

SOUTHEASTERN MERCER COUNTY bike & pedestrian master plan





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PROJECT TEAM

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Mercer County Regional Planning Commission

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EXECUTIVE SUMMARY

In the summer of 2017, the Shenango Valley Area Transportation (SVATS) MPO, Grove City Borough, Pine Township, and Springfield Township partnered together to develop a plan that would explore bike and pedestrian connectivity within the southeastern portion of Mercer County, located in western Pennsylvania. In order to assist in the development of this plan, Springfield Township selected Environmental Design Group as the project consultant. The project area, comprised of the three neighboring communities, encompasses the southeastern corner of Mercer County, south of Interstate 80 and bisected by Interstate 79. Lawrence County and Liberty Township form the southern edge of the study area, while Butler County abuts the eastern portion. The study area is approximately one hour north of Pittsburgh, and half an hour from Pennsylvania's western border with Ohio.

A total of four stakeholder meetings and three public meetings were conducted as part of the plan development process, as well as final plan presentations to representatives of the three communities. The public and stakeholder meetings were conducted in order to gain invaluable feedback to understand the needs of pedestrians and cyclists, as well as to develop the network based on community identified destinations. Based on the findings from the meetings a detailed of analysis of identified destinations, right-of-way availability, utility easements, property ownership, environmental constraints, and other factors was performed to understand the existing conditions of the study area.

This in-depth analysis led to the development of an alignment plan that proposed facility types including enhanced and widened sidewalks, off-road paved trails, side-paths, on-road bike lanes, and painted sharrows. The proposed alignments were then vetted by the stakeholder team, and certain locations where alternatives were proposed were voted on by the public to ensure the final recommendations were thoughtful, feasible, and supported by the communities themselves. In Springfield Township the rural development pattern and abandoned railroad alignment were leveraged to create an expansive off-road trail network that connects to major destinations within and outside of the study area. Connections to and Pine Township create opportunities to bridge the divide between the more rural portions of the study area to the denser Grove City Borough. Recommendations within Grove City include connections to business, shopping, the historic Olde Town district, community parks, Grove City College, and many residential areas of the Borough.

Once the alignments were finalized through the public and stakeholder involvement process, a detailed estimate of construction costs was developed for each of the proposed alignments. The final plan recommendations include over forty-eight miles of proposed paved trails, bike lanes, sidewalks, and sharrows.



project background

AREA HISTORY

The three communities comprising the study area, Grove City Borough, Pine Township, and Springfield Township, each have unique histories and identities that can be leveraged for the success of the plan. The distinct differences in the built environment, ranging from dense commercial and residential to rural farmsteads, provides opportunities to create connections that put both the natural beauty of the area on display, as well as increase the viability of legacy commercial corridors.

Incorporated in 1800, Mercer County has a long and rich history as an agricultural community, along with a robust coal mining sector during the 20th century. As of the 2010 Census, the population of Mercer County was 116, 638, down from the historic high of 128,299 recorded in the 1980 Census. The overall population decline mirrors that of other counties in the region, though much less of a decline that the large nearby cities of Pittsburgh and Youngstown experienced. Although the county as a whole has experienced a slight decline, the populations of the communities in the study area have remained stable, or even grown slightly, during the period of regional population decline.

Today the community populations of Grove City Borough, Pine Township, and Springfield Township stand at 8,069, 5,040, and 1,943 respectively based on 2016 Census estimates. Major employment anchors in the area consist of General Electric, Grove City College, Grove City Memorial Medical Center, numerous small specialty manufacturing companies, and a robust retail sector including the Grove City Premium Outlets. With such a diversified economy, the area is projected to remain stable and resilient moving into the future.



PROJECT BACKGROUND

In recent times, communities are becoming more aware of the multitude of benefits provided by extensive and interconnected multi-modal transportation networks. Development patterns of the past century focused significantly on the expansion of automobile infrastructure, but there has been a steady shift toward incorporating pedestrian and bike infrastructure into the network as well. The desire of residents to be near transportation and recreation amenities such as trails or sidewalks is evident not only across all age and income groups, but is also heavily influencing real estate markets through the increased demand by buyers to live near these amenities.

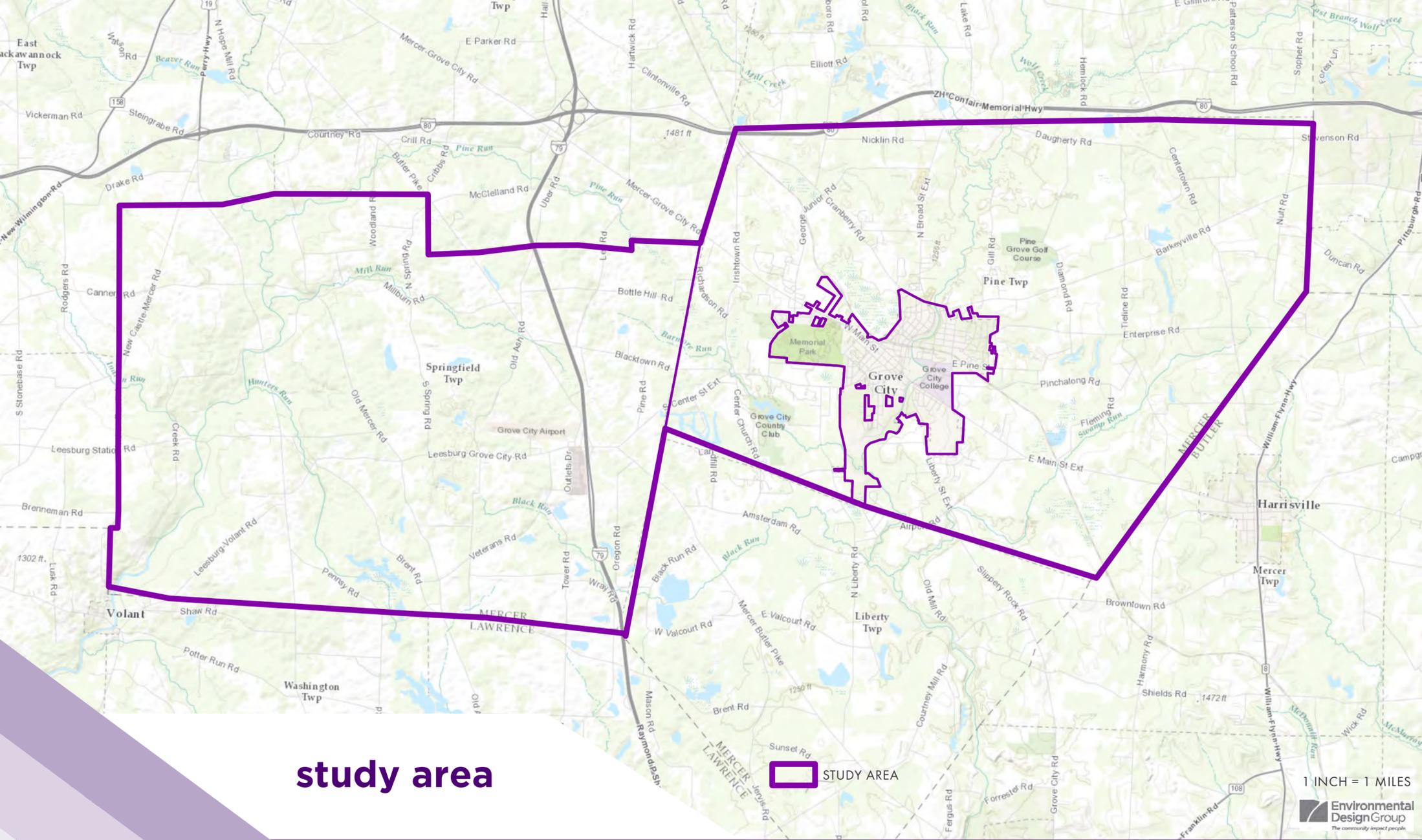
Additionally, these multi-modal transportation facilities provide opportunities for increased public health outcomes by offering safe, easy, and convenient opportunities for exercise and connecting with the natural environment. Recent efforts within the communities to capitalize on these benefits have been met with support. New widened sidewalk facilities around Grove City College encourage students to engage with the surrounding neighborhoods, while the recreational trail network at Hunter Farms provide recreational and fitness opportunities. As of Spring 2018, Springfield Township began construction on a paved trail and sidepath to connect the commercial areas adjacent to the outlet mall to Wendell August Forge and the Township community building.

These improvements, along with internal planning and visioning for multi-modal facilities, show that the communities are enthusiastic about developing

these networks and amenities for residents, students, and visitors. The fact that all three communities have partnered together in this study show a willingness to collaborate on ideas that can strengthen connections in southeastern Mercer County.

As part of the plan development, Environmental Design Group conducted exhaustive GIS and field-based research to determine where different types of facilities could be implemented that meet the goals of improved connectivity, increased safety, and heightened community vitality. Several key goals identified at the beginning of the study were to explore ways to connect students and residents to areas of shopping that is predominantly focused on serving automobile traffic. While there is a heavily developed sidewalk network within the Borough, the commercial corridor along West Main Street does not yet include any bicycle-specific connections. Another challenge focused on how best to connect the communities to the Grove City Premium Outlets, considering the long travel distances facing pedestrians and cyclists currently. Lastly, the communities also discussed the many potential benefits that large, regionally significant trails offer including increased tourism from recreational users and even large, organized group rides that could be a boon to the local economy.

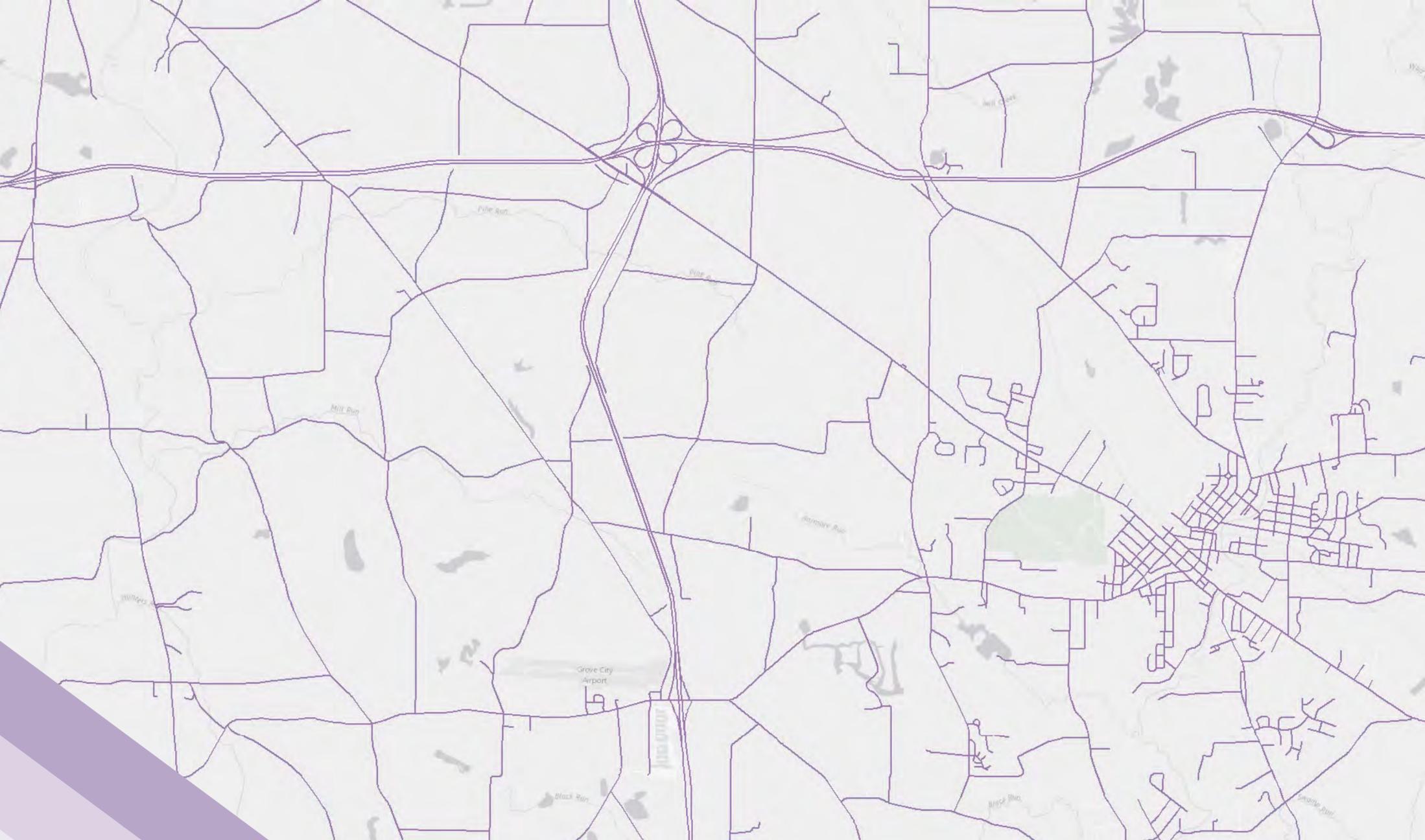
It was with these goals in mind that the stakeholder team embarked on creating a lasting, feasible, and thoughtful bike and pedestrian master plan for Southeast Mercer County.



