



Monmouth  
***PATHS***  
Access for All

# APPENDIX A

## EXPERIENCED CONDITIONS REPORT

Date: January 12, 2024



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# ACKNOWLEDGEMENTS



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## Executive Summary

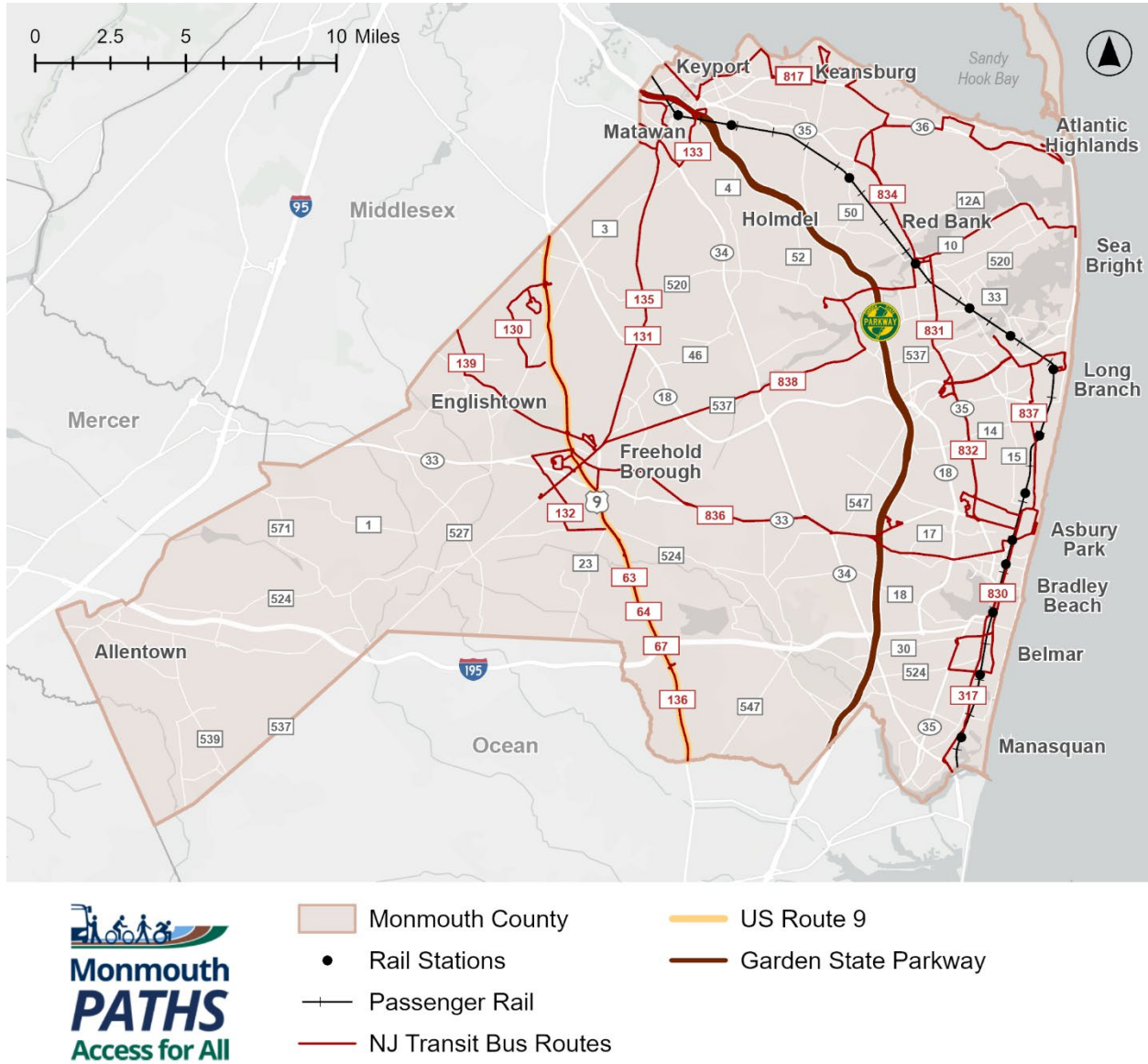
Monmouth County is a place that people want to live, work, and play: with vibrant downtowns, theaters, entertainment venues, excellent agricultural resources, a multitude of recreational opportunities, proximity to major urban centers, ample shopping, and dining options. However, accessing all that Monmouth County and the region has to offer is not so easy for many of the County's low-income, minority, elderly, young, or disabled residents. For these residents, trips like going to work, visiting the doctor's office, buying fresh food at a grocery store, or enjoying the shore on a hot summer day can be challenging because they are often overburdened by barriers to their mobility.

Vulnerable populations do not have equitable mobility options and are often overburdened by limited transit connectivity, limited access to information about options, gaps in the sidewalk network, challenging cycling conditions, missing curb ramps, lighting and security concerns, and long crossing distances across large roadways, among others. These barriers can also vary seasonally within the County. Visitors to the County's shore communities and event venues, particularly over the summer, add roadway congestion and increase travel times. Increased volume has other side effects on mobility, such as making it more difficult to find parking, or higher pass-through volumes on local streets.

The orientation of the transportation network can also exacerbate mobility issues for vulnerable populations. Much of the regional transportation network, which includes freeways, major arterials, and the transit system, is oriented toward connecting commuters with major employment centers such as Newark and New York City. In Monmouth County, major roadways such as US Rt. 9 and the Garden State Parkway as well as the two major spines of transit access, the proposed US Rt. 9 BRT corridor and the North Jersey Coast commuter rail line, make it relatively easy to travel to and from major cities to the north (see **Figure E-1**). However, options for east-west travel within the County or to other major employment centers such as Philadelphia, Trenton and New Brunswick are limited and inconvenient without a car.

However, these transit services are not always optimal for serving the basic needs of low-income, minority, elderly, and disabled populations, which typically need to make more local trips to various communities within and around Monmouth County.

**Figure E-1: Major Roadways and Transit Service in Monmouth County**



Source: Monmouth County, NJGIN Open Data

The purpose of the Monmouth County Barriers to Mobility Study, referred to as Monmouth Paths: Access for All, is to identify mobility and accessibility barriers that Monmouth County residents face based on the various geographies, referred to as transects, within the County and to develop strategies and best practices in order to mitigate or eliminate these barriers. A transect is a land-use term that describes a location based on its relative density of development or other natural or built environment characteristics. Dividing the County into

transects is a critical step to this study because it helps to define barriers that may be specific to a specific area of the County or those that are common across multiple areas. A more detailed discussion of transects in Monmouth County can be found in Appendix C: Limited Effects and Positive Solutions Report.

As part of this study, the Study Team will identify the pain points for County residents through a combination of data-driven analysis, evaluation of various transects within the County, and an extensive outreach program to stakeholders and the public. After identifying the barriers, the Study Team will evaluate the overall travel experience to consider how a user would travel “door-to-door”. This approach will ultimately result in a toolkit of potential mitigation measures that will guide agencies, the County, municipalities, and developers to think through each step of a trip based on the various transects that a traveler may encounter. The toolkit will be developed for each major type of transect (land use area) in the County. They will contain a set of actionable recommendations to eliminate barriers to mobility and improve access to employment, education, shopping/dining, healthcare, and recreation.

This document summarizes the first step to identifying barriers and developing strategies to overcome them by identifying existing conditions, including existing infrastructure, existing sources of data, previous studies, environmental justice<sup>1</sup>, transportation equity<sup>2</sup> considerations, and mobility equity<sup>3</sup> best practices. This Experienced Conditions report documents this initial process of understanding current conditions within the County, focusing on mobility equity issues.

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<sup>1</sup> Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. ([Environmental Justice | US EPA](#))

<sup>2</sup> Equity in transportation seeks fairness in mobility and accessibility to meet the needs of all community members. A central goal of transportation is to facilitate social and economic opportunities by providing equitable levels of access to affordable and reliable transportation options based on the needs of the populations being served, particularly populations that are traditionally underserved. ([Equity in Transportation - Transportation Planning Capacity Building Program \(dot.gov\)](#))

<sup>3</sup> A transportation system that increases access to high quality mobility options, reduces air pollution, and enhances economic opportunity in low-income communities of color. ([Transportation and Mobility Equity - The Greenlining Institute](#))

## Study Vision, Value Statement, and Mobility Equity Goals

**Study Vision:** Improving access to opportunities through improved mobility options.

**Study Value Statement:** Enhance access to employment opportunities, education, healthcare, services, and recreation for Monmouth County residents by using actionable strategies that create the infrastructure, services, and policies for a safer, more equitable, and more efficient transportation system.

### **Mobility Equity Goals:**

- Reduce the monetary, time, and quality of life costs of accessing employment, education, healthcare, retail/services, and recreation.
- Be more intentional when linking land use, affordable housing, and transportation.
- Improve awareness of transportation options for the County's vulnerable communities.
- Create opportunities for the latest technologies to be deployed within the County's vulnerable communities.

## What is Equitable Transportation?

Transportation goes beyond moving goods/people from point A to point B — transportation is opportunity. It is opportunity for jobs, education, recreation, healthcare, and housing options which includes affordable housing. Accordingly, transportation provides the necessary linkages most people rely on to access these opportunities. However, transportation does not serve everyone equally. Historically, low-income communities, communities of color, people with disabilities, and young and older populations have been neglected when planning new transportation improvements. Decades of underfunded public transit, pedestrian, and bicycle infrastructure have hurt communities such as these in ways that are still felt and shown today.

An equitable transportation system is one that serves and works for all users. It means that no matter a person's age, physical abilities, or socioeconomic status, they will enjoy the same level of mobility as any other user. While most Monmouth County residents have access to a vehicle and can access employment, education, healthcare, services, and recreation, those who do not face substantial barriers to their mobility. These barriers can include limited to no transit service, a lack of a sidewalk or safe and adequate bicycle infrastructure, or a

missing curb ramp, among others. Creating a more equitable transportation system means eliminating barriers without needing a personal vehicle. Strategies could include special transit fares, improved transit services, providing pedestrian and bicycle facilities, or improving ADA curb ramps. Eliminating barriers and creating a more equitable transportation system is an important first step to creating prosperous and resilient communities.

## Findings

This Experienced Conditions report summarizes existing conditions, identifies services that are currently available in Monmouth County, documents an underserved communities assessment, summarizes existing sources of guidance including previous studies, and evaluates initial public feedback. A review and assessment of this information results in the following key findings that will help inform the remainder of the study process:

1. **The existing transportation network makes it difficult to travel within the County without access to a vehicle.** The high-capacity transit and transportation assets in the County such as the North Jersey Coast Line, the proposed US Rt. 9 BRT corridor, Academy and other private bus carriers, ferry services, the Garden State Parkway, US Rt. 9, and NJ Rt. 18, among others, are oriented to transport people and goods to and from the New York City area. However, the location-based data indicates that the most vulnerable populations in the County are working and traveling closer to home. There is a lack of high-quality transit service, pedestrian, and bicycle facilities connecting vulnerable communities with where they access employment, education, and other services within the County.
2. **Last mile connections to and from transit are a critical need and greatly affect the usability of the transit system.** Transit service improvements are only as good as the ability for people to access them. Providing sidewalks, crosswalks, curb ramps, bicycle facilities, and other infrastructure that helps transit users access the transit services must go hand in hand with any improvements to the transit service itself.
3. **The County and other state agencies need to work closely with municipalities to enhance the linkage between transportation planning and land use.** Smart land use decisions enhance the ability for the County and other state agencies to plan for and make investments in infrastructure and service. Higher densities, mixes of uses, transit-oriented development overlays, and other development ordinances can

significantly help agencies provide improved services and enhanced amenities for transit, walking and biking infrastructure.

4. **Create practical, measurable goals that the County can attain.** Eliminating barriers to mobility is a large task and it can easily become overwhelming to know where to start and what to prioritize. This study should result in concise, short-term goals that the County can begin addressing immediately that can help build momentum and support for larger and longer-term projects.
5. **Vulnerable communities need to be a part of the future of transportation.** Vulnerable populations have historically been left out of the transportation planning process. However, new technologies and demand for transportation will be transforming how and when people travel. E-bikes, e-scooters, micro transit, electric vehicles, autonomous vehicles, and other transportation technology will help transition the transportation market to a Mobility as a Service (MaaS) system. MaaS combines multiple services into a single, comprehensive, and on-demand mobility platform, offering users a cost-competitive and diverse menu of transport options, including (but not limited to) public transport, active modes such as walking and cycling, ride/car/bike-sharing, taxi, and car rental or lease, etc. However, in order for vulnerable populations to access this transportation future, they must be included in the planning and adoption of the technologies needed to support it.
6. **There are a lot of studies and guidelines developed by other agencies that encourage equity, but nothing that directly addresses how to breakdown mobility barriers.** Many of the studies and guidance completed by other agencies highlight the needs of vulnerable communities and the importance of equity in decision making, particularly for transportation. However, there have not been many studies that focus on specific strategies to reduce mobility barriers by combining land use and transportation decision making. The Monmouth Paths: Access for All Study will be one of the first comprehensive studies of this nature. However, it will be up to the County and its municipalities to adopt and implement the strategies contained within.

## Next Steps

The information in this report will be used to inform the process of identifying mobility barriers, as well as begin to outline potential mitigation strategies. In addition, this information, combined with the outreach effort will be used to identify important transects

(areas with similar land uses) within the County for which toolkits will be developed later in this study process. Furthermore, the best practices discussed in this report will be utilized to develop specific strategies for each of the County's transects.

# Introduction

Monmouth County is a place that people want to live, work, and play: with vibrant downtowns, theaters, entertainment venues, excellent agricultural resources, a multitude of recreational opportunities, proximity to major urban centers, ample shopping, and dining options. However, accessing all that Monmouth County and the region has to offer is not so easy for many of the County's low-income, minority, elderly, young, or disabled residents. For these residents, trips like going to work, visiting the doctor's office, buying fresh food at a grocery store, or enjoying the shore on a hot summer day can be challenging because they are often overburdened by barriers to their mobility.

Vulnerable populations, including low-income, minority, young and elderly populations, as well as those with physical or intellectual disabilities, do not have equitable mobility options, and are often overburdened by limited transit connectivity, limited access to information about options, gaps in the sidewalk network, challenging cycling conditions, missing curb ramps, lighting and security concerns, and long crossing distances across large roadways, among others. As a result, members of these communities must pay a high cost for travel. This high cost can come in many forms: the monetary cost of hiring a for-hire vehicle to go to the grocery store, the time cost of having to ride multiple bus routes to access a job, or the quality of life and health costs of having to stand exposed in bad weather waiting for a bus or having to walk along the side of the road because there are no sidewalks. Furthermore, these potential costs can vary seasonally within the County. Visitors to the County's shore communities and event venues, particularly over the summer, add roadway congestion and increase travel times. Increased travel volume has other side effects on local mobility, such as making it more difficult to find parking near your destination or standing room only on train journeys.

Monmouth County has a diverse range of community types from walkable older communities (such as Asbury Park, Red Bank, and Freehold), to areas of low-density suburban-style development (such as Holmdel, Allenwood, and Howell), to rural villages (such as Allentown, Upper Freehold, and Englishtown). Residents across the County share common barrier types, such as transit accessibility to employment and services or gaps in bicycle infrastructure but can also experience barriers that are unique to the type of community in which they live. For example, large lots and disconnected streets in suburban communities can make it difficult to travel without access to a vehicle. In rural communities,

large distances between residents and services combined with limited to no transit services can make accessing vital community services extremely difficult without a vehicle. Even older, more urban communities with traditional grid networks can have gaps in connectivity to critical services often because they lie outside of the urbanized area.

The orientation of the transportation network can also exacerbate mobility issues for vulnerable populations. Much of the regional transportation network in New Jersey, including freeways, major arterials, and the transit system, is oriented toward connecting commuters with major employment centers, such as Newark and New York City. In Monmouth County, major roadways such as US Rt. 9 and the Garden State Parkway as well as the two major spines of transit access, the proposed US Rt. 9 BRT corridor and the North Jersey Coast commuter rail line, make it relatively easy to travel to and from major cities to the north. However, these transit services are not always optimal for serving the basic needs of low-income, minority, elderly, and disabled populations, which typically need to make more local trips.

The purpose of the Monmouth County Barriers to Mobility Study, referred to as the Monmouth Paths: Access for All Study, is to identify barriers Monmouth County residents face and develop strategies and best practices to mitigate or eliminate these barriers. As part of this study, the Study Team will identify the pain points for County residents through a combination of data-driven analysis and an extensive outreach program to stakeholders and the public. After identifying the barriers, the Study Team will evaluate the overall travel experience to consider how a user would travel “door-to-door”.

This approach will ultimately result in a toolkit of potential mitigation measures that guide agencies, the County, municipalities, and developers to think through each step of a trip. The toolkits will be developed for each major type of transect in the County. A transect is a land use term that describes a location based on its relative density of development or other natural or built environment characteristics. Dividing the County into transects is a critical step because they allow for a set of actionable recommendations to eliminate barriers to mobility and improve access to employment, education, shopping/dining, healthcare, and recreation, that is specific to conditions within the different geographies within the County.

## Study Vision, Value Statement, and Mobility Goals

**Study Vision:** Improving access to opportunities through improved mobility options.

**Study Value Statement:** Enhance access to employment opportunities, education, healthcare, services, and recreation for Monmouth County residents by using a set of actionable strategies that create the infrastructure, services, and policies for a safer, more equitable, and more efficient transportation system.

### **Mobility Equity Goals:**

- Reduce the monetary, time, and quality of life costs of accessing employment, education, healthcare, retail/services, and recreation.
- Be more intentional when linking land use; housing, especially affordable housing; economic development; and transportation.
- Improve awareness of transportation options for the County's vulnerable communities.
- Create opportunities for the latest technologies to be deployed within the County's vulnerable communities.

## What is Equitable Transportation?

Transportation goes beyond moving goods/people from point A to point B — transportation is opportunity. It is opportunity for jobs, education, recreation, healthcare, and affordable housing. Accordingly, transportation provides the necessary linkages people rely on to access these opportunities. However, transportation does not serve everyone equally. Historically, low-income communities, communities of color, people with disabilities, and young and older populations have been left out of the equation when planning new transportation improvements. Decades of underfunded public transit, pedestrian, and bicycle infrastructure has hurt these communities in ways that are still felt and shown today.

An equitable transportation system is one that serves and works for all users. It means that no matter a person's age, physical abilities, or socioeconomic status, they will enjoy the same level of mobility as any other user. While most Monmouth County residents have access to a vehicle and can access employment, education, healthcare, services, and recreation, those who do not face substantial barriers to their mobility. These barriers can include limited to no transit service, a lack of a sidewalk or bike lane, or a missing curb ramp, among others. Creating a more equitable transportation system means eliminating barriers without

needing a personal vehicle. Strategies could include special transit fares, improved transit services, providing pedestrian and bicycle facilities, or improving ADA curb ramps. Eliminating barriers and creating a more equitable transportation system is an important first step to creating prosperous and resilient communities.

## Purpose of the Experienced Conditions Report

The first step to the identifying barriers and developing strategies to overcome them is understanding existing conditions, including existing infrastructure, existing sources of data, previous studies, underserved communities and transportation equity considerations, and mobility equity best practices. The Experienced Conditions report documents this initial process of understanding current conditions within the County, focusing on mobility equity issues, and includes the following sections:

- Existing County-Wide Conditions
- Equitable Mobility in Monmouth County
- Transportation Infrastructure
- Existing Sources of Transportation Data
- Existing Intelligent Transportation Systems (ITS) Infrastructure
- Underserved Communities Needs Assessment
- Literature Review and Best Practices
- Findings from Initial Outreach

# Existing County-Wide Mobility Conditions

This section documents the preliminary identification and evaluation of existing transportation services for vulnerable populations, transportation infrastructure, ITS infrastructure, and sources of traffic volume data.

## Equitable Mobility in Monmouth County

In Monmouth County, there are a variety of modes of transportation for its residents, including NJ TRANSIT bus and rail lines, an extensive roadway network, and a growing network of pedestrian and bicycle facilities. However, many of these modes do not adequately meet the day-to-day needs of some of the County's most vulnerable populations. Several services offered by EZ Ride, the County's Transportation Management Association (TMA), Monmouth County's Division of Transportation, NJ TRANSIT and non-profits, do cater to County residents with specific mobility needs. It should be noted that, with the exception of established transit routes, many of these services operate on-demand and are not limited by location.

### EZ Ride

EZ Ride is the TMA (Transportation Management Association) that provides services to Monmouth County, as well as Union County, Bergen County and parts of Essex and Passaic Counties. A TMA is a non-profit, public-private partnership that works with businesses and local government to provide commuter information and services. The primary goal of TMAs in the state is to enhance mobility, economic opportunities, and quality of life while reducing traffic congestion and improving air quality through programs like shuttle services, carpool and vanpool support, promoting walking and biking, as well as providing information on transit services.

EZ Ride currently provides several services in Monmouth County, including:

- Carpool formation and ride matching, which helps residents and employees find existing carpools to join or start a new carpool. In addition to assisting with ride matching and the formation of new carpools, EZ Ride provides an emergency ride home program that guarantees carpoolers a ride home from work when unexpected circumstances occur, such as illness, family crisis, or unscheduled overtime, free of charge to registered members.

- Vanpool formation and ride matching, similar to carpool services, helps residents and employees join existing vanpools or start a new vanpool. When forming new vanpools, EZ Ride provides guidance to recruit additional riders, procure a seven or 15 passenger van, and assist with applying for a leased van from a NJ TRANSIT-approved vanpool provider. In addition, EZ Ride provides information regarding potential financial incentives, such as employer subsidies, as well as provides empty seat subsidies for new vanpools. The emergency ride home program is also available to all registered vanpool riders.
- Ryde4Life is a program that helps adults, particularly those who are elderly or do not have access to a car, on-demand rides utilizing service providers, such as Uber and Lyft, to get to medical appointments or run errands, such as grocery shopping. Rides are provided at a reduced price and can be scheduled on-demand by calling EZ Ride; thus, no smartphone is needed. Monmouth County began partnering with EZ Ride in 2024 to offer transportation services for residents who may face challenges accessing necessary wellness resources such as getting to and from doctor's appointments, pharmacy visits, grocery stores, and food pantries.
- The Bicycle and Pedestrian Program partners with government agencies, private foundations, non-profits, and others to help communities identify funding sources and prioritize bicycle and pedestrian improvements. EZ Ride provides several services including presentations and other events related to the benefits of bicycling and walking, partners with the NJTPA to conduct safety education and enforcement campaigns, helps assess walking or biking routes to schools, develops improvement plans and assists with obtaining funding, manages bike lockers at NJ TRANSIT rail stations, and hosts award events to celebrate schools and municipalities that promote safe walking and biking.

It should be noted that EZ Ride also provides shuttle services for last-mile connections to and from transit stations. However, there are no currently active routes in Monmouth County. EZ Ride used to provide the ShoreLink, a shuttle service that connected rail stations with beaches in the County. However, it was not financially supported and was discontinued. EZ Ride also received a grant to operate a shuttle between the Middletown train station and Sandy Hook but was stalled due to the COVID-19 pandemic.

## Monmouth County Division of Transportation

The Monmouth County Division of Transportation provides demand-responsive transportation service that provides rides to senior citizens (60 and older) permanently/temporarily disabled county residents (18+), and veterans accessing VA HealthCare Systems and Outpatient Clinics. The service uses a combination of an in-house service called Special Citizen Area Transportation (SCAT) and private vendors to provide “shared ride” taxi services. The service is funded by fares (ranging from \$3.00 to \$10.00), contributions, and Federal, State and County Grants. Users can request service to a destination within the services area, prioritizing health-related destinations and/or food shopping.

## NJ TRANSIT

Within their operating region, which includes Monmouth County, NJ TRANSIT offers a service called Access Link, a public transportation service that was established to comply with the paratransit regulations of the Americans with Disability Act (ADA). It is intended to mirror NJ TRANSIT’s fixed-route bus and light rail systems and is intended for use by people with disabilities that cannot utilize the local fixed-route services for some or all of their ride. The service area includes a 3/4-mile radius around an eligible bus route or light rail station. However, it should be noted that bus routes defined as commuter routes are not included in the Access Link service area. A person can access this service if both their origin and destination are located within that 3/4-mile radius.

NJ TRANSIT, in partnership with Rutgers University, also provides a training program, called the New Jersey Travel Independence Program (NJ TIP), for individuals with disabilities and older adults. The intent is to teach these individuals how to use the public transportation system safely and independently. NJ TIP customers learn how to read bus and train schedules, pay fares, and take safety precautions, and program graduates receive a free one-month bus pass.

Finally, NJ TRANSIT also offers a reduced fare program for those aged 62+ and people with disabilities. Any person who fits these two categories of individuals can obtain an NJ TRANSIT Reduced Fare ID or show their Medicare Card to obtain a reduced fare.

## Non-Profits

Monmouth County is also served by Angellift, a non-profit with the mission of stopping impaired driving. It provides a “professional Angel” to drive the motor vehicles of impaired individuals for less-than-a-taxi fee and provides free rides for emergencies.

