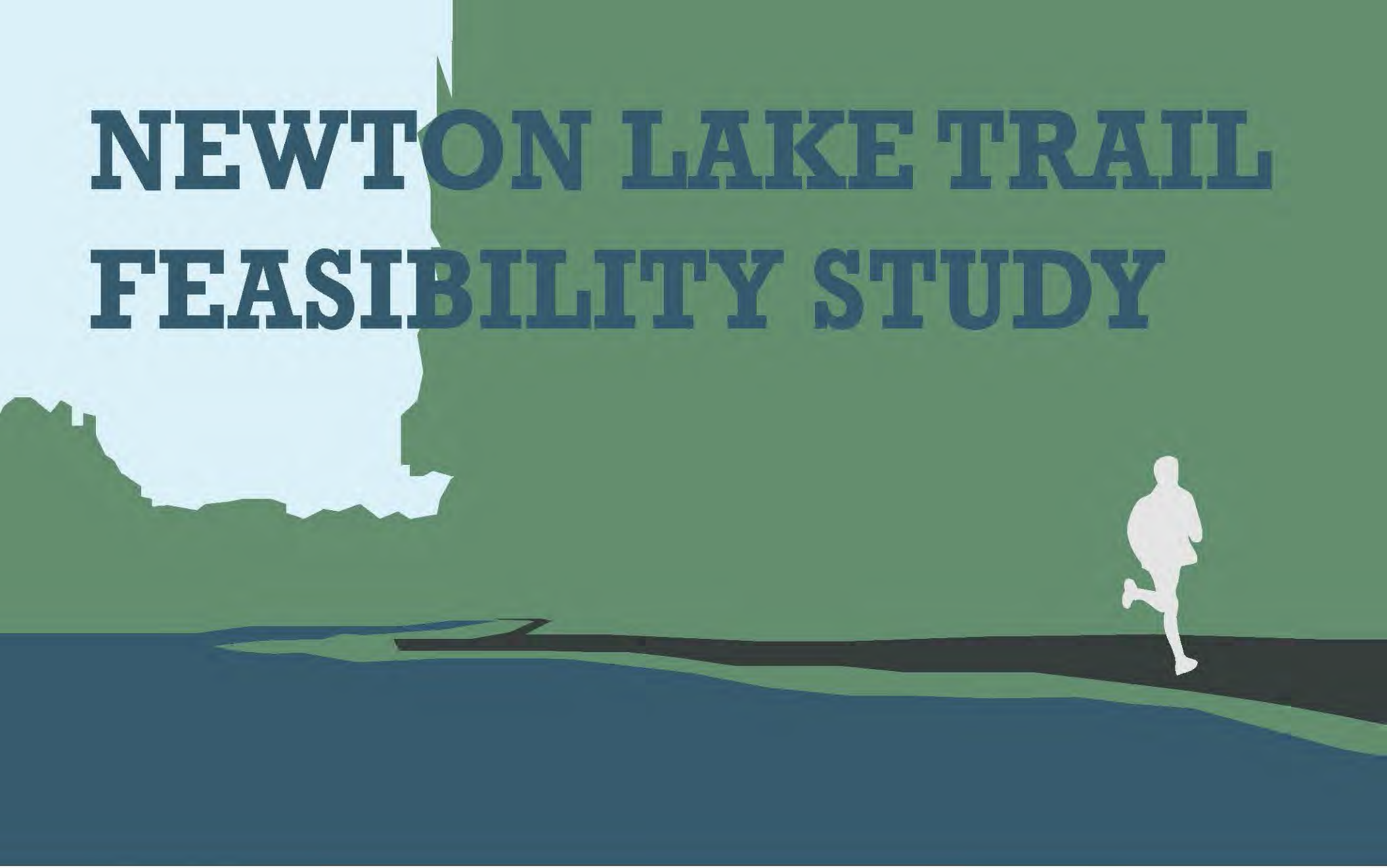
NEWTON LAKE TRAIL FEASIBILITY STUDY



DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

January 2016

The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

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EXECUTIVE SUMMARY

This study assesses the feasibility of building a 0.6—mile trail extension in the southeast portion of Newton Lake Park. The following is a summary of the existing conditions of the proposed right of way, the stakeholder engagement process, and the resulting preferred design concept that addresses issues of connectivity, safety, access, environmental concerns, and privacy.

Newton Lake is located in Camden County, New Jersey between the municipalities of Oaklyn Borough, Collingswood Borough, and Haddon Township. Newton Lake currently has 2.4 miles of trail surrounding much of the lake except for a segment in the southeast portion of the park between White Horse Pike and Bettlewood Avenue in Oaklyn Borough.

This process began when Camden County and Oaklyn Borough approached DVRPC to conduct a study to examine constructing the missing piece of the Newton Lake trail in order to create a continous loop around the lake. The outreach timeline is shown in ES Figure 1.

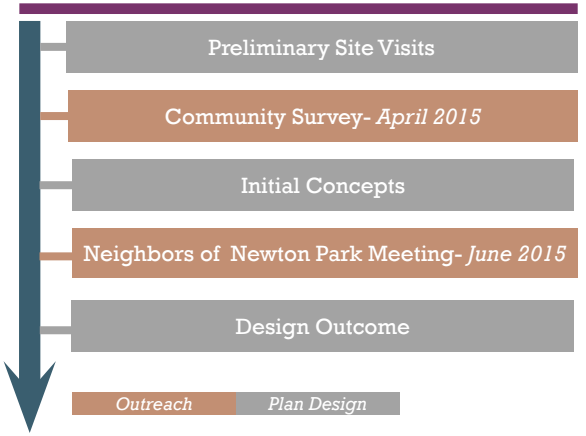
In collaboration with these partners, DVRPC conducted an online survey that collected 354 responses in eight days. This survey showed that there is overwhelming support for a trail, with 90 percent of responses favoring the completion of the trail segment. The community survey also found that respondents want a trail that is similar in width to the existing trails surrounding other parts of the lake. The community survey also found that Newton Lake is considered a valuable community amenity, and patrons use it for a variety of recreational activities.

After the initial input from the survey and site findings, two initial concepts were developed. These concepts were presented at a meeting with adjacent property owners who shared valuable background about the park right of way and gave important feedback on the proposed concepts.

The input from the meeting was incorporated into a preferred design (ES Figure 2) that used elements of the initial concepts, as well as design ideas from adjacent property owners.
The preferred design is separated into a baseline design concept, which includes elements considered integral to the design, and optional amenities, which are additional components that could be added should stakeholders decide to do so. Funding and construction considerations are also highlighted in the final chapter.

Later, if this project proceeds into preliminary engineering, environmental concerns such as endangered species and floodplains will be addressed. Future design work would also include a community engagement process with input from the surrounding community and Newton Lake stakeholders.

ES Figure 1: Outreach Timeline



Source: DVRPC, 2015

ES Figure 2: Newton Lake Trail Extension Concept Plan

Source: DVRPC Orthophotography, 2010

Photo Credit: DVRPC 2015

Chapter 1:
INTRODUCTION

INTRODUCTION

This study examines the feasibility of constructing a trail along the southern edge of Newton Lake Park in the Borough of Oaklyn, New Jersey.

Several years ago when Camden County constructed 2.4 miles of paved multi-use paths around Newton Lake's perimeter, reported community opposition at the time led to a gap in the trail along the southern edge of the lake that is within the Borough of Oaklyn.

Oaklyn Borough and Camden County are now interested in knowing if constructing a trail segment that would complete the park's western loop is feasible. This report discusses existing conditions, community outreach, conceptual design, construction costs, funding streams, and potential next steps for the project.

PURPOSE

The goals of the plan are:

- **To create a linkage to pre-existing paths along the southern edge of Newton Lake Park**
- **Improve connectivity for cyclists and pedestrians**
- **Foster a design that supports regular maintenance, environmental stewardship, and an aesthetic that complements adjacent residential uses.**

PLANNING PROCESS AND PARTNERSHIPS

Camden County together with the Borough of Oaklyn feel that the addition of a trail connection to unify existing paths along the southern portion of the lake could provide improved linkages and recreation opportunities for park visitors.

DVRPC's overall role is to assess the feasibility of creating a trail and provide concepts for its development.

An online public survey to gauge interest in completing the lake's trail engaged the park's constituency. Property owners abutting the proposed trail were invited to participate in a workshop to conceptualize the trail.

Throughout the process, DVRPC has worked with Camden County and Oaklyn officials to share findings and discuss recommendations. In particular, DVRPC staff would like to acknowledge and thank:

- **Andrew Levecchia**, Director, Division of Planning, Camden County
- **Frank Moran,** Director, Camden County Parks Department
- **Jack Sworaski**, Director, Division of Environmental Affairs, Camden County Parks Department
- **Robert Forbes**, Mayor, Borough of Oaklyn

STUDY AREA

Newton Lake is a 103-acre park that spans across Collingswood Borough, Oaklyn Borough, and Haddon Township. Newton Lake is located between White Horse Pike on the west and East Cuthbert Boulevard in the east.

This study examines the feasibility of a trail connection along Newton Lake's southwestern lake frontage. This area, shown in Figure 1, spans from White Horse Pike on the western edge to Bettlewood Avenue on the eastern edge, and it is situated within Oaklyn Borough.

Study Area

Figure 1: Study Area

Source: DVRPC 2010, ESRI Aerial Imagery, 2011

RELATED WORK

In developing this plan; several other resources were consulted to determine locations of existing and proposed facilities.

CAMDEN COUNTY OPEN SPACE AND FARMLAND PRESERVATION PLAN

DVRPC, 2004

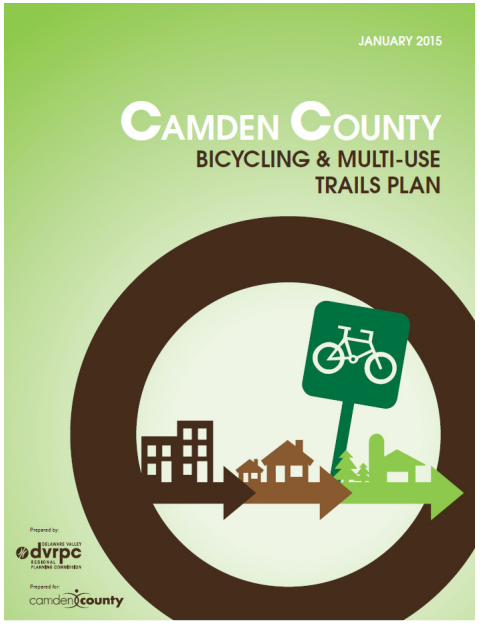
This plan identifies county and municipally owned open space, farmland, and wildlife preserves. The plan also proposes a series of greenways, where there is contiguous land along rivers and streams and where preservation is highly desirable.

Source: DVRPC, 2004

CAMDEN COUNTY BICYCLE & MULTI-USE TRAILS PLAN

DVRPC, 2014

This plan documents existing and proposed bicycle networks in Camden County and provides a template for facility design standards, maintenance, and bicycle parking.



Source: DVRPC, 2015

BICYCLE FACILITIES INVENTORY: SUMMARY REPORT SOUTHERN NEW JERSEY

CROSS COUNTY CONNECTION TRANSPORTATION MANAGEMENT ASSOCIATION, 2009

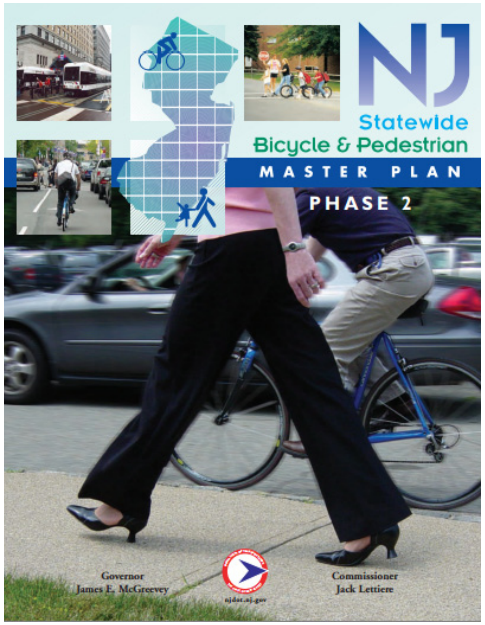
This report inventories existing and proposed bicycle facilities in Camden County. It also identifies gaps in the network and prioritizes facilities for construction.

Source: Cross County Connection Transportation Management Association, 2009

NEW JERSEY STATEWIDE BICYCLE AND PEDESTRIAN MASTER PLAN

NJDOT, 2004

This document inventories existing, proposed, and potential bicycle facilities throughout the state. Priority recommendations, including location prioritization, are proposed for creating and improving bicycle and pedestrian projects.



Source: NJ DOT, 2004

Photo Credit: DVRPC 2015

Chapter 2:

Existing Conditions

EXISTING CONDITIONS

MUNICIPAL BOUNDARIES

Figure 2 shows that Newton Lake Park is situated between the Borough of Collingswood to the north, Haddon Township to the southwest and east, and the Borough of Oaklyn on the south. This study only examines the portion of Newton Lake Park within Oaklyn.

