



WalkBikeHike

Somerset County

CONNECTING VIBRANT COMMUNITIES



June 28, 2019

Prepared for:



Prepared by:





NO
TURN
ON RED
8AM-6PM



IRWJ SOMERSET
8AM-6PM

CUSTOM
MADE TEE!
STICKERS
MAGNETS
KEYCHAINS
AND MORE!

NEW
LOT
SOLD
OUT

DISCLAIMER

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ABSTRACT

WalkBikeHike Somerset County is designed to improve multimodal mobility and safety for Somerset County travelers of all ages and abilities. Together, the WalkBikeHike Framework Strategy and Design Book have the potential to transform how Somerset County and its municipal partners plan, design, and build their roads, communities, parks, public facilities, and recreation areas. The Framework Strategy is just the first step in a process that will take shape over many years to see proposals advance from concept planning, to design and construction, and for many years of use and enjoyment. The Framework Strategy includes more than 220 candidate walk, bike, and hike improvements, totaling almost 275 miles of new facilities across Somerset County

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EXECUTIVE SUMMARY

Well before the advent of the automobile age, early Somerset County maps depict travel and transportation networks linking communities large and small with a variety of destinations, farms, and emerging centers of commerce and industry. These thoroughfares have long since been overtaken by automobiles and trucks, carrying people and goods, and fueling a strong and vibrant local economy.

Somerset County is prized for its high quality of life, great schools, employment, and amenities. WalkBikeHike Somerset County seeks to enhance and extend access to these opportunities through the development of low-stress, all ages travel networks of trails, shared use paths, and on-road facilities for walking, biking, and hiking.

WalkBikeHike is a Framework Strategy that leverages county, municipal, and state investments in open space, parks, recreation, farmland, and historic preservation, to improve multimodal access, mobility, connectivity, and safety.

The findings and candidate improvements of the Framework Strategy will guide the development of convenient, equitable, and interconnected travel routes, facilities, and networks, over time, and in a collaborative manner.



Study Background

Somerset County initiated this study to support development of a safe and user friendly travel network that increases non-motorized travel options.

This undertaking recognizes the growing demand for better connected destinations and improved mobility choices for county residents, workers, and visitors, and to promote health and wellness opportunities for all persons.

The final report for this study is comprised of two volumes:

WalkBikeHike - Somerset County presents an overview of the three part-planning process: community engagement, technical assessment, and the study findings and recommendations in the Framework Strategy.

WalkBikeHike Technical Appendix includes the following:

Tech Memo 1-Community Engagement
Tech Memo 2-Technical Assessment
Implementation Matrix
Problem Statements
WalkBikeHike Design Book

The standalone Design Book guides the planning, design, and development of walk, bike, and hike improvements, based on state-of the practice standards and guidelines, to create a seamless, consistent, and integrated multimodal network across Somerset County.

Three-Part Planning Process

A three-part, community-based, planning process was used to evaluate and advance opportunities to improve multimodal mobility, safety, and access for Somerset County travelers of all ages and abilities.

Part One - Community Engagement

A continuous and collaborative community engagement process provided numerous opportunities and methods for discussion, assessment, and comment, including more than two dozen study meetings.

Hundreds of written and e-mail comments were received, and more than 1,600 responses were submitted to the online survey and crowdsourced mapping application.

The community engagement process culminated in the formulation of the consensus WalkBikeHike Vision Statement and Goals.



WalkBikeHike - Somerset County

Part Two: Technical Assessment

A comprehensive multimodal assessment of context and existing conditions identified needs, deficiencies, and opportunities for walk, bike, and hike improvements across Somerset County.

More than 400 recommendations from previous studies and plans were evaluated for initial feasibility and implementation.

Many Somerset County routes are high-stress roadways with significant barriers to multimodal access and mobility, making off-road paths and trails essential to developing a viable low-stress network.

Part Three: Framework Strategy

The WalkBikeHike Framework Strategy presents the study findings and recommendations, including the potential countywide multimodal network, focus area concept plans, and implementation policies and strategies.

The Framework Strategy builds upon the community engagement and technical assessment tasks, and guides the development of the countywide multimodal network of potential improvements and policies to create a low-stress, all-ages, network for travelers of all ages and abilities.

The potential network of countywide multimodal improvements includes a combination of trails, shared use paths, and on-road facilities for walking, biking, and hiking.

The WalkBikeHike Framework Strategy includes three elements to guide implementation:

I. Building the Countywide Network

Somerset County currently has 347 miles of off-road trails, and 22 miles of on-road bike lanes.

The Framework Strategy includes more than 270 miles of potential new improvements, nearly doubling the existing mileage with new facilities of various types spread across Somerset County with a much greater diversity and expanse than currently exists.

More than 220 individual potential new improvements are included in the Framework Strategy.

II. Focus Area Concept Plans

Five locations were selected for detailed analysis of context and development of potential improvements and amenities:

- Five Generals Houses
- Duke Farms-Sourlands Preserve-Lawrence Hopewell Trail Interconnect
- Raritan River Greenway
- Watchung Ridge Greenway
- Delaware & Raritan Canal Towpath/East Coast Greenway

III. Policy Framework

This program of strategies and policy recommendations guides implementation of the countywide network and Complete Streets projects through collaboration, partnerships, and adherence to the New Jersey Complete Streets Design Guide and Design Book.



Table 1: Summary of Existing and Potential New Facilities

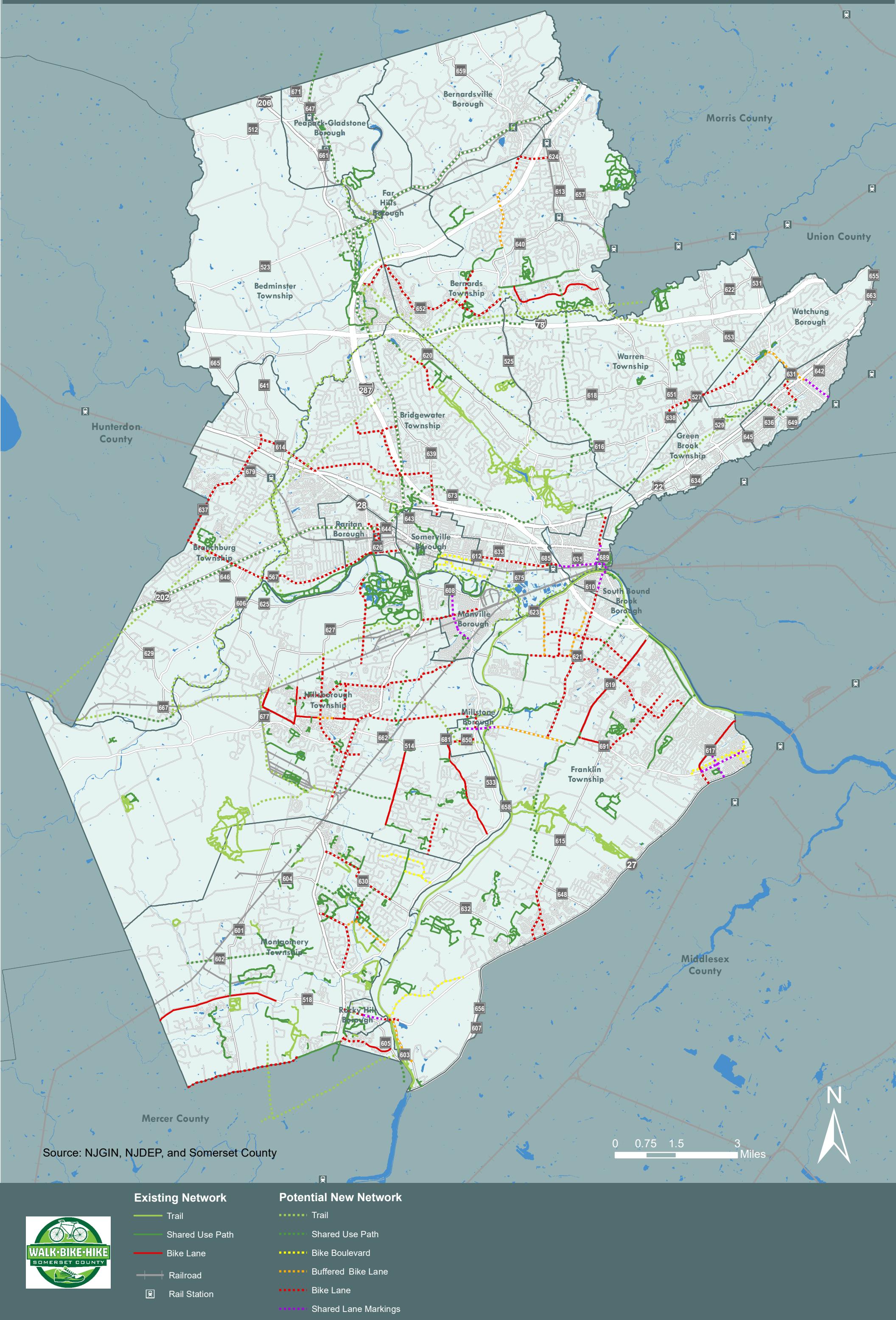
Facility Type	Existing (Miles)	Potential New (Miles)	Total (Miles)
Trail	140	99	239
Shared-Use Path	207	65	272
Bicycle Boulevard		10	10
Buffered Bicycle Lane		11	11
Bicycle Lane	22	78	100
Shared Lane Markings		8	8
Total	369	271	640

WALKBIKEHIKE - VISION STATEMENT

Somerset County supports cycling and walking as essential forms of transportation and recreation for residents, workers and visitors alike. Implementation of the countywide *WalkBikeHike* network over time will enable people of all ages and abilities to comfortably travel to both local and regional destinations. Working toward this vision in partnership with other County and local initiatives will result in a more livable, vibrant, healthy and sustainable region where people are inspired to walk and bicycle for fun, recreation, and daily transportation needs.



Figure 1: Existing and Potential New Network



What Comes Next?

Together, the WalkBikeHike Framework Strategy and Design Book have the potential to transform how Somerset County, its municipal partners, developers, institutions, and private land owners plan, develop, design, and construct their roads and the built environment, including parks, public facilities, and recreation areas. Each is encouraged to consult with the Framework Strategy and the companion Design Book in the development of new and enhanced multimodal facilities.

The Framework Strategy is just the first step of a process that will take shape over many years of planning, collaboration, permitting, and engineering.

Each responsible party that plans to build out the countywide network is encouraged to use the Framework Strategy and the companion Design Book which provides practical solutions to enhance bicycle and pedestrian mobility. Along with the Somerset County Preservation Plan, when completed, these planning documents should be consulted during all phases of transportation infrastructure delivery and maintenance from project and policy proposals, to funding, design and construction, and throughout operation and lifecycle maintenance.

Some candidate improvements have the potential to be implemented quickly and inexpensively, while others will be much more complex, time consuming, and costly.

The countywide multimodal mobility network will emerge one project at a time as individual segments and improvement are designed and constructed, blending local and regional perspectives, and seeking to connect and sustain the County's vibrant and diverse communities.

The proposed countywide network is comprised of more than 220 candidate walk, bike, and hike improvements, totaling almost 275 miles of new facilities across Somerset County.

Somerset County and its municipal partners should conduct a periodic review of the WalkBikeHike Framework Strategy to account for and adapt to changes in local conditions, needs, opportunities, and priorities.





01 | Community Engagement

Community engagement plays an essential role in any planning study. To support the technical elements, the WalkBikeHike study used a community-based planning process to engage Somerset County's diverse residents, decision makers, and stakeholders to:

- *Explore and understand community vision, goals, and priorities*
- *Seek feedback on draft work products and findings at key points in the planning process*
- *Comment on the candidate improvements and policy recommendations*
- *Identify desired routes and destinations, existing deficiencies and constraints, and potential opportunities for improvement*



Introduction

Community engagement is a continuous and collaborative process and the WalkBikeHike planning process provided numerous opportunities and methods for discussion, assessment, brainstorming, and comment. These efforts included the following:

- Study Advisory Committee
- Focus Group Discussions
- Community Pop-Up Events
- English as Second Language (ESL) Conversation Groups
- Public Meetings
- Online Survey and WikiMapping

Many Somerset County departments and divisions actively participated in the study, including Planning, Engineering, Office of Aging & Disability Services, Health & Wellness Committee, Cultural and Heritage Commission, and the Parks Commission.

The community engagement process culminated in the formulation of the consensus Vision Statement and Goals to guide the development and implementation of the Framework Strategy of multimodal improvement concepts and policies.



1.1 Study Advisory Committee

Effective Study Advisory Committee (SAC) engagement is the foundation of the community-based planning process. The role of the SAC is to ensure that the study is based on a thorough understanding of local context and needs, and the study team adequately understands and addresses local vision, goals, and priorities.

Members of the SAC included:

- Somerset County Planning
- Somerset County Engineering
- Somerset County Business Partnership
- North Jersey Transportation Planning Authority (NJTPA)
- New Jersey Department of Transportation (NJDOT)
- NJ TRANSIT
- RideWise Transportation Management Association (TMA)
- Healthier Somerset
- Duke Farms Foundation
- New Jersey Bicycle and Pedestrian Resource Center
- Greater Mercer TMA

Three SAC meetings were held to guide the planning process from goal setting and assessment of existing conditions, to development and assembly of the potential network improvements, and finally to review of the Framework Strategy.

SAC Meeting 1: June 6, 2018

Introduced committee members to the study, provided an overview of the workplan, and included an interactive discussion to inform development of the vision statement and goals.

SAC Meeting 2: October 15, 2018

Presentation of findings from the community engagement and technical assessment tasks and served as a preview of the first public meeting.

SAC Meeting 3: March 3, 2019

Presentation of the draft Framework Strategy, including countywide network and focus areas, and an overview of the Design Book.

General themes of committee comments and questions included:

- Provide access to a variety of facilities and destinations, both local and regional
- Make decisions and set priorities based on equity considerations: all users, trip purposes, ages, and abilities
- Look beyond just recreation travel, making bike, walk, transit access part of local and regional mobility and transportation networks
- Explore opportunities to link to other regional systems i.e. Patriots Path, Lawrence Hopewell Trail, RPA's Somerset to Shore Connector
- Create linkages between historic and cultural resources similar to the Indianapolis Cultural Trail System.
- Identify pilot projects to win over skeptics and build support for study goals and conceptual improvements





Public Meeting at the Somerset County Administration Building on April 11, 2019



1.2 Focus Group Discussions

Discussion groups engage and empower stakeholders, social service providers, business community representatives, and the public to take a meaningful role in the overall study.

Small round table discussions also provided important opportunities for residents to explore motivations for walking, bicycling, and trail use to travel in an unfiltered, informal setting.

Participants shared their current walking, bicycling and trail experiences, and their desires for improved access, connectivity and specific amenities. Such discussions are especially valuable since participants bring firsthand local knowledge of their communities' assets and land use patterns, living everyday with the existing mobility opportunities and shortcomings.

A series of small group discussion meetings were held, including:

- Business and tourism
- Social services, health & education
- Trail, bike, and environmental advocates
- Senior center groups
- Somerset County Youth Leadership

The WalkBikeHike Study was discussed at Planning Partners Forums, hosted by the Somerset County Planning Board, on November 28, 2018, March 27, 2019 and May 22, 2019. Discussion included the WalkBikeHike Framework Strategy and opportunities for collaborative initiatives to develop and implement multimodal improvements and policies.

Business, Tourism, and Service Economy.

Group included representatives from business and economic development groups, tourism, and the local and regional business community.

General discussion themes included:

- Consider needs of County residents who do not own a car, which may limit their access to recreation, services, and employment opportunities
- Many County facilities are only accessible by car
- Work with municipalities to identify needs and develop recommendations
- Improvements to the County's bicycle and pedestrian network would bolster existing hospital wellness and walking programs
- Prioritize connections to community facilities (i.e. schools, libraries, social services, train stations), major employment centers, and other destinations such as Duke Farms and Mountain View Park in Hillsborough



Social Services, Health and Wellness, and Education. Group included

representatives from social service, health care, transit, and education.

General discussion themes included:

- Infrastructure improvements should be prioritized to better allow people to choose their preferred travel modes
- Provide greater awareness of the existing bike network through technology and public outreach to improve public access, use, and enjoyment
- Infrastructure for bikes, including bike lanes, secure parking, and bike share programs needs to be expanded, improved, and better maintained
- Recommendations should improve connectivity and lighting, enhance safety and all age access, improve maintenance snow removal, and implement Americans with Disabilities ACT of 1990 (ADA) compliance upgrades

non-profit, active transportation, historic preservation, and conservation.

General discussion themes included:

- Bicycle infrastructure, including trails, bike parking and wayfinding signage should be constructed and further developed to improve the user experience
- Bicycle and pedestrian improvements should be prioritized in growing, more affordable, and higher density communities where people are more likely to bike, walk and use transit for a wide range of trip types and purposes
- Numerous challenges impede bicycle and pedestrian mobility including maintenance, fragmented jurisdictions (local, county and state roads), low density development patterns, and wide, high-speed and high volume thoroughfares
- Somerset County should improve multimodal access to its natural, cultural, historical, and tourism assets



Public Meeting at the Somerset County Administration Building on November 29, 2018

Group included representatives from



WalkBikeHike - Somerset County

Senior Center Discussion Groups.

Participants included groups of seniors with varying personal mobility, economic status, and disability conditions attended two separate discussion events at senior centers, one in Warrenbrook, and a second in Bridgewater.

General discussion themes included:

- Walking and hiking in parks and open space areas are desired by many seniors, for the health benefits of physical exertion, peace of mind from being among nature and wildlife, and as opportunities for social interaction
- Smooth trail surfaces, although not necessarily ADA compliant, are preferred by many seniors
- Numerous challenges impede bike and pedestrian travel for seniors including poor maintenance, lack of amenities, and exposure to high vehicle speeds and heavy traffic
- Seniors prefer access to amenities such as adequate and accessible parking, rest areas and benches, lighting, and drinking water and restroom facilities

Somerset County Youth Leadership Retreat.

The goal of the Youth Leadership Somerset program is to build an active, educated, and involved network of young people who are empowered to guide the future of Somerset County.ⁱ

More than 40 high school students participated in a retreat gathering of the Youth Leadership Somerset program at Lord Stirling Park in Basking Ridge on October 20, 2018.

Study team members led a wide-ranging discussion, encouraging participants to think critically about their communities and everyday travel needs.

General discussion themes included:

- Concerns and observations about safety and mobility, travel mode alternatives, and limited access to school and other desired destinations
- Quality of life compromises and limitations for those without access to an automobile
- Thoughts about where they want to live in the future and whether Somerset County affords a lifestyle consistent with their vision for where they want to live and work after college
- Somerset County must look to the future and consider how to attract and retain young workers, families, and entrepreneurs in order to remain a competitive and vibrant place to live and work



1.3 Community Pop-up Events

Community Pop-up events are an innovative and efficient way to involve those who live, work, visit, and do business in the study area to ensure they are engaged in the planning process by going to an existing event rather than holding a traditional public meeting.

Pop-up events enable team members to meet with and engage community members as they go about their daily routines, providing the opportunity for discussion and debate of critical issues, in a friendly and interactive setting.

Study team members and County staff attended the following events using the Pop-up approach in 2018:

- Bound Brook Food Truck Festival & Bedminster Farmers Market, July 14
- Bike Tour of Regional Center Trails & Duke Farms Market, July 29
- County 4-H Fair, August 8-10
- Franklin Township Farmers Market, August 11
- Montgomery Farmers Market, August 18th
- Bridgewater Farmers Market, August 18th
- Full Moon Bike Ride, Lawrence Hopewell Trail, August 26

Through these events, the team engaged numerous participants from across Somerset County and beyond who shared a broad range of opinions, concerns, and goals for walking, biking, and hiking opportunities, including the following:

- Support for a wide range of improvements and facilities
- Improvements should support development of more complete and integrated networks of on-street facilities and trails systems to better connect people to destinations
- Facilities should accommodate a variety of trail uses and users
- Many admired trails available to neighboring communities - *Can we a trail like that in our community?*
- Many indicated a desire to move beyond having to drive to access trails, and would like to be able to bike directly to local parks and trails
- Some asked if there are local groups that organize group hikes and bike rides, to combine recreation with opportunities for social interaction



1.4 English as Second Language (ESL) Conversation Groups

A challenge for planning efforts is to conduct outreach activities and collect meaningful input from residents of Environmental Justice (EJ) communities, including minority, low-income, and/or low English proficiency populations and groups. The intent is, “to address the interests and concerns of low-income and minority populations in transportation planning and project developmentⁱⁱ,” and identify and address, “disproportionately high and adverse human health or environmental effects of ... programs, policies, and activities on minority populations and low-income populations.”ⁱⁱⁱ

Direct engagement of EJ communities at ESL classes is recognized as a best practice approach for communicating with disadvantaged, under-represented, and potentially impacted groups.

Meetings were held with ESL conversation groups at the Bound Brook and North Plainfield public libraries, in September, 2018. A diverse cross section of English language learners participated in these groups, including immigrants from Korea, Colombia, Ecuador, Honduras, Venezuela, and Peru.

This approach generated mutual benefits for both the project team and the conversation groups:

- Participants gained exposure to the vocabulary of walking and biking, and general mobility and safety issues, and had the opportunity to think critically about their communities and their travel needs
- The team engaged an audience not typically represented at traditional public meetings and gathered meaningful and useful comments beneficial to the planning process

General discussion themes included:

- A desire for improved pedestrian- and bicycle-friendly network connectivity
- Participants would also like to walk or bicycle to specific destinations, notably schools, parks, and shopping centers and felt that special attention should be paid to increase safety for those who already walk or bicycle to such community facilities
- About one-half of attendees owned a bike and enjoy biking or walking as recreational activities.
- No one walked or biked to the class and there was an expressed preference for driving, due to convenience, safety and comfort
- Exposure to heavy traffic and poor lighting conditions were identified as a common deterrent to walking or bicycling





Public Meeting at the Somerset County Administration Building, November 29, 2018



1.5 Public Meetings

Numerous residents, advocates, planning and engineering professionals, and municipal and agency representatives attended the two public meetings, which were held on November 29, 2018 and April 11, 2019.

The County emphasized the importance of public participation to develop a program of strategies, improvement concepts, and policies that truly reflect and meet local vision, needs, and priorities.

The meeting formats were structured to encourage open discussion on a wide range of topics that helped guide and inform the planning and development of the countywide network of trails, shared-use paths, and on-road facilities.

Both meetings featured a formal presentation, question & answer sessions, and ample opportunity for informal discussion and review of work products and potential improvement concepts. Display stations, comments cards, surveys, study facts, and large-format display maps were available for attendees to review, mark up, and provide comment. Staff from the project team and Somerset County were on hand to answer questions and discuss the purpose of the study. About 80 members of the public attended each meeting.

Public Meeting 1 - November 29th, 2018

The first public meeting for this project was held at the Somerset County Administration Building in Somerville, NJ, on November. 29, 2018 from 6 to 8 p.m. The meeting was held to introduce the study to the public and encourage all to participate and provide comments. The meeting was extremely well attended by residents from various parts of the county and included an extensive question and answer session.

General themes of public comments and questions included:

- Develop better connections between towns destinations
- Improve access and connectivity to regional facilities, parks, and amenities such as the D&R Canal Towpath and East Coast Greenway
- Consider abandoned railways as potential trails
- Provide appropriate and consistent standards for wayfinding and facility design
- Develop and maintain user-friendly marketing, maps, and online resources for public use and information
- Prioritize busy and challenging intersection and crossings for improvement



Public Meeting 2 - April 11, 2019

The second public meeting was held at the Somerset County Administration Building in Somerville, NJ, on April 11, 2019, from 6 to 8 p.m., to provide a public forum for review and comment on the draft Framework Strategy, countywide network, and Design Book.

Residents of all ages and interests from across Somerset County attended, asked questions, and carefully reviewed and commented on the display boards and maps.

General themes of public comments and questions included:

- Recommended improvements should support general and utilitarian mobility needs, not just recreation and tourism
- When will the Final Report, maps, and Design Book be available for public review and use?
- Will the recommendations address maintenance on existing and new facilities?
- Some attendee requested details on specific Somerset County routes, destinations, and areas of concern

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CONNECTING VIBRANT COMMUNITIES

PUBLIC MEETING # 2 – April 11, 2019

SOMERSET COUNTY
NJPBA
WSP NV5 SGB



1.6 Online Survey and WikiMapping

Online Survey

The WalkBikeHike Somerset County public survey was launched in early July, 2018, and remained open until September 1, 2018. The survey was designed with input from SAC members, Somerset County staff, and the NJTPA. Social media was used to promote both the survey and the WikiMap.

Survey questions covered travel needs and choices of County residents, employees and visitors for a variety of trip types, as well as current perceptions and recent experience with biking, walking and trail use. The survey also provided important feedback on the types of biking, walking and trail improvements that could expand these modes and improve the user experience.

A total of 958 people responded to the survey, with nearly all respondents (95 percent) residing within Somerset County. Forty-seven percent also work in Somerset County, and 6 percent go to school within the region. A total of 80 respondents (9 percent) own or operate businesses in the County.

Principal findings from the survey included:

- Traffic stress was a common concern and deterrent to biking and walking
- Many respondents noted that Somerset County roadways are not accommodating for the typical pedestrian or cyclist
- Health and recreation were the most common reasons cited for walking and bicycling

Consistent support was noted for the following:

- Dedicated facilities for walking and biking
- Interconnected, county-wide network of biking and walking trails and on-road improvements
- Better trail information and wayfinding
- Amenities, including benches, rest rooms, and parking



WikiMapping

An interactive online WikiMap web page was launched in June 2018 to seek comments about walking, biking, and hiking in Somerset County. The WikiMap application was open to all members of the public.