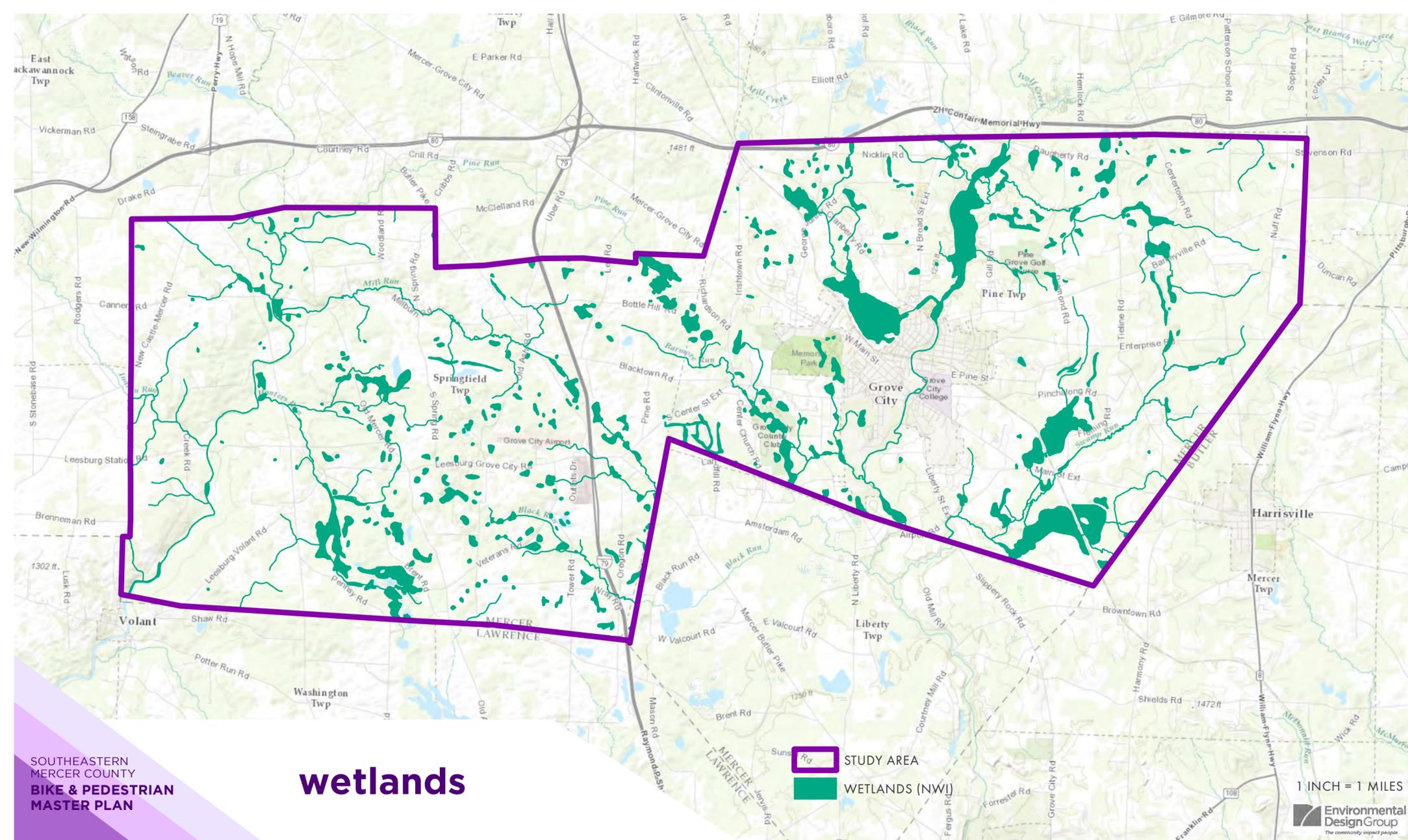
study area

STUDY AREA

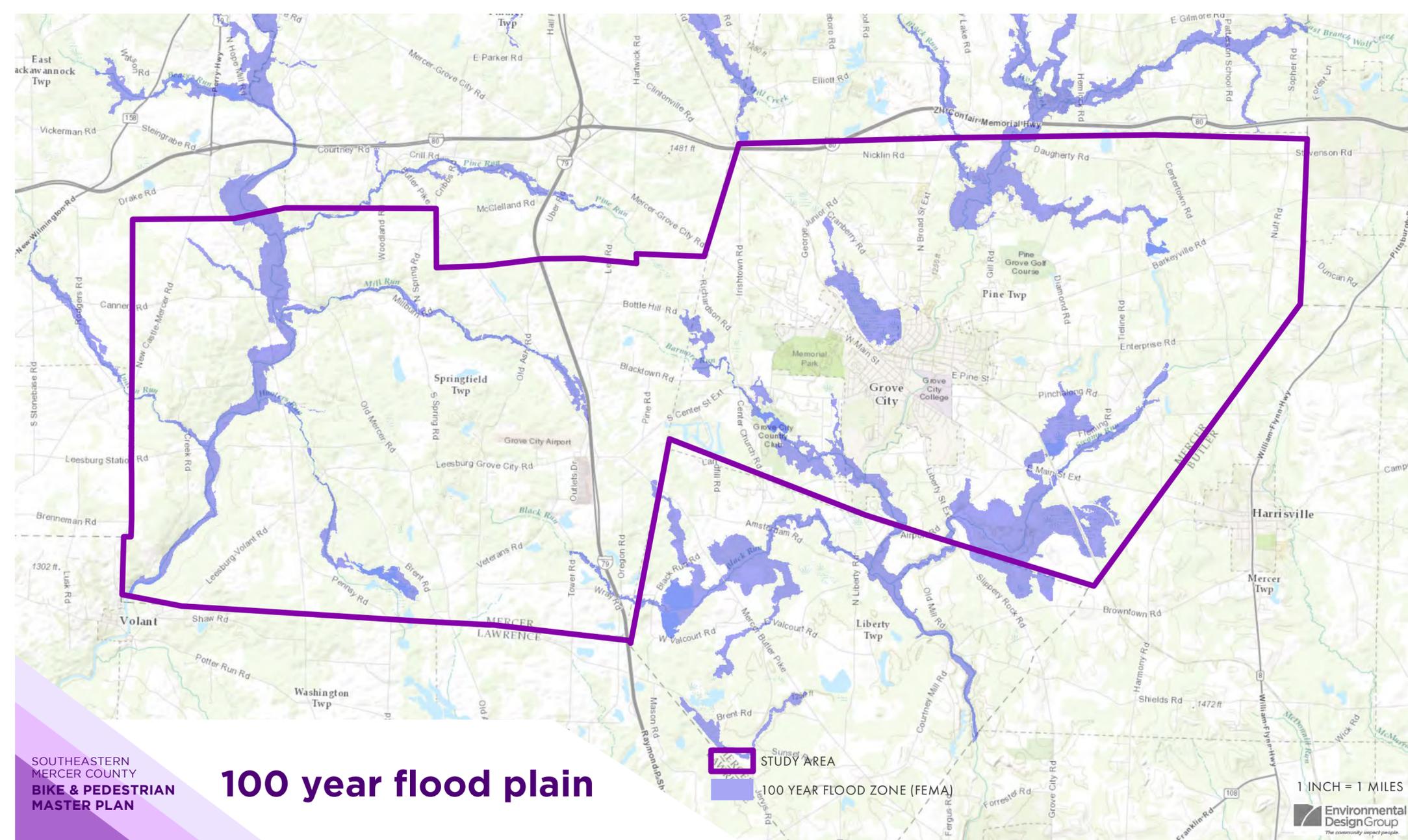
STUDY AREA	55.9 sq. miles	15,052 people	\$37,626 median income
GROVE CITY BOROUGH	2.7 sq. miles	8,069 people	\$34,598 median income
PINE TWP.	25.7 sq. miles	5,040 people	\$41,423 median income
SPRINGFIELD TWP.	27.5 sq. miles	1,943 people	\$40,351 median income



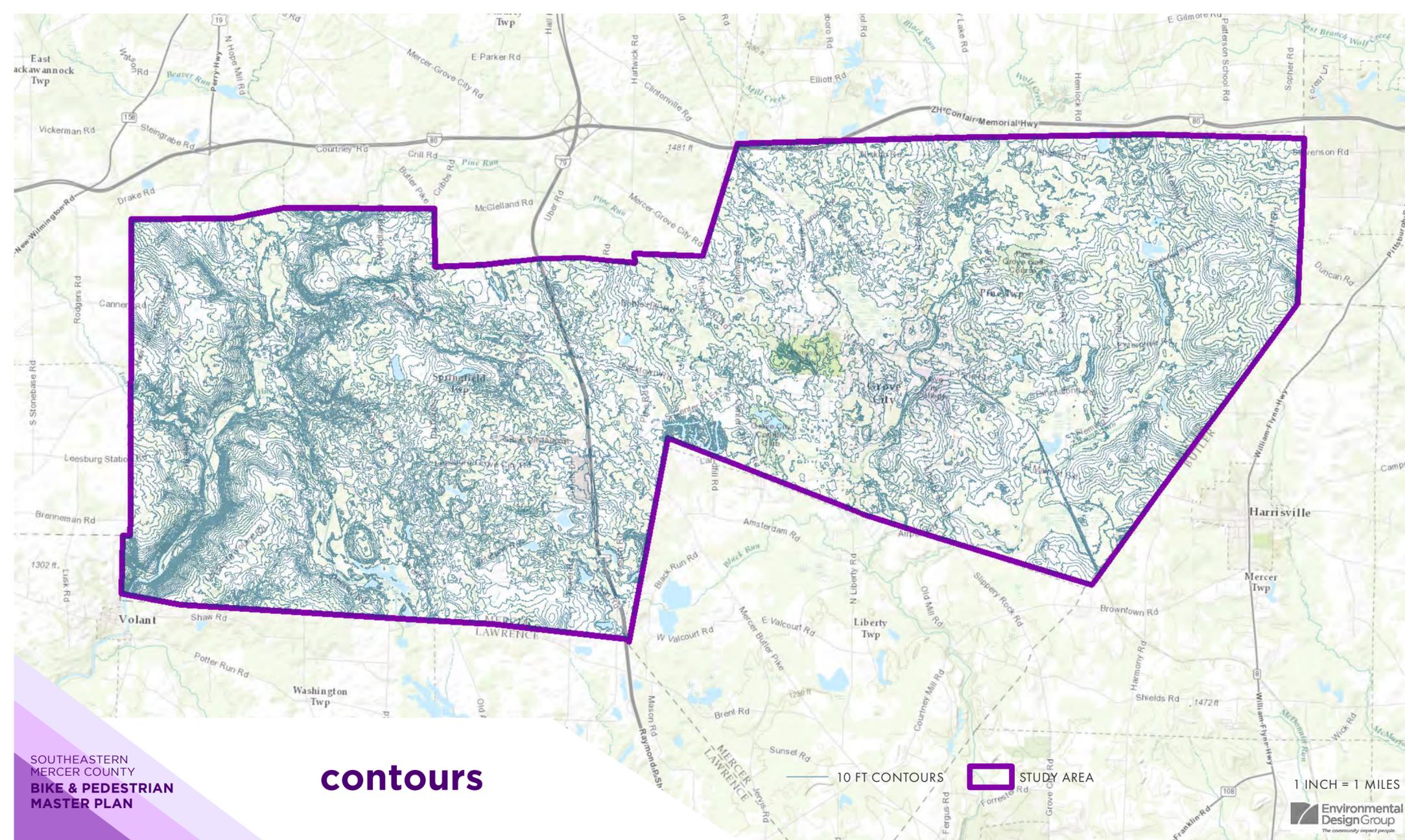
mapping & analysis



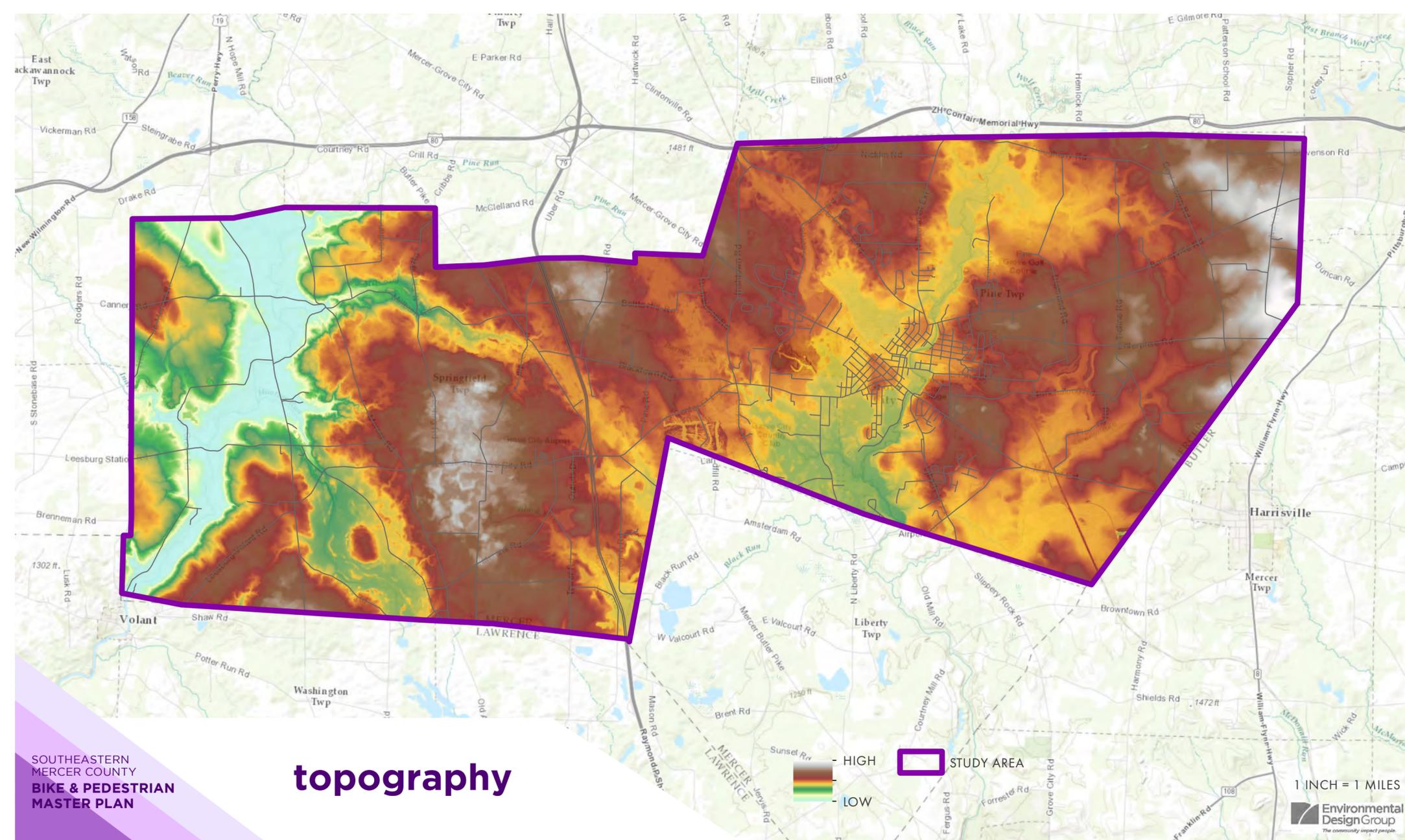
The significant topography changes within the study area lead to limited significant wetlands. While many creeks and streams flow through the area, the steep slopes limit flooding impacts. Major clusters of wetlands occur north of Grove City along the Wolf Creek corridor, as well as southeast of the Borough.



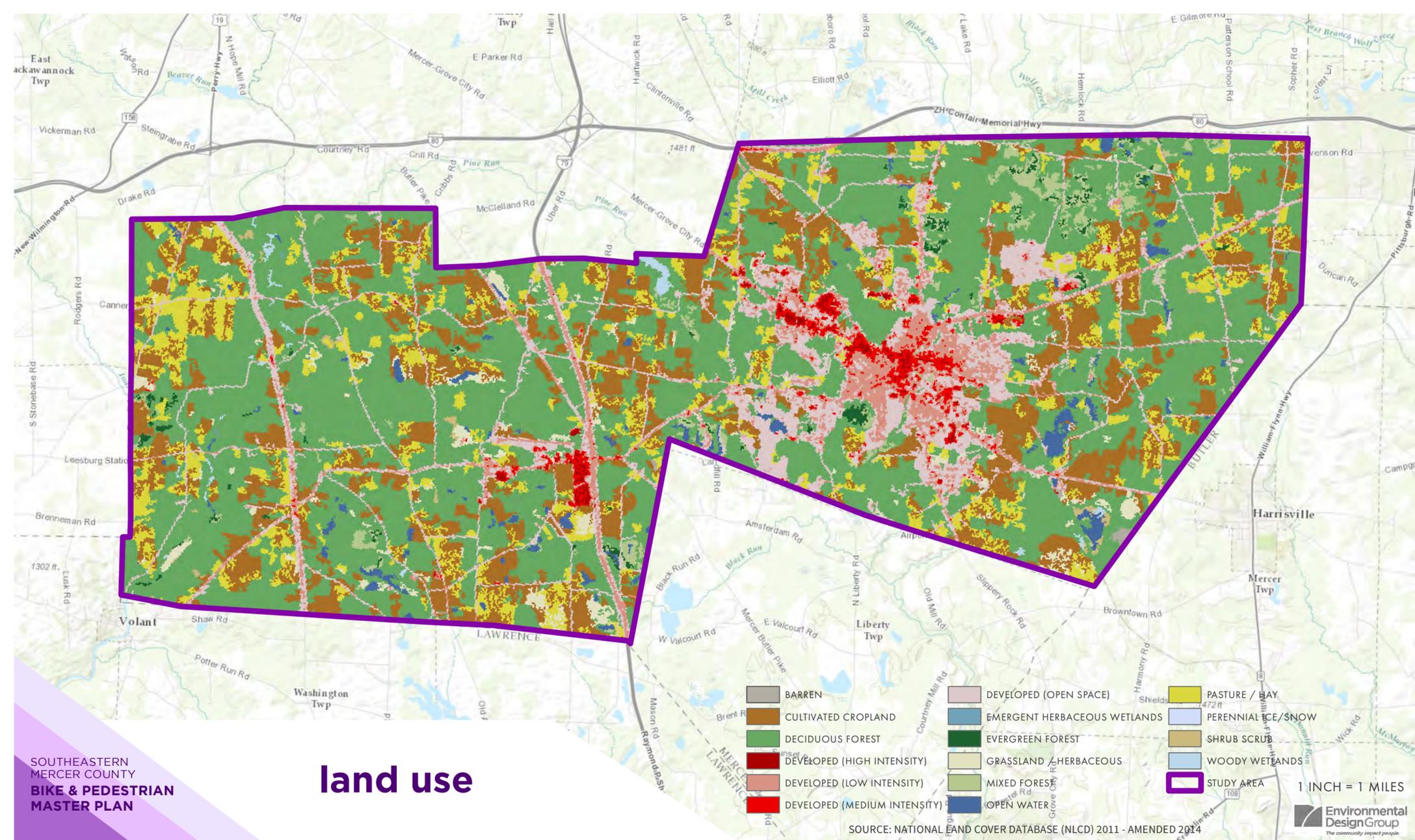
Similar to the impact of the topography on wetland areas, the communities also see limited impact of floodplains into the developed areas. The Neshannock Creek basin to the west, Wolf Creek to the north, and Swamp Run to the south would be the most significantly impacted in a 100-year flood event.



