connecting the proposed trail to transit locations. Challenges and potential solutions are summarized below. Note that long-term accessibility of Torresdale Station and bus stops in the area go beyond the scope of potential trail-transit connections.

Rail-Trail Challenges

- Torresdale Station is not ADA accessible.
- Lack of bicycle parking options.
- Lack of sidewalks on some nearby streets.
- Vehicle speeds pose challenges for bicycle and pedestrian safety.

Bus-Trail Challenges

- Lack of bicycle and pedestrian infrastructure throughout study area.
- Lack of transit shelters at some high ridership stops.
- Lack of wayfinding signage at some locations.



Strategies to enhance rail-trail and bus-trail connectivity are described in Appendix C. These look at ways to increase pedestrian accessibility and safety, opportunities to use existing open space, needed improvements in transit amenities, and connect various parts of the multi-modal transportation network throughout the study area.

Considerations From Other Studies

Ensuring accessibility and usability of infrastructure at and near public transportation will also be important to maximizing the potential for the Lower Poquessing Creek Trail to serve as more than just a recreational trail. There are a number of recommendations related to the proposed project that have been identified in other studies, including:

- Install bicycle runners, a feature added to stairs to allow cyclists to ascend and descend with a bicycle, to help passengers traveling along Grant Avenue access the station (*SEPTA Cycle-Transit Plan, 2015*).
- Focus on implementing buffered bicycle lanes and extending waterfront trails to increase safety and accessibility (*Philadelphia 2035 North Delaware District Plan*).
- Enhance Grant Avenue underpasses by increasing safety and improving lighting (*Philadelphia 2035 North Delaware District Plan*).
- Support connections to State Road, which is part of the East Coast Greenway and is the preferred alignment for the Bensalem Greenway (*Bensalem Greenway Master Plan*) and the Circuit Trails.
- *Philadelphia Complete Streets Design Handbook* will be updated to include more specific guidance on shared-use paths at overpass and underpass locations, such as those along Grant Avenue as pictured on the right.



Grant Ave looking east to Torresdale Septa Regional Rail Station.



Grant Ave looking east, from the underpass.

CONSTRAINTS

There are a series of constraints to consider when analyzing potential alignments for the proposed trail. This study considered constraints ranging from environmental features to the existing built environment. Three arterial intersections of importance were highlighted as potential barriers, due to existing traffic and potential safety hazards for pedestrians. These included trail intersections with Woodhaven Road, Frankford Avenue, and Grant Avenue. Additionally, since Poquessing Creek serves as the border between Philadelphia and Bucks County, it also was considered as a constraint to the trail alignment. The creek also presents natural limitations, such as wetlands in the National Wetlands Inventory. Primary constraints evaluated when developing trail alternatives are:

- Lack of space by the creek in some areas.
- Flooding along parts of the creek.
- Roadway and bridge crossings.
- Pedestrian and bicycle safety concerns.
- Private property near the creek.
- Steep slopes.
- Drainpipe locations and erosion.

For a more detailed summary of existing conditions and constraints within the study area, please see Appendix C.



Poquessing Creek spills it's banks behind Parkwood neighborhood.



An open culvert behind the Mall erodes a dirt trail.



A dirt biker continues along the CSX tracks (former P & R Short Line) after navigating Poquessing Creek just north of the study area. Incompatible uses on the proposed trail endanger other users, disturb abutting homes, and upset the natural environment.



TRAIL ALTERNATIVES & PREFERRED ALIGNMENT

TRAIL SEGMENTS

The study area is broken into eight segments, as shown in the map on the right. Segments were created around unique areas along the creek that have different considerations for the proposed trail. Priority considerations for segment boundaries were given to connections to residential neighborhoods, connections to destinations, and expansive natural areas. The segmented approach helps with design and implementation, which can then be done in phases. Identifying individual trail segments that can generate use on their own, independent of completion of the larger trail, will bring trail assets to communities sooner. It can also help to address resident concerns targeting at specific segments.

The eight segment areas of the proposed Lower Poquessing Creek Trail from Junod Playground to Torresdale Station and Glen Foerd are as follows:

Segment 1: Junod Playground to Parkwood

Segment 2: Parkwood to Philadelphia Mills at Knights Road

Segment 3: Philadelphia Mills at Knights Road to Woodhaven Road

Segment 4: Woodhaven Road to Parkdale Road

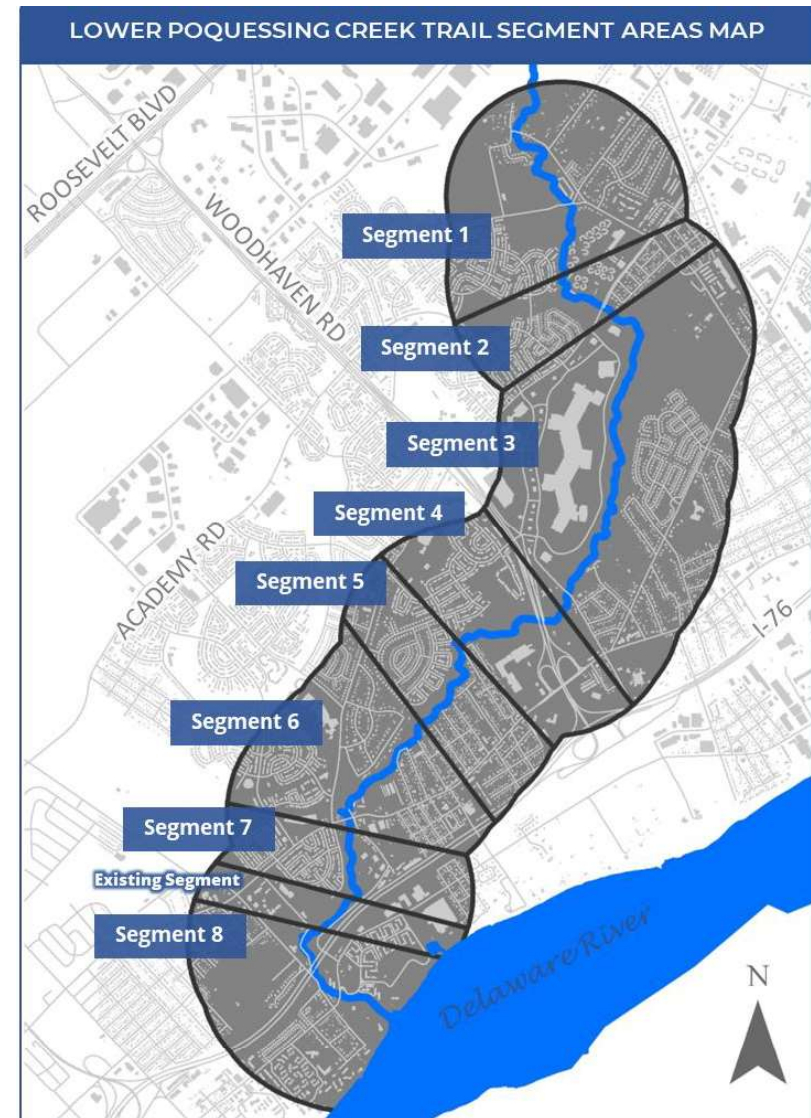
Segment 5: Parkdale Road to Dimarco Drive

Segment 6: Dimarco Drive to Frankford Avenue

Segment 7: Frankford Avenue to Hegerman Street (Hegerman Street to Holy Family University at St. Denis Drive is already complete)

Segment 8: Holy Family University at St. Denis Drive to Glen Foerd

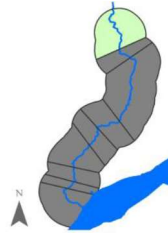
The following section reviews identified alternative trail routes, as well as the preferred alignment for each segment of the proposed Lower Poquessing Creek Trail. Stakeholder and public input helped to determine the preferred trail alignment. Preferences identified in polling questions are included in Appendix D. Concept plans for several specific sites are also included to further detail how the trail could look once implemented.



Segment 1: Junod Playground to Parkwood

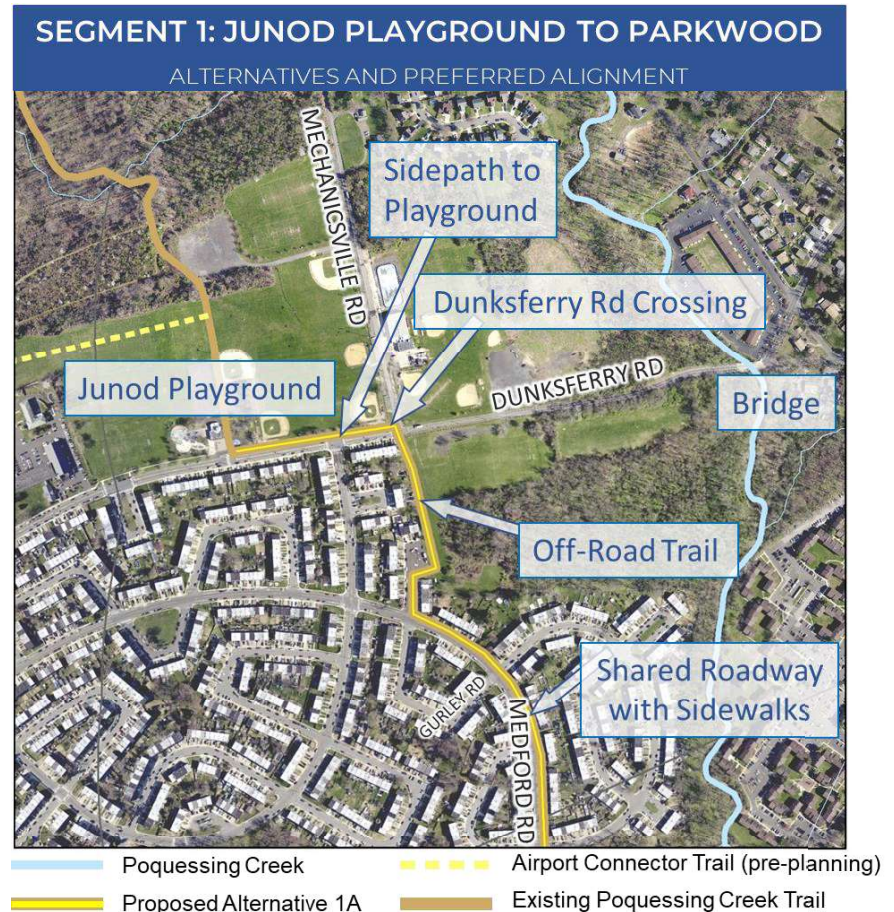
Alternatives

This segment begins at the southern end of the existing Poquessing Creek Trail, a 1.4 mile paved off-road trail connecting Ben Rush State Park (brown line) to the north, with Junod Playground to the south. For the purposes of this Study, the ideal alignment, within Poquessing Creek's riparian buffer, is always considered first, with the alignment moving further afield as conditions warrant. Here, the full off-road option behind Parkwood was quickly eliminated because of a land use conflict and reports of severe flooding. Consequently, for Segment 1, only one trail alignment alternative (**Alternative 1A**) was identified.



Preferred Alignment

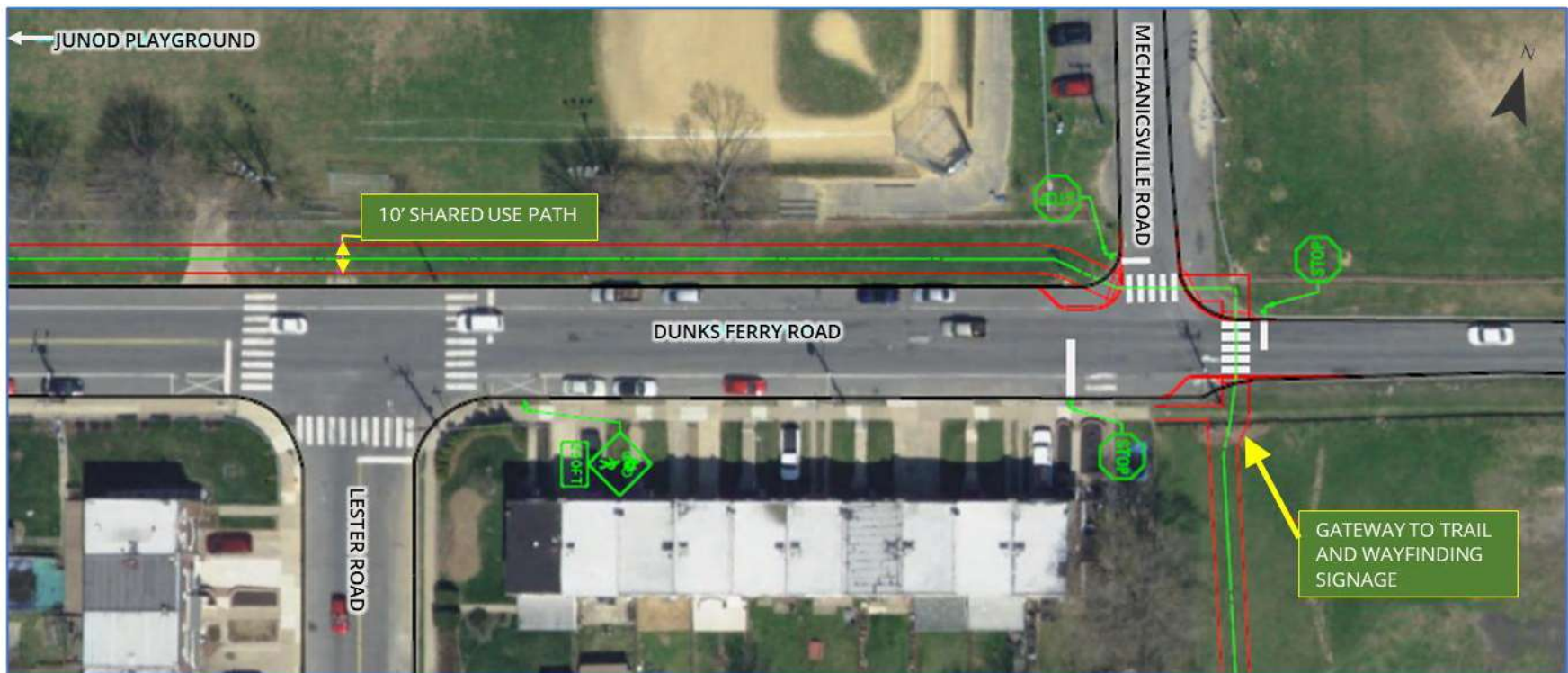
For Segment 1, the preferred alignment is the one identified alternative. It connects Junod Playground to the adjacent neighborhood and connects to the existing Poquessing Creek Trail through the playground. While there is an existing sidewalk along a portion of Dunks Ferry Road to the playground, building a wider 10-foot shared-use path will provide much safer access to the park for walkers and bikers. Users would then cross the street at the intersection of Dunks Ferry and Mechanicsville Roads. After the crossing, the trail continues south through City-owned open space on an off-road trail, before linking to Medford Road, where it would be a shared roadway with sidewalks for approximately 1,700 feet. Traffic counts were performed on Medford Road; eastbound Annual Average Daily Traffic (AADT) was 2,188 and westbound was 1,984. This data indicates that the amount of traffic is low enough to make shared lane markings, or sharrows, a viable option, when completed in tandem with additional roadway treatments to include signage, speed cushions, and paint and pavement markings to slow down traffic and make it more of a neighborhood bikeway. If the volume of trail users warrants it, there may be a long-term option for a shared-use path within the right of way. Parking and other amenities at Junod Playground, and proximity to the proposed Airport Connector Trail (yellow hatch) make it an ideal trailhead location.



Dunks Ferry Road Crossing

An initial concept plan was created for the crossing on Dunks Ferry Road in coordination with the Philadelphia Streets Department. This plan will safely connect trail users to Junod Playground. A ten-foot-wide shared-use path will be developed along Dunks Ferry Road to create an official trail path. Trail users will cross Dunks Ferry Road at the intersection with Mechanicsville Road. This is an existing three-way stop-controlled intersection. Curb bumpouts are proposed to achieve the following safety benefits. Shorter crossing distances mean less time pedestrians are in the road exposed to traffic and greater visibility of pedestrians waiting to cross. Additionally, bumpouts effectively narrow the width of the road, which tends to result in drivers slowing down, especially while turning. Finally, bumpouts provide a more defined parking area and creates a buffer for vehicles parked close to corners, which improves sight lines between vehicles and pedestrians. Adding signage and pavement markings is also intended to increase the safety of the crossing.

Although not shown on the graphic, it is recommended to provide a segment of ADA accessible sidewalk or trail to connect the shared-use path to the parking area along Mechanicsville Road. Additionally, there is potential for the crossing at the intersection of Dunks Ferry Road Segment 2: Parkwood to Philadelphia Mills at Knights Road.