WikiMap participants were instructed to identify corridors and spot locations that are challenging or problematic due to specific conditions, gaps in facilities, or other concerns. The WikiMap can be used to identify specific locations which could be referenced as desirable examples to address safety and mobility needs.

The WikiMap also provided an opportunity for users to identify desired routes and destinations, new trails or on-street facilities, bicycle parking and other amenities, and favorite trails and locations. The desire lines, shown in Figure 1-1, are derived from user responses on desired bicycle and pedestrian routes and destinations.

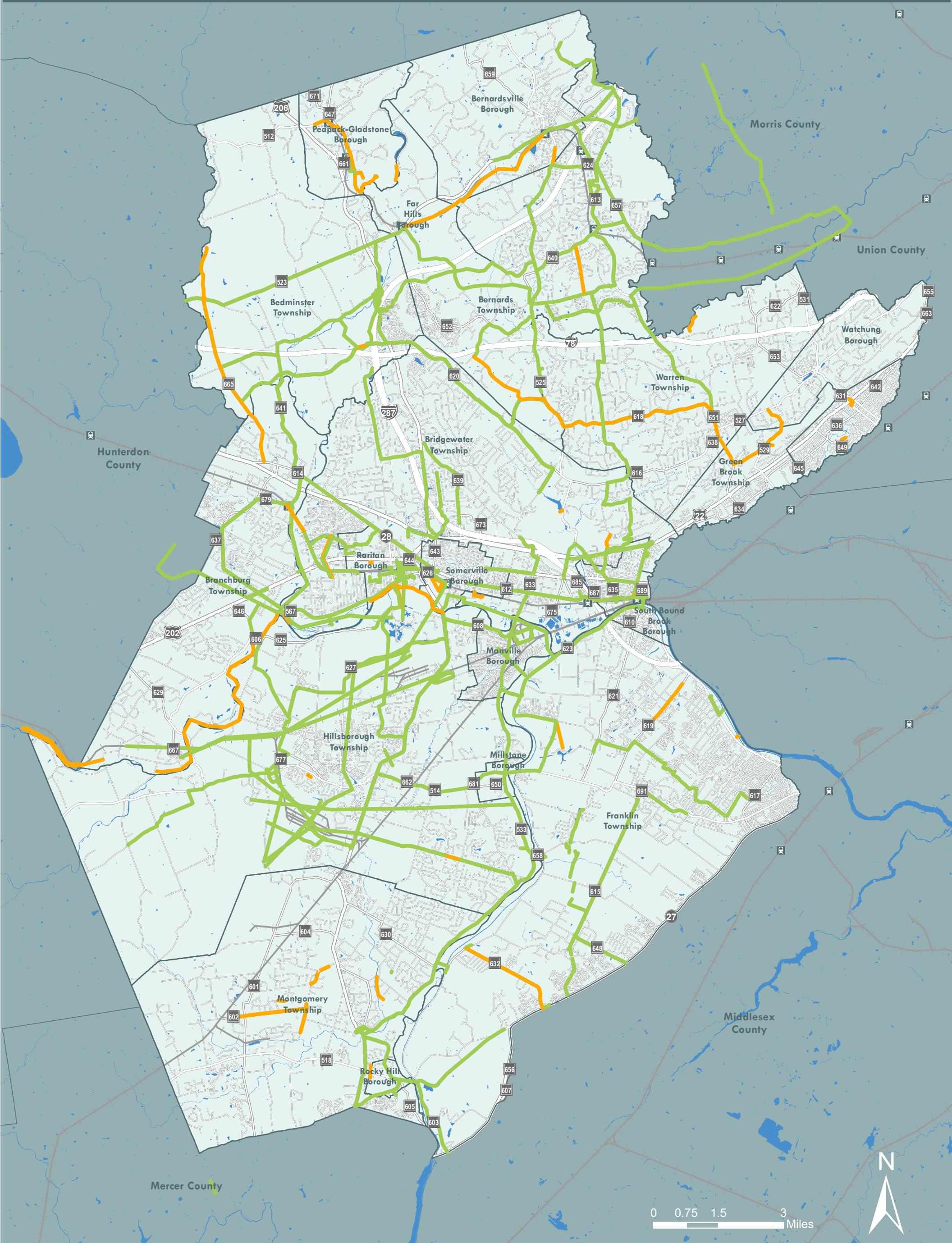
More than 625 WikiMap responses were received. The frequency of responses is shown in Figure 1-2.

General themes of WikiMap comments and annotations included:

- Busy and challenging intersections and crossings were identified and noted for improvement
- Specific concerns included the need for traffic calming, safety concerns, and exposure to heavy traffic and high vehicle speeds
- Roads and intersections across Somerset County were cited, including facilities under state, county, and municipal jurisdiction
- In some cases, specific roadway design improvements were requested, including roundabouts to replace traditional intersection designs
- New and improved facilities were proposed for walking and biking, including improved crossings, sidewalks, and bicycle facilities



Figure 1-1: Public Outreach - Wikimap Desire Lines

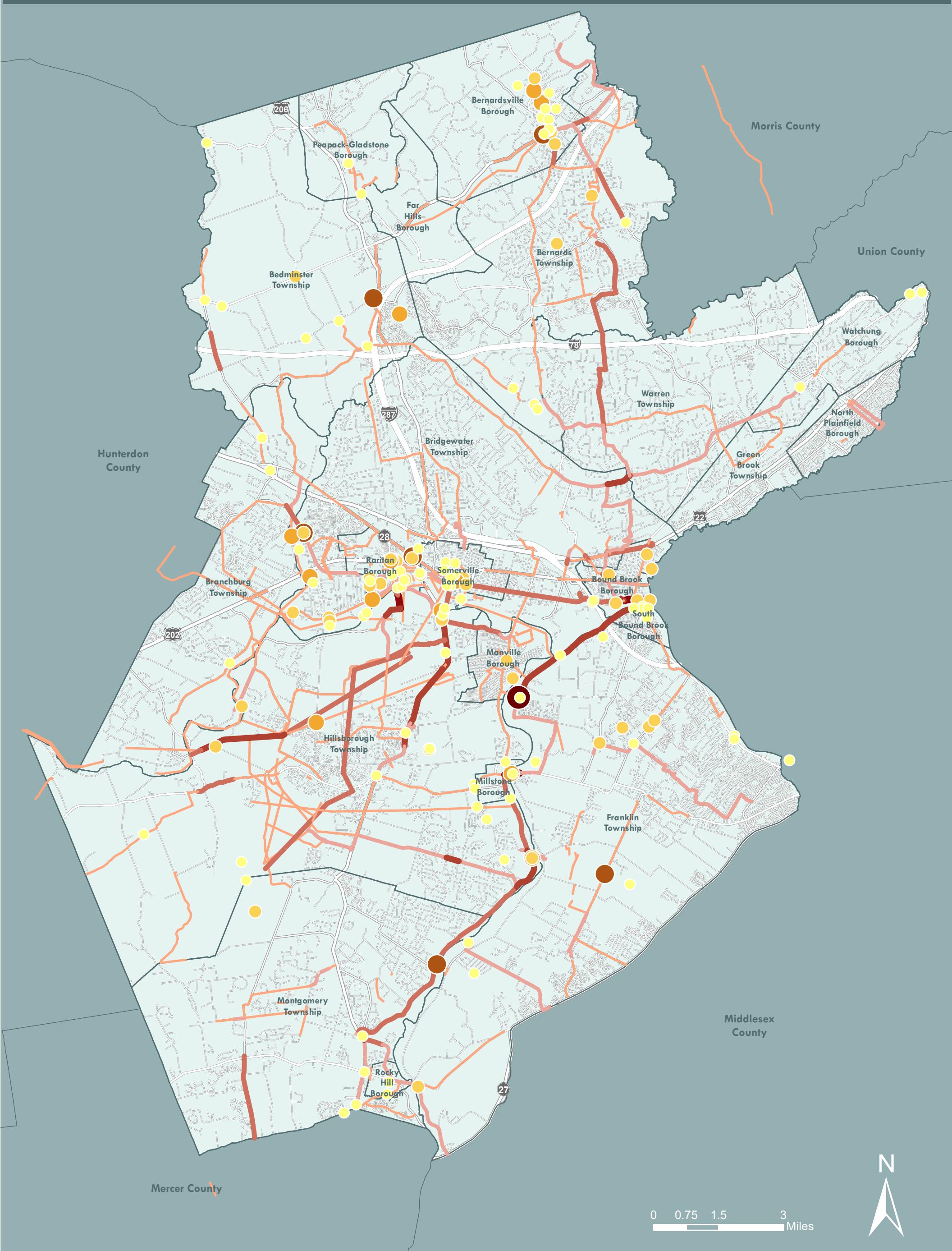


Desire Lines

- Desired Pedestrian Route
- Desired Bike Route



Figure 1-2: Public Outreach -Wikimap Comment Frequency



Point Comments

- Yellow circle: 1
- Light Orange circle: 1-3
- Orange circle: 4-7
- Brown circle: 8-11
- Dark Red circle: 12-17

Line Comments

- Light Orange line: 1-2
- Light Red line: 3-5
- Medium Red line: 6-8
- Dark Red line: 9-11
- Very Dark Red line: 12-14

Vision Statement and Goals

The community engagement process culminated in the formulation of a consensus vision to guide the development and implementation of the Framework Strategy.

The WalkBikeHike Vision Statement and Goals reflect the current state of

planning practice, changing demographics and lifestyles, and the emerging priorities of Somerset County's approach to planning, preservation, infrastructure, access to opportunity, and quality of life.

WALKBIKEHIKE - VISION STATEMENT

Somerset County supports cycling and walking as essential forms of transportation and recreation for residents, workers and visitors alike. Implementation of the countywide *WalkBikeHike* network over time will enable people of all ages and ability levels to comfortably travel to both local and regional destinations. Working toward this vision in partnership with other County and local initiatives will result in a more livable, vibrant, healthy and sustainable region where people are inspired to walk and bicycle for fun, recreation, and daily transportation needs.



WalkBikeHike Goals (not in priority order)

- **Mobility** | Encourage bicycling and walking for short trips to help reduce roadway congestion and parking impacts.
- **Safety** | Improve safety for all roadway users and prioritize bicycle and pedestrian safety for those with limited transportation options, including low-income and elderly residents and other communities of concern.
- **Access and Comfort** | Create a low stress bicycle, trail, and pedestrian network that is accessible to walkers, cyclists and hikers of all ages and ability levels and that enhances travel options.
- **Connectivity and Convenience** | Develop a core bicycle and pedestrian network with seamless and convenient connections throughout the region, including access to schools, senior centers, transit, libraries, parks and open space amenities, local shopping, cultural/heritage sites and nearby residential areas. As part of network connectivity, provide clear wayfinding information on network access points, destinations, parking, and other amenities.
- **Health** | Encourage and promote cycling and walking as active and environmentally sustainable forms of transportation that enhance community health and wellness.
- **Equity** | Recognize cycling as an essential transportation mode, especially for those who cannot afford to own cars, and as an integral part of maintaining the region's social diversity and workforce.
- **Implementation** | Advance and support implementation of Somerset County's Complete Streets Policy and Master Planning initiatives. Leverage opportunities for synergy among various County initiatives, including the Somerset County Investment Framework and Somerset County Preservation Plan.
- **Accountability** | Establish a clear process and milestones to actively track and report on progress.



References

ⁱ <https://www.co.somerset.nj.us/government/administrators-office/leadership-programs/youth-program>, accessed March 6, 2019

ⁱⁱ NJDOT webpage on Environmental Justice:
<https://www.state.nj.us/transportation/business/civilrights/ej.shtml>

ⁱⁱⁱ Executive Order 12898 (February 11, 1994):
<https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>





02 | Base Mapping, Data Collection, and Technical Assessment

A comprehensive multimodal assessment of context and baseline existing conditions was undertaken to identify the needs, deficiencies, and opportunities that shape development of the Framework Strategy. This multimodal assessment is a data-driven process of base mapping, data collection, and technical assessment.

An overall analysis of existing conditions was conducted to learn about the geography and communities comprising Somerset County, their travel needs, existing barriers to mobility, and potential opportunities for improvement.



Introduction

WalkBikeHike Somerset County began with the assessment of baseline conditions and mobility needs, including mapping of existing facilities and application of various performance measures. These efforts included the following:

- Compiling the base maps to support technical assessment
- Using demographic data to provide insight into who lives and works in the study area and their travel choices and needs
- Preparing the data assessment of system performance metrics
- Investigating previous studies and recommendations to build upon and leverage past planning efforts
- Mapping existing bicycle infrastructure to establish the baseline and identify where potential improvements can complement what already exists
- Completing a bicycle network assessment to identify barriers to mobility and connectivity, and target potential improvements to where they are needed most
- Developing a composite demand model for bike travel to support assessment of need and prioritization

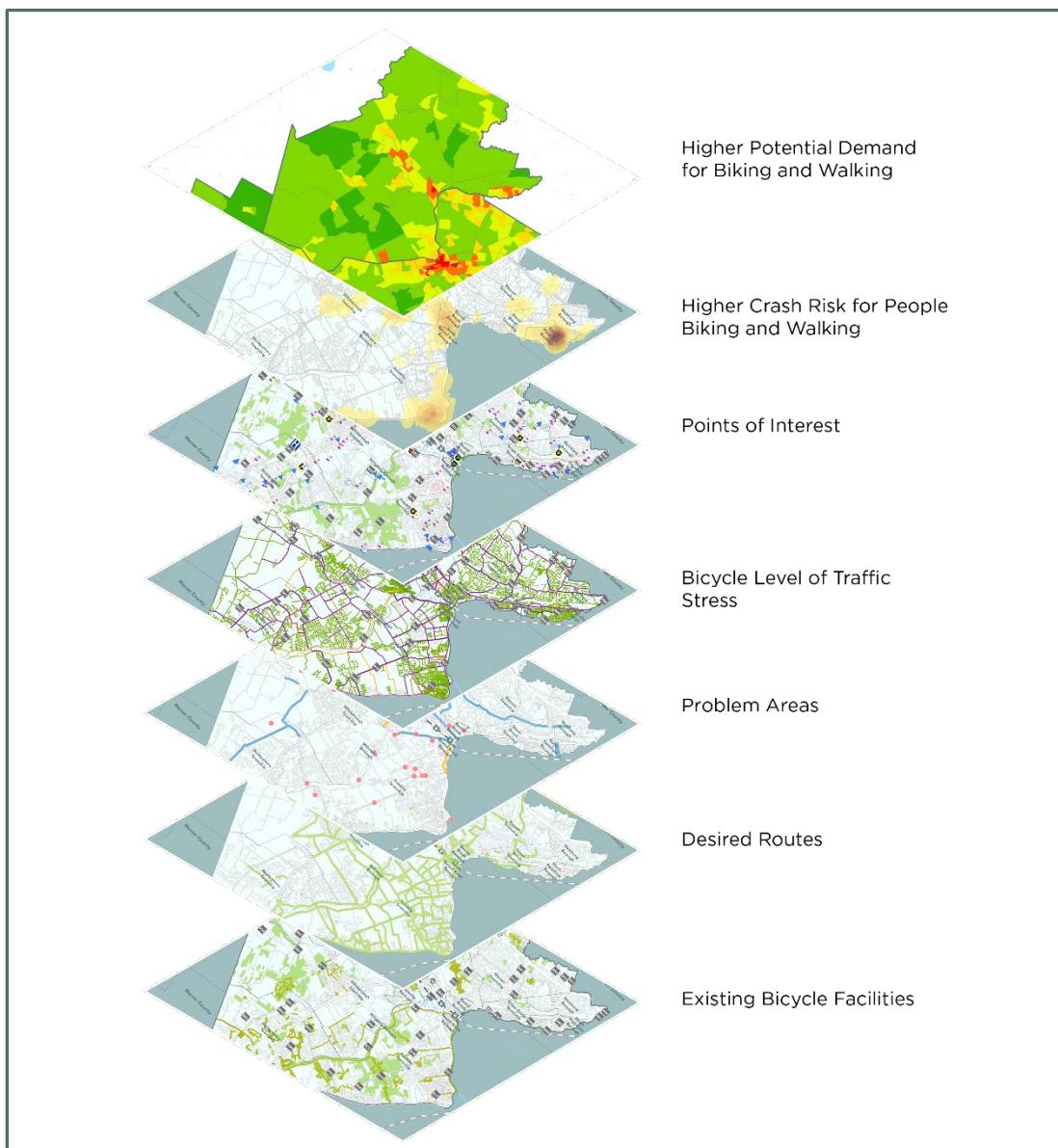


2.1 Base Mapping

The process started with compilation of detailed base mapping, using the geographic information system (GIS) platform and data layers from municipal, county, and institutional sources to guide the identification and assessment of candidates for new and enhanced multimodal facilities.

GIS analytical methodologies and comprehensive data resources are particularly useful to identifying need, opportunities for improvement, and potential constraints to facility design, construction, and use (Figure 2-1).

Figure 2-1: Data Layers Used to Conduct the Technical Assessment



2.2 Demographics

An examination of demographic data was undertaken to provide a snapshot of recent Somerset County trends with a comparison to the state of New Jersey as a whole; this assessment was focused primarily on the 2010-2017 timeframe.

Population

Somerset County has a diverse landscape with a mix of small urban, suburban, and rural communities. Franklin Township has the largest population consisting of about 66,000 residents (American Community Survey 2011-2016). Somerset County has an overall population density of around 1,100 persons per square mile, about 100 below of the statewide average of 1,200.

Somerset County population grew 3.1 percent between 2010 and 2017, significantly higher than the statewide average of 1.9 percent. During the same period the number of residents age 16 and older age grew 7.7 percent, close to twice the statewide average of 4.4 percent.

Age

Somerset County's median age has increased faster than the statewide average, increasing by 1.6 years from 39.7 years in 2010 to 41.3 years in 2017, as compared to the median age of New Jersey which increased by only 1.1 years from 38.5 years to 39.6 years during this period.

Households and Income

The portion of the study area and New Jersey households consisting of single person households is 24 percent and 26 percent, respectively, in 2017. Somerset County experienced a growth of 5.2 percent in single person households between 2010 and 2017, while the state declined by 0.4 percent overall.

Median income of households in Somerset County is significantly higher than the statewide average and increased 8.8 percent from \$97,440 in 2010 to \$106,046 in 2017. During the same period, New Jersey's median household income increased by 9.5 percent to \$76,475.

The percentage of families with income below the poverty level in Somerset County increased from 2.2 percent in 2010 to 3.2 percent in 2017 which is still significantly lower than the statewide average of 7.9 percent in 2017.



Employment

According to data from the New Jersey Bureau of Labor Statistics, Somerset County's unemployment rate decreased from 7.3 percent in November 2010 to 3.5 percent in November 2017. During the same period, the unemployment rate in New Jersey decreased from 9.2 percent to 3.1 percent.

Commuting

The percentage of commuters driving alone in Somerset County has been consistent since 2010 at around 78 percent while the statewide average was around 72 percent. The statistics generally show similar trends to the statewide averages, although Somerset County residents have much lower rates of commuting via public transportation and walking.

These findings, however, varied widely within the study area. Densely populated communities and those with good access to public transportation had higher rates of travel by public transit, walking and biking. Residents from communities such as Rocky Hill and Somerville, for example, walked to work at a rate three times higher than the statewide average.

Summary

Somerset County features a slightly lower population density, is a little older, more affluent and less prone to poverty, less likely to walk or bike to work, and more auto-dependent than New Jersey's statewide averages. Some communities, however, where densities are higher or alternate travel modes are available, experience much higher rates of walking and biking to work.

And despite the county's relative affluence, equity considerations – including prevalence of zero-car households, low average income, and high poverty rates – are a factor in some study area communities.



2.3 Data Assessment

Crash, congestion, bridge and pavement data are available from the New Jersey Department of Transportation (NJDOT) to provide insight into where safety and infrastructure and concerns exist.

Crash Data Assessment

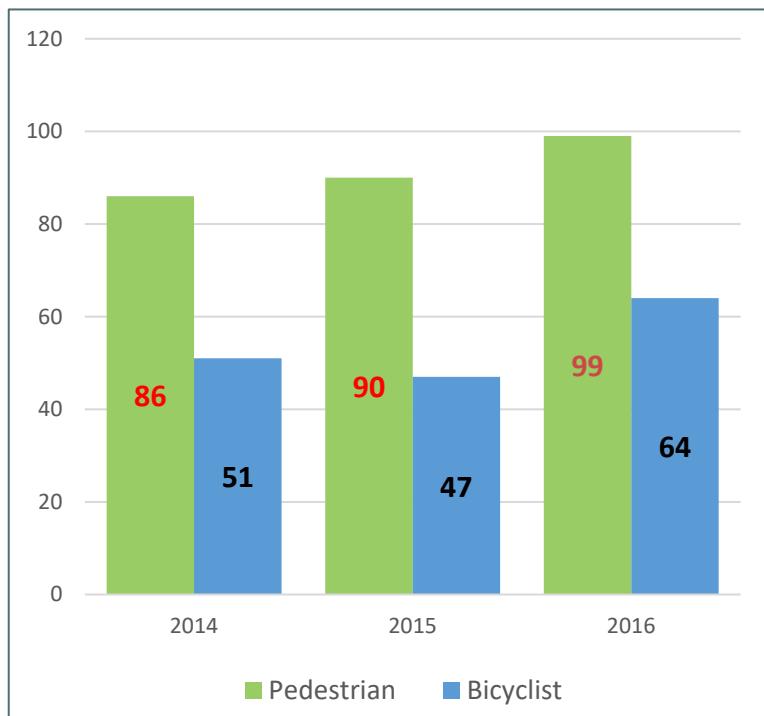
Crash data for Somerset County was obtained from the NJDOT Safety Voyager Tool for 2014-2016, the most recent three-year period for which complete data is available. A summary of the crash data is presented below.

Overview

There were 275 pedestrian crashes and 162 cyclist crashes in Somerset County during the three-year analysis period (Figure 2-2). These each accounted for less than 0.1 percent of all reported crashes countywide.

The rate of pedestrian crashes in Somerset County (Figure 2-3) is significantly lower (8.2 per 10,000 population vs. 15.4) than the Statewide average. The County's cyclist crash rate was similar to the statewide average (4.8 per 100,000 population vs. 5.0).

Figure 2-2: Somerset County Crashes by Year, 2014-2016



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Severity

The fatality rate of both pedestrian (5.5 vs. 3.8 percent) and bike crashes (2.5 vs. 0.9 percent) was higher in Somerset County than the statewide average and resulted in 20 pedestrian deaths and four cyclist deaths during the three-year period. In Somerset County, 36.1 percent of pedestrian crashes and 46.5 percent of cyclist crashes resulted in at least moderate injury.

Time of Day

Most pedestrian (58 percent) and bike (74 percent) crashes occurred in daylight, similar to statewide averages. A higher portion of fatal crashes (40 percent of pedestrian and 50 percent of cyclist) occurred in dark conditions.