LAND USE

The majority of the land uses on the south side of Newton Lake in Oaklyn Borough, shown in Figure 2, are single family homes, with a multi-unit complex, The Villages of Newton Lake, south of the trail along its central section. At the trail's west entrance along White Horse Pike, the land uses are a mix of commercial and single family homes. Directly north of the lake in Collingswood Borough are the Heights of Collingswood apartments. Also on the north side of the park is Knight Park, and Collingswood Middle and High School.

BORDERING RESIDENTIAL PROPERTIES

Photo Credit: DVRPC, 2015

Single-family residential homes are the prominant land use of the properties adjacent to the southern portion of Newton Lake Park. Most of these homes have backyards abutting the park, approximately half of which are fenced in.

COMMERCIAL USES ALONG WHITE HORSE PIKE

Photo Credit: DVRPC, 2015

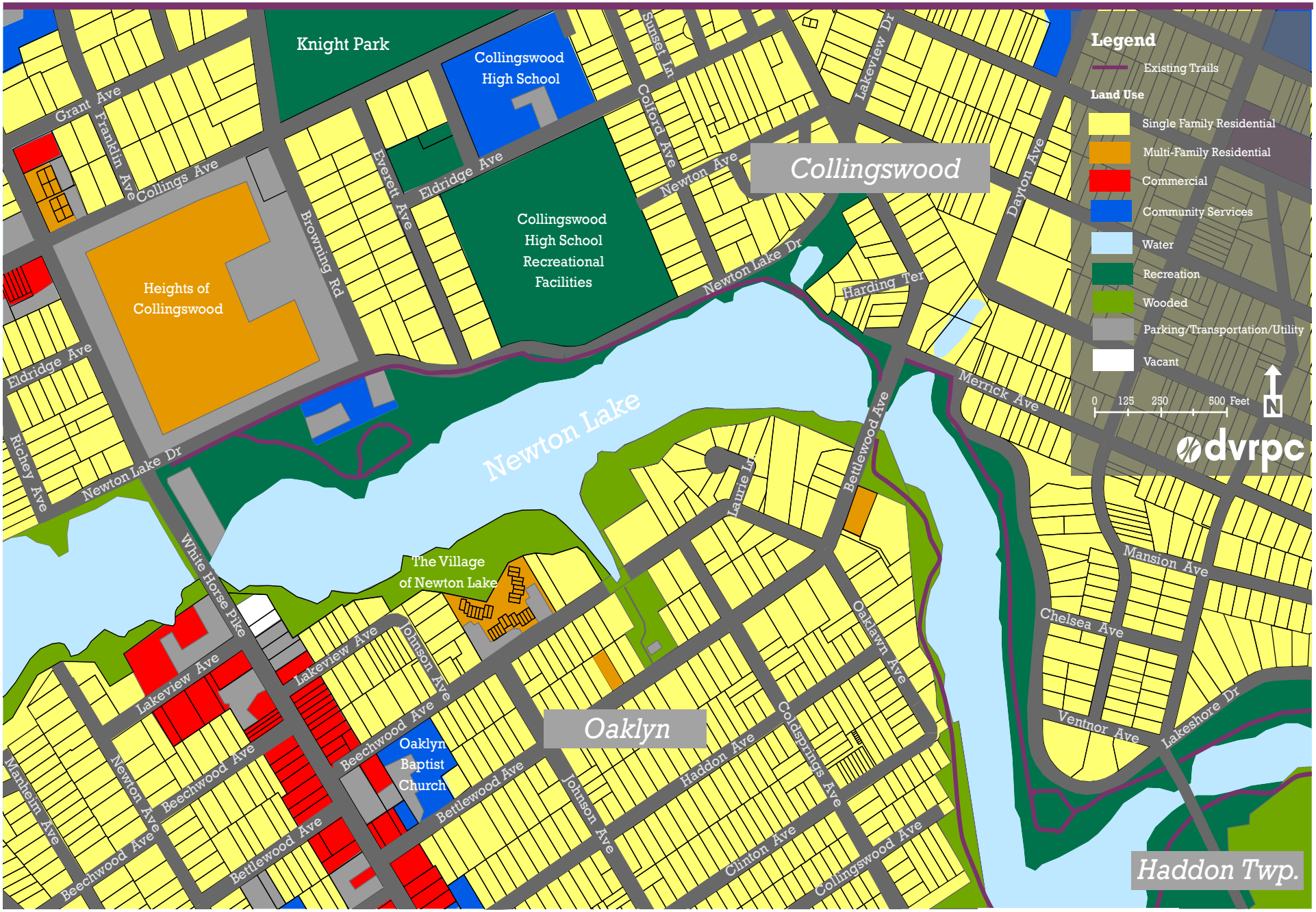
A variety of businesses are sited along White Horse Pike south of the bridge. The majority of these businesses have front parking lots with curb cuts onto White Horse Pike.

VACANT LAND ALONG WHITE HORSE PIKE

Photo Credit: DVRPC, 2015

On the east side of White Horse Pike, just south of the bridge is a vacant parcel for sale that was formerly a fast food restaurant. Negotiations are currently in progress to redevelop the land with a similar use.

Figure 2: Land Use



Source: New Jersey Office of Information Technology, 2010

Existing and Proposed Trail Network and County Park System

EXISTING TRAIL NETWORK

The Circuit is a coalition of partners, including DVRPC and other regional partners, aimed at creating an integrated trail system. The entire system has a proposed 750 miles with over 300 miles of trail already existing.

Additionally, the Camden Greenway is a series of existing and proposed trails within Camden County that connect to the larger Circuit trail network.

The completion of the Newton Lake trail loop will be in proximity to several proposed and existing bike trails as shown in Figure 3, such as the existing Cooper River Trail and the proposed Greenway Trail, West Jersey and Seashore Rail Trail, and the Cooper River Connector. Additionally, many on-road bicycle facilities, such as bicycle lanes and sharrows, are also proposed for the area surrounding Newton Lake park.

CAMDEN COUNTY PARKS

Camden County's park system contains 21 total parks and 2,621 total acres of park land. Newton Lake is the fifth-largest park in the system.

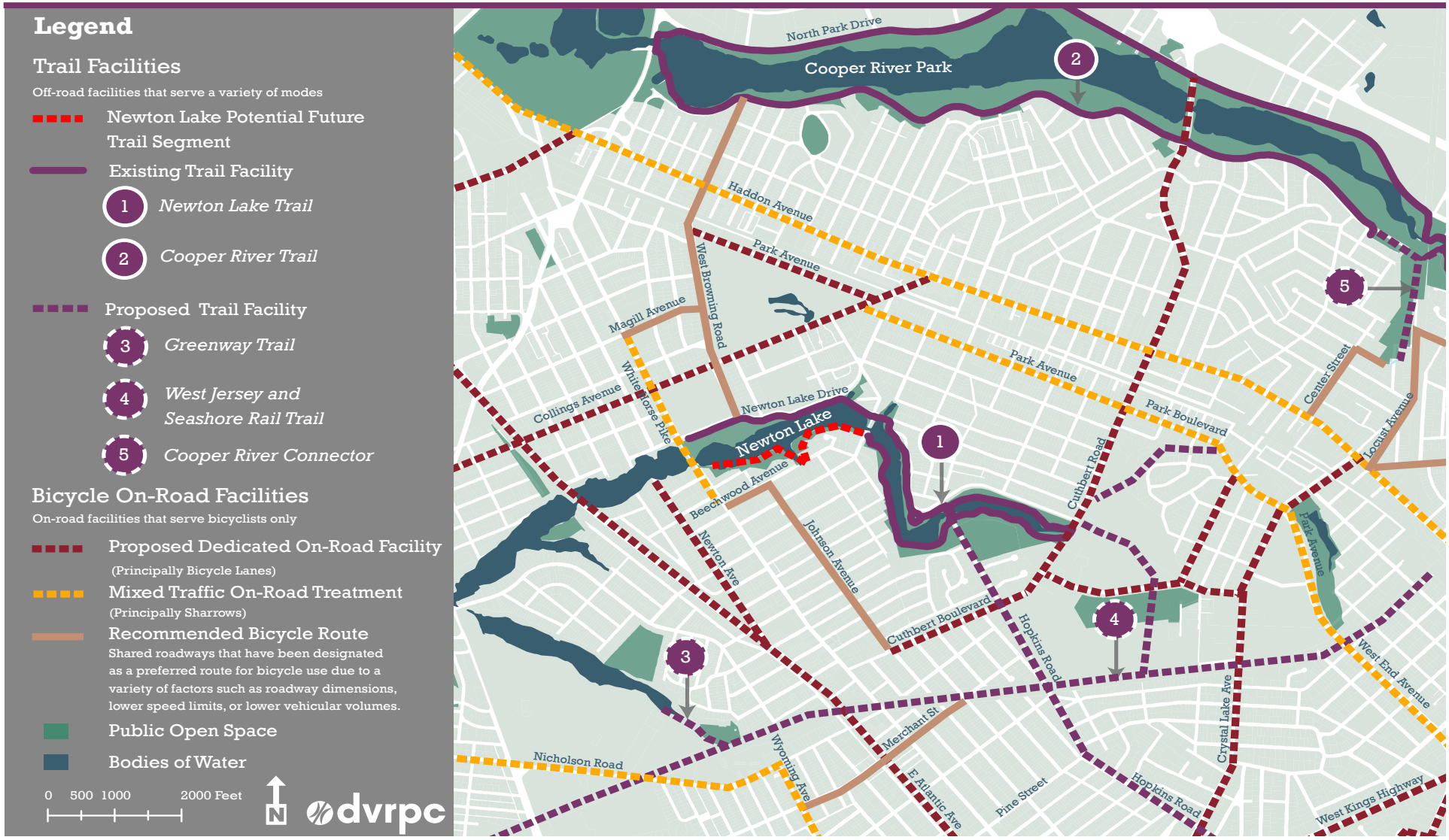
COOPER RIVER PARK

Camden County's Cooper River Park, situated a mile and a half north of the study area also shown in Figure 3, is one of the larger parks in the region at 345 acres; this popular park offers many amenities and programmed events and is often considered an alternative option to the more neighborhood-oriented Newton Lake by park visitors.

Similar to Newton Lake Park, Cooper River Park offers paved trail facilities along the lakefront. The quality and number of trail facilities within and around Cooper River Park have grown in recent years due to a number of grant applications secured to construct additional trail segments.

Cooper River Park; Photo Credit: Friends of Cooper River Park West, 2013

Figure 3: Existing and Proposed Nearby Trail Facilities and Cooper River Park



Adapted from the DVRPC Camden County Bicycle & Multi-Use Trails Plan: Master Plan, 2014

Existing Area Transportation

PARKING

Figure 4 shows the two parking lots within Newton Lake Park: the recently upgraded parking lot on White Horse Pike and Lakeshore Drive and the parking lot adjacent to Collingswood playground. Additionally, there is on-street parking available along streets within and surrounding the park.

PUBLIC TRANSPORTATION ACCESS

Newton Lake is in proximity to two NJ Transit bus routes shown in Figure 4: Route 450 that travels from Cherry Hill Mall to Camden and Route 403 that travels between Turnerville and Camden. These buses, however, run with significant headways— between 30 minutes to one hour for the 403 and between one hour to one hour and 15 minutes for the 450. Bus stops are marked by bus stop signs and lack additional amenities.

PATCO is a rail line that travels from Lindenwold into Camden and across the Delaware River to Philadelphia. The closest station, Collingswood, is about half a mile away from Bettlewood Avenue at Newton Lake Park, the eastern boundary of the study area.

BICYCLE COUNTS

DVRPC conducted a week-long bicycle count in 2014 along the existing Newton Lake Trail between Everett and Colford Avenues, which is marked in Figure 4. An average of 76 bicycles were recorded per day, with the highest count day recording 137 bicycles.

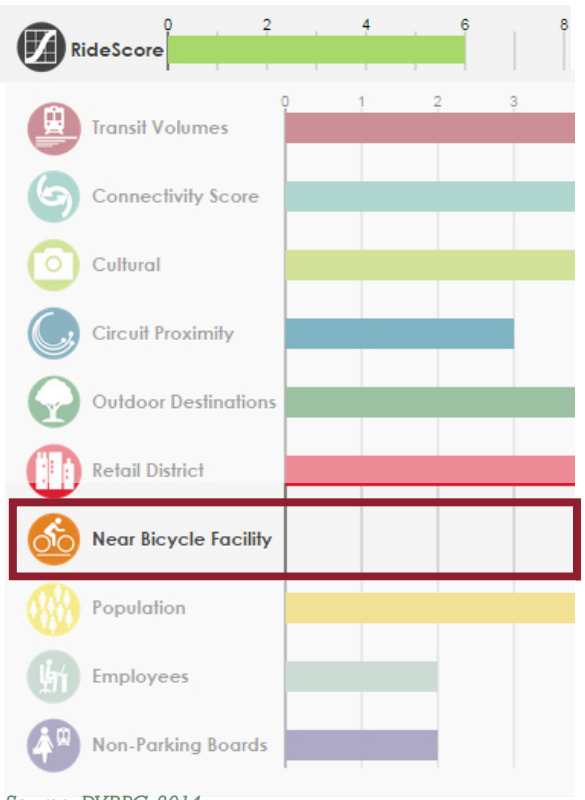
Figure 4: Existing Area Transportation and Parking

Sources: DVRPC, 2014; Google Maps, 2015

RIDESCORE AND THE LACK OF NEARBY BICYCLE FACILITIES TO TRANSIT

DVRPC created a regional Ridescore screening tool that assesses the physical and demographic characteristics around transit stations for bike-to transit prioritization. The Collingswood PATCO station, approximately a half-mile away from the Newton Lake trail, received the second-highest Ridescore for New Jersey PATCO stations at 6.0 (Figure 5). However, one of the major disadvantages of the station is that the station received a "0" score for nearby bicycle facilities, defined as being located within a quarter-mile from a bicycle route with signage, travel lanes with sharrows, or striped bicycle lanes. The trail proposed in this study does not come within a quarter-mile of the station (and thus will not improve its Ridescore), but the addition of designated bicycle and trail facilities is a postive step towards improving bicycle connections to the station for Oaklyn residents.