Concept Plan: Dunks Ferry Road Crossing

Alternatives

Segment 2 begins on Medford Road. Adjacent to Medford Road, there is an existing spur trail segment that connects users to Poquessing Valley Park to the west. As shown in the Segment 2 Alternatives and Preferred Alignment Map, there are two alternatives for trail alignment at the intersection of Medford Road and the spur trail.

Alternative 2A follows an off-road trail to Knights Road.

Alternative 2B continues south down Medford Road and follows Mechanicsville Road to Knights Road. Both alternatives end at the northernmost entrance to the Philadelphia Mills Shopping Center, on Knights Road.

Preferred Alignment

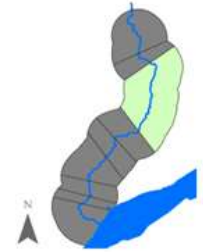
Stakeholder and public engagement identified **Alternative 2A** as the preferred option. Reference Appendix D for data on stakeholder and community alignment preferences. This is the off-road alignment traveling around the Parkwood neighborhood on City-owned land. This alignment stays near Poquessing Creek, away from homes. The trail will then run parallel to Knights Road until it intersects with the entrance to the Philadelphia Mills Shopping Center. Stakeholders raised concerns about potential increases in crime on this segment. Security measures should be prioritized here to address these concerns.

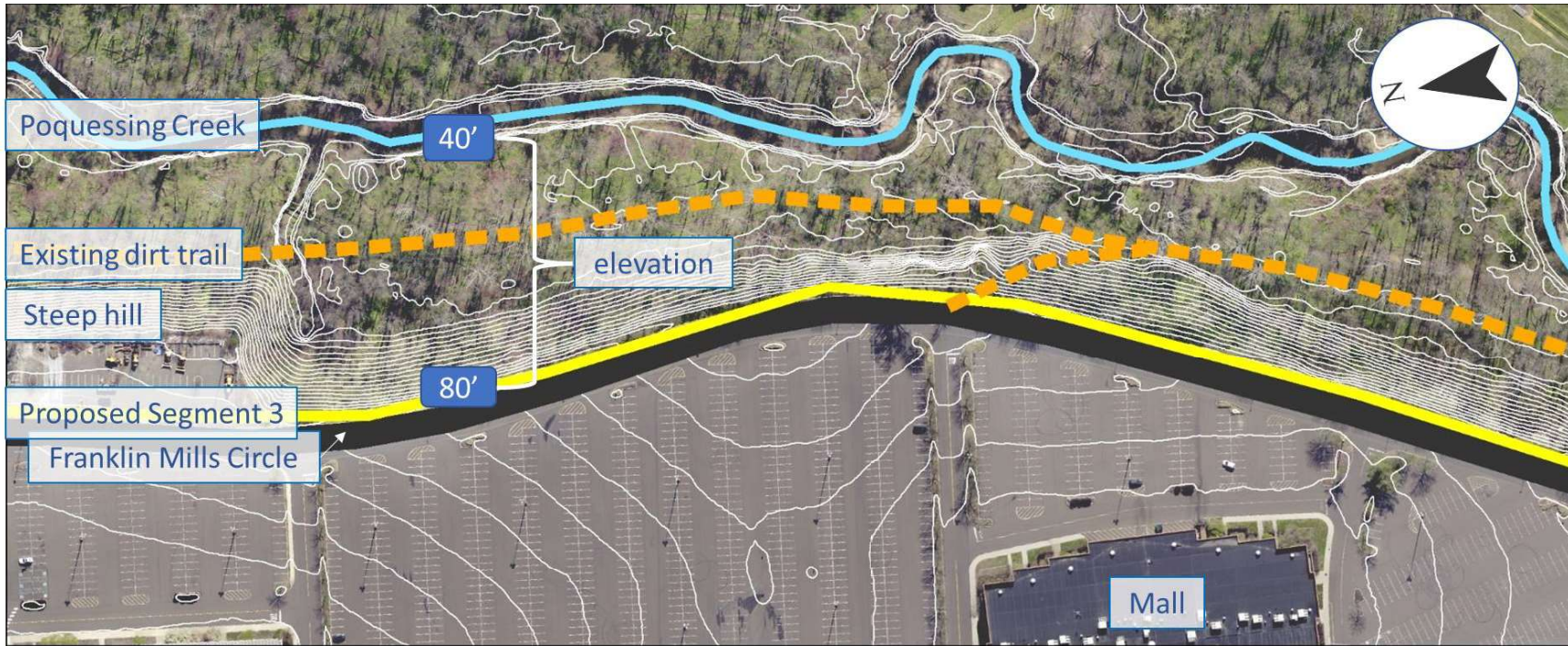


Segment 3: Philadelphia Mills Mall at Knights Road to Woodhaven Road

Alternatives

One and a half miles of Poquessing Creek runs behind the Mall, from Knights Road to Woodhaven Road. The Mall parking lot sits 40 ft above the Poquessing's broad, secluded floodplain. There is a well-worn dirt trail extending the length of the floodplain, accessed from the parking lot above from a few primitive trailheads. The trail is frequented by hobby-level fisherman and dirt bikes, among other users. The Feasibility Study Technical Committee ruled out a trail alignment in the floodplain because of its vulnerability to excessive flooding and erosion. A trail at grade with the parking lot could take advantage of the long-interrupted expanse that Franklin Mills Circle provides. At this segment's bookends, ingress / egress to the Mall's lot presents a design challenge, particularly in the south across the Woodhaven Road expressway.





A 2' topographical map of the area between the Mall and the Creek illustrates the drastic elevation change that characterizes this 1.5 mile stretch of Poquessing Creek. The flood plain is inviting, but conditions don't support a trail.

Preferred Alignment

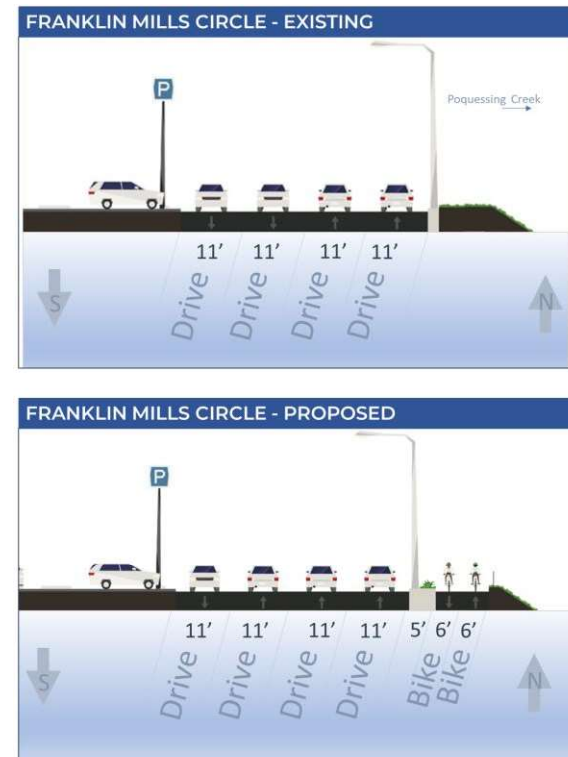
Proposed Segment 3 represents the preferred trail alignment for this section of trail. Segment 3 will use existing signals to cross Knights Road and connect to Franklin Mills Circle. The northern approach to Franklin Mills Circle will require additional discussions with the Mall. Once on the outer loop, an off-road trail will travel uninterrupted between the Mall's service street and the Creek, at grade with the parking lot, 40 ft above the floodplain. A proposed roadway cross-section is illustrated below. An initial concept plan was developed to show how the trail could make connections to the Mall building at the center of the loop. Near the southern portion of the shopping center, the trail will branch in two. One segment of trail will loop north to bring users to the Philadelphia Mills bus stop. The other branch continues across Woodhaven Rd. That connection and alignment is discussed in Segment 5.

Franklin Mills Circle

The roadway cross-section shown to the right shows the existing roadway configuration of Franklin Mills Circle, the road traveling around the back of the Philadelphia Mills Shopping Center. A proposed configuration is also included to show an off-road path for the Lower Poquessing Creek Trail. Bicycle and pedestrian paths will be separated from vehicular traffic with curb and a minimum five-foot buffer.

Shopping Center Access Paths

The concept plan below shows proposed paths and sidewalk connections to the Philadelphia Mills Shopping Center. The long-term vision is to have safe, tree-lined sidewalk paths from many parts of the trail to the shopping center.



Segment 4: Woodhaven Road to Deerpath Lane

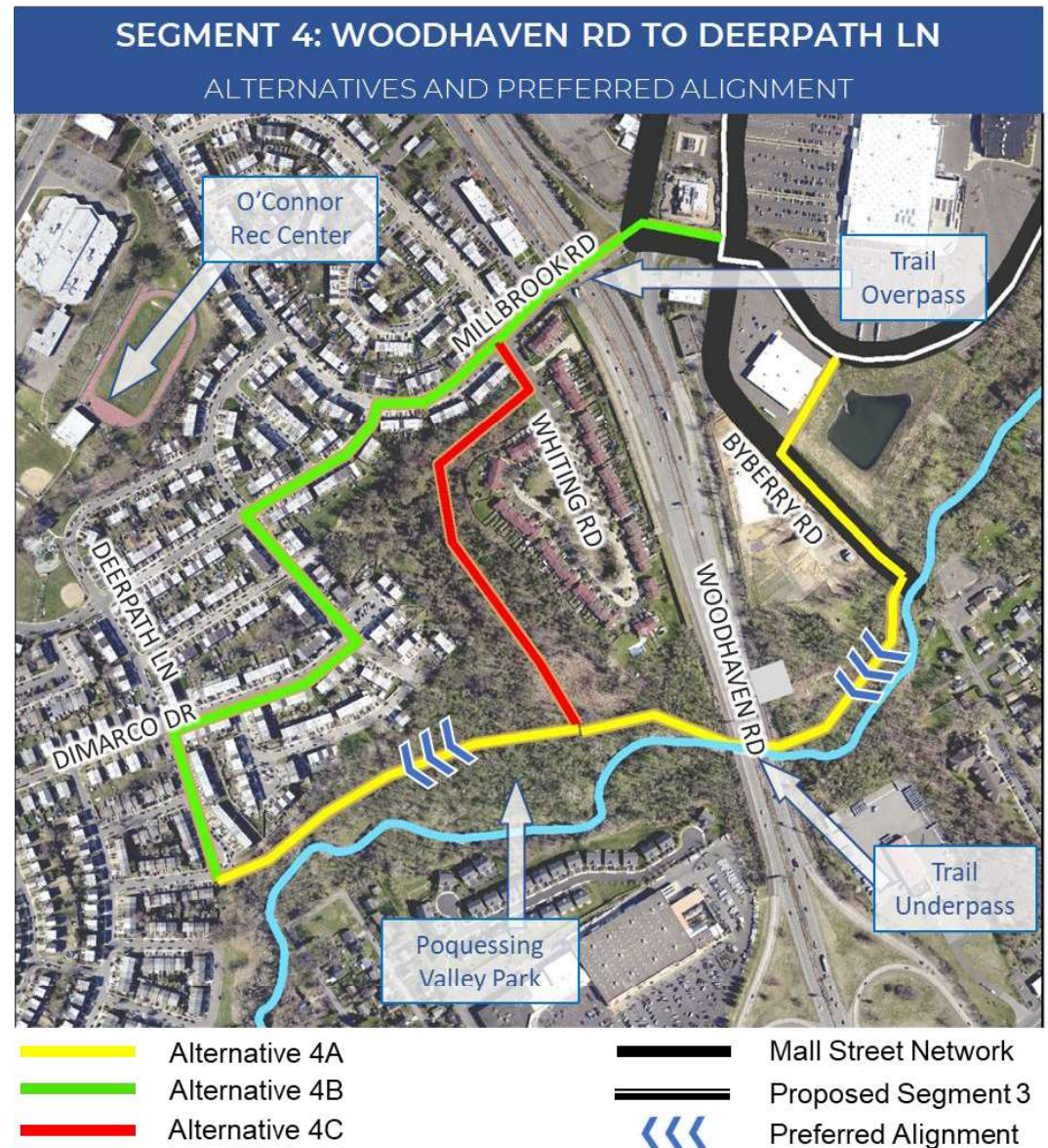
Alternatives

Segment 4 begins at the southern end of the Philadelphia Mills Shopping Center, which has two options for an exit, discussed in Segment 3 alternatives. Segment 4 looks closely at these two Woodhaven Road crossing options, as shown in the Segment 4 Alternatives and Preferred Alignment Map. **Alternative 4A** follows a public easement on Byberry Road, to the Poquessing, before following the Creek on private property to a Woodhaven Road underpass. Immediately after the bridge, the trail navigates a small drainage right-of-way and then south for a half mile to the bottom of Deerpath Lane. **Alternative 4B** crosses a narrow Woodhaven Road overpass at Millbrook Road. It continues through the Millbrook neighborhood to Greenmount Rd, to Dimarco Drive and connects with the next segment at the bottom of Deerpath Lane. This alternative shares the road and provides users a sidewalk path.

Alternative 4C takes the overpass to Millbrook, but goes off-road through Poquessing Valley Park enroute to Deerpath Lane.



Alternative B trail overpass has very little room to accommodate bikes and pedestrians.



Preferred Alignment

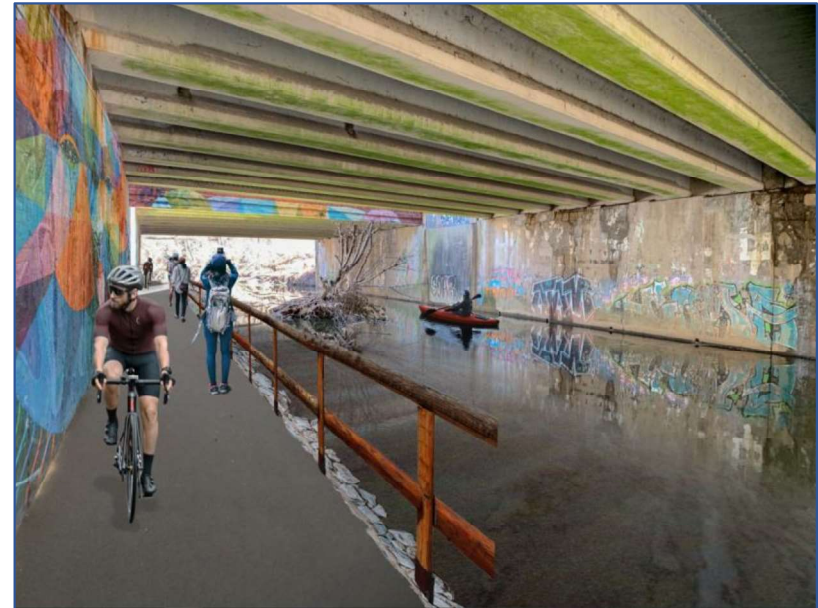
Stakeholder and public engagement identified **Alternative 4A** as the preferred option. Reference Appendix D for data on stakeholder and community alignment preferences. As mentioned, this is the off-road alignment that follows Poquessing Creek beneath Woodhaven Road to connect to the Millbrook neighborhood at the end of Deerpath Lane. A conceptual rendering was developed for the Woodhaven Road underpass. A trailhead will be developed at the connection with Deerpath Lane to clearly mark trail entrances. This trailhead location is only a few blocks from O'Connor Recreation Center, a convenient pit stop for neighbors accessing the trail from across Knights Road. Stakeholders raised the concerns that this alignment runs close to private property. The design and implementation phases will review this further to ensure the trail does not encroach private property.

Woodhaven Road Underpass

The rendering pictured to the right presents a possible trail design for the Woodhaven Road underpass alongside Poquessing Creek. The first picture shows what the underpass looks like today after a rain. There is a natural berm on the Philadelphia side. The rendering below shows how a multi-use path could be developed next to the creek. This design could be accomplished through the use of rock-filled cages called “gabion baskets” with a layer of pavement on top and a railing for safety. Underpass lighting is also recommended. It should be anticipated that this underpass could become impassable immediately following severe storms. Real time wayfinding messages should be considered for Deerpath Lane and Franklin Mills Circle.



Woodhaven Road underpass. Existing.

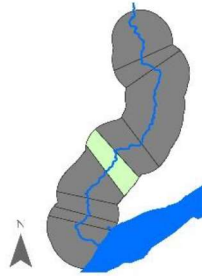


Woodhaven Road underpass. Proposed.