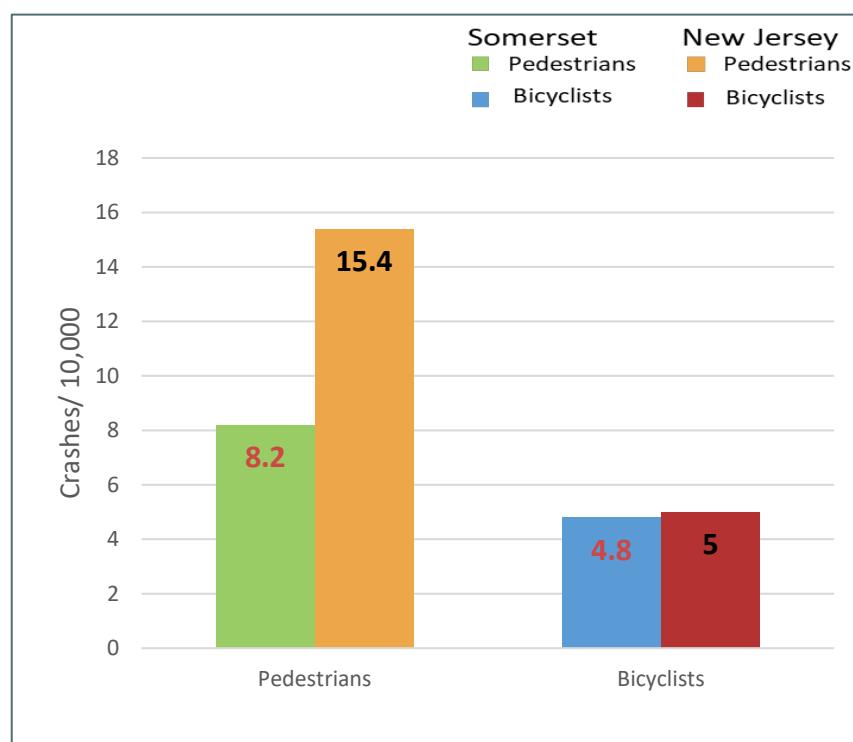
Roadway Characteristics

Nearly one-third of all pedestrian and bike crashes occurred on municipal roads, another third on County roads, and the rest on State roads; area bike

and pedestrian crashes were less likely to occur on low-speed and municipal roads than statewide averages. Whereas nearly half (48 percent) of pedestrian crashes statewide occur at intersections, only 38 percent in Somerset County occurred at intersections. This reflects the importance of County roadways to mobility needs, not just for vehicles but for pedestrians and bicyclists as well. The following roadway experienced the most crashes and fatalities:

- NJ 28 had 21 pedestrian crashes, 7.6 percent of all pedestrian crashes in the County
- Route 533 had 10 bike crashes, 6.2 percent of all bike crashes
- U.S. 22 had five fatal pedestrian crashes and two fatal cyclist crashes, 42 percent of all fatal pedestrian crashes and 66 percent of all fatal bike crashes in Somerset

Figure 2-3: Crash Rates, Somerset County and New Jersey, 2014-2016



Hotspots

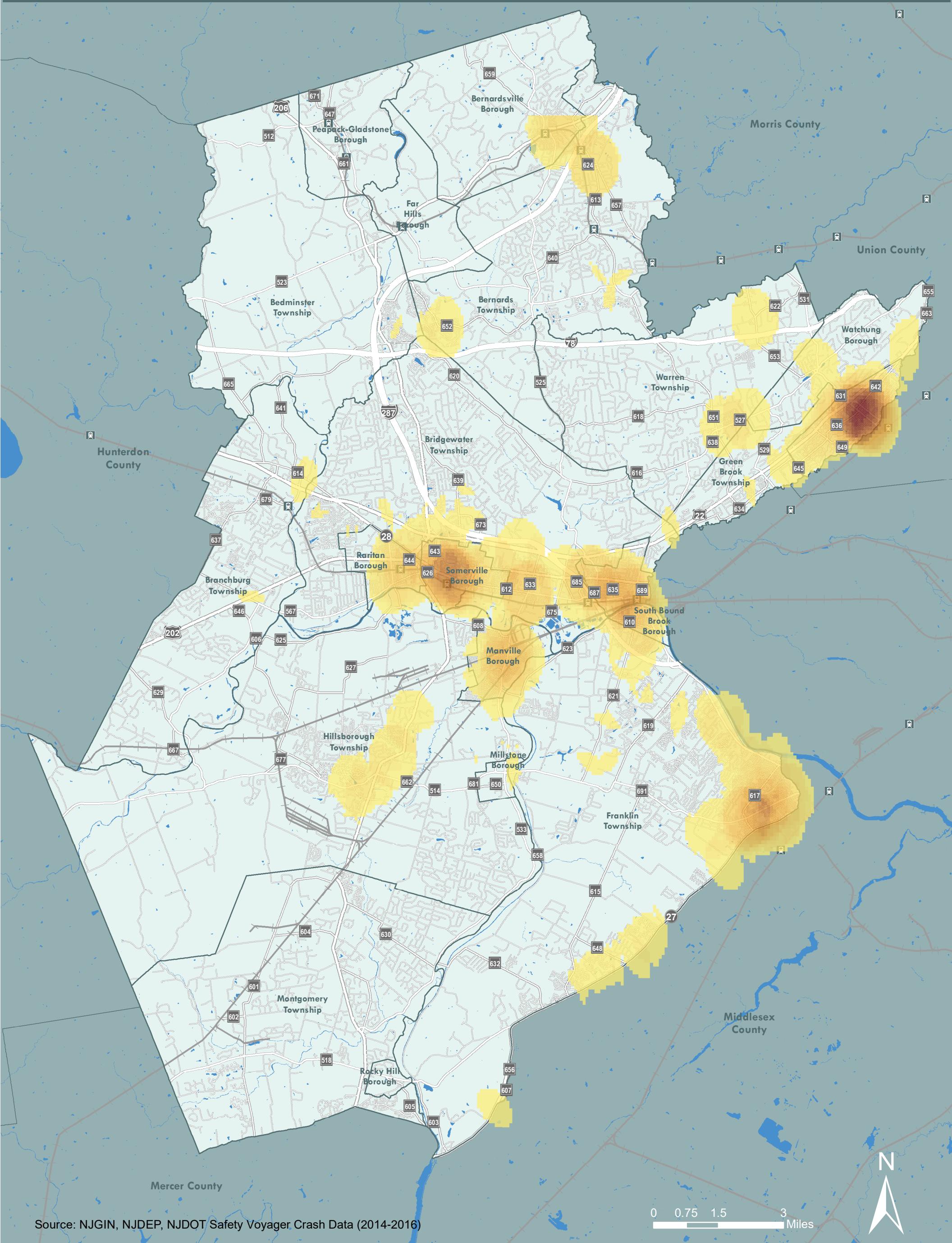
The distribution of crash “hotspots” where there was a greater frequency of crashes within Somerset County is shown in the map (Figure 2-4) on the next page. Densely populated areas such as Franklin Township near New Brunswick, the Raritan River corridor and North Plainfield had more crashes. State and county routes had more crashes than local roads though some municipally owned roads were crash hotspots.

Corridors with high numbers of pedestrian and cyclist crashes include:

- County Route 636 in North Plainfield
- County Route 531 in North Plainfield
- US 202 in Bernardsville
- NJ 27 in Franklin
- County Route 514 in Franklin
- County Route 527 in Franklin
- County Route 533 in Manville and Bound Brook
- NJ 28 in Bound Brook and Somerville



Figure 2-4: Crash Hotspots (2014-2016)



Crash Hotspots (2014-2016)



Public Transit Service

Somerset County is served by NJ TRANSIT bus and rail service and County bus service. Figure 2-5 displays transit service coverage in Somerset County, and indicates large geographic portions of the County lacking adequate service.

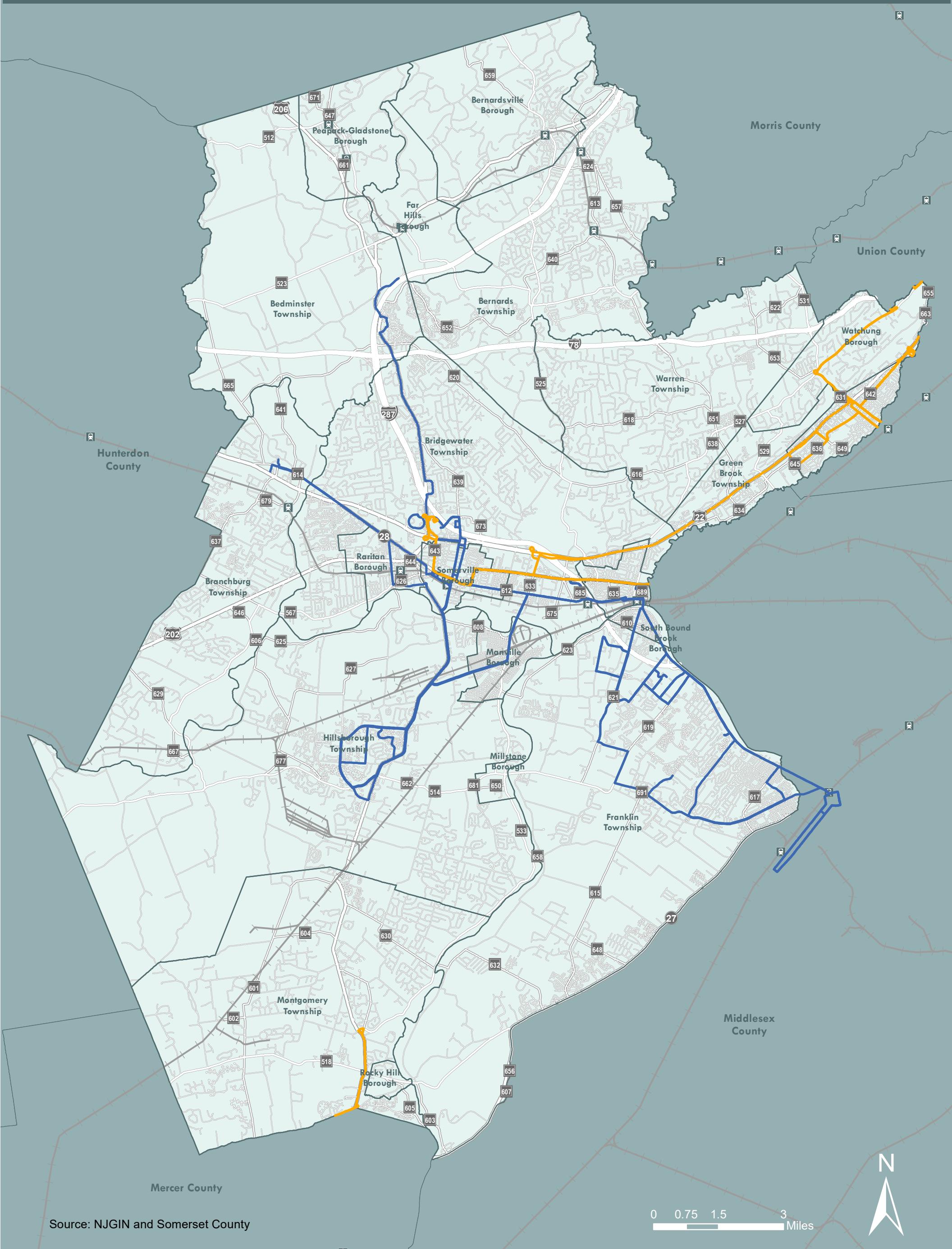
NJ TRANSIT's Raritan Valley Line and Gladstone Branch each travel through Somerset County; the former east-west through the center of the county and the latter along the north. Raritan Valley Line stations within the County include North Branch in Branchburg, and Raritan, Somerville, Bridgewater and Bound Brook. Gladstone Branch stations within the County include Gladstone in Peapack-Gladstone, Peapack in Peapack-Gladstone, and Basking Ridge, Bernards, Far Hills, and Bernardsville.

The following NJ TRANSIT bus routes operate in Somerset County:

- Route 605; Between Quakerbridge Mall in West Windsor Township (Mercer County) north through Princeton and along Route 206 into Montgomery Township
- Route 65: Between Somerville, Bound Brook, and Bridgewater to Newark (Essex County)
- Route 114: Between Bridgewater and the Port Authority Bus Terminal in New York City, traveling through Bound Brook, Bridgewater, and Somerville
- Route 117: Between Somerville and the Port Authority Bus Terminal, traveling through Watchung, North Plainfield, Green Brook, Bridgewater, Bound Brook and Somerville
- Route 822: Operates only between Plainfield and North Plainfield and ends near the Green Brook border
- Route 986: Between Summit (Union County) and Plainfield, traveling through Watchung, Green Brook and North Plainfield
- Route 59/11: Operates less than $\frac{1}{4}$ mile from North Plainfield and Green Brook town lines. Route 59 travels between Dunellen (Middlesex County) and Newark and Route 113 between Dunellen and the Port Authority Bus Terminal in New York City
- Somerset County operates eight bus routes, operating primarily during peak periods:
 - SCOOT Route 1 serves Bedminster, Bridgewater, Somerville, Manville and Hillsborough. SCOOT Route's 2 and 3 serve Bridgewater, Somerville, Hillsborough, Manville and Bound Brook.
 - DASH 851 and 852 serve Bound Brook, Franklin, Somerset and New Brunswick (Middlesex County).
 - CAT 1R serves Bound Brook, South Bound Brook, Franklin, Somerset and New Brunswick (Middlesex County). CAT 2R serves Branchburg, Somerville, Bound Brook and North Plainfield. CAT 3R serves Branchburg, Bridgewater, Somerville and Raritan.



Figure 2-5: Existing Public Transit



Existing Public Transit



- NJ TRANSIT Bus Routes
- Somerset County Bus Routes
- Rail Station
- Railroad

0 0.75 1.5 3 Miles

Congestion Management System

NJDOT's Congestion Management System (CMS) datasets include the Volume to Capacity (V/C) ratio to measure and track congestion. This assessment is based on data for the 2012 analysis year, the most recent dataset available from NJDOT.

The V/C ratio is an index to measure the congestion of a traffic roadway or network. If V/C is very low, then there is surplus capacity and the location is not congested; if V/C is high then the location is congested. Detailed CMS data is provided in the Appendix.

The most congested roads in Somerset County, all of which have a V/C ratio above 1.0 include:

- U.S. 22 - Green Brook & Bridgewater
- U.S. 202 - Somerville & Bridgewater
- U.S. 206 - Montgomery & Hillsborough
- I-287 - Bridgewater

A portion of U.S. 202 in Bridgewater and Somerville south of I-287 has a 1.5 V/C ratio in the AM peak, the highest in Somerset County.

Bridge Management System

The assessment of bridge conditions is based on NJDOT Bridge Management System (BMS) data. The BMS is an inventory of all bridges in New Jersey with spans over 20 feet, and includes information on physical characteristics, condition, and ownership. Bridges are inspected biennially, and the physical

condition of various bridge elements is rated on a numerical scale. The most recent BMS data assessment was completed in 2018.

Bridges are evaluated based on a scale ranging from failed to excellent. A structurally deficient bridge is one for which the deck (riding surface), the superstructure (supports immediately beneath the driving surface), or the substructure (foundation and supporting posts and piers) are rated as poor or worse. A functionally obsolete bridge is one that was not built to the current design standards. Functionally obsolete bridges are not necessarily deficient, but they do not meet the current standard for one or more design element.¹

The BMS data includes a total of 148 bridges in Somerset County; 22 of these are structurally deficient, 64 are functionally obsolete and 93 are unknown. Of the 64 Functionally obsolete bridges, 14 are county roads, 31 are interstate, four are local, two are state, and 13 are U.S. routes. Of the 22 structurally deficient bridges, five are county roads, nine are interstate, two are local, and six are U.S. routes.

Pavement Management System

The NJDOT Pavement Management System (PMS) evaluates pavement conditions. Data are available for U.S. and State roadways only; the most recent PMS update was completed in 2018.

¹

http://www.virginiadot.org/info/resources/bridge_def_s.pdf, accessed May 22, 2018



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Pavement conditions are evaluated using the surface distress index, measured on a 0-5 scale (5=perfect pavement with no distress).

- Of I-287's 17 miles in Somerset County, 3 miles are deficient, 4.6 miles are fair, and 9.4 miles are good. A significant segment in Bernards Township is deficient.
- Of I-78's 16.2 miles in Somerset County, 1 mile is deficient, 3.9 miles are fair, and 11.3 miles are good. Most of the deficient segment is in Bedminster Township.
- Of NJ 27's 24.4 miles in Somerset County, 9.4 miles are deficient, 7.4 miles are fair, and 7.6 miles are good. The deficient segments are in Franklin Township.

- Of NJ 28's 15.7 miles in Somerset County, 6 miles are deficient, 6 miles are fair, and 3.7 miles are good. Most of the deficient segments are in Raritan and Somerville.
- Of U.S. 202's 31.3 miles in Somerset County, 20.7 miles are deficient, 5.6 miles are fair, and 5 miles are good. Deficient segments are in Branchburg, Bridgewater, Bedminster, Far Hills, Bernardsville and Bernards.
- Of U.S. 206's 34.2 miles in Somerset County, 10.3 miles are deficient, 9.2 miles are fair, and 14.7 miles are good. Most of the deficient segments are in Montgomery and Hillsborough.



This high-stress crossing of Amwell Road linking Millstone Borough and Franklin Township over the Millstone River provides essential roadway connectivity but offers limited multimodal accommodations and no nearby alternatives.



2.4 Previous Studies and Recommendations

This study considered numerous planning studies undertaken in recent years: more than 65 studies were reviewed, containing more than 400 individual recommendations. Among these were master plans, land use and circulation elements, open space and recreation plans, Safe Routes to School studies, and redevelopment plans. These studies span a diversity of issues and purposes, and applicable recommendations included pedestrian improvements, bicycle facilities, enhanced crosswalk treatments, traffic calming, bicycle racks, and adopting a Complete Streets policy or ordinance. Proposals for bicycle and pedestrian infrastructure on contiguous routes indicate the need for coordination and collaboration on a county-wide scale, and reflect the deep interest throughout Somerset County in improving bicycle and pedestrian infrastructure. A majority were focused on a single municipality as an update to that jurisdiction's comprehensive master plan or master plan element. Typically, the recommendations were divided between corridor, intersection, bike, and pedestrian improvements.

A trend can be observed for municipalities with existing downtowns or urban centers focusing on enhancing the bicyclist and pedestrian experience through a variety of improvements not only in densely populated areas but also near schools and parks. Examples include "greening" the Bernardsville Town Center as proposed in their Master Plan Reexamination (2017); new and dedicated crossings for bicyclists

and pedestrians in the Somerville Station and Landfill Redevelopment Plan (2017); rail station access in Bound Brook Master Plan Reexamination Report (2017); new trails through the Bridgewater Promenade in Bridgewater Circulation Element (2010); and pedestrian and bicycle access and traffic calming improvements for the Town Center and Transit Ready Development District in the Hillsborough Township Master Plan Amendment Phase 2 (2005).

Each study and recommendation was reviewed for applicability and benefit to the WalkBikeHike network.

Supporting Priority Investment in Somerset County Phase III Study (2017)

The Supporting Priority Investment in Somerset County Phase III Study (2017) identified many opportunities for future investment in multimodal infrastructure to support projected growth and the need for redevelopment. The study developed framework plans of integrated land uses, transportation, and placemaking strategies for 17 Priority Growth Investment and Local Priority areas distributed across the county. Recommendations ranged from land use and zoning changes supporting walkability and downtown circulation in Far Hills; new bike lanes and improved access to the Raritan River Greenway in Raritan Borough; and development of site improvements at the historic Staats House parcel with new linkages to the Raritan River and D&R Canal Towpath.



2.5 Existing Bicycle and Trail Network

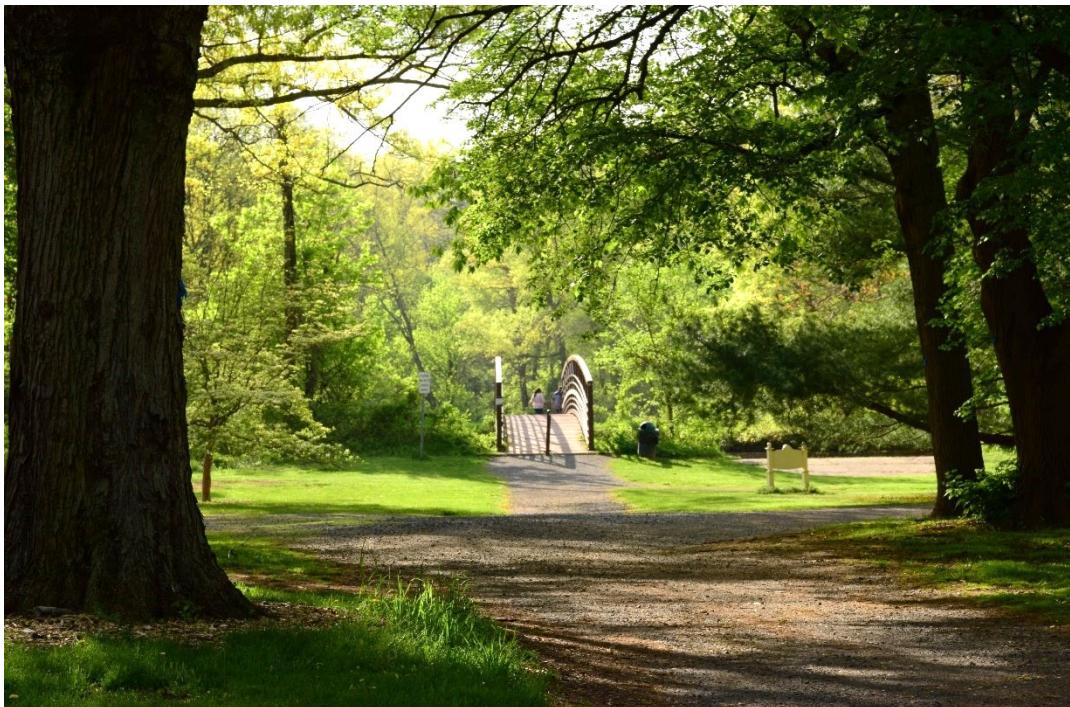
Somerset County's existing bicycle and trail network is composed of many well-used, but often fragmented off-road trails and shared use paths, primarily in County and municipal parks, as shown in map (Figure 2-6) on the next page.

Frequently characterized by high speeds, narrow roadway widths, and constrained geometrics, many Somerset County-owned roadways lack on-road bicycle infrastructure.

Existing trails include Six Mile Run in Franklin Township, Sourland Mountain Preserve in Montgomery and Hillsborough Townships, Washington

Valley Park in Bridgewater Township, and Lord Stirling Park in Bernards Township. Many local trails in Somerset County are not connected to adjacent communities or other parks or trails.

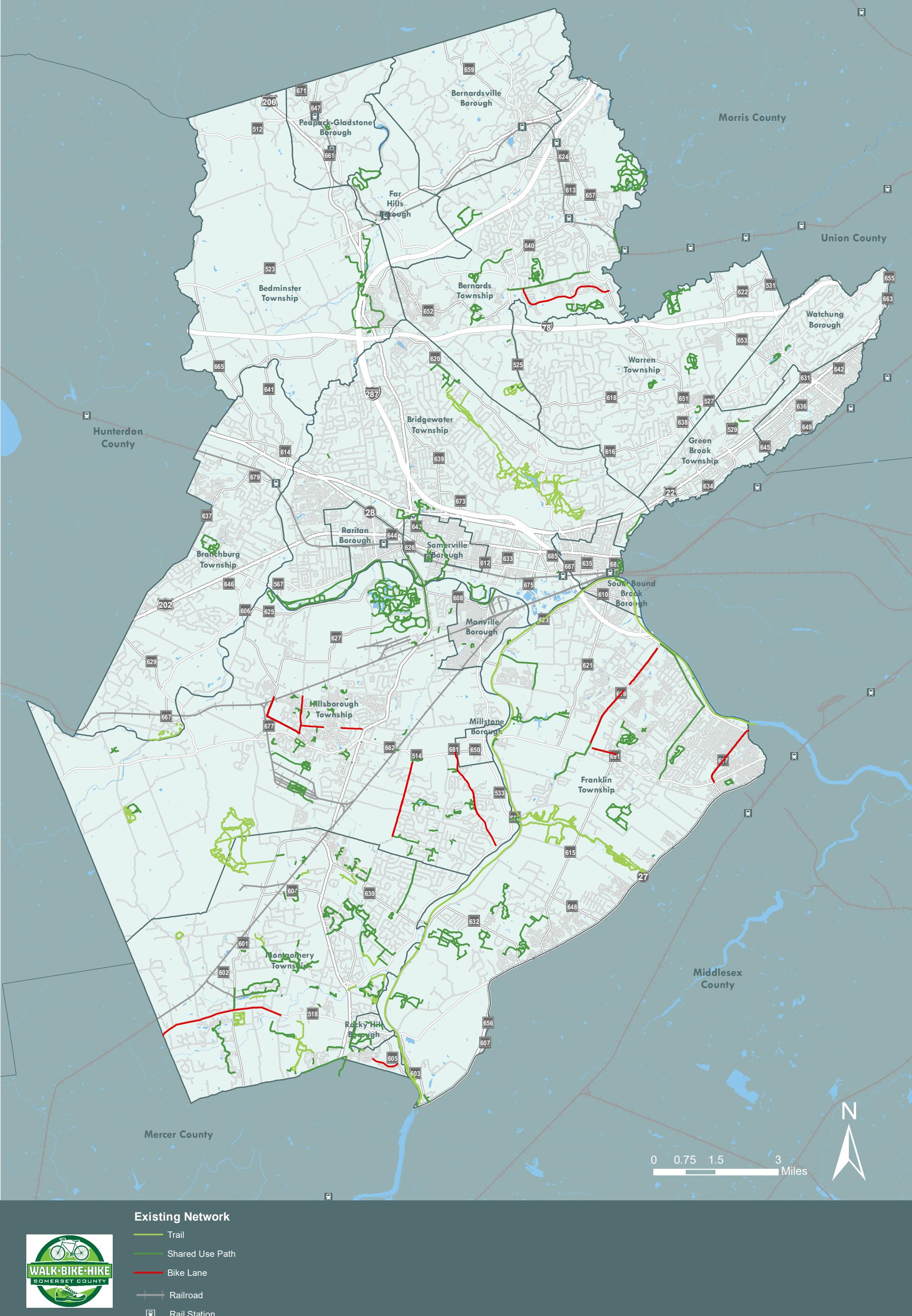
The Delaware & Raritan (D&R) Canal towpath, which parallels its namesake canal, provides off-road connections between Bound Brook, South Bound Brook, Bridgewater, Manville, Franklin, Millstone, Montgomery, and Rocky Hill, and extends south into Mercer County and northeast into Middlesex County. Yet the towpath frequently provides only limited connectivity to its host communities.



D&R Canal Towpath access from Colonial Park in Franklin Township



Figure 2-6: Existing Network



2.6 Bicycle Network Assessment

As depicted in map (Figure 2-7) on the following page, bicycle level-of-traffic-stress (LTS) measures a cyclist's comfort level given the current conditions of the roadway based on the stress created by the volume, speed, and proximity of automobile traffic, and is based on the Dutch concept of low-stress bicycle facilities.ⁱ

In general, lower stress facilities have increased separation between cyclists and vehicular traffic. Higher stress environments generally involve cyclists riding along busy, multi-lane roadways, and higher speeds or traffic volumes: an undesirable, and stressful, condition for most cyclists.