Figure 5: Collingswood Station Ridescore Data

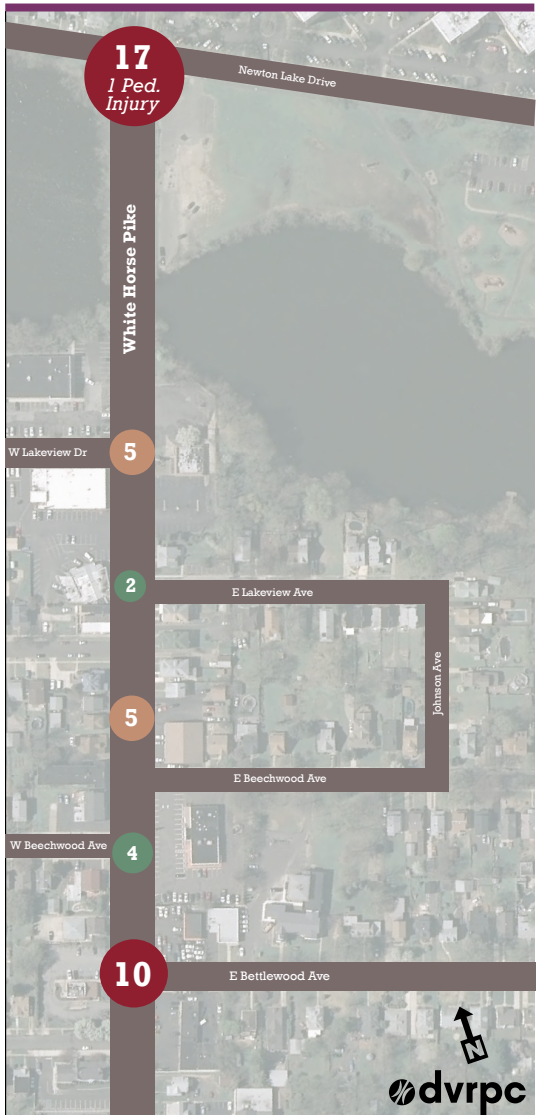


Source: DVRPC, 2014

CRASH STATISTICS

DVRPC crash data from 2008—2013, shown in Figure 6, indicates that there were 42 automobile crashes along White Horse Pike between Newton Lake Drive and Clinton Avenue. Of these crashes, eight resulted in minor injuries, four in moderate injuries, and the remaining in property damage crashes. The intersections at Newton Lake Drive and Clinton Avenue had the most crashes at 17 and 10, respectively. The Newton Lake Drive intersection is the location of the only reported automobile-to-pedestrian crash during this period. There were no fatal crashes or bicycle crashes during this period.

Figure 6: Crash Locations Along White Horse Pike 2008—2013



Source: NJ DOT, 2008-2013; DVRPC, 2010

Newton Lake Recreational Features

PARK AMENITIES

Newton Lake Park contains numerous amenities for its patrons. Three picnic areas are available: Lees Lane (containing the new Lees Pavilion), Newton Lake Pavilion, and one at Collingswood Playground. The park also contains two additional playgrounds.

Newton Lake Park is one of only three lakes in Camden County where boating is permitted, with access for small motorized boats as well as canoes and kayaks. Furthermore, there are three fishing piers and a boat ramp on the northwest corner of the park.

In addition to physical amenities, there are a host of programmed events in the park, such as fishing tournaments, park clean-up days, boating events, exercise days, and family activities.

RECENT UPGRADES

In 2014, Camden County spent $570,000 on projects within Newton Lake, including:

- New fencing on Lakeshore Drive and Lees Lane
- Replacement of the Lees Shelter roof
- The parking lot at Newton Lake Drive and White Horse Pike
- Installing new landscaping along Cuthbert Boulevard
- New signage

Newton Lake trail at Newton Lake Drive and White Horse Pike. *Photo Credit: DVRPC, 2015*

Lees shelter during roof replacement in 2014
Photo Credit: Matt Skoufalos, 2014

Parking lot redesign, landscaping and new fence along White Horse Pike
Photo credit: DVRPC, 2015

Species of Newton Lake

Newton Lake has a multitude of plant and wildlife species within the park. Bird watching and fishing are two very common activities. Below is an overview of some of the species that are in the park.

BIRDS

According to New Jersey Wildlife and Trails (2010), the following species can be found at various times in the year in the park:

Winter: Canada Geese, gulls, mallards, and black ducks are common, with occasional Common Merganser and Ring-Necked Duck spottings.

Bald Eagles
Photo Credit: George Cevera, n.d.

Spring: Migrant waterfowl and neotropical migrant birds

Summer: Common Yellowthroat, Yellow Warbler, Baltimore Oriole, and the Green-backed Heron.

Fall: White-Crowned Sparrow and Dark-Eyed Junco.

The bald eagle, which has been spotted at Newton Lake Park in the past, is classified as endangered during breeding season. Additionally, the Snow Egret and the Great Blue Heron, which typically are spotted in the summer, are Special Concern species (NJ Audubon, 2010). For more information on endangered species classifications, see Appendix C on page C-1.

Northern Snakehead caught in Newton Lake
Photo Credit: Leo Sheng, 2012

FISH

Newton Lake is known for its plentiful large-mouth bass during the summer seasons. As of 2010, fishing enthusiast website Fishing Notes reported sightings of a number of other species including Smallmouth Bass, Crappie, Walleye, Catfish, Spotted Bass, Striped Bass, and Trout.

Northern Snakehead, an invasive fish native to Eastern Asia, has recently become more common in Newton Lake. According to the New Jersey Department of Environmental Protection, the fish was first spotted in Philadelphia's Franklin Delano Roosevelt Park and traveled up the Delaware River to Newton Lake. The Newton Creek Watershed Association hosted a snakehead fishing tournament in 2014 to encourage fishing the species.

OTHER ANIMALS

Additionally, other species such as turtles, frogs, and groundhogs have been spotted at Newton Lake.

Environmental Conditions

Algae build-up on the shoreline of Newton Lake
Photo Credit: Newton Lake Park Facebook, 2015

WATER QUALITY

The lake has a maximum depth of five feet. Water quality reports have shown high levels of phosphorus likely from a variety of sources such as fertilizer, run-off, trash, and goose droppings. Phosphorus is a key contributor to the heavy algae blooms in the lake.

ALGAE CONTROL

Newton Lake's main water quality problem is controlling the algae in the lake. Camden County, along with the Newton Creek Watershed Association, are heavily involved in activating algae reduction strategies.

GEESE

The large population of geese residing in the park is another major concern. Large populations of geese tend to overgraze areas, and their droppings can contribute to nutrient loading of the lake.

Geese in Newton Lake Park
Photo Credits: Newton Lake Park Facebook, 2015

PLANT SPECIES

Newton Lake Park supports many native and non-native (or invasive) plant species. According to the NJ Invasive Species Strike Team, invasive species in Newton Lake include English Ivy, Mimosa, Callery Pear, Mile-a-Minute Vine, Porcelain Berry, and Indigo Bush, many of which require some combination of mechanical removal and herbicide to eradicate. On the other hand, the park has many excellent stands of native plants, such as Arrowwood, Mountain Laurel, and Milkweed.

In July 2015, Camden County dredged clogged sediment traps and began to treat the lake's algae problems
Photo Credit: Newton Creek Watershed Association Facebook, 2015

Indigo Bush is one the most common invasive plant species in Newton Lake Park.
Photo Credit: Paul Cox, 1988

Topography and Floodplains

TOPOGRAPHY

Figure 7 shows that the western edge of the lake has a steep drop in topography from White Horse Pike down to Newton Lake. While there is a steep slope from the homes on the western side of the study area, the terrain flattens out near the eastern end.

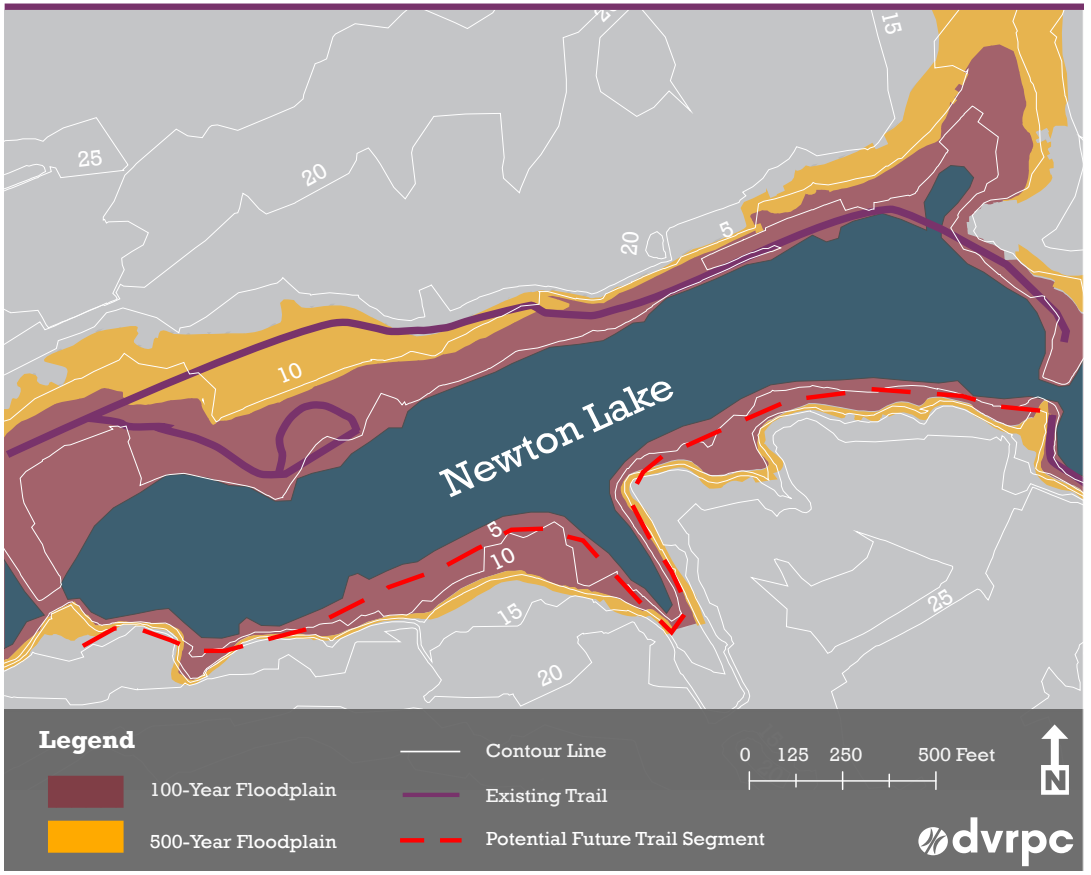
FLOODPLAINS

Newton Lake is a tributary of the Delaware River, approximately 2.5 miles to the west. Newton Lake contains areas that sit as low as six feet above sea level. Figure 7 illustrates that a majority of the proposed trail extension area lies within the 100- and 500-year floodplain zone: The "100-year floodplain zone" is defined by the Federal Emergency Management Agency as an area that has a one percent chance of a flood event in any given year, whereas a "500-year floodplain" has a 0.2 percent annual chance.

Steep terrain near White Horse Pike
Photo Credit: DVRPC, 2015

Much of the Newton Lake shoreline is prone to flooding
Photo Credit: DVRPC, 2015

Figure 7: Topography and Floodplains



Source: DVRPC, 2010; ESRI FEMA, 2014

Site Findings: Conditions along the Potential Trail Alignment

This section discusses the existing conditions of the proposed trail extension area, specifically between White Horse Pike and Bettlewood Avenue. The area supports an alignment that is currently clear of vegetation and contains flat topography suitable for a trail. These conditions are shown in Figure 8.

VACANT PROPERTY AND WESTERN SLOPE

A narrow piece of park property extends to White Horse Pike, bounded by the lake to the north and the retaining wall of a vacant commercial property to the south. The width of the right of way is unsuitable for trail use due to its narrow width and steep slopes that lead to the lake.

The vacant property to the south of the park property, a former fast food restaurant, is largely covered by asphalt and concrete and contains two curb cuts along White Horse Pike and sections of metal guardrail on the north and east sides.

The park property to the east of the vacant lot contains a steep slope down to the lake with approximately 14 feet of elevation change from the lake edge to the property along White Horse Pike. The area is heavily wooded and contains significant plant overgrowth. This elevation difference provides residential properties along Lakeview Avenue privacy from the proposed trail area.

STAIRS AND ENTRY POINTS

The trail extension area currently contains five points of entry, four of which provide stairs to bring users from street level to the lake. The stairs at Lakeview Avenue, the western side of Beechwood Avenue, and Bettlewood Avenue are stone construction with sidewalls, while the stone stairs on the eastern side of Beechwood have no railing. The fifth entry is an eight-foot asphalt path that runs from the central portion of Bettlewood Avenue to the edge of the lake's inlet.