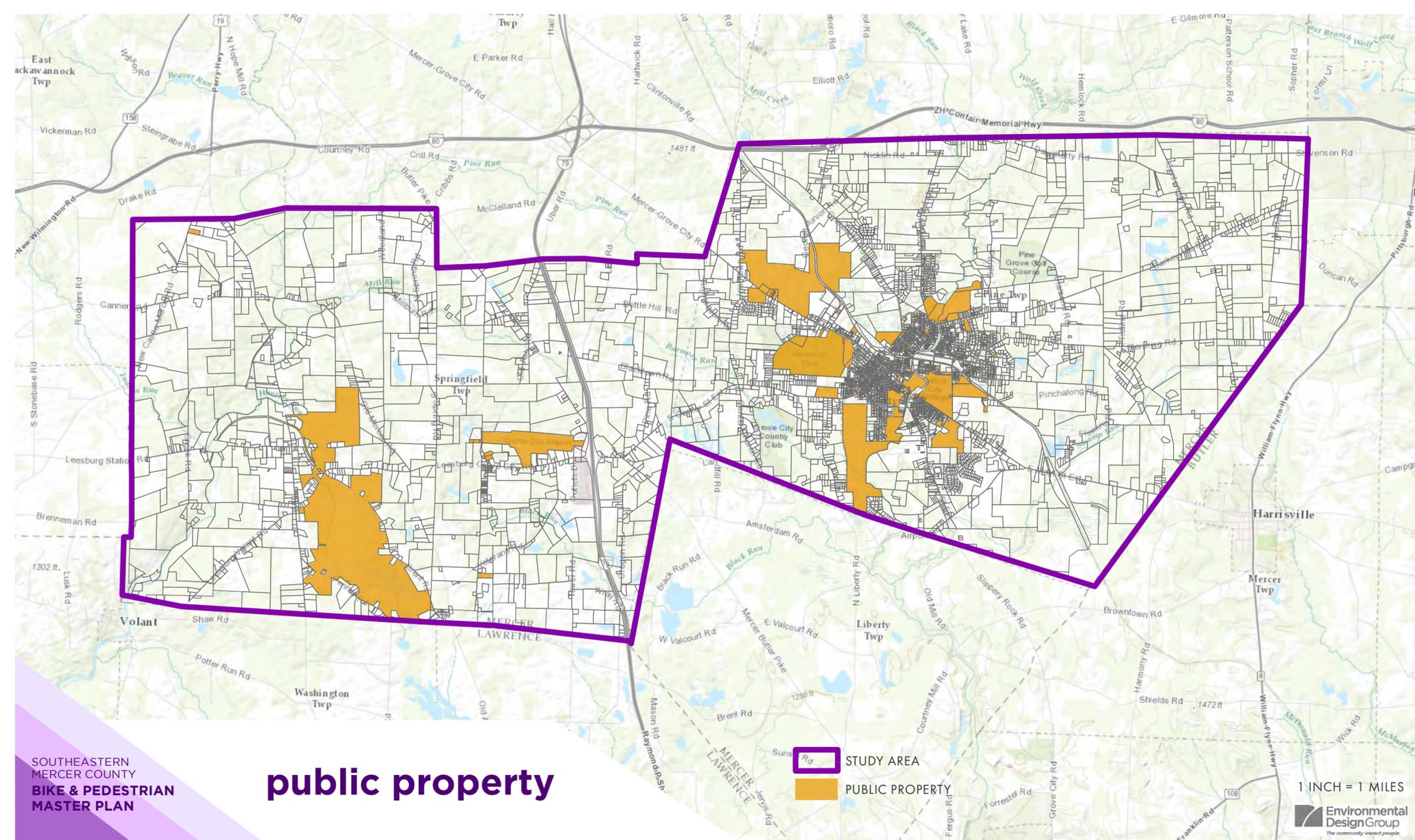
The topography of the study area proved the most challenging aspect related to the development of a bike and pedestrian network. The numerous hills and valleys create difficulty not only for construction and costs, but also when considering the ADA requirements for an off-road paved trail.



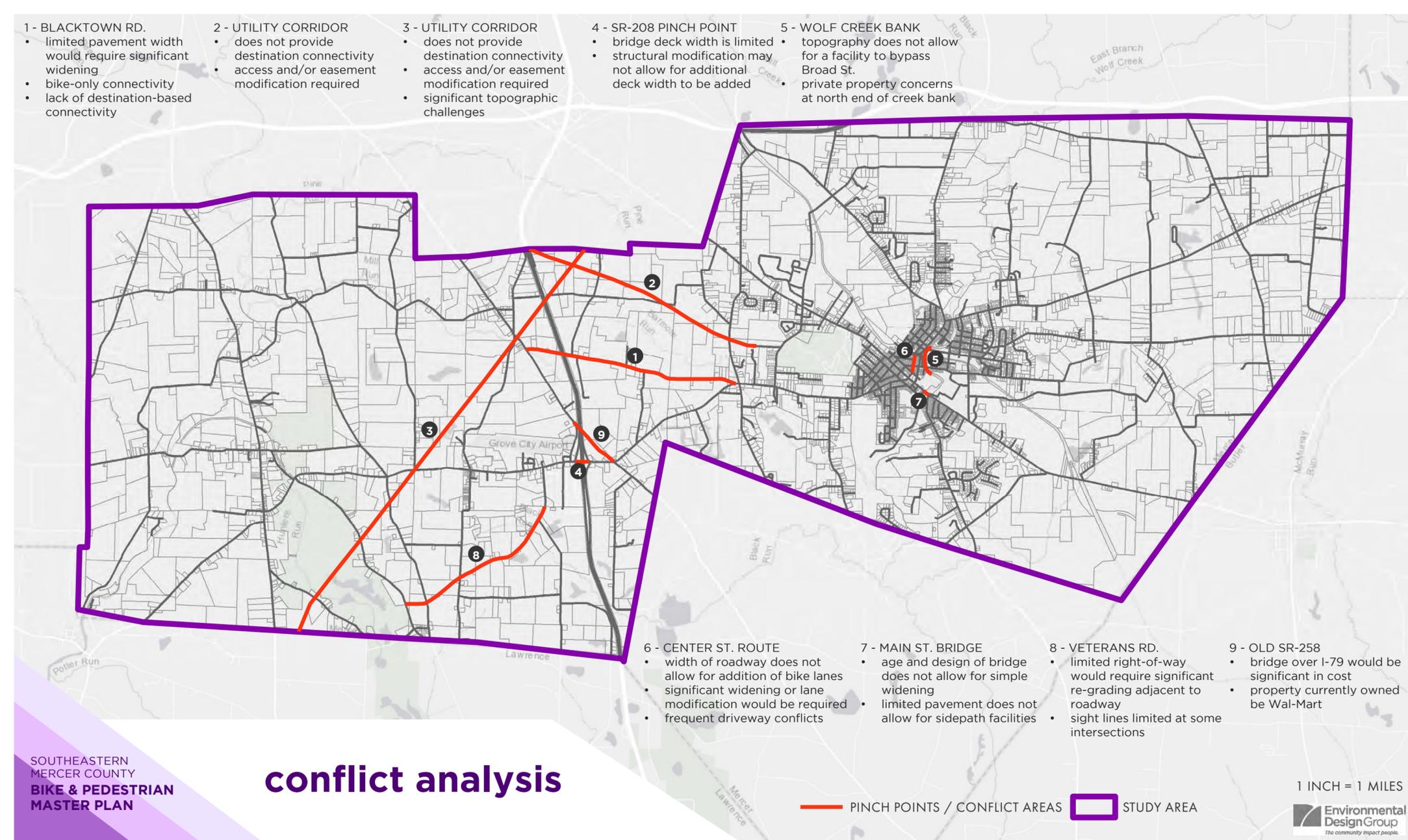
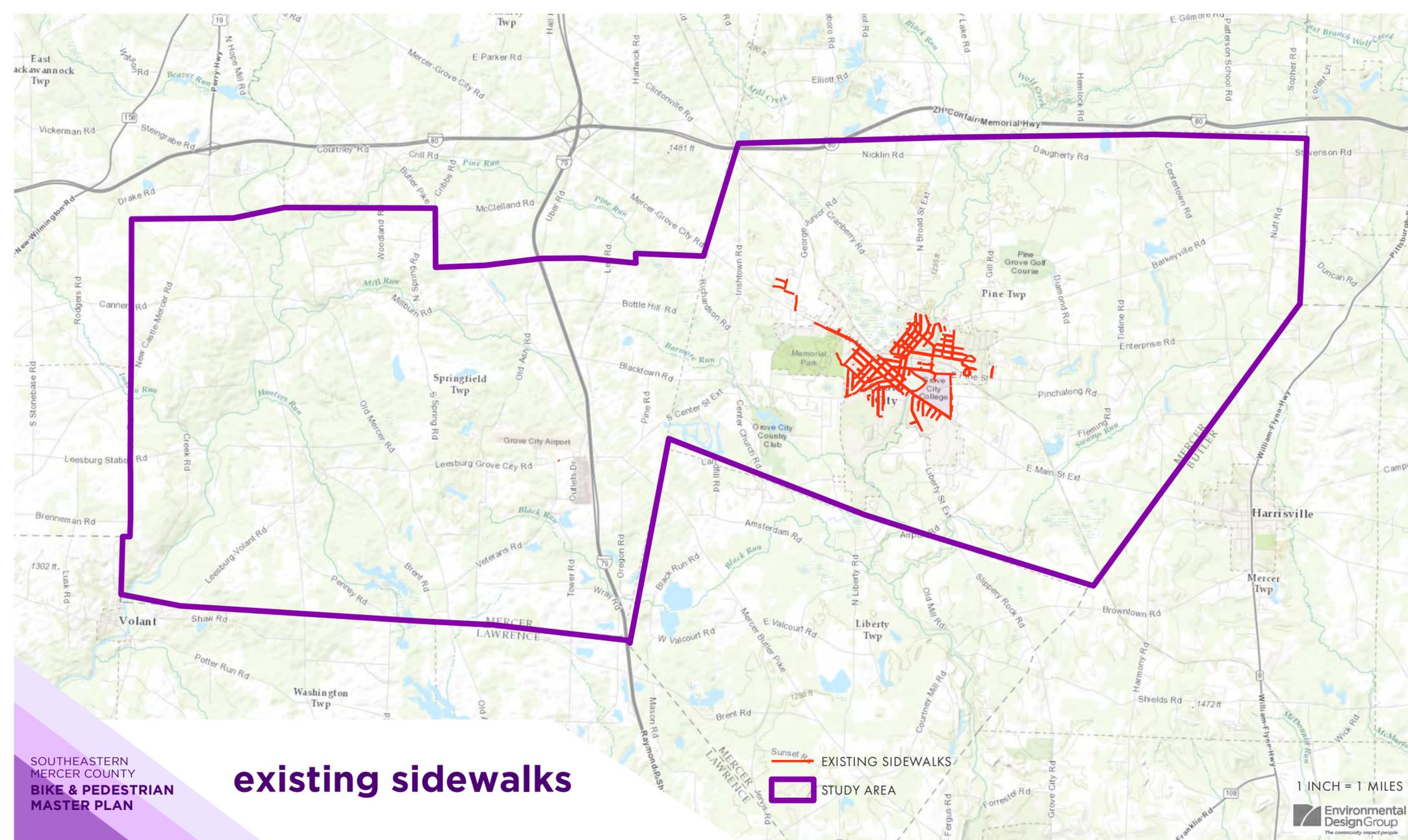
Overall, the Neshannock Creek valley located in the western portion of the study area, in Springfield Township, was the most challenging area to navigate. Luckily, the existence of the former railroad bed allowed for a logical connection in and out the valley.



The land use patterns within the study area vary significantly between the communities. Springfield Township is quite rural with the exception of the I-79 exit area. Pine Township, while also fairly rural, does include many outer-ring residential developments. Grove City itself is fully built-out, with high density.



In addition to areas of public right-of-way, large public, or semi-public property such as schools or churches, can prove invaluable when developing a comprehensive bike and pedestrian network. Many of these properties are also public parks, which create logical destinations along the network.



- 1 - BLACKTOWN RD.
 - limited pavement width would require significant widening
 - bike-only connectivity
 - lack of destination-based connectivity
- 2 - UTILITY CORRIDOR
 - does not provide destination connectivity
 - access and/or easement modification required
- 3 - UTILITY CORRIDOR
 - does not provide destination connectivity
 - access and/or easement modification required
 - significant topographic challenges
- 4 - SR-208 PINCH POINT
 - bridge deck width is limited
 - structural modification may not allow for additional deck width to be added
- 5 - WOLF CREEK BANK
 - topography does not allow for a facility to bypass Broad St.
 - private property concerns at north end of creek bank

- 6 - CENTER ST. ROUTE
 - width of roadway does not allow for addition of bike lanes
 - significant widening or lane modification would be required
 - frequent driveway conflicts
- 7 - MAIN ST. BRIDGE
 - age and design of bridge does not allow for simple widening
 - limited pavement does not allow for sidepath facilities
- 8 - VETERANS RD.
 - limited right-of-way would require significant re-grading adjacent to roadway
 - sight lines limited at some intersections
- 9 - OLD SR-258
 - bridge over I-79 would be significant in cost
 - property currently owned by Wal-Mart

The sidewalk network mirrors the development patterns of the communities themselves. Not surprisingly, the network is concentrated almost exclusively within Grove City Borough, which has significantly higher population density than either Pine or Springfield Townships.

During the plan development, numerous potential alignment corridors were researched and considered. Many locations that seem like obvious connection points, actually may not be feasible. Property ownership, topography, limited right-of-way, and safety concerns led to removal of the alignments above, or the development of alternatives.



public & stakeholder involvement

BUILDING CONSENSUS

Successful planning or development studies is often reply upon the creative and thoughtful input gained from community engagement. Project stakeholders, local business and political leaders, and the public at large can provide meaningful ideas and feedback enabling the project to better fulfill the community's needs and objectives.

Engaging these parties into the project from the beginning often raises the status and potential impact of the plan. In the case of this study, project stakeholders and the public were engaged over the course of nine total formal meetings. The stakeholder meetings provided crucial technical and advisory feedback on the pieces and parts of the plan, and refinement of the ideas to be presented at the subsequent public meetings.

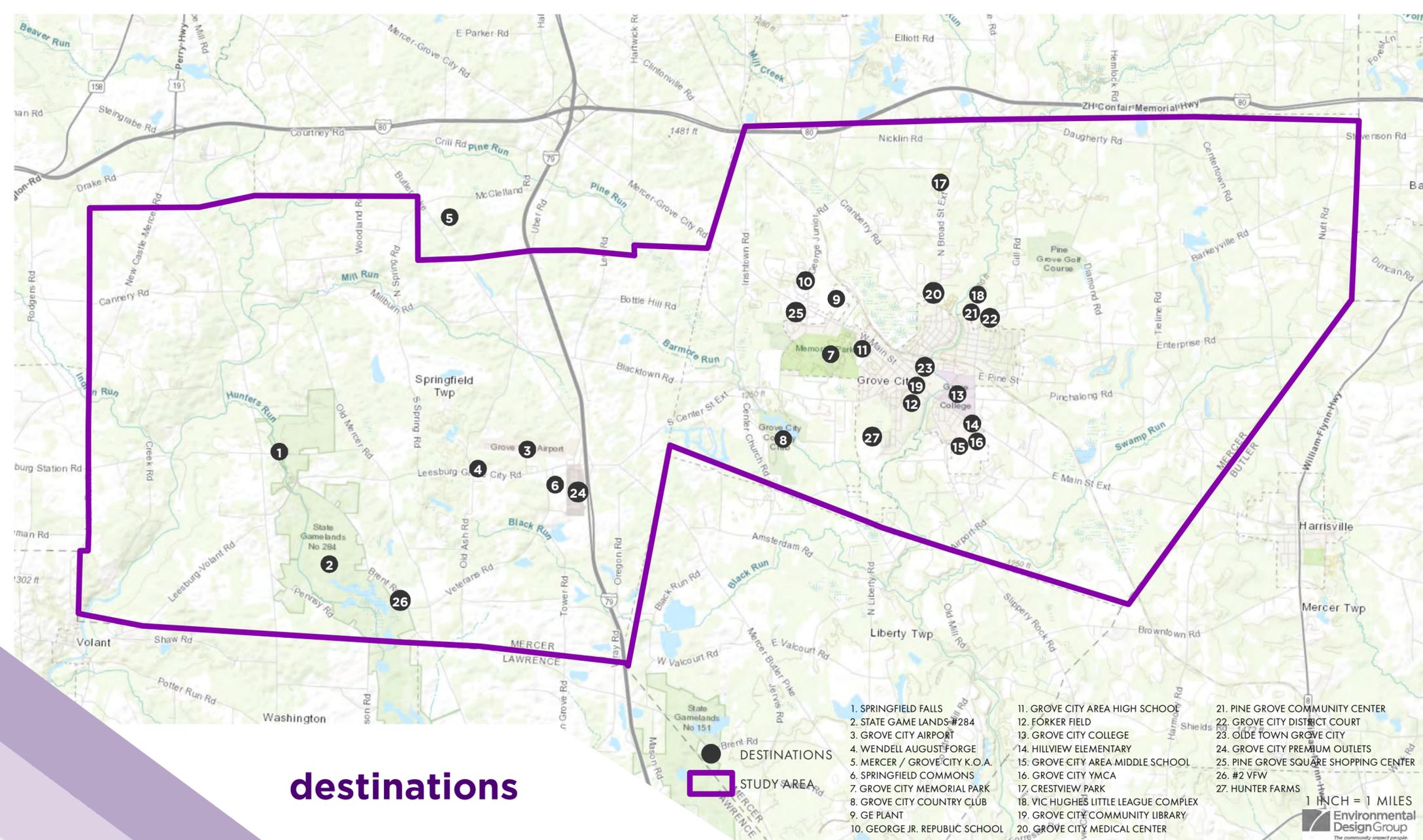
A total of three stakeholder meetings and three public meetings were conducted throughout the process, with the location varying between the three communities to allow a multitude of local perspectives and input. The first public meeting was held at Memorial Park in Grove City during the Fall Fest celebration, to better understand popular destinations residents wanted to connect to. The second public meeting, conducting Springfield Township, gathered feedback on the draft alignment plan and facility alternatives. The final public meeting, in Pine Township, reviewed the final alignment plan and gathered comments on many of the identified pinch points along the routes.