The LTS assessment for a given roadway segment is classified into one of four categories:

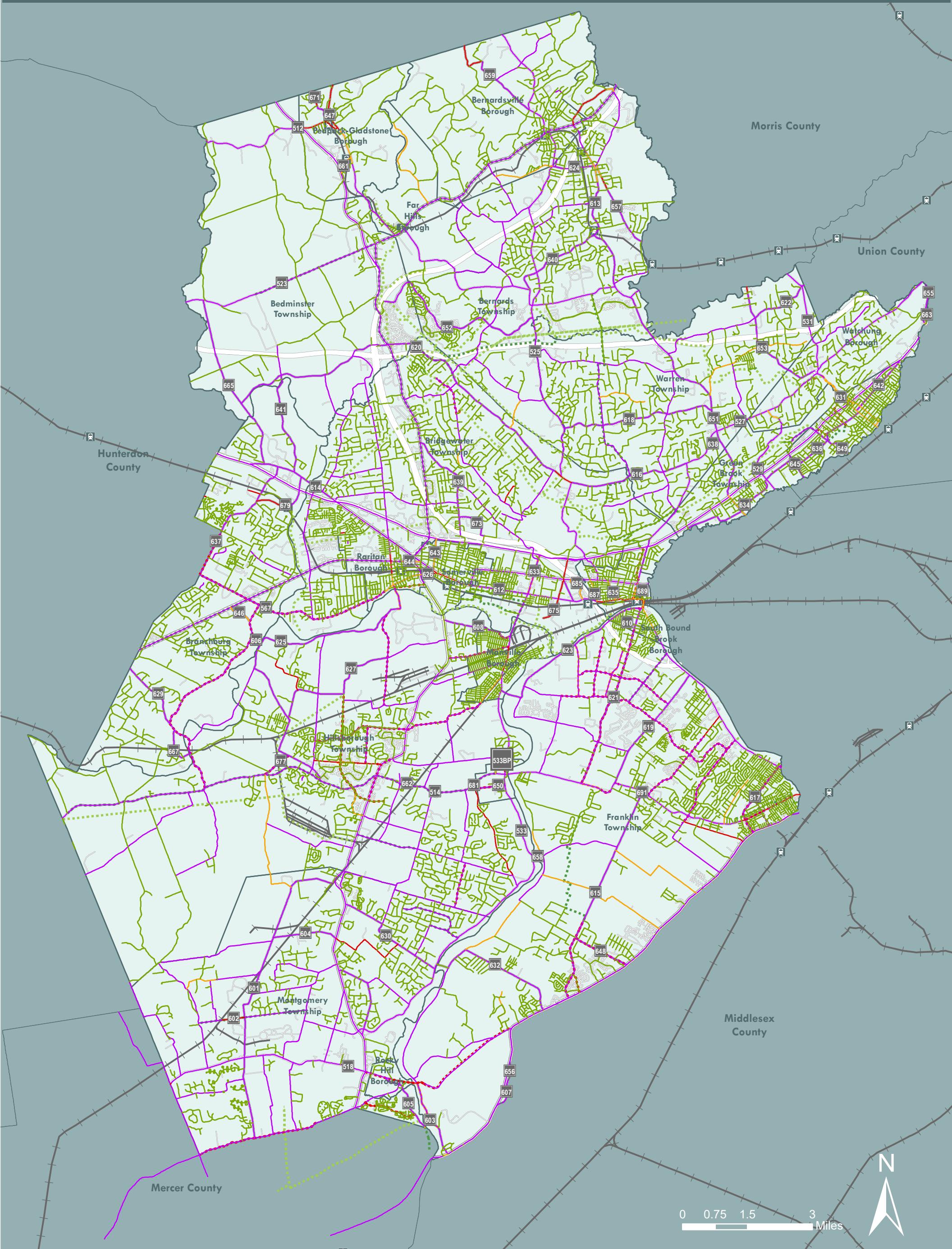
- LTS 1: the level most users can tolerate (including children and seniors)
- LTS 2: the level tolerated by most adults
- LTS 3: the level tolerated by “enthusiastic” riders who might still prefer dedicated space; these riders are considered “interested, but concerned”
- LTS 4: the level tolerated by only the most experienced and risk tolerant riders



Risk-tolerant cyclists negotiate this high-stress crossing of U.S. Route 206 at Dukes Parkway West in Hillsborough Township.



Figure 2-7: Bicycle Level-of-Traffic-Stress (LTS)



Bicycle Level of Traffic Stress (LTS)

- LTS 1
 - LTS 2
 - LTS 3
 - LTS 4
- Railroad

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The LTS metric was evaluated for all roads in Somerset County using a variety of data sources, including GIS data files, NJDOT Straight Line Diagrams, and traffic data. The study team also conducted field evaluations to take measurements and verify roadway features and user behavior.

Among the inventory of all road types and ownership in Somerset County, most have an LTS of 1, with most of these being local, low-volume, low-speed residential streets. Somerset County, however, has many high-speed roadways lacking bike infrastructure, and the prevalence of long corridors of LTS 4 roadways impedes bicycle regional mobility.

Overall the breakdown of all roads in Somerset County by LTS level is:

- LTS 1 = 74 percent
- LTS 2 = 3 percent
- LTS 3 = 1 percent
- LTS 4 = 23 percent

A network connectivity analysis was performed to determine the extent of the “Island Effect” in Somerset County. Gaps in connectivity caused by a prevalence of high-stress roadways and other barriers create isolated pockets with good internal mobility, but which are isolated from the surrounding areas and destinations, effectively creating a series of isolated and mobility-limited islands across the region, thus giving rise to the term “Island Effect.”

This methodology helped identify individual “islands” where significant barriers and gaps exist and focuses on the need to mitigate and overcome these shortcomings, with the goal of re-connecting the islands, both within and across Somerset’s 21 municipalities.

The following Figure 2-8 indicates a significant island effect present within Somerset County, with more than 70 individual islands across the study area.



Figure 2-8: "Island Effect"



LTS 1 Links

LTS Islands



2.7 Bicycle Demand Model

WalkBikeHike seeks to develop a bicycle network serving residents from throughout the county; efficiently and conveniently connecting people with destinations. Measures of existing bicycle activity, such as bicycle counts, though providing a good baseline to track ridership, do not fully reflect the potential, or latent demand, for bicycle facilities. These existing counts do not adequately capture those residents, employees, visitors, and customers who would be more interested in bicycling if appropriate facilities were available – the “interested but concerned” cyclists who comprise half of the population.

Bicycle demand is influenced by a variety of factors, including the locations and density of population centers, jobs, key destinations, and demographic factors. The demand model methodology helps demonstrate the potential need for bicycle accommodations, identify potential routes, and guide the development of a bicycle network.

The following sections summarize and illustrate the different components of the analysis, as well as the final output.

Population Density

Residential neighborhoods are the origin for most trips, whether by foot, bike, transit, or car. An analysis of population density identifies the most populous neighborhoods of Somerset County, indicating higher potential bicycle demand. In addition to identifying the greatest concentrations of potential bicyclists, more developed neighborhoods and development

patterns are also more conducive and convenient for alternative modes of transportation, including walking, cycling, or transit.

Somerset County’s population density is comparable to the state; with high density areas concentrated in communities along U.S. 22, particularly North Plainfield, Bound Brook, South Bound Brook, Somerville and Raritan.

Job Density

While residential areas are a generator of trips, employment areas are a major trip attractor, or destination. An analysis of job density data (2015 U.S. Census data) identifies the large employment hubs within Somerset County, indicative of significant destinations for bicycle trips.

As shown in the map (Figure 2-9) on the next page, areas along the Raritan River and I-287 have the highest concentration of jobs within the County, suggesting a potentially high demand for bicycle connections.

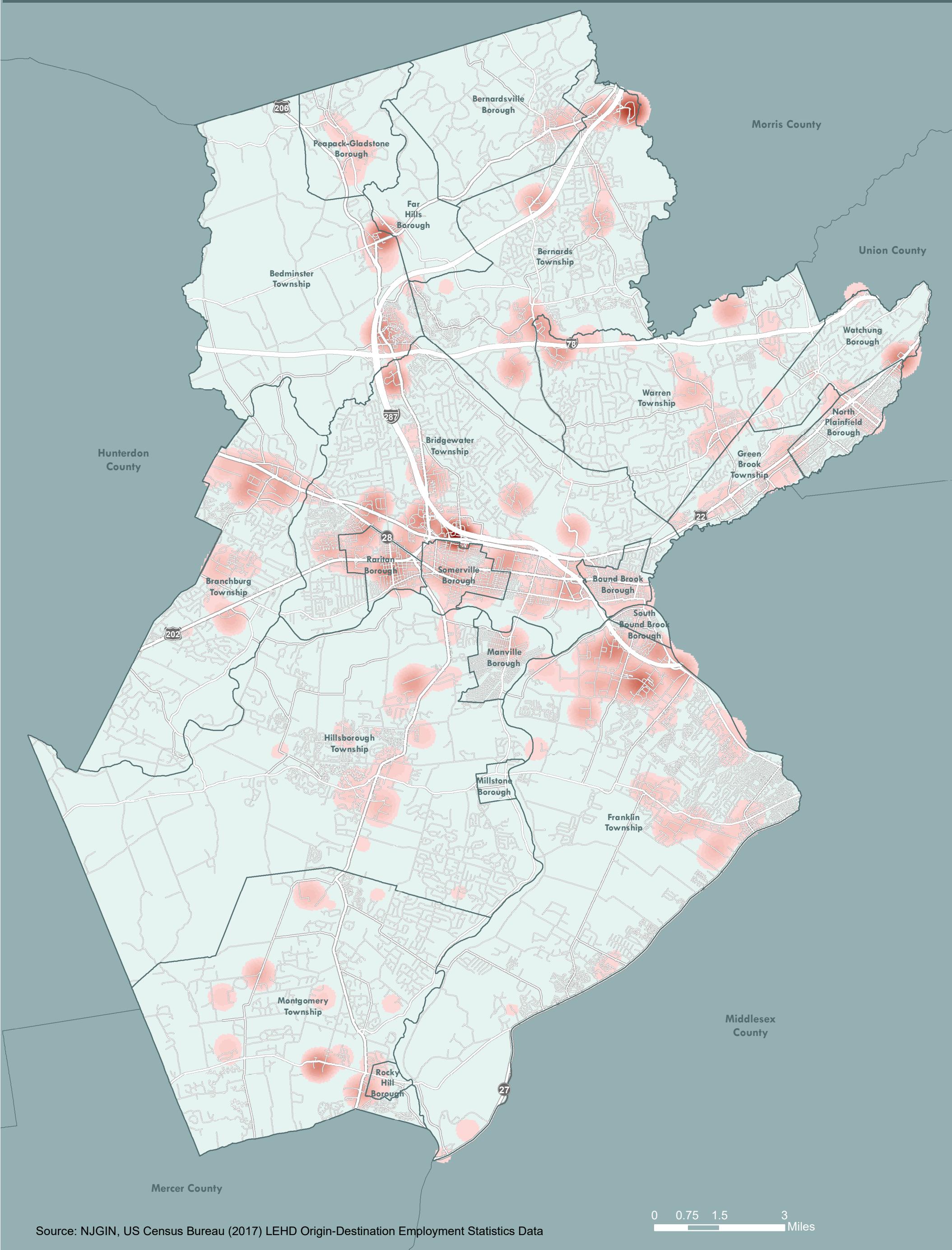
Destinations and Points of Interest

As part of the Demand Model, key points of interest were mapped (Figure 2-10) across the County including:

- Schools
- Colleges/Universities
- Places of Worship
- Commercial Land-Uses
- Fire Stations
- Law Enforcement
- Parks
- Commercial Land Use



Figure 2-9: Job Density



Job Density

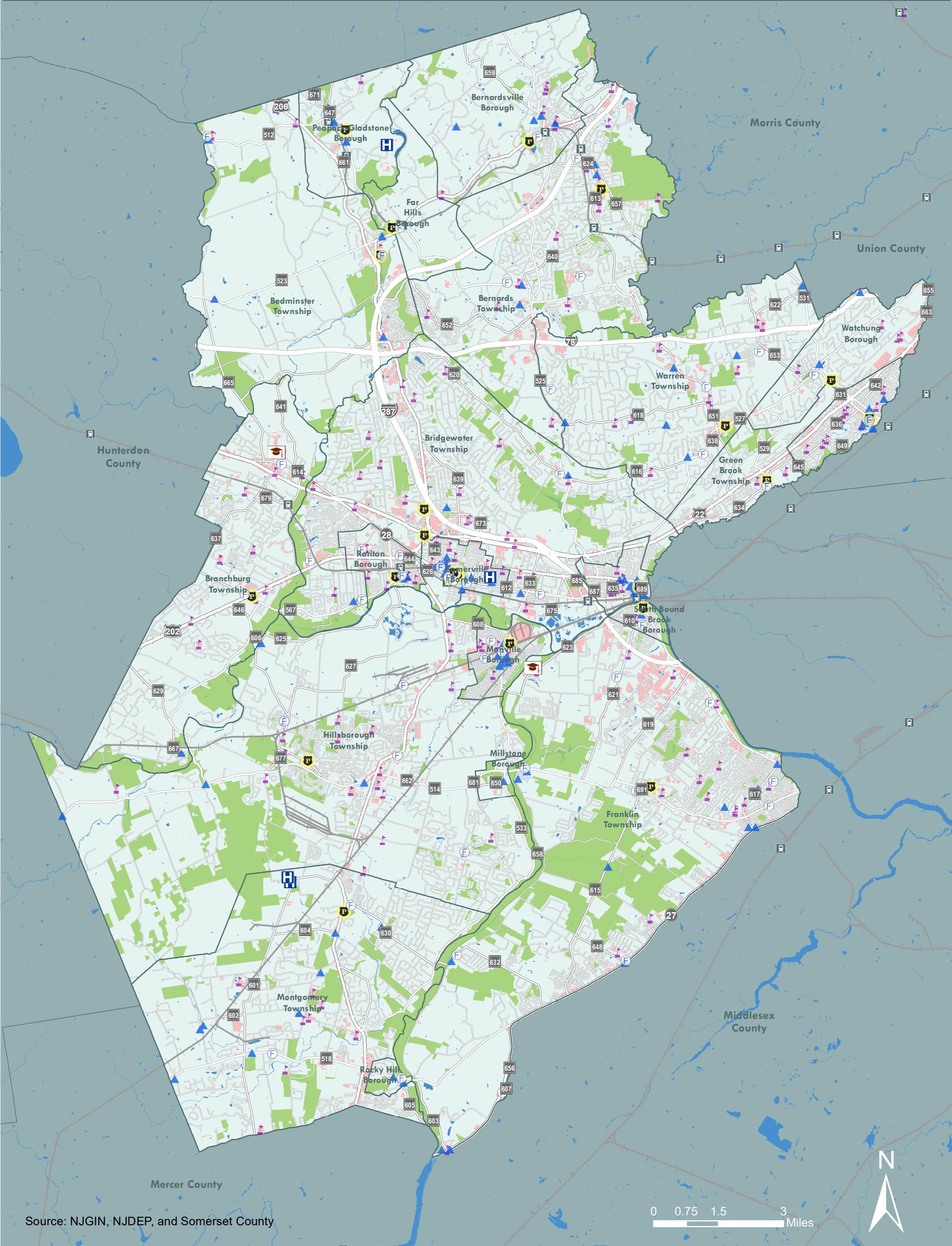


Low

High



Figure 2-10: Points of Interest



Points of Interest

- - Railroad
- H Hospitals
- F Fire Stations
- (P) Police Stations
- (U) University/ College
- (S) Schools
- (C) Commercial Land Use
- ▲ Places of Worship



Equity Factors

Socio-economic factors can also indicate areas of higher potential demand or need for bicycle facilities. Census block groups were used as the level of analysis. These tracts are smaller than municipalities and thus provide a detailed assessment of the differences within municipalities. Equity related data elements include:

- Under 18 population
- Households without automobile access
- Low-income population (income less than 125 percent of poverty level or income-to-poverty ratio 1.25)
- Residents who bike to work
- Residents who walk or take transit to work

Some key findings for Somerset County related to equity include:

- Most Somerset communities have higher than average percentages of children (under 18 population). Whereas 22.3 percent of New Jersey's population is children, more than 30 percent of portions of Montgomery, Hillsborough, Somerville, Branchburg, Bridgewater, Bernards, Warren, and Bernardsville are under age 18
- About 6.6 percent of New Jersey households do not have access to a car, and most census block groups in Somerset County have fewer zero-car households than this. Areas with higher shares (greater than 10

percent) of zero-car households are in areas with access to NJ TRANSIT rail service such as Franklin Township near New Brunswick, Bound Brook, Somerville, and Bridgewater

- The statewide share of households with an income-poverty ratio below 1.25 is 14.3 percent. Households with income to poverty ratio less than 1.25 are defined as low income households. These same communities with lower vehicle access and higher population densities tend to have more low-income households. Somerset County is significantly wealthier than New Jersey and thus has lower rates of poverty overall. However, higher rates of poverty are present in portions of Franklin, Bridgewater, Somerville, Raritan, Bound Brook, South Bound Brook, and North Plainfield.
- Walking and biking rates in New Jersey are fairly low, at 3.1 percent and 0.3 percent respectively. Areas with higher rates of walking and biking in Somerset County include Rocky Hill, Franklin, North Plainfield, Bound Brook and Somerville. 11.1 percent of New Jersey commuters travel to work by public transportation. Though parts of the County have good public transit, only two census block groups (of 218) have populations commuting at a higher rate than the statewide average. These are both located in Bernards Township



Composite Bicycle Demand Score

These socio-economic factors all indicate populations for whom bicycle access may be a preferred or necessary means of travel to work, school, or other destination. They capture residents who cannot afford or choose not to own a car, who may see cycling as a more affordable or accessible means of transportation, who already bike to work, or for whom cycling might be a suitable alternative for getting to work.

The various factors of the bicycle demand model were aggregated at the U.S. Census block group level, and demographic factors were normalized to the block group area to account for differences in block group size. Each factor was assigned a weight to assign greater priority to factors representing

or associated with trip generators (origins) and those representing trip attractors (destinations).

The overall bicycle demand model is illustrated in map (Figure 2-11) on the following page. This map includes Somerset, Mercer and Middlesex Counties to depict a regional assessment of demand and reflect the significant variations among the area's many municipalities.

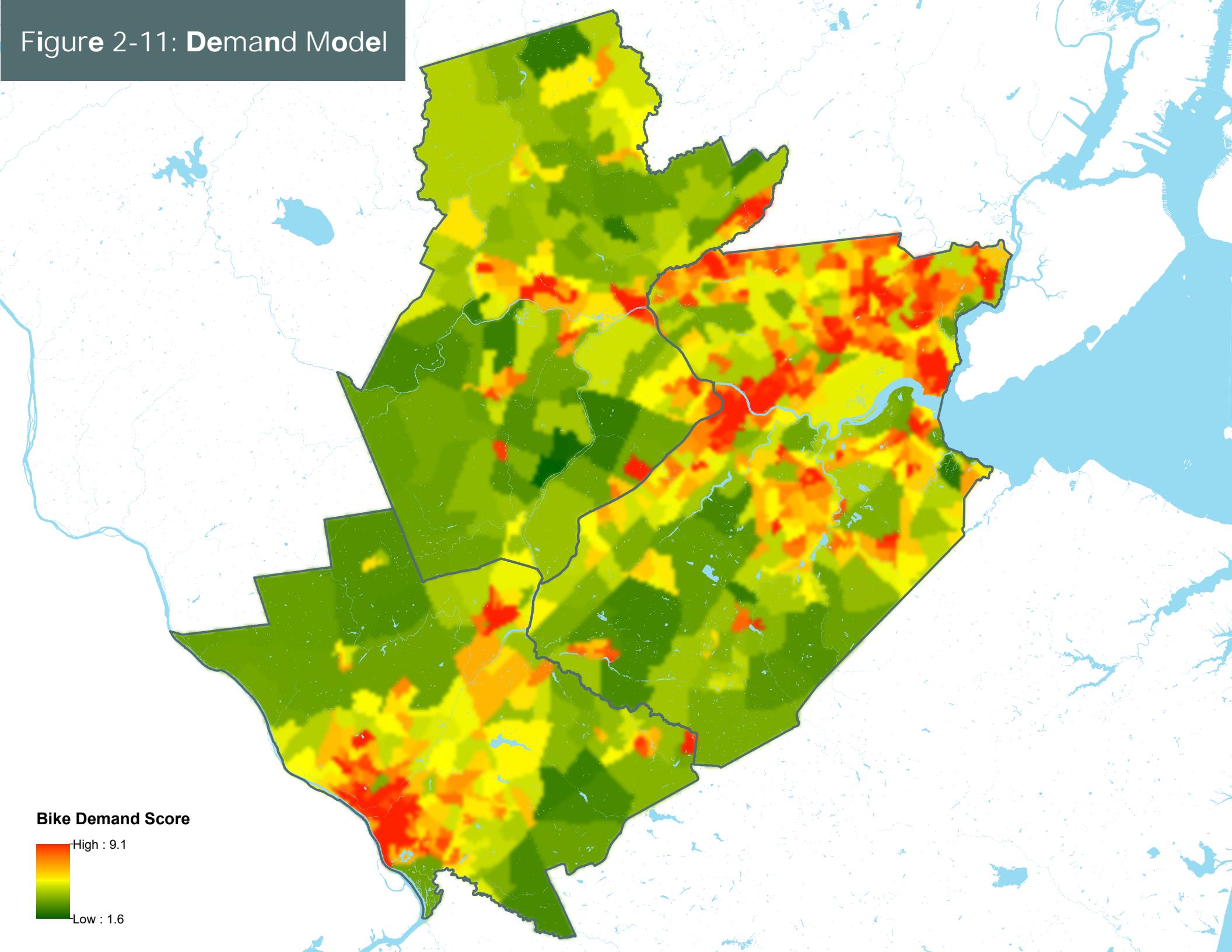
Areas of moderate to high demand are located throughout the county and represent important nodes to link with the proposed bicycle network. Communities with the highest demand scores include Somerville and Bound Brook.

References

i
<http://www.northeastern.edu/peter.furth/research/level-of-traffic-stress/> accessed June 12, 2019



Figure 2-11: Demand Model



**ALL BICYCLE AND
PEDESTRIAN TRAFFIC**

VISITOR ENTRANCE



Duke Farms
Living Habitats



03 | FRAMEWORK STRATEGY

The WalkBikeHike Framework Strategy builds upon the community engagement and technical assessment tasks and presents the study findings and recommendations to guide the development of potential multimodal improvements and create a low-stress, all-ages, network for travelers of all ages and abilities.

The Framework Strategy improves safety and mobility, and accommodates a wide range of abilities, uses, and activities; not just avid runners and skilled cyclists, but individuals and families young and old, and pursuits as diverse as cross country skiing, birding, fishing, photography, history enthusiasts, and nature lovers. Some will travel fast and over long distances, others will linger and enjoy the scenery and proximity to nature; some seek short visits with a quick return, or to combine exercise with a trip to work, school, dining, or entertainment, or simply to enjoy the company of others.

Development of the countywide network was guided by two essential resources: New Jersey's Complete Streets Design Guide (2017), and the WalkBikeHike Design Book, developed as a companion piece to this study.



Introduction

The WalkBikeHike Framework Strategy presents the study findings and recommendations, including the potential countywide multimodal network, focus area concept plans, and implementation policies and strategies.

The Framework Strategy includes three elements to guide implementation of WalkBikeHike Somerset County:

I. Building the Countywide Network

Documents the process for developing a low-stress, all-ages, countywide network of trails, paths, and on-street facilities for walking, biking, and hiking.



Proper etiquette and right-of-way behaviors make trails and bike facilities safe, open, and accessible to users of all ages and abilities.

The countywide network improves safety and mobility, and accommodates a wide range of abilities, uses, interests, and activities.

II. Focus Area Concept Plans

Five Focus Area locations were selected for detailed analysis of context and development of potential improvements and amenities. These locations represent a wide variety of Somerset County municipalities, stakeholders, cultural and historical amenities, and support a diversity of mobility, recreation, and safety needs.

- Five Generals Houses
- Duke Farms-Sourlands Preserve-Lawrence Hopewell Trail Interconnect
- Raritan River Greenway
- Watchung Ridge Greenway
- Delaware & Raritan Canal Towpath/East Coast Greenway

III. Policy Framework

Guides implementation of the countywide network and Complete Streets projects by Somerset County and its twenty-one partner municipalities through collaboration, partnerships, and adherence to the *New Jersey Complete Streets Design Guide (2017)*, WalkBikeHike Design Book, and related planning and engineering guidance and design standards.



I. Building the Countywide Network

Building the countywide WalkBikeHike network starts with compilation of detailed base mapping to document the existing network and guide the identification and assessment of candidates for new and enhanced multimodal facilities.

GIS-based analytical methodologies and comprehensive data resources are particularly useful to identifying both opportunities for improvement, and potential constraints to facility design, construction, and use.

Together the community engagement process and technical assessment helped drive the development and refinement of the countywide network.

Chapter One presented a summary-level overview of the various community engagement efforts and methodologies; the planning process provided numerous opportunities and methods for discussion, assessment, brainstorming, and comment. Participants helped establish vision, goals, and priorities, and made numerous suggestions for potential improvements.

Chapter Two summarized the data resources, system and safety performance measures, and related metrics to support a comprehensive multimodal evaluation of context and existing conditions to establish needs, understand deficiencies, and evaluate opportunities for improvement.

Design Options and Criteria

The existing and potential countywide networks include a variety of facility types and designs. More details, regulatory criteria, and examples are provided in the *New Jersey Complete Streets Design Guide* and WalkBikeHike Design Book. Applicable facility types include:

Trails

- Natural surface, stone, or gravel

Shared-Use Path (Sidepath)

- Physically separated from motor vehicle traffic
- Two-way, minimum 8-10 feet wide
- Most consistent with vision of “low stress, all ages, all abilities”

Bicycle Boulevard

- Low speed, low volume routes that prioritize bicycle mobility over through traffic
- Traffic calmed, 25 mph maximum

Bicycle Lanes

- Limited separation from traffic
- Adjacent to travel lane, 5-foot minimum width
- Typically used for up to 35 mph posted speed limit
- Up to 40 mph posted speed with a buffer or separator

Shared Lane – “Sharrow”

- On-road bicycle facility, where too narrow for bike lanes
- Traffic calmed, 25 mph maximum



Existing WalkBikeHike Network

The process starts with documentation and mapping of the existing network of off-road and on-road walk, bike, and hike facilities.

The existing network includes:

- All facilities currently built and in use; examples include the Bedminster Hike and Bikeway, and the Peters Brook Greenway in Somerville
- Facilities not yet built but or open for use which are funded, designed, or under construction; examples include the new sidepath under construction in 2019 along River Road (CR 525), providing traffic-free connectivity across the Nevius Street Bridge, between Raritan Borough and Duke Farms in Hillsborough

A series of maps on the following pages depict (Figure 3-1 to Figure 3-7) the countywide networks: first the existing off-road facilities, then the existing on-road facilities, and finally the combined off- and on-road networks.