PLANT OVERGROWTH

Much of the central and western parts of the potential trail alignment contain plant overgrowth, with a number of species that grow tall and densely enough to block views of the lake from the proposed trail segment.

NARROW PATH AND TIGHT TURN RADIUS IN WESTERN AND CENTRAL PORTION

Significant portions of the property south of the lake edge are benched (topographic flat areas) so as to easily site a trail path. Along portions of the potential trail extension, the bench narrows to a width that is less than that of the existing trail network in Newton Lake Park. These narrow portions would require some earthwork to carve a bench wide enough to support a trail. Additionally, in the central portion of the trail, a tight turn radius with a sharp slope down to the lake presents a very narrow path for the trail.

TRAIL WIDENS ALONG EASTERN PORTION

In the eastern portion of the potential trail extension, the width of the right of way widens considerably. Along this same stretch of trail, single-family homes sit at the same elevation of the trail. Many of these properties do not have fenced yards, which makes it difficult to perceive where park property ends and private property begins.

Figure 8: Potential Trail Alignment Existing Conditions

Sources: DVRPC, 2015; ESRI Aerial Imagery, 2011

Site Findings: Connector Streets

White Horse Pike and Lakeview Avenue on the west end and Bettlewood Avenue on the east end were examined as potential gateways, or connector streets, into the trail that allow visitors to access the proposed trail segment from its adjacent streets.

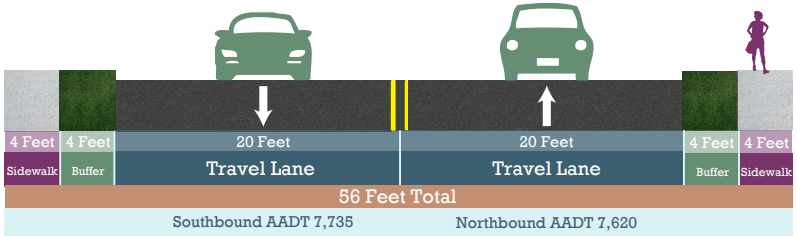
WHITE HORSE PIKE

Figures 9 and 10 show that White Horse Pike has 20-foot wide lanes and no traffic signals between Newton Lake Drive and Bettlewood Avenue. Its current layout supports speeding conditions and makes it an inhospitable place to walk or ride a bicycle. Additionally, there is no sidewalk on the western side of the street, north of the bridge.

White Horse Pike Looking southbound from the corner of Newton Lake Drive
Photo Credit: DVRPC, 2015

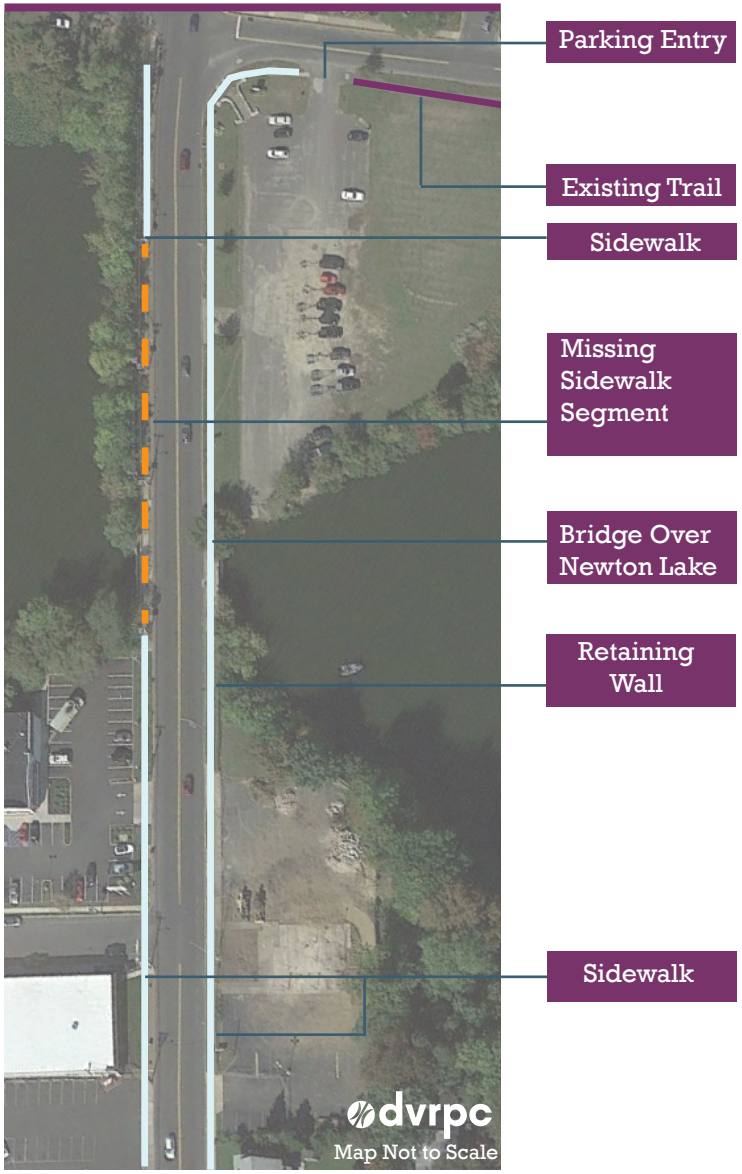
Cyclist riding north on White Horse Pike
Photo Credit: DVRPC, 2015

Figure 9: Existing Cross Section on White Horse Pike



Source: DVRPC, 2015

Figure 10: Existing Conditions on White Horse Pike



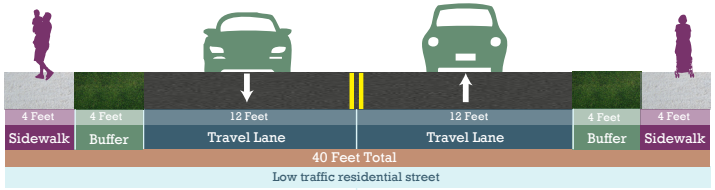
Source: ESRI Aerial Imagery, 2011

LAKEVIEW AVENUE

Lakeview Avenue is a low-traffic, residential street, perpendicular to White Horse Pike, with homes that share a border with the southern portion of Newton Lake Park shown in Figures 11 and 12.

The existing western-most entrance to Newton Lake Park sits at the end of Lakeview Avenue and contains a staircase that descends to the lake. This area surrounding the staircase at street level currently lacks sidewalks, and no signage exists to indicate a park entrance.

Figure 11: Existing Cross Section on Lakeview Avenue



Source: DVRPC, 2015

Figure 12: Plan View on Lakeview Avenue

Source: ESRI Aerial Imagery, 2011

The corner of White Horse Pike looking north
Photo Credit: DVRPC, 2015

A segment of sidewalk is missing along the north side of Lakeview Avenue near the stair entrance to the park
Photo Credit: Google Maps, 2012

Lakeview Avenue looking east
Photo Credit: DVRPC, 2015

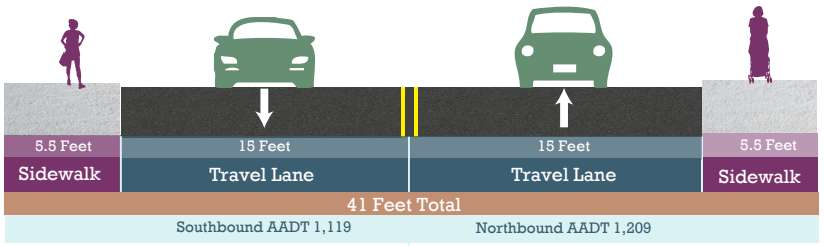
Site Findings: Connector Streets

BETTLEWOOD AVENUE

Bettlewood Avenue, shown in Figures 13 and 14, is a two-way residential street that abuts the eastern edge of the proposed trail. The street has relatively little through traffic and no parking on either side. Like White Horse Pike, this section of Bettlewood has generously wide travel lanes (15') and a mid-block crosswalk that connects the proposed right of way to the existing trail to the east.

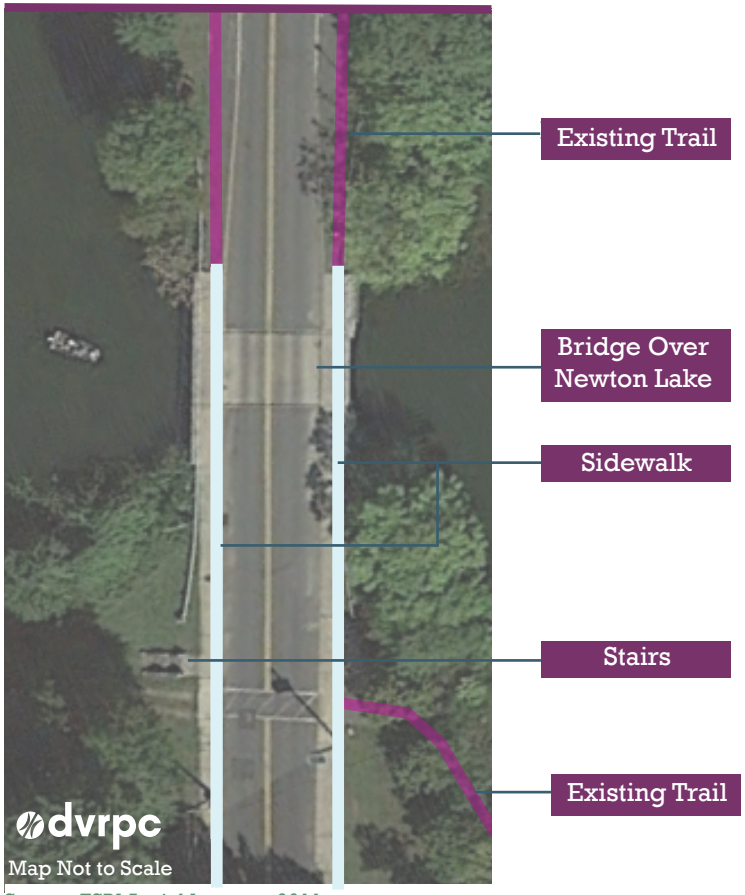
Bettlewood Avenue looking north
Photo Credits: DVRPC, 2015

Figure 13: Existing Cross Section on Bettlewood Avenue



Source: DVRPC, 2015

Figure 14:
Existing Conditions
on Bettlewood Avenue

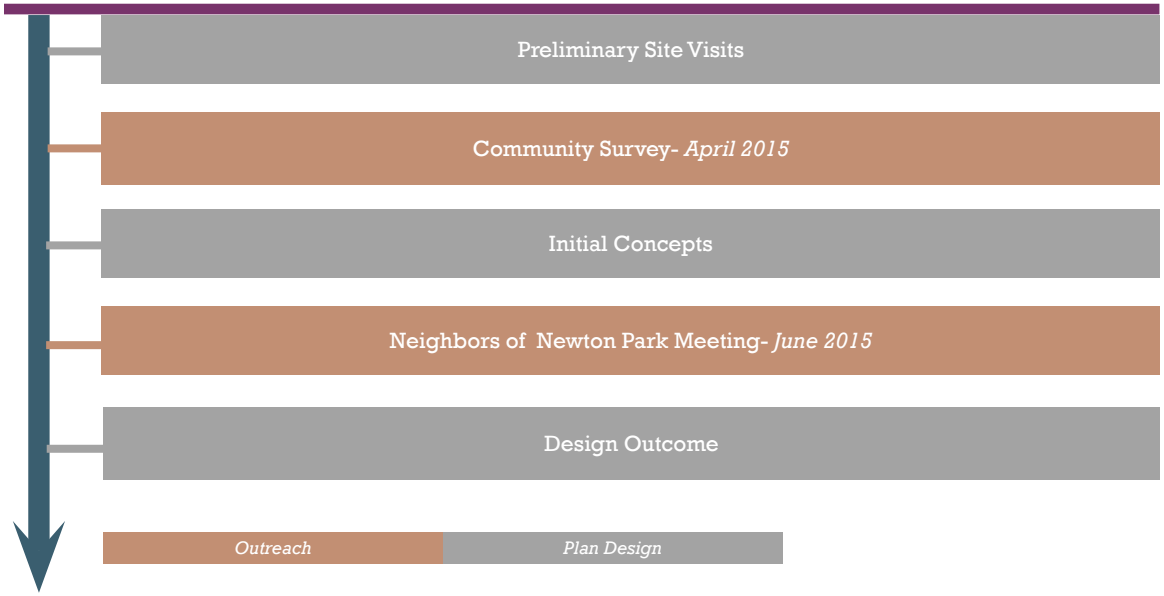


Source: ESRI Aerial Imagery, 2011

Community Outreach

Community outreach was essential in shaping conceptual trail designs. Two forms of outreach, an online community survey and a more localized community meeting, were strategies involved in developing design concepts during the process, as illustrated in Figure 15.