Segment 5: Deerpath Lane to Dimarco Drive

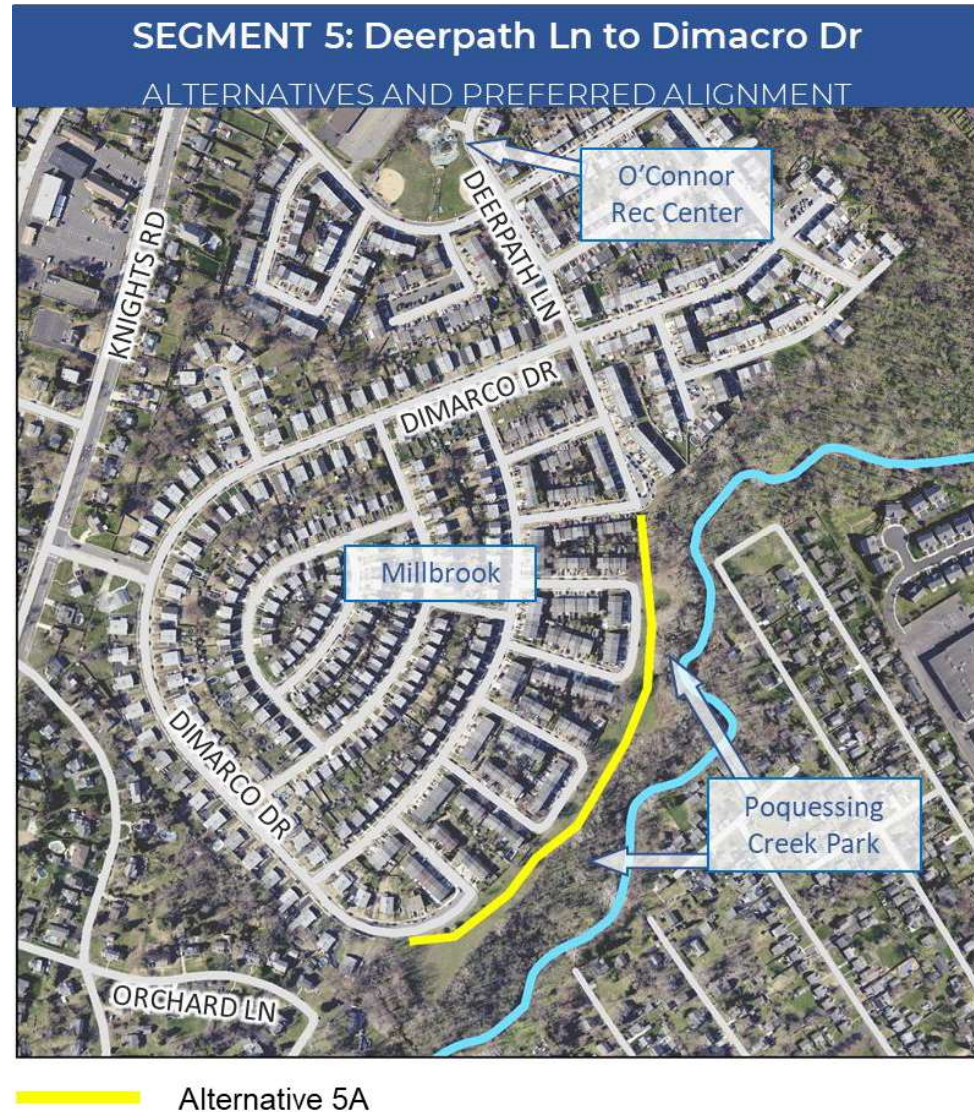
Alternatives

Segment 5 begins at Parkdale Road and Deerpath Lane. As shown in the Segment 5 Alternatives and Preferred Alignment Map, this section of the trail would be an off-road path around the Millbrook neighborhood with sidewalk connections to adjacent streets. Segment 5 ends where it intersects with the Dimarco Drive.



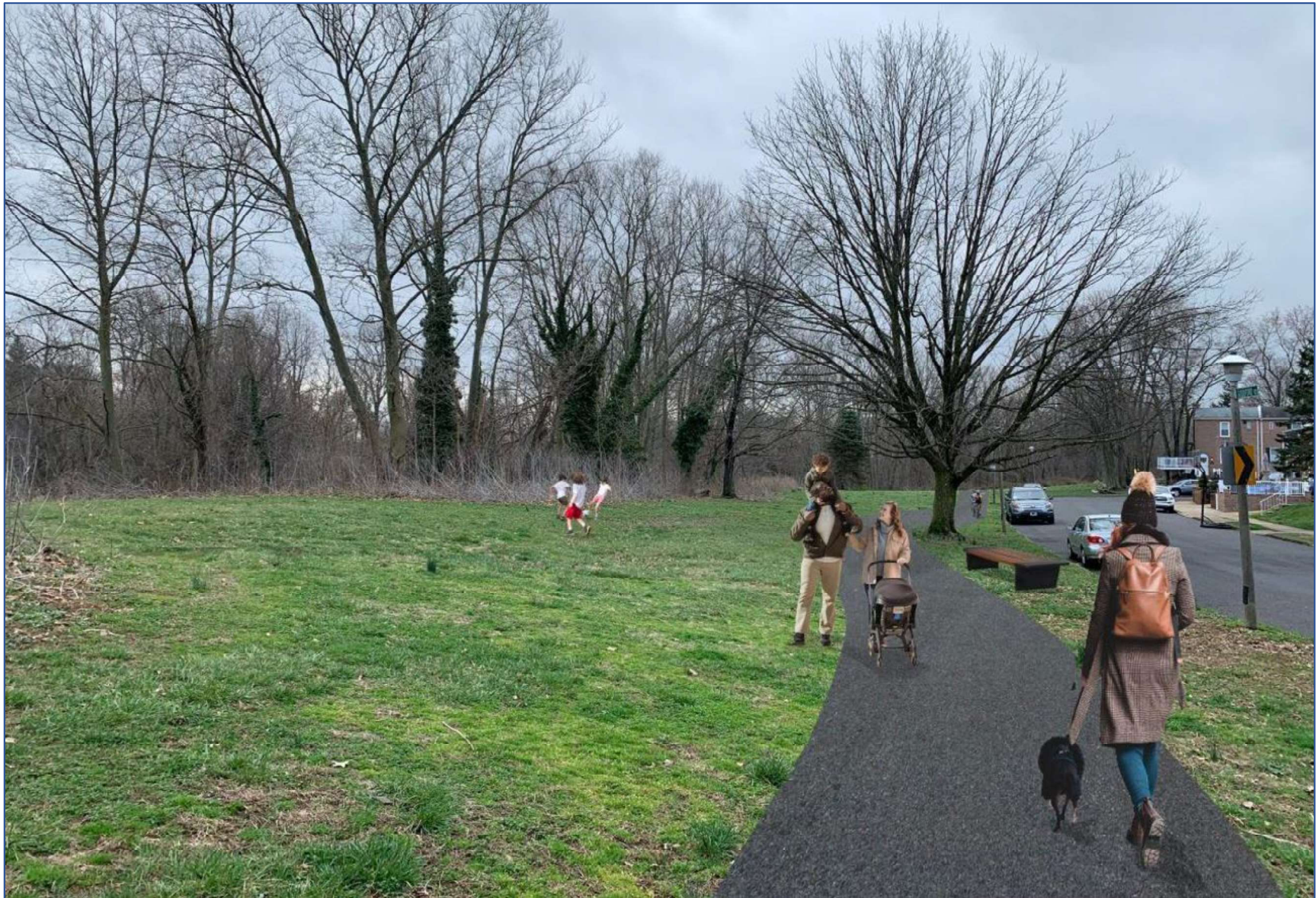
Preferred Alignment

For Segment 5, the preferred alignment is the one identified alternative. It will travel around the Millbrook neighborhood on City-owned land and right-of-way. It can be designed to allow easy access from adjacent blocks directly to the trail through an existing open space area on the edge of the neighborhood. The trail will transition to an on-road alignment at the southern end of Dimarco Drive (refer to Segment 6). An initial concept plan was created for the open area in this segment proposed for recreational use. Neighbors noted concerns about potential crime coming to their neighborhood if non-area residents start to frequent the trail. Security measures should be prioritized here to address these concerns.



Millbrook Open Space Area

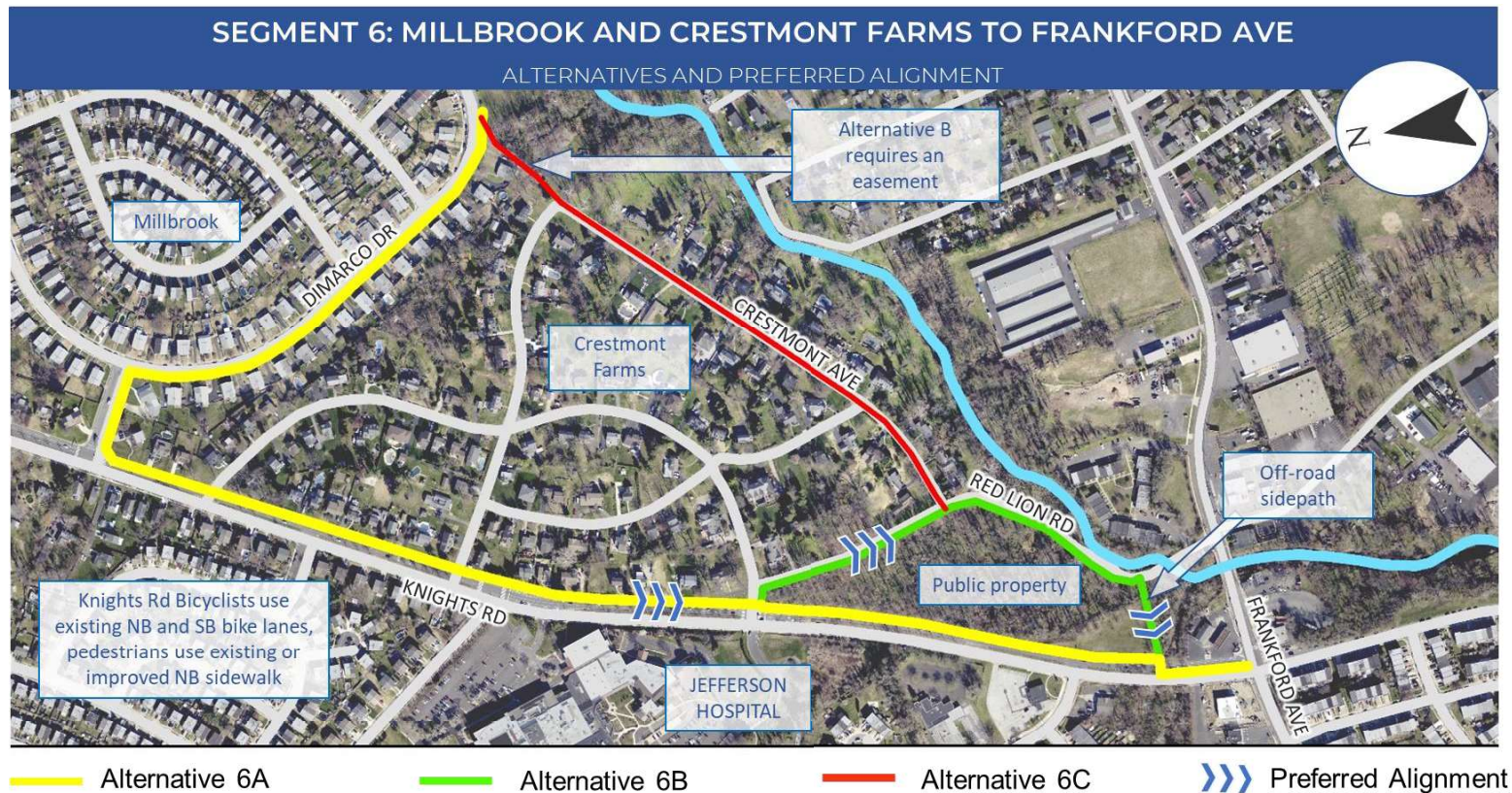
The rendering below shows the potential for recreational use of open space around the Millbrook neighborhood. Many people were observed using this area during field visits. More permanent trail development here could enhance the use of this open space area.



Segment 6: Millbrook and Crestmont Farms to Frankford Avenue

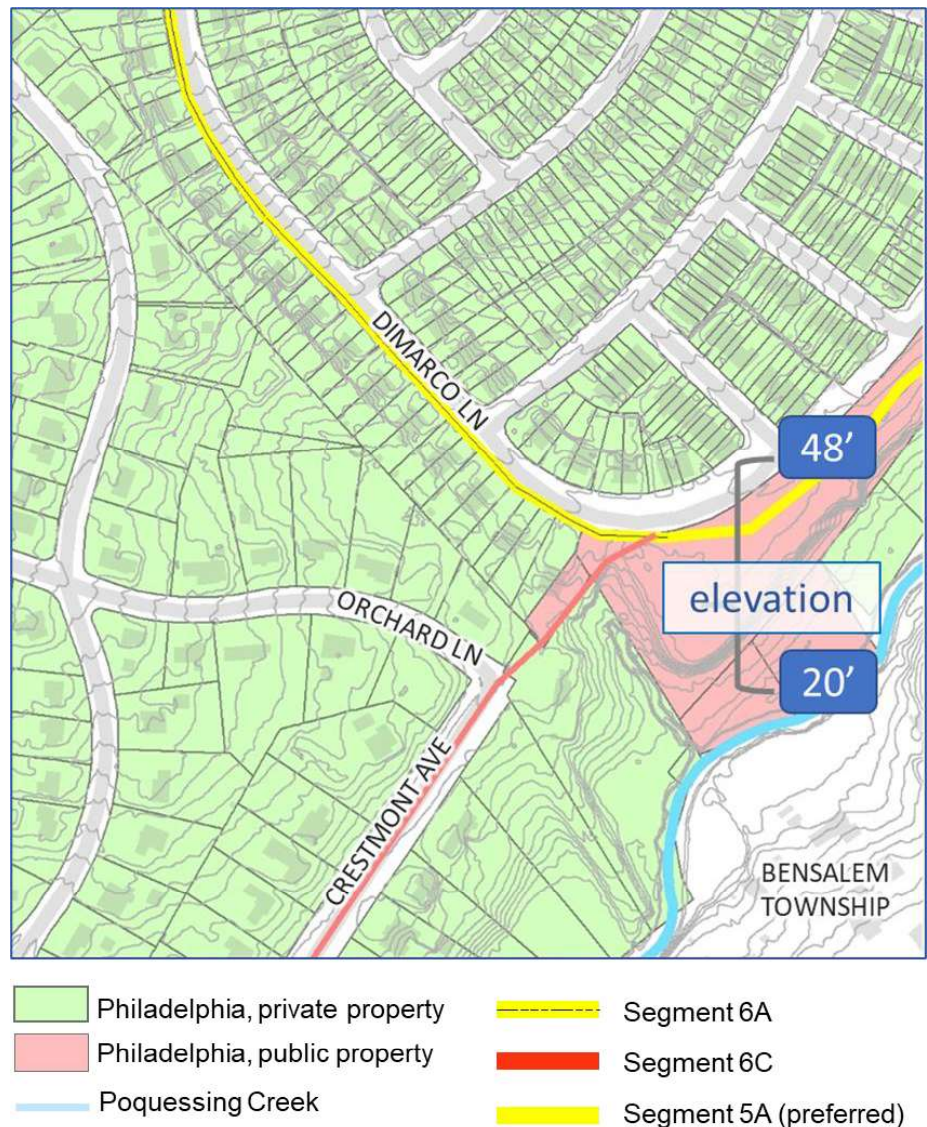
Alternatives

Segment 6 begins at the southern end of the Millbrook neighborhood. As shown in the Segment 6 Alternatives and Preferred Alignment Map, there are three alternative alignments for this segment. **Alternative 6A** takes the circuitous route through the Millbrook neighborhood to Knights Road. This path then follows Knights Road south to the intersection with Frankford Avenue. Users would share the existing north and south bound bicycle lanes or sidewalk along Knights Road, or a new sidepath could be created along City-owned land. **Alternative 6C** follows the most direct route, connecting Dimarco Drive and Crestmont Avenue offroad, then south down Crestmont Avenue using a shared road to Red Lion Road to its intersection with Frankford Avenue. This potential connection would require property easements. **Alternative 6B** incorporates a scenic sidepath along City-owned property next to Red Lion Road.



Preferred Alignment

Stakeholder and public engagement identified a hybrid **Alternative 6A and 6B** as the preferred option. Refer to Appendix C for data on stakeholder and community alignment preferences. This section begins as an on-road alignment traveling along Dimarco Lane to Knights Road, and then connecting to a sidepath alongside Red Lion Road via Ellicott Road, before connecting back to Knights Road just above Frankford Avenue. There are existing sidewalks and bicycle lanes on Knights Road that can be used for this segment. However, the design phase should look at options to create a higher quality bicycle facility on Knights Road. Stakeholders suggested that protected bicycle lanes be analyzed for Knights Road. An initial roadway cross-section has been prepared to identify potential roadway configurations for Knights Road to ensure safety along the trail. Near the southern portion of the segment, a part of Alternative 6B would also be implemented as an off-road trail through City-owned land. This additional path provides direct access to natural lands and avoids traveling the wrong way down a one-way portion of Red Lion Road. Residents also noted they do not want to lose any on-street parking spots on Knights Road for the trail.