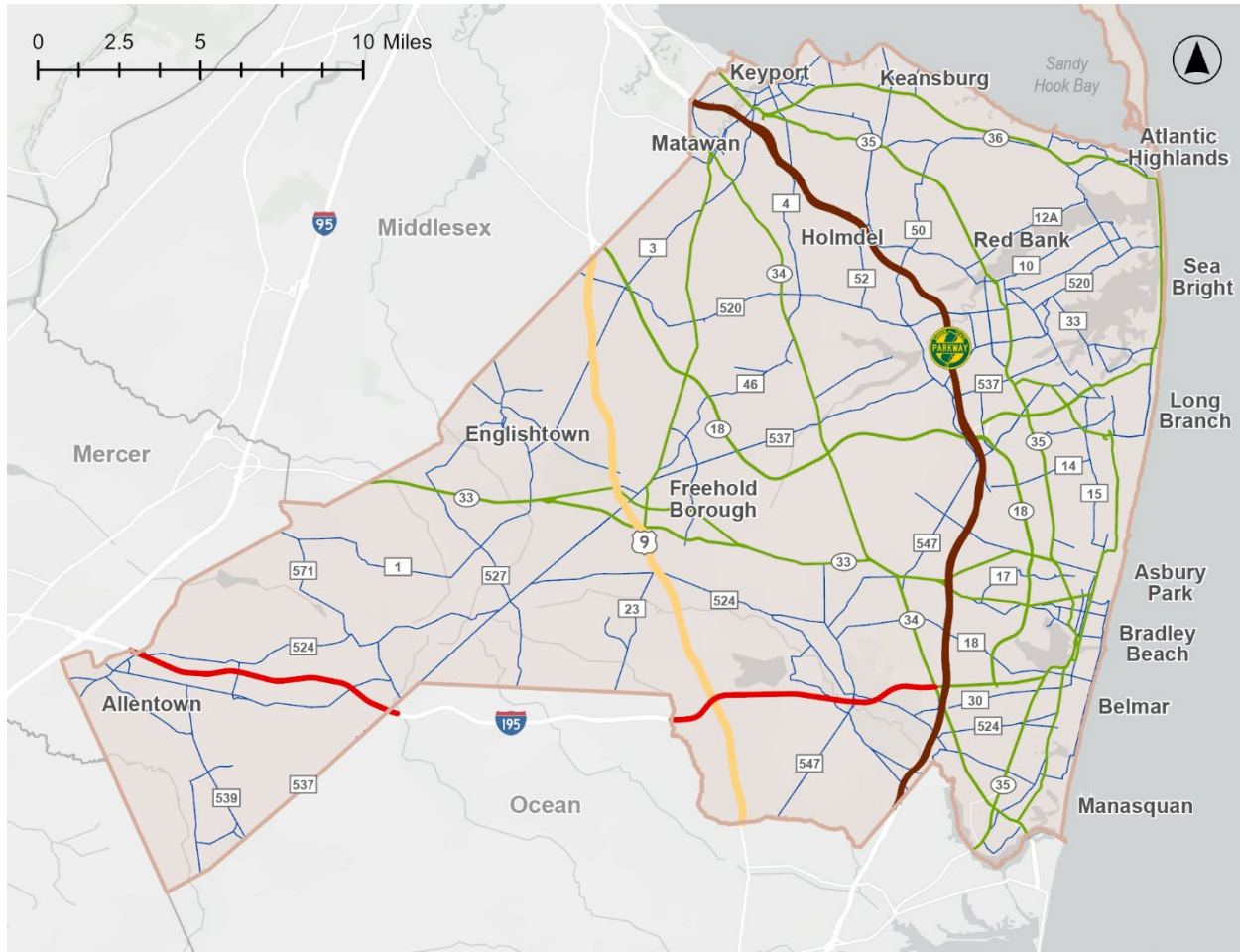
## Transportation Infrastructure

Monmouth County is served by a variety of transportation modes and service providers, including freeways, State routes, County routes, and local roadways, NJ TRANSIT bus and rail, Academy Bus, ferry service, and bicycle and pedestrian facilities.

## Roadway Network

The roadway network in Monmouth County consists of two freeways (the Garden State Parkway and I-195), nine State highways, over 70 County roadways, and many local/municipal streets (see **Figure 1**). Major routes within the County are described in **Table 1**.

**Figure 1: State and County Freeways and Arterials in Monmouth County**



Monmouth County

**Route Type**

- I-195
- US Route 9
- Garden State Parkway

- State Highways
- County Roads

Source: U.S. Census, Monmouth County, NJGIN Open Data

**Table 1: Major Roadways within Monmouth County**

Route Number	Length (miles)	Description
<b>Garden State Parkway</b>	26	The Garden State Parkway is a north-south toll road owned and operated by the New Jersey Turnpike Authority that spans the entire state from Cape May, NJ to the New York State border. Within Monmouth County the roadway is approximately 26 miles long, running between the municipalities of Wall Township and Aberdeen Township, and has nine interchanges. Tolls are collected at one mainline barrier location and on six ramps.
<b>I-195 &amp; NJ Rt. 138</b>	26	I-195 is an east-west freeway that connects I-295 near Trenton (Mercer County) to the Garden State Parkway in Wall Township. It is approximately 26 miles long within Monmouth County, including the portion that passes through the northern edge of Ocean County. This segment has eight interchanges, including the interchange with the Garden State Parkway. East of the Parkway, the roadway becomes NJ Route 138 which continues toward the Atlantic Coast, meeting with NJ Rt. 35 & 18.
<b>US Rt. 9</b>	14	US Route 9 is a north-south roadway that traverses the length of New Jersey from the George Washington Bridge to Cape May. However, unlike the Garden State Parkway, most of US Rt. 9 is an arterial with traffic signals. Within the county, it is classified as an urban principal arterial and is approximately 14 miles in length. It also serves as an important commuter corridor for the central parts of Monmouth County, particularly for NJ TRANSIT buses. A large number of bus routes operate along the corridor, providing commuter connections between Monmouth and Ocean Counties and employment centers to the north, like Newark and New York City.
<b>NJ Rt. 18</b>	23	NJ Route 18 is a north-south state route that connects I-287 in Piscataway (Middlesex County) with NJ Rt. 138 and the Jersey Shore. Most of the corridor consists of limited-access with grade-separated interchanges. Within Monmouth County, it is approximately 23 miles long and is classified as a freeway/expressway.

Route Number	Length (miles)	Description
NJ Rt. 33	21	NJ Route 33 is an east-west state route that connects US Rt. 130 and the NJ Turnpike, near Hightstown (Mercer County), and terminates in Neptune City. It is approximately 21 miles long and is classified as an urban principal arterial within Monmouth County. A small segment of the roadway is limited access on a bypass around Freehold. The NJ Rt. 33 & 34 traffic circle in Wall Township is known to generate significant delays on both corridors.
NJ Rt. 34	22.5	NJ Route 34 is a north-south state route that runs between US Rt. 9 in Old Bridge Township (Middlesex County) and Wall Township. It is classified as an urban principal arterial and is approximately 22.5 miles in length within Monmouth County. As noted in the description of the NJ Rt. 33 corridor, the NJ Rt. 33 & 34 traffic circle in Wall Township is known to generate significant delays on both corridors. The Allaire Road Circle, also in Wall Township, is also known for delays.
NJ Rt. 35	29	NJ Route 35 is a north-south state route that runs between NJ Rt. 27 in the City of Rahway (Union County), to the north, and South Seaside Park/Island Beach State Park (Ocean County), to the south. Within Monmouth County, the roadway is classified as an urban principal arterial that is approximately 29 miles in length, running between the northwest corner of the County to the southeast corner of the County.
NJ Rt. 36	24.4	NJ Route 36 is an urban principal arterial that lies solely in Monmouth County. It is considered a north-south roadway, although it makes a U-shape between Garden State Parkway Interchange 117 in the northwestern corner of the County. Along the Bayshore area to Sandy Hook Gateway National Recreation Area, it turns in a north-south direction, running along the coast from Seabright to Long Branch. In Long Branch, the corridor turns and travels in an east-west direction and terminates at Garden State Parkway Interchange 105.
NJ Rt. 71	16.8	NJ Route 71 is a north-south state roadway that lies solely in Monmouth County and runs between NJ Rt. 35 & CR 537 in Eatontown and NJ Rt. 35 in Brielle. It is classified as an urban principal arterial between Brielle and Belmar. North of Belmar, it is classified as an urban minor arterial.
NJ Rt. 79	12.13	NJ Route 79 is a north-south state roadway that lies solely in Monmouth County, running between NJ Rt. 34 in Matawan to the north, and US Rt. 9

Route Number	Length (miles)	Description
		in Freehold Township to the south. The roadway is classified as an urban principal arterial.
<b>CR 520</b>	19.8	CR 520 (County Route 520) is an east-west County roadway that travels between US Rt. 9 on the west side of the County to Sea Bright on the east side. It is classified as an urban minor arterial for much of its length, except for a short section in Red Bank, where it is classified as an urban principal arterial.
<b>CR 524</b>	33.5	CR 524 is an east-west County roadway and is also the longest Monmouth County route, running between Allentown to the west and Spring Lake Heights to the east. Most of the corridor is classified as an urban major collector. Sections that lie within Allentown, Freehold, and Spring Lake Heights are classified as an urban minor arterial.
<b>CR 537</b>	29	CR 537 traverses over 29 miles of the County, running between Long Branch to the northeast and the Burlington/Ocean County line to the southwest. It also serves as the primary route between I-195 and Freehold. The roadway is generally classified as an urban minor arterial, except for the segment that passes through Freehold, where it is classified as an urban principal arterial.

## Transit

Monmouth County is served by a variety of transit options, including NJ TRANSIT commuter rail, NJ TRANSIT bus, Academy bus (a private bus carrier), and SeaStreak ferry.

### *Commuter Rail*

Monmouth County is served by the North Jersey Coast Line (NJCL) (**Figure 2**). The line runs from New York Penn Station to the north and Bayhead to the south. Within the County there are 14 stops on the NJCL, with approximately 10,350 weekday boardings in 2022. Commuter trips to New York Penn Station vary from approximately one hour from the Aberdeen-Matawan Station to almost two hours from the Manasquan Station. The NJCL is electrified from Long Branch to the north. A transfer to a diesel train was required to continue south along the corridor. However, NJ TRANSIT has invested in dual-mode locomotives that can

operate under both diesel and electric propulsion, thus eliminating this transfer for some trips.

Monday through Friday, the NJCL operates with 30 daily northbound departures from Long Branch and stations to the north to New York Penn Station. Weekday headways<sup>4</sup> range from 20 to 25 minutes during peak periods to one-hour headways midday and overnight. South of Long Branch, the NJCL provides 17 daily departures to New York Penn Station at peak headways of 20 to 40 minutes and off-peak headways of two hours. On weekends, from Long Branch to the north, there are approximately 20 northbound departures and 20 southbound arrivals. Of the 20 trains, 17 are designated as bicycle accessible, allowing for up to 12 bicycles on the weekend trains. Service to the south of Long Branch is slightly less frequent, with 17 departures and arrivals.<sup>5</sup>

### *NJ TRANSIT Bus*

NJ TRANSIT operates 19 bus routes in Monmouth County, 13 of which can be classified as long-distance routes that connect Monmouth County with regional destinations, including Newark, New York City, and Philadelphia (**Figure 2**). The US Rt. 9 corridor experiences the majority of bus ridership due to multiple routes to Newark and New York City. **Table 2** lists the NJ TRANSIT bus routes that have stops within Monmouth County. It should be noted that NJ TRANSIT routes 137 and 319 operate along the Garden State Parkway through Monmouth County but do not have any stops in Monmouth County. In addition, Routes 308 is a seasonal service to Six Flags. Therefore, these routes are not included in **Table 2**.

### *Commuter Park and Ride*

Bus operations within the County are supported by a number of commuter park-and-ride facilities that are aligned along the two major north-south corridors in the County: US Rt. 9 and the Garden State Parkway (**Figure 2**). NJ TRANSIT owns or operates most of the park-and-ride facilities along the US Rt. 9 corridor, many of which are located on private property such as within shopping center parking lots. NJ TRANSIT works with the property owner to allow a section of parking to be designated for commuter parking. The commuter parking areas along the Garden State Parkway are owned and operated by the New Jersey Turnpike Authority (NJTA), including a commuter parking area within the Monmouth Service area, as

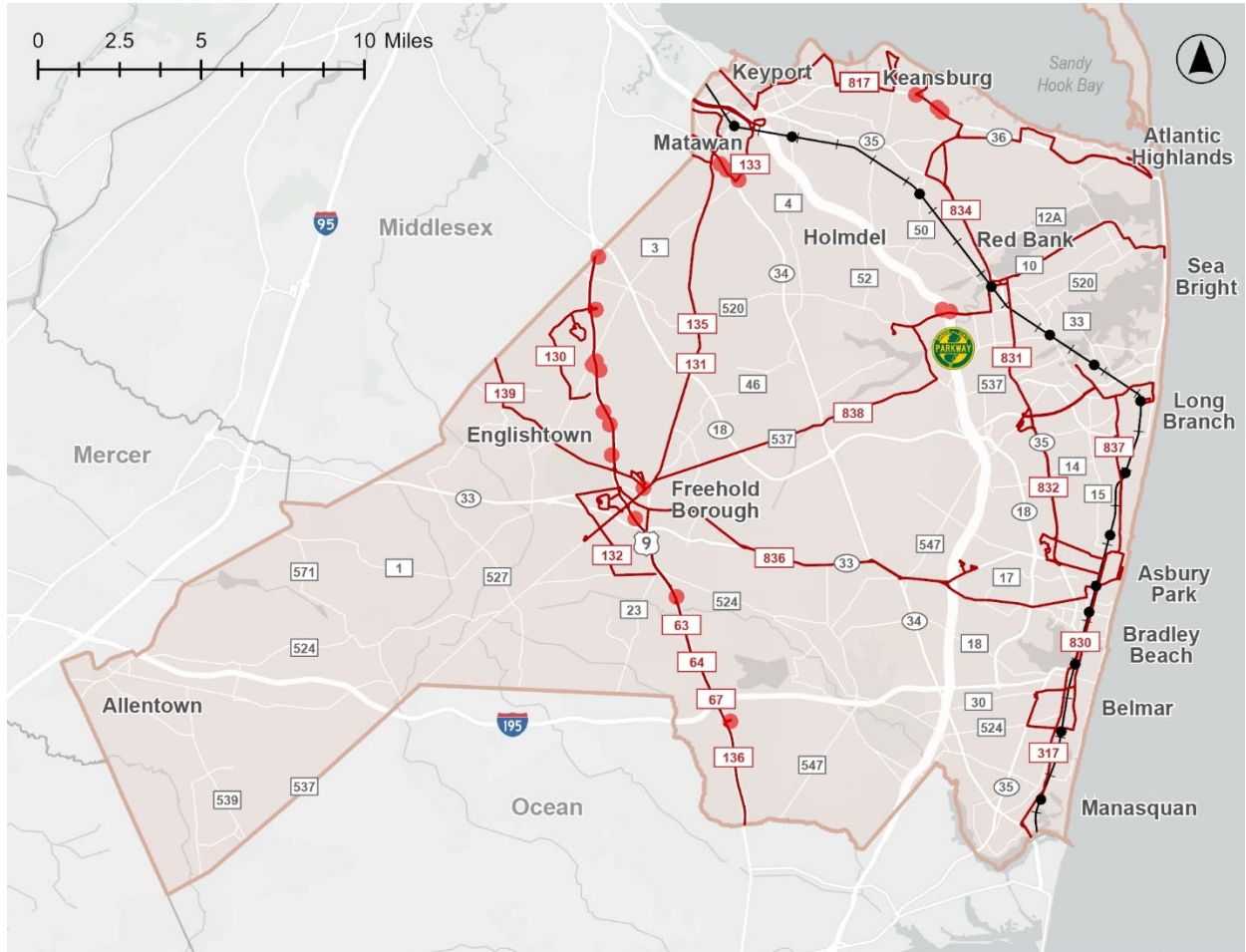
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<sup>4</sup> A time interval between two vehicles traveling in the same direction on the same route ([Headway - Merriam-Webster](#))

<sup>5</sup> [North Jersey Coast Line Schedule, accessed on 11/12/23 \(njtransit.com\)](#)

well as at interchanges including, 91, 98, 105, 109, and 116. Most of these facilities are served by Academy Bus.

**Figure 2: Transit in Monmouth County**



- Monmouth County
- Rail Stations
- Passenger Rail
- Bus Park and Ride Locations
- NJ Transit Bus Routes

Source: Monmouth County, NJGIN Open Data

**Table 2: NJ TRANSIT Bus Routes within Monmouth County**

Route Number	Route Type	Route Name	Weekday Service	Weekend Service	
63	To/From Hudson County/Newark	Lakewood – Jersey City – Weehawken Express	Peak Hours Only	None	
64		Lakewood – Jersey City – Weehawken			
67		Toms River – Lakewood – Newark	Limited Peak and Off-Peak Service @ 30 min – 2 hr headways	Saturdays @ 2-3 hr headways	
130	To/From New York City	Lakewood – New York Union Hill Express	All Day Service @ 10 min peak headways, 15 – 30 min off-peak, 1 hr late night	Saturday and Sunday Service @ 15 – 20 min headways	
132		Lakewood- New York Gordon’s Corner Express			
136		Lakewood – New York Freehold Mall Express			
139		Lakewood- New York			
131		Sayreville New York Freehold – Matawan – New York	Peak Hours Only	None	
135					
133			Old Bridge – Aberdeen – New York	Peak Hours Only	None

<b>Route Number</b>	<b>Route Type</b>	<b>Route Name</b>	<b>Weekday Service</b>	<b>Weekend Service</b>
<b>317</b>	To/From Philadelphia	Asbury Park – Fort Dix – Philadelphia	Daily @ 2 hr headways	Saturday and Sunday @ 2 hr headways
<b>817</b>	Intercounty	Perth Amboy – Campbell's Junction	Daily @ 1 hr headways	Saturdays @ 1 hr headways
<b>830</b>	Local Service within Monmouth County	Asbury Park – Point Pleasant Beach	Daily @ 1 hr headways	Saturdays @ 1 hr headways
<b>831</b>		Red Bank – Monmouth Mall – Long Branch	Daily @ 1 hr headways	Saturday and Sunday @ 1 hr headways
<b>832</b>		Red Bank – Monmouth Mall – Asbury Park	Daily @ 1 hr headways	Saturday and Sunday @ 1 hr headways
<b>834</b>		Red Bank – Highlands	Daily @ 1 hr headways	Saturdays @ 1 hr headways
<b>836</b>		Asbury Park – Freehold Raceway Mall – Centra State	Daily @ 1 hr headways	Saturday and Sunday @ 2.5 hr headways
<b>837</b>		Long Branch – Asbury Park – Seaview Square	Daily @ 1 hr headways	Saturdays @ 1 hr headways

Route Number	Route Type	Route Name	Weekday Service	Weekend Service
838		Freehold – Red Bank – Sea Bright	Daily @ 1 hr headways	Saturdays @ 1.5 hr headways

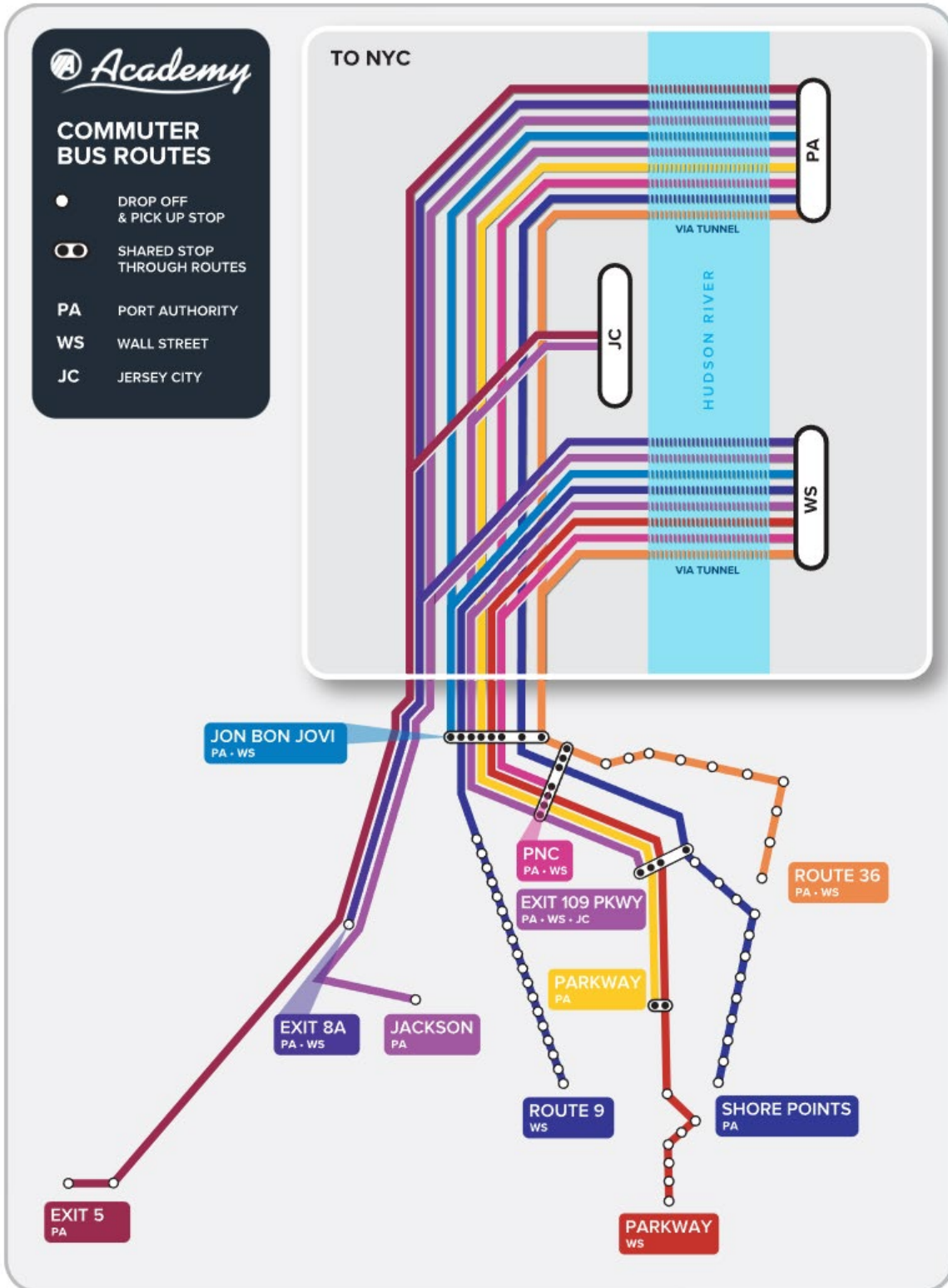
### *Academy Bus*

Academy Bus<sup>6</sup> operates seven long-distance commuter routes between Monmouth County and New York City Port Authority Bus Terminal and Wall Street destinations (see **Figure 3**). The services are offered primarily on weekdays and are focused on the AM and PM peak periods. Headways vary depending on the route. For example, bus service along Route 9 operates at headways that are only two to three minutes apart whereas bus service along the Parkway operates at headways that are 10 to 15 minutes apart.

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<sup>6</sup> <https://academybus.com/>

Figure 3: Academy Bus Route Map



Source: <https://www.academybus.com/>, accessed on 9/19/2023

## *Ferry Service*

The County's Bayshore communities are served by SeaStreak Ferry<sup>7</sup> which provides year-round service from Belford in Middletown Township, Highlands, Atlantic Highlands, and Sandy Hook Beach (seasonal) to Jersey City and four ferry terminals in Manhattan. Based on the most current schedule effective September 25, 2023, SeaStreak provides eight weekday departures and arrivals to/from Belford, nine departures and ten arrivals to/from Highlands, eight departures and ten arrivals to/from Atlantic Highlands, and one departure and two arrivals to/from Sandy Hook. All routes stop at Pier 11/Wall Street. A shuttle connecting Belford, Highlands, and Atlantic Highlands ferry terminals in the afternoon for arriving passengers, thus providing greater options for departing Manhattan. Depending on origin and destination, some trips can take over an hour.<sup>8</sup>

## **Active Transportation Network**

Monmouth County is home to over 130 miles of trails (shown in **Figure 4**) that are open to a variety of modes, including walking, running, and biking. However, most trails are located within the Monmouth County Park system and are not utilized for commuting or other transportation-related purposes. It should be noted that this data is not exhaustive of all bicycle lanes. In addition to bicycle lanes, the County has several multi-use trails, the most significant of which is the Henry Hudson Trail which connects Freehold to Aberdeen, as well as Keyport to Atlantic Highlands. The County is currently working with NJ TRANSIT to complete the missing section of the trail between Aberdeen and Keyport to create a continuous trail from Freehold to the Bayshore which could be used for a variety of purposes including recreation and commuting. In addition, the planned connection would also provide a connection to the Aberdeen-Matawan station on the NJCL, which could encourage active mode connections to the rail service.

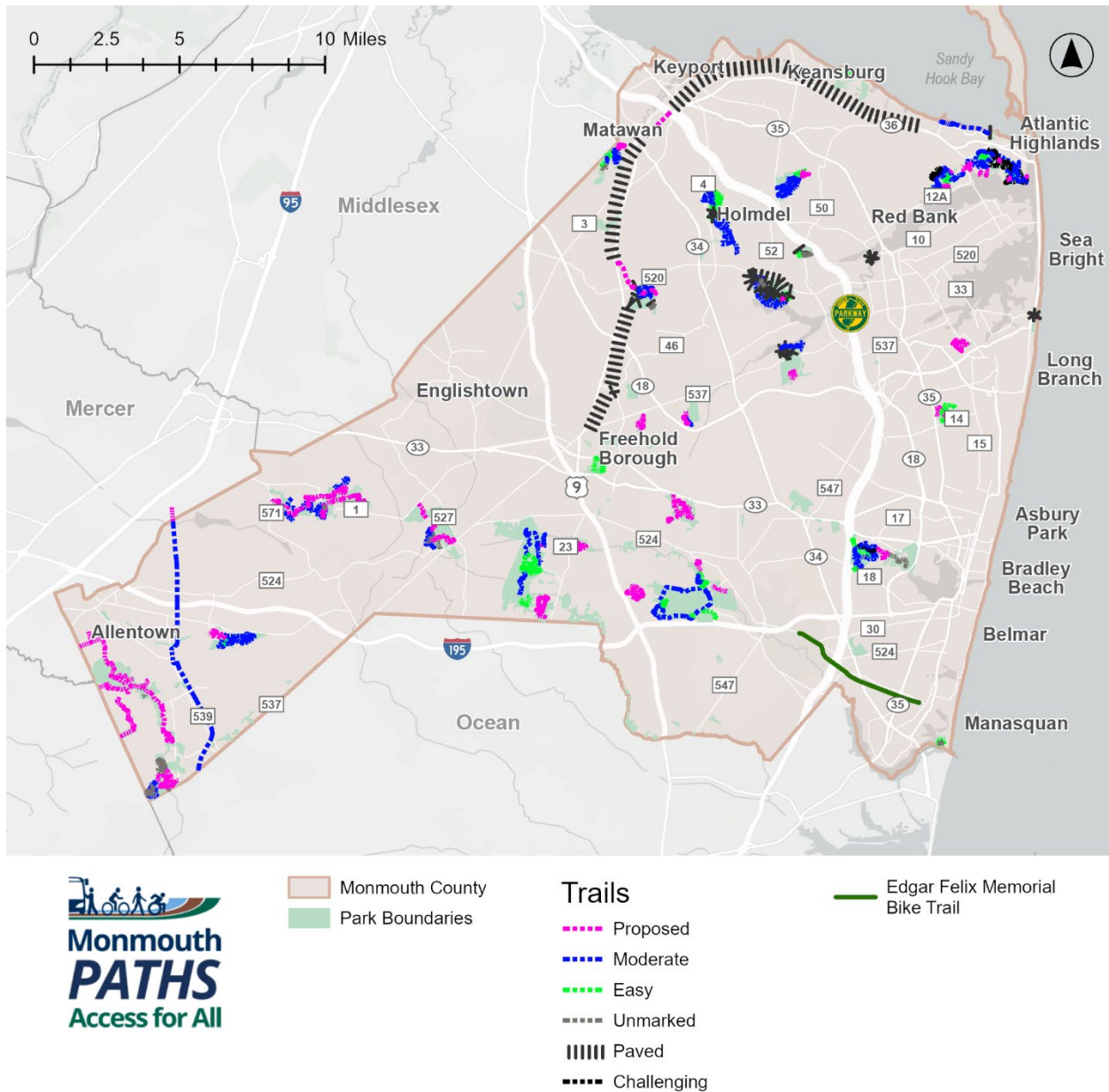
In addition, the Edgar Felix Memorial Bike Trail provides an important active mode link between Howell and Manasquan. However, unlike the Henry Hudson Trail, which is County-owned, the Edgar Felix Memorial Bike Trail is a municipal trail.