The legend indicates each facility type with a unique color scheme and formatting.

It should also be noted that some existing facilities are not compliant with current design standards and guidelines.

The following Table 3-1 summarizes total mileage of existing facilities. Most of the existing 369 miles are off-road trails and shared use facilities, with just 22 miles of on-road bike lanes, and no shared lane marking or bicycle boulevards.

Table 3- 1: Summary of Existing Facilities

Facility Type	Existing (Miles)
Trail	140
Shared Use Path	207
Bicycle Lane	22
Total	369



Figure 3-1: Existing Off-Road Network

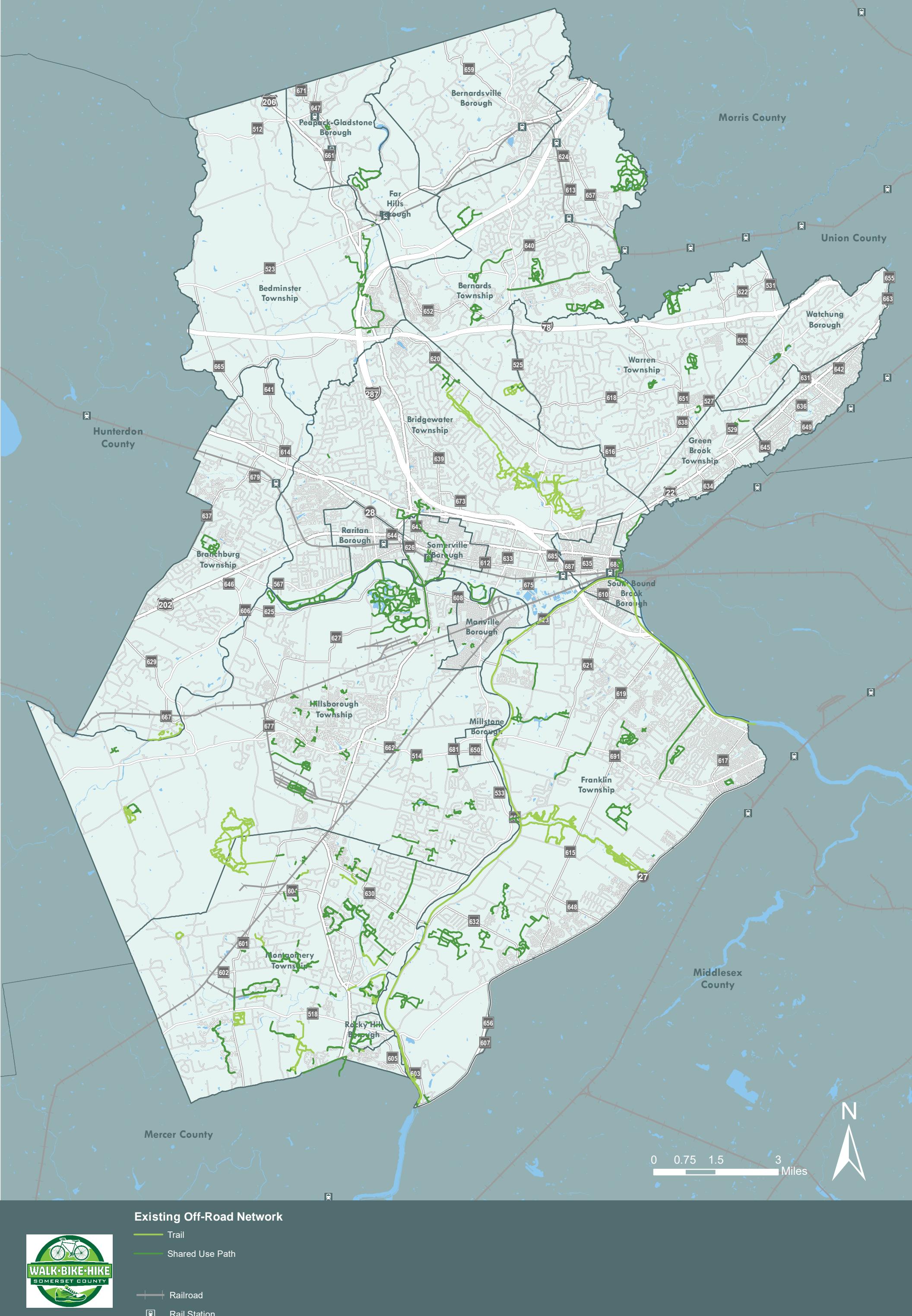
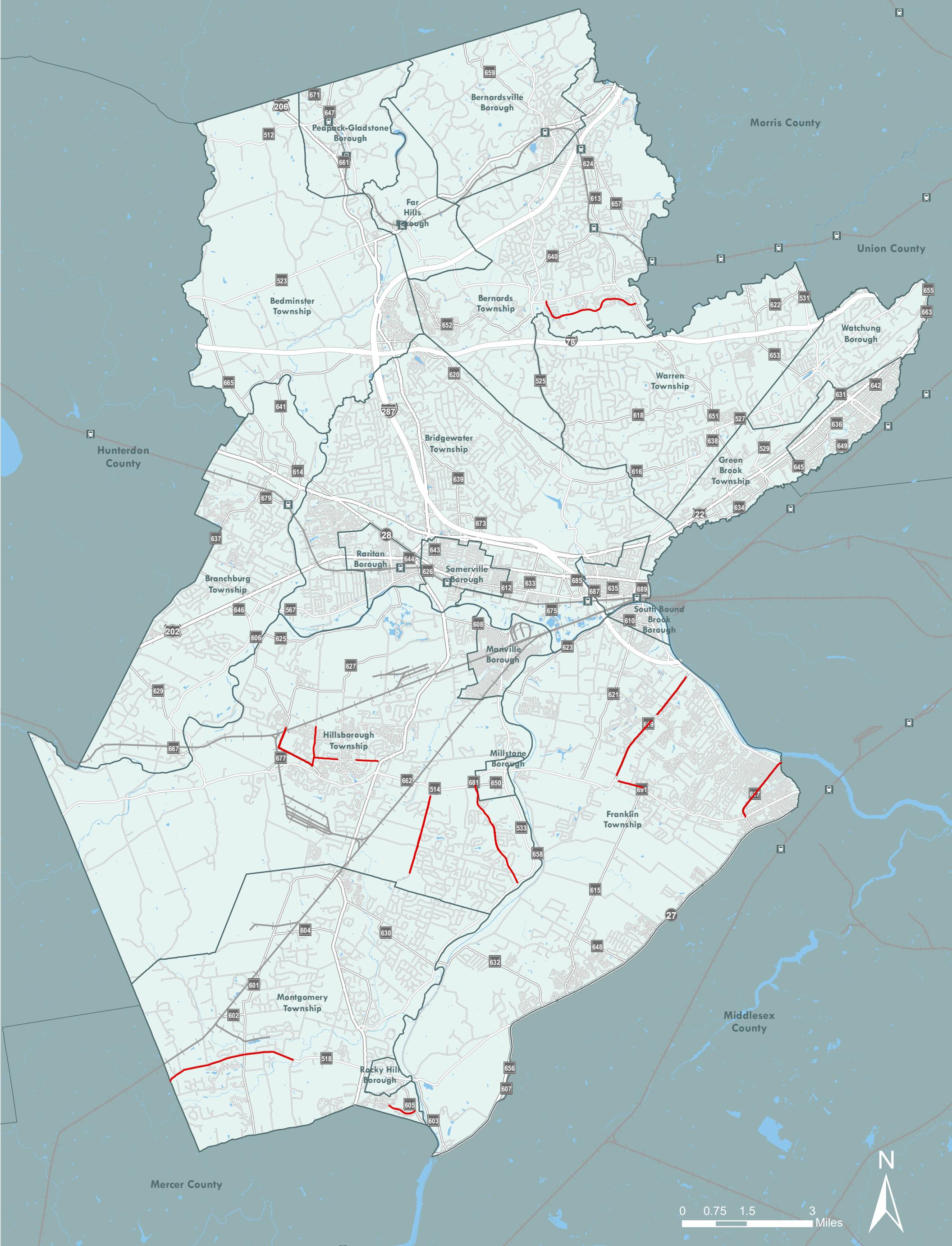
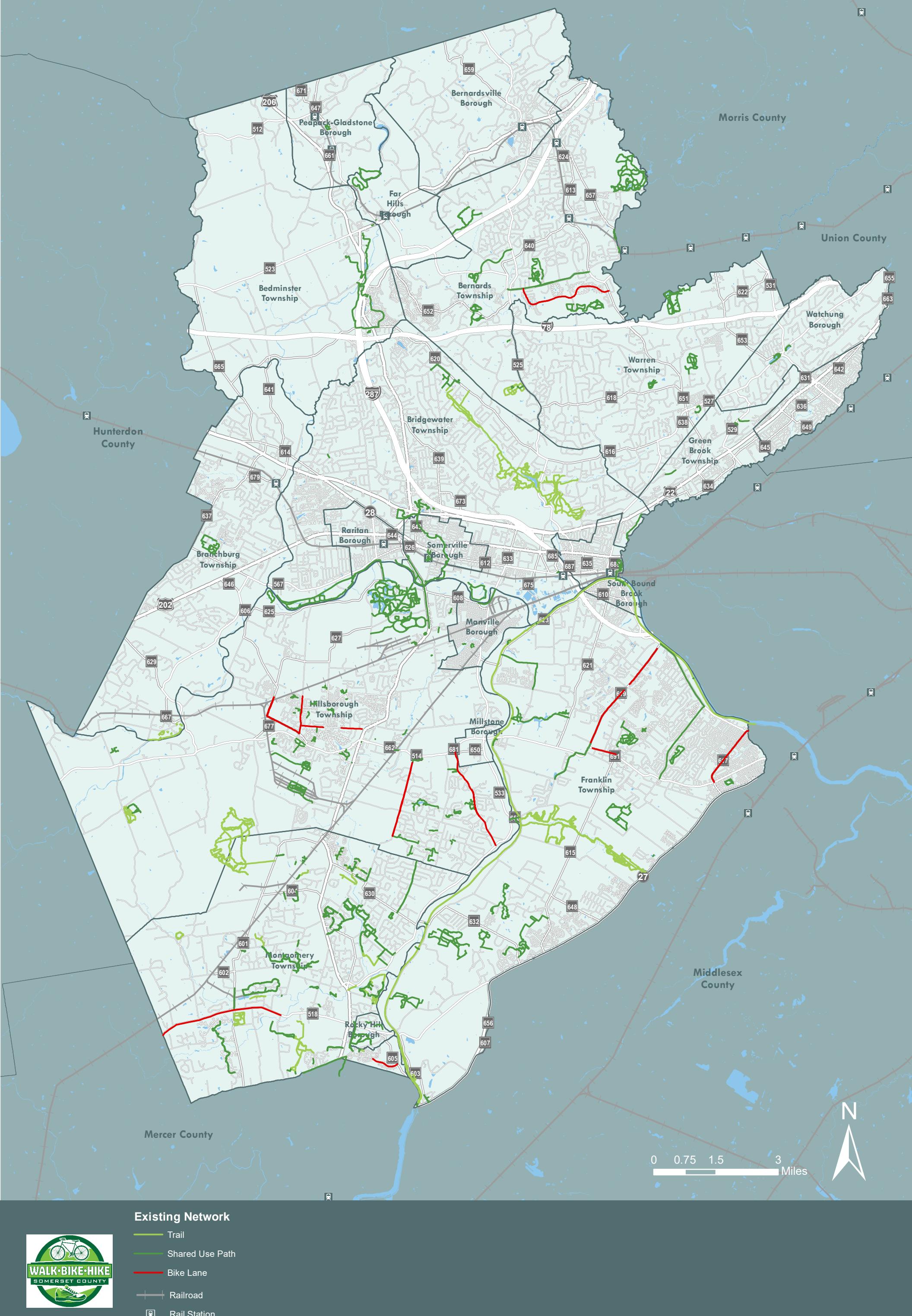


Figure 3-2: Existing On-Road Network



Bike Lane
Railroad
Rail Station

Figure 3-3: Existing Network



Potential New Improvements: Initial Candidates, Iteration, and Refinement

Each potential improvement for the countywide network was evaluated and selected based on context, existing conditions, and potential to improve mobility and safety, fill existing gaps, or make new or enhanced connections.

More than 400 recommendations from previous studies and plans were considered, including many from the *Somerset County Investment Framework* and *Somerset County Priority Investment Studies*. Examples include potential bike lanes along Orlando Drive in Raritan Borough; bike lanes and pedestrian improvements at Amwell Road and U.S. Route 206 in Hillsborough; and multimodal connections between Bedminster Village and the Bedminster Hike and Bikeway.

Hundreds of additional comments from surveys, e-mail, and written sources, WikiMap entries, and municipal recommendations were also evaluated in the same manner. Each potential improvement underwent a preliminary screening and assessment for utility, viability, possible constraints, and initial feasibility.

Initial candidates were identified and screened using the *Bikeway Selection Guidance Process* from the *New Jersey Complete Streets Design Guide* (pp 106-7), which outlines a three-step process for identification and selection of candidate bicycle facilities and is summarized in the following column.

Bikeway Selection Guidance Process

Step 1: Identify Candidate Roadway Segment and Local Context.

Identification and screening of potential new bike improvements proceeds one candidate roadway segment at a time.

Begin by identify the roadway segment (i.e. Roadway X from point A to point B) and determine the local context and existing roadway attributes: 85th percentile travel speed (or posted speed limit), actual or estimated traffic volume (ADT), truck percentage, and available right-of-way width.

Step 2: Determine Candidate Facility Type Options. The next step is to determine the range of potential bicycle facility options for the candidate roadway segment.

Apply the *Bikeway Selection Guidance Process* to the candidate roadway segment using the established design attributes (local context, travel speeds and volumes, truck percentage, and roadway width) to identify the range of potential facilities: i.e. bike lanes, shared-use sidepath, etc.

Step 3: Assess Feasibility and Select Preferred Option. The final step is to review each of the potential facility options (bike lane, etc.) and determine which best fits both with the local context and the available roadway width.



WalkBikeHike - Somerset County

As the network took shape one roadway segment at a time, additional opportunities were identified to enhance connectivity and find connections between trip origins and destinations. This iterative process explored needs and opportunities, and considered the following:

- What is the local context?
- Who uses or might use the proposed facility?
- What are the potential constraints such as property or right-of-way impacts, utility relocations, local zoning, easements, or environmental issues requiring mitigation or permitting?
- Is this an isolated improvement or part of a larger, more integrated, network?
- Would the improvement connect people to destinations such as community services, schools, work places, dining and entertainment options, or downtowns?
- Is local support demonstrated by elected officials, or through public comment, survey responses, or WikiMapping entries?

Numerous meetings and collaborative efforts were held to review, refine, and enhance the potential network and improvements, including

- Meetings with County staff including Planning, Engineering, Parks, and others, to establish minimum design standards and prototypes, and assemble and refine the initial candidate facilities
- Numerous meetings with municipal officials to confirm existing facilities and conditions, and review the draft network
- Public meetings to identify needs and candidate improvements



The final step combines the existing facilities with the potential new improvements to create the countywide WalkBikeHike network.

A series of maps on the following pages (Figure 3-4 – Figure 3-7) depict the potential new facilities: first the potential off-road facilities, then the potential on-road facilities, followed by the combined potential off- and on-road networks.

The legend indicates each facility type with a unique color scheme for each type: existing facilities are displayed with solid lines, and potential facilities are dashed.

Table 3-2 below summarizes total mileage of potential new facilities, about 313 total miles, compared with 369 existing miles. These potential new facilities include a much greater diversity of facility types, with 108 miles of new on-road improvements, about five-times the existing total of 22 miles, including bicycle boulevards, buffered and standard bicycle lanes, and eight miles of shared lanes.

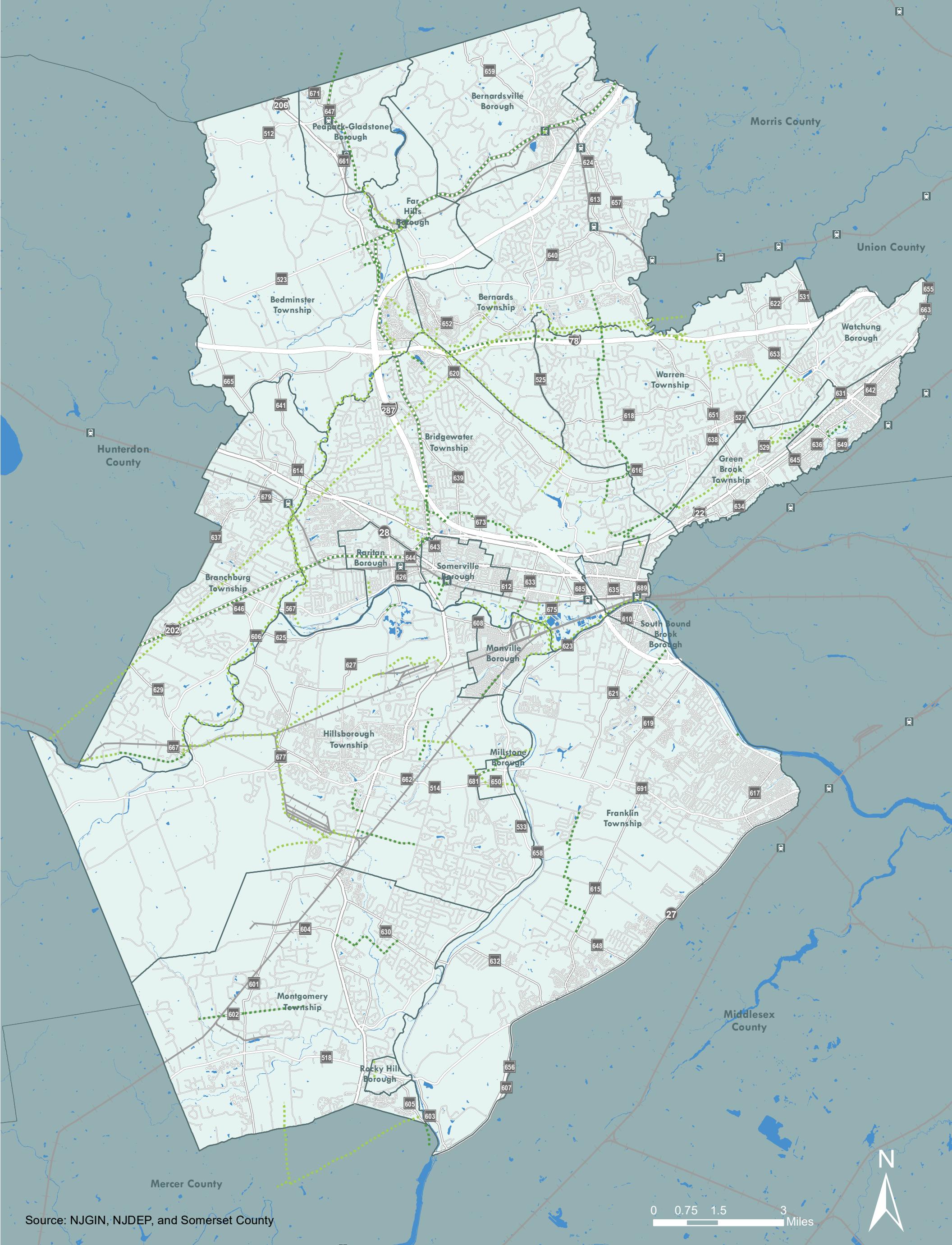
The potential network nearly doubles the total existing mileage, with potential new facilities of various types spread across Somerset County.

Table 3- 2: Summary of Existing and Potential New Facilities

Facility Type	Existing (Miles)	Potential New (Miles)	Total (Miles)
Trail	140	99	239
Shared Use Path	207	65	272
Bicycle Boulevard		10	10
Buffered Bicycle Lane		11	11
Bicycle Lane	22	78	100
Shared Lane Markings		8	8
Total	369	271	640



Figure 3-4: Potential New Off-Road Network

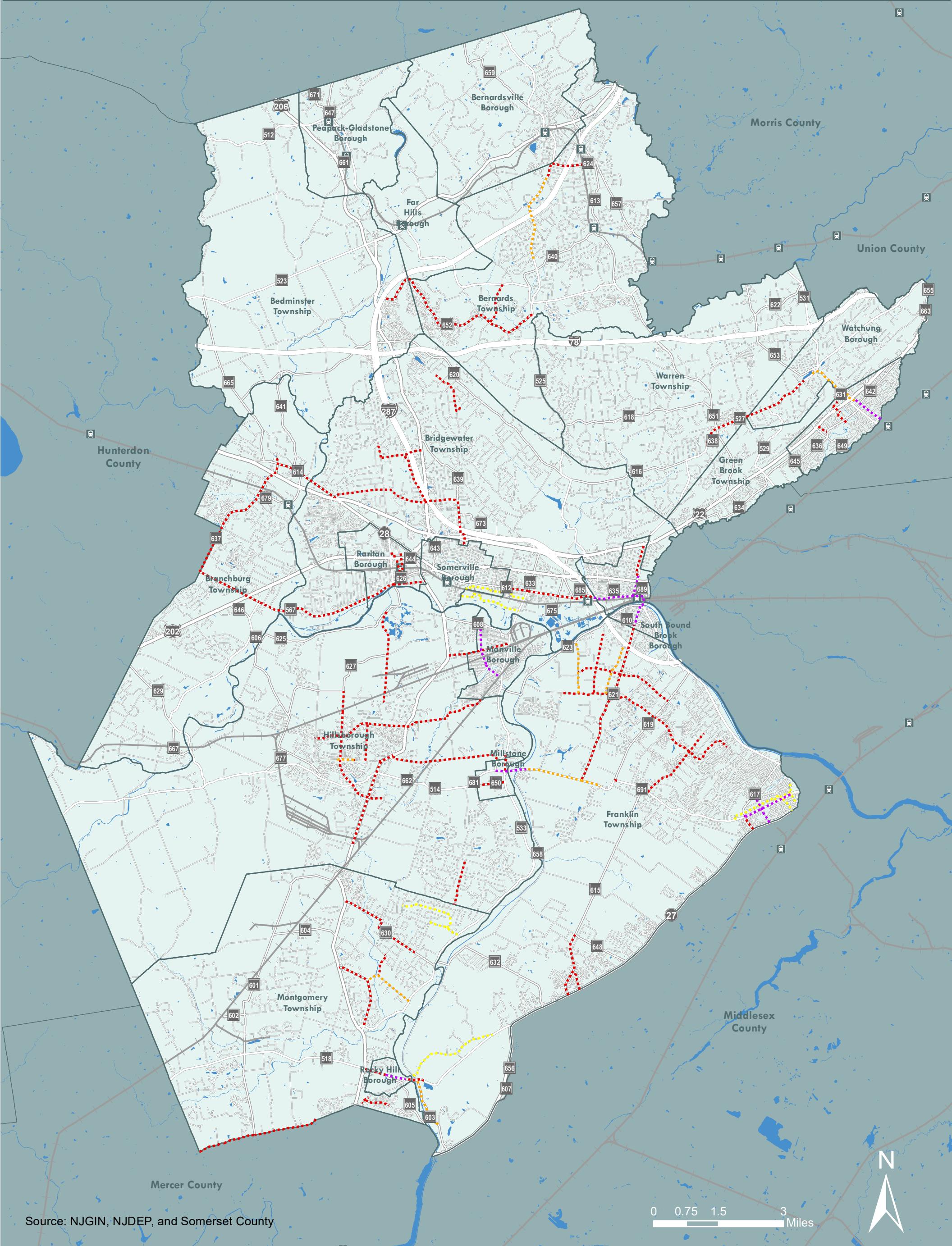


Potential New Network - Off-Road

- Trail
- Shared Use Path



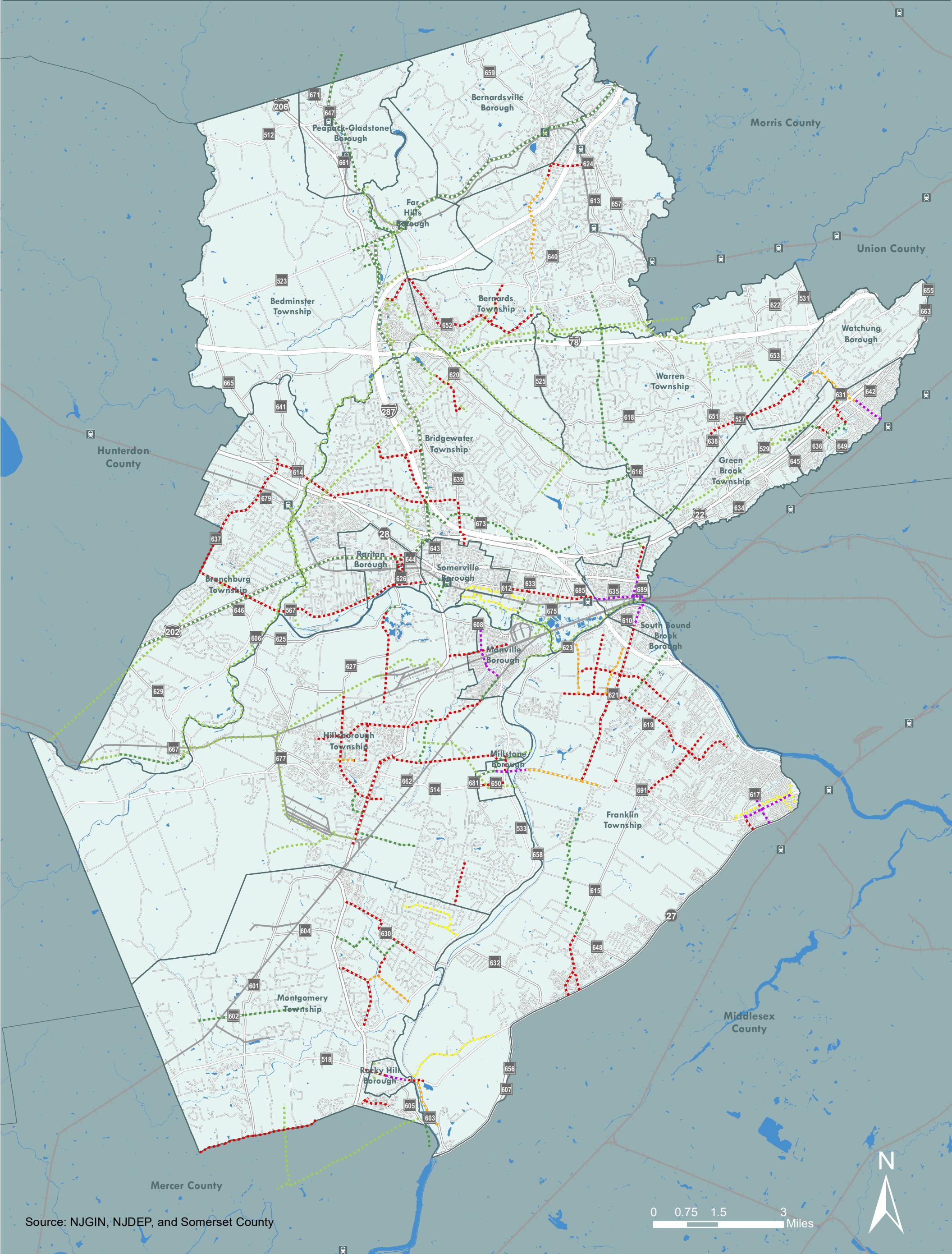
Figure 3-5: Potential New On-Road Network