As the study progressed, all aspects of the public and stakeholder feedback were considered and thoughtfully applied to the study elements to ensure a final product that would generate excitement and consensus from the communities.



PROJECT MEETING TIMELINE





PUBLIC MEETING 1

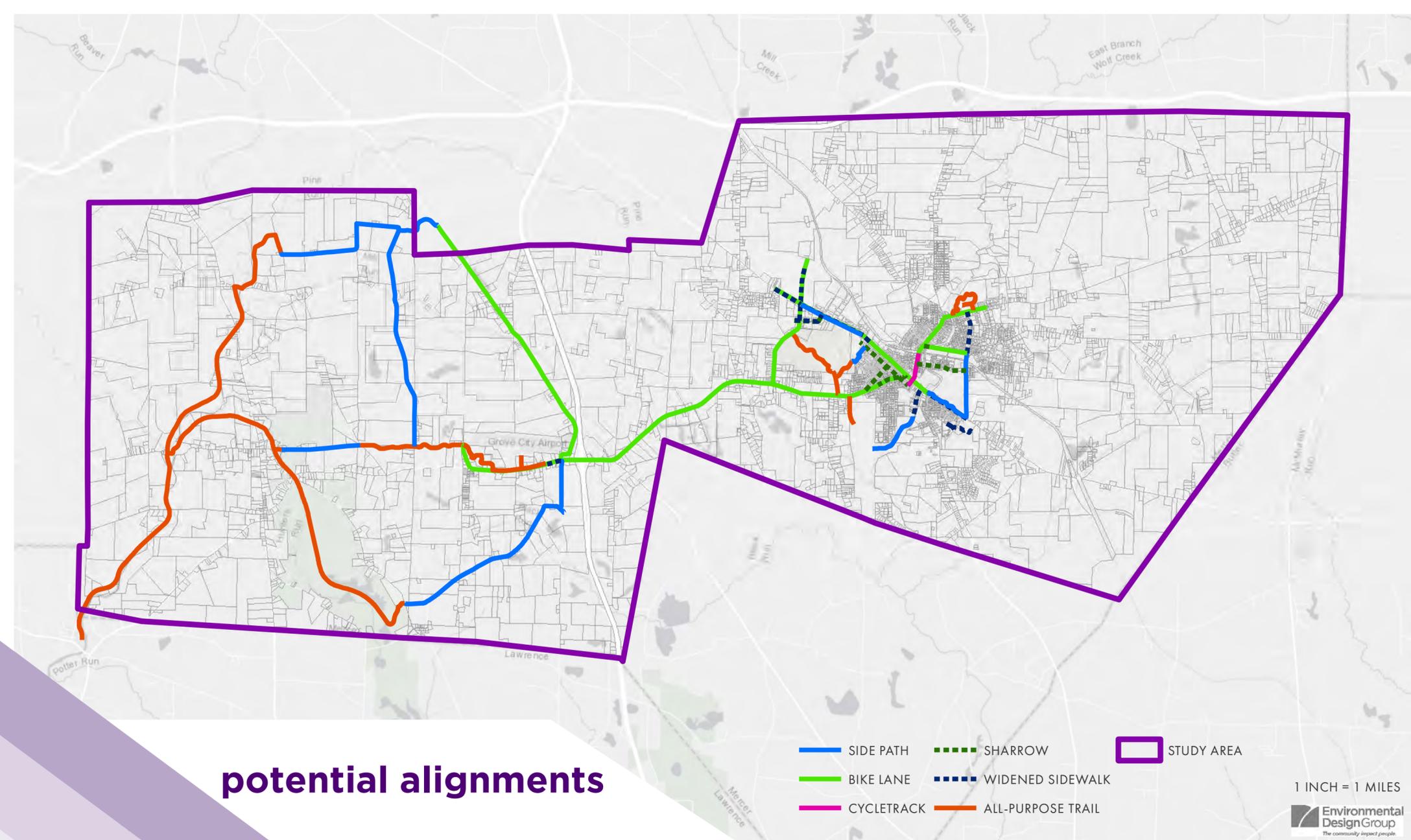
The public kickoff meeting was conducted as part of the Fall Fest celebration in Grove City's Memorial Park on October 14th, 2017. Environmental Design Group staff created a booth that invited festival attendees to take a moment and consider what places they would travel to on foot or on bike if it was safe, easy, and convenient.

By working previously with the stakeholder team, a comprehensive list of destinations had been curated and presented on voting boards that were placed at the booth. Voters took a moment to explore the numerous key destinations before placing their green dot stickers on the maps. Over the course of the day, it became apparent that while resident's views varied, several key patterns emerged.

Parks, recreation, and shopping destinations proved consistently popular. The most popular destination, Memorial Park, is not surprising given the context of voting booth, but its significance should not be understated. The next three highest ranked destinations included Olde Town, the YMCA, and the Vic Hughes Little League Complex.

The results of the destination voting were then presented to the stakeholder team and used to develop the initial draft recommendations that were further refined through the planning process. Also of note, the map on the opposite page includes two additional destinations, the #2 VFW and Hunter Farms, that were verbally recommended by the public at Fall Fest and added to the final destination map.





rendering

VOTE HERE!

How do you feel about a **protected bike lane** along Broad Street in Olde Town Grove City? Use your dots and vote below!

section

existing sidewalk | 8' protected bike lane | 10' driving lane

MCRPC Mercer County Regional Planning Commission

rendering

VOTE HERE!

How do you feel about a **protected bike lane** along Broad Street in Olde Town Grove City? Use your dots and vote below!

section

existing sidewalk | 8' protected bike lane | 10' driving lane

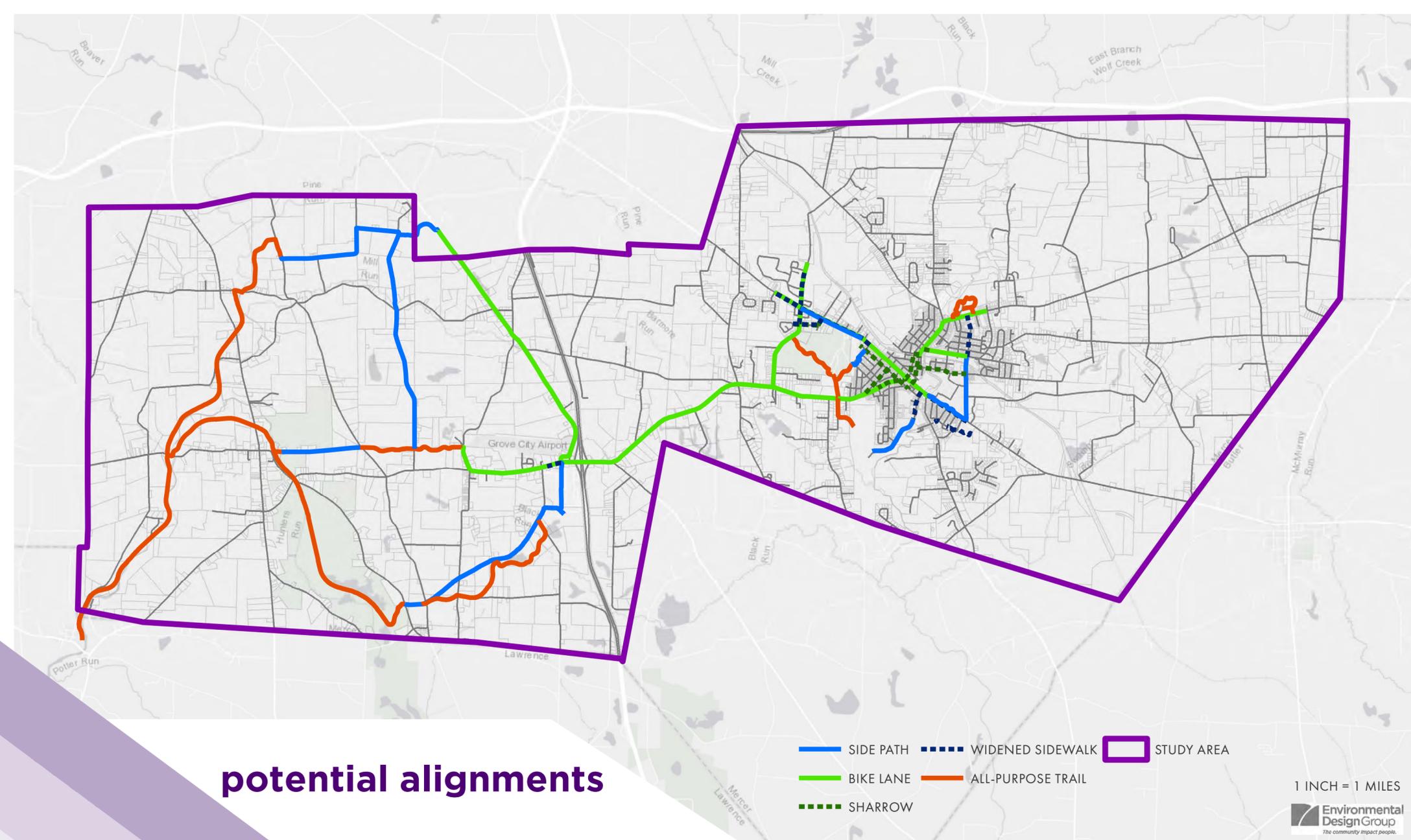
MCRPC Mercer County Regional Planning Commission

PUBLIC MEETING 2

The second public meeting, held at My Brother's Place in Springfield Township, was conducted on January 10th, 2018. Although the meeting turnout was not as significant as at the Fall Fest voting booth, attendees were engaged and participated in a vigorous and productive dialogue. This meeting also provided the first opportunity to view the draft alignments and discuss the strengths and weaknesses of each.

The presentation portion of the meeting covered the initial base-mapping and analysis portion of the study, as well as presented the many different types of facilities that were being considered.

Once the types of facilities were reviewed, the draft alignment was reviewed in detail, with questions and discussion welcomed on potential alternatives, as well as locations of pinch points that may not have considered. The final portion of the meeting was allowed for the discussion of potential concerns about the loss of parking along Broad Street for businesses, the board question was rephrased from "How do you feel about protected bike lanes on Broad Street" to "Do you think the idea of protected bike lanes should be explored further?" All those who voted, voted in favor of continuing to explore the idea.



VOTE HERE!

Would you like Broad Street in Olde Town Grove City to have **sharrows** or a **protected bike lane**? Use your dot and vote below!

sharrow

protected bike lane

sidewalk existing 9' parking existing 10' sharrow

sidewalk existing 8' protected bike lane 10' driving lane existing

SOUTHWESTERN MERCER COUNTY HIGH & BROADSTREET MASTER PLAN

WERPC Western Piedmont Regional Planning Commission

Environmental Design Group

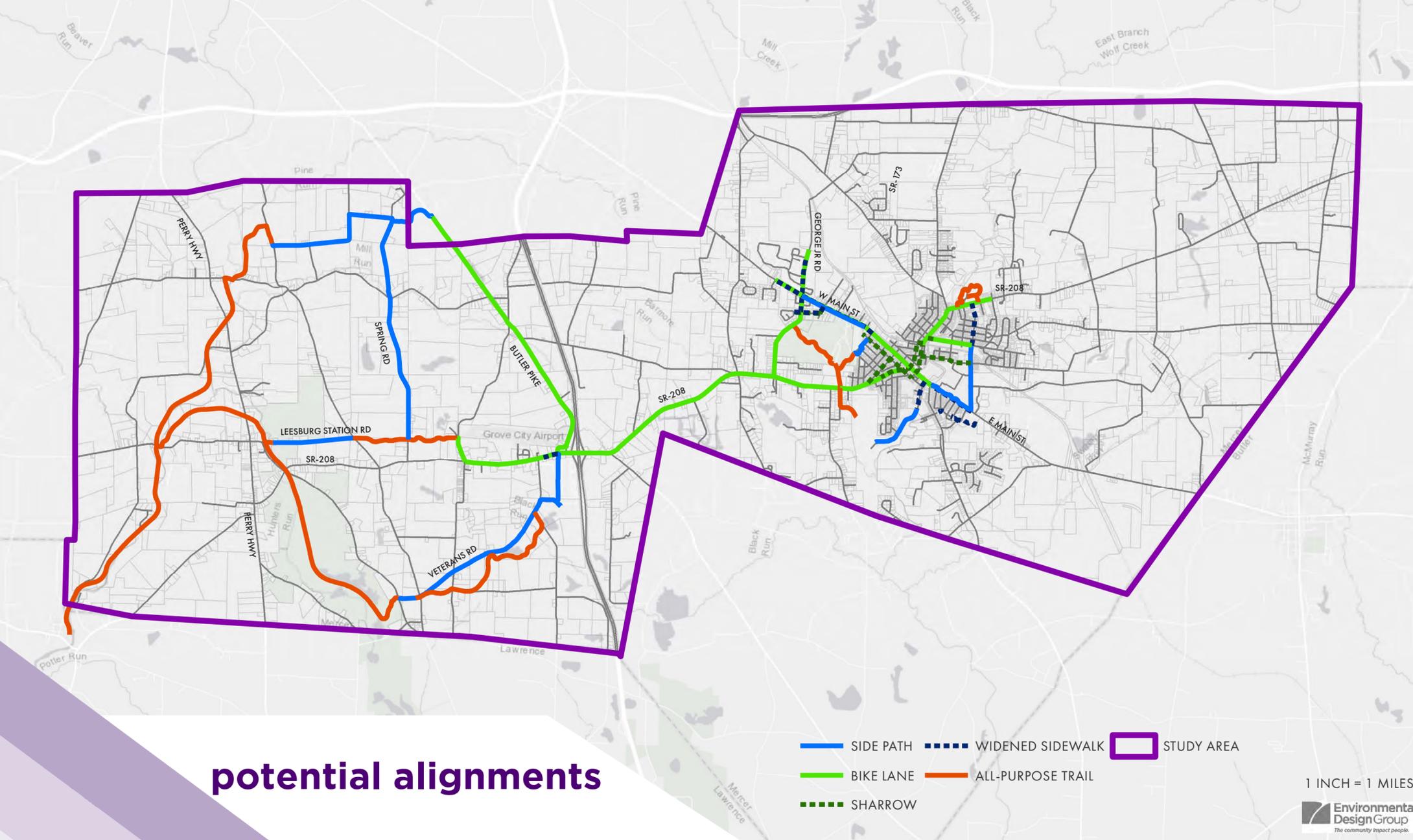
PUBLIC MEETING 3

The final public meeting was conducted on April 12th, 2018, at the volunteer fire station in Pine Township. Prior to the meeting, significant attention had been generated from the public regarding the potential removal of parking along Broad Street to allow for a protected bike lane. With that energy anticipated to be expressed at the meeting, the stakeholder team spent time consulting with local business owners and officials to determine if the recommendation should be included in the final plan. The final determination was that although public opinion was lacking for a protected bike lane on Broad, it was important to document that as part of the public process. This was accomplished by creating an alternative voting board that allowed attendees to select either the protected bike lane option, or a sharrow-only option that retained all parking.

In addition to the Broad Street voting exercise, the open house-style meeting included large blow-up maps of the various proposed alignments. Once attendees had an opportunity to vote and review the alignments, a presentation was given to review the project background and process leading up to final alignment recommendations. During the detailed review of alignments, summarized construction costs were presented to allow the public to understand how costs vary between facility types and lengths.

Following the presentation, staff conducted a detailed question and answer forum that allowed the public an opportunity to gain additional insight into why specific alignments were proposed, and discuss potential challenges to development.

As a result of the final public meeting feedback, the protected bike lane was removed from Broad Street, and the sharrow alternative along Broad and Center Streets was added as the preferred alternative.



connectivity recommendations

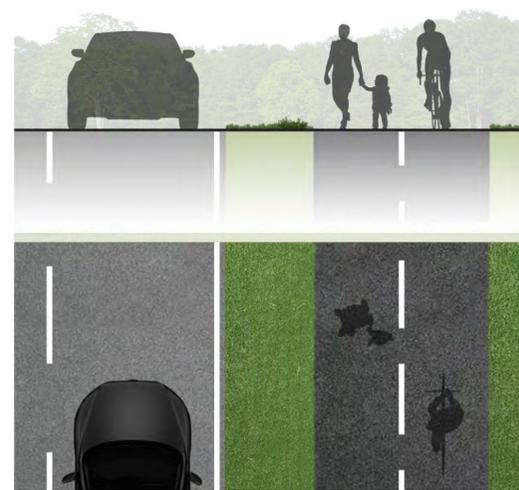
FACILITY TYPES



SHARED USE PATH

Shared use paths, commonly known as trails, accommodate bicyclists, pedestrians and bi-directional traffic. Shared use paths need to be a minimum of ten feet wide with a two foot clear-zone buffer on either side of the path. If adjacent to a roadway, a 5-foot buffer is required between the roadway and shared use path. ADA compliance requires no greater than a 5% vertical slope and 2% cross-slope.