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<sup>7</sup> <https://seastreak.com/nj-nyc-commute-by-ferry/>

<sup>8</sup> [Weekday-Weekend-Schedule-1.20.24.pdf \(seastreak.com\)](#)

**Figure 4: Monmouth County Parks and Trails**



Source: Monmouth County, NJGIN Open Data

## Sources of Traffic Data

Several agencies including New Jersey Department of Transportation (NJDOT), NJTA, and Monmouth County collect traffic volume data at various locations within the County annually, and much of this data is available online or by request. Available traffic data

includes volume data from automatic traffic recorders (ATR), permanent count stations, and intersection turning movement counts. Vehicle classification data is also available at specific locations and INRIX<sup>9</sup> travel time data can also be obtained for major roadways within the County. **Table 3** summarizes the existing sources of data available within the County.

**Table 3: Sources of Traffic Data**

Source	Type of Data	Comments
<b>NJDOT</b>	Traffic Volume (ATR) Intersection Turning Movement Count Vehicle Classification Weigh-in-Motion	Data is downloadable through the NJDOT Traffic Management System (TMS) website ( <a href="https://www.njtms.org/map/">https://www.njtms.org/map/</a> ). There are over 1,600 downloadable data files available within Monmouth County. Additional data collected as part of NJDOT-sponsored studies may be available by request.
<b>NJTA</b>	Traffic Volume (permanent count stations and temporary ATRs) Vehicle Classification Vehicle Speed Detector Occupancy	NJTA maintains an in-pavement wireless data collection system referred to as Sensys along the Garden State Parkway and New Jersey Turnpike. There is a total of 23 Sensys locations within Monmouth County. Data from these locations is available upon request. However, it should be noted that some locations are not functional.  In addition, NJTA also collects ATR data on ramps without toll plazas, typically at least two times per year. Finally, toll plaza volume data can also be obtained for all mainline and ramp toll plaza locations.
<b>Monmouth County</b>	Traffic Volume (ATR) Intersection Turning Movement Count	Monmouth County collects ATR (with classification and speed) and turning movement count data for transportation analyses, projects, and other needs. This data is available upon request. Additional data may also be available from studies performed within the County.

<sup>9</sup> INRIX is a private company that provides location-based data and software-as-a-service analytics — such as real-time and historical traffic conditions, road safety, and parking availability — to automakers, businesses, cities, and road authorities worldwide, as well as turn-by-turn navigation applications such as Google Waze. INRIX also publishes research reports on traffic congestion, parking, roadway safety, retail site selection, and autonomous vehicles in major cities.

Source	Type of Data	Comments
<b>INRIX</b>	Travel Time/Speed	INRIX data is available for most of the major corridors in Monmouth County and can be accessed for transportation-related studies and projects through NJDOT and the NJTPA.
<b>Waze<sup>10</sup></b>	Travel Time/Speed	Monmouth County is registered as a Waze partner, which allows the County to access traffic congestion information from the Waze platform. In addition, the County can report events, road closures, construction, etc. to Waze.

## Existing ITS Infrastructure

Intelligent Transportation Systems (ITS) infrastructure refers to the utilization of technology, including computers, communications, and vehicle detection systems, to collect and disseminate traffic information to make travel smarter, faster, safer, and more convenient. ITS is essential for managing traffic on major roadways within Monmouth County to alert the traveling public to issues such as roadway congestion, traffic accidents, and special events. For example, in-pavement vehicle detectors along the Garden State Parkway (the Parkway) collect and measure travel speeds and communicate that information back to a central computer system at the NJTA Traffic Management Center (TMC). The data can then be used to update the dynamic message signs (DMS) to alert drivers about travel time to a specific destination or if congestion is ahead.

Utilizing ITS infrastructure is critical to effectively informing travelers about their options, as well as managing traffic before, during, and after congestion forms. ITS infrastructure, like DMS, can be used to provide traveler information which helps drivers avoid congested areas. If congestion does occur, detectors can monitor travel speeds on area roadways. That information can be provided to travelers to divert to alternate modes or routes, or if they have not started their trip, to wait until congestion subsides to travel.

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<sup>10</sup> Waze is an app that collects map data, travel times, and traffic information such as accidents, traffic jams, speed, and police traps, and, from the online map editor, road updates, landmarks, house numbers, etc. from users. Waze is then able to provide routing and real-time traffic updates.

The ITS infrastructure in Monmouth County is primarily owned/operated by either NJTA or NJDOT. NJTA utilizes in-pavement vehicle detectors, called Sensys, to monitor traffic conditions on the Parkway which are capable of measuring volume, vehicle classification, travel speed, and occupancy, and the amount of time a vehicle is positioned over the detector, which can be used as a measure to identify congestion. The detectors are co-located with other ITS-related infrastructure such as a DMS and traffic camera. The camera is used by staff in the transportation management center (TMC) to visually verify conditions on the Parkway if detectors show low travel speeds and/or high detector occupancy. The DMS is utilized to disseminate traveler information, such as alerts to congestion or roadway incidents, travel time to certain destinations or interchanges, and general traveler information, among other messages. **Figure 5** shows the locations of the Sensys and DMS on the Parkway within the County.

**Figure 5: Vehicle Detection and DMS Locations on the Garden State Parkway**

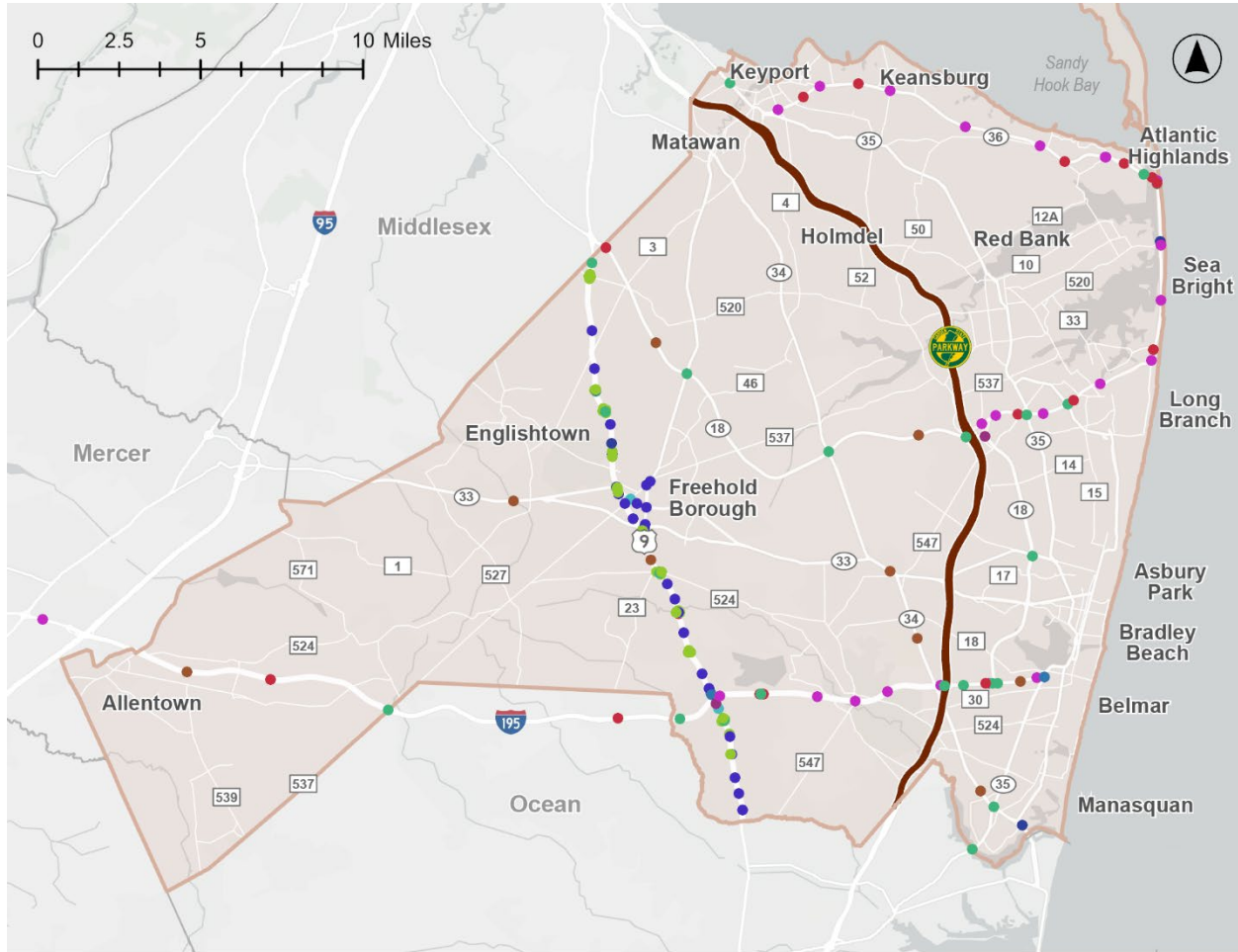


Source: NJTA

NJDOT also maintains a variety of devices on State roadways, including I-195 and US Rt. 9, throughout the County. According to NJDOT's ITS device inventory, there are approximately 159 devices in the County. **Figure 6** depicts the locations of the devices. ITS devices in the County include:

- Camera Surveillance Systems (CSS) – cameras used to observe traffic conditions on the roadway.
- Controlled Traffic Signal System Devices (CTSS) – traffic signal controllers, detectors, and communications used to support adaptive signal systems.
- Communication devices, including fiber optic communications cables and communication hubs.
- Dynamic Message Signs (DMS) – signs that can display specific messages to travelers.
- Roadway Weather Information System (RWIS) – devices that measure atmospheric, pavement, and/or water level conditions.
- System Loops (SDET) – midblock vehicle detectors between signalized intersections in a connected adaptive signal system.
- Transportation System Management (TSM) – a grouping of devices and strategies intended to optimize the performance of existing infrastructure and improve security, safety, and reliability of the transportation system.
- Travel Time Sensor Type C – Bluetooth (TTSC) – Bluetooth detectors that are used to measure vehicle travel time along a corridor.
- Traffic Volume System (TVS) – permanent count stations that record vehicle volumes.
- Weigh-in-Motion (WIM) – detectors that measure vehicle weight.

**Figure 6: NJDOT ITS Facilities in Monmouth County**



Monmouth County

Garden State Parkway

**Device Type**

- Camera Surveillance System (CSS)
- Controlled Traffic Signal System Device (CTSS)
- Dynamic Message Sign (DMS)
- Fiber Optic Cable Conduit (FOCC)
- Communication Hubs (HUB)
- Roadway Weather Info System (RWIS)
- System Loop (SDET)
- Transportation System Management (TSM)
- Travel Time Sensor Type C (TTSC)
- Traffic Volume System (TVS)
- Weight in Motion (WIM)

Source: NJDOT

# Underserved Communities Assessment

Equity in transportation is important because the ability to move safely and efficiently directly correlates to quality of life and wellbeing, and vulnerable groups have fewer mobility options in general. An individual's ability to find employment opportunities, shop for healthy food, have access health care and education, and recreate is directly tied to their mobility options. For most Monmouth County residents, having access to a private vehicle allows them to overcome a variety of mobility barriers that those without daily access to a vehicle face. Historically, underserved communities have been underrepresented in decision-making related to the location of public infrastructure projects and services and are disproportionately exposed to adverse effects. To avoid this, equity will receive considerable focus throughout the development of the Monmouth Paths: Access for All Study.

The purpose of this equity assessment is to identify traditionally underserved groups, such as low-income, minority, limited English proficiency, older than 64, and zero vehicle household populations. This data will be used to identify locations that may be adversely or disproportionately affected by limited mobility and inform recommendations for improvement. In addition, this data will help shape outreach techniques and tools by illustrating likely barriers to inclusive engagement and meaningful participation in the study process.

## Legislation

**Federal** | The concept of Environmental Justice (EJ) is rooted in Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color and national origin, and the National Environmental Policy Act (NEPA) of 1969 which requires federal agencies to integrate environmental values into their decision-making processes. There are also a number of Executive Orders (EOs) that guide the implementation of EJ principles and processes:

- EO 12898<sup>11</sup> (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*) directs federal agencies to: “identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations; develop a strategy for implementing environmental justice; and promote nondiscrimination in federal programs that

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<sup>11</sup> [Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations](#)

affect human health and the environment, as well as provide minority and low-income communities access to public information and public participation.” (Federal Register, 1994)

- EO 13895<sup>12</sup> (*Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*) directs federal agencies to “assess whether underserved communities face systemic barriers in accessing benefits and opportunities through the federal government” resulting in each federal agency developing an Equity Action Plan to direct federal investment in and support for underserved communities.
- EO 14008<sup>13</sup> (*Tackling the Climate Crisis at Home and Abroad*) requires the development of “a strategy to address current and historic environmental injustice” and “clear performance metrics to ensure accountability” and publishing of an “annual public performance scorecard on its implementation.”
- EO 14091<sup>14</sup> (*Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*) which builds on EO 13895 with, among other elements, a streamlined annual reporting process, a directive to expand procurement opportunities for small, disadvantaged businesses through grants, and fostering locally led equitable development in rural and urban areas.
- EO 14096<sup>15</sup> (*Revitalizing Our Nation's Commitment to Environmental Justice for All*) affirms the federal government’s commitment to confronting environmental justice through scientific research, high-quality data, meaningful engagement, and transparency and accountability.

The U.S. Department of Transportation (USDOT) and the Federal Highway Administration (FHWA) developed rules and provide guidance on the implementation of EJ principles to ensure compliance with EO 12898 and other EOs on EJ:

- USDOT Order 5610.2(a)<sup>16</sup> (Final Order to Address Environmental Justice in Minority Populations and Low-Income Populations), an update to the original 1997 Order 5610.2.

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<sup>12</sup> [Executive Order on Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government | The White House](#)

<sup>13</sup> [Executive Order on Tackling the Climate Crisis at Home and Abroad | The White House](#)

<sup>14</sup> [Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government | The White House](#)

<sup>15</sup> [Executive Order on Revitalizing Our Nation's Commitment to Environmental Justice for All | The White House](#)

<sup>16</sup> [Department of Transportation Order 5610.2\(a\) | US Department of Transportation](#)

- FHWA’s EJ Order 6640.23A<sup>17</sup> (FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), an update to the original 1998 Order 6640.23

Both Orders describe the process for incorporating EJ principles into all USDOT and FHWA existing programs, projects, and activities.

**State** | On April 17, 2023, New Jersey passed landmark environmental justice legislation<sup>18</sup> that applies to certain types of facilities including but not limited to gas-fired power plants, incinerators, sewage treatment, recycling, and landfills. This rule does not apply to transportation projects but is noted here to distinguish this fact.

**Regional** | The North Jersey Transportation Planning Authority’s (the NJTPA’s) policies<sup>19</sup> prohibit discrimination based on race, disability, sex, age, income, or national origin. The NJTPA developed guidance to ensure that programs, services, and activities within its 13-county region comply with Title VI of the 1964 Civil Rights Act, EOs on EJ, and other federal non-discrimination policies and statutes. The NJTPA developed guidance and tools to help identify populations with EJ concerns and ensure planning studies comply with EJ and Title VI requirements.

## Evaluation Process and Definitions

This equity assessment follows the definition of minority population as set forth by the U.S. Department of Transportation (USDOT) and the U.S. Census. This population also includes geographically dispersed or transient persons, such as migrant workers or Native Americans, if circumstances warrant. USDOT defines minorities as any persons belonging to any of the following groups:

- *Black, Not of Hispanic Origin* – A person having origins in any of the black racial groups of Africa.
- *Hispanic* – a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- *Asian American* – a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

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<sup>17</sup> [FHWA Order 6640.23A - Resources | Federal Highway Administration \(dot.gov\)](#)

<sup>18</sup> [Office of the Governor | Governor Murphy Announces Nation’s First Environmental Justice Rules to Reduce Pollution in Vulnerable Communities \(nj.gov\)](#)

<sup>19</sup> [Title VI | NJTPA | North Jersey Transportation Planning Authority](#)

- *American Indian and Alaskan Native* – a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.

USDOT defines low income as those having “household income at or below the Department of Health and Human Services poverty guidelines,” which is comparable to an annual income below the annual statistical poverty threshold as determined by the U.S. Census Bureau’s Current Population Reports, Series on Income and Poverty.

This study considered the following factors in determining the impacts to underserved communities:

1. Low-Income
2. Limited English Proficiency
3. Minority Populations
4. Place of Birth
5. Population Over 64 Years
6. Population Under 18 Years
7. Zero Vehicle Households

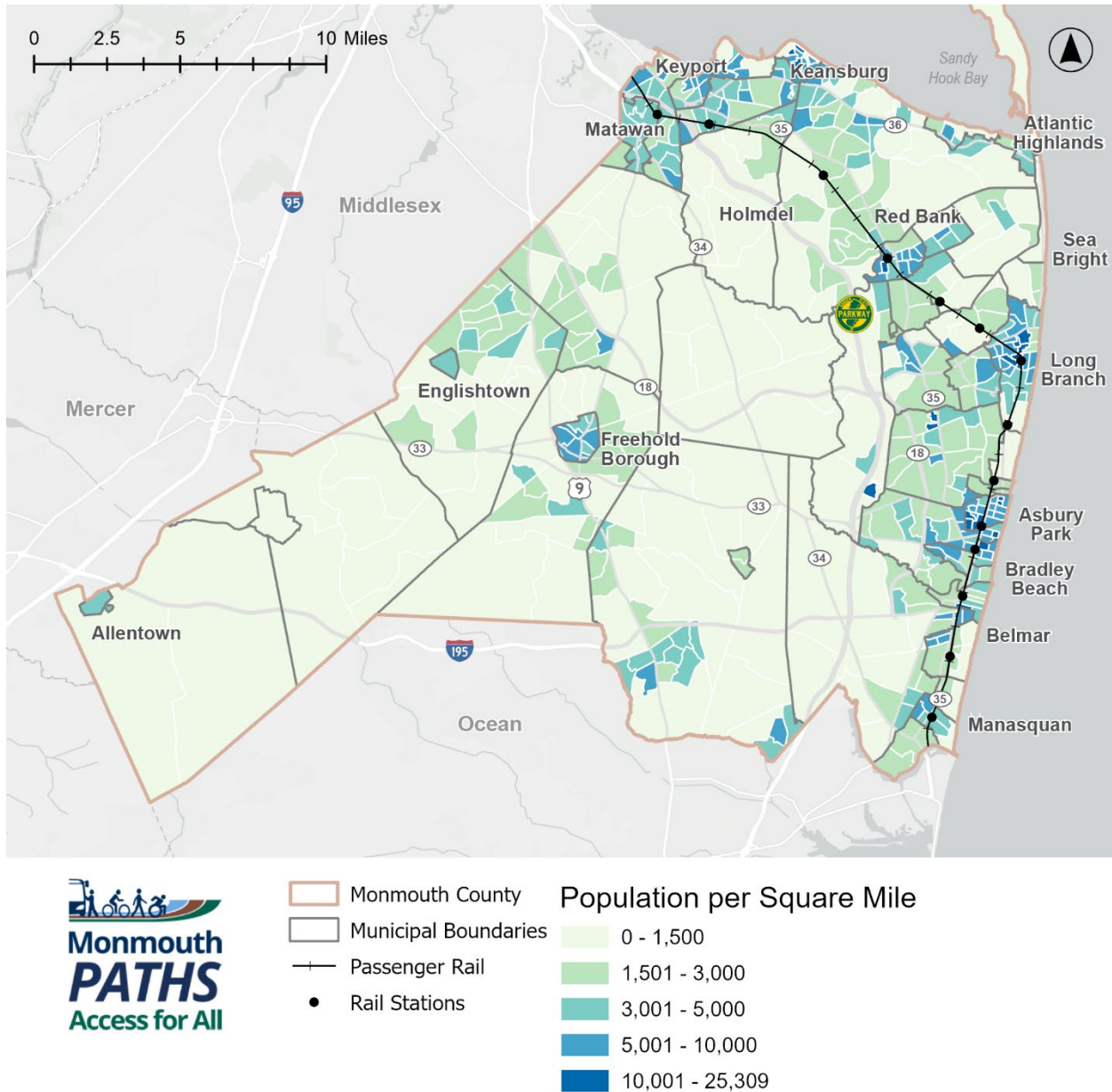
Every reasonable effort will be made throughout development of the Monmouth Paths: Access for All Study to identify and engage minority and low-income communities within the study’s reach. In identifying minority and low-income populations, care will be taken to identify those communities that could be masked by aggregated data. This county-wide equity assessment is the first step in the broader effort for the larger Monmouth Paths: Access for All Study. This demographic information will inform other project activities including stakeholder and public engagement which will in turn inform the assessment of potential solutions and recommendations in consideration of both desktop demographic information and local knowledge of underserved communities and other sensitive/vulnerable populations.

## Study Area Demographics

Monmouth County has a total land area of 468 square miles which includes 27 miles of Atlantic Ocean coastline and 26 miles of Raritan Bay coastline. The County is situated on the Atlantic Seaboard between New York City and Philadelphia. The County is home to 53 municipalities, ranging from 0.1 square miles (Shrewsbury) to 62.1 square miles (Howell). With a total population of about 644,098, the population density is approximately 1,375

people per square mile, with municipal totals ranging from 224 residents in Loch Arbour to 67,106 residents in Middletown (**Figure 7**).

**Figure 7: Monmouth County Population Density by Census Block Group**



Source: U.S. Census American Community Survey 2017-2021 5-Year Data.

**Table 4** provides general population statistics for the County. The following sections compare the Population, Poverty Levels, English Proficiency, Minority Populations, Populations Over 64, and Households with No Vehicles to the NJTPA region and the entire state.

**Table 4: General Makeup of the Population of Monmouth County**

Population Estimates, July 1, 2022, (V2022)	644,098
<b>PEOPLE</b>	
<b>Population</b>	
Population Estimates, July 1, 2022, (V2022)	644,098
Population estimates base, April 1, 2020, (V2022)	643,608
Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022)	0.1%
Population, Census, April 1, 2020	643,615
Population, Census, April 1, 2010	630,380
<b>Age and Sex</b>	
Persons under 5 years, percent	4.9%
Persons under 18 years, percent	20.4%
Persons 65 years and over, percent	19.4%
Female persons, percent	50.9%
<b>Race and Hispanic Origin</b>	
White alone, percent	84.7%
Black or African American alone, percent (a)	7.3%
American Indian and Alaska Native alone, percent (a)	0.3%
Asian alone, percent (a)	5.8%
Native Hawaiian and Other Pacific Islander alone, percent (a)	0.1%
Two or More Races, percent	1.9%
Hispanic or Latino, percent (b)	11.7%
White alone, not Hispanic or Latino, percent	74.5%

SOURCE: [US Census Bureau QuickFacts: Monmouth County, New Jersey](#).

NOTE: Estimates are not comparable to other geographic levels due to methodology differences that may exist between different data sources.

## Underserved Communities Factors

### Income

According to data collected from the U.S. Census American Community Survey, Monmouth County was ranked as the 41<sup>st</sup> wealthiest county in the United States, with 25.7 percent of households earning more than \$150,000 per year in 2018.<sup>20</sup> While there is a sizable affluent population in Monmouth County, nearly 37,000 (6 percent) of households have incomes below the poverty level. This is lower than the State average of 10 percent but higher than the NJTPA Region (**Table 5**). USDOT defines low income as those having “household income

<sup>20</sup> [2020 Monmouth County Profile Report](#)

at or below the Department of Health and Human Services poverty guidelines,” which is comparable to an annual income below the annual statistical poverty threshold as determined by the U.S. Census Bureau’s Current Population Reports, Series on Income and Poverty (\$24,860 in 2023 for a family of three).