Potential New Network - On-Road

- Bike Boulevard
 - Buffer Bike Lane
 - Bike Lane
 - Shared Lane Markings

Figure 3-6: Potential New Network

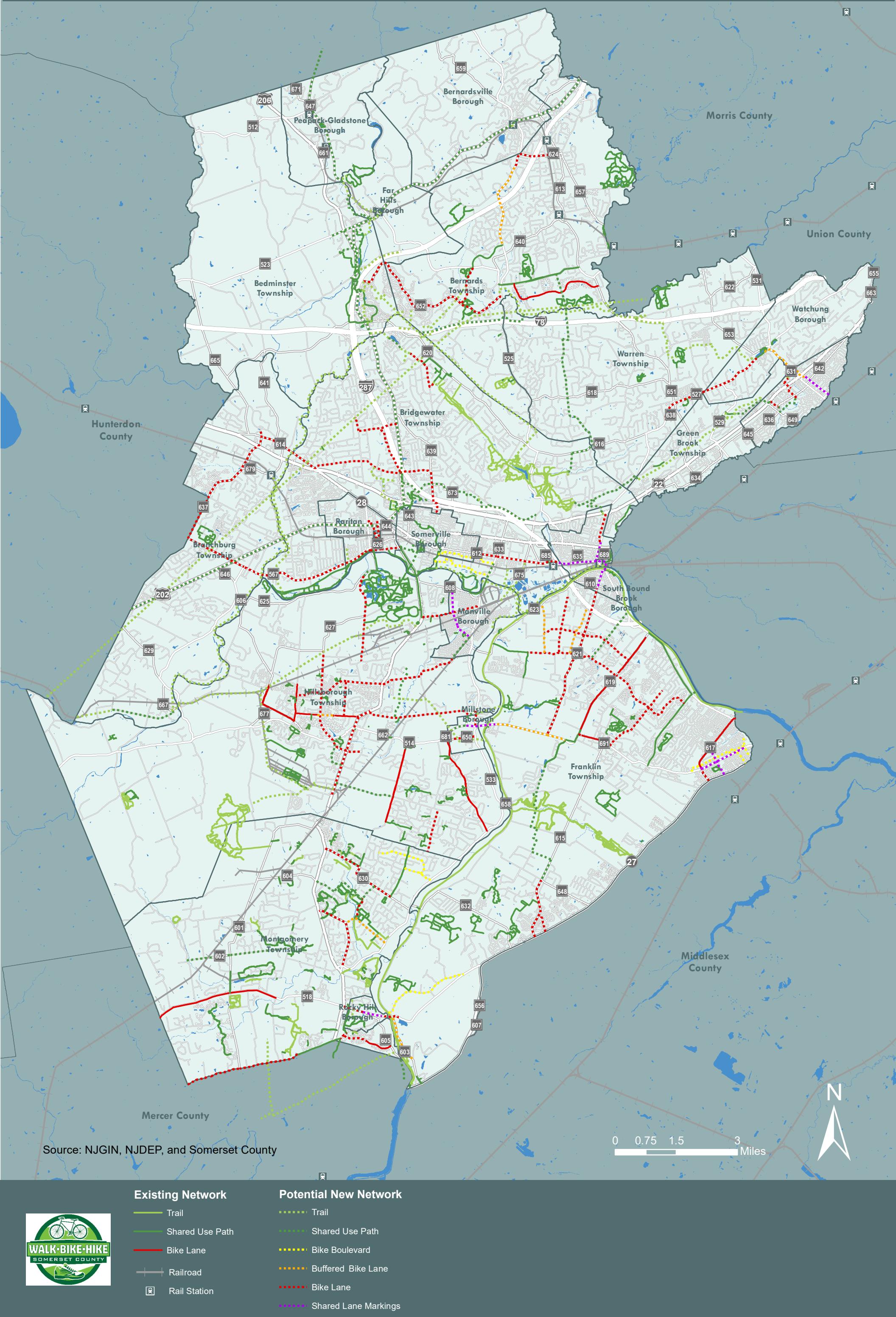


Potential New Network

- Trail
- Shared Use Path
- Bike Boulevard
- Buffered Bike Lane
- Bike Lane
- Shared Lane Markings



Figure 3-7: Existing and Potential New Network



II. Focus Area Concept Plans

Five focus area locations were selected for detailed analysis of context and development of potential improvements and amenities. These locations represent a wide variety of Somerset County municipalities, stakeholders, cultural and historical amenities, and support a diversity of mobility, recreation, and safety needs. The focus areas support the study vision and goals, and help extend access to work opportunities, healthy lifestyles, education, recreation, tourism, and social services through the development of low-stress, all-ages travel networks.

The focus areas demonstrate how the WalkBikeHike study can be used by a variety of stakeholders to advance both local and regional planning efforts and initiatives, contribute to economic development, support preservation and environmental sustainability, and connect people with places and destinations.

The Focus Area Concept Plans can also serve as prototypes for improving walking, biking, and hiking conditions for travelers of all ages and all abilities across Somerset County, and include a variety of potential improvements and amenities.

The focus areas include:

- Five Generals Houses
- Duke Farms-Sourlands Preserve-Lawrence Hopewell Trail Interconnect
- Raritan River Greenway
- Watchung Ridge Greenway
- Delaware & Raritan Canal Towpath/East Coast Greenway



3.1 Five Generals Houses

New Jersey is rich in Revolutionary War history, with at least 650 historical sites and destinations. The state played a central role in the events of the Revolutionary War, and George Washington spent more time in New Jersey than anywhere else during the Revolutionary War years. Many of the locations where Washington and the Continental Army marched, encamped, and fought battles have been preserved and are open to be enjoyed and explored.ⁱ Somerset County offers many well-preserved historic sites open to the public that are examples of the region's historic importance, and tourist destinations whose use and enjoyment could be enhanced by providing improved bicycle and pedestrian connections.

The first of the WalkBikeHike focus areas is the Five Generals Houses, locations that served as General's headquarters during the Revolutionary War, particularly during the second Middlebrook Cantonment of 1778-1779 when nearly 10,000 troops were brought to the area around Bound Brook in Bridgewater Township and Manville Borough. The Five Generals Houses are dispersed across a large portion of northeastern Somerset County, with two locations in Bridgewater, one in Bedminster, one in Somerville, and one in South Bound Brook.

The Heritage Trail Association hosts narrated bus tours of the Five Generals Houses. These tours offer a unique

educational experience, for young and old alike, to learn about the history of the American Revolution and the generals who occupied the houses. Improved access to these locations for pedestrians and cyclists could greatly enhance the use and enjoyment of the Five Generals Houses, combining recreation with a unique educational experience.

Similar events are hosted in other New Jersey Counties, including the Chasing George All Around bike ride in neighboring Mercer County. This annual event organized by the Princeton Free Wheelers Bicycle Club and Greater Mercer TMA, includes historical talks at sites in Lawrenceville, Pennington, and Washington Crossing State Park, courtesy of the Lawrence and Hopewell Valley Historical Societies.ⁱⁱ

Successful examples of using trails and multimodal facilities to improve the use and enjoyment of cultural and heritage amenities include the Indianapolis Cultural Trail which connects "cultural districts and entertainment amenities while serving as the downtown hub for central Indiana's vast greenway system."ⁱⁱⁱ Benefits of developing the Indianapolis Cultural Trail have included economic development and property value increases; more trail use, exercise, and recreation; and tourism and hospitality industry spending. In a similar manner, the WalkBikeHike study can be leveraged to achieve provide similar benefits to Somerset County.^{iv}



Discover Revolutionary New Jersey



Wallace House, Somerville; Gen. George Washington



Staats House, South Bound Brook; Gen. F. von Steuben



Van Horne House, Bridgewater; Gen. Benjamin Lincoln



**Middlebrook
Five Generals Bus Tour**

Sunday, February 17, 2019



Jacobus Vanderveer House, Bedminster; Gen. Henry Knox



Van Veghten House, Bridgewater; Gen. Nathanael Greene

Luxury Coach with personal narration



The Heritage Trail Association organizes guided bus tours of the Five Somerset County-based Revolutionary War Generals Houses



Jacobus Vanderveer House & Museum

Built in 1779, the Vanderveer House & Museum served as the headquarters for General Henry Knox, commander of the Pluckemin Continental Army Artillery Cantonment, (a part of the Middlebrook Cantonment) the nation's first military training academy. The site is the northernmost of the five houses and located in Bedminster Township near the junction of U.S. Routes 202 and 206. The structure is part of the larger 218-acre River Road Park.

Existing Access to the Vanderveer House is via the Bedminster Township River Road Park with over 5 miles of multi-use trails on the western side of U.S. 202/206. Access is also available from the eastern side of U.S. 202/206 via the Township's Hike & Bike trail, which includes more than 6.5 miles of paved multi-use paths that connect the Bedminster Village area at Lamington Road to The Hills housing development and all three township parks.^v

Each of these existing trails and paths are off-road and trailhead parking is provided for drive access. The U.S. 202/206 corridor is a high-stress roadway with no existing designated bicycle facilities, severely limiting multimodal access to both the Vanderveer House and River Road Park locations.

Potential Improvements include new facilities and amenities to supplement the existing off-road trails and paths (Figure 3-8):

- Reconfigure U.S. Route 206 as a boulevard design with adjacent multi-use sidepath connecting the River Road Park area to Bedminster Village
- Improved access to the River Road Parks via U.S. 202/206 with sidepath along Thosmor Road to existing Hike & Bike trail
- Sidepath along U.S. 202/206 provide north-south interconnect to Somerville via Mountain Avenue and Peters Brook Greenway



JACOBUS VANDERVEER HOUSE & MUSEUM
BEDMINSTER, NEW JERSEY



Wallace House & Old Dutch Parsonage Historic Site

Located about eight miles south of the Vanderveer House the Wallace House was built in 1776 by John Wallace a Philadelphia fabric merchant. It was General Washington's headquarters from December 1778 to June 1779 when the Continental Army was stationed at Middlebrook. The House maintains its 18th-century appearance and has been fully restored.

Across the street and built in 1751, the Georgian style Old Dutch Parsonage in Somerville was built for Reverend John Frelinghuysen. Later residing in the parsonage was Reverend Jacob Hardenbergh, who helped establish Queen's College, now known as Rutgers University. Hardenbergh served as the college's first president and also served in the Provincial Congress of New Jersey during the Revolutionary War.

The Wallace House & Old Dutch Parsonage Historic Site is a State-operated historic site and is located on Washington Place, in Somerville. Washington Place is a residential street situated between U.S. 206 and NJ TRANSIT's Raritan Valley Line.

Existing Access to the Wallace House is via Somerset Street (CR 626) or two lightly traveled residential streets, South Middaugh Street and Washington Place. The Wallace House is also a five-minute walk (about one quarter mile) along Somerset Street from the Somerville Train Station. Currently none of these roadways includes existing designated bicycle facilities.

Potential Improvements include several new facilities and amenities to supplement the existing access:

- Sidepath along U.S. 202/206 to provide north-south interconnect to Somerville via Mountain Avenue and Peters Brook trails, and create connections to the Wallace House
- Connections to the west (Raritan Borough) and south via bike lane on Somerset Street (CR 567) and shared use path on the Somerville Landfill redevelopment site
- Regional east-west connectivity includes bike lanes, sidepath, and shared lane segments along Old York Road (Raritan), Somerset Street (Raritan/Somerville), Veterans Memorial Drive (Somerville), and Main Street (Somerville/ Bridgewater) to Talmadge Avenue/Main Street (Bound Brook) to Elizabeth Avenue (South Bound Brook)
- Alternative east-west connectivity would be provided by linking low-stress routes south of Main Street (Somerville) using sidepath segments along local streets and through off-road properties and parks between the Peters Brook Greenway Finderne Avenue, and Van Veghten House
- Extension of the Raritan River Greenway in Somerville, Bridgewater, and Manville would provide additional off-road connections between Raritan, Peters Brook Greenway, and Van Veghten House





Wallace House and Old Dutch Parsonage, Somerville, NJ



Derrick Van Veghten House, Bridgewater, NJ

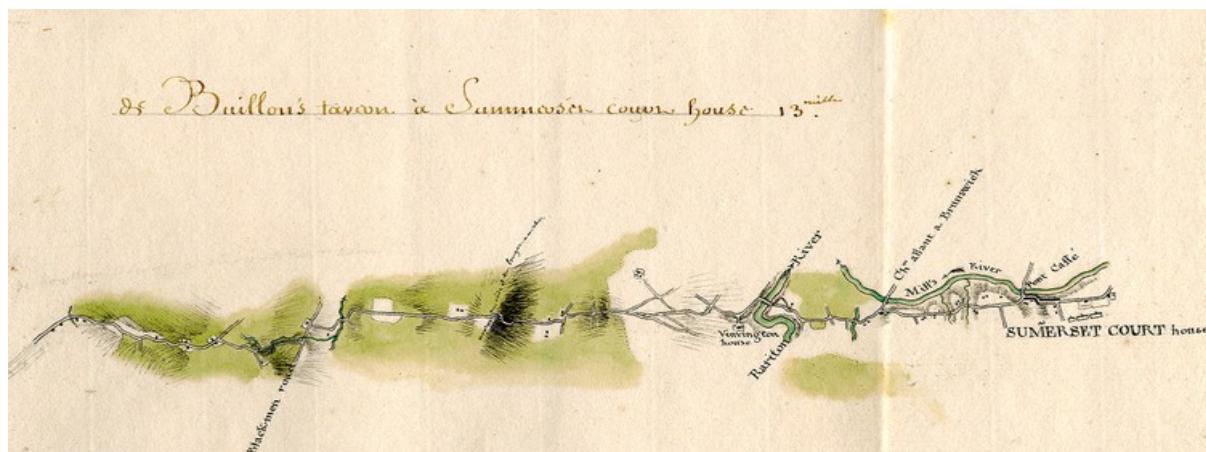
Derrick Van Veghten House

The Derrick Van Veghten House is about three miles east of the Wallace House & Old Dutch Parsonage and about one mile east of the Somerville NJ TRANSIT station. Built in 1725, the Van Veghten House in Bridgewater Township, served as the headquarters for Quartermaster General Nathanael Greene during the Middlebrook Cantonment. Derrick Van Veghten was a member of the Colonial Assembly and the County Commissioner of Highways. The house is now the headquarters of the Somerset County Historical Society

Existing Access to the Van Veghten House is limited to Finderne Avenue, a heavily-traveled and high-stress four-lane roadway that connects Somerville and Bridgewater to Manville over the Raritan River. Finderne Avenue has limited shoulders and a sidewalk along the southbound lanes only, posted speed limits of 40 and 45 mph, and also provides access to numerous industrial and commercial sites. ^{vi}

Potential Improvements include several new facilities (Figure 3-8):

- Regional east-west connectivity would be created by the interconnected corridor that includes bike lanes along Veterans Memorial Drive (Somerville) and Main Street (Somerville/Bridgewater)
- Alternative east-west connectivity would be provided by linking low-stress routes south of Main Street (Somerville) using sidepath segments along local streets and through off-road properties and parks between the Peters Brook Greenway Finderne Avenue, and Van Veghten House
- Extending the Raritan River Greenway in Somerville, Bridgewater, and Manville would provide additional off-road connections between Raritan, Peters Brook Greenway, and Van Veghten House



This 1780 map documents a day's march of thirteen miles by Continental Army Troops. A major obstacle was the long and steep climb over Second Watchung Mountain, north of today's Martinsville, continuing down into the Raritan Valley via Steele's Gap, still known today, and passing by the Derrick Van Veghten House in Bridgewater Township.

Heritage Trail Association - Van Horne House

Continuing another 2.5 miles to the east of the Van Veghten House along the same primary corridors which are some of the busiest in the Regional Center, the next general's house is the Van Horne House. Located in Bridgewater, the Van Horne House served as the headquarters for General Benjamin Lincoln in 1777 and was the location of part of the Battle of Bound Brook. It was General William Alexander (Lord Stirling) headquarters from 1778 to 1779 during the Middlebrook Cantonment. This site is located adjacent to I-287 just north of the Bridgewater Train Station and TD Bank Ballpark.

Existing Access to the Van Horne House is limited to Main Street, a heavily-traveled and high-stress corridor, and one of the few east-west roadways connecting Somerville and Bridgewater to Bound Brook. Main Street has limited shoulders and sidewalks generally along just one side of the roadway, posted speed limits of 40 mph, and that also provides access to numerous industrial and commercial sites. Main Street has no existing designated bicycle facilities or signs.

Transit access is excellent, as the Bridgewater Station in the Raritan Valley Line is just a short walk across Main Street; County bus service also runs along Main Street.

Potential Improvements include several new facilities and amenities to supplement the existing access (Figure 3-8):

- Regional east-west connectivity would be created by the interconnected corridor that includes a potential road diet and traffic calming with bike lanes on Main Street (Somerville/Bridgewater), connecting directly to the Van Horne House
- The corridor would extend to the east along Talmadge Avenue/Main Street (Bound Brook) by providing shared lane markings and traffic calming



Abraham Staats House

The last of the five houses is the Abraham Staats House, located in South Bound Brook, approximately two miles southeast of the Van Horne House and across from the Raritan Valley Line, Raritan River, and D&R Canal and Towpath. Built in 1740, the Staats House served as the headquarters for General Friedrich Wilhelm von Steuben during the Middlebrook Cantonment and is an excellent example of Dutch and Federal architecture. Located only 200 feet from the D&R Canal Trail, the site is accessed from a cul-de-sac on Von Steuben Lane at Main Street.

The Staats House is an underused location with great potential for on-site amenities including kayak launch, amphitheater, picnic area, and performance space.

Existing Access to the Staats House is available via Main Street in South Bound Brook, a heavily-traveled corridor during the peak periods. Traveling to the east and south Main Street becomes Easton Avenue (CR 527), a route that provides excellent access to New Brunswick and Middlesex County but is also a high-stress and congested corridor with limited existing bicycle and pedestrian accommodations.

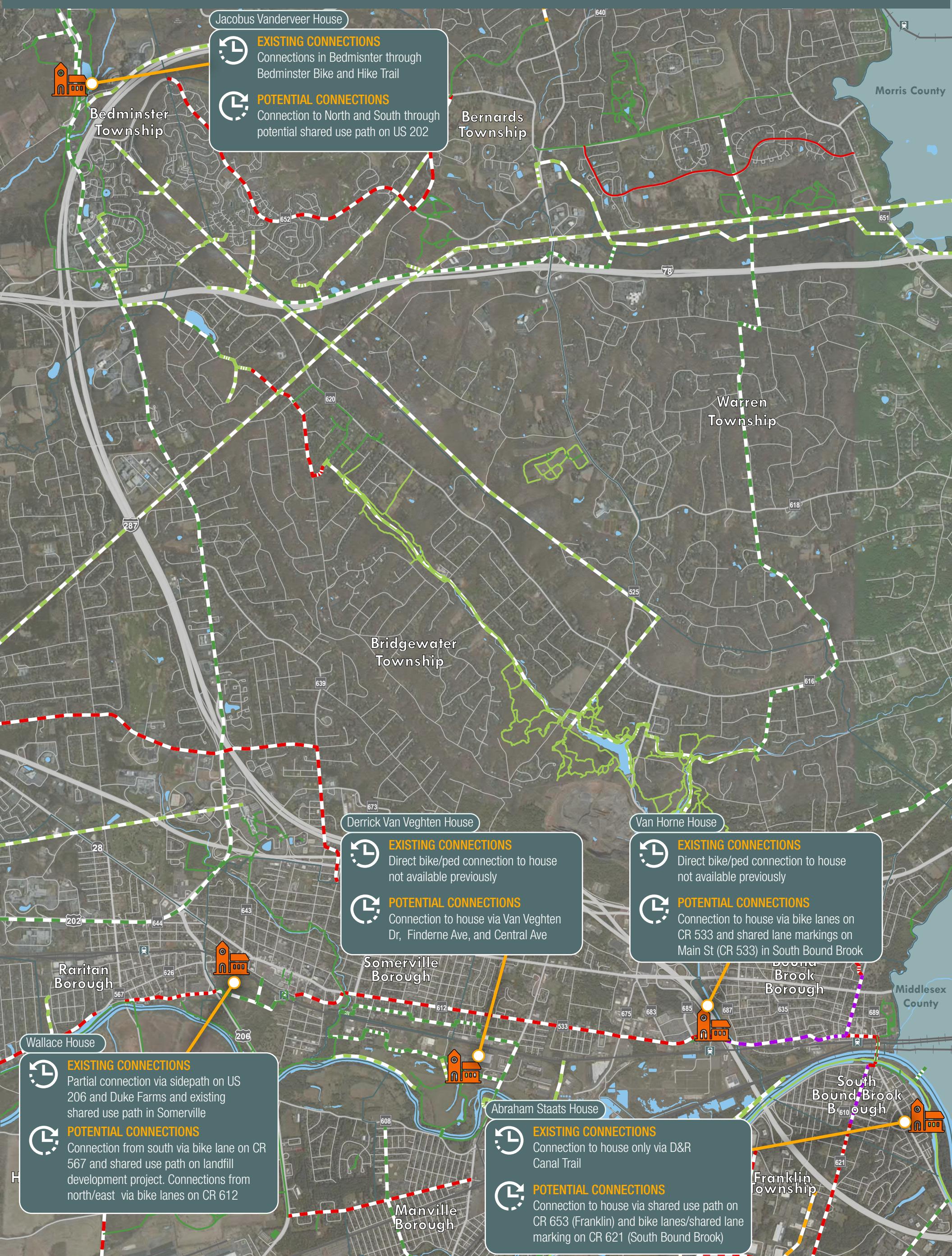
The site is directly adjacent to the D&R Canal but lacks direct access to the Canal Towpath, limiting existing access to Main Street only.

Potential Improvements include several new facilities and amenities to supplement the existing access (Figure 3-8):

- Regional connectivity extending to the east from Bound Brook using shared lane markings and traffic calming, and continuing to the Queens Bridge to Elizabeth Avenue (South Bound Brook)
- A potential new multi-use trail and bridge structure over the Raritan River and D&R Canal with access to the Canal Towpath



Figure 3-8: Five Generals Houses Framework Diagram



Existing Network



WALK • BIKE • HIKE
SOMERSET COUNTY

Potential New Network

- Shared Use Path / Sidepath
- Bike Blvd
- Trail
- Buff Bike Lane
- Bike Lane
- Shared Lane Markings

Five Generals Houses

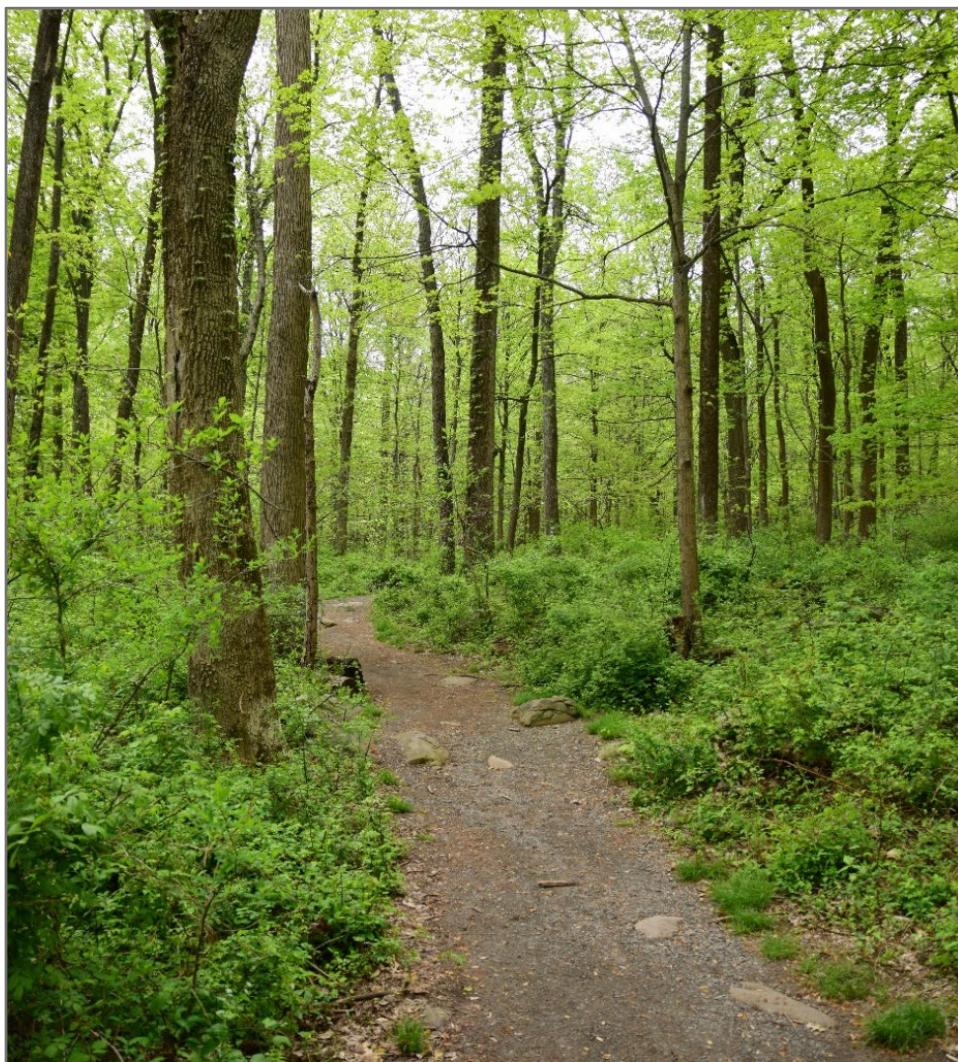
0 0.25 0.5 1 Miles



3.2 Duke Farms-Sourlands-Lawrence Hopewell Trail-Interconnect

The goal of this focus area is to link together three of Central New Jersey's most significant assets: Duke Farms, Sourland Mountain Preserve, and Lawrence Hopewell Trail (LHT), offering a unique blend of activities and amenities to the region, including elements of preservation, sustainability, land stewardship, mobility, and recreation.