Figure 15: Outreach Timeline



Source: DVRPC, 2015

Community Outreach: Online Survey

ONLINE SURVEY METHODOLOGY

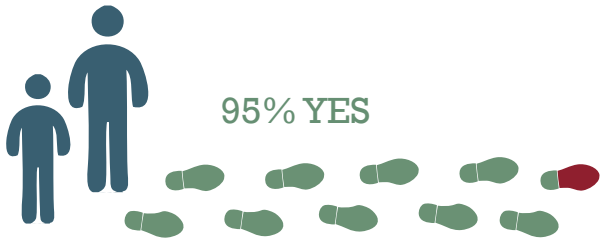
DVRPC created an online public survey to gauge overall interest in the continuation of the trail and gain an understanding of the type of trail residents would like to have. The survey was created in collaboration with the Borough of Oaklyn and the Camden County Planning and Parks Departments. The survey was available to the public online from April 13 to April 21, 2015. The online form contained 15 questions consisting of multiple choice and open answer responses. The survey results reflect a sample of 354 trail users.

The survey was accessible on the Camden County Division of Planning and Parks Department website, Twitter and Facebook social media pages, and was also distributed using the department's e-mail Listserv.

The results of the findings are shown in Figures 16 through 29 on pages 28—30 through infographics.

Figure 16: Trail Continuation

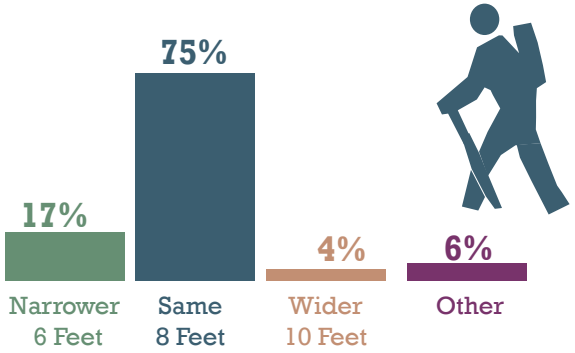
Trail Continuation: Do you want to see a continuation of the Newton Lake Trail between White Horse Pike and Bettlewood Avenue?



Source: DVRPC, 2015

Figure 17: Trail Width

What type of trail should it be?



Source: DVRPC, 2015

Figure 18: Reasons the Trail Should Be Built

233 Respondents

Sample Comments:

"It would provide a natural continuation of the existing path and would make me use the park more as that part of the creek is closest to my house."

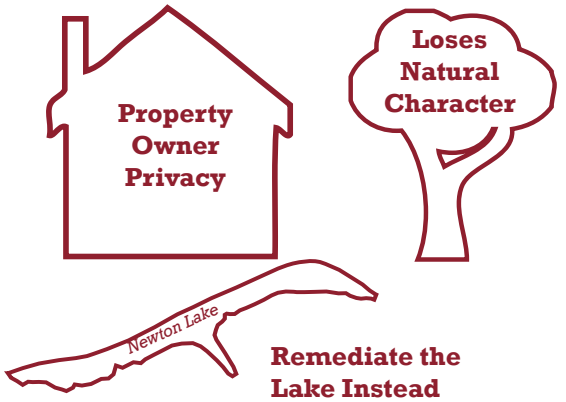
"An additional connecting trail would provide a complete exercise route for walkers and make for a more enjoyable park experience."

"Connecting the lake as a whole and making a true connection with the surrounding lake communities."

Source: DVRPC, 2015

Figure 19: Concerns about the Trail Being Built

9 Respondents



Sample Comments:

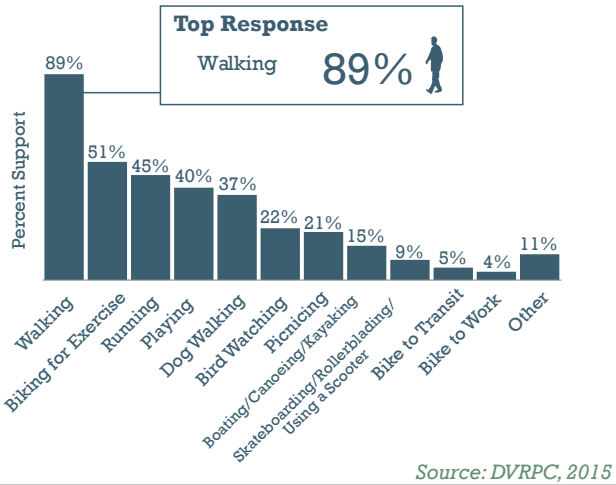
"I don't see the need for a trail. There are plenty of walkways in the area. The overall cost of the project would exceed the need."

"Wildlife, more foot traffic, no parking, they haven't done the best job keeping up with the park for ten years, this will just extend."

Source: DVRPC, 2015

Figure 20: Newton Lake Current Uses

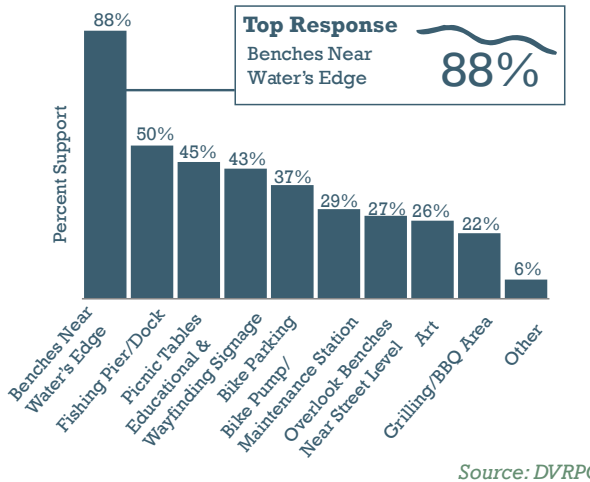
Which activities do you currently use the Newton Lake Trail system to do?



Source: DVRPC, 2015

Figure 21: Newton Lake Desired Amenities

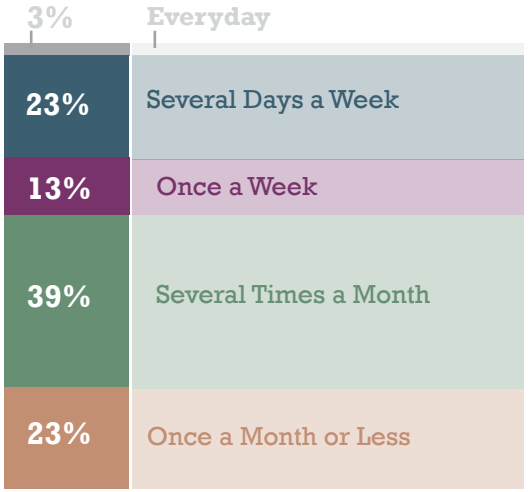
What types of amenities would you like to see along the trail? (Select all that apply)



Source: DVRPC, 2015

Figure 22: Frequency of Use

How many times a month do you use the trail?



Source: DVRPC, 2015

Figure 23: Newton Lake Park Assets

Newton Lake Assets: What do you like about the park?

Source: DVRPC, 2015

Newton Lake Park is...

Nice
Accessible
Well Lit
Uncrowded
A Good Alternative to Cooper's River
Spacious
Fun
Relaxing
Safe
Lovely
An Escape from Traffic
Clean
Family Friendly
Quiet
Beautiful
Peaceful

People Enjoy...

A Variety of Activities

Playing
Walking
Trails
Running
Picnics
Exercise
Biking
Fishing
Boating

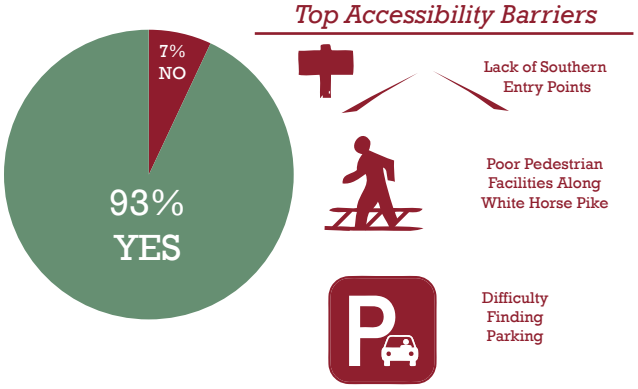
Plantlife
Trees
Variety
Open Space
Scenic
Wildlife
The Nature
The Water

The Natural Amenities

Community Outreach: Online Survey

Figure 24: Accessibility to Newton Lake

Do you find Newton Lake Park to be adequately accessible for you and/or the members of your group?

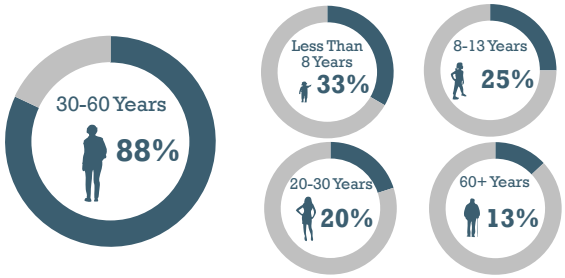


Source: DVRPC, 2015

Figure 25: Group Age Breakdown

What is the age breakdown of the members in your group? (Check all that apply)

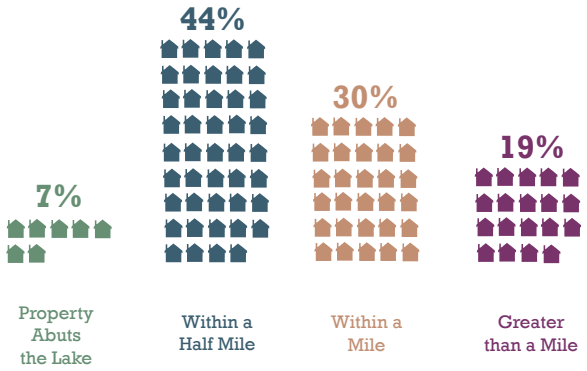
By Age Group



Source: DVRPC, 2015

Figure 26: Proximity to Home

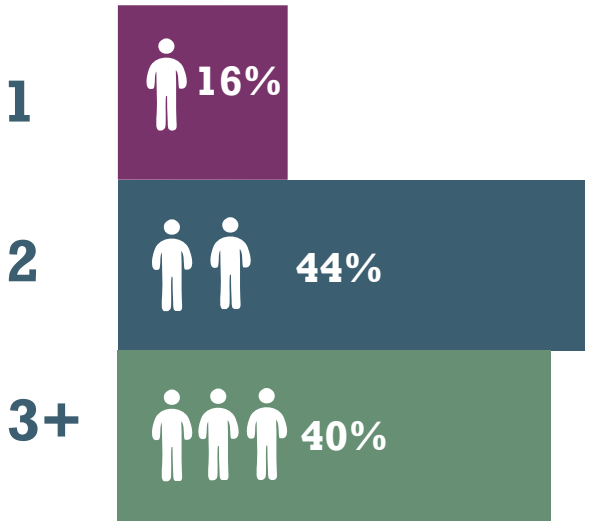
How close do you live to the park?



Source: DVRPC, 2015

Figure 27: Group Size

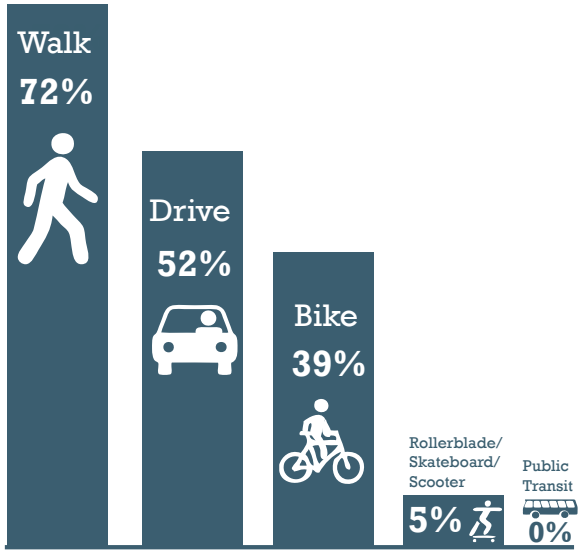
Group Size: How big is your typical park-going group?



Source: DVRPC, 2015

Figure 28: Access Mode to Newton Lake

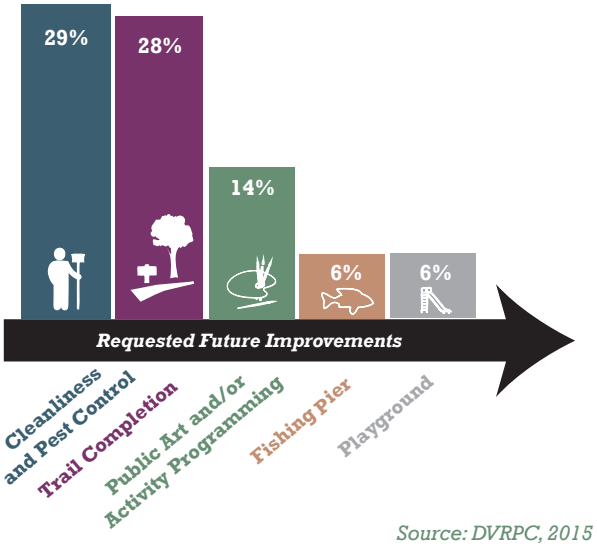
Access Mode to Newton Lake: How do you get to the park?



Source: DVRPC, 2015

Figure 29: Future Improvements

Future Improvements: What might get you to use the park more often than you currently do?