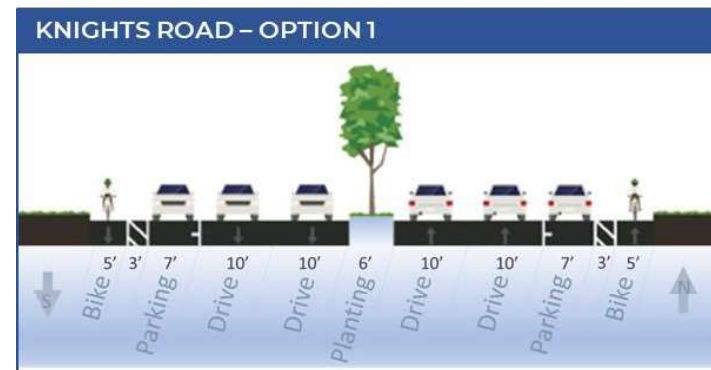
While Alternative 6C presents the most direct route, it also has the most challenges. Alternative 6C would require an easement across private property to connect Millbrook and Crestmont Farms neighborhoods, with the exact route limited by steep terrain. The public vote did not favor this alternative, with most opting for the indirect, on-road alternative A.

Knights Road Configuration

Alignment Alternative 6A requires completing Knights Road's eastern sidewalk between Orchard Road and Frankford Avenue to enhance pedestrian travel. It also demands safety improvements to Knights Road, which currently has two unprotected bike lanes that can be intimidating on such a fast-moving road. Two streetscape reconfigurations to the existing 76 feet curb-to-curb design are considered below.

Redesign Option 1 swaps the bike lanes and parking lanes, positioning the bikes in the outside lanes. In addition, it borrows 6 feet from the planted median to create 3-foot buffers between the two bike and parking lanes. Narrowing the planter makes this the more costly option.

Redesign Option 2 replaces the parking lane on the eastern (Poquessing Creek) side of Knights Road with two protected bike lanes. This preferred reconfiguration improves efficiency and safety for bikers traveling south on the proposed trail. However, it requires a realignment back to the existing conditions north of Dundee Avenue.



Alignment Alternative 6A includes safety enhancements to Knights Road between Dundee Avenue and Frankford Avenue. Not shown, the sidewalk on the east side of Knights Road along this 1-mile stretch would also need to be completed to accommodate pedestrian trail users.

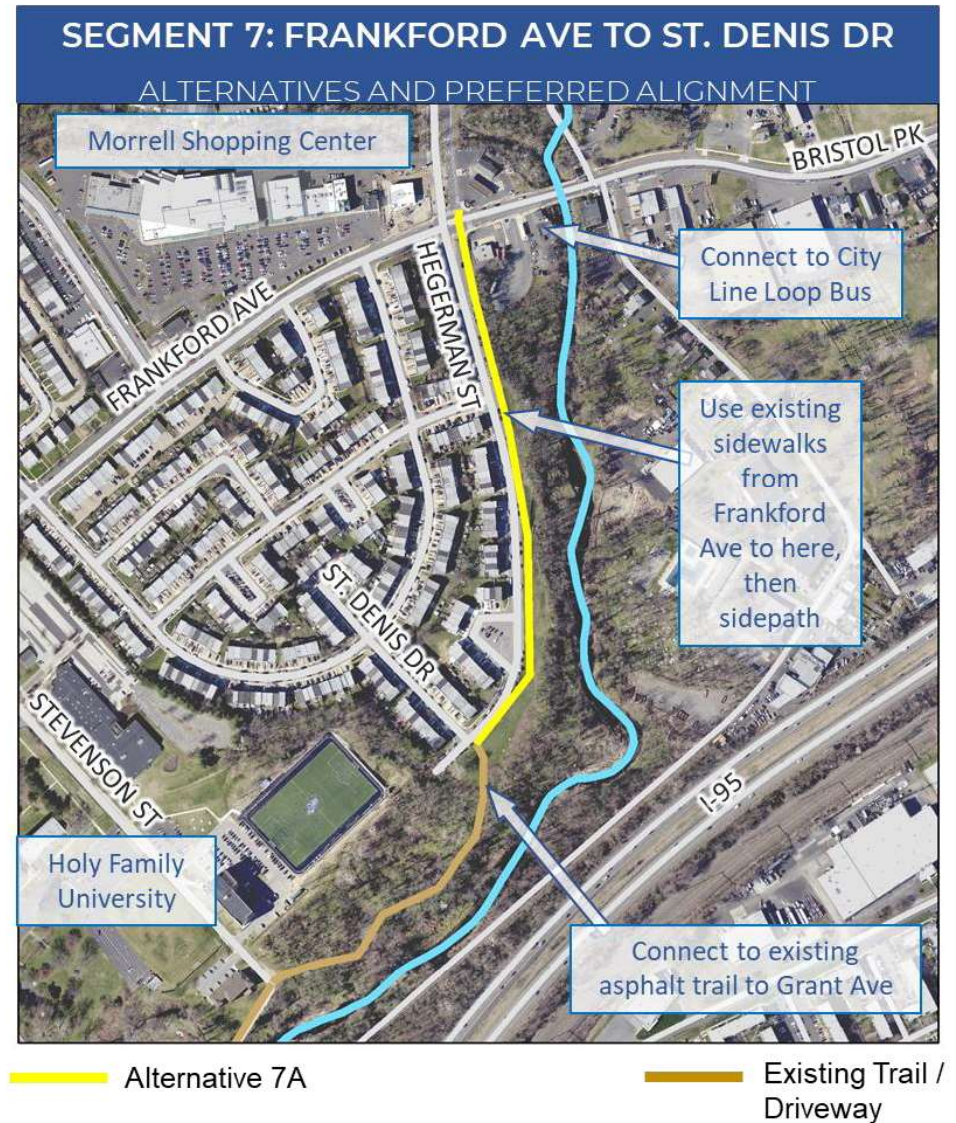
Segment 7: Frankford Avenue to Holy Family University at St. Denis Drive

Segment 7 begins at the intersection of Frankford Avenue and Hegerman Street, next to the City Line Loop bus stop, and extends to an existing off-road trail that begins at the bottom of St. Denis Dr. The off-road trail travels south past Holy Family University to Stevenson St., and beyond to Grant Ave.



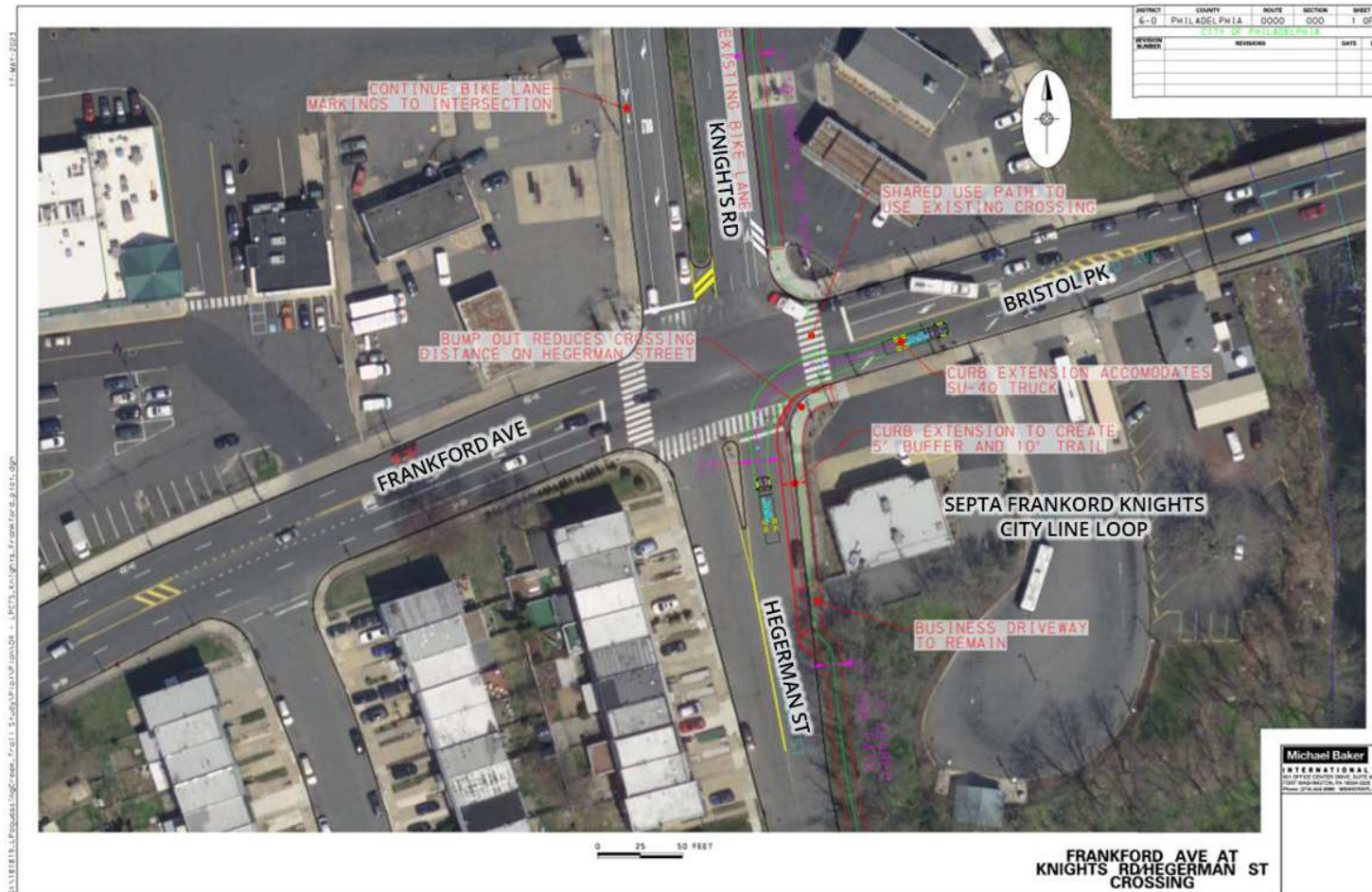
Preferred Alignment

For Segment 7, the preferred alignment is the one identified alternative. The segment travels south along Hegerman Street on an off-road shared-use path where there is currently sidewalk. Stakeholders suggested safety treatments may be needed for the transition from Knights Road to Hegerman Street across Frankford Avenue, particularly near City Line Loop. An initial concept plan was developed for this area to review roadway impacts from pedestrian treatments, such as curb bump outs. As Hegerman Street near its southern end, it turns into a grassy area and will connect to an existing trail from Hegerman Street to Holy Family University.



Sidewalk Treatment at City Line Loop

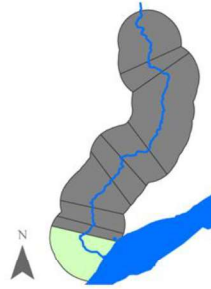
The concept plan below shows a design concept for the transition from Knights Road to Hegerman Street across Frankford Avenue at City Line Loop. Curb bump outs are proposed at the southeast corner at City Line Loop to shorten crossing distances across Hegerman Street and Frankford Avenue.



Segment 8: Holy Family University at St. Denis Drive to Glen Foerd

Alternatives

Segment 8 begins at the end of the existing trail connecting Hegerman Street to Holy Family University. As shown in the Segment 7 Alternatives and Preferred Alignment Map, this final segment of the trail uses Stevenson Street and Grant Avenue to connect to SEPTA's Torresdale Station and Glen Foerd by the Delaware river. The path follows Grant Avenue through action. Near the northern portion of this segment, the trail can also be extended to create a trail connection to Fluehr Park.



Preferred Alignment

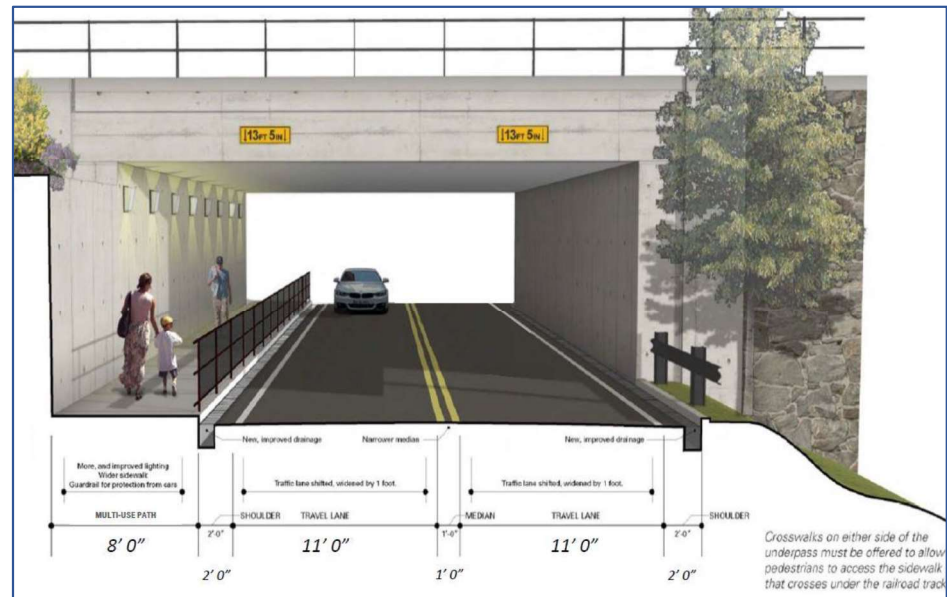
The preferred alignment for Segment 8 is the one identified alternative. A short segment of trail could connect the existing shared-use path to Grant Avenue between the residence hall and I-95 Southbound overpass. A sidewalk bumpout, rectangular rapid flashing beacon (RRFB), and bicycle/pedestrian crossing signage are proposed to provide a safe crossing of Grant Avenue. Widening the sidewalk into Grant Avenue between Eden Hall Lane and Torresdale Station is required to achieve an eight-foot trail and five-foot buffer.

Residents noted that the Torresdale Station underpass experiences significant flooding when it rains. This is not from the creek but from the sewer overflow. Flooding concerns will need to be addressed in the design phase. An initial concept plan for the Torresdale Station underpass was developed and is included in this section below. Residents also noted that they do not want sidewalks on Grant Avenue. Therefore, implementation of a path between Torresdale Station and Glen Foerd will require further public coordination.



Torresdale Station Underpass

The concept plan below shows the proposed design for the Torresdale Station underpass. There is an existing sidewalk that goes through this short tunnel, as shown in the left picture. The rendering shows how railings and lighting treatments can be made to improve visibility and safety for all roadway users. This rendering was developed for the 2018 safety study along this portion of Grant Avenue. A similar design concept was implemented on Cobbs Creek Parkway in 2020, shown below, illustrating the feasibility of this design for the Lower Poquessing Creek Trail.