Potential improvement to the Duke Farms-Sourlands-Lawrence Hopewell Trail area include both local and regional connections between Somerset and Mercer Counties, and the municipalities of Hopewell Borough and Hopewell Township in Mercer County, with Hillsborough and Montgomery Townships in Somerset County.



Sourlands Mountain Preserve features many miles of trails and is among the most popular of Somerset County parks.

Duke Farms

Duke Farms is a one-of-a-kind model and laboratory for land stewardship, sustainability, and resilience. The original Duke Farms estate was established by James Buchanan Duke and is managed by the Duke Farms Foundation. Located just to the south of the Regional Center and a short distance from both the Raritan and Somerville trains stations on the Raritan Valley Line, Duke Farms covers a large portion of northwestern Hillsborough Township. Nearly 1,000 of its 3,000 acres are open to the public for exploration, outdoor activities, education, and research related to ecological sustainability.

Visitors, totaling more than 250,000 in 2018, come from Somerset County and beyond to experience native New Jersey landscapes, plant communities, woodlots, hedgerows, and wildlife habitat, in addition to many activities and amenities including a seasonal weekly farm market, sustainable community garden plots, education programs, and 18 miles of traffic-free walking and biking trails. Duke Farms offers on-site bike share and continues to expand and diversify its offerings.^{vii}

Existing Access is available to Raritan Borough but connections to Somerville are incomplete. Low-stress off-road facilities connect the internal Duke Farms trails to a new sidepath along River Road (CR 525), providing traffic-free connectivity across the Nevius Street Bridge into Raritan Borough.

Only partial on-road access to Somerville is currently available. An existing sidepath along southbound U.S. 206 is available but is not fully

compliant with current design standards, and at least one high-stress crossing of a side street (Dukes Parkway West) is required. Various sections of the current sidepath are too narrow, lack required curbing, and have obstruction including signs and utility poles within the travel way. During peak hours, the crossing at Dukes Parkway West is especially busy and exposure to high traffic volumes and speeds is a common occurrence. Low-stress, off-road access to Somerville is available using the U.S. 206 sidepath to existing segments of the Raritan River and Peters Brook Greenway, but the route is circuitous and improved wayfinding is needed to properly navigate this route.

Potential Improvements to improve access to Raritan and Somerville include (Figure 3-9):

- Bike lanes along Old York Road (CR 567)/Orlando Drive to enhance east-west connectivity through Raritan Borough and to the Raritan River Greenway
- Re-build the U.S. 206 sidepath to improve separation from the roadway, achieve compliance with current design standards, and reduce stress and exposure to traffic volumes and speeds
- Provide additional wayfinding along the Peters Brook to Raritan River Greenway alignments with directional signage specific to both Somerville and Duke Farms destinations, and develop improved maintenance and debris removal procedures



Sourland Mountain Preserve

Located about five miles south of Duke Farms, the 4,000-acre Sourland Mountain Preserve is owned by Somerset County and administered by the Somerset County Park Commission. The Preserve lies within the northeastern perimeter of the Sourland region, which stretches diagonally from northeast to southwest across Hillsborough and Montgomery Townships in Somerset County, through southern Hunterdon and northern Mercer counties, and continues to the Delaware River just south of Lambertville.

The Preserve's natural setting boasts a variety of plant species, stream corridors, and geologic formations, and provides a core habitat to a diversity of animal species, including Red Fox, Gray Fox, coyote, deer, amphibians and reptiles, and many species of migrating and nesting birds.^{viii}

The Sourland Mountain Preserve affords a variety of recreational opportunities in an undisturbed natural setting, including hiking, mountain biking, bird watching, bouldering and horseback riding. Existing trails span more than 15 miles; some are accessible by bike, but most are best negotiated by foot.

Existing Access to the Sourland Mountain Preserve from Duke Farms and Hillsborough is limited to high-stress roadways such as East Mountain Road that have limited shoulders or no multimodal accommodations.

Hillsborough has some existing bike lanes but no direct and continuous low-stress connections between the Duke Farms and Sourland Mountain Preserve.

Potential Improvements to bridge the gap between Duke Farms and Hillsborough include new facilities along the following routes (Figure 3-9):

- Bike lanes along Roycefield Road
- New trail along the abandoned Conrail line, connecting the potential Roycefield Road bike lanes to the west, crossing South Branch Road, and continuing through to the South Branch Raritan River at Neshanic Station
- New trail starting near South Branch Road and connecting south to the Belle Mead Depot and Mountain View Park
- New trail connecting the Belle Mead Depot and Mountain View Park to the Sourland Mountain Preserve



Lawrence Hopewell Trail

About 10 miles further south of the Sourlands Mountain Preserve lies the Lawrence Hopewell Trail (LHT), a 22-mile loop trail winding through Lawrence and Hopewell Townships. The LHT offers safe access across both townships for children, families, bicyclists, joggers, hikers, birders, sportsmen, and commuters. The trail is designed to promote recreation, healthy lifestyles, general mobility, and commuting. The Lawrence Hopewell Trail Corporation, an independent non-profit organization, was formed to oversee the development, maintenance, and promotion of a multi-use biking and walking trail.

The LHT Corporation is led by an all-volunteer board of community leaders and meets regularly to develop and administer strategic plans and manage the trail with the collaboration of government, business, non-profit, and private sector groups. The LHT is a unique public-private partnership trail organization.

As of June 2019, about 18 miles of the planned 22-mile loop is built or under construction, and plans are underway to complete the remaining sections. Trail segments are made of a variety of materials including permeable pavement, stone dust, and other natural materials, and ownership spans a variety of public, private, and institutional lands.^{ix}

The LHT is designed to link residential areas with community assets and destinations, including schools, parks, work sites, and downtowns. Additional local connections are available that link the LHT to adjacent communities such

as the Borough of Pennington Connector, which a sidepath adjacent to Pennington Rocky Hill Road (Mercer County Route 624).

Existing Access between Sourlands Mountain Preserve and LHT is limited to high-stress roadways including Belle Mead-Blawenburg Road (CR 601) and Georgetown-Franklin Turnpike (CR 518).

- CR 601 is a narrow, high-stress roadway, with limited or no shoulders, a posted speed limit of 50 mph, and covering a distance of about five miles from the Preserve to the Montgomery High School.
- A short segment of low-stress sidepath (0,.65 miles) connects the High School to the Blawenburg section of Montgomery Township at CR 518.
- From the intersection of CR 601 & CR 518 in Blawenburg and traveling toward Mercer County and Hopewell Borough, CR 518 has several miles of bike lanes leading to the border with Mercer County at Province Line Road. Starting at the Mercer County border, no bike lanes or other low-stress improvements are provided into Hopewell Borough, and no direct connection is currently available to the LHT from Hopewell Borough, creating an additional gap of several miles.

Potential Improvements to connect the Sourlands Mountain Preserve to the LHT and fill in the existing gaps in low-stress access have not yet been identified, based on the many existing constraints discussed above.



Figure 3-9: Duke Farms, Soulards, and Lawrence Hopewell Trail Connection



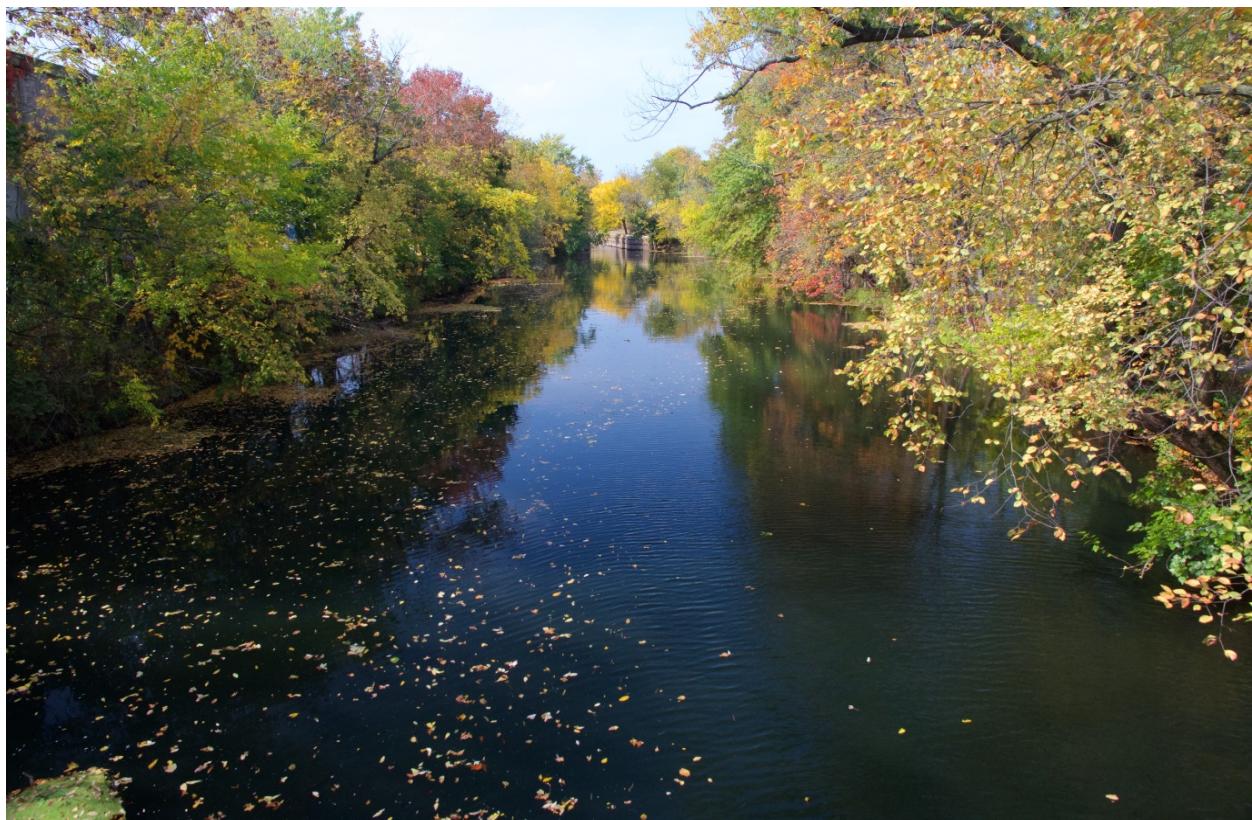
3.3 Raritan River Greenway

The Raritan River is formed at the confluence of its North and South Branches in Branchburg. It flows in a generally eastward direction through and along a series of Somerset County municipalities including Branchburg, Bridgewater, Raritan, Hillsborough, Somerville, past Manville where the Millstone River enters from the south and continues eastward as it divides Bound Brook and South Bound Brook, and then into Middlesex County.^x

The Raritan Basin covers over 1,100 square miles, making it the largest river basin entirely within the State of New

Jersey; it provides fresh drinking water, recreation, sporting opportunities, and transportation for more than one million residents in seven counties.^{xi}

One of the principal themes of the 2018 *Regional Center Strategic Master Plan* is to embrace the Raritan River, and recognize it as both an asset and an opportunity. WalkBikeHike advances this theme by increasing public awareness of the river and enhancing recreational and mobility opportunities along the Greenway.^{xii}



Lush, scenic, and seemingly isolated, the Raritan River passes through many Somerset County communities, providing direct access to some while disconnected from others.



WalkBikeHike - Somerset County

Its unique confluence of access to residential communities and employment sites, and host to recreation, tourism, history, and numerous downtown destinations, makes the Raritan River ideally suited to the development of an expansive greenway and trail system.

Completed sections of the Raritan River Greenway include segments in Bridgewater, Raritan, Somerville, and Manville. Development and completion of the overall Raritan River Greenway, is a priority for Somerset County.

Existing Access and facilities along the Raritan River Greenway are fragmented

- The longest existing facility is a segment about 3 miles long in Bridgewater and Raritan, connecting through Duke Island Park to Old York Road in Raritan. Additional access in Raritan is provided at Nevius Street. Busky Lane at Orlando Drive has access to the Raritan River, with a crossing under U.S. Route 206 to Somerville near South Bridge Street.
- A gap is present between Somerville and Manville, where a short trail segment is provided within Dukes Parkway Park, adjacent to Duke Parkway East and North Main Street.
- To the east of Dukes Parkway Park, no further existing sections of the Raritan River Greenway are currently in place. East of the confluence with the Millstone River, the D&R Canal Towpath is located between the Raritan River and D&R Canal waterways, and fully separated from the adjacent

communities. In this area, the sole access point to the Raritan River and East Coast Greenway/D&R Canal Towpath is limited to the Queen's Bridge crossing between Bound Brook and South Bound Brook.

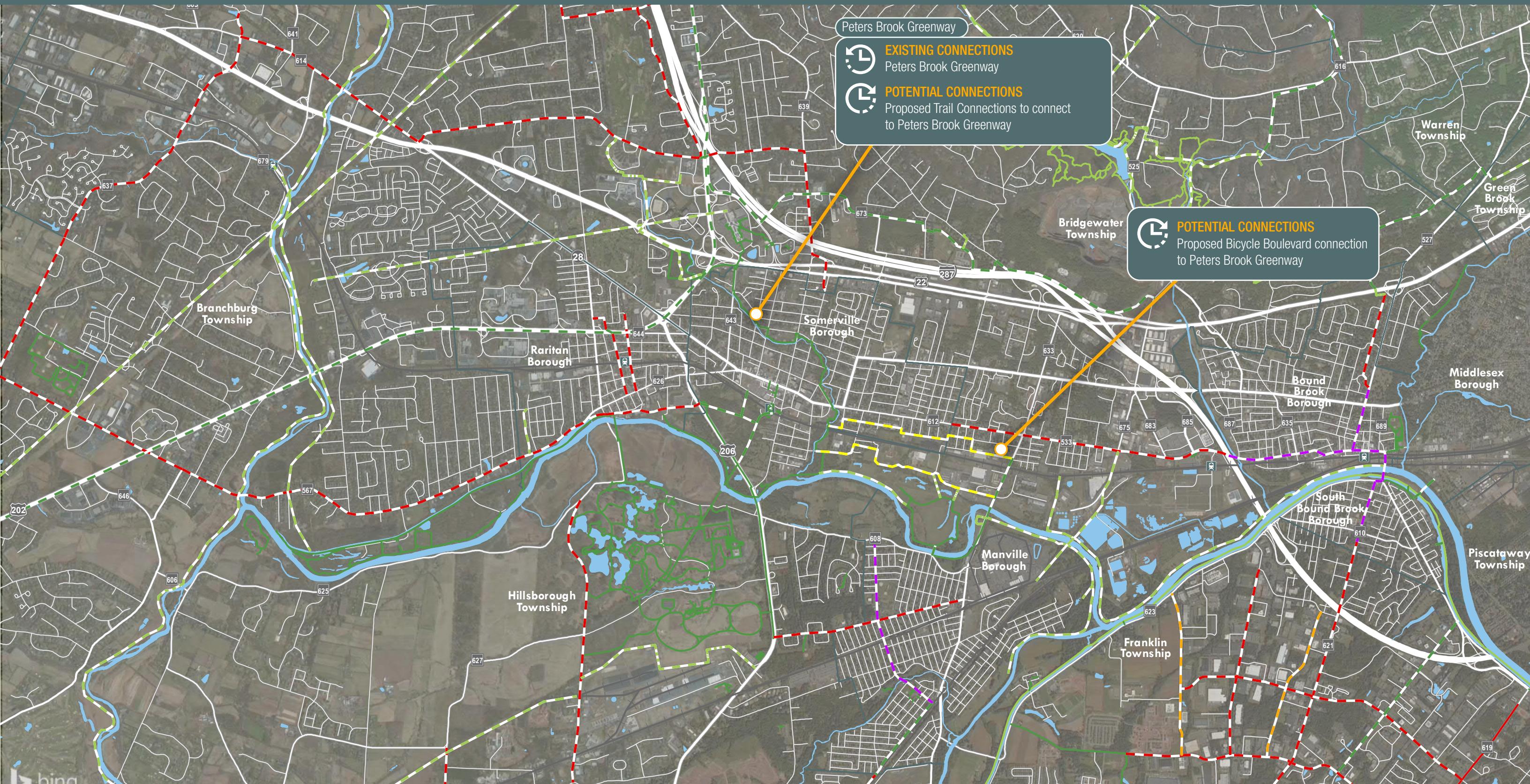
- In South Bound Brook, the Staats House at Von Steuben Lane is located adjacent to the D&R Canal but lacks direct access to the Canal Towpath.

Potential Improvements to the Raritan River Greenway include (Figure 3-10):

- Bike lanes along Old York Road (CR 567)/Orlando Drive to enhance east-west connectivity through Raritan and to the Raritan River Greenway
- Enhanced wayfinding along the Peters Brook and Raritan River Greenways alignments with directional signage specific to both Somerville and Duke Farms destinations
- East-west connectivity would be provided by linking low-stress routes south of Main Street (Somerville) using local streets and off-road properties and parks between the Peters Brook Greenway and Van Veghten House and Finderne Avenue
- Extension of the Raritan River Greenway in Somerville, Bridgewater, and Manville would provide additional off-road connections between Raritan, Peters Brook Greenway, and Van Veghten House



Figure 3-10: Raritan River Greenway Framework Diagram



Existing Network

- Trail (green dashed line)
- Shared Use Path / Sidepath (green solid line)
- Bike Lane (red dashed line)
- Railroad (brown line)

Potential New Network

- Shared Use Path (green dashed line)
- Bike Blvd (yellow dashed line)
- Bike Lane (red dashed line)
- Shared Lane Markings (purple dashed line)
- Trail (green dotted line)
- Buff Bike Lane (orange dashed line)

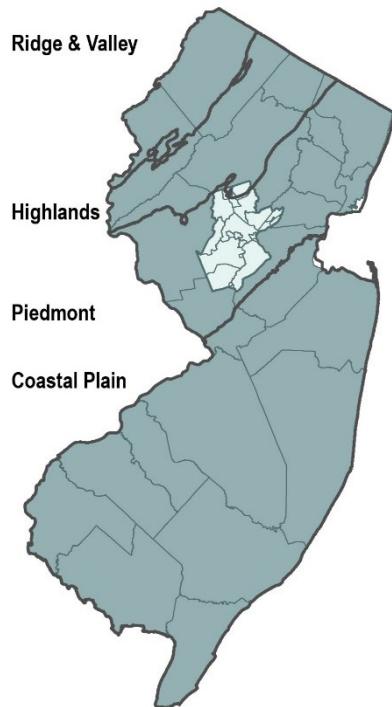
0 0.25 0.5 1 Miles



3.4 Watchung Ridge Greenway

The Watchung Ridge Greenway focus area covers a significant portion of northeastern Somerset County. The Ridge is bounded along its western and southern edges by I-287 and U.S. Route 22, and covers portions of Bedminster, Far Hills, Bridgewater, Bernards, Warren, Green Brook, North Plainfield, and Watchung.

Geologists classify New Jersey into four physiographic provinces known as Valley & Ridge, Highlands, Piedmont, and Coastal Plain^{xiii}. The majority of Somerset County is situated within the Piedmont Province, although portions of Peapack and Gladstone, Far Hills, and Bernardsville are in the Highlands Province.

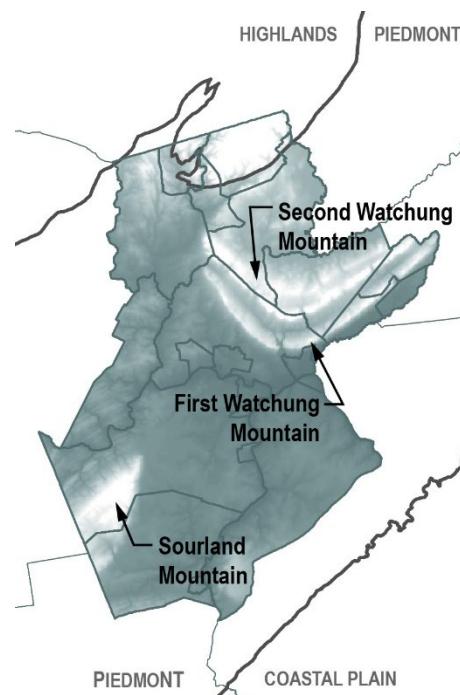


Map: Physiographic Provinces of New Jersey (Data Source: NJDEP Digital Geodata Series DGS02-7)

The Piedmont Province comprises about one-fifth of the state and is characterized by rolling terrain with mostly gentle slopes, punctuated at points by the emergence of mountains. In Somerset County, these mountains include:

- First Watchung Mountain
- Second Watchung Mountain
- Sourland Mountain

The First and Second Watchung Mountains create a unique and attractive landscape in the northern portion of Somerset County.



Map: Relief Map Showing Mountains of Somerset County (Data Source: NJDEP Digital Elevation Grid 100 meter for New Jersey)

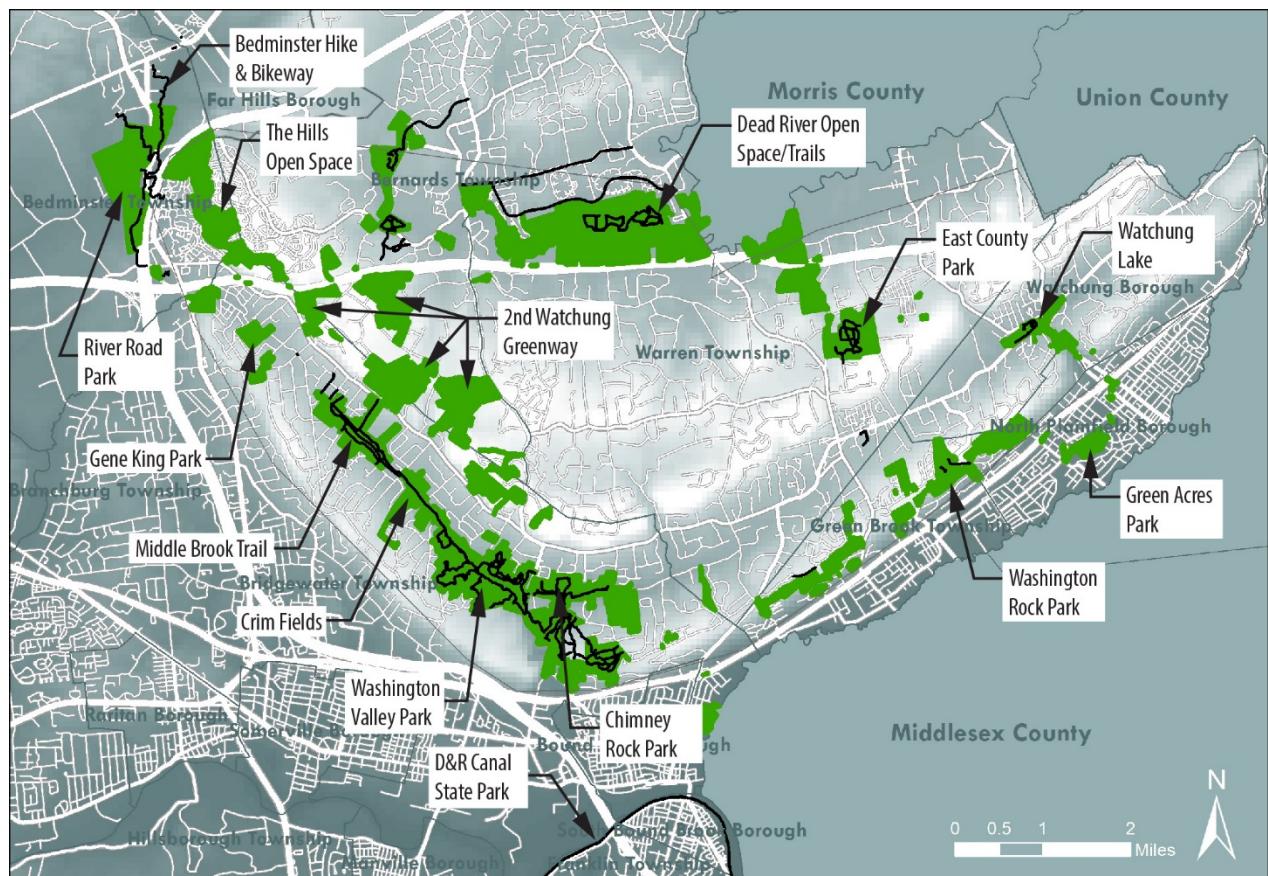


Context

The open space and parkland in and around the First and Second Watchung Mountains tends to be hilly, rugged, and wooded. The prevailing land use in the area is single-family detached housing with concentrated commercial areas, such as Pluckemin, Martinsville, and the town center in Warren. Where the land was relatively flat and dry, it was developed as housing, school, commercial, or active recreation parks such as River Road Park in Bedminster, Chimney Rock Park in Bridgewater, or Mountain Park in Bernards.