According to FHWA (Federal Highway Administration), roughly 93% of people who own a bike are only comfortable riding in a completely separated facility, such as a shared use path or sidepath. Per the MUTCD, signage is very flexible for shared use paths, and often, custom-designed branding, signage, wayfinding and kiosks are developed for path/trail networks. Extensive trail routes are included in the recommendations.



SIDEPATH

Sidepaths are essentially the same facility and design as a shared use path, but in general, they run adjacent to a roadway for long distances at a time. Sidepaths are allowed to mirror the grade of the roadway, even if steeper than the ADA 5% vertical slope requirement.

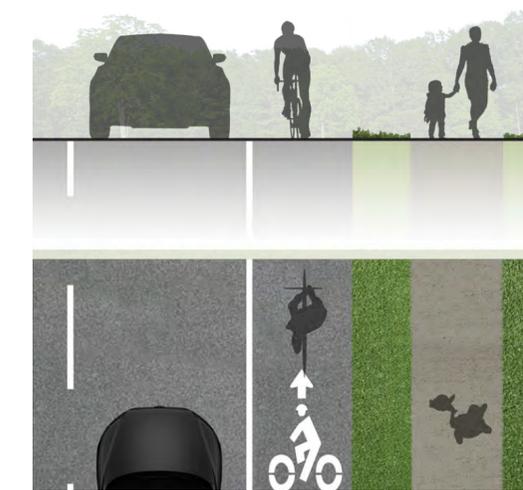
Given that sidepaths are adjacent to roadways, the 5-foot buffer design is important to address as a case-by-case basis with context-sensitive-solutions. On low-volume roadways, grassy or vegetative buffers are appropriate. Next to higher speed roadways (typically above a posted speed of 35 mph), a more physical separation should be explored for sidepath buffers. These can include raised curbs, planters, bollards, jersey barriers, etc. Many sidepath connections are recommended as part of this study.



SHARROW

According to the MUTCD (Manual of Uniform Traffic Devices), on streets without on-street parallel parking (above), shared-lane markings should be placed at least 4 feet from the face of the curb, or edge of the traveled way where there is no curb. markings should placed 11 feet away from the edge if street parking is present. Sharrows should be installed immediately after every intersection and every 250 feet after that.

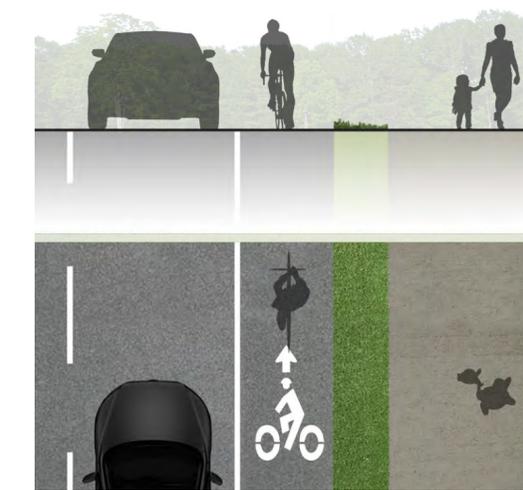
Sharrows require good sight distance and low traffic volumes and are not appropriate for roadways that have a posted speed limit of over 35 mph. "Bicycles May Use Full Lane" signs should accompany sharrow pavement markings, but the signs do not necessarily need to occur at the frequency of the pavement markings. Sharrows are extensively recommend in residential areas and areas with limited right-of-way.



BIKE LANE

Bike lanes require a smooth riding surface and are not appropriate for roadways with a posted speed limit of over 45 mph. If a curb is present, bike lanes need to be five feet minimum in width, and four feet minimum in width if a curb is not present. Unlike sharrows, bike lanes are a designated on-road facility. It is not legal for a pedestrian to walk within a designated bike lane, or a vehicle to drive within it.

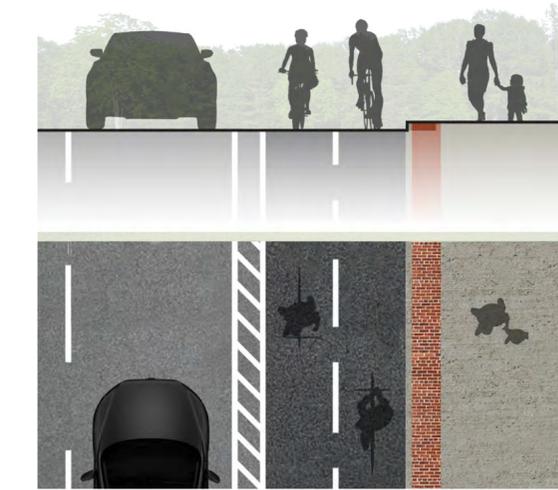
Many areas of bike lanes are proposed as part of the study, including along Route 208 to connect the Grove City Premium Outlets to Pine Township and the Borough.



BIKE LANE + WIDENED SIDEWALK

Newly constructed sidewalks need to be five feet in width and a 1/4 inch or less vertical change per the new ADAAG (American Disabilities Act Accessibility Guidelines) standards. In a sidewalk repair situation, the minimum sidewalk width is four feet and the vertical change needs to be 1/2 inch or less.

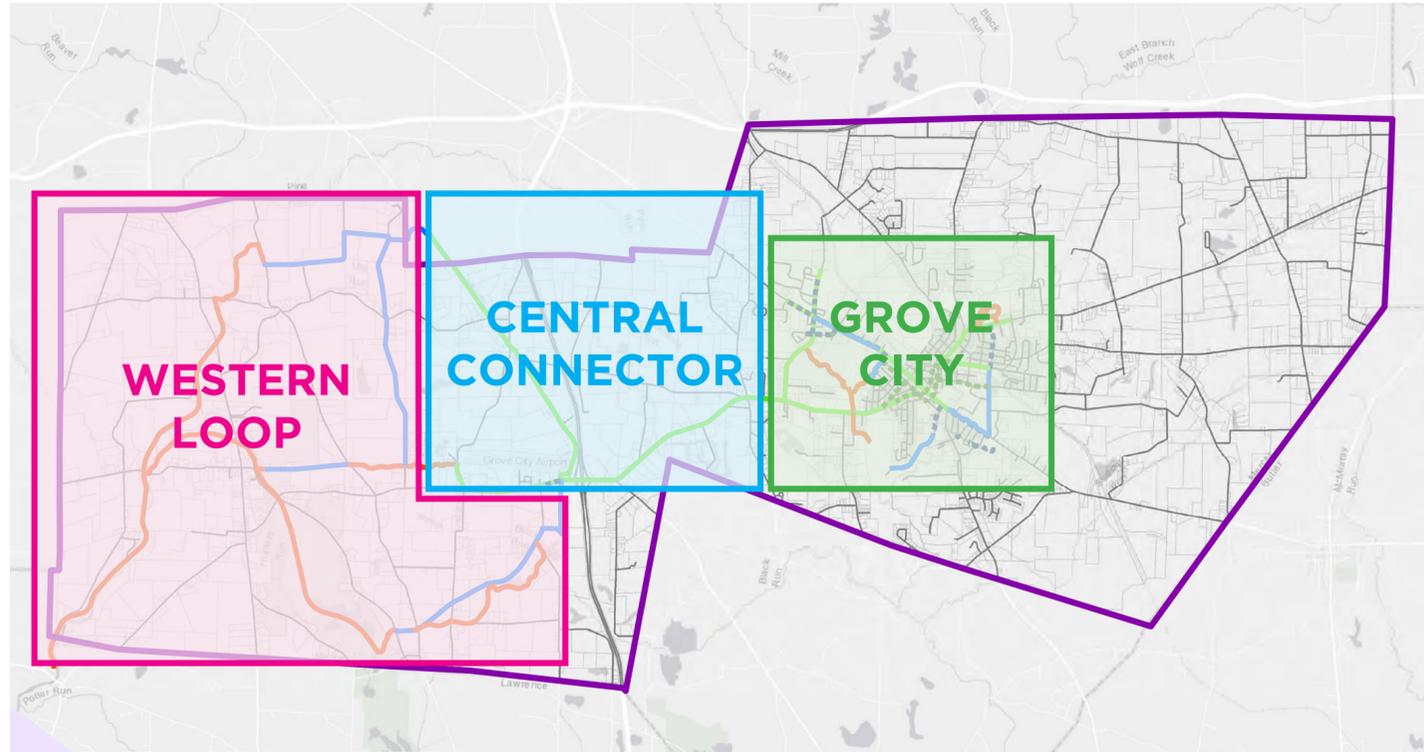
Widened sidewalks are typically seven to eight feet wide. Eight feet in width is ideal because it allows for two bicycles, wheelchairs, etc. to safely pass one another when traveling opposite directions. Widened sidewalks are recommend in several areas, though some areas of pinch points may only accommodate traditional five foot sidewalks.



PROTECTED BIKE LANE

Separated bike lanes, also known as cycle tracks or protected bike lanes, follow the same design guidelines as traditional bike lanes, but they incorporate a designated physical and vertical element between the bike lanes and roadway, parking lane, sidewalk, etc. The buffer zone that contains this vertical element can be painted or physical and should be a minimum of one to two feet in width. The separation protects bicycles from moving vehicles, doors swinging open into the bike lane itself, and provide a stronger visual cue and identification within the roadway.

Based on the results of the public involvement conducted for this study, protected bike lanes are not recommended for installation along Olde Town's Broad Street corridor due to concerns about parking loss.



ALIGNMENT REVIEW AREAS

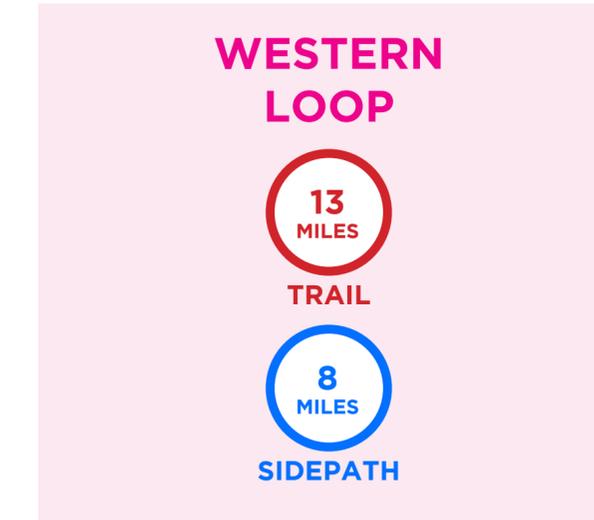
Given the unique topography and development patterns of each community, and the destination-based route connections, the proposed alignments are separated into three distinct areas for ease of understanding.

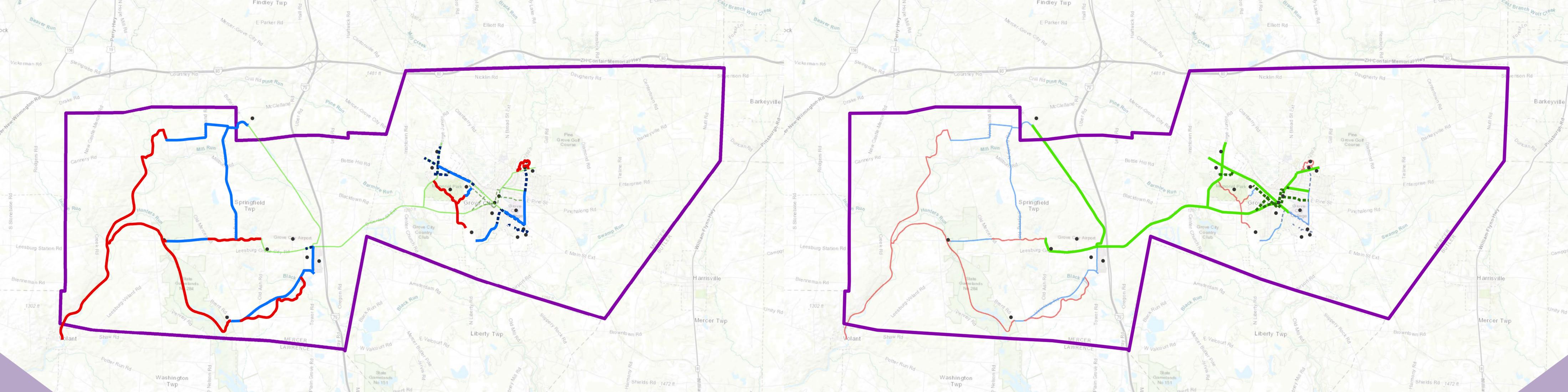
The Western Loop is predominantly a combination of paved trails, with accompanying sidepaths. This area takes advantage of abandoned railroad corridors to create a regionally significant loop that can accommodate users of all ages and ability.

The Central Connector leverages the existing wide shoulders along Route 208 that would be retrofitted into bike lanes, allowing for safer long distance travel from the east side of I-79 to the outlets and Western Loop.

Within Grove City Borough, the density of development was both a challenge and opportunity. The extensive sidewalk network is enhanced with the addition of bike-focused infrastructure, while strategically routed trails allow connections to existing parks and schools.

FACILITY TYPE SUMMARY





pedestrian-focused connections

- ALL-PURPOSE TRAIL
- SIDE PATH
- BIKE LANE
- - - SHARROW
- WIDENED SIDEWALK
- STUDY AREA
- DESTINATIONS

1 INCH = 1 MILES



1 INCH = 1 MILES

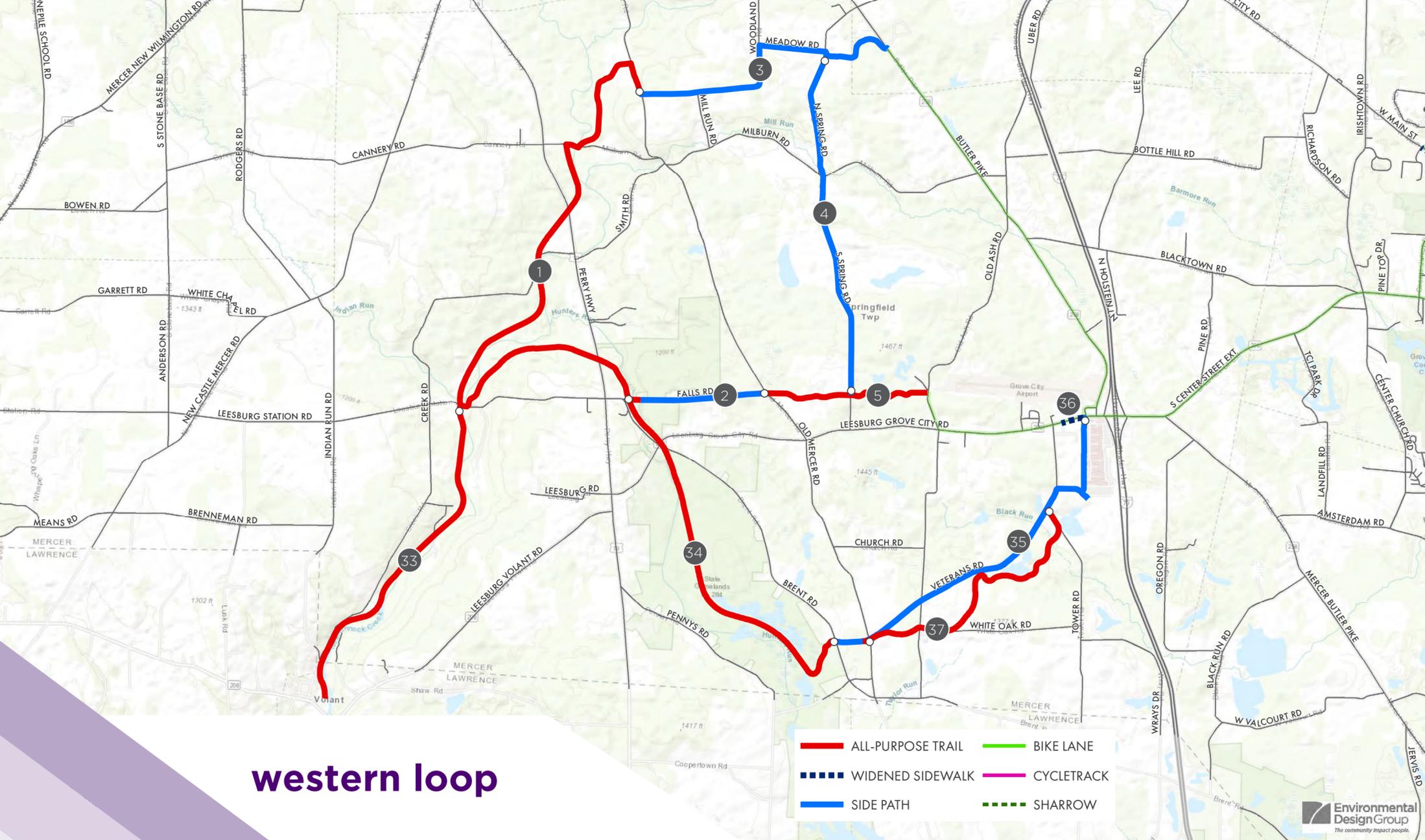


- ALL-PURPOSE TRAIL
- SIDE PATH
- BIKE LANE
- - - SHARROW
- WIDENED SIDEWALK
- STUDY AREA
- DESTINATIONS

bike-focused connections

The map above highlights the pedestrian-oriented improvements in the plan. Pedestrian improvements widened sidewalks, paved trails, and sidepaths. Though these are not pedestrian-exclusive facilities, they all function as pedestrian connections, with trails and sidepaths allowing additional user types.