Cobbs Creek Parkway – Before



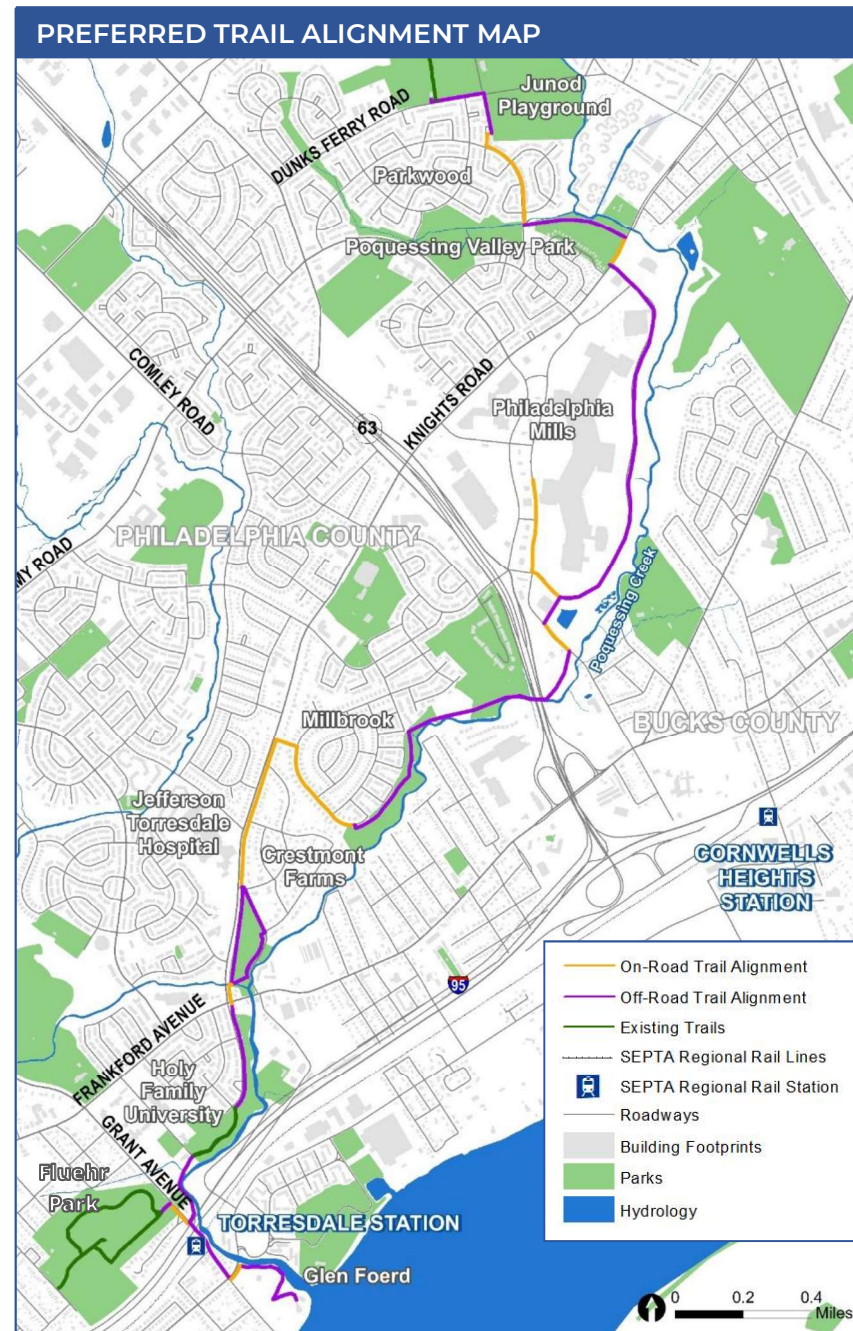
Cobbs Creek Parkway – After

Proposed Torresdale Station Underpass

LOWER POQUESSING CREEK TRAIL PREFERRED ALIGNMENT

The Lower Poquessing Creek Trail Preferred Alignment Map shows the preferred alignments for all eight segments of the proposed trail. Orange segments are on-road trail alignments and purple segments are off-road trail alignments.

Interactive polling questions were given to both the steering committee and the public during project meetings. These were used to identify preferred alignments of different trail segments. Preferences identified in polling questions are included in Appendix D.



CONSIDERATIONS FOR DESIGN PHASE

Stakeholders and members of the public brought forth a number of concerns and considerations for trail design and implementation. These can be classified into seven categories: amenities, wayfinding, trail maintenance, trail design, natural areas, security, and opportunities. Considerations are described below.

Amenities

- Benches.
- Signage and trail markers.

Wayfinding

- Existing trails need better markings.
- Need clear signage at trailheads.

Trail Maintenance

- Requests to maintain existing paths at Junod Playground and Benjamin Rush Park.
- Requests for consistent cleaning of trails.

Trail Design

- Use paved or gravel trails to increase accessibility.
- Design multi-use paths that allow people to walk or bike.
- Design entrances that block illegal uses, such as ATVs or other vehicles.

Natural Areas

- Requests for the trail to stay in natural areas as much as possible: by the creek, in greenspace or open space.
- Requests that no trees are removed to make paths for the trail.
- Avoid placing paths in the floodplain.

Security

- Concerns about improper uses of the trail, such as vehicle use.
- Suggestions for bike patrols and security cameras, particularly in residential areas.

Opportunities

- Cultural history in the study area can be incorporated into trail amenities, such as informational signs and historic markers.
- Idea to allow archery hunting via a lottery system for one week a year as a way to raise funds for maintenance.
- Identify ways to manage invasive species through planned trail maintenance activities.

Philadelphia Parks and Recreation has set design standards to limit motor vehicle access on trails. Potential design solutions can include collapsible bollards, boulders, fencing, offset gates, transitional paving materials, planting areas, and clear trail signage. These can be used in combination with each other to restrict vehicle access to trails. Key considerations are ensuring there is enough space for wheelchairs and strollers while not allowing vehicular access.



Boulders at the intersection of Deerpath Lane and a section of Poquessing Valley Park in Millbrook add an element of nature as they stand guard deterring off-road vehicles and illegal dumping.



IMPLEMENTATION PLAN

PHASING & COST ESTIMATES

The estimated total project cost of the 5.25-mile trail is \$6.674M, or approximately \$1.3M per mile of trail.

The trail is broken into eight segments to create manageable projects for design and construction. Prioritization of the sections is based on needs, community input, and cost. The section with the most need, lowest cost, and some community support is Segment 8, from Holy Family University to Glen Foerd. The lack of adequate facilities connecting to the train station combined with the proposed changes at Glen Foerd make this section the most impactful.

Following Segment 8, Segment 1 would provide a connection from neighborhoods to the playground and existing trail. Once these two segments are complete, the trail design would focus on eliminating gaps from the northern and southern ends, working towards the center. The final sections would be Segments 3, 4, and 5 which have the highest cost, lowest community support, and largest barriers to completion. More time will be required to progress these sections through the public involvement and environmental processes.

Overall costs of each segment are provided in the table. Costs are estimated in 2022 dollars, last updated 5/15/23. Escalation to future dollars was not included.

PROPOSED TRAIL COST ESTIMATES BY SEGMENT		
Segment	Description	Design & Construction Cost
1	Junod Playground to Parkwood	\$446,500.00
2	Parkwood to Philadelphia Mills	\$819,800.00
3	Philadelphia Mills to Woodhaven Road	\$1,391,000.00
4	Woodhaven Road to Parkdale Road	\$1,482,600.00
5	Parkdale Road to Dundee Avenue	\$608,500.00
6.1	Dundee Avenue to Frankford Avenue with On-Road Section along Ellicott Road & Off-Road along Knights Road	\$707,200.00
7	Frankford Avenue to Hegerman Street	\$542,600.00
8	Holy Family University to Glen Foerd	\$226,400.00
Entire Project (5.25 miles)		\$6,224,600.00
Entire Project (Cost/mile)		\$1,185,600.00

MAINTENANCE AND STEWARDSHIP

Introduced in the early 2000s, the proposed “User Based Trail Program” continues to be applicable today. The 2001 Trail Master Plan for Poquessing Creek Park identifies three goals for the trail: fairness and inclusivity, protection of natural resources, and standards for infrastructure and maintenance. Most concerns expressed during this study’s planning process directly relate to achieving these three broad goals.

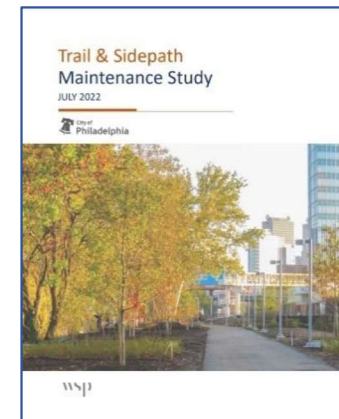
Fairness and inclusivity refer to trail user identities. Given all of the different modes of transportation in the City today, special consideration should be given in determining what type of users the trail can accommodate. These considerations should include how to address user conflicts. For example, how can bicycle commuters co-exist with older adults that enjoy nature walks? Additionally, how will new modes of transportation (e.g., e-bikes and e-scooters) be perceived? Ultimately, there must be a mutual understanding of and respect for one another to seamlessly integrate and reduce potential impacts of multiple trail users. Behavioral norms should be identified and promoted.

Poquessing Creek and its tributaries boast subtle beauty: babbling brooks, wetlands, wildflowers, hawks, deer, snakes, even foxes. **Trail development should support and enhance the protection of these natural resources.** With the right tools and communication channels, trail users could be the eyes and ears for City staff dedicated to such services. Specific departments are trained to identify environmental performance metrics, threats to those metrics, strategies to avoid threats, and strategies to address threats.

Setting standards for infrastructure and maintenance, and communicating those standards to the community, helps define the City’s responsibility to the trail. Consequently, this helps foster trail stewardship because it allows interested parties to examine the City’s stated responsibilities against what is needed to manage the trail. Operationalizing the City’s role enables trail stewards to better define their own purpose, manage their resources, and support one another’s goals.

Aligning with the 2022 Philadelphia Trail and Sidepath Maintenance Study

This Lower Poquessing Creek Trail Advanced Feasibility Study stands by the three central goals of the 2001 plan and seeks to reinforce that original desire to foster a User Based Trail System to realize these interdependent goals. During this feasibility study, Philadelphia began releasing initial reports from their DVRPC-funded, stakeholder-driven, and data-informed comprehensive plan process to support the City’s goal of maintaining a high-quality trail network. The [maintenance study](#) covers existing conditions, identifies primary tasks for trail and sidepaths (mowing, tree removal, vegetation management, surface repair, drainage clearing, vandalism/graffiti, etc.), and explores relationships with trail advocacy groups and other geographic nonprofits: the blueprint for a “User Based Trail Program” This includes how to empower these stakeholder groups and partners, complement them, protect them, and plan for them. The timing of this feasibility study aligns with the coordination with these stewardship communities.





CONCLUSION

CONCLUSION

The Lower Poquessing Trail Advanced Feasibility study worked to meet eight project goals:

- Determine feasibility of implementing the Lower Poquessing Creek Trail.
- Develop a preferred trail alignment.
- Establish goals and strategies for a user-based trail system.
- Document existing conditions in the study area.
- Identify environmental and budgetary opportunities and constraints.
- Identify any necessary easements or property acquisitions.
- Determine locations for trailheads.
- Identify types of trail amenities to include.

Existing conditions were documented to identify points of interest in the study area, as well as opportunities and constraints to consider when aligning the trail. These covered access to other trails and parks, access to transit, safe roadway and bridge crossings, and other factors. Residents were asked how they access and use trails in their neighborhood to better understand how to meet their needs when developing the Lower Poquessing Creek Trail.

The proposed trail was divided into eight segments to allow for a phased design and implementation approach. There is greater buy-in to some segments, while others will require further stakeholder engagement before final plans can be made. Preferred trail alignments were identified for each segment through stakeholder and public engagement conducted for this study. Stakeholder and community engagement efforts should be continued into future phases of design and implementation. Continued engagement with residents of the area can also lay the groundwork for developing a user-based trail system, or a highly participatory trail management program that educates, integrates, and relies on the users themselves to take responsibility and ownership of the trail.

PROPOSED TRAIL ON-ROAD AND OFF-ROAD TRAIL PORTIONS		
Segment	On Road Trail (feet)	Off-Road Trail (feet)
1	-	1,400
2	1,750	2,250
3	-	6,300
4	1,150	3,320
5	-	1,870
6	4,410	2,150
7	-	1,710
8	590	575
Total	7,900	19,575

ACKNOWLEDGEMENTS

Project Team

Keith Davis, Co-Project Manager
David Kanthor, Co-Project Manager
Mason Austin
Greg Waldman
Stephanie Craighead
Rob Armstrong
Dana Dobson
Leigh Ann Campbell
Matt Wysong
Bruce Bohri
Paul Chrystie

Coordinating Agencies

Philadelphia City Planning Commission
Philadelphia Office of Transportation and Infrastructure
Philadelphia Parks and Recreation
Philadelphia Streets Department
Philadelphia Water Department

Project Consultant

Michael Baker International

Funding assistance has been provided by:



Delaware Valley Regional Planning Commission



PA Department of Conservation and Natural Resources, Bureau of Recreation and Conservation,
Keystone Recreation Park and Conservation Fund



PA Department of Community and Economic Development, Greenways Trails Recreation Program

Special thanks to our Steering and Technical Committees (listed on pg. 20), and to the many individuals compelled to reach out with information about the Study Area.



Honorable Jim F. Kenney
Mayor

Anne Fadullon
*Director of Planning and
Development*

Catherine Califano
First Deputy Director

Eleanor Sharpe
Executive Director

2023 Philadelphia City Planning Commission Members

Joseph Syrnick
Tumar Alexander
Garlen Capita
Rob Dubow
Patrick Eiding
Cheryl Gason, Esq.
Maria Gonzalez
Michael Johns, FAIA
NOMA, LEED AP
Anne Nadol
Ximena Valle, AIA

APPENDICES

Appendix A: Bibliography

Appendix B: Trail-Transit Connectivity

Appendix C: Community and Stakeholder Preferences

Appendix D: Concept Plans

Appendix E: Cost Estimates

APPENDIX A: BIBLIOGRAPHY

Bensalem Township. 2015. Bensalem Greenway Master Plan.

Delaware Valley Regional Planning Commission (DVRPC). 2015. Trenton Line Access Study. Retrieved from: <https://www.dvrpc.org/reports/14052.pdf>.

Fairmount Park Commission (FPC). 1997. Fairmount Park Master Plan. Retrieved from: <https://ansp.org/research/environmental-research/projects/fairmount-park/>.

Fairmount Park Commission (FPC) 2001. Trail Master Plan for Poquessing Creek Park.

Philadelphia City Planning Commission (PCPC). 2011. Philadelphia 2035: Citywide Vision. Retrieved from: <https://www.phila2035.org/citywide-vision>.

Philadelphia City Planning Commission (PCPC). 2012. Philadelphia Pedestrian and Bicycle Plan. Retrieved from: <https://www.phila.gov/documents/pedestrian-and-bicycle-plan/>.

Philadelphia City Planning Commission (PCPC). 2016. Philadelphia 2035: North Delaware District Plan. Retrieved from: <https://www.phila2035.org/north-delaware>.

Philadelphia City Planning Commission (PCPC). 2017. Philadelphia 2035: Far Northeast Districts Plan. Retrieved from: <https://www.phila2035.org/lower-far-northeast>.

Philadelphia City Planning Commission (PCPC). 2021. Philadelphia Trail Master Plan Update. Retrieved from: <https://www.phila.gov/documents/philadelphia-trail-master-plan/>.

United States Department of Transportation Federal Transit Administration (FTA). 2017. Manual on Pedestrian and Bicycle Connections to Transit. Retrieved from: <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/64496/ftareportno0111.pdf>.

Southeastern Pennsylvania Transportation Authority (SEPTA). 2015. SEPTA Cycle-Transit Plan. Retrieved from: <https://docslib.org/doc/1947088/septa-cycle-transit-plan-a-strategic-approach-april-2015>.

Southeastern Pennsylvania Transportation Authority (SEPTA). 2020. SEPTA Route Statistics 2020. Retrieved from: <https://planning.septa.org/wp-content/uploads/2021/02/Route-Statistics-2020.pdf>.

Southeastern Pennsylvania Transportation Authority (SEPTA). 2022. SEPTA Forward: Bus Revolution. Retrieved from: <https://www.septabusrevolution.com/>.

APPENDIX B: TRAIL-TRANSIT CONNECTIVITY

Torresdale Station

The Torresdale Station area consists of a mix of residential, recreational, and institutional land uses, including Holy Family University, Nazareth Academy High School, and Glen Foerd Mansion. By way of SEPTA's Trenton Line, the station is approximately 20 to 30 minutes from 30th Street Station and 25 to 30 minutes from Trenton. The station offers 331 parking spaces across three lots, with additional street parking available on Grant Avenue.

According to DVRPC's [2015 Trenton Line Access Study](#), an estimated 75% of passengers who park at Torresdale Station are traveling from within a three-mile radius, which suggests these passengers could potentially access the station by bicycling or by riding one of the SEPTA bus routes operating in the area (Routes 19 and 84 provide a direct connection to Torresdale Station, while Route 66 stops northwest of the station at Frankford Avenue and Grant Avenue). There are two bike racks currently available for passenger use on the inbound side. Torresdale Station ridership data indicates it is one of the busiest stations on the Trenton Line.

The following table lists weekday and weekend ridership at Torresdale Station in 2015 and 2019. Weekly ridership decreased by 19% between 2015 and 2019.

Torresdale Station Ridership Profile (SEPTA, 2015-2019)				
	TOTAL WEEKDAY	TOTAL SATURDAY	TOTAL SUNDAY	TOTAL WEEKLY
BOARDS (2015)	1,160	228	84	6,112
LEAVES (2015)	1,095	195	82	5,752
TOTAL (2015)	2,255	423	166	11,864
BOARDS (2019)	825	155	98	4,378
LEAVES (2019)	986	164	115	5,209
TOTAL (2019)	1,811	319	213	9,587
PERCENT CHANGE	-19.69%	-24.59%	28.31%	-19.19%

Current Challenges to Rail-Trail Connectivity

Below are several key challenges that impede transit-trail connectivity at Torresdale Station:

- Torresdale station platform is not ADA accessible.
- There are currently no bicycle parking options on outbound / James Street side of Torresdale Station.
- Some nearby streets lack sidewalks in the areas surrounding the station including:

- Grant Avenue between Torresdale Station and State Road
 - Grant Avenue between State Road and Milnor Street (near Glen Foerd entrance)
 - State Road between Filter Street and Old Bridge Road
- There are a lack of marked crosswalks in the station area, including near several bus stops.
 - Vehicle speeds on Grant Avenue and State Road pose potential challenges for bicycle and pedestrian safety and access.
 - There are three overpasses on Grant Avenue (I-95 southbound, I-95 northbound, and the Northeast Corridor/SEPTA's Trenton Line) that pinch point pedestrian and bicycle access to the station.
 - The track for the Trenton Line is owned by Amtrak, which requires more coordination for upgrades to the station and connections in the rail right-of-way.