Source: DVRPC, 2015

Community Outreach: Initial Concepts

DVRPC staff generated two initial concepts, a Neighborhood-oriented Concept and an Active Trail Concept, based on the feedback from our community survey and a visit to the site. These concepts were intended to provide a range of possible features and programming to discover local preferences. The concepts provided a range of options on various design elements for the trail upon which attendees of the neighbors of Newton Lake Park Meeting could provide feedback. The approach to trail design elements for the concepts are outlined in Table 1. For more information on the initial concepts, see Appendix A on page A-1.

Table 1: Comparison of Initial Concepts

Recommendations	Neighborhood-oriented Concept	Active Trail Concept
Trail Activity	Simple, mostly unprogrammed	Active trail with programmed areas throughout the southern portion of the park, including a discovery trail and fishing dock
Trail Material and Width	Paved ten-foot trail, same as existing trails in Newton Lake Park	Paved 12-foot trail, two feet wider than existing trails in Newton Lake Park
Trail Access	Located on low-traffic streets: one on Lakewood Avenue and two on Bettlewood Avenue	Access to trail entrances via White Horse Pike and Bettlewood Avenue
Adjacent Street Improvements	Sidepath on eastern side of White Horse Pike to connect the proposed trail to the existing trail and improve pedestrian crossings at trail ends	Two-way cycle track on White Horse Pike and sidepaths on Bettlewood Avenue
Lighting and Benches	None along trail	Lighting and benches along the trail
Border with neighboring properties	Fence and tree line between residences and trail for privacy	Plant massings between residences and trail for privacy
Parking	No new parking: plan focuses on nearby residents who will likely use other modes to access the park	New southern trailhead with parking accessible via White Horse Pike

Community Outreach: Neighbors of Newton Lake Park Meeting

On the evening of June 18, 2015, DVRPC presented existing conditions, survey results, and concept drawings to Oaklyn residents with property directly adjacent to the proposed Newton Lake Park trail alignment. Approximately 20 residents were in attendance along with several local officials. At the end of the presentation, DVRPC staff held an open forum for residents to ask questions, express concerns, and provide feedback about the project.

Residents were generally supportive of a trail extension that might commit to regular landscaping and trash removal. Attendees noted particular concerns that should be addressed during the public involvement portion of the design phase. Common themes that emerged over the course of the meeting were as follows:

EDGE TREATMENTS

Attendees expressed concern that proposed treatments, such as fencing, plants, and trees, might impede lake views. These residents expressed the need for coordination between Camden County and the residents concerning potential edge treatments.

LIGHTING

Most attendees did not want lighting along the potential trail segment, due in part to residual glare.

TRESPASSING AND SAFETY

A few attendees were concerned with trespassing and people walking through their yard to gain entrance to the park. A few neighbors also mentioned potential crime and perceived safety concerns in the park.

ENVIRONMENTAL DEGRADATION AND LOSS OF WILDLIFE

There were a variety of concerns over the lake's water quality, stormwater runoff, flooding, and swamp land near White Horse Pike. Attendees expressed concern over regular maintenance of landscape and plant overgrowth conditions and warned that disruption of vegetation in the park may harm existing wildlife habitat.

Existing Conditions Analysis

ASSETS, CONSTRAINTS, & OPPORTUNITIES

DVRPC staff synthesized the existing conditions findings to identify the proposed trail segment's assets, constraints, and future opportunity areas. This analysis identified *assets* that already positively affect the area and should be further reinforced or invested in. The identified *constraints* highlight the challenges the study area faces, and where additional planning efforts are necessary. Lastly, the *opportunities* show key improvement areas and serve as a tool to identify potential recommendations.

ASSETS

Access Points: The proposed trail extension has a number of existing access points providing entry for visitors coming from several directions.

Existing Topographic Bench: The majority of the proposed trail extension area is characterized by cleared areas with ample room for the development of a paved trail.

Natural Setting: This southern portion of Newton Lake Park is unique in that it is composed of a diversity of habitats and plant life. The area is largely removed from busy streets, and has a more naturalized aesthetic that does not exist in other parts of the park.

Community Support: Newton Lake Park is well used, and the trail extension has the overwhelming support of its users.

CONSTRAINTS

Gap between Existing and Proposed Trail: A connection between the existing trail and the proposed trail must occur on-street because of the presence of the lake.

Transition between adjacent properties: The eastern end of the proposed trail extension is at the same grade as a number of homes, many of which have unfenced back-yards that abut park property, potentially raising issues over maintaining view sheds to the lake while providing adequate privacy and separation of park property from private property.

Access Constraints: There are currently no ADA-accessible entrances to this portion of the park.

The Existing Physical Infrastructure on White Horse Pike: White Horse Pike has wide travel lanes, no bicycle infrastructure, poor sidewalk conditions, and no pedestrian crossings within the vicinity of the proposed trail.

Environmental Concerns: There are environmental concerns around the lake's water quality, erosion and loss of land, flooding, and the park's invasive plant and wildlife.

Overgrowth and Infrastructure: Due to a lack of upkeep, much of the park right of way is overgrown, and existing infrastructure, such as staircases and a fishing pier, are in need of repair.

OPPORTUNITIES

Open Additional Park Access Points: Numerous access points to the proposed trail extension could provide easier entry to the park and improved connectivity to adjacent neighborhoods.

Use the Favorable Topography: The existing topography and right-of-way provides ample space to develop a paved trail appropriate for shared bicycle and pedestrian use. Areas of the trail with wider rights-of-way can also potentially accommodate additional trail amenities.

Emphasize the Natural Setting: The proposed trail extension is quieter than other parts of Newton Lake Park and contains a greater variety of natural elements and plant life, providing a different type of experience for users.

Engage Community Support: Newton Lake Park has a very involved and supportive community that makes great use of the park. Continuing to engage this community will help to ensure that further designs properly incorporate their needs and develop a sense of ownership over the project's development and upkeep should the proposed trail segment be built.

Create a Continuous Trail Loop: At present, the lack of connections to existing Newton Lake Park trails provides an opportunity to create linkages, which would allow for a larger park-wide loop for exercise and recreation.

Work with Residents to Maintain Park Views without Compromising Privacy: At the proposed trail alignment's western end, adjacent properties at grade with the lake present an opportunity to work with residents to collaboratively design measures that assure privacy without obstructing their views of the lake.

Create Access for All Users: The development of ADA-accessible paths and infrastructure will provide opportunities for users of all abilities to enjoy this part of Newton Lake Park.

Analyze and Act on Plant Overgrowth and Other Environmental Concerns: This project provides an opportunity to assess current environmental issues within this portion of the park and develop measures to improve them. An analysis of invasive plants and animals and a plan for park upkeep can contribute to improving the environmental health of the park.

Improve Infrastructure: Infrastructure improvements can enhance safety in the area and spark renewed interest in activities at various places throughout the proposed trail extension.

Photo Credit: DVRPC 2015

Chapter 3:

DESIGN OUTCOMES AND NEXT STEPS

Trail Design Outcomes

The preferred design incorporates feedback from the Neighbors of Newton Lake Park meeting and capitalizes on the previously mentioned opportunities.

The preferred design contains two levels of concepts: a Baseline Design Concept and an Optional Amenities Concept as shown in Figure 30. The baseline concept includes elements that staff and stakeholders agreed were essential to the proposed trail segment's function. The optional amenities concept includes items that could be added individually to the baseline concept, based on community interest.

Accessible ramp
Photo Credit: Sunrise Recreaton and Park District, n.d.

BASELINE DESIGN CONCEPT

RAMPS

At present, there are no ADA-accessible entrances to the southeast portion of the proposed trail area. In order to make this connection accessible for all types of users, ADA-accessible ramps are proposed at the Lakeview Drive and Bettlewood Avenue entrances.

WAYFINDING SIGNAGE

Wayfinding signs, or signs that provide directional and or educational information, can educate patrons about the park's unique environmental qualities and provide general park information.

Wallisch Environmental Education Trail in West Millford, NJ
Photo Credit: NJUrbanForest.com, 2010

ECOLOGICAL MANAGEMENT

The central portion of the proposed trail extension contains an area of overgrowth in need of upkeep. Newton Lake Park currently contains a number of invasive plant types that require consistent management in order to eradicate. Additionally, the replenishment of native species in the park is beneficial at reducing invasives and providing native habitat.

CUT AND FILL AREAS

The eastern portion of the study area contains generous right-of-way in most places for the construction of a trail. However, in a few places, tree removal and earth movement will be necessary to construct a trail that is ADA compliant and consistent in width to the existing Newton Lake Park trail.

GUIDE RAIL

In the central portion of the trail, a sharp turn with steep drop-offs to the lake represents a hazard to trail users. A guard rail in this area should be provided to provide sufficient safety for users.

Figure 30: Trail Design Outcomes

Source: ESRI Aerial Imagery, 2011

OPTIONAL TRAIL AMENITIES

WESTERN TRAIL ACCESS

One of the main differences between the baseline concept and optional amenities is that the baseline trail extension ends at Lakeview Avenue, with an on-street connection to a sidepath on the east side of White Horse Pike. In the optional amenities, a trail continues to an entrance at White Horse Pike, shortening the length of the on-street portion.

This entrance provides two ramp options: a northern and southern option, both of which traverse a significant slope between the level of the lake and White Horse Pike. The vacant lot the ramps connect through is currently in development, so easements may be required to build trail entrances at this location.

LIGHTING

At present, all existing parts of the Newton Lake Park trail are lit. The adjacent property owners who attended the outreach meeting did not want lighting along the trail extension, partially due to residual glare. If the trail did include lighting, one way to reduce the unwanted light dispersal from street lamps is to use "dark-sky compliant" lighting fixtures, which fully shields lamps so that only areas beneath the light are illuminated.

DISCOVERY TRAIL

Presently, considerable overgrowth in the central portion of the proposed trail extension separates users from the water's edge. A discovery trail, an unpaved trail through this unique area of high plant growth, would provide a way to explore this landscape. It also provides an alternative walking route for those interested in a more natural setting.

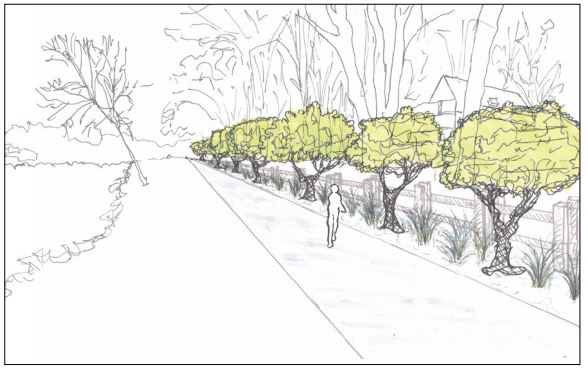
BENCHES

The trail extension area currently has very few sitting areas. Benches in high-use areas could provide excellent viewing points for the lake, and provide places for visitors to rest.

FENCE

An important aspect of designing the trail extension is considering the privacy of residents living adjacent to the park. A fence could provide neighbors who desire additional privacy a clear boundary between the park and their private property.

Existing lighting on the existing Newton Lake trail
Photo Credit: DVRPC, 2015



An illustration of optional fencing and landscaping features on the eastern end of the trail
Source: DVRPC,2015

Connector Street Design Outcomes

A critical design aspect of extending a trail along the southeast section of Newton Lake is allowing for a safe connection to the proposed trail. Access from adjacent streets is critical as it provides both direct routes from the adjacent properties to the new trail segment, as well as connects the existing and proposed trail, completing the loop. The existing street network across the park and the need to cross over the lake necessitate a connection between the existing and proposed trail that is on or adjacent to a bordering street. The following section illustrates recommendations for White Horse Pike, Bettlewood Avenue, and Lakeview Avenue that provide access to, and through, the park.

WHITE HORSE PIKE

The existing sidewalk on the east side of White Horse Pike, the Newton Lake Park side, is critical to connect the existing trail to the trail extension—making the park a continuous three-mile loop. The sidewalk's current four-foot width (shown in Figure 32) is insufficiently wide for more than a single lane of pedestrians. The west side of the street is missing significant portions of sidewalk, and there are currently no crosswalks across White Horse Pike in the vicinity of the park.

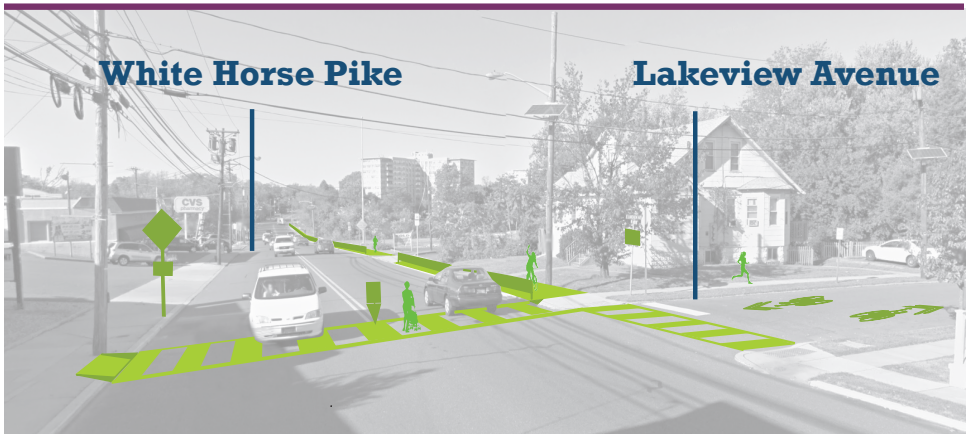
Near-term recommendations focus on minimizing interventions that improve safety (shown in Figures 31 and 32) and the quality of the pedestrian and bicyclist environment in a short timeframe without the long environmental and community process of changing the White Horse Pike cartway. These recommendations include:

1. The conversion of the east side walk to an eight-foot sidepath, a multi-use facility that provides space for walking, bicycling, and other non-motorized modes adjacent to the roadway.