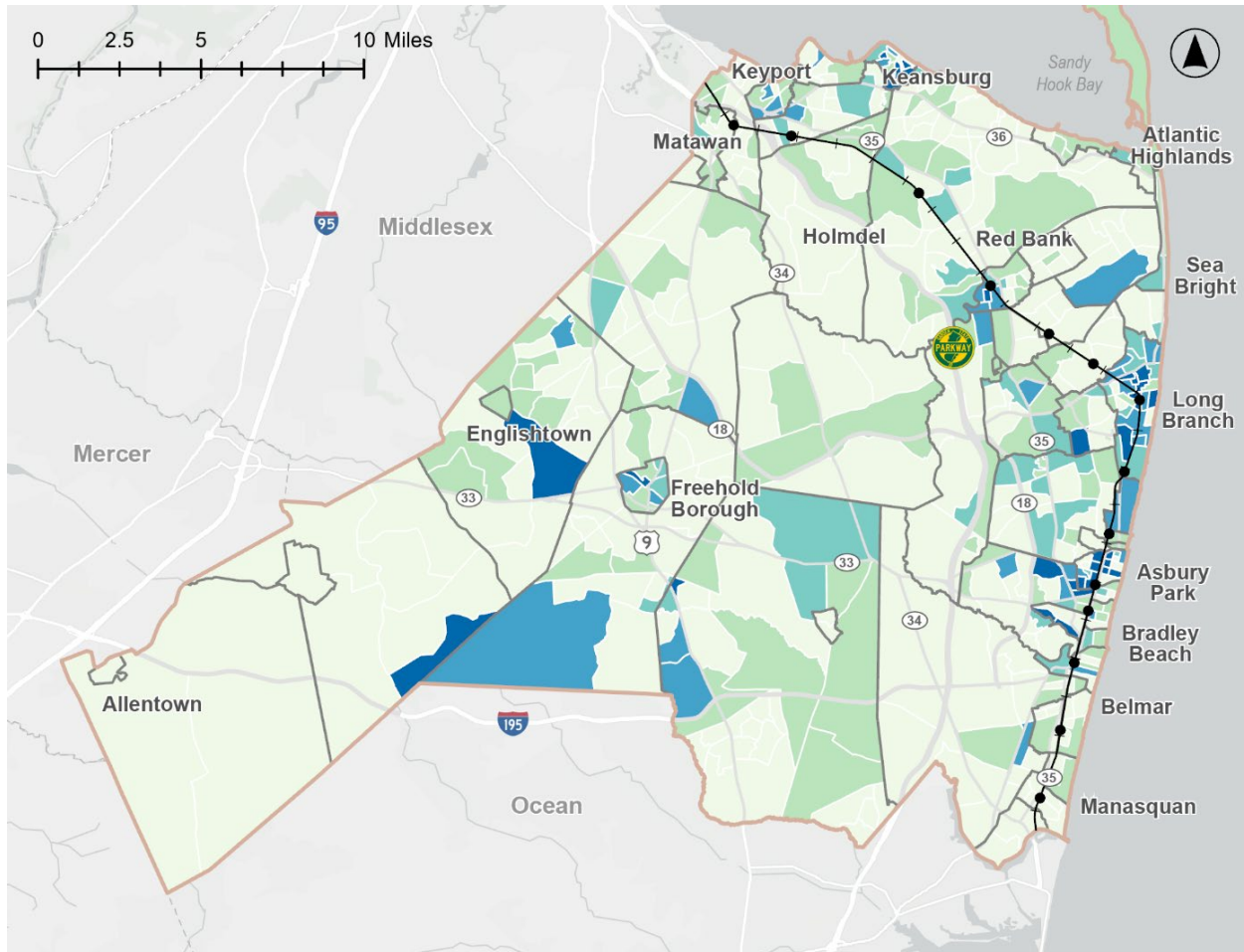
**Table 5: Percentage of Population Below Poverty Level**




<b>Monmouth County</b>	7%
<b>NJTPA Region</b>	4%
<b>New Jersey</b>	10%

Source: ACS data [U.S. Census Bureau QuickFacts: Monmouth County, New Jersey](#) and ACS 2017-2021 via [Equity Analysis Tool | NJTPA Equity Resources \(arcgis.com\)](#)






**Figure 8** shows the percentage of households below the poverty level by census block group. The municipalities of Keyport, Union Beach, Keansburg, Freehold Borough, Long Branch, and Asbury Park have the highest concentrations of low-income populations in the County. Consideration should be given to focusing on these communities during the outreach process. Furthermore, some of these towns experience a significant increase in seasonal congestion during the peak summer season, which may increase mobility challenges during those times.

**Figure 8: Percentage of Households Below the Poverty Level by Census Block Group**



-  Monmouth County
-  Municipal Boundaries
-  Passenger Rail
-  Rail Stations

**Percent Households below Poverty Level**

-  0% - 5%
-  6% - 10%
-  11% - 15%
-  16% - 25%
-  26% - 48%

Source: U.S. Census American Community Survey 2017-2021 5-Year Data

## Limited English Proficiency

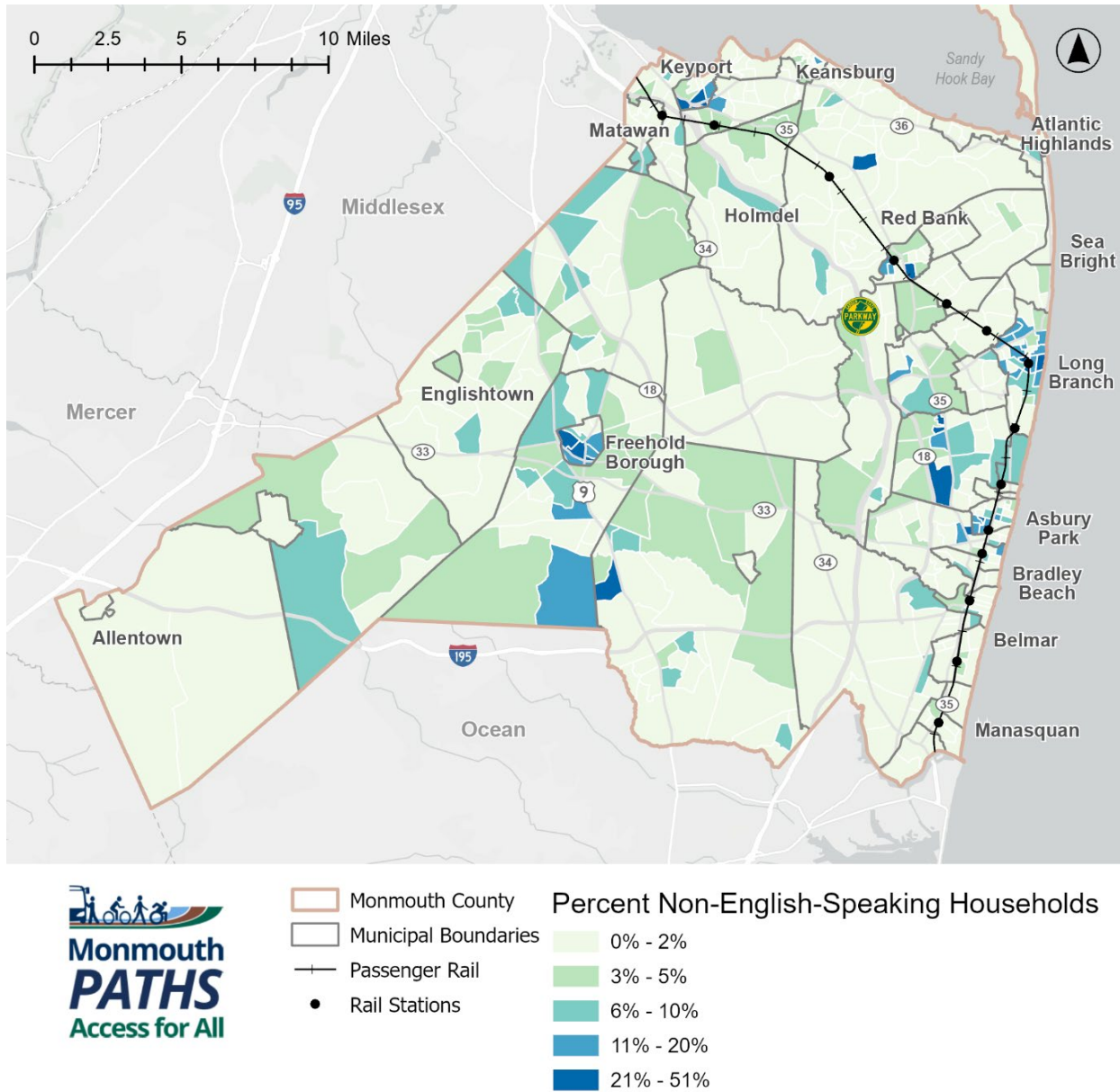
Approximately six percent of Monmouth County residents are considered to have limited English proficiency, which is above the NJTPA region and below the state averages (**Table 6**). **Figure 9** depicts where the percentage of the population with limited English proficiency resides by census block group. Similar to the poverty level analysis, areas of Keyport, Red Bank, Long Branch, Asbury Park, and Freehold Borough have some of the highest percentages of population with limited English proficiency in the County. The United States Environmental Protection Agency’s (USEPA) EJ Screen: Environmental Justice Screening and Mapping Tool shows that Spanish is the most prevalent non-English language spoken in these areas. In anticipation of this, the study website, survey, and other outreach materials have been made available in English and Spanish.

**Table 6: Percentage of Linguistically Isolated Households**

<b>Monmouth County</b>	6%
<b>NJTPA Region</b>	3%
<b>New Jersey</b>	5%

Source: ACS data [U.S. Census Bureau QuickFacts: Monmouth County, New Jersey](#) and ACS 2017-2021 via [Equity Analysis Tool | NJTPA Equity Resources \(arcgis.com\)](#)

**Figure 9: Percentage of Limited English Proficiency by Census Block Group**



Source: U.S. Census American Community Survey 2017-2021 5-Year Data.

## Minority Populations

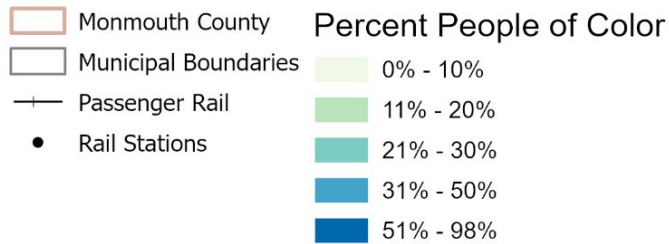
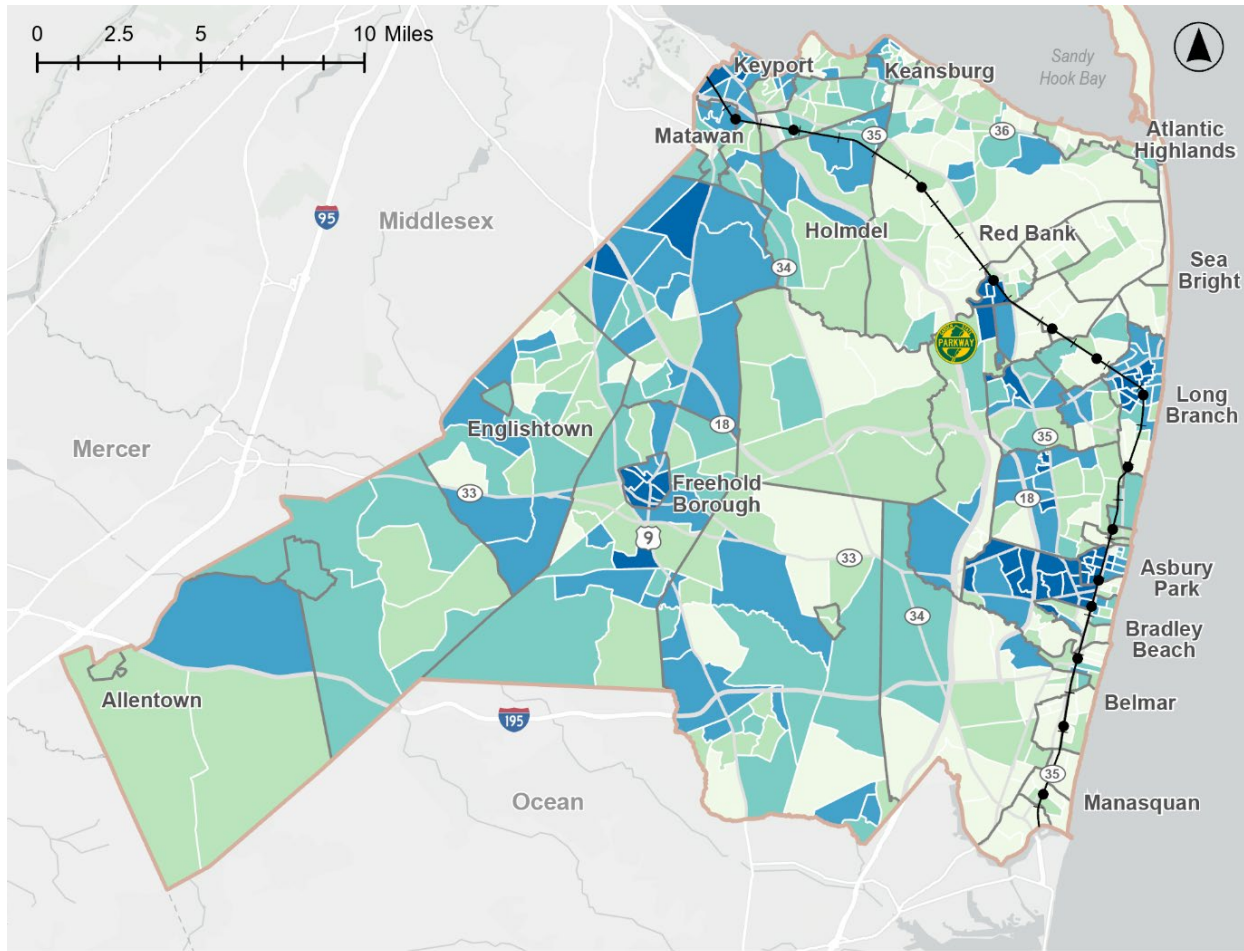
Monmouth County has a population consisting of 74 percent White, 12 percent Hispanic, seven percent Black, and five percent Asian (**Table 7**). **Figure 10** illustrates where the highest number of minority populations are located within Monmouth County. Again, areas of Keyport, Red Bank, Long Branch, Asbury Park, and Freehold Borough have some of the highest percentages of minority populations. Any projects near or affecting travel/mobility in these areas must be cognizant of these populations, particularly as they pertain to modifications to transportation infrastructure, parking policies, and transit service.

**Table 7: Percentage of Population by Race**

	White	Hispanic	Black	Asian	Other
<b>Monmouth County</b>	74%	12%	7%	6%	1%
<b>NJTPA Region</b>	52%	23%	12%	11%	2%
<b>New Jersey</b>	53%	22%	15%	10%	0%

Source: ACS data [U.S. Census Bureau QuickFacts: Monmouth County, New Jersey](#) and ACS 2017-2021 via [Equity Analysis Tool | NJTPA Equity Resources \(arcgis.com\)](#)

**Figure 10: Percentage of Minority Population by Census Block Group**



Source: U.S. Census American Community Survey 2017-2021 5-Year Data.

## Foreign Born Place of Birth

Approximately 13 percent of Monmouth County residents are foreign-born, with 70 percent being naturalized citizens and 30 percent not a citizen of the United States (**Table 8**). Of the 13 percent that were not born in the United States, 38 percent were born in Latin America, 31 percent were born in Asia, and 25 percent were born in Europe.

In identifying minority populations, care will be taken to ensure that areas of individuals who are foreign-born are represented in the assessment. Every reasonable effort will be made to determine the existence and location of foreign-born communities within the study's reach. This will be accomplished by reviewing recommendations using detailed demographic information for each location, which will help ensure that areas of foreign-borne individuals are not overlooked.

**Table 8: Foreign Born Place of Birth**

	Monmouth County	NJTPA Region	New Jersey
<b>Europe</b>	24%	14%	14%
<b>Asia</b>	31%	32%	32%
<b>Africa</b>	5%	6%	6%
<b>Oceania</b>	0%	0%	0%
<b>Latin America</b>	38%	47%	47%
<b>Northern America</b>	1%	1%	1%

Source: ACS data [Monmouth County, NJ - Profile data - Census Reporter](#) and ACS 2017-2021 via [Equity Analysis Tool](#) | [NJTPA Equity Resources \(arcgis.com\)](#), and [Grid View: Table B05006 - Census Reporter](#)

## Population Over the Age of 64

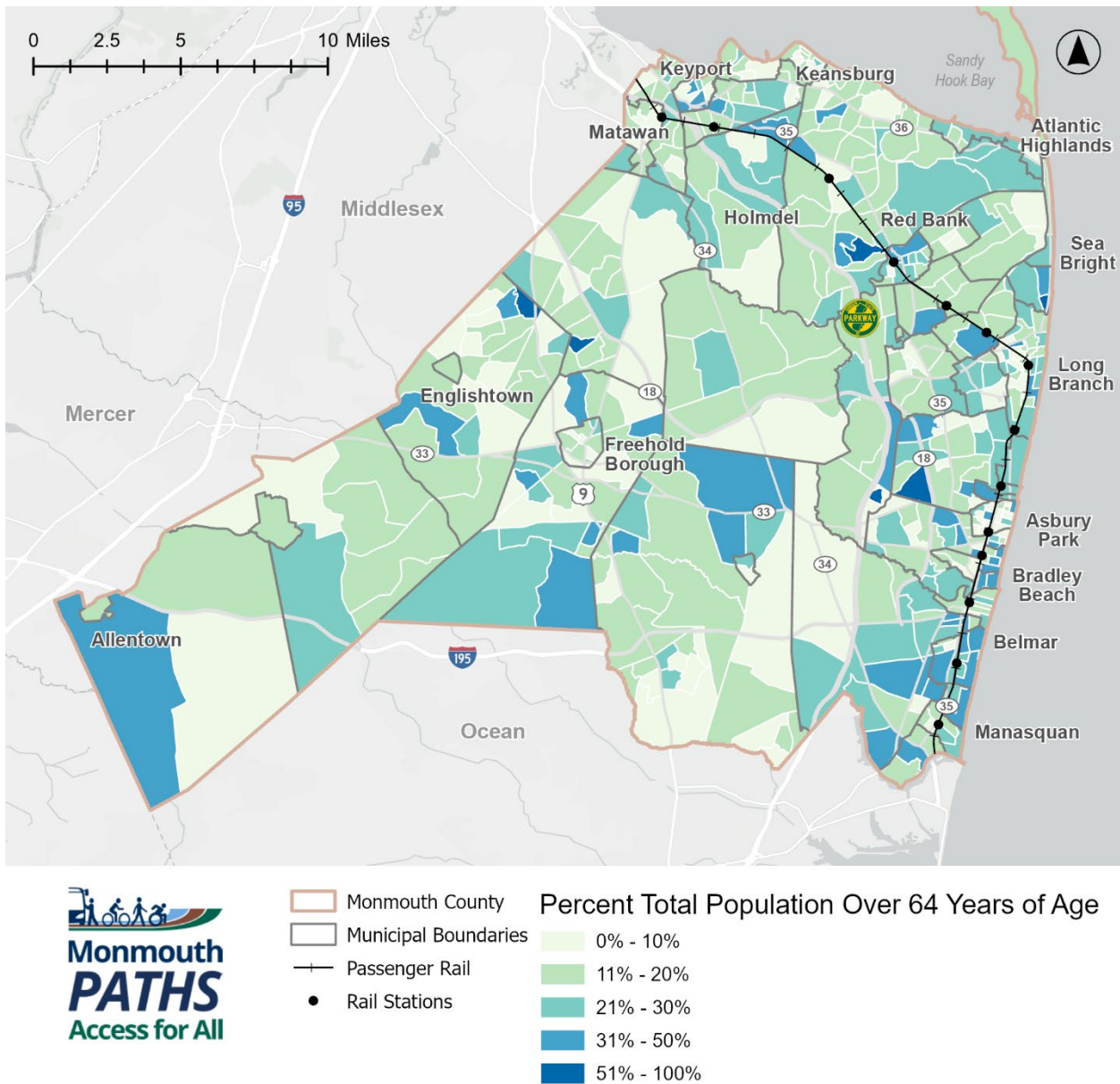
Monmouth County is home to numerous retirement communities. Approximately 19 percent of the population is over 64 years of age, which is equal to that of the NJTPA region and the state (**Table 9**). **Figure 11** shows the population over the age of 64 by census block group. As can be seen in the figure, there are significant concentrations of older populations on the east side of the County, and in areas that are impacted by seasonal traffic. Thus, the Study Team will be cognizant of the areas with high 64 and older populations when making recommendations to improve mobility.

**Table 9: Percentage of Population Over the Age of 64**

<b>Monmouth County</b>	19%
<b>NJTPA Region</b>	16%
<b>New Jersey</b>	17%

Source: ACS data U.S. Census Bureau QuickFacts: Monmouth County, New Jersey and ACS 2017-2021 via [Equity Analysis Tool NJTPA Equity Resources \(arccgis.com\)](#)

**Figure 11: Percentage of Persons Aged 65 and Older by Census Block Group**



Source: U.S. Census American Community Survey 2017-2021 5-Year Data.

## Population Under the Age of 18

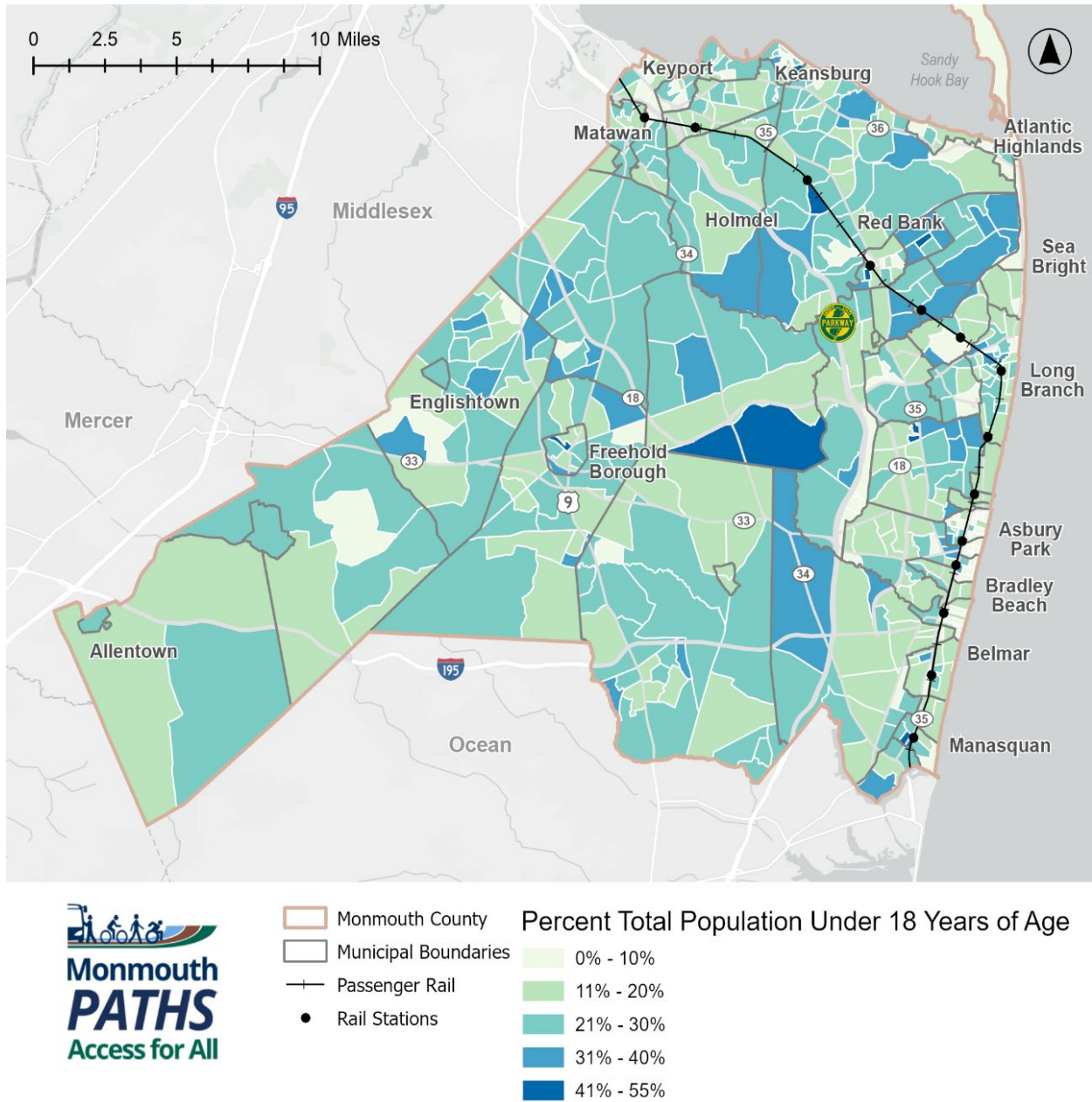
Approximately 16 percent of the population in Monmouth County is between the ages of 5 and 17 years of age, which is comparable to that of the NJTPA region and the state (**Table 10**). **Figure 12** shows the population between the ages of 5 and 17 years of age by census block group. Unlike many of the other equity metrics, areas with higher locations of younger populations are not directly correlated with low-income and minority areas. The Study Team will be mindful of the areas with underage/school-age populations when developing recommendations for barriers to mobility.