Strategies To Enhance Rail-Trail Connectivity

The evaluation of alternative trail alignments through this study will explore ways to improve connectivity and access Torresdale Regional Rail Station for bicyclists and pedestrians. The following strategies will be considered as ways to enhance transit-trail connectivity:

1	Ensure trail alignments provide access to Grant Avenue near Torresdale Station.	2	If preferred trail alignment allows, create a trailhead near Torresdale Station to promote use of the trail to access public transportation.
3	Implement wayfinding signage to direct trail users to the station and transit riders to the trail.	4	Complete sidewalk network, install high visibility crosswalks, improve ADA compliance, and implement traffic calming measures on Grant Avenue to increase bicycle and pedestrian safety around the station.
5	Ensure any potential trail alignments on Grant Avenue consider the existing bus bay and layover location at the corner of Grant Avenue and James Street.	6	Install covered bicycle parking and transit shelters at Torresdale Station to enhance walking, bicycle, and transit connections to the station. Install bicycle parking on the outbound side of Torresdale Station to allow bicyclist traveling from the State Road / James Street side of the station to have convenient bicycle parking options.

SEPTA Bus Routes & Stops

The following SEPTA Bus Routes serve this project area: 19, 20, 50, 66, 67, 78, 84, 129, 130, 133, WR5, and WR6. More information about each route can be found in the table below.

SEPTA BUS ROUTES IN THE STUDY AREA (SEPTA, 2019)			
ROUTE	ORIGIN	DESTINATION	RIDERSHIP*
19	Torresdale Station	Frankford Transportation Center	2,810
20	Philadelphia Mills	Frankford Transportation Center	9,610
50	Parx Casino via Philadelphia Mills	Frankford Transportation Center	4,043
66	Frankford Transportation Center	Frankford-Knights	21,531
67	Philadelphia Mills/Bustleton	Frankford Transportation Center	10,227
78	Express Cornwells Heights	Center City	154
84	Bustleton-County Line/Philadelphia Mills	Frankford Transportation Center	7,823
129	Frankford-Knights	Oxford Valley Mall	1,789
130	Bucks County Community College	Frankford-Knights	1,181
133	Frankford-Knights	Bensalem	162
WR5	City Line Loop	Northeast Avenue & Gorman Street	219
WR6	Bustleton Avenue and Verree Road	Fern Rock Transportation Center	364

**Average weekday riders (boards and leaves).*

At the time of this publication, Septa is engaged in a study to improve the efficiency and reliability of its bus routes. Consequently, Septa route numbers and alignments are subject to change. Updates can be found at www.septabusrevolution.com.

Route 20, Route 66, and Route 67 are the highest ridership bus routes in the study area. **Route 20** runs between Philadelphia Mills Shopping Center and Frankford Transportation Center and operates with 20-minute headways during peak hours. This bus route serves many neighborhoods throughout Northeast Philadelphia and operates primarily on Academy Road in the study area. Route 20 is a convenient transit option for visitors and employees of Philadelphia Mills Shopping Center, which is a commercial destination in the area and is home to 200 stores, a movie theatre, two food courts, and seven restaurants. The Route 20 also stops at SEPTA's Frankford Transportation Center, where riders can connect with the Market-Frankford Line and 17 different bus and trackless trolley routes.

Route 66 is a trolleybus, or trackless trolley, which connects the Market-Frankford Line (MFL) at Frankford Transportation Center to Wissinoming, Mayfair, Holmesburg and Torresdale along Frankford Avenue. Route 66 is a high-frequency route, with average headways of 15-minutes or less between 6:00 A.M. and 9:00 P.M. Route 66 has stops at City Line Loop and at the intersection of Grant Avenue and Frankford Avenue. Route 66 runs 24 hours a day, seven days a week.

Route 67 provides service between Frankford Transportation Center and Philadelphia Mills Shopping Center and operates with 20-minute headways during peak hours and 30-minute headways during off-peak hours. In addition to providing connections to the MFL and 18 different bus routes at Frankford Transportation Center, Route 67 operates on Knights Road, Red Lion Road, and Academy Road in the study area and provides access to Jefferson Torresdale Hospital and Philadelphia Mills.

The stops with the highest ridership in the project area are **Philadelphia Mills** and **City Line Loop**. These stops should be prioritized for trail access and potential upgrades. Many passengers who use these stops travel to or from Olney Transportation Center and Frankford Transportation Centers. The Philadelphia Mills Bus Stop is served by Routes 20, 50, 67, 84, 129, and 130 and is about a five-minute walk to the Philadelphia Mills central entrance (Marshalls and HomeGoods). Philadelphia Mills Shopping Center attracts over 2,300 transit boards and alights on an average weekday. The City Line Loop is a terminal for several SEPTA bus routes and serves as a transfer point for the Route 66, 129, 130, and 133 buses. It is located within a short walk from several grocery stores, retail locations, Jefferson-Torresdale Hospital, Holy Family University, and Nazareth Academy High School.



Current Challenges to Bus-Rail Connectivity

- A lack of pedestrian and bicycle infrastructure throughout the area and near bus stops can be a challenge to accessing transit, specifically for the aging population. This is particularly evident at Philadelphia Mills Shopping Center.
- The Philadelphia Mills bus transfer stop (west adjacent to Marshalls) lacks transit shelters and convenient bicycle parking. While the Mall does provide U-racks at its main entrances, the bus stops are far removed from the entrances, and they don't provide bicycle parking.
- While bicycle lanes exist near City Line Loop Station (on Knights Road), they end at Frankford Avenue and only provide connections to and from neighborhoods to the north.
- While bus shelters and bicycle parking exist at City Line Loop, bicycle parking is not covered.
- Wayfinding signage does not exist at City Line Loop and is oriented to vehicles at Philadelphia Mills Shopping Center.

Strategies To Enhance Bus-Trail Connectivity

The evaluation of alternative trail alignments through this study will explore ways to improve connectivity and access to target bus stops and routes. The following strategies will be considered throughout the study as ways to enhance transit-trail connectivity:

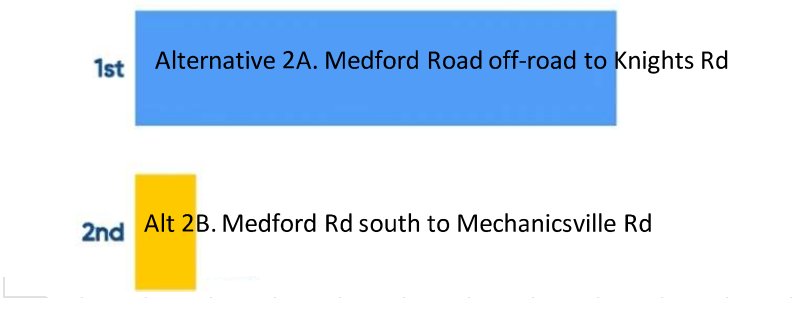
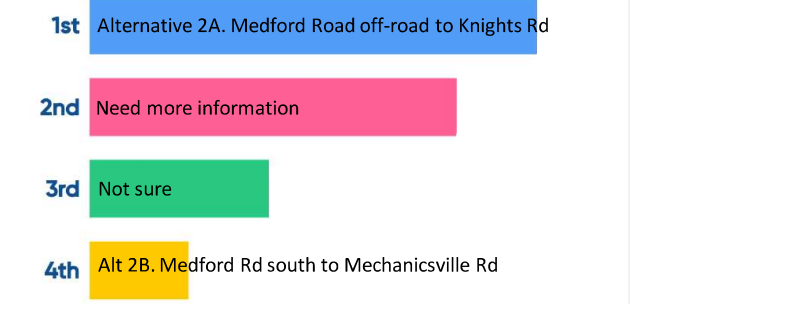

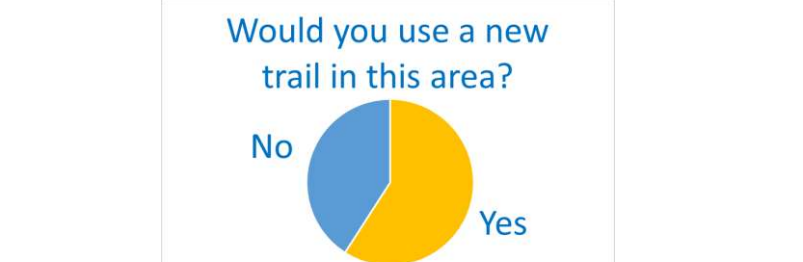
1	Explore ways to provide accessible paths between potential trail alignments nearby transit stops, neighborhoods, and commercial areas.	2	Ensure potential trail alignments conveniently serve bus stops and entrances at Philadelphia Mills. If trail connections are set-back in the woods where mall visitors and employees cannot conveniently access it, it may not be as useful.
3	Implement high visibility crosswalks at bus stops near potential trailheads or access points to improve safety for pedestrians.	4	Explore ways to utilize existing open space adjacent to Hegerman Street to connect the existing trail at Holy Family University with the City Line Loop bus stop.
5	Implement wayfinding signage to direct trail users to bus stops and transit riders to the trail.	6	Install transit shelters and bicycle parking at the Philadelphia Mills bus stop to increase comfort and convenience of utilizing the stop.

APPENDIX C: COMMUNITY AND STAKEHOLDER PREFERENCES

Polling activities were conducted during steering committee and public meetings to identify preferences for alternative trail alignments. The following charts display the polling data gathered.

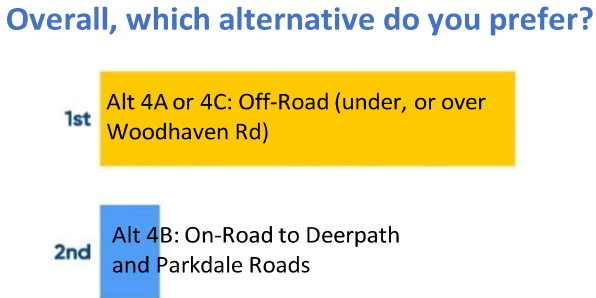
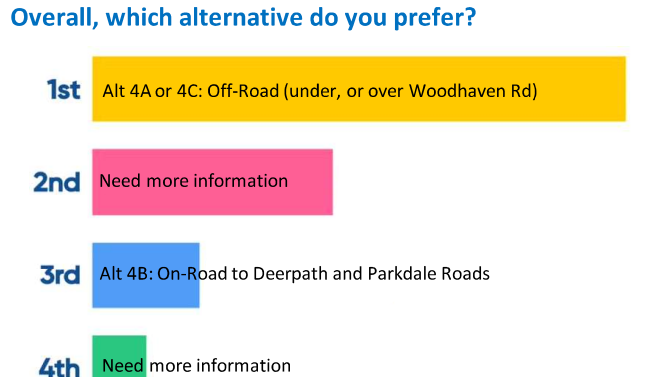


Segment 2 Preferences

Alternative 2A is the preferred option among both the steering committee and members of the public. This alignment would begin on Medford Road and turns onto a new off-road trail. Overwhelmingly, respondents noted they would use a trail in this area. Segment 2 has high potential for future use. Note that there were a number of respondents from the public that need more information before they could weigh in on their preferences. Robust community engagement should be undertaken during design and implementation phases to reach those residents.

Steering Committee Responses	Public Meeting Responses																
<p>Overall, which alternative do you prefer?</p>  <table><thead><tr><th>Rank</th><th>Alternative</th></tr></thead><tbody><tr><td>1st</td><td>Alternative 2A. Medford Road off-road to Knights Rd</td></tr><tr><td>2nd</td><td>Alt 2B. Medford Rd south to Mechanicsville Rd</td></tr></tbody></table>	Rank	Alternative	1st	Alternative 2A. Medford Road off-road to Knights Rd	2nd	Alt 2B. Medford Rd south to Mechanicsville Rd	<p>Overall, which alternative do you prefer?</p>  <table><thead><tr><th>Rank</th><th>Alternative</th></tr></thead><tbody><tr><td>1st</td><td>Alternative 2A. Medford Road off-road to Knights Rd</td></tr><tr><td>2nd</td><td>Need more information</td></tr><tr><td>3rd</td><td>Not sure</td></tr><tr><td>4th</td><td>Alt 2B. Medford Rd south to Mechanicsville Rd</td></tr></tbody></table>	Rank	Alternative	1st	Alternative 2A. Medford Road off-road to Knights Rd	2nd	Need more information	3rd	Not sure	4th	Alt 2B. Medford Rd south to Mechanicsville Rd
Rank	Alternative																
1st	Alternative 2A. Medford Road off-road to Knights Rd																
2nd	Alt 2B. Medford Rd south to Mechanicsville Rd																
Rank	Alternative																
1st	Alternative 2A. Medford Road off-road to Knights Rd																
2nd	Need more information																
3rd	Not sure																
4th	Alt 2B. Medford Rd south to Mechanicsville Rd																
<p>Would you use a new trail in this area?</p>  <table><thead><tr><th>Response</th><th>Percentage</th></tr></thead><tbody><tr><td>Yes</td><td>~85%</td></tr><tr><td>No</td><td>~15%</td></tr></tbody></table>	Response	Percentage	Yes	~85%	No	~15%	<p>Would you use a new trail in this area?</p>  <table><thead><tr><th>Response</th><th>Percentage</th></tr></thead><tbody><tr><td>Yes</td><td>~65%</td></tr><tr><td>No</td><td>~35%</td></tr></tbody></table>	Response	Percentage	Yes	~65%	No	~35%				
Response	Percentage																
Yes	~85%																
No	~15%																
Response	Percentage																
Yes	~65%																
No	~35%																

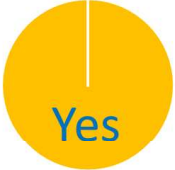

Segment 4 Preferences

Alternative 4A is the preferred among both the steering committee and members of the public. This alignment would begin at the crossing on Woodhaven Road and continue on a new off-road trail connecting to Millbrook. The majority of respondents noted they would use a trail in this area. Note that there were a number of respondents from the public that need more information before they could weigh in on their preferences. Robust community engagement should be undertaken during design and implementation phases to reach those residents.