2. A continuous four-foot sidewalk on the east side of White Horse Pike.

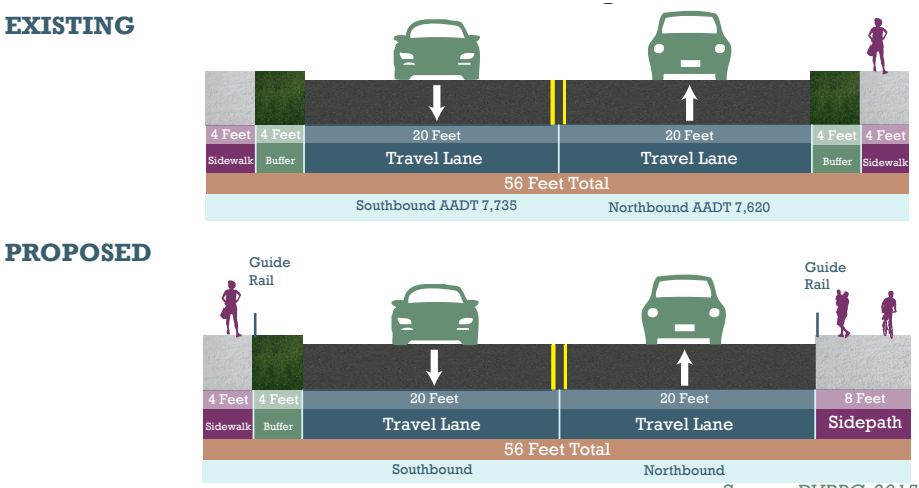
3. Pedestrian crosswalks at Lakeview Avenue and Newton Lake Drive.

Figure 31: White Horse Pike Improvements



Visualization of potential sidepath and crossings at the intersection of White Horse Pike and Lakeview Avenue; *Source: DVRPC, 2015; Google Maps, 2013*

Figure 32: Existing and Proposed Cross Section on White Horse Pike



Source: DVRPC, 2015

Connector Street Design Outcomes

BETTLEWOOD AVENUE

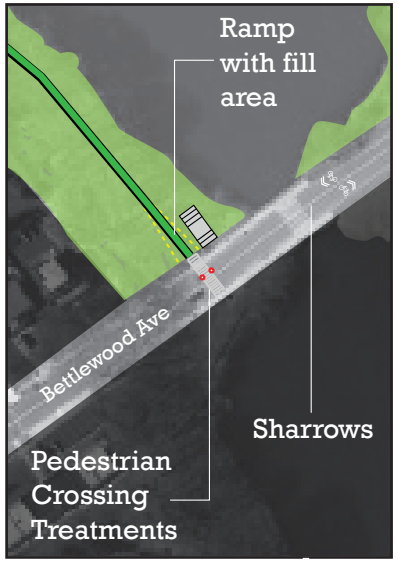
Bettlewood Avenue represents an important connection at the eastern end of the proposed trail extension where three other access points to the north and east exist. At five and a half feet, the sidewalks are not wide enough for both pedestrian and bicycle use. The street has wide 15-foot travel lanes and relatively low automobile traffic levels. The crosswalk that currently exists to connect the existing trail to the proposed trail extension is faded and does not have adequate signage for a midblock crossing.

Near-term recommendations focus on minimizing interventions that improve safety (shown in Figure 33) and the quality of the pedestrian and bicyclist environment in a short timeframe without the long environmental and community process of changing the Bettlewood Avenue cartway. These recommendations include:

1. The addition of sharrows along the north- and south-bound lanes of Bettlewood to improve cycling connections between the proposed trail extension and existing trails to the north.

2. An improved crosswalk with a striped crossing treatment and a flexible "yield to pedestrians" sign.

Figure 33: Bettlewood Avenue Improvements



Source: ESRI Aerial Imagery, 2011

LAKEVIEW AVENUE

Lakeview Avenue's northern sidewalk and street represent an important connection between White Horse Pike and the western entry point to the proposed trail extension. Approximately 30 feet of sidewalk on the northern edge of the street is currently missing near the proposed entry point—a major disconnection for pedestrians. Additionally, no bicycle connections exist between this entry and those proposed along White Horse Pike.

Recommendations for improvements on Lakeview Avenue (shown in Figure 34) include:

1. Completion of the missing sidewalk segment along the northern side of Lakeview Avenue.

2. Placement of sharrows in both directions along Lakeview Avenue to provide an improved bicycle connection between White Horse Pike and the trail entry.

3. Placement of wayfinding signage at street intersections to direct users to the park's entrance.

Figure 34: Lakeview Avenue Improvements

Source: ESRI Aerial Imagery, 2011

Connector Street Design Outcomes

FUTURE CONNECTOR STREET PLANNING

The existing 20' and 15' travel lanes along White Horse Pike and Bettlewood Avenue, respectively, are excessively wide—10'- or 11'-wide travel lanes are considered best practice. This extra width promotes fast vehicular travel speeds which negatively impact safety and comfort level for bicyclists and pedestrians. So as to not slow down the Newton Lake Trail extension process, Oaklyn Borough, Camden County and New Jersey Department of Transportation may want to separately pursue adjustments to the White Horse Pike and Bettlewood Avenue cartways that improve safety and facilities for all modes by narrowing the existing travel lanes from 20' and 15' to closer to 10' or 11' and including facilities for pedestrians and bicyclists.

COST ESTIMATES

Table 2 provides an itemized construction cost estimate of the preferred design concept, categorized into baseline and optional amenities. These costs are seperate from design and engineering costs and do not include ongoing maintenance, protection of traffic, mobilization, construction inspection, contingency, or utility relocation costs.

Table 2: Estimated Construction Costs

Item	Measurement Unit		Total
Baseline Concept			
Whitehorse Pike			
Asphalt 8' shared use path	815	SY	$48,900
Concrete curb including removal of existing	900	LF	$72,000
Excavation (Removing existing 5' grass and 4' sidewalk)	80	CY	$8,000
Painted 10' Wide Crosswalk (Diagonal)	100	LF	$1,500
Curb Ramps	2	EA	$12,000
Trail Related			
8' wide asphalt trail	2225	SY	$133,500
Wayfinding signage	1	Ea	$1,500
Landscaping	1	EA	$30,000
Timber Guide rail	125	LF	$3,125
RCP Culvert Pipe	25	LF	$3,750
Bettlewood Avenue			
Painted Sharrows	5	EA	$1,000
Painted 10' wide crosswalk	75	LF	$1,125
Other			
Painted Sharrows	5	EA	$1,000
5' Sidewalk on Lakeview*	30	SY	$4,800
Sub Total			**$322,200**
Optional Amenities			
Crusher fine trail 5'	390	SY	$13,650
Benches	3	EA	$9,000
Lights	20	EA	$100,000
Ramp Option	475	SY	$28,500
Fence - split rail	2500	LF	$125,000
Landscaping	1	EA	$8,000
Sub Total			**$284,150**
Total for Baseline Concept plus Optional Amenities			**$606,350**

*Sidewalks include subbase costs

Does include maintenance and protection of traffic, mobilization, construction inspection, contingency, and utility relocations

Key: SY- Square Yard; LF-Linear Feet; EA-Each; LS-Lump Sum

Source: NJ DOT, 2015

Next Steps

SECURE FUNDING FOR DESIGN AND CONSTRUCTION

Securing funding for design and construction is an essential step toward the realization of the Newton Lake Trail extension. There are a number of potential government and private funding sources, each with their own requirements, categories of eligibility, and cycles of funding availability. Successful projects are often able to leverage funding from multiple sources by using one grant to match another. Examples include public grants such as the Bikeway Grant Program from the New Jersey Department of Transportation, the Transportation Alternatives Program administered by DVRPC (TAP), or funding from private organizations such as People for Bikes.

For more details on the variety of funding available for multi-use trail projects in New Jersey, see Appendix B on pages B-1–B-4.

ENVIRONMENTAL CONDITIONS

The design, maintenance, and monitoring of the proposed trail extension will need to include particular environmental processes and designs that pertain to water quality, erosion, invasive species, and protection of wildlife— major concerns among stakeholders. During design and engineering, it will be important to develop plans that are consistent with local, state, and federal environmental policy.

DESIGN AND ENGINEERING

Once funding is secured, the project should advance to an environmental analysis and preliminary engineering.

Additionally, this process will require a public involvement strategy in order to incorporate additional public feedback about the proposed trail extension. Community outreach will need to discuss fences and edge treatments, trail maintenance, and trail design, such as preferential trail surface treatment. During this process, the designers must work with Camden County and the Borough of Oaklyn, as well as NJ DOT, since connector roads provide access points to the proposed trail alignment.

Environmental aspects such as wetland delineation and the Oaklyn Borough Tree Ordinance will become important as design and engineering move forward. To see more specific information on environmental elements, see Appendix C on page C-1.

Next Steps

CONSTRUCTION

Throughout construction, the contractors, the Borough of Oaklyn, and Camden County should continue to provide access along adjacent roads and throughout the park. Construction phasing should minimize disturbance to adjacent property owners and tenants, including both residential and commercial properties.

MAINTENANCE

A well-planned and fiscally realistic approach should be identified early in the design and engineering process and be put into effect at opening. A maintenance program should focus on environmental stewardship and safety and respond to neighbors' feedback.

MONITORING AND PERFORMANCE MEASURES

One of the benefits of new facilities is the ability for professionals to track changes to the community. Camden County and others may wish to track changes in the population visiting the park, fluctuations in mode split, and staff hours in maintenance. This data can help justify further investment at Newton Lake Park itself, as well as other local and regional trails.

Table 3: Next Step Actions

Steps	Timeline	Actor	Community Involvement
1. Secure Funding*	6 Months	Camden County	
2. Design and Engineering	1—3 Years	Camden County, NJ DOT	✓
3. Construction	2—4 Years	Camden County, NJ DOT	✓
4. Maintenance	Ongoing	Camden County	✓
5. Monitoring and Performance Measures	Ongoing	Camden County	✓

Source: NJ DOT, 2015

*See Appendix B on page B1 for more details

Appendix A: Initial Design Concepts

Figure A1: Neighborhood-oriented Concept

Source: ESRI Aerial Imagery, 2011

Figure A2: Active Trail Concept

Source: ESRI Aerial Imagery, 2011

Appendix B: Funding Options

Appendix B: Funding Options

Table B1: Bikeway Grant Program

Program Administrator		Funding Type	Deadline
New Jersey Department of Transportation		Federal	Varies
Summary	**Types of Projects**		
Funds projects that promote bicycling as an alternative mode of transportation.	Priority is given to construction of new bike trails; however, the proposed construction or delineation of any new bicycle facility will be considered.		
Matching			
20% match is required			
Application Process			
Who can apply?	Federal, state, county, and local governments; nonprofit organizations		
Process	Apply to the program via New Jersey's SAGE website		
Amounts			
Annual Total	**$1 M statewide (FY 15)**	**Typical Allotments**	**Up to $24,000**
Website	http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm		

Source: NJ DOT, 2015

Table B2: Congestion Mitigation and Air Quality Program (CMAQ)

Program Administrator		Funding Type	Deadline
Delaware Valley Regional Planning Commission		Federal	Varies; April 21 (FY 16)
Summary	**Types of Projects**		
Projects that demonstrably reduce air pollution emissions or reduce traffic congestion.	Bicycle and pedestrian projects, transit improvement programs, congestion reduction and traffic flow improvements, diesel retrofit and repower projects, freight projects, and funding of transportation demand management programs, among other eligible project types.		
Matching			
No Requirement			
Application Process			
Who can apply?	Public agencies; nonprofits and public–private partnerships with a public agency sponsor		
Process	1. Attend a mandatory information session held at DVRPC 2. Fill out the project application form on the DVRPC website		
Amounts			
Annual Total	**$2.6 M**	**Typical Allotments**	**Up to $160,000 — $1 M**

Source: DVRPC, 2015

Appendix B: Funding Options

Table B3: Green Acres Program

Program Administrator	Funding Type	Deadline
New Jersey Department of Environmental Protection	Federal	Rolling

Summary	Types of Projects
Provides loans and grants to municipal and county governments to acquire open space and develop outdoor recreation facilities, including trails. Green Acres also provides matching grants to non-profit organizations to acquire land for public recreation and conservation purposes.	· Acquistion of land or easements for access to public open space · Park trails, refurbishment of recreational equipment and fields, as well as lighting and other safety-related infrastructure

Matching
Matching grant and loan awards

Application Process			
Who can apply?	Government Agencies and Nonprofit Organizations		
Process	Obtain and submit the application from the NJ DOT website		
Amounts			
Annual Total	**$36.1 M** (Funding and Loans)	**Typical Allotments**	**Varies**
Website	http://www.state.nj.us/dep/greenacres/index.html		

Source: State of New Jersey, 2015

Table B4: Recreational Trails Program

Program Administrator	Funding Type	Deadline
New Jersey Department of Environmental Protection	Federal	Varies