**Table 10: Percentage of Population Between 5 and 17 Years of Age**

Monmouth County	<b>16%</b>
NJTPA Region	16%
New Jersey	16%

Source: ACS 2017-2021 via [Equity Analysis Tool](#), NJTPA Equity Resources ([arcgis.com](#))

**Figure 12: Population Aged 5 - 17 By Census Block Group**



Source: U.S. Census American Community Survey 2017-2021 5-Year Data

## Households with No Vehicles

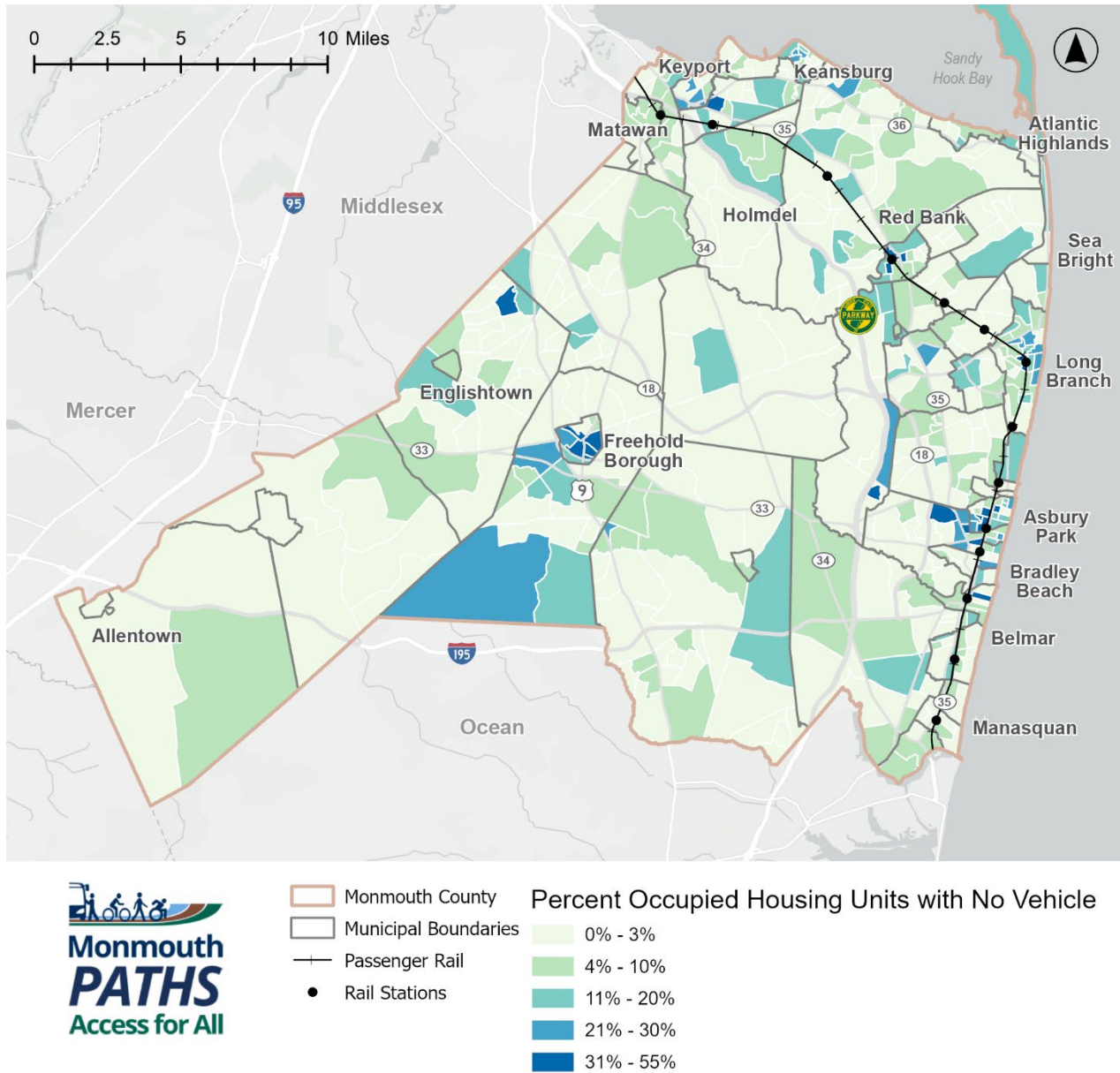
**Figure 13** shows the percentage of occupied housing units that report no vehicles available by census block group. Residents of these housing units must rely on alternative means of transportation including walking, bicycling, ride share, and other options. Approximately seven percent of households in the County do not have access to a vehicle. This is about half of the percentages for the NJTPA region (12 percent) and the state (11 percent) (**Table 11**). For projects that may be located in areas with no vehicles and others where there are high numbers of households who have no access to personal vehicles, consideration will be given to transit services, active transportation options, and micromobility. Enhancing transit service, particularly on weekends, as part of the recommendations of this study would likely benefit these populations.

**Table 11: Percentage of Households with No Vehicles**

<b>Monmouth County</b>	7%
<b>NJTPA Region</b>	12%
<b>New Jersey</b>	11%

Source: ACS 2017-2021 via [Equity Analysis Tool](#) NJTPA Equity Resources ([arcgis.com](#))

**Figure 13: Percentage of Occupied Housing Units with No Vehicle by Census Block Group**

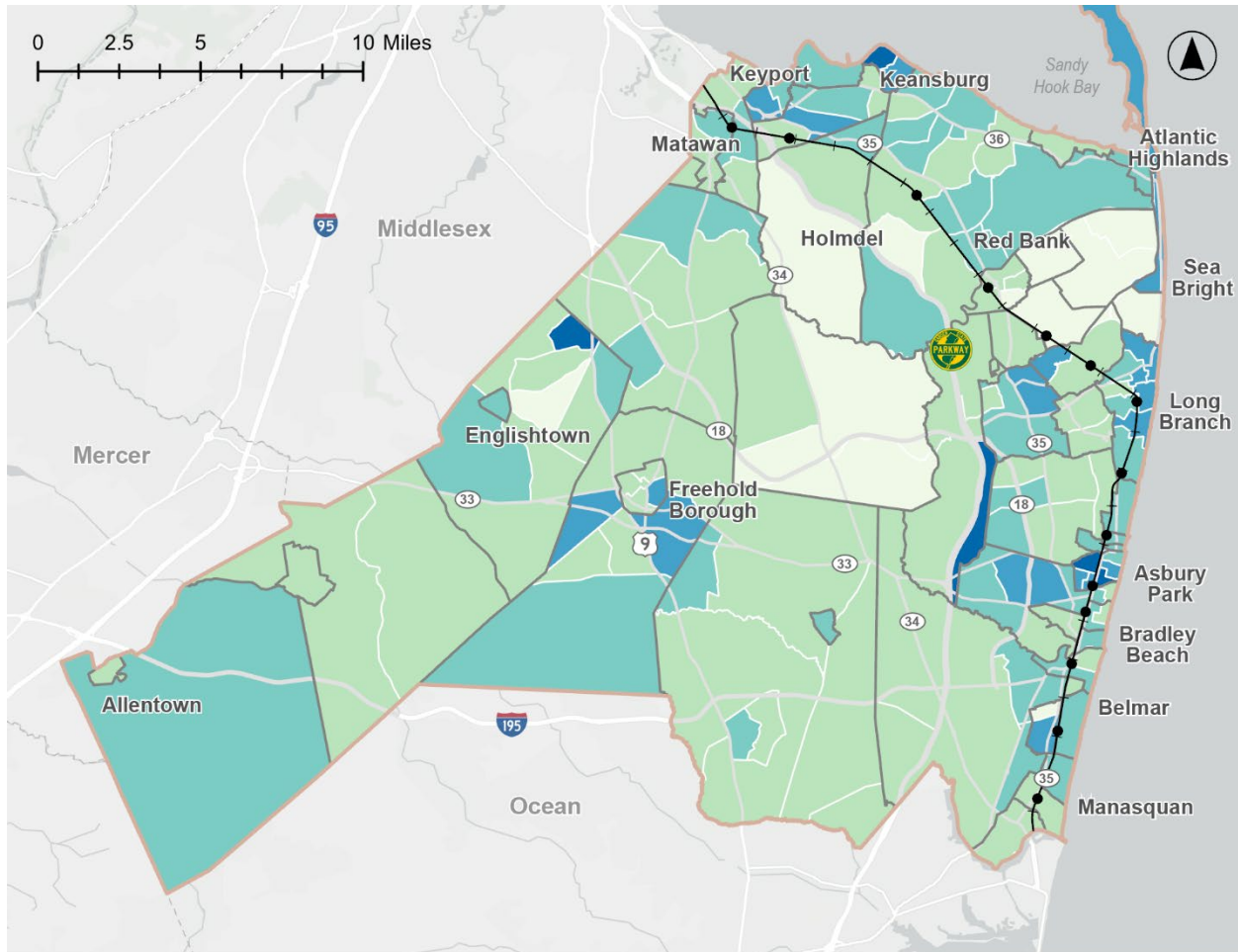


Source: U.S. Census American Community Survey 2017-2021 5-Year Data

## Persons with Disabilities

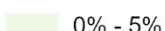


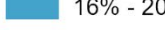
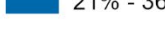
U.S. Census American Community Survey 2017-2021 5-Year Data indicates that persons with disabilities comprise 10.2 percent of all Monmouth County residents which is near the statewide value of 10.6 percent and lower than the nationwide value of 13.4 percent. Within Monmouth County, higher numbers of persons with disabilities are located in Keansburg, Sea Bright, Manalapan, Red Bank, Eatontown, Long Branch, Freehold (Borough and Township), Tinton Falls, Asbury Park, and Spring Lake Heights (**Figure 14**). Except for census block groups in Manalapan, Tinton Falls, and Spring Lake Heights, these communities also contain underserved communities. The census block groups in Manalapan, Tinton Falls, and Spring Lake Heights contain higher numbers of persons aged 65 or older in either active adult communities or senior living communities.

**Figure 14: Percentage of Population with Disability by Census Block Group**



-  Monmouth County
-  Municipal Boundaries
-  Passenger Rail
-  Rail Stations

**Percent Total Population with a Disability**

-  0% - 5%
-  6% - 10%
-  11% - 15%
-  16% - 20%
-  21% - 36%

Source: U.S. Census American Community Survey 2017-2021 5-Year Data.

## Justice40

The Justice40 Initiative was created as a part of EO 14008 (*Tackling the Climate Crisis at Home and Abroad*). Justice40 is a federal government-wide approach that sets a goal that 40 percent of the benefits of certain federal investments flow to vulnerable communities. Through Justice40, USDOT will work to “increase affordable transportation options that connect Americans to good-paying jobs, fight climate change, and improve access to resources and quality of life in communities in every state and territory in the country.”<sup>21</sup> In support of the Justice40 Initiative and other EOs on EJ, the USDOT has developed a tool to identify disadvantaged census tracts when applying for USDOT discretionary grant programs.

The USDOT evaluates 22 indicators collected at the census tract level that are grouped into six categories of transportation disadvantage. Tracts are characterized as disadvantaged when data values exceed the 50<sup>th</sup> percentile (or 75<sup>th</sup> for resilience) across at least four of the six transportation disadvantaged indicators. Each of the six disadvantage indicators is assembled at the census tract level using data from the CDC Social Vulnerability Index, Census America Community Survey, EPA Smart Location Map, HUD Location Affordability Index, EPA EJ Screen, FEMA Resilience Analysis & Planning Tool, and FEMA National Risk Index. The six disadvantage categories are as follows (number of indicators that fall in that category and data sources shown in parenthesis):

- **Transportation access disadvantage** identifies communities and places that spend more, and take longer, to get where they need to go. (4) (CDC Social Vulnerability Index, Census America Community Survey, EPA Smart Location Map, HUD Location Affordability Index)
- **Health disadvantage** identifies communities based on variables associated with adverse health outcomes, disability, as well as environmental exposures. (3) (CDC Social Vulnerability Index)
- **Environmental disadvantage** identifies communities with disproportionately high levels of certain air pollutants and a high potential presence of lead-based paint in housing units. (6) (EPA EJ Screen)
- **Economic disadvantage** identifies areas and populations with high poverty, low wealth, lack of local jobs, low homeownership, low educational attainment, and high

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<sup>21</sup> USDOT Justice40 Factsheet [https://www.transportation.gov/sites/dot.gov/files/2022-11/Justice40\\_Fact\\_Sheet\\_v1.2pptx.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-11/Justice40_Fact_Sheet_v1.2pptx.pdf)

inequality. (7) (CDC Social Vulnerability Index, Census America Community Survey, FEMA Resilience Analysis & Planning Tool)

- **Resilience disadvantage** identifies communities vulnerable to hazards caused by climate change. (1) (FEMA National Risk Index)
- **Equity disadvantage** identifies communities with a high percentile of persons (age 5+) who speak English "less than well." (1) (CDC Social Vulnerability Index)

There are several disadvantaged census tracts in Keyport, Keansburg, Highlands, Long Branch, and Asbury Park.<sup>22</sup> Of particular relevancy to the Monmouth Paths: Access for All Study, these census tracts are characterized as "transportation access disadvantaged." In order to obtain feedback from these disadvantaged communities, the Study Team will strive to schedule and locate the outreach meetings in these areas at facilities that are accessible by transit. The current outreach plan includes recommendations to host one public meeting in Asbury Park, one public meeting in the bay shore area (Keyport, Keansburg, Highlands), and one in Freehold so that all areas of the County are covered.

The USDOT has also mapped areas of persistent poverty which include five census tracts in the Keyport area, four tracts in Keansburg, two in Red Bank, one on Freehold Borough, two in Long Branch, one in Ocean, and nine in Asbury Park.

## CEQ Climate and Economic Justice Screening

In addition to USDOT tools available to identify areas with underserved communities, the US Council on Environmental Quality (CEQ) created the Climate and Economic Justice Screening Tool (CEJST) as part of the federal government's Justice40 Initiative. The tool identifies disadvantaged census tracts based on a number of social, economic, and environmental indicators. The Justice40 disadvantaged census tracts shown in **Table 12** were accessed through the USEPA's EJScreen tool. There are 16 disadvantaged census tracts in Monmouth County including one in Keansburg, and one in Manalapan (which encompasses the Covered Bridge Condominiums Active Adult Community and is identified as workforce development-disadvantaged due to the high concentration of retirees but is not actually disadvantaged given additional context), one in Red Bank, five in the Long Branch, two in Freehold Borough, one encompassing residence at Naval Weapons Station Earle, and five in the Asbury Park.

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<sup>22</sup> USDOT Disadvantaged Census Tract Viewer.  
<https://usdot.maps.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a>

With respect to the Monmouth Paths: Access for All Study, the CEJST Justice40 disadvantaged census tracts data sheds light on other aspects of disadvantage related to housing, health, education, and employment which can be considered when shaping the project's public engagement plan and developing potential solutions to improve mobility and access to education, medical facilities, and employment centers.

**Table 12: Climate and Economic Justice Screening Tool Disadvantaged Census Tracts**

Census Tract, Location	Population	Climate Change <sup>1</sup>	Energy <sup>2</sup>	Health <sup>3</sup>	Housing <sup>4</sup>	Legacy Pollution <sup>5</sup>	Transportation <sup>6</sup>	Water & Wastewater <sup>7</sup>	Workforce
34025801700, Keansburg	4,171	X			X		X	X	X
34025810002, Manalapan (55+ community)	3,635								X
34025803400, Red Bank	5,000				X			X	X
34025805500, Branchport / Long Branch	4,363								X
34025805700, Long Branch	2,905						X		
34025805600, Long Branch	2,478			X				X	X
34025805900, Long Branch	5,259								X
34025805800, Long Branch	3,756								X
34025811000, Freehold	3,573				X			X	X
34025810900, Freehold	2,917								X
34025809903, Naval Weapons Station Earle	265		X		X	X			
34025806504, Asbury Park	2,736								X
34025807600, Asbury Park	3,037			X	X			X	X
34025807300, Asbury Park	3,568		X		X			X	X
34025807200, Asbury Park	2,304				X			X	X
34025807003, Asbury Park	4,418			X	X			X	
<b>Totals for each disadvantage criteria category</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>9</b>	<b>13</b>

Source: USEPA EJScreen. Justice40 Disadvantaged Census Tracts (as originally published in CEQ CEJST. <https://ejscreen.epa.gov/mapper/index.html?wherestr=monmouth+county+NJ>. Accessed August 18, 2023.

Notes:

1. **Climate change:** Communities are identified as disadvantaged if they are in census tracts that: ARE at or above the 90th percentile for expected agriculture loss rate OR expected building loss rate OR expected

- [population loss rate](#) OR [projected flood risk](#) OR [projected wildfire risk](#) AND are at or above the 65th percentile for [low income](#).
2. **Energy:** Communities are identified as disadvantaged if they are in census tracts that: ARE at or above the 90th percentile for [energy cost](#) OR [PM2.5 in the air](#) AND are at or above the 65th percentile for [low-income](#).
  3. **Health:** Communities are identified as disadvantaged if they are in census tracts that: ARE at or above the 90th percentile for [asthma](#) OR [diabetes](#) OR [heart disease](#) OR [low life expectancy](#) AND are at or above the 65th percentile for [low income](#).
  4. **Housing:** Communities are identified as disadvantaged if they are in census tracts that: Experienced [historic underinvestment](#) OR are at or above the 90th percentile for [housing cost](#) OR [lack of green space](#) OR [lack of indoor plumbing](#) OR [lead paint](#) AND are at or above the 65th percentile for [low income](#).
  5. **Legacy Pollution:** Communities are identified as disadvantaged if they are in census tracts that: Have at least one [abandoned mine land](#) OR [Formerly Used Defense Sites](#) OR are at or above the 90th percentile for [proximity to hazardous waste facilities](#) OR [proximity to Superfund sites \(National Priorities List \(NPL\)\)](#) OR [proximity to Risk Management Plan \(RMP\) facilities](#) AND are at or above the 65th percentile for [low income](#).
  6. **Transportation:** Communities are identified as disadvantaged if they are in census tracts that: ARE at or above the 90th percentile for [diesel particulate matter exposure](#) OR [transportation barriers](#) OR [traffic proximity and volume](#) AND are at or above the 65th percentile for [low income](#).
  7. **Water and Wastewater:** Communities are identified as disadvantaged if they are in census tracts that: ARE at or above the 90th percentile for [underground storage tanks and releases](#) OR [wastewater discharge](#) AND are at or above the 65th percentile for [low income](#).
  8. **Workforce Development:** Communities are identified as disadvantaged if they are in census tracts that: ARE at or above the 90th percentile for [linguistic isolation](#) OR [poverty](#) OR [unemployment](#) OR [low median income](#) AND more than 10 percent of people ages 25 years or older whose high school education is less than a [high school diploma](#).

## Travel Patterns of Monmouth County's Vulnerable Populations

While the information presented in the sections above identifies areas of disadvantaged populations within Monmouth County, it represents only one facet of the assessment of needs for this study. As the primary purpose of the Monmouth Paths: Access for All Study is to identify strategies to enhance mobility and improve access to employment opportunities, shopping/dining, healthcare, education, and recreation, understanding where people are currently traveling for these purposes must also be evaluated. To this end, Replica, a location-based data provider, which provides tools to sort and analyze trip data under a variety of metrics such as trip purpose, trip geography, and demographics was used. When utilizing Replica to sort data based on the metrics, a data quality score is provided which lets the user know how reliable the data is, largely based on the sample size. Therefore, it was necessary for the Study Team to select a metric that had a high reliability.

In order to select this metric, Stantec evaluated the underserved communities factors from the sections above and determined that there is substantial overlap between many of the factors including low-income, minority, and zero-vehicle households. When sorting the location-based data in Replica, low-income households result in the best data reliability of all the measures. Therefore, the assessment of the location-based data in the following sections show the destination of work, shopping, school, recreation, and errand trips are shown for low-income households. Utilizing this metric maximizes the data reliability, while accounting for the overlap shown in the data above and avoiding duplication of multiple maps showing similar information because of the overlap. Low-income residents are more likely to be minority, have limited access to a vehicle, have a disability, or be older than 64 or younger than 18. Therefore, utilizing low-income households as the primary metric for this analysis would also account for the other metrics.

## Work Trips

The number and type of transportation options can have a significant impact on the ability for people to access employment opportunities, and thus, can affect where they work. To demonstrate this impact, **Table 13**, provides a comparison of top 20 municipalities where lower-income and higher-income residents work. The data shows that many municipalities within Monmouth County show up on both lists. However, the percentage of work trip destinations to New York City and Newark are significantly higher for higher-income residents. Furthermore, other regional employment centers like Jersey City and New Brunswick also appear on the list of the top 20 work destinations for higher-income residents but do not appear on the list for lower-income residents. Other employment centers like Trenton and Philadelphia do not appear on either of the lists, likely due to a combination of factors including lack of connections and orientation of Monmouth County as a suburb of the New York City area.

**Table 13: Top 20 Work Destinations of Lower-Income and Higher-Income Monmouth County Residents (Source: Replica)**

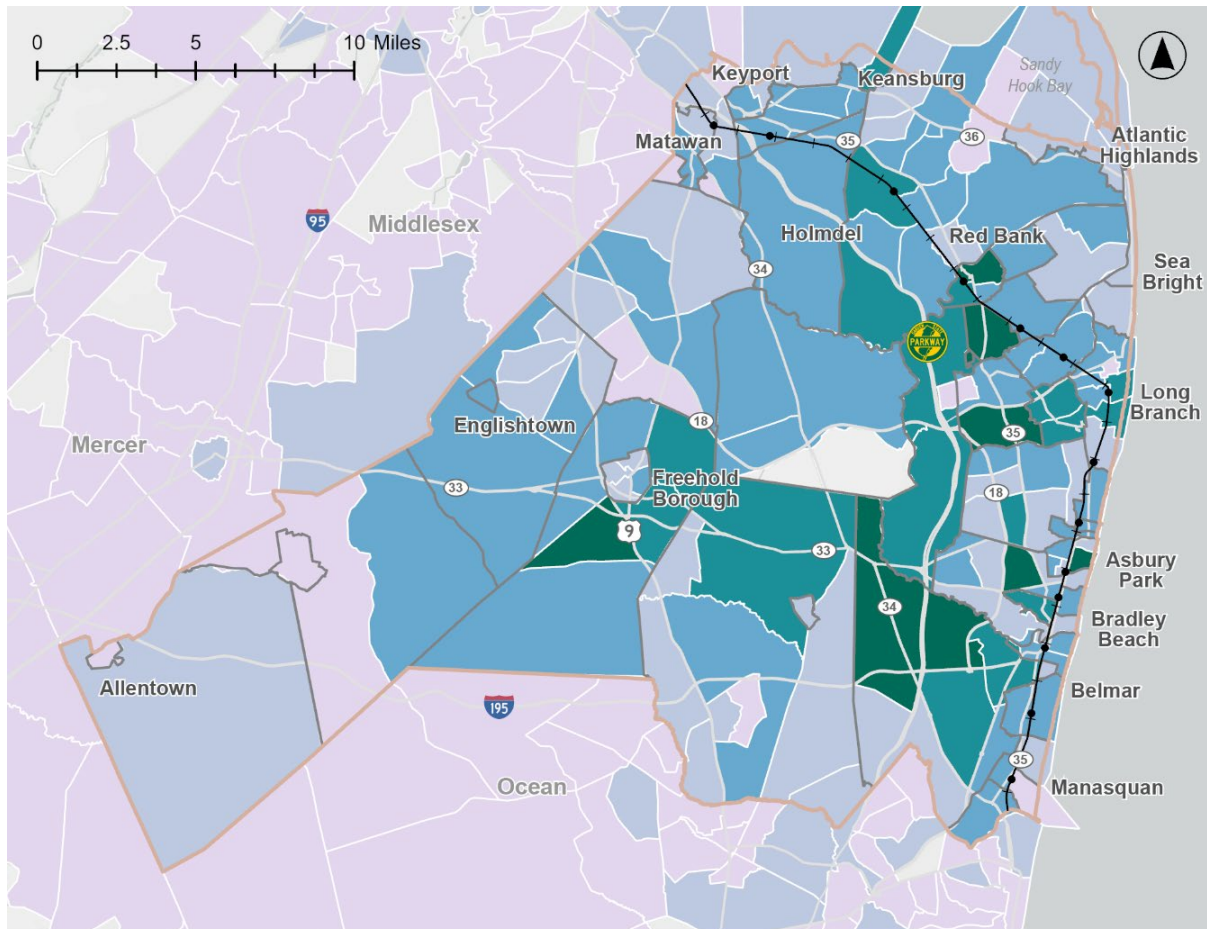
Lower-Income Residents (Annual Household Income < \$25,000)		Higher-Income Residents (Annual Household Income > \$100,000)	
Municipality	Percentage of Work Trips	Municipality	Percentage of Work Trips
Long Branch City	4.49%	New York City	7.17%
Eatontown	3.96%	Eatontown	3.31%
<b>Tinton Falls</b>	3.66%	Red Bank	3.28%
<b>New York City</b>	3.53%	Tinton Falls	2.88%
<b>Red Bank</b>	3.28%	Long Branch City	2.87%
Asbury Park	3.26%	Freehold Township	2.77%
<b>Freehold Township</b>	2.31%	Middletown	1.37%
<b>Long Branch Borough</b>	2.28%	Freehold Borough	1.35%
<b>Keansburg</b>	1.77%	Long Branch Borough	1.33%
<b>Freehold Borough</b>	1.57%	Shrewsbury	1.31%
<b>Shrewsbury</b>	1.42%	Newark	1.14%
<b>Middletown</b>	1.12%	Asbury Park	1.09%
<b>Neptune City</b>	1.04%	Toms River	0.89%
<b>Belmar</b>	0.95%	Manasquan	0.82%
<b>Toms River</b>	0.93%	New Brunswick	0.78%
<b>Little Silver</b>	0.73%	Little Silver	0.73%
<b>Newark</b>	0.73%	Matawan	0.72%
<b>Oceanport</b>	0.72%	Jersey City	0.70%
Matawan	0.71%	Marlboro	0.69%
<b>Keyport</b>	0.68%	Rumson	0.67%

**Figure 15** shows the number of work trips ending in each census block group that are made by the County’s low-income residents for work. The data indicates that most of the low-income residents are working within the County, with higher concentrations of work trips within census block groups that contain concentrations of service (retail, restaurants, etc.) and warehousing land uses. Corridors such as NJ Routes 33, 34, 35, and 36 contain some of the highest number of work trips. These corridors have bus routes; however, the higher-capacity services such as the proposed US Rt. 9 BRT corridor and the North Jersey Coast Line are oriented to major employment centers within the New York City and Newark areas. The data indicates a much lower concentration of work trips ending in these areas.

This data reveals important questions that must be asked relative to these destinations. Specifically, if the work trip destinations where the desired employment opportunities lie, or

they are where people are working because there are barriers to accessing other employment opportunities? These questions and more that are developed throughout the study will be included in discussions with the public along with the study's Technical Advisory Committee (TAC) and Experience Committees (EC)<sup>23</sup>.

**Figure 15: Number of Work Trip Destinations for Low Income Residents by Census Block Group**



Source: U.S. Census American Community Survey 2017-2021 5-Year Data, Replica Location-Based data for an average weekday in 2021.

<sup>23</sup> Refer to Appendix D: Public Outreach Summary for more information regarding the TAC and EC.

## Shopping/Dining Trips

Similar to the work trips, shopping and dining trips follow a similar pattern of distribution, focused on the corridors that contain higher concentrations of retail, particularly in more suburban areas of the County where there are large shopping areas with big box retailers (**Figure 16**). Corridors such as NJ Routes 33, 34, 35, and 36 contain some of the highest number of work trips. These corridors typically have limited transit options, particularly on weekends, and many are not walkable or bikeable from low-income census block groups.

## School Trips

**Figure 17** shows the location of school trips made by low-income County residents. This includes primary and secondary education locations. The data indicates concentrations in several areas including Brookdale Community College, Monmouth University, Middlesex College, and Rutgers University. Many of these locations are outside of areas of high-frequency transit. For example, a trip from the County to Rutgers University by transit would take significantly longer than by private car because it would likely require students to travel north first to connect to the Northeast Corridor rail line before heading south to the University in New Brunswick.