However, the existing road network in this area tends to be hilly and winding, with connector roads that convey motor vehicles at a volume and speed that is generally uncomfortable for all but experienced, stress-tolerant bicyclists.

Because of these many challenges and constraints, planning for access, mobility, and recreation within the Watchung Ridge must consider the potential for off-road connections.



Map of Class 15C parcels with key parklands forming a ring around the First and Second Watchung Mountains. (Data Source: Tax Parcels of Somerset County, New Jersey, Revised April 2018)



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Consequently, much of the land that remains available for mobility and connectivity purposes is hilly or rugged terrain, and less than ideal for other types of development.

Analysis of GIS parcel data for Somerset County^{xiv xv} indicates a ring of publicly-owned lands around the First and Second Watchung Mountains (see map previous page). Among these properties is a significant number of existing parks and trails. Development of the Watchung Ridge Greenway is a potential opportunity to link these individual properties together to form a continuous, and interconnected loop.

While the definition of greenway once emphasized continuity for the sake of conservation, there is now a heavy emphasis on connectivity. In greenways, people seek facilities that take them somewhere, provide connections, and create new ways to travel and access open space.

Long-Term Vision

By building upon existing public space, park, and trail facilities, and closing gaps over time, there is potential to develop the Watchung Ridge Greenway as a continuous loop to connect residents with recreation, cultural, and civic amenities in northern Somerset County between the First and Second Watchung Mountains.

The potential Watchung Ridge Greenway could be a 25-mile loop to link the communities of Bedminster,

Bridgewater, Warren, Green Brook, North Plainfield, Watchung, and Bernards. From Bedminster, an off-road connection north on the existing Bedminster Hike and Bikeway can potentially link to Natirar and the community of Far Hills. From Bridgewater, near the southern tip of the First Watchung Mountain, a potential on-road connection can create access to D&R Canal State Park and the communities of Bound Brook and South Bound Brook.

The Watchung Ridge Greenway is a potential initiative that can be pursued in phases. While other Focus Areas in this study have a more definable timeline, the Watchung Ridge Greenway is more conceptual in nature and would require a joint initiative among Somerset County, various municipalities, and other planning partners to establish a formal framework for advancement.

Collaboration with adjacent Union County is also recommended to make regional connections to the Watchung Reservation trails.

Such a framework would foster community support, enable Somerset County to strategically analyze potential property, identify preferred and alternative routes and phasing, and elaborate on the types of facilities (hiking trail, shared use path, on-road link) that can be envisioned for the varying, rugged terrain of the First and Second Watchung Mountains.



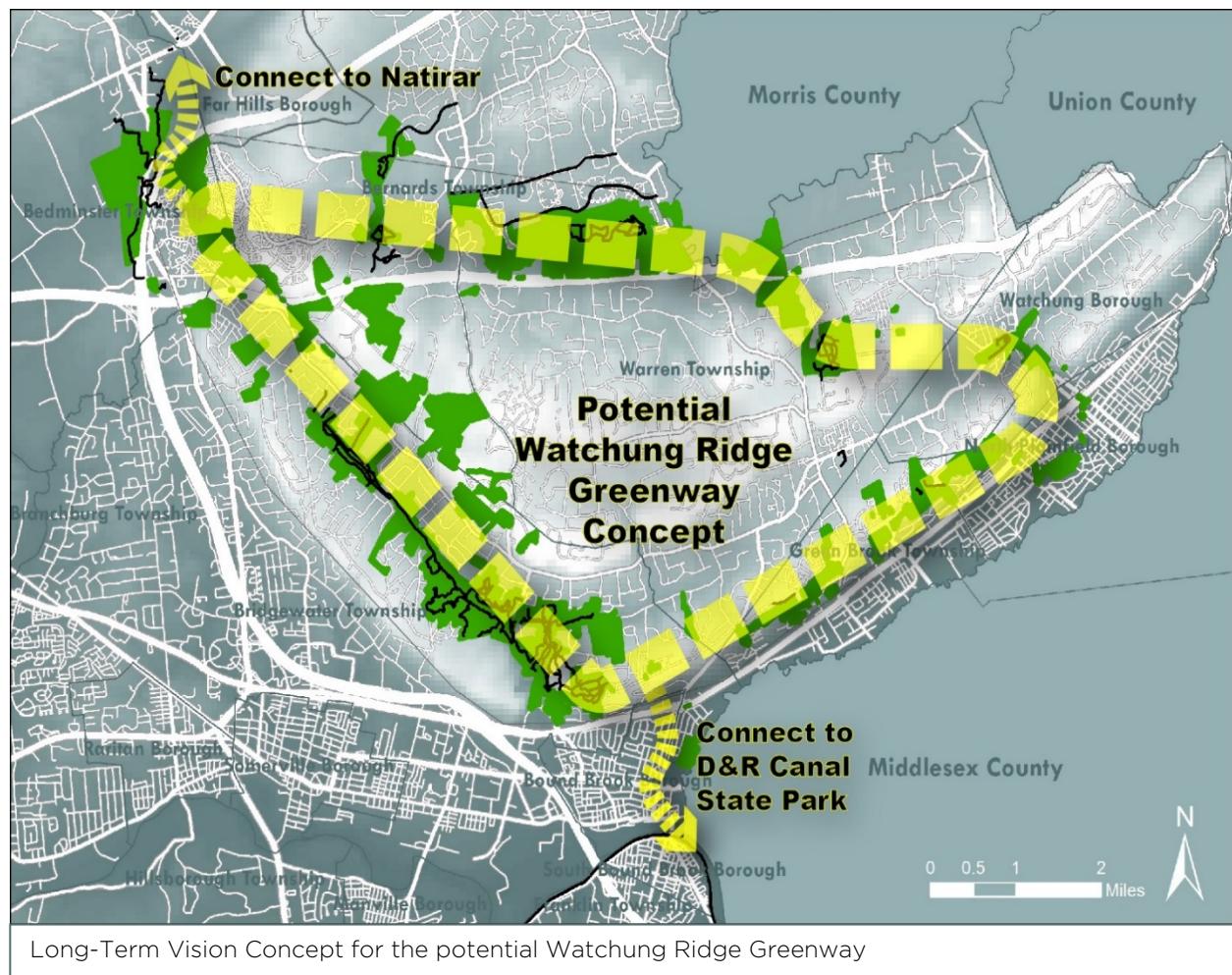
Starting Point: Watchung Ridge Greenway-Southwest Link

The southwest ridge of the First and Second Watchung Mountains has significant potential for trail development as a component of the Watchung Ridge Greenway. This area has established parks and trails and is bookended by the attractive villages of Pluckemin and Martinsville, each with a range of local shops, restaurants, and other amenities.

On the west end, Pluckemin Village Historic District^{xvi} is an area of Bedminster at the junction of

Washington Valley Road and U.S.-202/206 with historic buildings, restaurants, shops, and housing. There is also a shopping center with groceries, medical/pharmacy, shops, and restaurants.

To the east, the village of Martinsville includes a range of local shops, restaurants, and businesses with access to Washington Valley Park and historic resources associated with Middlebrook Encampment.



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For five miles between the two villages, there is a large expanse of neighborhoods with single-family detached housing, served by Washington Valley Road for east-west motor vehicle travel. Immediately adjacent to Pluckemin is The Hills, a densely-populated condominium development.

Existing Access for pedestrians and bicycles along the Watchung Ridge Greenway includes

- Pluckemin Village is accessible from the Bedminster Hike & Bike Trail, an off-road paved shared use path that is a scenic, recreation, and mobility asset
- In Martinsville, the Middle Brook Trail and Washington Valley Park provide general trail uses, but there is not an established trail or shared use path connecting to Martinsville

Potential Improvements could involve creating a trail or shared use path to connect the villages of Pluckemin and Martinsville. This can be viewed as a first step to solidify a foundation upon which to expand the Watchung Ridge Greenway.

Roughly three miles of the extent between Pluckemin and Martinsville already has trail facilities, including the Middle Brook Trail and Washington Valley Park. By expanding upon established trails, closing gaps, and completing connections, it could be possible to achieve a continuous, low-stress connection for pedestrians and bicyclists between the two villages:

- From Pluckemin into the residential areas of Bridgewater on the First Watchung Mountain, a potential connection can be made with a sidepath on U.S.-202/206 and trail connection through open space to arrive near Sunset Lake
- Past Sunset Lake, a low-stress route can potentially be achieved with shared lane markings and signage on South Shore Drive
- South Shore Drive connects to Papen Road via an existing trail through Gene King Park. The existing trail can potentially be improved to enhance accessibility
- On Papen Road, a low-stress route can be achieved through sidewalks combined with either shared lane markings or bicycle lanes and signage
- The existing Middle Brook Trail can be accessed from Papen Road via a connection point at Wishnow Way



- The Middle Brook Trail is an established trail through the valley between the First and Second Watchung Mountains. It can potentially be assessed for improvements to provide better connectivity to local streets and neighborhoods, and improvements to street crossings and accessibility
- The Middle Brook Trail continues into Washington Valley Park. The crossing at Newmans Lane should be assessed. A potential connection from the Middle Brook Trail to the village of Martinsville via Quarry Lane can be explored and formalized

In summary, the Watchung Ridge Greenway Southwest Link has the potential to connect Pluckemin and Martinsville over a span of five miles. It would create nonmotorized access to local businesses, parks, and recreation in a suburban area of Somerset County that has reached buildout.

A separate potential initiative, would connect the northern end of the Bedminster Hike & Bikeway, a point roughly two miles north of Pluckemin, to Natirar Park in Far Hills.

The advancement of both initiatives could yield an impressive, continuous 9-mile, low-stress route for pedestrians and bicyclists to connect residents and visitors with Washington Valley Park, Natirar, and the villages of Pluckemin and Martinsville.



3.5 Delaware & Raritan Canal Towpath/East Coast Greenway

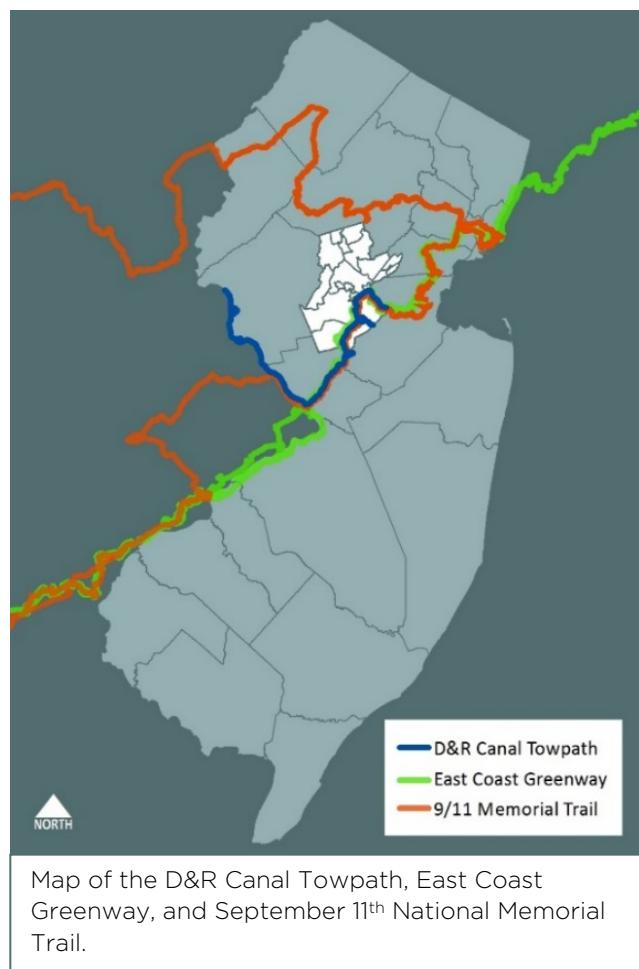
Long distance trails link people and place over great distances, often connecting regions or states. There is something special about a long trail that just keeps going – it spurs the imagination and helps people to connect, literally and figuratively, to the regional or even the national landscape.

The D&R Canal State Park Towpath is an established regional trail that extends from New Brunswick, to Trenton, to Frenchtown, a distance of 70+ miles. This significant asset, which is part of the National Recreation Trail System, traverses more than 20 miles of Somerset County through or adjacent to the communities of Franklin, South Bound Brook, Bound Brook, Bridgewater, Hillsborough, Manville, Millstone, Montgomery, and Rocky Hill.

Initiatives to create new national or regional trails often need to “piggy back” on established trail facilities in order to attain their vision and goals for connectivity. Two national trail initiatives, the [East Coast Greenway](#) and the [September 11th National Memorial Trail](#) have identified the D&R Canal Towpath as the ideal route to follow through central New Jersey.

Another proposed initiative is RPA’s Shore-to-Somerset Connector, an east-west route between the D&R Canal Trail and the Jersey Shore Trail. The proposed trail would run from Point Pleasant to Franklin, with potential connections to Pigeon Swamp State Park and several historic farms and houses.

Successful examples of using trails and multimodal facilities to improve the use and enjoyment of cultural and heritage amenities include the Indianapolis Cultural Trail which connects “cultural districts and entertainment amenities while serving as the downtown hub for central Indiana’s vast greenway system.”^{xvii} By capitalizing on these initiatives and enhancing access to the D&R Canal Towpath, there is the potential to increase trail use, improve access to local businesses and amenities, and attract trail tourism and ecotourism to Somerset County.





September 11th National Memorial Trail

The September 11th National Memorial Trail is a 1,300-mile system of trails and roadways that link the National September 11th Memorial and Museum in New York City, the National 9/11 Pentagon Memorial in Arlington, Virginia, and the Flight 93 National Memorial in Shanksville, Pennsylvania. The trail serves as a tribute to the fallen heroes who perished on September 11, 2001, and the many heroes who have committed themselves to the service of their country.

In New Jersey, the September 11th National Memorial Trail has two major legs:

- The **Westerly Route** connects New York City to Shanksville, Pennsylvania,
- The **Southerly Route** connects New York City to the Pentagon

The Southerly Route uses the East Coast Greenway alignment along the D&R Canal Towpath and traverses Somerset County.

East Coast Greenway

The East Coast Greenway is an evolving 3,000-mile long biking and walking route linking the major cities of the Atlantic Coast from Maine to Florida. The vision of the East Coast Greenway is to utilize off-road, multi-use paths as much as possible. Within New Jersey, the D&R Canal Towpath is the longest continuous off-road segment of the East Coast Greenway.



Improving Access

Over the 20-mile route through Somerset County, the D&R Canal Towpath has 13 formal access points.

Enhancing visibility and access to and from the towpath is a priority for local travel. Throughout the community engagement efforts for this study, people have consistently indicated a need for better access to the D&R Canal Towpath.

By investing in measures to improve access to the D&R Canal Towpath, there is the potential to enhance regional connectivity not only to the 70-mile towpath route, but also to the 4,300 miles of trails envisioned for the East Coast Greenway and the September 11th National Memorial Trail.

Access on this scale offers both local and regional benefits. Local residents will benefit from improved access to the trail that they can use regularly as a local amenity. Meanwhile, regional trail users that traverse the towpath as part of a long trail tourism experience will benefit from better access to the businesses and destinations along the towpath in Somerset County.

Improving access does not necessarily mean increasing the number of access points. Instead, trail access has the potential to be improved through small scale elements that would provide large benefits. These include

- Improvements to street crossings
- Improvements to wayfinding, and
- Improvements to trail kiosks and branding.

Improvements to Street Crossings

The manner in which the D&R Canal Towpath interfaces with the street network is a matter of both safety and comfort. Improvements to at-grade street crossings can help to prevent crashes, reduce conflict between trail users and motor vehicles, and make the trail more enjoyable.

The crossing at Washington Street near the border of Rocky Hill and Franklin is a great example of improvements that prioritize the safety and comfort of the trail user. It includes the following components:

- Advance Warning signs to help motorists anticipate of the approaching trail
- High contrast continental-style crosswalk to mark the crossing location
- Rectangular Rapid Flash Beacons that trail users can activate to alert motorists of their intention to cross



D&R Canal Towpath crossing at Washington Street near Rocky Hill.



Improvements to Wayfinding

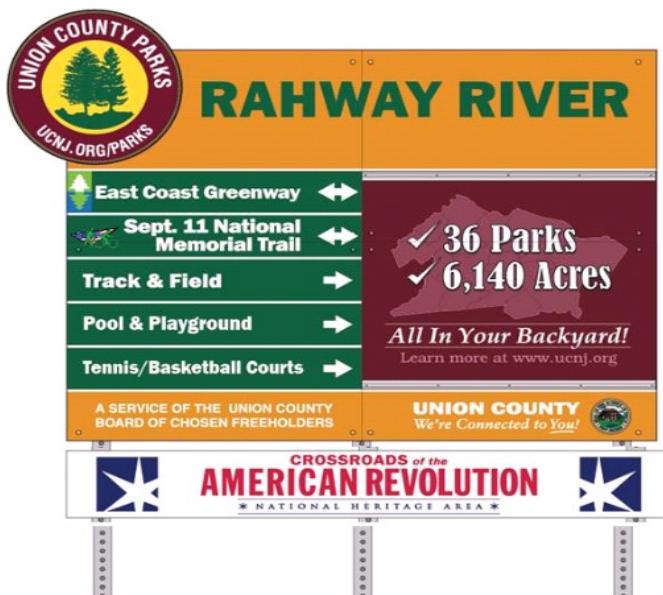
Guidance about current location, distance to destinations points, and access to regional amenities can be helpful for all travelers. The addition of clear and meaningful wayfinding information will help to:

- Attract new trail users by making the trail access points more apparent and inviting
- Orient trail users to the length of the trail facility and the distance between destinations
- Direct trail users to local amenities, businesses, and other attractions

Additional guidance on wayfinding signage for trail and bicycle facilities is available in the Manual on Uniform Traffic Control Devices (MUTCD), Chapter 9.



MUTCD sign D1-3c can be customized for local destinations and distances.



Union County, New Jersey provides wayfinding on large signs (8 foot x 8 foot) with directional information for trails and local destinations.



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Improvements to Trail Kiosks and Branding

Trail kiosks provide information, maps, and other elements to benefit trail users. The East Coast Greenway provides kiosks along the alignment through New Jersey.

The first kiosk built for the East Coast Greenway is actually in Somerset County, located on the D&R Canal near the Millstone Causeway. The East Coast Greenway also provides branding and logos helps to advertise the trail.

Branding strategies that make the East Coast Greenway more visible along the D&R Canal Towpath in Somerset County enhance the long trail experience.

Long trails create opportunities for trail tourism and ecotourism, and help to tie local destinations, amenities, and businesses to regional, national, and historical themes.



East Coast Greenway kiosk near the Millstone Causeway.



East Coast Greenway trail branding.





III. Policy Framework

The policy framework guides implementation of the WalkBikeHike Framework Strategy and Complete Streets projects by Somerset County and its partner municipalities through collaboration, partnerships, and application of state-of-practice planning and engineering guidance and design standards.

To support implementation of the Framework Strategy, the following policy actions and initiatives are recommended.

- Municipal partners should consider adoption of a Complete Street Policy or Ordinance
- All policies, plans, and projects should be consistent with the municipal Complete Streets Policy and consult the *New Jersey Complete Streets Design Guide*, WalkBikeHike Design Book, and Somerset County Preservation Plan, when completed
- Somerset County and its municipal partners should conduct a periodic review of the WalkBikeHike Framework Strategy and implementation status to account for changes in local conditions, needs, opportunities, and priorities
- Encourage and support local citizen advisory groups and committees to track Framework Strategy implementation and identify new opportunities for walk, bike, hike improvements. Identify and work with local champions where applicable
- Collaborate with potential partners and sponsors to support and expand the variety of offerings among tourism, culture and heritage, and recreation events and activities, such as the Tour de Farm, Gran Fondo, and others^{xviii}
- Create linkages between economic development, tourism, the dining and hospitality industries, and multimodal travel. Tourism is a growing and integral part of Somerset County's economic base, and the region features many unique and desirable agricultural-historical- and eco-tourism offerings, including destinations as diverse as the Five Generals Houses and Duke Farms. Expansion of walk, hike, and bike mobility and connectivity have been demonstrated to improve access to tourism venues and locations and turn short daytrips into weekend and multi-day excursions, benefitting many local businesses and entrepreneurs. Successful examples include the Indianapolis Cultural Trail which connects "cultural districts and entertainment amenities while serving as the downtown hub for central Indiana's vast greenway system."^{xix} A concerted effort between Somerset County, Somerset County Business Partnership, Somerset County Tourism, and municipalities along with local businesses and non-profit organizations is recommended to leverage potential opportunities



- Encourage and support Bicycle Education in Schools. This building block reflects the percentage of elementary, middle, and high schools that offer bicycle education and the type of education offered at each school. Support for these programs is a key to establishing a life-long pattern of exercise leading to better health and lower medical costs
- Identify potential opportunities for green infrastructure based on local context and feasibility. Assessment of feasibility should be the first step taken and include a shared understanding of maintenance needs and responsibilities. Execution of a formal memorandum of agreement to establish responsibilities for maintenance should be completed in advance of final design and construction
- Partner with Healthier Somerset to Investigate opportunities to advance the Park Rx program (see <https://www.parkrx.org/> for Park Prescription) to bring together resources and practitioners from the health, wellness, and social services with parks and recreation departments. Park Rx encourages healthy living and lifestyles through access to open spaces and recreation amenities^{xx}
- Develop a wayfinding signage program to develop and implement a consistent style and format for wayfinding across Somerset County
- Identify targeted opportunities where creative placemaking strategies can combined with wayfinding systems and amenities. Public art, for example, can be used to create a sense of place as in addition to its direct functional purpose. Instead of a typical wayfinding signage or standard off-the-shelf bike rack, signage and amenities can also be public works of art, i.e. a sculpture that provides directional signage/cues, or a bike rack with an unusual artistic design that reflect and blend with the local context and surroundings
- Develop a checklist or compliance form to aid county and municipal planning and engineering staff in development, assessment, and review of potential network improvements and enhancements. This checklist/compliance tool could be similar to existing Complete Streets checklists, roadway audit, or NJDOT Problem Statement forms and procedures
- Somerset County should identify opportunities for collaboration and coordination with municipalities, neighboring counties, non-profits, social service providers, and other partners to develop new walk, bike, and hike facilities, amenities, and linkages to destinations, including examples such as the RPA Shore-to-Somerset Connector and Middlesex County Master Plan updates
- Support Framework Strategy implementation through public and private funding and grants



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04 | WHAT COMES NEXT?

The WalkBikeHike Framework Strategy and Design Book have the potential to transform how Somerset County, its municipalities, developers, institutions, and private land owners plan, develop, design, and construct their roads and the built environment, including parks, public facilities, and recreation areas.

The Framework Strategy is just the first step in a process that will take shape over many years of planning, collaboration, permitting, and engineering, and require many partners to see proposals advance from plans and maps, through funding, design and construction, to operation and lifecycle maintenance.

Each responsible party that plans to build out the countywide network should consult the Framework Strategy, Design Book, and the Somerset County Preservation Plan, when completed, during all phases of transportation infrastructure delivery and maintenance from project and policy proposals, to funding, design and construction, and throughout operation and lifecycle maintenance.



Introduction

Together, the WalkBikeHike Framework Strategy and Design Book have the potential to transform how Somerset County, its municipal partners, developers, institutions, and private land owners plan, develop, design, and construct their roads and the built environment, including parks, public facilities, and recreation areas. Each is encouraged to consult with the Framework Strategy and the companion Design Book in the development of new and enhanced multimodal facilities.

The Framework Strategy is just the first step of a process that will take shape over many years of planning, collaboration, permitting, and engineering.

Each responsible party that plans to build out the countywide network is encouraged to use the Framework Strategy and the companion Design Book which provides practical solutions to enhance bicycle and pedestrian mobility. Along with the Somerset County Preservation Plan, when completed, these planning documents should be consulted during all phases of transportation infrastructure delivery and maintenance from project and policy proposals, to funding, design and construction, and throughout operation and lifecycle maintenance.

Somerset County will continue to work with wide array of partners to advance the recommendations of Framework Strategy. Some candidate improvements have the potential to be implemented quickly and inexpensively,

while others will be much more complex, time consuming, and costly.

Some candidate projects may be able to be incorporated into projects currently being designed. Others may need further detailed evaluation before any decisions regarding implementation can be made. Examples of areas where further evaluations are needed include but are not limited to Main Street in Millstone Borough and Easton Turnpike in Branchburg.

The countywide multimodal mobility network will emerge one project at a time as individual segments and improvement are designed and constructed, blending local and regional perspectives, and seeking to connect and sustain the County's vibrant and diverse communities.

The proposed countywide network is comprised of more than 220 potential walk, bike, and hike candidate improvements, totaling almost 275 miles of new facilities across Somerset County.

Somerset County, its municipal partners and other planning partners should conduct a periodic review of the WalkBikeHike Framework Strategy to account for and adapt to changes in local conditions, needs, opportunities, and priorities.



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