Summary	Types of Projects
Funds to improve access to open space and provide additional biking and hiking opportunities.	· Maintenance and restoration of existing recreational trails · Development and rehabilitation of trailside and trailhead facilities and trail linkages for recreational trails · Purchase and lease of recreational trail construction and maintenance equipment · Construction of new recreational trails in existing parks or in new rights-of-way · For non-motorized use only, acquisition of easement and fee simple title to property for recreational trails

Matching
20% match is required

Application Process			
Who can apply?	Government Agencies and Nonprofit Organizations		
Process	Obtain and submit the application from the NJ DOT website		
Amounts			
Annual Total	**$2.2 M**	**Typical Allotments**	**Up to $24,000**
Website	http://www.state.nj.us/dep/parksandforests/natural/trail_grants.htm		

Source: NJDEP 2015

Table B5: Safe Routes to School (SRTS)

Program Administrator			Funding Type	Deadline
New Jersey Department of Transportation			Federal	Varies
Summary		**Types of Projects**		
This program provides funds to improve the ability of elementary and middle school students to safely walk and bike to school. All funds are alloted through reimbursement.		· Projects that educate and encourage school children about bicycle and pedestrian safety · Infrastructure projects that improve the built environment around schools		
Matching				
No Requirement				
Application Process				
Who can apply?	· For infrastructure, state, county, municipal government, school districts, and schools may apply · Typically public agency sponsorship			
Process	1. Consult with DVRPC on how the proposed project relates to and supports the *DVRPC 2040 Plan* and the Transportation Improvement Program (TIP) 2. Development of school travel plan (encouraged only)			
Amounts				
Annual Total	**$5.69 M (FY 2012)**	**Typical Allotments**	**$30,000—$450,000**	
Website	http://state.nj.us/transporation/business/localaid/srts			

Source: DVRPC, 2015

Table B6: Transportation Alternatives Program (TAP)

Program Administrator			Funding Type	Deadline
New Jersey Department of Transportation			Federal	Varies
Summary		**Types of Projects**		
Funds programs and projects that are defined as transportation alternatives, including planning, design, and construction of bicycle lanes, and recreational trails.		· Off-and-on road trails and bicycle infrastructure · Conversion of abandoned railroad corridors as trails · Community improvements and environmental mitigation activity · Other non-motorized transportation infrastructure enhancements		
Matching				
No Requirement				
Application Process				
Who can apply?	· Public entities authorized to receive Transportation Alternative funding · Nonprofits cannot receive direct grants but may partner with public agencies to apply			
Process	1. Consult with DVRPC on how the proposed project relates to and supports the *DVRPC 2040 Plan* and the Transportation Improvement Program (TIP)			
Amounts				
Annual Total	**$15.5 M (FY 2014)**	**Typical Allotments**	**$150,000—$1,000,000**	
Website	http://www.state.nj.us/transportation/business/localaid/alternatives.shtm			

Source: NJ DOT, 2015

Table B7: Camden County Open Space Trust Fund Recreation Facility Enhancement Funding

Program Administrator			Funding Type	Deadline
Camden County Open Space Advisory Committee			County	Varies
Summary		**Types of Projects**		
Funds the improvement of existing, publically-owned recreational facilities in Camden County.		· Maintenance and restoration of existing recreational trails · Purchase or refurbishment of recreational equipment · Construction of sports fields · Installation of lighting and fencing		
Matching				
n/a				
Application Process				
Who can apply?	Municipal organizations			
Process	Obtain and submit the application from the Camden County website			
Amounts				
Annual Total	**Varies (20-25 Projects)**	**Typical Allotments**	**Up to $25,000**	
Website	http://www.camdencounty.com/parks/going-green/open-space-farmland-preservation			

Source: Camden County 2015

OTHER FUNDING SOURCES

Bicycle and pedestrian projects are eligible for other federal funds, including scenic byways, bridge, transit, safety (non-construction), and federal lands programs.

In recent years, regional philanthropic organizations such as the William Penn Foundation have been both generous and ambitious in providing financial support for building the regional trails network.

There are also bicycle advocacy organizations that supply smaller grants to the planning and design of bicycle facilities, such as People for Bikes' Community Grant Program.

Additionally, as the connection between health outcomes and the ability to walk and bike becomes more visible, a number of health foundations and public health agencies such as the Robert Wood Johnson Foundation and Shaping NJ, have become emerging sources of funding for completing projects that expand active transportation options.

Websites:

People for Bikes:
http://www.peopleforbikes.org/pages/community-grants

Robert Wood Johnson Foundation:
http://www.rwjf.org/en/how-we-work/grants/what-we-fund.html

Shaping NJ:
http://nj.gov/health/fhs/shapingnj/

William Penn Foundation:
http://www.williampennfoundation.org/how-we-fund

Appendix C: Future Environmental Considerations

Appendix C: Future Environmental Considerations

When the trail reaches the design and construction phases, environmental procedures and precautions must be taken in order to ensure compliance with local, state, and federal environmental regulations.

DELINEATING WETLANDS

In order to take further steps, a wetlands delineation may be requested. Once determined to be a wetland, special permits must be submitted for any project that will have a potential impact within, or in some cases adjacent to, the designated wetland area.

New Jersey's Department of Environmental Protection (NJDEP) delineates wetlands that qualify under the wetland criteria. There are three main criteria for wetland delineation: hydrophytic vegetation, hydric soils, and wetland hydrology. An organization can apply to delineate the wetland on behalf of a property with property owner permission.

• *The 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands* is the main resource for delineating freshwater wetlands in New Jersey. The following resources can also be used to delineate wetlands for each criterion:

• **Hydric Soils:** United States Department of Agriculture's (USDA) NRCS Field Indicators of Hydric Soils v.7.0, maintained by the U.S. Army Corps of Engineers, is the approved listing for classifying wetland plants in New Jersey. Additionally, the USDA's Natural Resources Conservation Service provides an online method of obtaining detailed information about soils located on a site.

• **Hydrophytic Vegetation:** The U.S. Army Corps of Engineers National Wetland Plant List is the approved listing for classifying wetland plants in New Jersey.

• **Wetland Hydrology:** Wetland Hydrologic indicators are listed in the 1989 federal manual. The manual should be used as the default guide for determining wetland hydrology on a site.

The NJ DEP's *Letter of Interpretation* or LOI is a document "...issued by the Department under N.J.A.C. 7:7A-3, indicating the presence or absence of wetlands, State open waters, or transition areas; verifying or delineating the boundaries of freshwater wetlands, State open waters, and/or transition areas; or assigning a wetland a resource value classification." There are five different designations:

- Presence/Absence
- Presence/Absence-"Footprint"of Disturbance
- Delineation
- Verification, and Verification – Partial.

To find out more about wetland delineation in New Jersey, visit the New Jersey Department of Environmental Protection website at http://www.nj.gov/dep/landuse/fww/fww_main.html

POTENTIAL PLANTLIFE OF INTEREST

Another step is to analyze the plant life of the park. The New Jersey Division of Parks and Forestry frequently updates the *List of Endangered Plant Species and Plant Species of Concern*. This project would have to look closely to ensure none of these species are impacted by the project.

OAKLYN TREE ORDINANCE

A design consideration is that the Borough of Oaklyn's planning code has a clause concerning existing trees:

Any tree that is over eight inches in diameter that requires removal must be documented and presented to the planning board:

"To the fullest extent possible, existing trees shall be preserved by the developer. Special consideration shall be given to the layout of lots and the position of dwellings on the lots to ensure that existing trees are preserved. Special precautions shall also be taken to protect existing trees during the process of grading lots and roads. Where any land other than streets is to be dedicated to public use, the developer shall not remove any trees or topsoil from the site or change the site in any way without written permission from the Planning Board. The location, type and size of all trees over eight inches in diameter must be shown on the applicant site plan or subdivision plan."

In final designs, trees must be documented and presented in order for the trail to move forward.

ENDANGERED SPECIES CLASSIFICATION

The NJ Endangered and Nongame Species Program Species Status Listing classifies animals into five different statuses: endangered, threatened, special concern, stable, and uncertain:

Endangered: Applies to a species whose prospects for survival within the state are in immediate danger due to one or several factors, such as loss or change in habitat, overexploitation, predation, competition, disease or environmental pollution, etc.

Threatened: Applies to species that may become endangered if conditions surrounding it begin to or continue to deteriorate.

Special Concern: Applies to species that warrant special attention because of inherent vulnerability to environmental deterioration or habitat modification that would result in its becoming threatened if conditions surrounding the species begin or continue to deteriorate.

Stable: Applies to species that appear to be secure in New Jersey and not in danger of falling into any of the preceding categories in the near future.

Undetermined: A species about which there is not enough information available to determine the status.

Furthermore, some birds can have a different status for breeding and non-breeding seasons.

Snowy Egret, one of the species of special concern
Photo Credit: User: kevinjoe, ibird

Great Blue Heron, another species of special concern
Photo Credit: misseymarie, Backyard Friends in Butler New Jersey

Newton Lake Trail Feasibility Study

Publication Number: 15011

Date Published: January 2016

Geographic Area Covered: Camden County

Key Words: Camden County, trails, multi-use trails, bicycle facilities, pedestrian

Abstract: The Newton Lake Trail Feasibility Study was conducted by DVRPC staff in collaboration with Camden County, the Camden County Park Department, and the Borough of Oaklyn, New Jersey. The study includes a comprehensive analysis and conceptual design for a trail extension in the southwest portion of Newton Lake Park that would link existing multi-use paths to create a loop for bicycle and pedestrian use.

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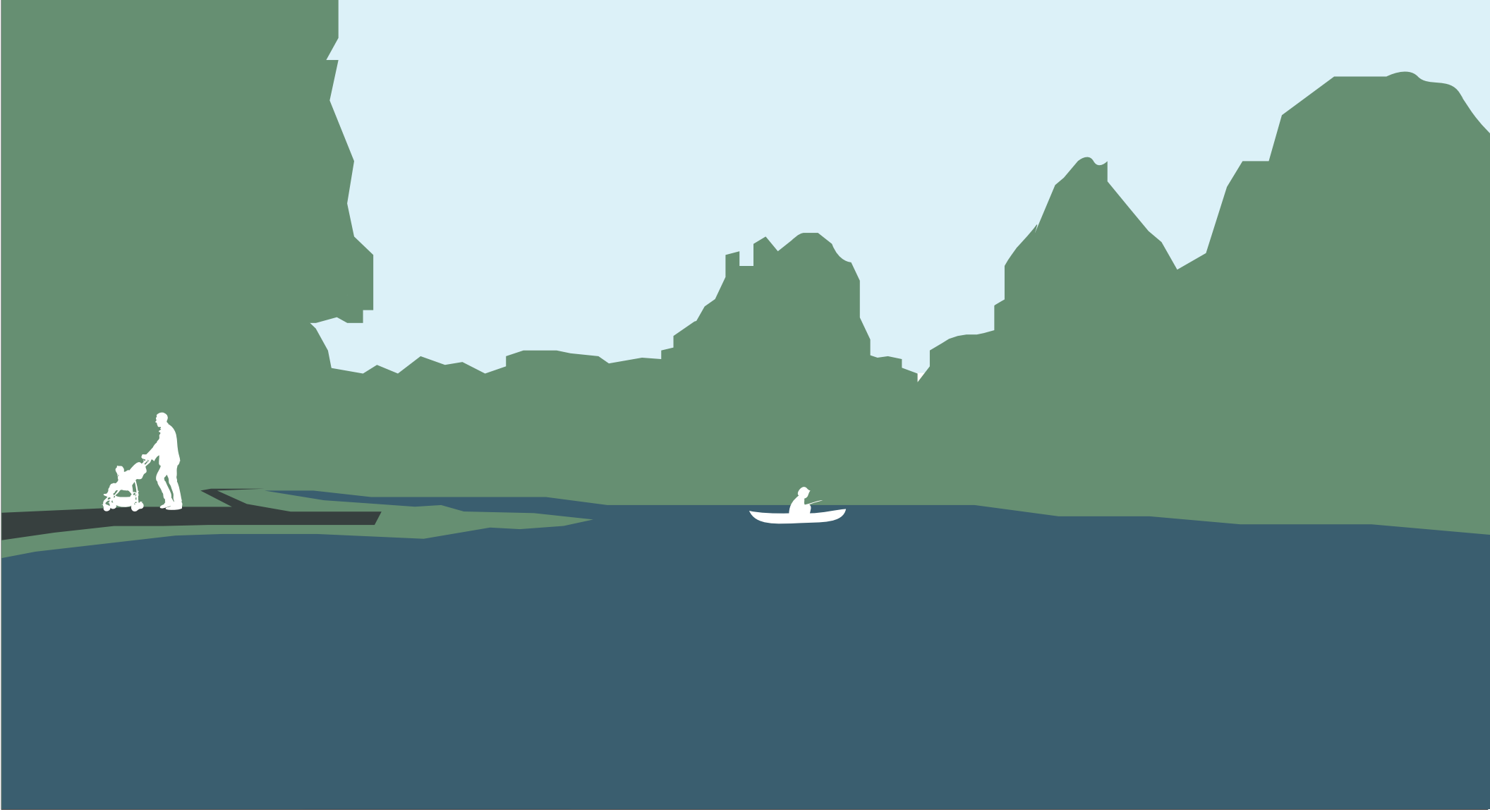

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