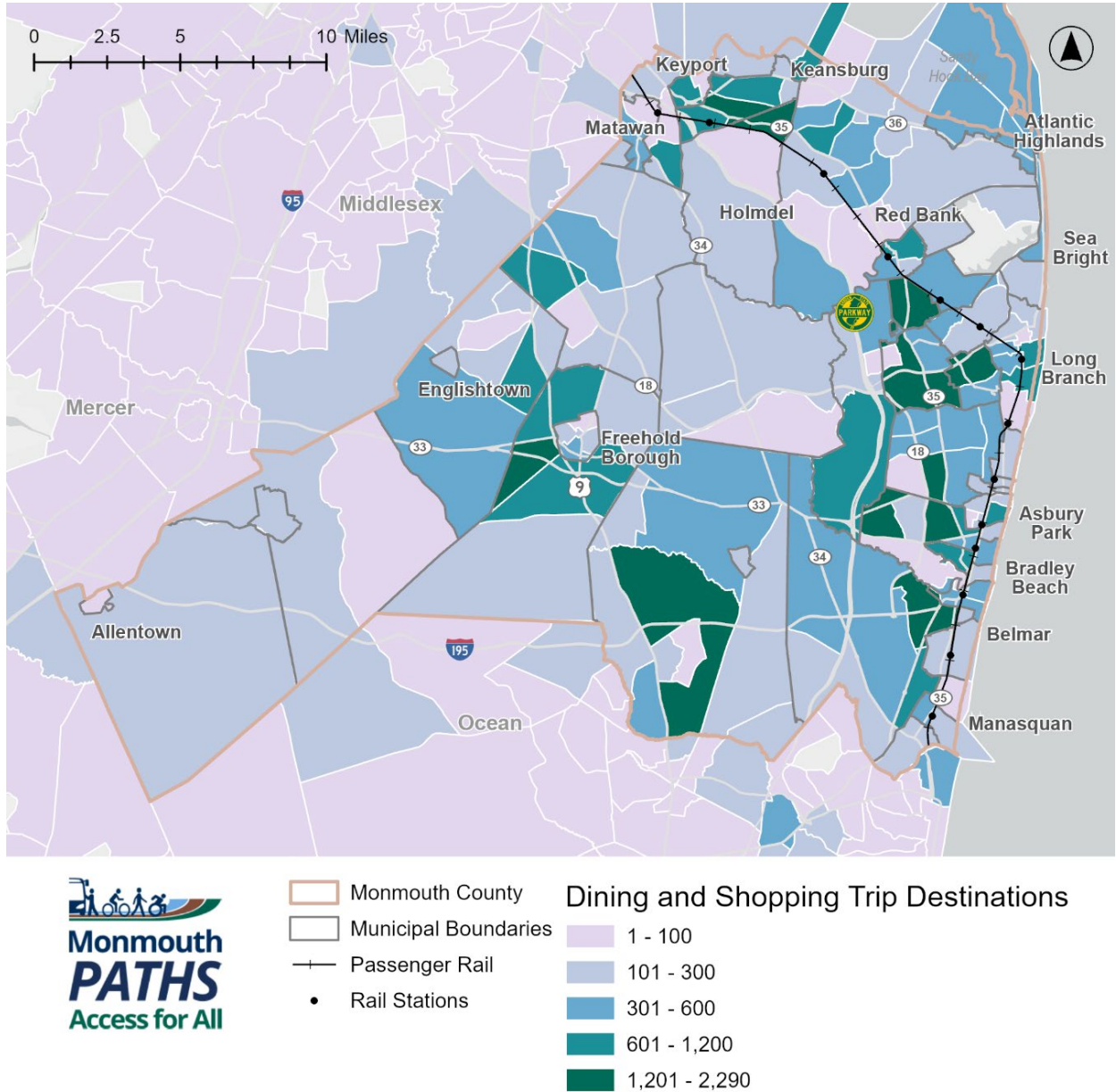
## Errand Trips

The trip types available in the Replica data do not include specific healthcare data. Instead, “errand” is listed as a trip purpose which includes healthcare. The data shown in **Figure 18**, shows similar results to shopping and dining trips, likely because errand trips may also include shopping trips.

## Recreation Trips

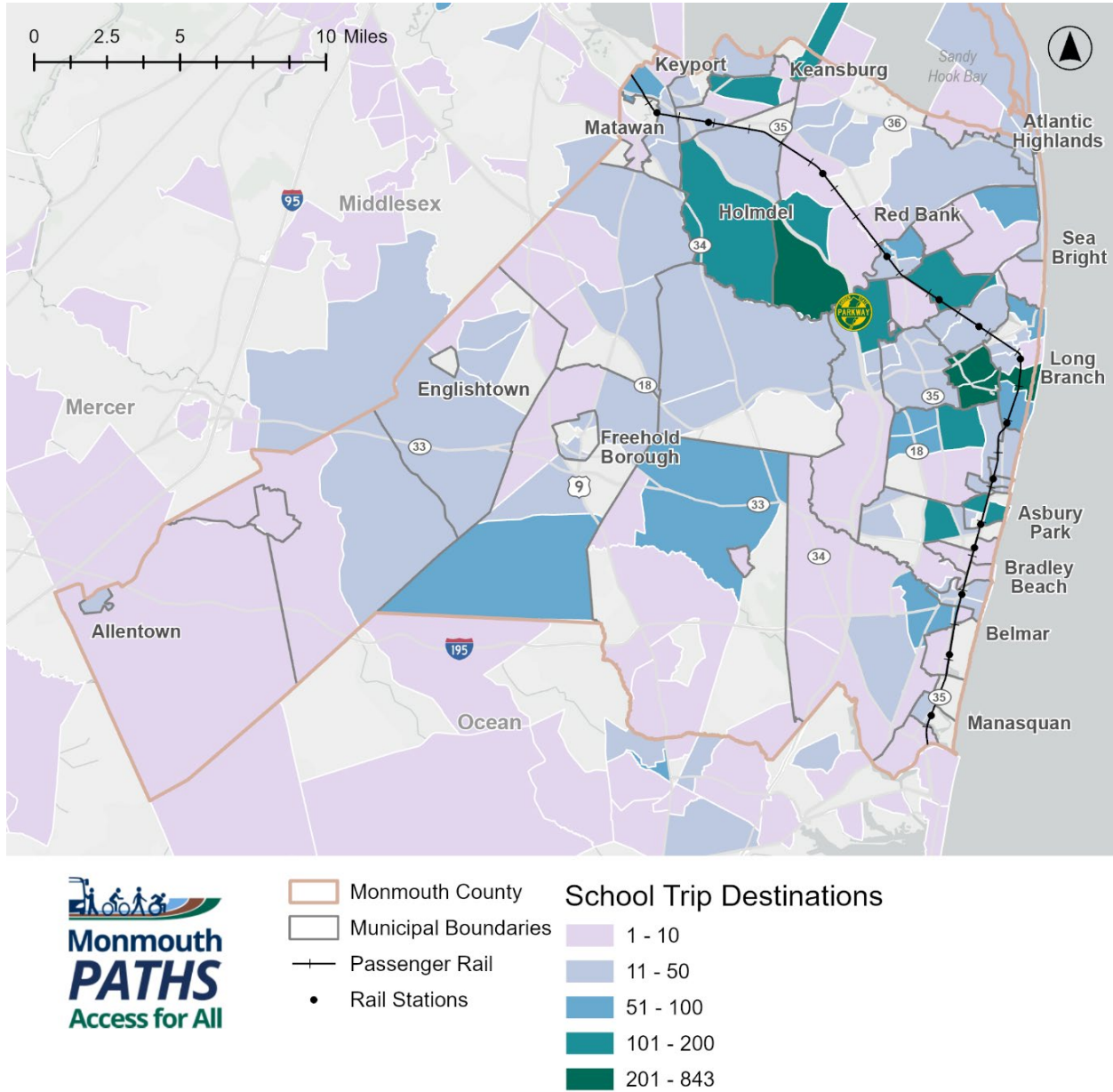
**Figure 19** shows the concentration of recreation trips made by low-income County residents. As anticipated, there are areas of trip concentrations around Sandy Hook National Recreation Area and other coastal communities, as well as around destinations like Six Flags Great Adventure. However, there is also a substantial concentration of trips within the County’s interior, indicating the desire for people to access County, State, and municipal parks.

**Figure 16: Number of Dining and Shopping Trip Destinations for Low Income Residents by Census Block Group**



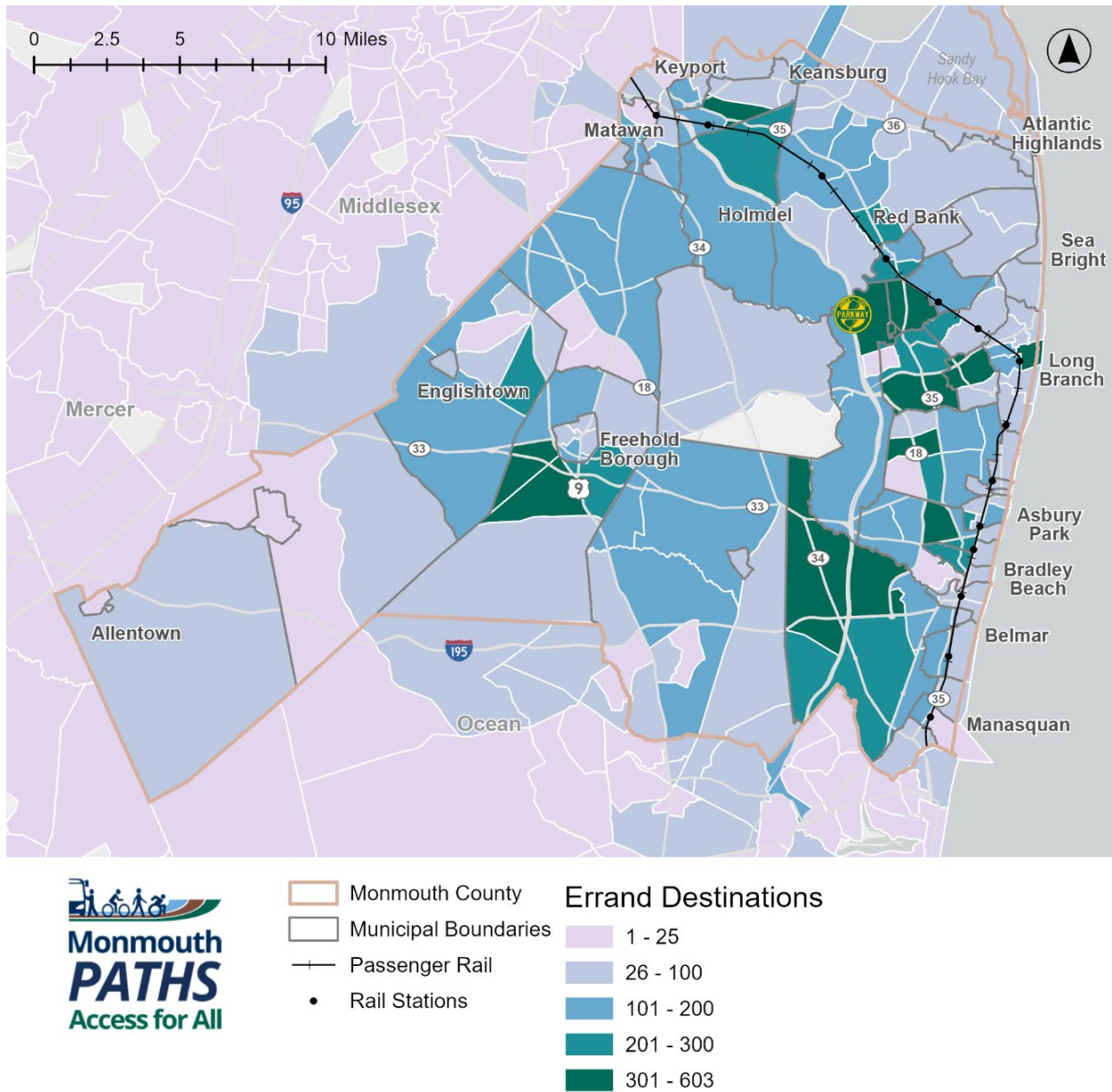
Source: U.S. Census American Community Survey 2017-2021 5-Year Data, Replica Location-Based data for an average weekday in 2021.

**Figure 17: Number of School Trip Destinations for Low Income Residents by Census Block Group**



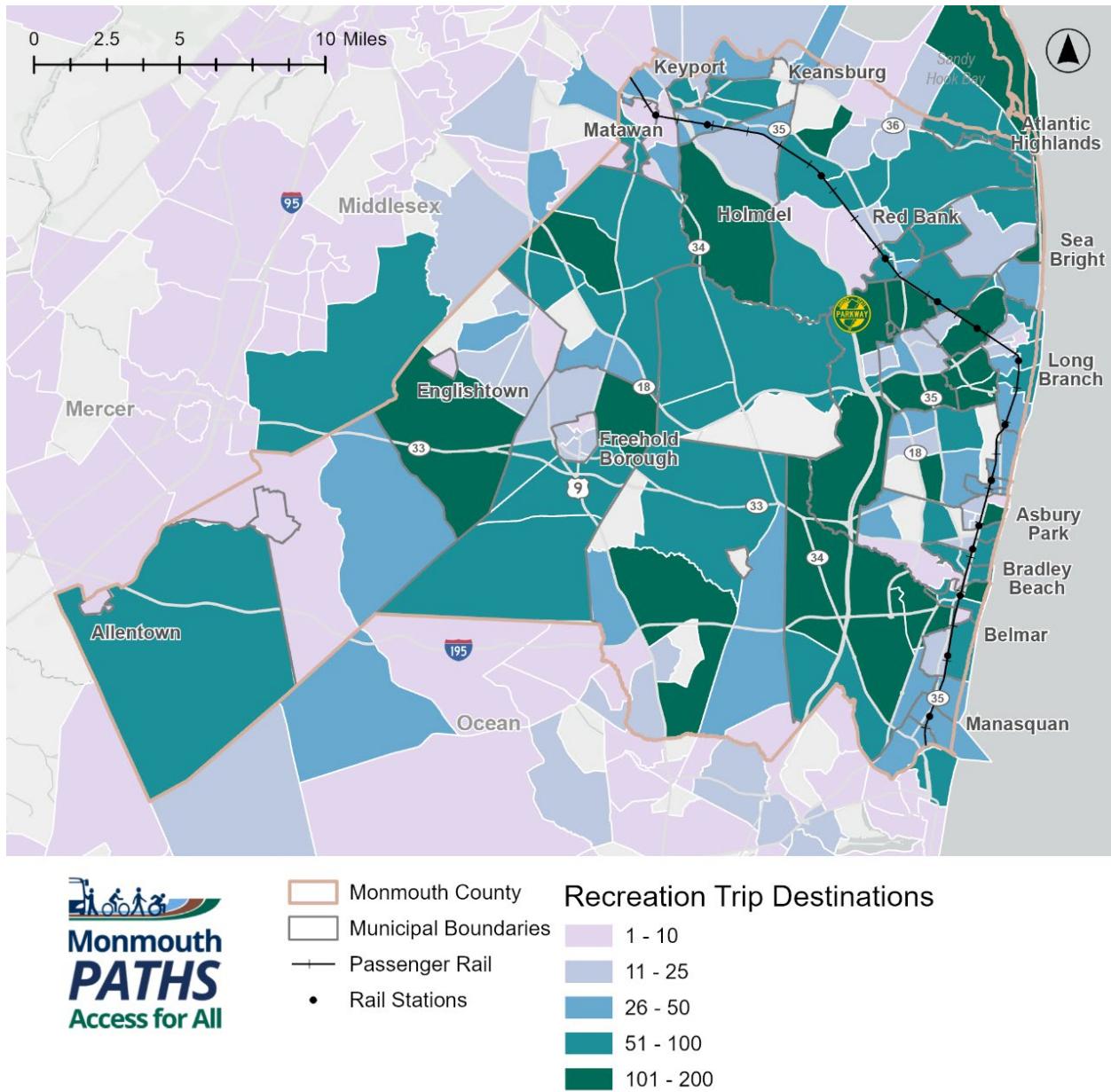
Source: U.S. Census American Community Survey 2017-2021 5-Year Data, Replica Location-Based data for an average weekday in 2021.

**Figure 18: Number of Errand Trip Destinations for Low Income Residents by Census Block Group**



Source: U.S. Census American Community Survey 2017-2021 5-Year Data, Replica Location-Based data for an average weekday in 2021.

**Figure 19: Number of Recreation Trip Destinations for Low Income Residents by Census Block Group**



Source: U.S. Census American Community Survey 2017-2021 5-Year Data, Replica Location-Based data for an average weekday in 2021.

## Underserved Communities Assessment Findings

This section summarizes the results of a county-wide equity assessment that identifies where vulnerable populations live within the County, as well as where they travel for a variety of daily needs. As the study progresses, it is likely that additional and more-focused evaluations of the needs of key areas identified in this document, such as Keyport, Union Beach, Keansburg, Red Bank, Freehold Borough, Long Branch, and Asbury Park will be conducted. The Study Team will also consider the needs of all the identified populations (e.g., minority, low-income, limited English proficiency, and senior populations) when conducting outreach and when making recommendations for mobility improvements.

The data summarized in this assessment indicate that many areas that have higher concentrations of underserved communities compared to the rest of Monmouth County, including Keyport, Keansburg, Red Bank, Freehold Borough, Long Branch, and Asbury Park, experience challenges connecting with basic services, including employment, education, retail, and healthcare. The Replica data shows that many of these basic daily needs are located in areas outside of these communities, and in areas with limited transit, pedestrian, and bicycle accessibility. In addition, many of these areas also experience seasonal periods of heavy traffic congestion which make it challenging for residents to complete daily activities. Therefore, the selection of locations to study further and the resulting recommendations must consider the needs of the various populations. In particular, the study should consider how various mobility strategies can be leveraged to provide a substantial benefit to underserved communities while enhancing overall mobility for all residents.

The public engagement plan will consider the sensitive populations noted in this assessment when forming and working with the Study's Technical Advisory and Experiences Committees and when conducting public meetings and preparing the Experienced Conditions Report. It will be important to gain a deep understanding of the mobility needs and barriers experienced by low-income and minority residents, people with disabilities, students, and seniors in Monmouth County, notably in the areas of Keyport, Union Beach, Keansburg, Red Bank, Freehold Borough, Long Branch, and Asbury Park.

# Literature Review and Best Practices

Mobility barriers separate members of the community and make it more difficult for people to access work, recreation, and vital services. According to the Monmouth County Master plan, mobility barriers exist for all residents, with greater barriers existing for the 14.5 percent of households earning under \$50,000 who do not have access to a private vehicle<sup>24</sup>. This literature review is intended to provide a summary of best practices for mitigating mobility barriers in Monmouth County. This document outlines best practices related to equitable mobility as identified by Monmouth County and other sources, including cities, states, and the U.S. Department of Transportation.

## Mobility Equity Lessons from County, Regional, and State Resources

This section contains a review of existing mobility equity guidance from Monmouth County, the NJTPA, and NJDOT sources. These documents and plans establish the groundwork that has led to the Monmouth Paths: Access for All study, and include valuable insights and recommendations that enhance overall mobility in the County. Mobility equity is a concept that aims to provide transportation users fair access and opportunities to the transportation system and considers multi-modal trips, vulnerable communities, underserved communities, and a transportation planning process that prioritizes the needs of people.

## Monmouth County Master Plan, Monmouth County Division of Planning, 2016

This third comprehensive Master Plan for the County was initiated in response to a shift from an era of suburbanization to an era focused on redevelopment, revitalization, preservation, and rediscovery of communities. The Plan found that three of the most influential forces driving changes in cultural and governmental priorities include changes in housing, population, and school enrollments. The plan looked at how these forces have interacted over the last sixty years to determine best practices for a projected future of communities with age-restricted senior housing becoming a dominant component of new single-family home construction. The plan also projected a continued growth in the Hispanic population,

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<sup>24</sup> Monmouth County Master Plan, Volume 1, 2016.

and re-urbanization driven by both millennials and empty-nesters as they search for pedestrian-friendly communities with access to mass transit, marking a shift from suburban areas to urban areas that are walkable.

The plan developed a few best practices that align with the Monmouth Paths: Access for All Study, such as the use of new and emerging technologies as well as traditional methods of input from stakeholders and citizens when conducting comprehensive planning. In addition, the plan notes that developing a community includes retaining the rights of local residents such as farmers and also preserving the cultural, historic, and artistic identity of the local area. Furthermore, the plan introduces the concept of vibrant communities that include a variety of housing choices, energy and transportation options, recreational and cultural offerings, health and safety initiatives, and business opportunities that result in a more sustainable and higher quality-of-life for all residents. This key concept should be revisited through the Monmouth Paths: Access for All Study.

## KEY FINDINGS

Recommendations from the plan that are relevant to the Monmouth Paths: Access for All are highlighted below:

- Continue to develop and implement regional corridor studies through county, state, and federal funding sources, and work with other county departments and agencies in identifying viable pilot projects that further the Goals, Principles, and Objectives (GPOs) of the Monmouth County Master Plan, the Monmouth County Comprehensive Economic Development Strategy (CEDS) (2014), and the County's capital improvement needs.
- Work on implementing recommendations found in the Monmouth County Bus Rapid Transit Opportunities Study (2015) to improve bus service along critical corridors in Monmouth County, and eventually expand upon these efforts toward the development of a complete Bus Rapid Transit (BRT) approach.
- Update the Travel Demand Model (TDM) created in 2017, to assist the county and the NJTPA in coordinating regional and subregional transportation planning studies and projects.
- Provide an online "one stop transportation resource shop" for all mobility information in the county including a geographic information system (GIS)-based, online mapping resource for the existing Monmouth County Bicycle Map, transit infrastructure and routes, and recreational resources.

## Plan 2050: People, Transportation, Opportunity, NJTPA, 2021

Plan 2050 is a plan developed by the NJTPA that focuses on the themes of transportation, people, and opportunity. The plan fulfills federal requirements for metropolitan planning organizations to update long-range plans every four years to be eligible for federal transportation funding. The plan also goes a step forward and looks at how it can increase economic activity, provide dynamic transportation systems, protect natural ecosystems, maintain overall transportation system safety, and coordinate land use with transportation systems. Monmouth County was part of this plan, and the plan collected opinions from Monmouth County residents who expressed an interest in strengthening local mobility options beyond traditional automobiles.

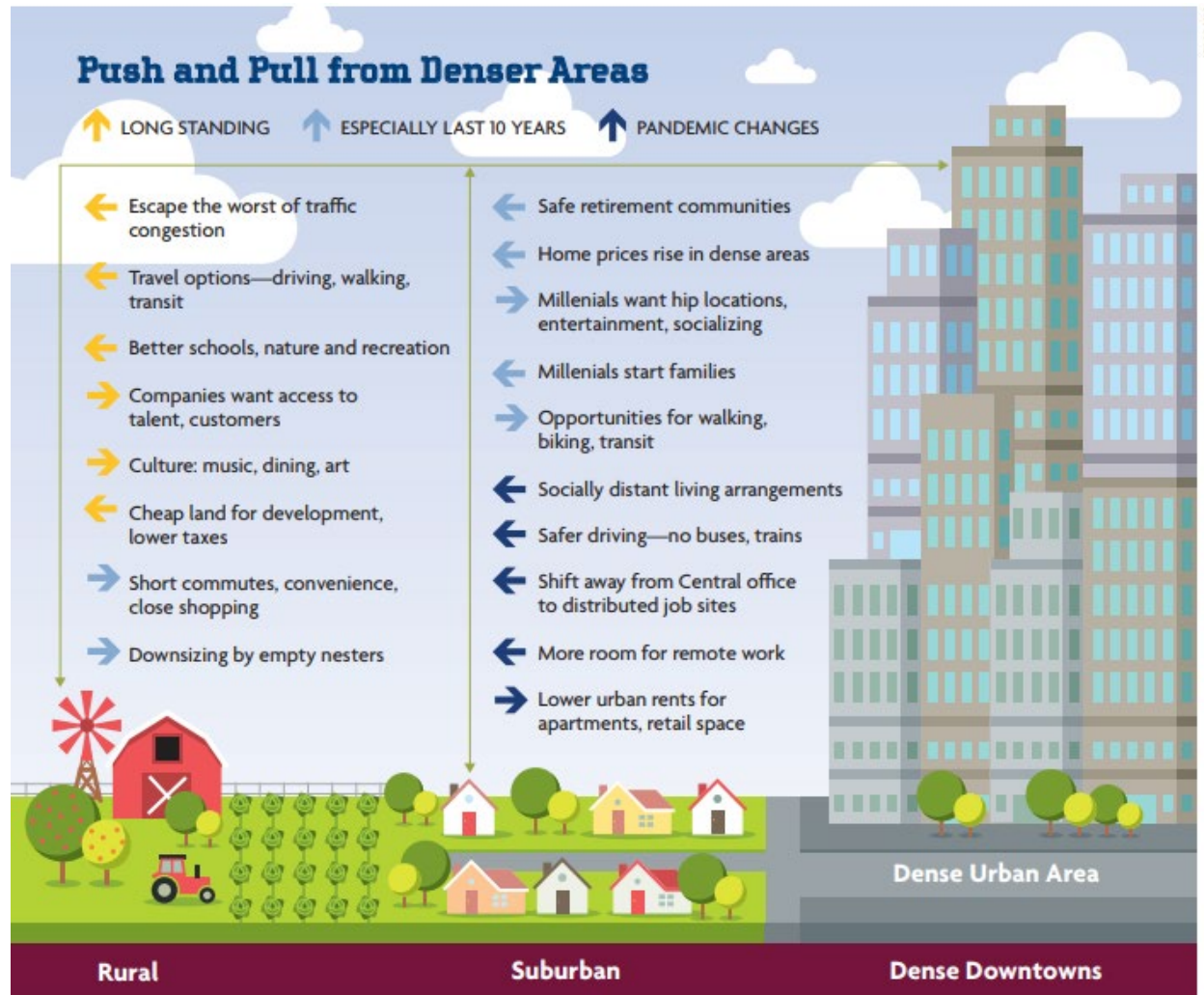
The plan also highlighted local mobility projects for Monmouth County. The NJTPA worked with community stakeholders to understand transportation trends and found that an increased population in urban areas, suburban areas, and a growth in retirement communities has introduced both an increased demand for transportation services and a need for accessible services for users with unique mobility demands (**Figure 20**). Additionally, though the pandemic caused a disruption in regional trends, it also caused a resurging interest in walking and biking, emphasizing the need to invest in these activities and the associated infrastructure.