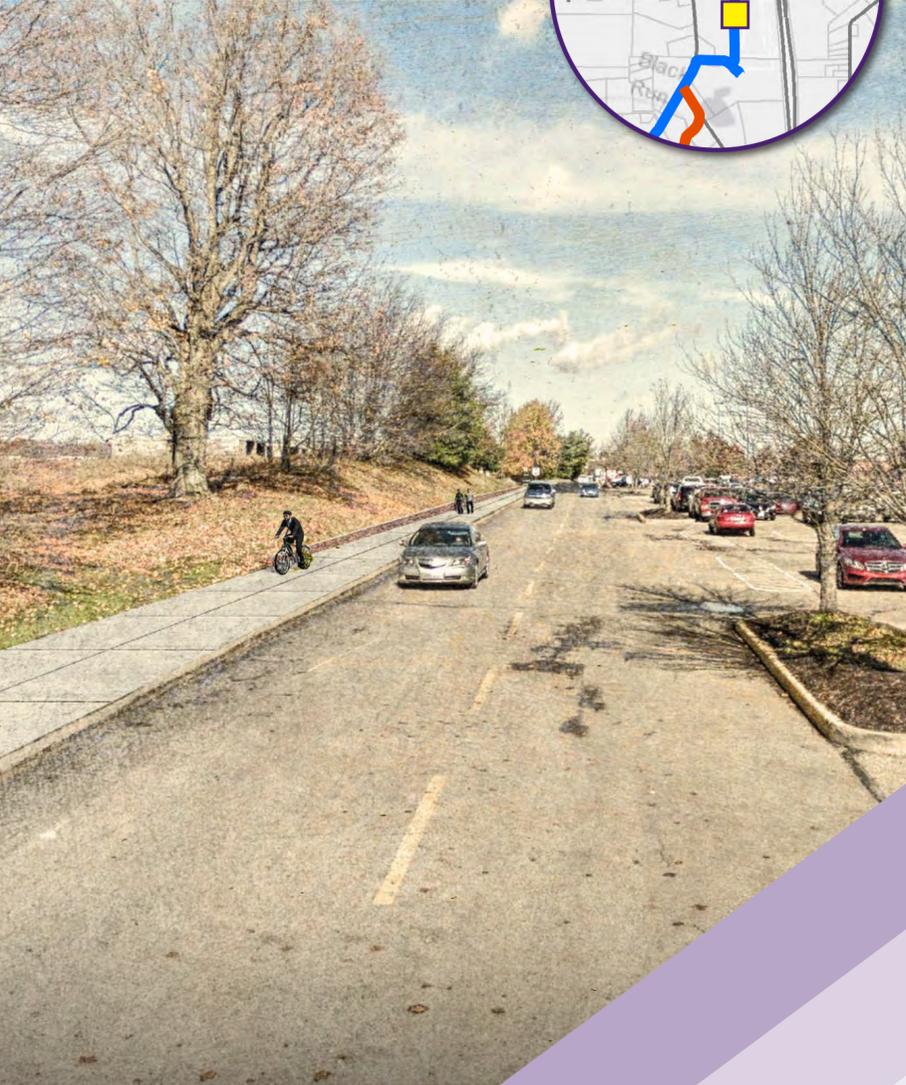
Bike-focused connections differ from multi-modal connections such as paved trails in that sharrows are bike lanes are geared specifically to bike users. Bike lanes function as a dedicated bike-only facility that does not accommodate pedestrian users, such as joggers or walkers. Sharrows, though bike-specific, are not a designated facility.

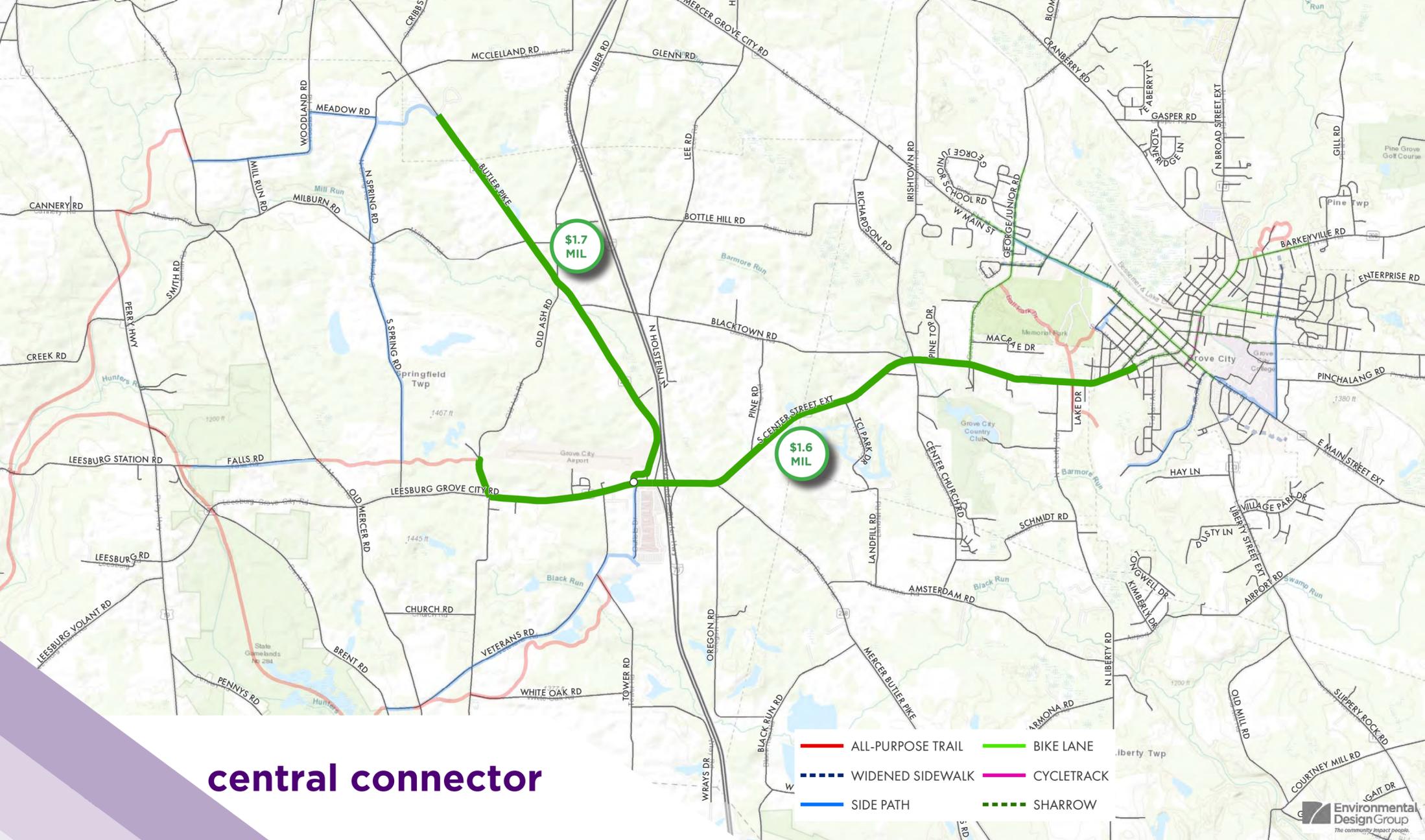


ALIGNMENT BREAKDOWN

- TRAIL** - This alignment primarily utilizes existing abandoned railroad right-of-way to connect Springfield Falls to Old Mercer Road. The trail crosses Perry Hwy. at two locations, once to connect to the Volant route heading south, and then again as it heads north to connect to the Woodland Rd. sidepath.
- SIDE PATH** - Utilizing the existing right-of-way, this route connects Springfield Falls along Falls Rd. to the intersection with the off-road trail at Old Mercer Rd. Some grade and slope challenges exist, primarily around the Springfield Falls access point.
- SIDE PATH** - The sidepath begins at the intersection of Old Mercer Rd. and Woodland Rd., continuing east and north along Woodland, then east on Meadow Rd. The route then continues through farm property to loop around the fishing lake on the west side of Butler Pike. A crossing point at Butler Pike allows direct connection to the KOA.
- SIDE PATH** - A sidepath along Spring Rd. completes the off-road paved trail loop connecting the KOA to Springfield Falls, and to the old railroad alignment down to Volant. Steep slopes and limited right-of-way create pinch points in some areas along Spring Rd., and an off-center intersection at Milburn Rd. must be crossed.
- TRAIL** - This portion of the loop connects the Falls Rd. sidepath to the Spring Rd. connection, as well as terminates at Old Ash Rd. A planned paved trail by Springfield Twp. will connect directly to this route on its eastern tip, just north of the Springfield Falls community building.
- TRAIL** - The Volant connector trail utilizes the existing abandoned railroad corridor to traverse the Neshannock Creek valley. This southern connection to Volant allows local and visiting trail users to extend their trips to include the many historic and antique shops in Volant, as recommended in the destination analysis.
- TRAIL** - Connecting Springfield Falls down to the #2 VFW complex, this sidepath alignment traverses the #284 State Game Lands property. By primarily remaining on the abandoned railroad spur right-of-way, limited earthwork is needed and grade changes are favorable to a trail experience.
- SIDE PATH** - A sidepath facility along Veterans Rd. would allow for a connection from the southern end of the loop directly to the Grove City Premium Outlets. A potential public space installation at the southern end of the Outlet property would create a potential trailhead connection. Concerns include severely restricted right-of-way.
- WIDENED SIDEWALK** - This widened sidewalk alignment connects the sidepath along the Outlet property to the under-construction Springfield Twp. sidepath and widened sidewalk along SR-208. This would complete the final loop connection to the planned facilities and the greater Western Loop network.
- TRAIL** - As an alternative to the Veterans Rd. sidepath alignment, this off-road trail would avoid the significant grade and right-of-way challenges of that route by traversing the edges of farm fields and some forested areas before joining back to the sidepath at the southern edge of the Outlets.

Proposed concrete sidepath on the west side of the outlet mall drive, looking north





Proposed bike lanes along SR-208 at the crossing point with the proposed trail connecting Hunter Farms with Memorial Park

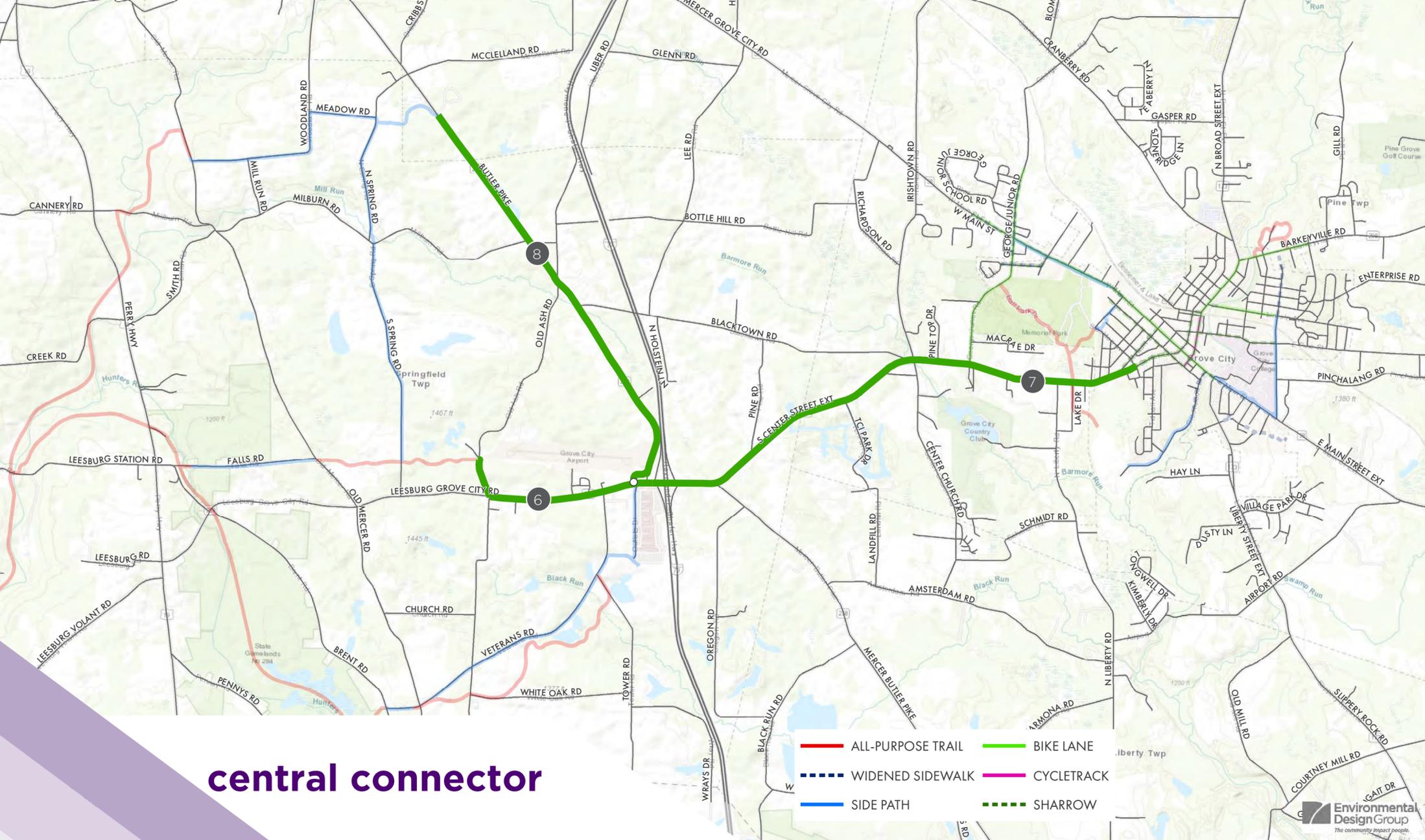


CENTRAL CONNECTOR

The Interstate 79 corridor exists as the primary barrier to creating direct, multi-modal connections from Springfield Township into Pine Township and Grove City. The need to use existing bridge crossing points, and limited right-of-way widths, meant sidepaths or trails were not feasible. In addition, the distance between the outlet mall and downtown Grove City is over three miles, which limits the number of potential users of a connection route. For instance, families with children would be less inclined to travel that entire distance round trip on a sidepath or trail, even if it did exist.