Steering Committee Responses	Public Meeting Responses
<p>Overall, which alternative do you prefer?</p>  <p>1st Alt 4A or 4C: Off-Road (under, or over Woodhaven Rd)</p> <p>2nd Alt 4B: On-Road to Deerpath and Parkdale Roads</p>	<p>Overall, which alternative do you prefer?</p>  <p>1st Alt 4A or 4C: Off-Road (under, or over Woodhaven Rd)</p> <p>2nd Need more information</p> <p>3rd Alt 4B: On-Road to Deerpath and Parkdale Roads</p> <p>4th Need more information</p>
<p>Would you use a new trail in this area?</p>  <p>Yes</p>	<p>Would you use a new trail in this area?</p>  <p>No</p> <p>Yes</p>

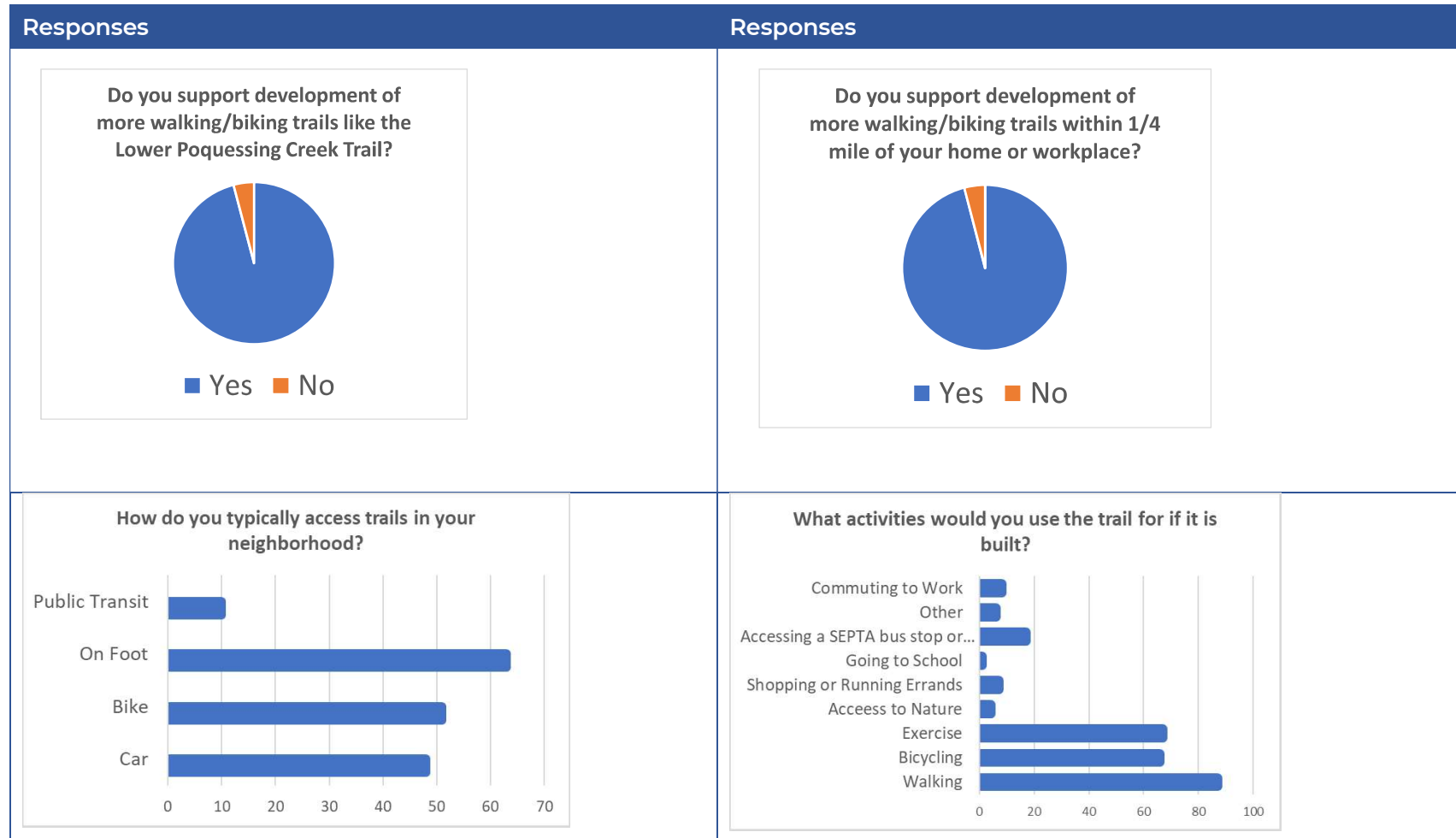
Segment 6 Preferences

There is not yet a clear preference for Segment 6 based on polling results. Both Alternatives 6B and 6C gained interest in the polls. While the steering committee has a stronger preference for Alternative 6B, around the same number of members of the public prefer Alternatives 6B and 6C. Alternative 6B travels along Crestmont Road with an off-road section before connecting to Frankford Avenue. Alternative 6C takes a longer route going around the Millbrook neighborhood to existing bike lanes on Knights Road. While most steering committee members noted they would use a trail in this area, 13 respondents during the public meeting noted they would not use a trail in this area. More engagement will need to be conducted to identify the best way to serve residents in this area with a trail.

Steering Committee Responses	Public Meeting Responses
<p>Overall, which alternative do you prefer?</p> <p>1st Alt 6C: Crestmont Ave to (off-road, adjacent to) Red Lion Rd</p> <p>2nd Alt 6C: Crestmont Ave to Red Lion Rd (on-road)</p> <p>3rd Alt 6A: Dimarco Dr to Knights Rd</p>	<p>Overall, which alternative do you prefer?</p> <p>1st Alt 6A: Dimarco Dr to Knights Rd</p> <p>2nd Alt 6C: Crestmont Ave to (off-road, adjacent to) Red Lion Rd</p> <p>3rd Need more information</p> <p>4th Alt 6C: Crestmont Ave to Red Lion Rd (on-road)</p> <p>5th Not sure</p>
<p>Would you use a new trail in this area?</p>  <p>A pie chart where the entire circle is colored yellow and labeled "Yes".</p>	<p>Would you use a new trail in this area?</p>  <p>A pie chart divided into two equal halves. The left half is blue and labeled "No". The right half is yellow and labeled "Yes".</p>

Wikimap

Ahead of the first public meeting, we launched an online polling exercise to tap into local expertise. The exercise was free, and we advertised it with weblinks and QPR codes on our physical and digital fliers. The exercise included a map that allowed users to geographically mark and describe barriers and opportunities. In the year and a half that the Wikimap was active, we received 100 replies. Responses to the four questions below suggested that in general, there is demand for the proposed shared use trail. Critical comments and suggestions raised our awareness of concern for security issues, flooding, and property takings.

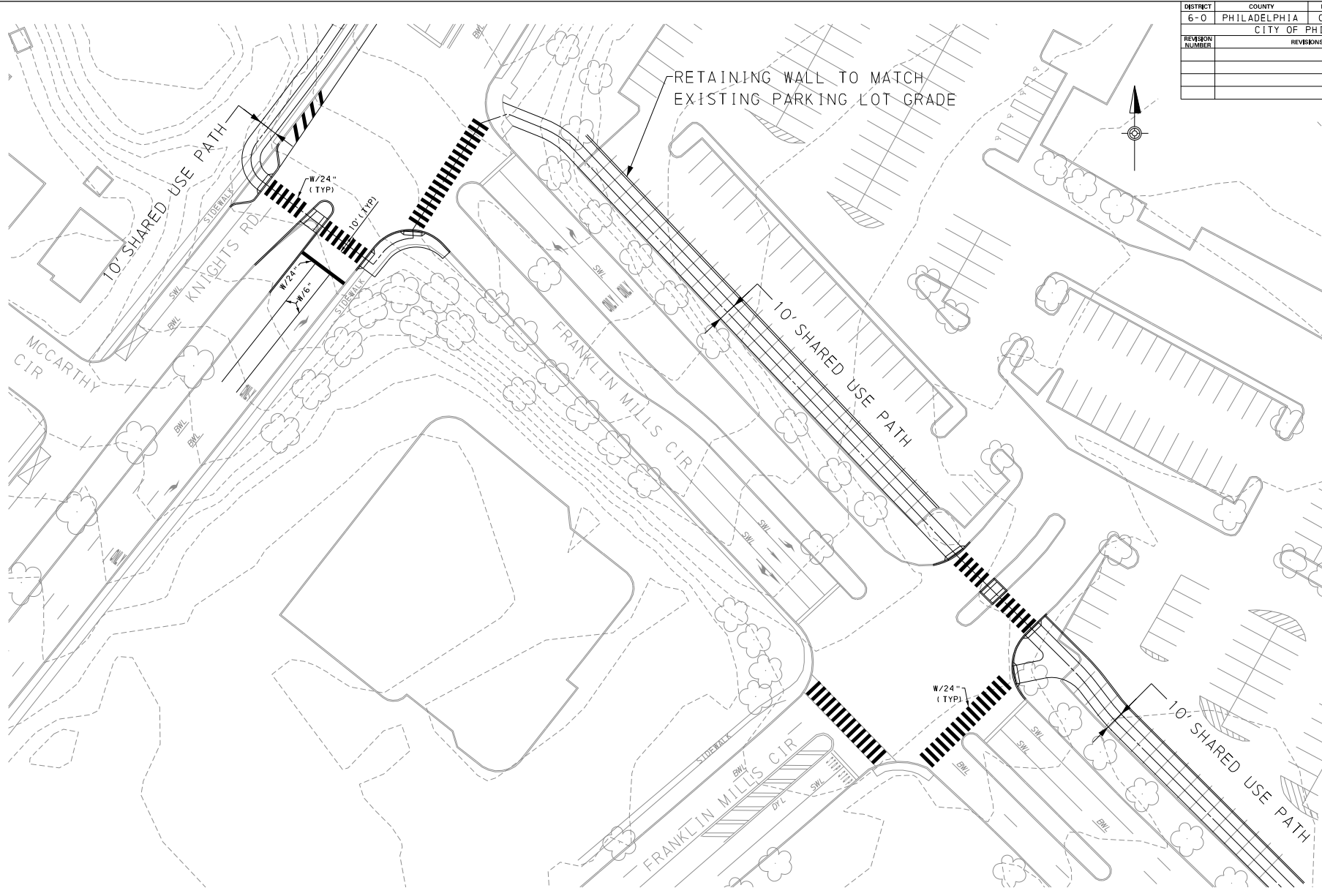


APPENDIX D: CONCEPT PLANS



CONCEPT PLAN. Junod Playground to Parkwood via Dunksferry Rd

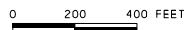
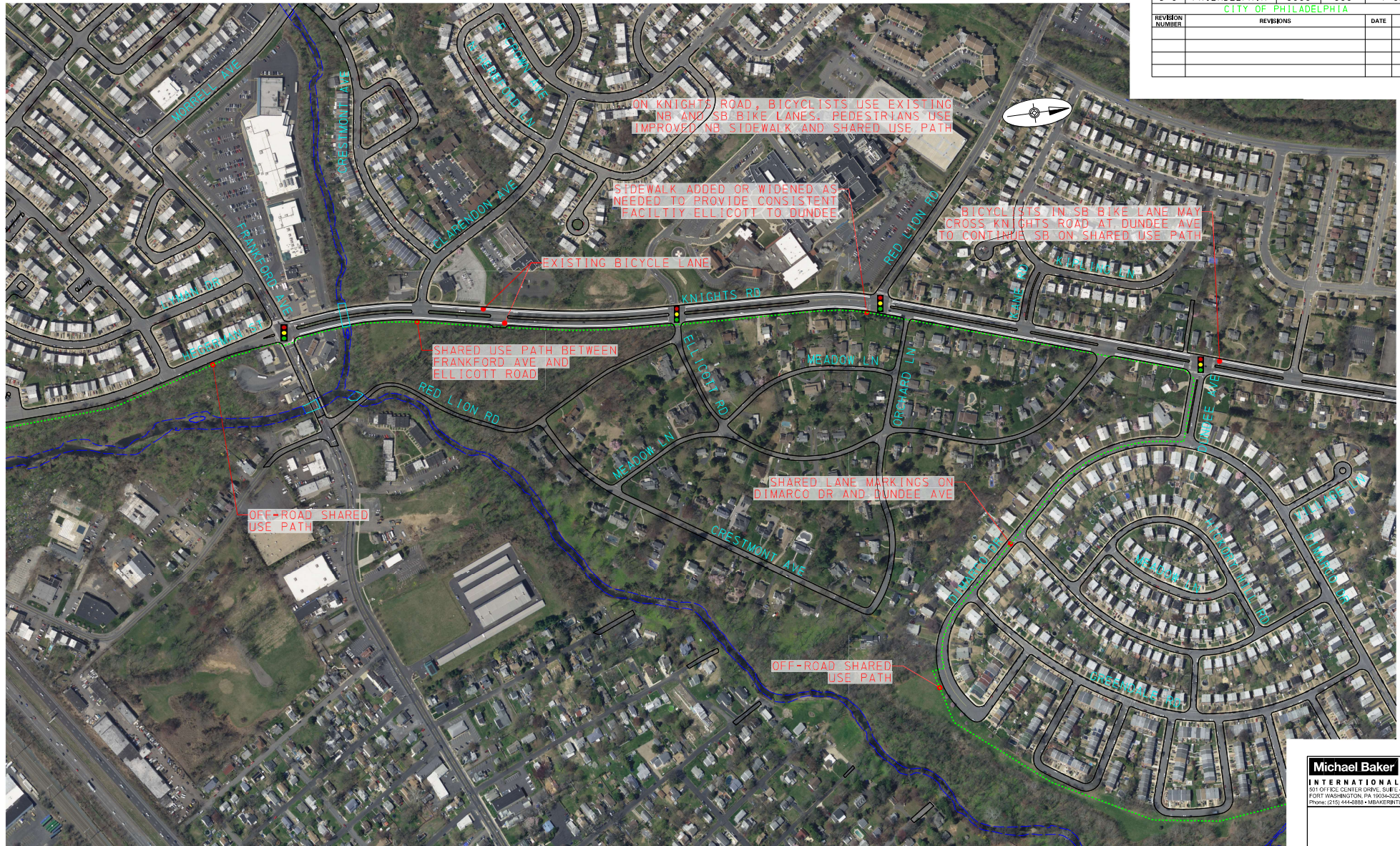
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0000	000	1 OF 1
CITY OF PHILADELPHIA				
REVISION NUMBER	REVISIONS			DATE BY



Michael Baker
INTERNATIONAL
201 OFFICE CENTER DRIVE, SUITE 400,
FORT WASHINGTON, PA 19034-3220
Phone: (215) 444-0886 • MB@MBERINTL.COM

**KNIGHTS RD AT FRANKLIN
MILLS CIRCLE CROSSING
ALTERNATIVE 2**

DISTRICT	COUNTY	ROUTE	SECTION	SHEET	
6-0	PHILADELPHIA	0000	000	1 OF 1	
CITY OF PHILADELPHIA					
REVISION NUMBER	REVISIONS			DATE	BY



**HEGERMAN STREET TO
DUNDEE AVENUE CONNECTION**

**Michael Baker
INTERNATIONAL**
201 OFFICE CENTER DRIVE, SUITE 400,
FORT WASHINGTON, PA 19054-3220
Phone: (215) 644-0888 • MBAS@MBTI.COM

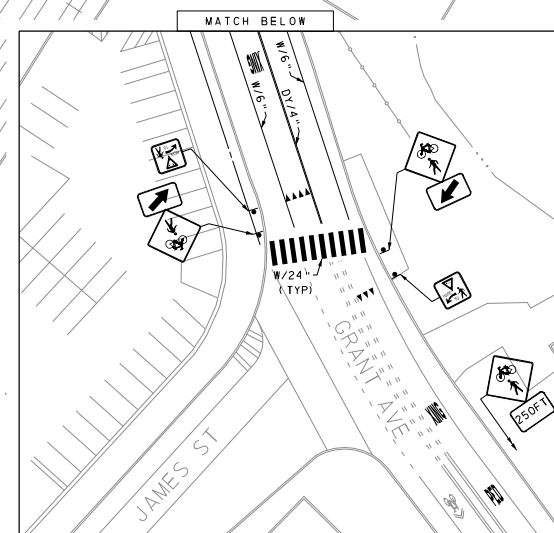
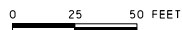


0 25 50 FEET

**FRANKFORD AVE AT
KNIGHTS RD/HEGERMAN ST
CROSSING**

DISTRICT	COUNTY	ROUTE	SECTION	SHEET	
6-0	PHILADELPHIA	0000	000	1 OF 1	
CITY OF PHILADELPHIA					
REVISION NUMBER	REVISIONS			DATE	BY

Michael Baker
INTERNATIONAL
201 OFFICE CENTER DRIVE, SUITE 400,
FORT WASHINGTON, PA 19054-3220
Phone: (215) 644-0888 • MBAS@MBI.COM



GRANT AVE CROSSING

Michael Baker
INTERNATIONAL
501 OFFICE CENTER DRIVE, SUITE 400,
FORT WASHINGTON, PA 19034-3220
Phone: (215) 444-0886 • MBAKERINTL.CO

APPENDIX E: COST ESTIMATES

Lower Poquessing Creek Trail (Junod Playground to Glen Foerd)

5/4/2023

Segment #	Description	Design & Construction Cost
1	Junod Playground to Parkwood	\$446,500.00
2	Parkwood to Philadelphia Mills	\$819,800.00
3	Philadelphia Mills to Woodhaven Road	\$1,391,000.00
4	Woodhaven Road to Parkdale Road	\$1,482,600.00
5	Parkdale Road to Dundee Avenue	\$608,500.00
6	Dundee Avenue to Frankford Avenue	\$707,200.00
7	Frankford Avenue to Hegerman Street	\$542,600.00
8	Holy Family University to Glen Foerd	\$226,400.00
	Entire Project (5.25 miles)	\$6,224,600.00
	Entire Project (Cost/mile)	\$1,185,600.00