Importantly, the plan also includes a chapter on environmental issues and addressing climate change. New Jersey is the most densely populated State in the nation, though it has many areas with undeveloped land. Maintaining this land is important to preserve natural resources, and how land is developed and used is a key determinant of the type and quality of transportation options available to New Jersey residents. The plan also looked at the transportation system's performance, and how well it serves its users. This plan found that, in New Jersey, accessibility to transportation varies vastly based on density, modes of transportation offered, and access to a personal vehicle. There are urban areas with higher densities and multimodal access to many destinations, and very rural areas with few modal options.

Needs vary depending on the specific needs of the different areas including transit infrastructure for urban areas; first- and last-mile connections; transit-oriented development for suburban areas; and park-and-ride opportunities for rural areas. Improved accessibility could greatly reduce challenges for rural, minority, and low-income residents. The study also found that some needs translate across urban, suburban, and rural areas such as roadway

reliability, bicycle and pedestrian infrastructure, safety, and congestion along freight corridors.

**Figure 20: Push and Pull Factors**



Source: NJTPA Plan 2050, 2021.

When looking specifically at public transit service and reliability, ridership dropped by 90 percent on the NJ TRANSIT system in early 2020, increased by 40 percent by 2021, and as COVID-19 transitions into an endemic, future demand for transit will likely continue to steadily increase. NJ TRANSIT has made efforts to maintain and improve its system within funding constraints as riders experience delays and incidents on their trips. Buses are further affected as they experience additional factors of traffic congestion, weather, unplanned road incidents, and overcrowding. Additionally, the demand for buses will likely increase and is an important equity concern as a larger percentage of low-income populations are traveling by

bus across urban, suburban, and rural areas. Further, complete streets need to be developed to account for walking, bicycling, and other modes of active transportation.

## KEY FINDINGS

Strategies that the NJTPA recommends mitigating transportation issues and that are relevant to this study include:

- Preparing infrastructure for climate change impacts.
- Integrating roads and bridges more fully into the multimodal transportation network by modifying facilities to accommodate walking, bicycling, and transit modes.
- Employing the latest technologies to enhance the operation of the roadway network, including preparing for connected and automated vehicles.

## Mobility and Community Form, NJDOT, 2006

The Mobility and Community Form (MCF) looks at transportation as a series of choices that shape daily habits and provides ideas for improving local mobility. Despite its publication date, the document is referenced because its strategies are still relevant to reducing barriers to mobility and can help shape planning and capital improvement project decisions. The plan acknowledges that effective plans look beyond street systems and recognize the links between transportation and community life. “Community form refers to the physical shape and patterns of development that make up a built environment.”<sup>25</sup> This includes looking at housing, offices, shops, schools, public buildings, parks, and more and where these things are located now or should be located.

The “patterns” analysis plans for mobility and community jointly and includes circulation, shopping streets, parking, transit stops, neighborhoods, public spaces, and the natural environment. This analysis recommends planning to support activities that allow a vibrant community life that includes gathering, lingering, and talking throughout daily routines. Monmouth County has implemented some of the transportation and land use strategies outlined in this plan including techniques for changing lane width, design guidelines for scenic roadways, and planning corridors that reinforce natural boundaries. The form is further relevant to this current study because it recommends mobility equity best practices for reducing barriers to mobility and can be used to outline takeaways for Monmouth County.

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<sup>25</sup> New Jersey Department of Transportation, Mobility and Community Form, 2006.

In the “patterns” discussion, the New Jersey Department of Transportation (NJDOT) identifies many strategies for improving its transportation system, including:

Context-sensitive design (CSD), which develops transportation projects in a manner that enhances communities and ecosystems rather than disrupts them and helps preserve a community’s historic landmarks and foster collective memories. This design philosophy closely echoes what is mentioned in the Monmouth County Master Plan and Regional Transportation Plan, both of which discuss maintaining historic and cultural character.

Multi-user parking can include space for bicycles, handicapped spaces, and curb space for truck deliveries. Parking space is a concept important to walkability, bikeability, and curb use for on-street parking, and can dramatically change how a space is used and accessed. Notably, as the plan points out, bike parking is often overlooked which can discourage bikeability. Large surface lots can discourage walkability as pedestrians are required to walk across large parking lots to access stores.

Transit stops, like parking, should also be maximized to act like centers of public life. They should work alongside other activities such as newsstands, maps, outdoor shelters, and provide seating. The plan points out that local land use planning in the vicinity of transit stations significantly determines how many riders will use the station. Another important consideration is access, as all transit stops and stations should have pedestrian and bike access to encourage multimodal trips and accessibility for all users.

Transportation features such as sidewalks should be used to frame public places that pedestrians have access. Sidewalks should be wide with places to sit. This encourages easy access and considers the needs of vulnerable populations such as the elderly and disabled.

**Figure 21: Case Study from the Mobility and Community Form**

**Summit: A Classic Example of Transit Compatible Design in New Jersey**

Located on NJ TRANSIT's busy Morris & Essex Line, Summit has many components of transit compatible design: a high-quality pedestrian environment, a wide variety of retail shops and services near the station, and an unobtrusive park-and-ride deck.



Source: New Jersey Department of Transportation, Mobility and Community Form, 2006.

**KEY FINDINGS**

Recommendations from the form that are relevant to the Monmouth Paths: Access for All are highlighted below:

- Circulation plans need to go beyond the inventory approach and emphasize efficiency, while being comprehensive and including all modes of transportation, maps, zoning, and land use.
- Land use plans should establish performance goals. The mobility and community form element should provide policy support for later adoption of ordinances for form-based zoning codes.
- There should also be a shift to form-based development (zoning) codes that specify required versus optional elements, and outline standards for each.
- Further, developers should consider that land development and infrastructure development operate on different timelines, and this consideration is especially relevant when developers consider different ways of creating mobility and accessibility without relying on state highways.

## United We Ride Transportation Study, Monmouth County Board of Chosen Freeholders and Dept. Of Human Services with Division of Transportation, 2007

Federal Executive Order 1330 drove the United We Ride planning initiative study. This study looks at ways to update Monmouth County's unmet transportation needs, resources, and how to improve transportation services for County residents. The study assumes that anyone without access to a car is transportation disadvantaged, and though its publication date is 2007, it has recommendations relevant to this study that are valuable takeaways.

The study convened local stakeholders for a series of meetings and conducted a survey of both transportation providers and users to develop a needs list to address transportation disadvantaged populations. This list includes specific needs such as adding transportation services to specific routes and general needs such as expanding transportation services on weekends (see High Needs list below). Major needs include lack of transportation as a significant barrier to accessing transportation, rural areas not having access to transportation, too few transportation routes operating east to west, and too few medical transportation services for low-income residents.

Among transportation providers, both public and private, barriers to coordination were caused by grant restrictions, insurance regulations that hinder not-for-profits sharing transportation resources due to liability, and transportation services being considered "for hire" versus as an ancillary service. Additionally, the High Needs list, copied below, highlights that specific services provided for rural areas are scant in how often they are offered, the distance of travel they provide, and have inadequate funding causing the times and distance to be limited.

The "High Needs" list is copied here for reference:

- Increase weekend service.
- Increase evening service.
- Increase accessible service.
- Increase sheltered workshop transportation.
- Increase Brokered Employment Transportation Service transportation.
- Expand Special Citizens Accessible Transportation service times and volume.
- Provide additional and replacement vehicles for municipalities and not-for-profits.
- Increase Monmouth County Division of Transportation backup drivers.

- Develop rail service from western Monmouth County to the south, west and north.
- Increase public awareness of transportation services.

## KEY FINDINGS

Takeaways from this study that are relevant to the Monmouth Paths: Access for All study include:

- Social services and transportation planning should form an agreement to encourage ridership using State and local funding, and Temporary Assistance to Needy Families funding.
- Multiple counties should coordinate to help residents that need out-of-County transportation services using State casino funding.
- Brokered Employment Transportation Service for disabled persons is currently constrained to 10 miles or 15 minutes and should be expanded for distance and time, similarly for the Special Citizen Accessible Transportation which is only available on weekdays during morning hours.

## Aging Population Study, Monmouth County Board of Chosen Freeholders, 2017

The Aging Population Study considered the 65+ population in Monmouth County. It found that the 55 and older population is projected to grow by 16 percent between 2015 and 2034, while the working age population will likely shrink (**Figure 22**).

The aging population faces unique challenges and has a high rate of disabilities. These disabilities include hearing, vision, cognition, ambulatory, self-care, and independent living difficulty. Furthermore, statistics from the University of Michigan indicate that the health of older populations may be diminishing when compared to health in the same population 10 years ago<sup>26</sup>.

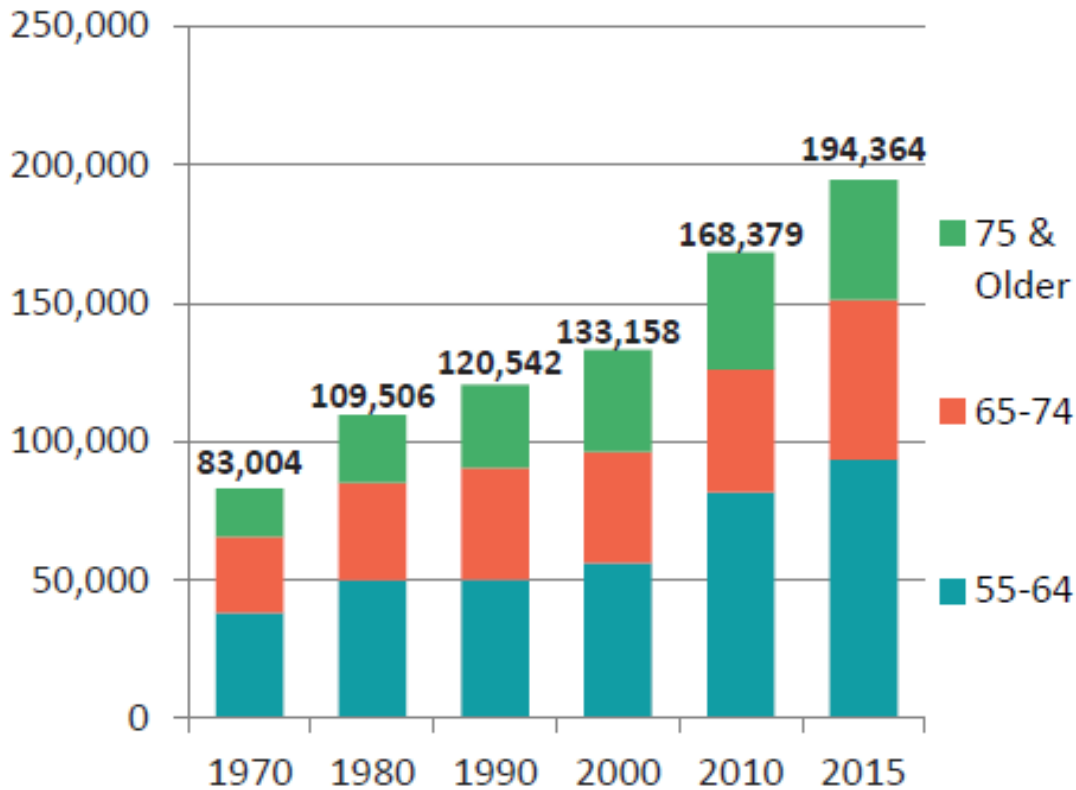
This study recognizes that transportation is an essential element allowing older adults to age in place. It highlights the difference between seniors with a car and those without and shows there is a gap in access to services. A substantial portion of Monmouth County's older population is living in areas at a moderate to high risk of being isolated. Additionally, many

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<sup>26</sup> Choi, HwaJung, and Robert F. Schoeni. "Health Of Americans Who Must Work Longer To Reach Social Security Retirement Age." *Health Affairs* 36, no. 10 (2017): 1815-1819. <https://doi.org/10.1377/hlthaff.2017.0217>

older adults report they do not drive, and this trend will likely continue. Another issue is that aging 55+ communities are built in rural or transitioning areas without access to public transportation, and these communities experience isolation, inability to drive, disability, and more. County urban and rural planning should consider the location of these communities in relation to transportation services when communicating with developers.

**Figure 22: 55 and Older Population of Monmouth County (1970 - 2015)**



Source: Monmouth County Board of Chosen Freeholders, Aging Population Study, 2017.

When designing infrastructure for communities with aging populations, universal design and long-term life should be considered to ensure this infrastructure will allow people to age in place. Continuity is important to avoid forcing older adults to age in other neighborhoods than where they live. Additionally, as the 65 and older population continues to increase, these recommendations will become more germane to transportation policy.

### KEY FINDINGS

Important recommendations from this study that are relevant to the Monmouth Paths: Access for All study include:

- Municipalities should locate age restricted affordable housing units in areas served by bus or with some level of walkability.
- Municipalities should encourage building 55+ communities in areas serviced by or accessible to public transportation.
- Municipalities found to be walkable via Walk Score should adopt Complete Streets and other pedestrian friendly policies to make destinations safe to walk to.
- Municipalities that score low on the isolation index should provide municipal transportation shuttles to aging population.

## **Regional Coordinated Public Transit Human Services Transportation, NJTPA, 2017 and 2023 (Update Memo)**

The Coordinated Public Transit Human Services Transportation Plan (CPTHSTP) identifies the transportation needs of older adults, low-income people, veterans, and individuals with disabilities and explains strategies to meet these populations' needs. The CPTHSTP is required by the federal government for funding transportation projects under Section 5310, which aims to enhance the mobility of seniors and people with disabilities. The plan, along with the 2023 update memo, was developed through consultation with experts, consultants, stakeholder surveys, focus groups, and data analysis. The plan mentions Monmouth County in the context of having a high concentration of aging population and veterans, and it is important to keep these populations as priorities for Monmouth County.

This plan presents the top-rated needs and strategies for human services transportation such as reduced fares, partnerships with transportation network companies, car subsidy programs, and driver training. The 2023 memo updates the 2017 CPTHSTP and finds that the populations identified by the plan comprise over two million people in the NJTPA region and that their numbers and locations have changed since the 2017 plan. The memo also finds that the CHSTP populations face spatial, temporal, institutional, infrastructure, and awareness gaps in accessing transportation services, and that these gaps have been exacerbated by the COVID-19 pandemic and other recent trends.

The memo re-prioritizes the strategies and activities from the 2017 plan based on survey results and focus group input. The memo suggests that the most relevant needs are fare subsidies, driver training, performance, and retention, flexible services, accessibility, many-to-one, and one-to-many. Many-to-one refers to the theory that multiple sources of information make trip planning complex and frustrating and there is a need for the creation

of a centralized information source. One-to-many refers to the theory that while many service users find travel information online, a significant percentage still rely on paper schedules and have difficulty obtaining these schedules. The memo also suggests that the most relevant strategies are enhancing and expanding service, promoting mobility on demand, reducing financial barriers, and increasing automobile connections with assistance. Further, the memo calls to expand subsidized TNC rides to include medical trips, expand night and weekend service, and provide door-to-door service with driver companions. These services are specifically targeted towards elderly and aging populations.

The next steps outlined by the plan include addressing funding and institutional challenges to realize strategic themes and coordinating with multiple agencies and jurisdictions to do so. Public-private partnerships will also be integral to implementing TNC partnerships, and other partnerships that require real-estate developers and private companies employing low-income workers. There should be a routine information exchange between NJTPA subregions and human services providers, the population's needs should be continually monitored, projects should be tracked, and leadership should convene to discuss this work regularly. Furthermore, this work can be used to conduct outreach and prioritize investment in local transportation and infrastructure.

## KEY FINDINGS

Important recommendations from this study that are relevant to the Monmouth Paths: Access for All study include:

- Reducing fares for older adults and people with disabilities.
- Develop partnerships with transportation network companies (TNCs) and help TNCs deploy accessible vehicles.
- Subsidize TNC riders for medical trips.
- Develop a universal payment/pre-paid fare card.
- Expand night and weekend services.
- Provide coordinated information inclusive of NJ TRANSIT fixed-route, private carrier, commuter buses, and scheduled count services.
- Prioritize projects and funding to target areas of need.

## New Jersey Bicycle and Pedestrian Master Plan, NJDOT, 2016

The New Jersey Statewide Bicycle and Pedestrian Master Plan updates the original 1995 plan and provides guidance for improving walkability and bikeability in the State of New Jersey.

The plan is part of a federally-mandated planning process to include bicycle and pedestrian accommodation in long-range transportation plans and fulfills the policies of the NJDOT and MPOs bicycle and pedestrian concerns. The Master Plan presents a vision of New Jersey as a state where people choose to walk and bicycle and outlines five goals to achieve this vision: build the infrastructure, improve access, update policies and procedures, educate and enforce, and foster a pro-bicycling and walking ethic. The plan identifies the existing and emerging issues and needs related to facilities, community design, acceptance and legitimacy, and confidence and security for bicyclists and pedestrians. The plan recommends various strategies for implementation, such as legislative, policy, funding, administrative, and communication strategies, and assigns roles and responsibilities to different agencies and organizations. The plan describes the analytical tools and methods used to identify and prioritize bicycle and pedestrian corridors and locations that need improvement and provides maps and tables of the results.

The plan categorizes recommendations into three categories: planning and facility implementation, education and encouragement, and data collection, tracking, and analysis. Under planning and facility implementation the recommendations include to regularly update plans, expand funding and technical assistance for bike and pedestrian planning, develop local plans, adapt state-of-the-art design standards for bike and pedestrian facilities, review Municipal Land Use Law and site plan standards, establish procedures to incorporate bike and pedestrian improvements, and establish policies to include walkways and bikeways in bridge construction and rehabilitation. Under education and encouragement, the plan recommends initiating a media campaign to educate the public about the benefits of biking and walking and maintaining a comprehensive web source for bike and pedestrian planning and implementation. Lastly, the plan recommends setting and tracking goals for biking and walking, tracking bike and pedestrian fatalities, and using analysis to reassess the Master Plan and update it routinely.

Bicyclists and pedestrians are among the most vulnerable of road users including them in mobility equity plans is integral to ensuring their safety on roads. This document is a comprehensive review of issues affecting road users who are biking and walking and provides valuable insight into the issues affecting these users throughout the state, including Monmouth County.

## KEY FINDINGS

Important strategies from this study that are relevant to the Monmouth Paths: Access for All study include:

- Prioritize the most vulnerable (disadvantaged/high-risk groups — youth, seniors, low-income, disabled and minority populations) user needs in projects and decision-making.
- Continue to move Complete Streets from policy to implementation.
- Collaborate with counties, municipalities, and school boards on land use and transportation decisions.
- Continue to educate the public on the benefits of and safe practices for walking and bicycling.
- Continue and prioritize all Safe Routes to School initiatives.
- Continue to partner and build relationships outside of traditional transportation circles.
- Increase public awareness of the benefits of bicycling and walking.
- Improve bicyclist, pedestrian, and driver behavior.
- Address emerging technologies, such as electric bikes and bike share.

## Statewide Strategic Highway Safety Plan, NJDOT, 2020

New Jersey's 2020 Strategic Highway Safety Plan (SHSP) aims to reduce fatalities and serious injuries on all public roads in New Jersey by 14 percent by the next five years using a data-driven and performance-based approach that integrates the 5 E's: Education, Enforcement, Engineering, Emergency Response, and Equity. The SHSP was developed through a collaborative and inclusive process that involved multiple stakeholders, safety summits, emphasis area teams, and public input. The SHSP also aligned with other safety initiatives and plans within the state and the nation, such as Toward Zero Deaths, Vision Zero, and Road to Zero.

The SHSP identified seven emphasis areas that represent the key factors contributing to crashes: Lane Departure, Intersections, Driver Behavior, Pedestrians and Bicyclists, Other Vulnerable Road Users, Data, and Equity. Each emphasis area has specific goals, objectives, and strategies to address the safety challenges and opportunities. The SHSP established a framework for monitoring, reporting, and evaluating the progress and performance of the

SHSP, as well as a change management process to adapt to changing conditions and needs. The SHSP also identified roles and responsibilities of various safety partners and stakeholders who will be involved in the implementation and evaluation of the SHSP.

The SHSP also emphasizes equity and considers low-income residents, minorities, people with limited English proficiency, persons with disabilities, children, and older adults. The SHSP is also data focused and is looking to build on a foundation of the best data available to ensure it is used to build a safety highway network for all road users. The foundational concept of the SHSP is that no deaths on New Jersey's roads are acceptable. New Jersey's safety stakeholders work towards improving safety education, enforcement, infrastructure, and emergency response. Part of the vulnerable populations considered are bicyclists and pedestrians, who are cited as the third most common factor contributing to serious injuries and fatalities and overlaps with the New Jersey Bicycle and Pedestrian Master Plan.

Another highlight of the SHSP is its discussion about high-risk rural roads, and how these locations can be identified and assessed for safety. The SHSP looked at Monmouth County when considering Census tract data, crash reporting data, and similar statistics as part of its data-driven approach to identify key factors contributing to crashes. Of these factors lane departure, and distracted driving resulted in the most serious injuries and fatalities.

Although the SHSP is intended to be used at a statewide level, it could also be used at a countywide level to guide investment decisions for safety programs and work towards meeting performance targets. Highway safety will always be a priority for mobility equity while highways are heavily relied on in the overall transportation system. Ensuring that highway safety measures include vulnerable populations is important to having a resilient transportation system.

## KEY FINDINGS

Important strategies from this study that are relevant to the Monmouth Paths: Access for All study include:

- Supplement local network screening lists with additional context data on priority locations within underserved communities. Include proximity to community destinations such as schools, recreation centers, employment centers and places of worship when prioritizing projects.
- Analyze household income and crash areas to see if more crashes are occurring in underserved communities.

- Provide recommendations to improve prioritization of traffic control and operational improvements such as Leading Pedestrian Interval (LPI), pedestrian hybrid beacons, pedestrian crossing islands, bike boxes for turning bikes at intersections, and other improvements at locations related with high pedestrian and bicyclist safety risks.
- Establish a Complete Streets Task Force to improve complete streets integration on state, county, and municipal projects, assess implementation by municipalities, gather lessons learned, and share best practices.
- Develop strategies to facilitate ADA implementation by all agencies.
- Develop a strategy for updating Residential Site Improvement Standards, including reviewing the state highway access code to identify opportunities to provide greater pedestrian and bicycle safety, as well as reviewing the Municipal Land Use Law and provide recommendations to strengthen it to enhance pedestrian and bicycle safety.
- Improve design practices to support pedestrian and bicycle safety on all roads by improving design guidance related increasing visibility at intersections, improving street crossings, considerations within school zones, consistency of signing, conflicts with buses and heavy vehicles, and standards for design speed on arterial roadways.
- Provide comprehensive pedestrian and bicyclist safety education for students (K-12 and higher education) who walk or bike to school or bus stop.

## **New Jersey Global Warming Response Act 80x50 Report, NJDEP, 2020**

The New Jersey Global Warming Response Act directed the New Jersey Department of Environmental Protection, in collaboration with other state agencies, to develop plans and make recommendations for reducing emissions of climate pollutants. New Jersey's Global Warming Response Act 80x50 Report evaluates New Jersey's climate change progress and identifies pathways to reduce emissions by 80 percent from their 2006 levels by 2050. This report looks at emissions reductions to date, evaluates current plans to reduce emissions, and presents strategies across seven emissions sectors for policymakers to consider in formulating policy to meet future goals.

The transportation sector is a significant contributor to greenhouse gas emissions and in 2018 the transportation sectors emissions from land, air, and sea comprised 42 percent of New Jersey's net total emissions. The main pathways to reduce emissions are to electrify light duty vehicles, decarbonize medium- and heavy-duty vehicles, increase NJ TRANSIT ridership and expand transit services, incentivize reduction of vehicle miles traveled, and support

regional and national efforts to improve fuel economy of light-duty fossil-fuel powered vehicle sales. To implement these goals the State should implement legislative and regulatory reforms to facilitate a transition away from fossil-powered vehicles, implement a long-term infrastructure program to construct a statewide charging network, develop incentives for local governments to electrify fleets, identify funding mechanism to convert medium- and heavy-duty vehicles to electric, and pursue increased ridership on NJ TRANSIT while expanding transit options.

It is important to look at strategies for reducing emissions as greenhouse gas emissions disproportionately affect vulnerable communities, and especially low-income communities, and communities of color. Although the report looks at the state as a whole, Monmouth County should begin looking at ways to implement these strategies to make transportation more equitable.

## KEY FINDINGS

Important strategies from this study that are relevant to the Monmouth Paths: Access for All study include:

- Implement legislative, regulatory, and programmatic reforms to facilitate a rapid and complete transition away from fossil-powered vehicles, ensuring average adoption rates of at least 111,000 new electric vehicles annually through 2025 with continued increasing adoption rates until all new sales of light-duty cars, SUVs, and trucks are electric by 2035.
- Implement a long-term infrastructure development program dedicated to constructing a statewide electric vehicle charging network.
- Increase ridership on mass transit.
- Expand transit-oriented development such as Transit Villages and Rural Town Centers.
- Incentivize work-from-home programs and flexible work weeks, in order to reduce single-occupancy vehicle trips.

## New Jersey Climate Change Resiliency Strategy, NJDEP, 2020

The New Jersey Climate Change Resiliency Strategy is a planning tool that outlines 125 actions across six primary areas to guide New Jersey institutions in building programs and policies that promote climate resilience. This strategy outlines a first step to aid New Jersey communities in adapting to climate change by establishing a baseline, suggesting a prioritization of key public policy concerns, and presenting a framework for continuous progress. Climate justice is at the center of the Strategy. The document summarizes 480 scientific research papers and studies to illustrate how climate change does and will continue to affect New Jersey.

New Jersey defines climate resilience as, “the ability of social and ecological systems to absorb and adapt to shocks and stresses resulting from a changing climate, while becoming better positioned to respond in the future.” The State views resilience as a dynamic concept that is continually growing and updated, and a resilience effort should support ongoing climate change goals. This definition of resilience is especially insightful and useful for the Monmouth County plan that aims to build a resilient transportation system. Resilience is also baked into priorities and the strategy’s priorities include building resilient and healthy communities, strengthening the resilience of New Jersey’s ecosystems, promoting coordinated governance, investing in information, and increasing public understanding, promoting climate informed investments, and building a coastal resilience plan.