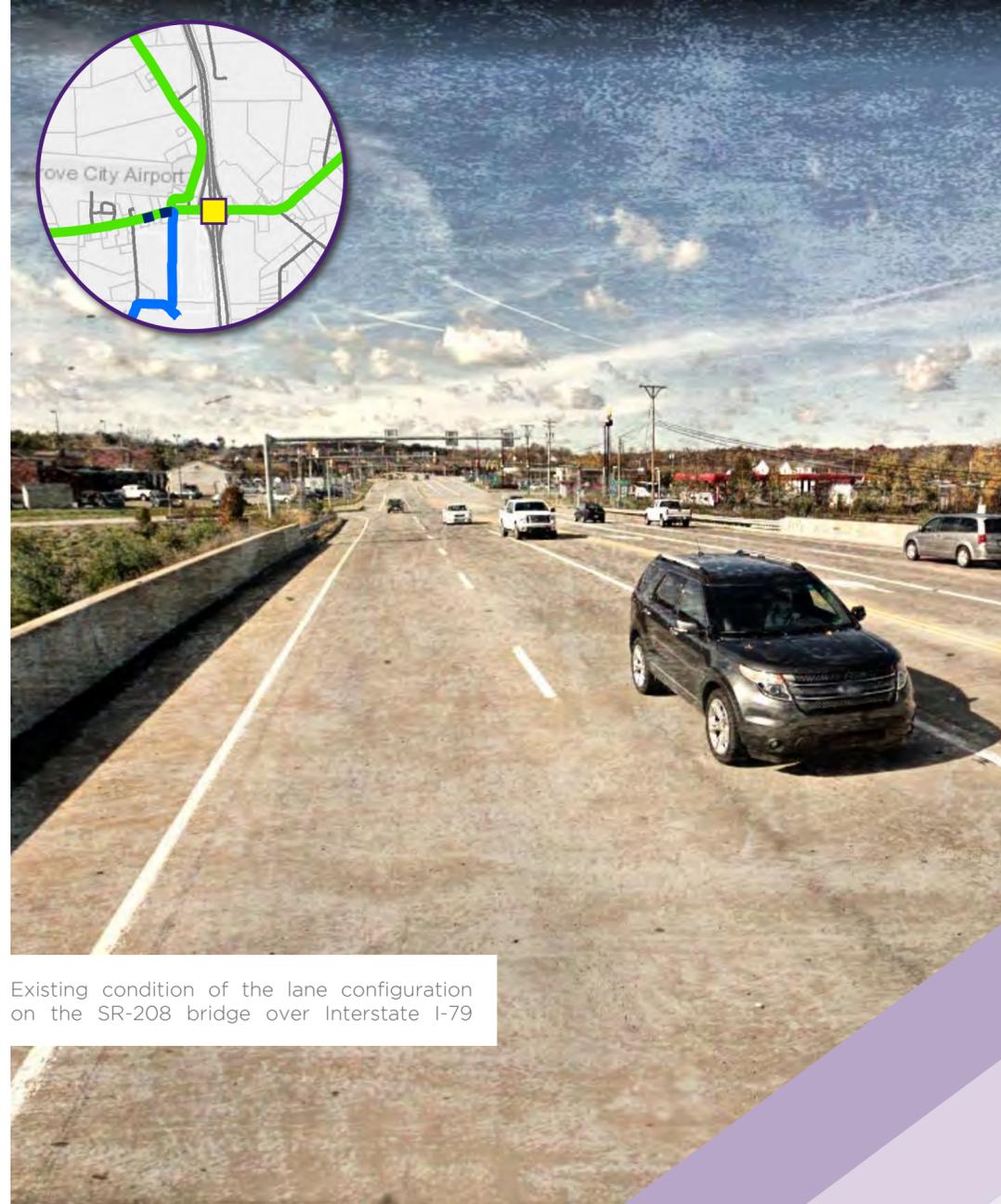
With that in mind, there was an opportunity to leverage the existing wide shoulders along Route 208 to create a safety improvement for on-road riders. Importantly, this alignment along 208 allows the numerous employees of the outlet mall and surrounding businesses to commute without the need for an automobile.

The addition of bike lanes heading north on Butler Pike also provide a direct connection for visitors at the KOA Campground to safely and conveniently travel to the outlet mall and commercial areas, or potentially continue on to Grove City itself.

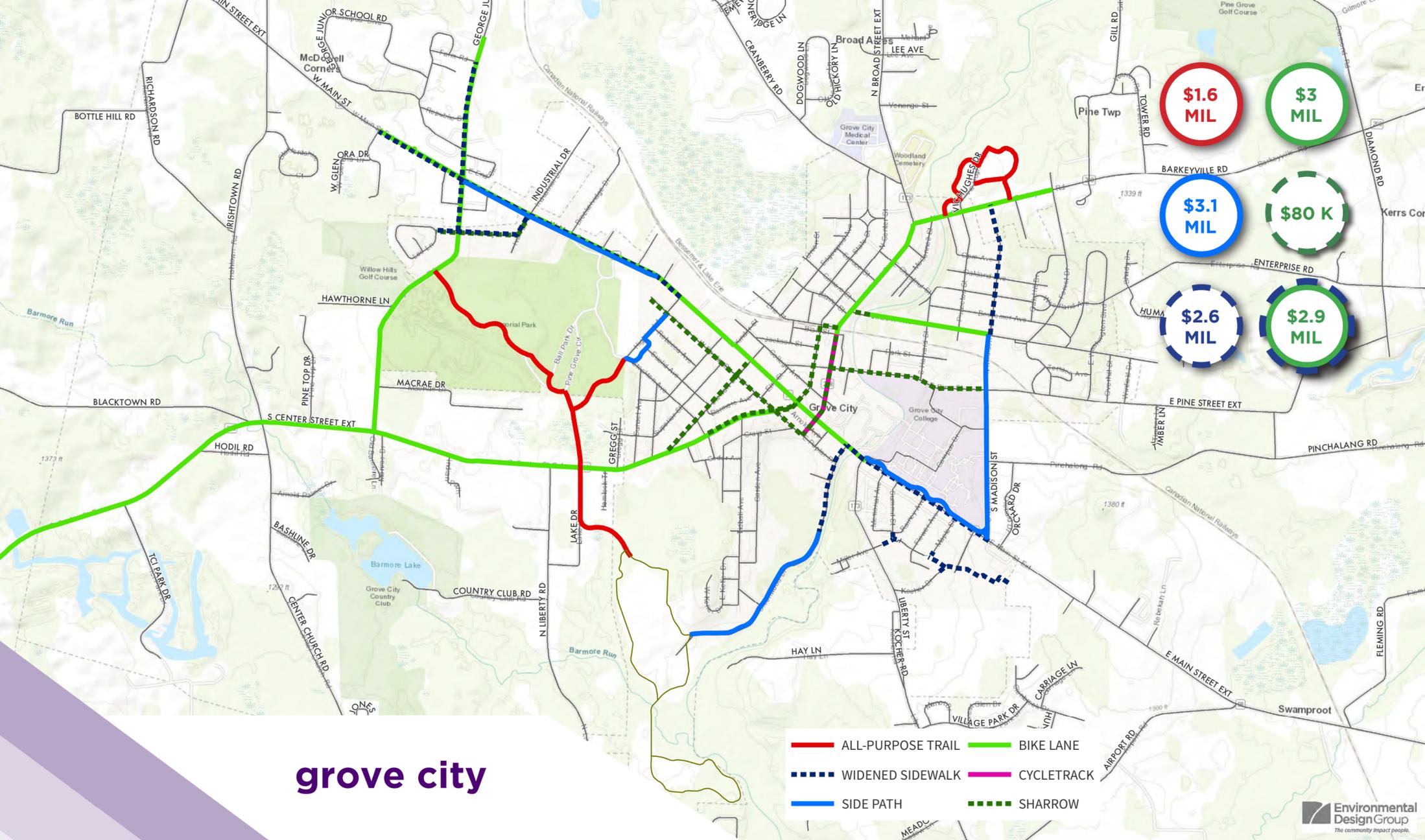


ALIGNMENT BREAKDOWN

- 6 BIKE LANES - This route creates dedicated bike lanes along SR-208 from the Grove City Premium Outlets, then continues north on Old Ash Rd. to connect to the planned off-road trails just north of the Springfield Twp. community building. This route complements the proposed off-road trails by serving road-oriented cyclists.
- 7 BIKE LANES - Connecting Grove City and Pine Twp. to the west side of the I-79 corridor was a critical goal of the study. Bike lanes along SR-208 meet the needs of riders most likely to make the longer-distance ride from the Borough to the Outlets. Existing wide, paved shoulders along the roadway require minor overall modification. The I-79 bridge deck itself was a point of major discussion and analysis during the course of the study. Although the deck itself is substantial in width and fairly young in its lifespan, it was not deemed appropriate to reconfigure or modify the deck to accommodate any additional facilities such as the addition of curbed sidewalks, a sidepath, or protected bike lanes. After consulting with stakeholders and PennDOT, restriping the bridge to accommodate bike lanes was deemed a feasible alternative.
- 8 BIKE LANES - The Butler Pike bike lanes allow a more direct connection to the northern KOA property for those who prefer to ride on the road. Challenges along the roadway include some areas of limited right-of-way or areas of needed tree clearing.



Existing condition of the lane configuration on the SR-208 bridge over Interstate I-79



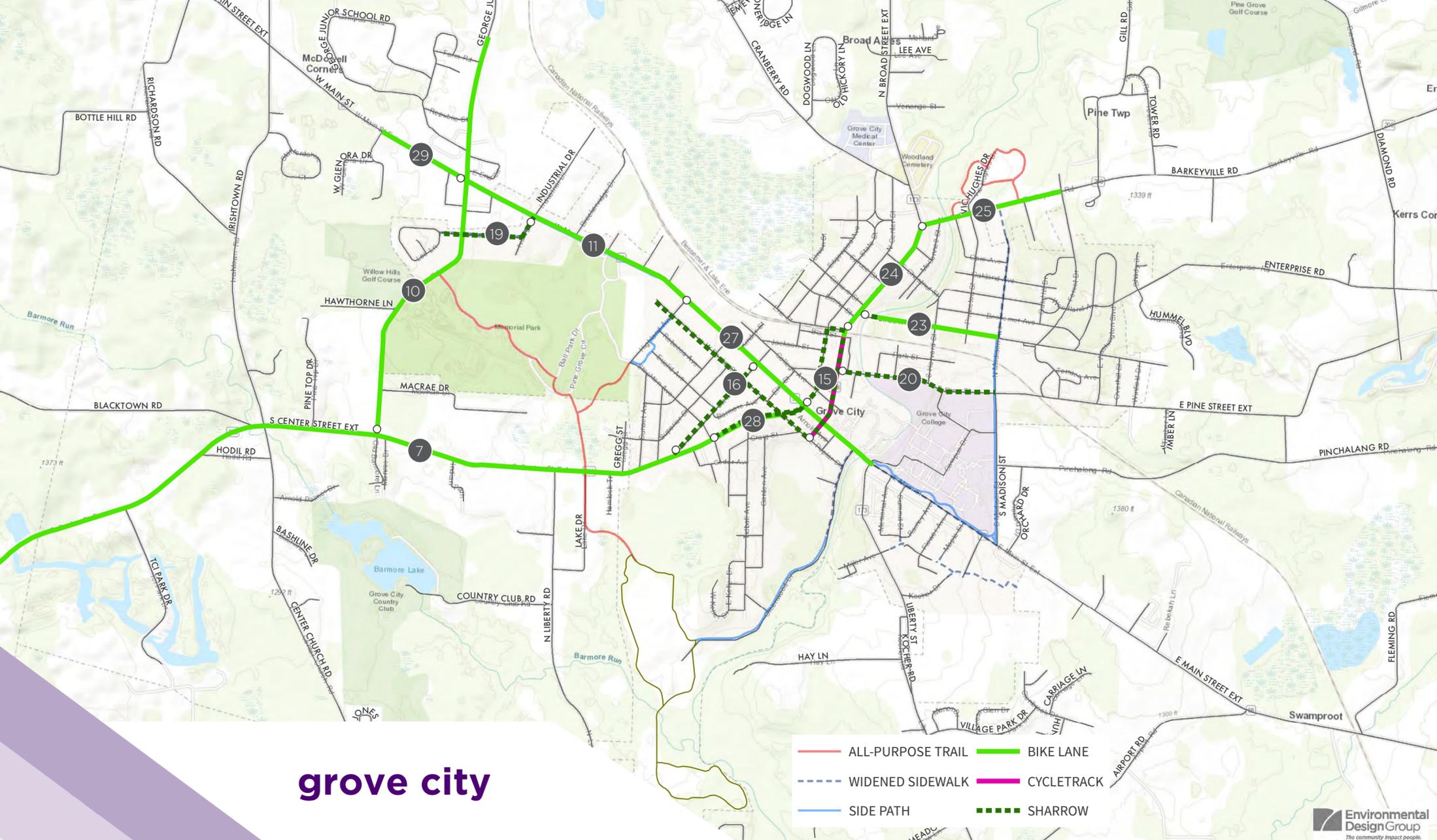
GROVE CITY BOROUGH

The dense development pattern in the Borough is both an opportunity and a challenge. The clustered population helps drive increased trail usage, while the narrower right-of-ways significantly reduce the opportunities to align trails and sidepaths.

By proposing multiple complementary facility types, the plan creates many additional trip opportunities for cyclists and pedestrians. The addition of a trail connection across 208 allows for a predominantly off-road trip from the Grove City College campus, through Hunter Farms, up to Memorial Park, and then to the shopping areas of West Main. A proposed sidepath on and along the edge of Grove City College connects northward to the community little league field and residential areas.

Strategic placement of widened sidewalks in residential areas connect otherwise dead-end streets to form an enjoyable connection to the YMCA and school campus southeast of Olde Town. The addition of sharrows through many side streets and through Olde Town serve to invite cyclist onto the roadway and remind vehicles of the shared space.

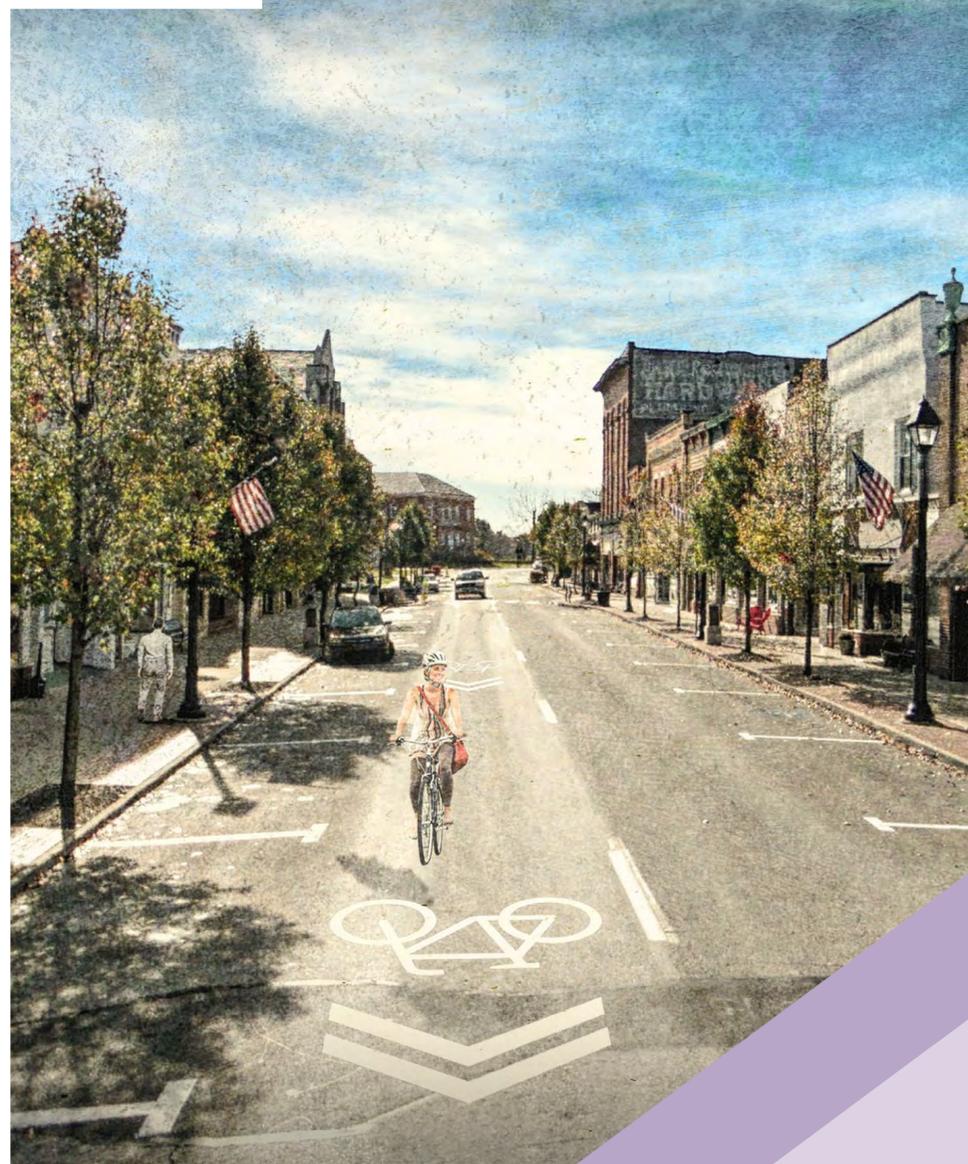


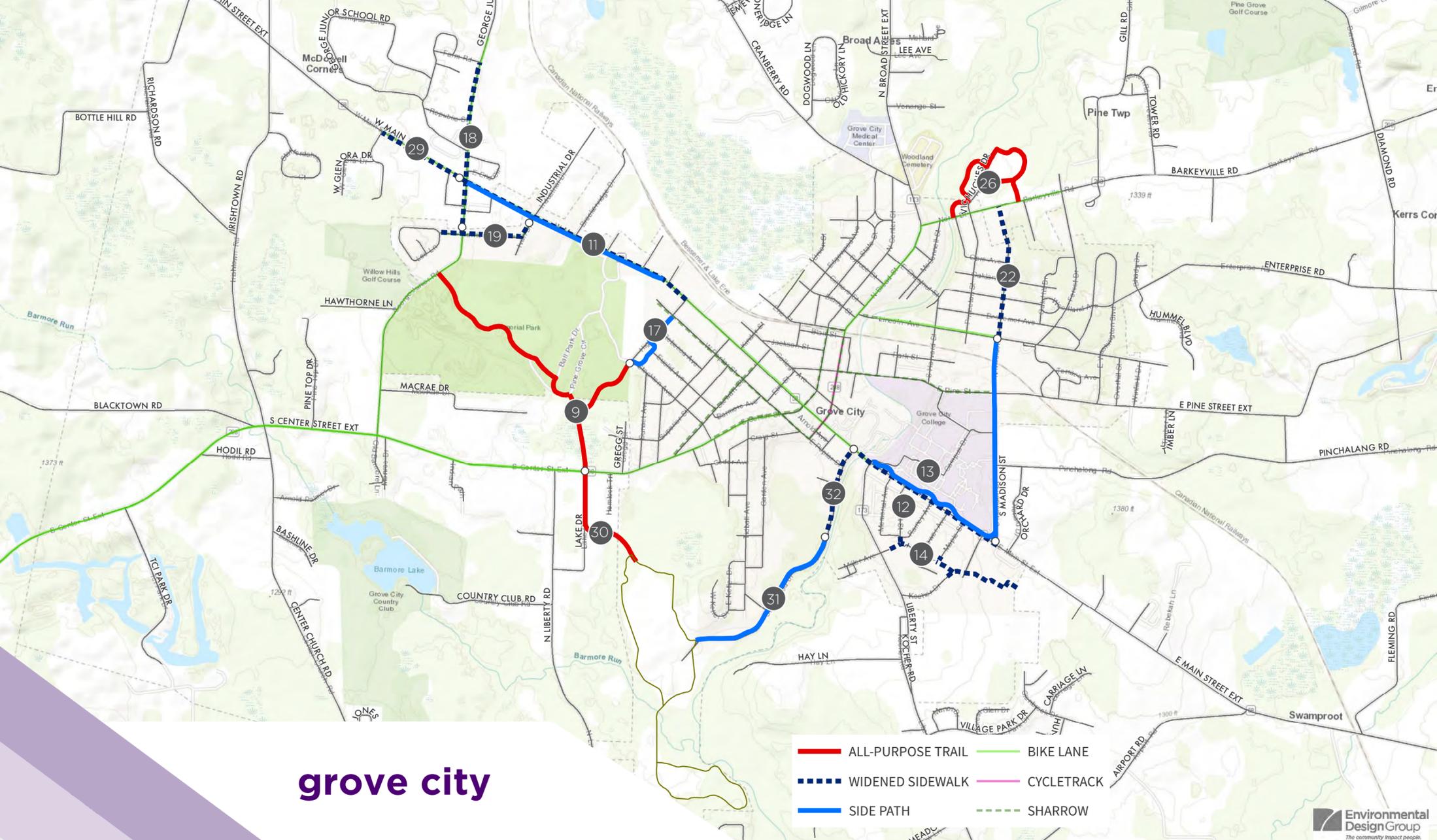


ALIGNMENT BREAKDOWN (BICYCLE)