Lower Poquessing Creek Trail (Junod Playground to Glen Foerd)								
7/25/2022								
	Description	Length	Depth	Width	Quantity	Unit	Cost/Unit	Total Cost
Segment 1	Junod Playground to Parkwood							
10' Paved Shared Use Path	6" Subbase, 3" Bit. Base Course, 1.5" Wearing Course, Geotextile	1350		10	1500	SY	\$75.00	\$112,500.00
Excavation	Excavation - Class 1	1350	0.833	14	583	CY	\$45.00	\$26,239.50
Curb	Concrete curb with exist curb removal and pavement restoration for bump-outs, ADA ramps	230			230	LF	\$75.00	\$17,250.00
Concrete sidewalk	Concrete sidewalk, including ADA ramps				70	SY	\$175.00	\$12,250.00
ADA Ramps	Ramp Design				6	EACH	\$1,000.00	\$6,000.00
Pavement Markings	White (Thermo) 24"	140			140	LF	\$15.00	\$2,100.00
Pavement Markings	Sharrows for 1750' On-road section				12	EACH	\$400.00	\$4,800.00
Signing	Type B signs				6	EACH	\$450.00	\$2,700.00
Bollards	Off-road trail entrances				4	EACH	\$3,000.00	\$12,000.00
Landscaping	Topsoil, seeding, trees (50' spacing)	1350			1350	LF	\$25.00	\$33,750.00
Clearing and Grubbing	Off-road sections mainly on grass, several trees				1	LS	\$27,000.00	\$27,000.00
							subtotal	\$256,589.50
E&S Control (3%)					1	LS		\$7,697.69
Drainage (5%)					1	LS		\$15,395.37
Design (20%)					1	LS		\$51,317.90
CM/CI (10%)					1	LS		\$25,658.95
Survey (5%)					1	LS		\$12,829.48
Traffic Control (5%)					1	LS		\$12,829.48
Mobilization (5%)					1	LS		\$12,829.48
Contingency (20%)					1	LS		\$51,317.90
					1	LS	Segment total	\$446,500.00
Segment 2	Parkwood to Philadelphia Mills							
10' Paved Shared Use Path	6" Subbase, 3" Bit. Base Course, 1.5" Wearing Course, Geotextile	2260		10	2511	SY	\$75.00	\$188,333.33
Excavation	Excavation - Class 1	2260	0.833	14	976	CY	\$45.00	\$43,926.87
Curb	Concrete curb with exist curb removal and pavement restoration for bumpouts, ADA ramps	200			200	LF	\$75.00	\$15,000.00
Sidewalk	ADA ramps				200	SY	\$175.00	\$35,000.00
Pavement Markings	White (Thermo) 4"	440			440	LF	\$3.00	\$1,320.00
Pavement Markings	White (Thermo) 24"	365			365	LF	\$15.00	\$5,475.00
ADA Ramps	Ramp Design				4	EACH	\$1,000.00	\$4,000.00
Bollards	Off-road trail entrances				2	EACH	\$3,000.00	\$6,000.00
Signal/Utility Relocation	Signal controller, utility pole				1	LS	\$25,000.00	\$25,000.00
Landscaping	Topsoil, seeding, trees (50' spacing)	2260			2260	LF	\$25.00	\$56,500.00
Clearing and Grubbing	2260' off-road trail through woods				1	LS	\$80,000.00	\$80,000.00
							subtotal	\$460,555.20
E&S Control (5%)					1	LS		\$23,027.76
Drainage (8%)					1	LS		\$36,844.42
Design (20%)					1	LS		\$92,111.04
CM/CI (10%)					1	LS		\$46,055.52
Survey (5%)					1	LS		\$23,027.76
Traffic Control (5%)					1	LS		\$23,027.76
Mobilization (5%)					1	LS		\$23,027.76
Contingency (20%)					1	LS		\$92,111.04
							Segment total	\$819,800.00

SUP connection from Junod Rec Center to Mechanicsville/Dunks Ferry, then to Gurley Rd

On road from Gurley Rd to Medford Rd connection to off-road trail

Off-road from Medford Rd to Knights Rd at entrance to mall, including refuge island

Not Including spur trail

	Description	Length	Depth	Width	Quantity	Unit	Cost/Unit	Total Cost	
Segment 3	Philadelphia Mills to Woodhaven Road								Off road from Knights to just past church, including extension of island separating church lot from circulation road
10' Paved Shared Use Path	6" Subbase, 3" Bit. Base Course, 1.5" Wearing Course, Geotextile	6200		10	2296		\$75.00	\$172,222.22	Continue off road behind mall to Lomax Carpet & Tile entrance
Excavation	Excavation - Class 1 (Includes extra for parking lot pavement removal)	6200	0.833	14	2937	CY	\$45.00	\$132,174.00	On road from Lomax Carpet & Tile entrance to start of off-road section at Gravel Road
Curb	Concrete curb with exist curb removal and pavement restoration for ADA ramps, parking lot island extension	1300			1300	LF	\$75.00	\$97,500.00	
Sidewalk	ADA ramps				150	SY	\$175.00	\$26,250.00	
Pavement Markings	White (Thermo) 24"	300			300	LF	\$15.00	\$4,500.00	
Pavement Markings	Sharrows for 1200' On-road section				8	EACH	\$400.00	\$3,200.00	
ADA Ramps	Ramp Design				15	EACH	\$1,000.00	\$15,000.00	
Retaining Wall	Along trail to match parking lot grade	150			150	LF	\$175.00	\$26,250.00	
Guiderail	Along retaining wall and trail separation from parking lot	275			275	LF	\$50.00	\$13,750.00	
Bollards	Off-road trail entrances				8	EACH	\$3,000.00	\$24,000.00	
Landscaping	Topsoil, seeding, trees (50' spacing)	6200			6200	LF	\$25.00	\$155,000.00	
Clearing and Grubbing	6200' off road trail, mostly on grass				1	LS	\$125,000.00	\$125,000.00	
							subtotal	\$794,846.22	
E&S Control (5%)					1	LS		\$39,742.31	
Drainage (5%)					1	LS		\$39,742.31	
Design (20%)					1	LS		\$158,969.24	
CM/CI (10%)					1	LS		\$79,484.62	
Survey (5%)					1	LS		\$39,742.31	
Traffic Control (5%)					1	LS		\$39,742.31	
Mobilization (5%)					1	LS		\$39,742.31	
Contingency (20%)					1	LS		\$158,969.24	
							Segment total	\$1,391,000.00	

	Description	Length	Depth	Width	Quantity	Unit	Cost/Unit	Total Cost
Segment 4	Woodhaven Road to Parkdale Road							
10' Paved Shared Use Path	6" Subbase, 3" Bit. Base Course, 1.5" Wearing Course, Geotextile	3320		10	3689	SY	\$75.00	\$276,666.67
Excavation	Excavation - Class 1	3320	0.833	14	1434	CY	\$45.00	\$64,529.73
Gabions, culvert, fencing, lighting	Trail under Woodhaven Road, across swale to stream				1	LS	\$300,000.00	\$300,000.00
Bollards	Off-road trail entrances				2	EACH	\$3,000.00	\$6,000.00
Landscaping	Topsoil, seeding, trees (50' spacing)	3320			3320	LF	\$25.00	\$83,000.00
Clearing and Grubbing	3320' off-road section through woods				1	LS	\$117,000.00	\$117,000.00
							subtotal	\$847,196.40
E&S Control (5%)					1	LS		\$42,359.82
Drainage (5%)					1	LS		\$42,359.82
Design (20%)					1	LS		\$169,439.28
CM/CI (10%)					1	LS		\$84,719.64
Survey (5%)					1	LS		\$42,359.82
Traffic Control (5%)					1	LS		\$42,359.82
Mobilization (5%)					1	LS		\$42,359.82
Contingency (20%)					1	LS		\$169,439.28
							Segment total	\$1,482,600.00
Segment 5	Parkdale Road to Dundee Avenue							
10' Paved Shared Use Path	6" Subbase, 3" Bit. Base Course, 1.5" Wearing Course, Geotextile	2100		10	2333	SY	\$75.00	\$175,000.00
Excavation	Excavation - Class 1 (includes removal of 30' of asphalt outside trail area)	2100	0.833	14	907	CY	\$45.00	\$40,817.00
Pavement Markings	Sharrows for 2000' On-road section				16	EACH	\$400.00	\$6,400.00
Bollards	Off-road trail entrances				2	EACH	\$3,000.00	\$6,000.00
Landscaping	Topsoil, seeding, trees (50' spacing)	2100			2100	LF	\$25.00	\$52,500.00
Clearing and Grubbing	1900' off-road section through woods				1	LS	\$67,000.00	\$67,000.00
							subtotal	\$347,717.00
E&S Control (5%)					1	LS		\$ 17,385.85
Drainage (5%)					1	LS		\$ 17,385.85
Design (20%)					1	LS		\$ 69,543.40
CM/CI (10%)					1	LS		\$ 34,771.70
Survey (5%)					1	LS		\$ 17,385.85
Traffic Control (5%)					1	LS		\$ 17,385.85
Mobilization (5%)					1	LS		\$ 17,385.85
Contingency (20%)					1	LS		\$ 69,543.40
							Segment Total	\$608,500.00
Segment 6	Dundee Avenue to Frankford Avenue							
10' Paved Shared Use Path	6" Subbase, 3" Bit. Base Course, 1.5" Wearing Course, Geotextile	1900		10	2111	SY	\$75.00	\$158,333.33
Sidewalk	Sidewalk widening and new sidewalk	800		6	533	SY	\$175.00	\$93,333.33
Excavation	Excavation - Class 1	2500	0.833	14	1080	CY	\$45.00	\$48,591.67
Bollards	Off-road trail entrances				2	EACH	\$3,000.00	\$6,000.00
Landscaping	Topsoil, seeding, trees (50' spacing)	2100			2100	LF	\$25.00	\$52,500.00
Clearing and Grubbing	1700' off road section partially through trees/brush				1	LS	\$50,000.00	\$50,000.00
							subtotal	\$408,758.33
E&S Control (3%)					1	LS		\$ 12,262.75
Drainage (5%)					1	LS		\$ 20,437.92
Design (20%)					1	LS		\$ 81,751.67
CM/CI (10%)					1	LS		\$ 40,875.83
Survey (5%)					1	LS		\$ 20,437.92

Off-road section starting at Gravel Road to Parkdale Road

Off-road section from Parkdale Rd to Dimarco Dr, including connections to streets

On road along Dimarco to Dundee Ave & Knights Rd

with Combo On/Off Road Ellicott to Dundee and Off-Road along Knights Road to Ellicott

Sidewalk along Knights Frankford to Ellicott
Sidewalk widening between Dundee and Ellicott, new sidewalk north of Ellicott

Off road along Knights from Ellicott to Frankford

	Description	Length	Depth	Width	Quantity	Unit	Cost/Unit	Total Cost
Traffic Control (5%)					1	LS		\$ 20,437.92
Mobilization (5%)					1	LS		\$ 20,437.92
Contingency (20%)					1	LS		\$ 81,751.67
							Segment Total	\$707,200.00

	Description	Length	Depth	Width	Quantity	Unit	Cost/Unit	Total Cost
Segment 6 alternative	Dundee Avenue to Frankford Avenue							
Sidewalk	Sidewalk widening	400		10	444	SY	\$175.00	\$77,777.78
Excavation	Excavation - Class 1	400	0.833	12	148	CY	\$45.00	\$6,664.00
Mountable Curb	Buffer for 3700' cycle track	3000			3000	LF	\$75.00	\$225,000.00
Pavement Markings	White (Thermo) 4" for 3700' cycle track	7400			7400	LF	\$3.00	\$22,200.00
Pavement Markings	White (Thermo) Bicycle Legends for 3700' cycle track				14	EACH	\$600.00	\$8,400.00
Pavement Marking Eradication	Pavement marking eradication for removed parking				8000	LF	\$2.50	\$20,000.00
							subtotal	\$360,041.78
E&S Control (2%)					1	LS		\$ 7,200.84
Drainage (5%)					1	LS		\$ 18,002.09
Design (20%)					1	LS		\$ 72,008.36
CM/CI (10%)					1	LS		\$ 36,004.18
Survey (5%)					1	LS		\$ 18,002.09
Traffic Control (5%)					1	LS		\$ 18,002.09
Mobilization (5%)					1	LS		\$ 18,002.09
Contingency (20%)					1	LS		\$ 72,008.36
							Segment Total	\$619,300.00
Segment 7	Frankford Avenue to Hegerman Street							
10' Paved Shared Use Path	6" Subbase, 3" Bit. Base Course, 1.5" Wearing Course, Geotextile	1700		10	1914	SY	\$75.00	\$143,541.67
Excavation	Excavation - Class 1 (Includes extra for roadway pavement removal)	1700	0.833	14	762	CY	\$45.00	\$34,299.00
Curb	Plain Cement Concrete Curb, Including Removal of Existing Curb for bumpout and ADA ramps	200			200	LF	\$75.00	\$15,000.00
Driveway Apron	8" concrete, 6" subbase				45	SY	\$300.00	\$13,500.00
Bollards	Off-road trail entrances				2	EACH	\$3,000.00	\$6,000.00
Landscaping	Topsoil, seeding, trees (50' spacing)	1700			1700	LF	\$25.00	\$42,500.00
Clearing and Grubbing	1700' off road section partially through trees/brush				1	LS	\$48,000.00	\$48,000.00
ADA Ramps	Ramp design				2	EACH	\$1,000.00	\$2,000.00
							subtotal	\$304,840.67
E&S Control (5%)					1	LS		\$15,242.03
Drainage (8%)					1	LS		\$24,387.25
Design (20%)					1	LS		\$60,968.13
CM/CI (10%)					1	LS		\$30,484.07
Survey (5%)					1	LS		\$15,242.03
Traffic Control (5%)					1	LS		\$15,242.03
Mobilization (5%)					1	LS		\$15,242.03
Contingency (20%)					1	LS		\$60,968.13
							Segment total	\$542,600.00
Segment 8	Holy Family University to Glen Foerd							
8-10' Paved Shared Use Path	6" Subbase, 3" Bit. Base Course, 1.5" Wearing Course, Geotextile	90		10	100	SY	\$75.00	\$7,500.00
Excavation	Excavation - Class 1	90	0.833	14	39	CY	\$45.00	\$1,749.99
Curb	Plain Cement Concrete Curb, Including Removal of Existing Curb for bumpouts and ADA ramps	120			120	LF	\$75.00	\$9,000.00
Sidewalk	Bumpouts				135	SY	\$175.00	\$23,625.00
Sidewalk	James Street to State Road	430		5	239	SY	\$175.00	\$41,805.56
ADA Ramps	Ramp design				3	EACH	\$1,000.00	\$3,000.00
Pavement Markings	White (Thermo) 4"	450			450	LF	\$3.00	\$1,350.00
Pavement Markings	White (Thermo) 24"	60			60	LF	\$15.00	\$900.00
Pavement Markings	Thermoplastics legends (bicycle markings, yield lines, PED XING)				1	LS	\$3,000.00	\$3,000.00
Signing	Type B signs				6	EACH	\$450.00	\$2,700.00
Bollards	Off-road trail entrances				2	EACH	\$3,000.00	\$6,000.00
Pedestrian Railing	Underneath structures				100	LF	\$100.00	\$10,000.00
Lighting	Wall packs underneath structures				8	EACH	\$1,000.00	\$8,000.00
Landscaping	Topsoil, seeding, trees (50' spacing)	90			90	LF	\$25.00	\$2,250.00
Clearing and Grubbing	Small portion of off-road trail				1	LS	\$10,000.00	\$10,000.00

using Knights Road Cycle Track and Eliminated Parking
Sidewalk widening between Dundee and Ellicott

Cycle Track on Knights with Eliminated Parking

Off-road

	Description	Length	Depth	Width	Quantity	Unit	Cost/Unit	Total Cost
							subtotal	\$130,880.55
E&S Control (3%)					1	LS		\$3,926.42
Drainage (5%)					1	LS		\$6,544.03
Design (20%)					1	LS		\$26,176.11
CM/CI (10%)					1	LS		\$13,088.05
Survey (5%)					1	LS		\$6,544.03
Traffic Control (5%)					1	LS		\$6,544.03
Mobilization (5%)					1	LS		\$6,544.03
Contingency (20%)					1	LS		\$26,176.11
							Segment total	\$226,400.00

Note: For Topsoil, assumed 2' width on each side of off-road trail, 10" depth = 0.123 CY per LF of trail, \$100/CY = \$12.30/LF

Trees planted every 50, so assuming \$500/tree = \$10/LF

Seeding/Mulch 2' width on each side of trail, so 0.02 lb/LF. At \$40/lb, cost = \$0.80/LF

For Clearing & Grubbing, assumed \$35/LF through wooded area and \$20/LF for grass

Trail Under Woodhaven

	LF	Width	Depth	Unit	Quantity	Unit Cost	Total Cost	
Gabions	250	12	6	CY	666.6667	\$250.00	\$166,666.67	
Culvert	Two 60" pipes			LF	30	\$1,000.00	\$30,000.00	
Fence				LF	300	\$100.00	\$30,000.00	
Excavation	200	8	4	CY	237.037	\$45.00	\$10,666.67	
Wall packs				EACH	4	\$1,000.00	\$4,000.00	
Conduit, trenching, cable				LF	1000	\$40.00	\$40,000.00	
						Total	\$281,333.33	
						Say	\$300,000.00	To account for extra excavation, stone, geotextile, other materials needed