- 10 BIKE LANES - These bike lanes on George Jr. Rd. begin at the intersection with SR-208 and continue north along the western edge of Memorial Park, and through the intersection with W. Main St. up to the George Jr. School campus.
- 11 BIKE LANES - The bike lanes along W. Main St. (when combined with the widened sidewalk route) allow multimodal connectivity from the high school to the shopping areas northwest of the Borough. As an alternate, a sidepath is recommended instead of the bike lanes and widened sidewalk.
- 15 SHARROWS - The installation of sharrows and signage along Broad and Center Streets would alert cyclists and motorists that the one-way traffic loop through Olde Town is a shared-use space. The sharrow facility was voted as the preferred option over a cycletrack along Broad St.
- 16 SHARROWS - Sharrow and signage installations along W. Poplar St. and Stewart Ave. increase the visibility for residents and students connecting into the Grove City Area high school campus and into Memorial Park.
- 19 SHARROWS - The addition of sharrows and signage along Carrie Way and Ivan Dr. connects the mobile home park on the west side of George Jr. Rd. to the additional routes proposed W. Main St. Low traffic volumes and travel speeds make bike lanes unnecessary along this route.
- 20 SHARROWS - Pine St. sharrows and signage begin at the intersection of Madison St. and Pine St., and continue west to the intersection of Broad St. and Pine., connecting to the sharrow loop through Olde Town Grove City. Right-of-way constraints do not allow bike lanes on this route.
- 23 BIKE LANES + SHARROWS - Bike lanes along Lincoln Ave. begin at the intersection with Madison St. and its sidepath alignment, continuing west to the bridge over Wolf Creek. Sharrows on the narrow bridge then connect to the bike lanes along N. Broad St.
- 24 BIKE LANES - The bike lanes along N. Broad St. stretch from the Blair St. intersection south of the railroad tracks, and continue north to the intersection with Barkeyville Rd. Right-of-way limitations restrict the area around the railroad crossing, and would require widening and curb adjustment.
- 25 BIKE LANES - The bike lanes along Barkeyville Rd. are a continuation of the N. Broad St. bike lanes, stretching from that intersection east to Forest Dr., just east of the Grove City District Court property. This route increases connectivity to the little league fields from surrounding areas.
- 27 BIKE LANES - The installation of bike lanes along W. Main St. creates a direct bike connection from Memorial Park and the high school campus south along Main to the Grove City College gateway at the intersection of Liberty St. and E. Main St., just past the Wolf Creek bridge.
- 28 BIKE LANES + SHARROW - The portion of SR-208 between Uber Way and Main St. has limited pavement and right-of-way that does not allow for bike lanes on both sides of the roadway. An eastbound bike lane combined with a westbound sharrowed lane overcome this challenge.
- 29 BIKE LANES - The western most bike lane alignment on W. Main St. connects the commercial areas east of George Jr. Rd. with the Walmart and Country Market shopping centers on the west side of the intersection. This completes a bikeable connection from shopping to Grove City College

Proposed sharrows along Broad Street



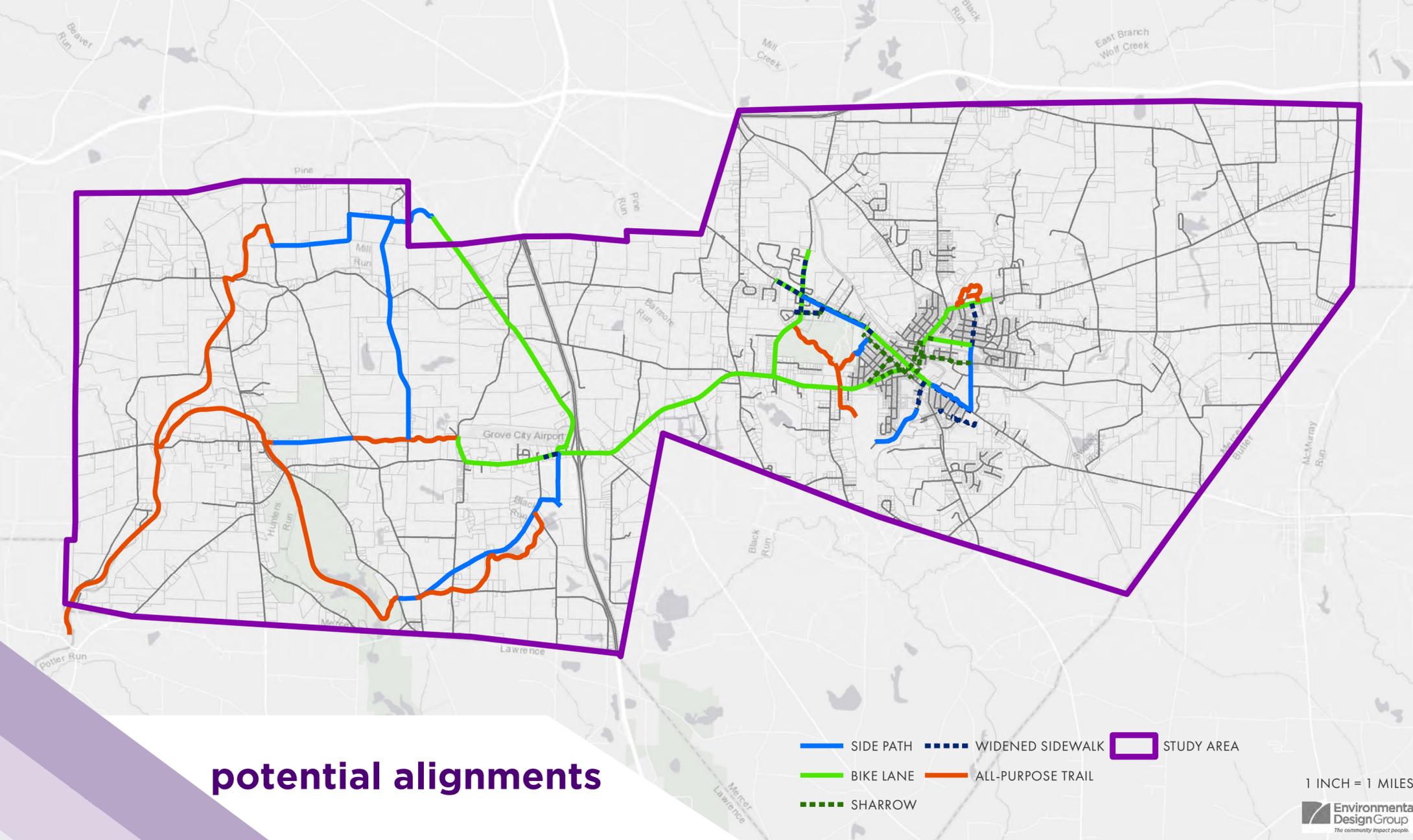


grove city



ALIGNMENT BREAKDOWN (PEDESTRIAN)

- 9 TRAIL - This alignment provides a connection into and through Memorial park. The southern gateway from SR-208 features a boardwalk before entering the park property. Once in the park, the east fork connects to the high school campus and sidepath, while the west fork follows adjacent to the existing park drive.
- 11 SIDEPATH (ALT. WIDENED SIDEWALK) - Two potential options along W. Main St. include a sidepath on the south side of the road, or a combination of bike lanes and a widened sidewalk. Right-of-way constraints do not allow for both bike lanes and a sidepath. These alignments stretch from George Jr. Rd. to high schools campus.
- 12 WIDENED SIDEWALK - A widened sidewalk on E. Main St. from Greenwood Dr. to Madison St. would allow for increased pedestrian traffic heading toward the public schools, YMCA, and Grove City College. Due to constraints and a retaining wall on the north side of the street, the widening is only proposed for the south side.
- 13 SIDEPATH - In order to increase multimodal connectivity into and around Grove City College, a sidepath connection would stretch from the Liberty and E. Main intersection east through the campus property before turning north on Madison and ending at Lincoln Ave. This also provides better connections to the campus parking facilities.
- 14 WIDENED SIDEWALKS - These new, wide sidewalks fill in the many gaps between the dead-end residential streets south of campus, primarily in existing utility corridors. Miller Ave. and Summit St. would connect east to the Miller Ave. Ext. and then directly into the school and YMCA property, allowing safer connections for students.
- 17 SIDEPATH - This alignment connects the eastern Memorial park gateway to Grove City Area High School. Beginning at the intersection of Stockton Ave. and Highland Ave., the route circles around the edge of a parking lot then along the eastern side of Highland until the intersection with W. Poplar St.
- 18 WIDENED SIDEWALK - The George Jr. School features a highly developed internal sidewalk network, though the sidewalk along the west side of George Jr. Rd. is limited in width and overall connectivity. This route would widen extend the sidewalk from W. Main St. north to the edge of campus at George Jr. School Rd.
- 19 WIDENED SIDEWALK - To complement the proposed sharrows along Carrie Way, a new, wide sidewalk would provide safe pedestrian access to shopping and dining for the numerous offices and residences on the street. This route stretches from the George Jr. Rd. intersection east then northward to W. Main St.
- 22 WIDENED SIDEWALK - A widened sidewalk alignment along Madison St. provides a direct connection for the residential streets into the little league complex on the north side of Barkeyville Rd. Beginning at the Lincoln Ave. intersection, the route continues north along the road, then through the vacant right-of-way to Barkeyville Rd.
- 26 TRAIL - This internal trail circles around the fields of the Vic Hughes Little League Complex, creating an internal loop that allows increased recreational opportunities for those attending or participating in events on the property. This portion is recommended for local funding, as it is a shorter, internal park trail loop.
- 29 WIDENED SIDEWALK - A widened sidewalk along the south side of W. Main St. would connect from the George Jr. Rd. intersection westward to E. Glenora Dr. This would provide connectivity for pedestrians to safely and comfortable travel from all of the W. Main St. shopping centers to Olde Town and Grove City College.
- 30 TRAIL - An off-road trail connecting from the southern gateway into Memorial Park across SR-208. The alignment continues as a sidepath along Lake Dr. before cutting east into the Hunter Farms property and the existing network of paved trails that connect and loop around the property.
- 31 TRAIL - Additional connectivity into Hunter Farms is provided from a sidepath alignment along the west side of Greenwood Dr. This route would connect to the residential neighborhoods at Clark St. and then continue north through the Borough property until reaching the junction with the proposed widened sidewalk.
- 32 WIDENED SIDEWALK - Limited right-of-way and physical constraints along this portion of Greenwood Dr. limit the width of potential improvements. A sidewalk varying between 5-8 ft here would serve to provide connectivity for pedestrians to Olde Town and Grove City College. Retaining walls and easements may be required.



funding toolbox



POTENTIAL FUNDING SOURCES

PROGRAM NAME	ORGANIZATION	DETAILS	LINK
Act 13 - Greenways Trails, and Recreation Program	Pennsylvania Dept. of Community and Economic Development	Funding for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects. Projects can involve development, rehabilitation and improvements to public parks, recreation areas, greenways, trails, and river conservation. 15% of project cost match, total award not to exceed \$250k.	https://dced.pa.gov/programs/greenways-trails-and-recreation-program-gtrp/
Multimodal Transportation Fund	PennDOT	The Program establishes dedicated funding for bicycle and pedestrian improvements, stabilizes funding for ports and rail freight, increases aviation investments, and allows targeted funding for priority investments in any mode of transportation. The program's goal is to improve transportation assets that enhance communities, pedestrian safety, and transit revitalization. 30% match of requested amount required (state/federal grants do not count toward match).	http://www.penndot.gov/ProjectAndPrograms/MultimodalProgram/Pages/default.aspx
DCED Multimodal Transportation Fund	Pennsylvania Dept. of Community and Economic Development	Provides grants to encourage economic development and ensure that a safe and reliable system of transportation is available to Pennsylvania residents. The program is intended to provide financial assistance to improve transportation assets that enhance communities, pedestrian safety, and transit revitalization. The program is under the direction of the Commonwealth Financing Authority. 30% match of requested amount required (state/federal grants do not count toward match).	http://community.newpa.com/programs/multimodal-transportation-fund/
Pennsylvania Infrastructure Bank (PIB)	PennDOT	A PennDOT program that provides low-interest loans to accelerate priority transportation projects, spur economic development and assist local governments with their transportation needs. Eligible uses include: Design, engineering, right-of-way, repair, and construction of public transportation facilities, highways, bridges and private airports, railroads, and rail freight facilities.	http://www.penndot.gov/ProjectAndPrograms/Planning/Pages/PA-Infrastructure-Bank.aspx

POTENTIAL FUNGIC SOURCES

PROGRAM NAME	ORGANIZATION	DETAILS	LINK
Regional Traffic Signal Program	Southeastern Pennsylvania Commission	<ul style="list-style-type: none"> Program to reduce congestion, reduce emissions, and improve safety. A full service program that provides technical assistance and funding related to traffic signal system upgrades as well as traffic signal synchronization and retiming. Eligible uses include: Traffic signal retiming, upgrades to controllers, communications, and detection, LED retrofits and replacements, pedestrian push buttons and signals, study/removal of unwarranted signals, innovative signal technologies, pavement markings, and signage. Requires 20% non-Federal match. 	http://www.spcregion.org/trans_ops_traff.asp
Automated Red Light Enforcement Program (ARLE)	PennDOT	<ul style="list-style-type: none"> The program provides opportunities for to improve safety and reduce congestion. ARLE intends to reduce the number and type of violations and crashes, provide additional safety benefits to highway users and improve pedestrian safety improvements. The types of eligible projects are very wide ranging when considering highway safety or mobility. It is the intent of the ARLE Program to fund worthwhile projects that can be completed at a relatively low cost, and award grants to projects that will be fully funded at the execution of the grant agreement date. No match funding requirement. 	http://www.dot.state.pa.us/Portal%20Information/Traffic%20Signal%20Portal/FUNDARLE.html
Community Conservation Partnerships Program (C2P2)	Pennsylvania Department of Conservation and Natural Resources	<ul style="list-style-type: none"> DCNR's Bureau of Recreation and Conservation provides a single point of contact for communities and non-profit conservation agencies seeking state assistance through the C2P2 Program in support of local recreation and conservation initiatives and those that implement Pennsylvania's Comprehensive Outdoor Recreation Plan. This assistance can take the form of grants, technical assistance, information exchange and training. All of DCNR's funding sources are combined into one annual application cycle and there is a single application format and process with one set of requirements and guidelines. Generally, a 50% cash or non-cash value is required. 	http://www.dcnr.pa.gov/Communities/Grants/Pages/default.aspx