Each priority also includes key outcomes that the State aims to see. The outcomes include a statewide technical assistance program and integrating climate resilience into planning efforts. This would be helpful in the transportation sector and Monmouth County can use this document as guidance to include climate resilience into planning efforts for local mobility building. The outcomes also include a high level of engagement and accountability across state agencies to ensure that climate resilience policies are not only implemented but also updated to include new goals. Additionally, the outcomes include a goal to set aside funding for climate resilience efforts.

The Strategy mentions equity in the context of health equity and defines the term as everyone having a fair and just opportunity to be as healthy as possible, and asks the State to remove barriers such as poverty, discrimination, lack of access to jobs, quality education and housing, safe environment, and health care access to ensure health equity. The document outlines the social determinants of health which are environmental and social factors affecting health outcomes. Climate change and access to transportation are

determinants of health and Monmouth County may see changes in health outcomes as investments in mobility are made. The plan also outlines a strategy for incorporating equity and inclusion in resilience decision-making by including communities in decision-making, specifically underrepresented groups, and evaluating the equity of outcomes for projects and programs to determine how they affect underserved populations.

## KEY FINDINGS

Important strategies from this study that are relevant to the Monmouth Paths: Access for All study include:

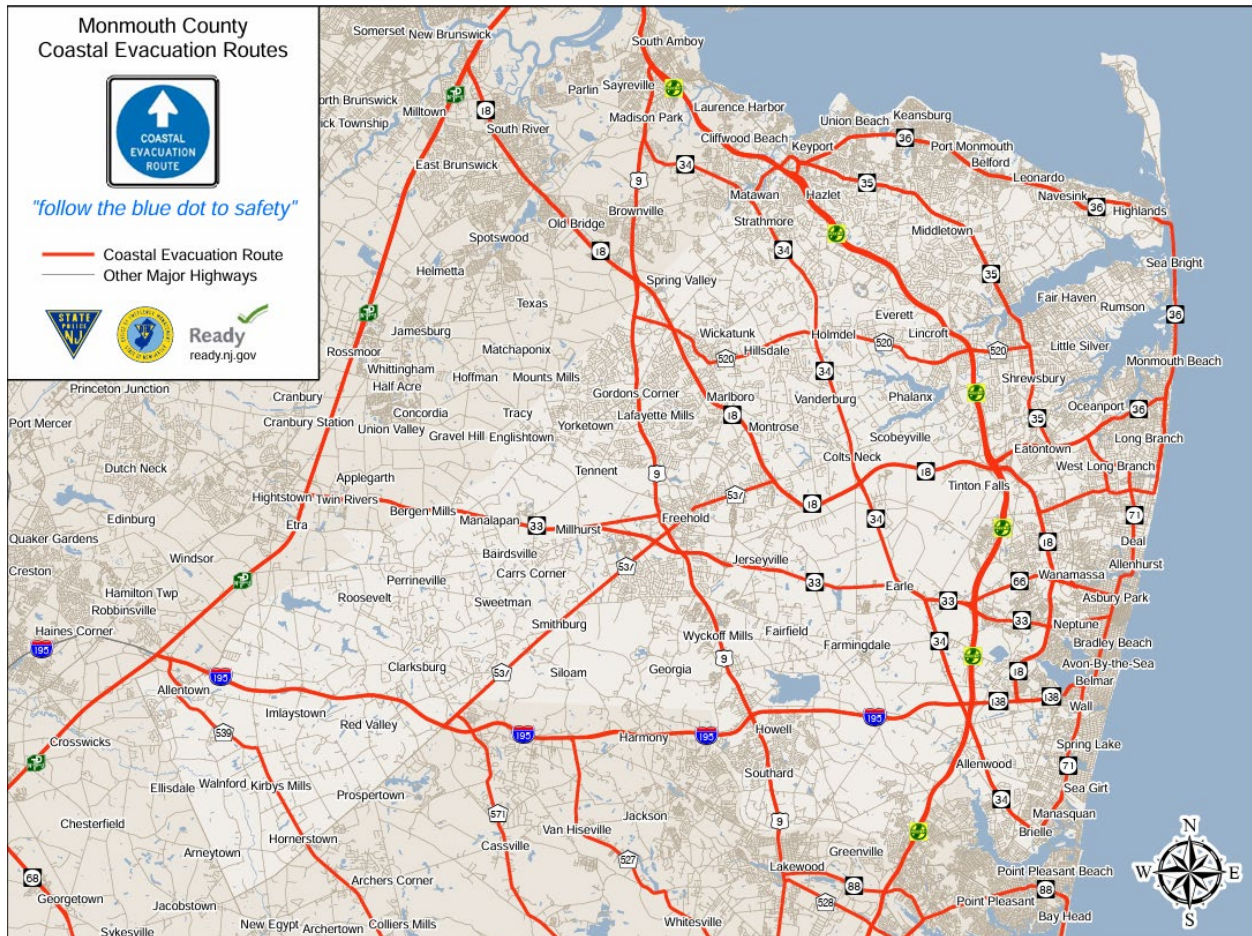
- Remove barriers such as poverty, discrimination, lack of access to jobs, quality education and housing, safe environment, and health care access to ensure health equity.
- Include communities in decision-making, specifically underrepresented groups, and evaluating the equity of outcomes for projects and programs to determine how they affect underserved populations.

## New Jersey Evacuation Map, NJOEM

The State of New Jersey Office of Emergency Management (OEM) has several pages on its website that are dedicated to informing and preparing residents for an evacuation if it becomes a necessary protective active during an emergency. Among other resources, the OEM provides evacuation route maps for those counties, such as Monmouth County, that could be subject to evacuation orders during a coastal flooding event.

For Monmouth County in particular, major state routes such as NJ Routes 18, 33, 34, & 35 and freeways such as I-195 and the Garden State Parkway are noted on the map as viable coastal evacuation routes, among others, shown in **Figure 23**. Furthermore, the map shows a relatively even distribution of identified evacuation routes from all coastal areas and does not disproportionately impact vulnerable populations.

**Figure 23: Monmouth County Coastal Evacuation Routes Map**



Source: State of New Jersey Office of Emergency Management

The Monmouth Paths: Access for All Study should consider how those without access to a vehicle or other form of personal transportation would be able to access alternative evacuation transportation in the event of an emergency.

## Mobility Equity Lessons from Other Sources

This section contains a review of mobility equity guidance from other sources outside of New Jersey. These documents were chosen as “best practice” references because of similarities to issues within Monmouth County, or research and guidance that can be directly applied to the Monmouth Paths: Access for All Study.

## Mobility Innovation Strategy, City of Tulsa and Stantec, 2022

This study aligns with the goals of the Monmouth County study because, like Monmouth County, the City of Tulsa is committed to achieving community resilience and equity for all its residents. Equitable access to transit and shared mobility is central to equity goals, economic development, and environmental sustainability. Although the County and Tulsa are of different geographies, they have some common transportation challenges such as limited transportation options in some areas, high rates of private vehicle use, long transit trips with poor first- and last-mile connections, and unsafe conditions for walking and bicycling along roads. The City recognizes that quality of life will improve through equitable access to frequented destinations such as grocery stores, healthcare facilities, educational resources, and job centers.

Tulsa takes a straightforward approach to outlining the challenges and opportunities in mobility equity. New mobility technologies do not deter the City from investments in transit, which it states as the most efficient way to move large numbers of people. Currently, the Tulsa Transit Authority faces a few limitations in transit: long headways, poor first- and last-mile connectivity, bus stop amenities and support infrastructure, and infrequent non-emergency medical transportation. To address these issues Tulsa Transit is extending service, improving payment options, and planning to improve traveler information. For example, Tulsa Transit is negotiating with Lyft for smartphone enabled first- and last-mile services that will be piloted at a BRT station to connect riders to shopping, healthcare, and cultural destinations. The Authority will also use payment innovation such as partnerships with QuikTrip, a local convenience store and gas station chain, to purchase bus passes.

There are a few innovative transit strategies the agency is exploring. Tulsa will open additional bus lines along corridors with frequent travelers, such as a corridor connecting the University of Tulsa with downtown. A major innovation is to allow payment options for people without smart phones or bank accounts, such as physical payment at convenience stores, which is emphasized because often these populations are overlooked and there are few options for them outside of using a transit card or cell phone app. The agency is also looking to deploy microtransit as a connector to transit stops and expand Mobility as a Service (MaaS) to integrate multimodal choices, payment, and travel planning.

The City has taken the following actions to improve equity and access:

- Tulsa Transit's new GoPass system allows users to pay for rides with a phone app or at a convenience store, making it easier for all to tap into transit services.
- Expanded micro-mobility hubs for shared bikes and e-scooters will bring transportation service to neighborhoods with low vehicle ownership.
- A grocery store mobility hub would connect people to places with fresh food, host secure delivery lockers, and eventually enable autonomous e-cargo delivery.

### *Key Findings*

Recommendations from this study that are relevant to the Monmouth Paths: Access for All study include:

- For pedestrian safety: smart intersections with adaptive signal timing, radar-activated speed advisory signs, overhead pedestrian-activated lighting systems, and automated pedestrian detection will lessen conflicts for all travelers.
- For bicyclists and microtransit users: organize free bikeshares, expand microtransit services and link them with shared rides, develop microtransit zones with on-demand scheduling, and make intersections safer for non-automobile users.
- To reduce vehicle emissions: promote shared rides, develop two-way streets with wider sidewalks and protected bike lanes, provide smart curb zones for pick-up and drop-off.

### *Project Spotlight from Tulsa*

An interesting focus of the authority is to improve access to healthy food through grocery store mobility hubs. These hubs combine efforts of a variety of partners and funding sources, all while introducing metrics to ensure that residents in below-median income Census tracts

have convenient access to fresh foods. The need for healthy food access is particularly strong in North Tulsa, where an analysis shows that low car ownership neighborhoods correspond to neighborhoods that lack supermarkets. In these areas, supermarkets are beyond a reasonable walking distance and there are infrequent transit services with poor first- and last-mile connections because they are often located in areas with low population density. Stakeholder engagement reflected that many North Tulsa residents have difficulty buying food. The City offered a plan for disabled persons to receive food delivery, and is now exploring ways to enhance that service for more vulnerable populations. In addition, the City is exploring technology-based solutions to increase transportation choices in these neighborhoods. Further, the City aims to connect existing bus service with grocery stores to expand transit ridership and reduce food deserts.




**BENEFITS**

- Improve access to supermarkets for Tulsans without vehicles
- Improve Tulsans' health
- Increase Tulsa Transit ridership
- Serve resilience needs as a drop-off/pick-up point for essential supplies



**PARTNERS**

- Grocery store owners
- Tulsa Transit
- This Machine (bikeshare)
- Uber, Lyft
- Tulsa Health Department
- Tulsa Authority for Economic Opportunity (TAEO)



**SAMPLE METRICS**

- Increase in number of households in below-median income census tracts with convenient fresh food access



**FUNDING**

- City of Tulsa
- Private partnerships
- Emerging mobility vendors
- Department of Energy
- Department of Transportation
- FTA grants

## Announcing The Economic Value Atlas: A New Approach to Regional Transportation and Land Use Planning, Brookings Institute, 2019

This study aligns with the goals of the Monmouth County study because it outlines techniques for investing in vulnerable communities and looks at access to transportation as an indicator of the overall systems of a County. This document asks government entities to think of access to transportation as an economic indicator, and communities with lack of access to transportation as underinvested communities that are not connected with larger economic opportunity. To build wealth in underinvested communities, an entity should commit to a concrete action plan that leverages place-based investments for community benefit and integrates community, economic, and workforce development efforts in underinvested communities in an attempt to connect them with their regional economies. To do this, the investing community should analyze market opportunities and strengths within geographies, then select sub-geographies that have the potential to make a

transformative impact on a community, city, and regional economic inequities. Investing in transportation should be used as an avenue to spur the local economic growth of the region. Metropolitan governments need a suite of land use and infrastructure policies and practices that service broad economic objectives. While traditionally operating in silos is favored, urban planners, transportation engineers, and economic development officials should unite efforts and sit at a “common table.” Organizations that are developing a common table should gather members that reflect public, private, and civic interests such as workforce and community development, regional business groups, municipal agencies, port authorities, statewide economic development, and university research groups among others. Key community stakeholders are important to show what is important to a community and reflect businesses, people, and places; for example, a local business, the people that live in a community, and underinvested neighborhoods. This will develop a market scan that can be translated to data and used to invest in transportation.

### *Key Findings*

Recommendations from this study that are relevant to the Monmouth Paths: Access for All study include:

- A transportation space that brings multiple players together, rather than focusing solely on transportation officials should be created.
- Community stakeholders should include underinvested communities.
- Place-based investments should integrate transportation efforts to resolve multiple issues simultaneously.

## **Charlotte Future 2040 Comprehensive Plan Built City Equity Atlas, Charlotte City Council, 2021**

This plan aligns with the goals of the Monmouth County study because it is a city plan that identified equity gaps in mobility, and creates a plan for addressing these gaps through land use and transportation systems, which is very similar to what the Monmouth County study is doing. The City of Charlotte, North Carolina developed a guide to plan for a more equitable city by analyzing how the existing built environment resulted in inequities, and found key patterns from federal mortgage programs, the roadway network, and a strong postwar economy that created a suburban development boom, including historic federal mortgage programs that determined where populations settled, federal financial assistance programs,

state investments favoring suburban neighborhoods, single-family zoning laws, highway networks, and economic development. The City then decided what elements it needs to be a “complete community” that provides equitable access to built elements (**Figure 24**).

The Atlas utilizes the four following steps to identify equity gaps:

- Compare aspects of the built environment to the distinctive spatial patterns of income, race, and voting which correlate to economic mobility.
- Identify spatial or historical patterns emerging from data analysis.
- Depict assets and gaps in the built environment of individual neighborhoods.
- Inform pronounced patterns of inequity in the built environment.

The City collected data about existing racial and economic patterns, household income, and voter participation rate to develop a distribution of equity indicators. This spatial pattern showed areas where both poverty and wealth are concentrated in Charlotte and, therefore, where the City should invest to address equity. The City then built out themes that guided further research: inclusive city, livable and connected city, healthy and sustainable city, prosperous and innovative city, and regional city. These themes have subthemes and findings, for example, under the livable and connected theme the City analyzed street connectivity, transit availability, and sidewalk availability.

**Figure 24: Elements of a Complete Community**



Source: Charlotte City Council, Charlotte Future 2040 Comprehensive Plan Built City Equity Atlas, 2021.

## *Key Findings*

Important takeaways from this study that are relevant to the Monmouth Paths: Access for All study include:

- Housing, commercial, and transportation investments should be coordinated to develop the elements of a complete city.
- Data sets such as data sets for community proximity to transit, data about street connectivity, sidewalk availability data, and data showing proximity to and density of frequented destinations such as employment centers and grocery stores should be developed and used to guide investments in transportation.
- New policies should be created to address patterns of inequity rather than relying on the policies that likely contributed to the inequity.
- Targeted public investments are more valuable than private investments.
- A neighborhood is complete when residents can access frequented destinations and transportation can be used to achieve that “completeness.”

## **Mobility and Accessible Transportation Strategic Plan – Planning for the Future, Tennessee DOT, 2022**

This plan aligns with the goals of the Monmouth County study because Tennessee also looked to develop a comprehensive transportation plan that addresses the needs of vulnerable populations. In Tennessee’s Strategic Plan, the Tennessee Department of Transportation (TDOT) and partners develop a pathway for integrated policies and cooperative activities that foster a flexible and comprehensive transportation program. The plan addresses relationships between state agencies as they pertain to transportation, existing mobility management for the general public and vulnerable populations (elderly, disabled), and advances in technology and creative structure utilized by public transit.

To further its goals, the plan takes an integrated approach by incorporating the priorities of multiple State departments to find transportation solutions. This creates collaborative solutions rather than targeted ones, and it requires departments to serve the general public, older adults, and disabled persons. Further, the plan requires policies to align at the state, regional, and local level meaning local transportation policies should align with State policies to ensure communities are equitably supported. The State also plans to maximize existing transportation infrastructure and services by removing barriers and supporting innovations and service enhancements for older adults and disabled persons, noting that solutions

appropriate for those populations also improve transportation for general users. The State will work to redevelop its funding mechanism so that it is not delivered in silos, but rather in a cost sharing practice that encourages fund braiding and allows for maximum use of resources.

To create the Strategic Plan, TDOT engaged in interviews with key stakeholders, developed two surveys, started two focus groups, and conducted monthly transportation workgroup meetings. The process incorporated a review of local and statewide planning efforts that included transportation needs assessments, and created its own analysis of needs and gaps in service by reviewing key demographic and socioeconomic factors that influence transportation decisions. The surveys showed levels of satisfaction with existing transportation services, days, and times when a trip is needed and isn't available, trip purpose, level of access to technology, use of personal vehicles versus transit, and more. Similar statistics were separately collected for aging (65+) and disabled populations. Data about areas of poverty were also collected. The Strategic Plan will be successfully implemented through continued involvement of stakeholders, with TDOT leading the effort.

### *Key Findings*

Recommendations from this study that are relevant to the Monmouth Paths: Access for All study include:

- Transportation safety and quality guidelines should be standardized among all programs for older adults and disabled individuals to be consistent with other transportation funding sources.
- Evaluate the effectiveness of structures to support electric vehicles and service modes like vanpools and microtransit, for first/last mile or multi-jurisdictional trips.
- Develop a role for mobility management, that supports local and regional mobility managers, this would be a job within the DOT.

### **Mobility Equity Framework, The Greenlining Institute, 2018**

This study aligns with the goals of the Monmouth County study because it highlights what California has done to address mobility equity and provides an example of a best practice for Monmouth County. This framework looks at California's mobility needs and provides recommendations to establish a transportation system that benefits all people, embraces equitable deployment of investments, and draft policy interventions that prioritize the mobility needs of low-income individuals of color while addressing historical neglect these

individuals have experienced. To achieve mobility equity, social equity, or the fair distribution of societal benefits and burdens, and community power, or the ability of marginalized communities to influence decisions, must be prioritized.

The Greenlining Institute conducted a literature review, developed surveys, and engaged in expert interviews with stakeholders to understand how current decision-making frameworks operate, transportation inequities, common equity indicators, and economic opportunities in clean transportation. The research results indicate that transportation is strongly linked to the ability of individuals to increase their economic well-being. In fact, access to transportation and commute time are significant factors in escaping poverty as transportation connects individuals to jobs, school, health care, and more services.

The framework outlines three steps (**Figure 25**):

- Step One: Identify the mobility needs of a specific low-income community of color.
- Step Two: Conduct the mobility equity analysis to prioritize transportation modes that best meet those needs while maximizing benefits and minimizing burdens.
- Step Three: Place decision-making power in the hands of the local community.

**Figure 25: Mobility Equity Framework**



Source: Greenlining Institute, *Mobility Equity Framework*, 2018.

Under Step One, the framework recommends identifying community mobility needs, educating the community on mobility equity, and using participation from the community to brainstorm project ideas. Under Step Two, the framework recommends looking at common equity indicators and breaking down modes of transportation to connect which indicators address the local community's transportation equity gaps such as walkability of an urban neighborhood or street connectivity for a rural neighborhood. Step Three evaluates strategies to elevate community decision-making such as participatory budgeting in which budget is set aside for public participation and accessing racial equity toolkits.

### *Key Findings*

Important takeaways from this study that are relevant to the Monmouth Paths: Access for All study include:

- A recommendation for a robust assessment of the immediate mobility needs of the target community. A participatory budgeting process is the most equitable approach to engage communities and ensures democratic decision-making on transportation issues. This participatory approach should be used to the maximum extent possible.
- Prioritize transportation modes based on their performance across identified equity indicators to undo disparities in transportation burdens and benefits.

## **Zoning and Ordinances**

Urban design, which includes planning subdivision ordinances, zoning regulations, engineering street standards, and metrics that determine street layout and accessibility of neighborhoods, significantly impacts mobility options. In the United States there has historically been an emphasis on planning spaces around motorized vehicles rather than pedestrians, primarily driven by local planning and zoning regulations. This section includes a high-level examination of zoning ordinances from one municipality in each of the transects that are being evaluated in this study. A transect is a land-use term that describes a location based on its relative density of development or other natural or built environment characteristics. A more detailed discussion of transects in Monmouth County can be found in Appendix C: Limited Effects and Positive Solutions Report. The purpose of evaluating one municipality in each transect is to identify how these policies may affect mobility in these areas.

## Rural: Upper Freehold

Upper Freehold Township zoning generally consists of low-density zoning for residential, industrial, research, office, manufacturing, and commercial. The district boundary lines generally follow public rights-of-way, center lines, railroad rights-of-way, waterways, and property lines as they exist on record at the time the ordinance is passed. Upper Freehold's ordinances promote development that is in line with the existing communities, while maintaining agricultural uses, and enhancing access to natural areas, parks, and historic areas. The township also has affordable housing overlays which specifically encourage the inclusion of bicycle parking and related facilities. Furthermore, the intent and purpose of the land use code also encourages senior citizen housing construction, and to promote the utilization of renewable energy resources.

The zoning ordinance contains off-street parking requirements that outline minimum parking requirements. Even on mixed use sites, parking minimums must be met, and parking facilities shall be the sum of the requirements for various individual uses. The parking ratios are relatively consistent with other municipalities across New Jersey that have not recently updated parking requirements to respond to new trends. For example, bank parking and vehicle queuing areas which require larger areas than would be needed today. These parking requirements encourage vehicle-focused site design which can create barriers when trying to walk, bike, or use transit. Furthermore, there is no guidance or requirements for bicycle parking.

Street design requirements outline right-of-way and land widths, as well as requirements for shoulder areas. While there are no specific requirements for bicycle accommodations within these standards, the code states that sidewalks and bike lanes may be located within the outside cartway width if required by the Planning Board or Zoning Board of Adjustment. The code also requires that sidewalks be provided throughout all areas of the Township but provides exemptions at the discretion of the reviewing Board, such as if it is determined that the facility would not be used. Furthermore, sidewalks are required in all residential areas unless lot sizes exceed three acres or if a street ends in a cul-de-sac with less than 10 houses. There are no specific requirements for sidewalk width or buffering.

In general, these types of regulations can lead to gaps in the pedestrian network, particularly when decisions are made as to the potential use of a proposed facility. Often times pedestrian activity may not be immediately present but could be present with future

development. Sidewalks should always be provided with any new development even if their initial purpose and use may not be clear.

## Village: Allentown, NJ

Allentown Borough zoning is divided into “historic” and “non-historic” zones. There are seven “historic” zones, of which six are residential zoned based on lot size, and one business district zone. There are five zones within the non-historic zone, four of which are residential based on lot size, and one is called multi-family residential. The district boundary lines generally follow property lines as they exist on record at the time the ordinance is passed. Higher-density districts are closer to the Village center along Main Street and the density decreases as distance from the center increases.

Allentown’s ordinances promote redevelopment of areas, improve access to areas of nature such as the local river, promotes housing to serve a diverse mix of households, and promotes pedestrian-oriented main streets. These features encourage walkability and bikeability and can be used to promote equitable access to transportation.

Given the built-out nature of the Village, the parking standards are primarily focused on infill development. The code requires that off-street parking facilities be provided for new buildings or if an existing building is new or undergoing construction that would result in an increase in size or capacity. The specific parking ratios by use are similar to that of other areas of the County, and reflect more of a suburban-style requirement, which could act as a mobility barrier because they promote vehicle-centric site design. However, shared parking is permitted at the approval of the reviewing Board.

There are three primary street types within the municipal code, each require a minimum right-of-way width of 50 feet, but have paved cartway width requirements that vary from 30 to 36 feet minimum. Sidewalks are generally required to be a minimum of four feet. While Allentown is a very walkable community, the relatively narrow required width of sidewalks should be increased based on new guidance for ADA accessibility. The ordinances that include provisions for street trees on each side of a street within a district and having a planting strip that has shrubs and shade trees.

These ordinances provide features for walkability and have ample space for sidewalks and trees that maintains a good balance of green and gray infrastructure.

## Suburban: Middletown, NJ

Middletown is a township divided into rural, single-family, residential, business, public recreation, industrial, and multifamily zones. These zones also have regulations for maintaining space in front of a building and having ample space for parking. Areas that are rural or marine should maintain their character and nature and have different standards. Although the township does not have mixed-use zones, some residential zones allow for mixed-use buildings, which have proven to increase walkability and bikeability in local communities.

Middletown provides specific requirements for off-street parking that set minimums that are similar to other suburban areas across the State, and do not provide any guidance or requirements for bike parking. While these parking requirements promote car-centric site design, the ordinance provides some flexibility for shared parking. Parking for mixed-use buildings requires a minimum of 3.5 parking spaces for every 1,000 square feet of gross commercial floor. Also, mixed-use buildings may have shared parking on noncontiguous parcels within 1,000 feet of the development. This decreases how much space is allocated to parking and can encourage more facilities to enhance walkability.<sup>27</sup>

Sidewalk construction is required on both sides of all streets within a development in Middletown and around perimeters of all cul-de-sacs. Installation of sidewalks along frontage of property that would have a detrimental impact can be waived by the Planning Board. Sidewalks that are not within street rights-of-way are located to provide for likely routes of pedestrian travel, but this can change to preserve natural features or preserve existing sidewalks. Sidewalks should also be four feet wide, but do not have other size requirements. Overall, the sidewalk policy encourages connectivity and promotes pedestrian routes but allows for waivers to preserve character, nature, and building space. This is an important waiver because it can encourage building sidewalks in areas that are walkable and within rights-of-way; however, it can also deter making an area more walkable if it does not already have walking and biking infrastructure.<sup>28</sup>

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<sup>27</sup> <https://ecode360.com/30145276>

<sup>28</sup> <https://ecode360.com/30143915>

## City Center: Red Bank

Red Bank is divided into zones for residential, neighborhood business, business and residential mixed, commercial, industrial, waterfront, medical, and professional districts as well as affordable housing, historic design, and train station overlay districts. One measure of walkability and bikeability that the USEPA uses is proximity to public transit; therefore, the train station overlay district that is a mixed-use zoning district aimed at populations that rely predominantly on public transportation may contribute positively to its walkability and accessibility. Additionally, this is one of two districts that permit zoning specifically for affordable housing, which is important for equity considerations, and ideally this district should be near public transit as well to improve both equitable transportation access and walkability.<sup>29</sup>

Off-street parking is required for every use and should meet standards for depth, width, and angle included in the ordinance. The minimum number of off-street parking spaces required varies based on the use, but all uses require parking and vary from 2-5 per 1000 square feet. Parking minimums typically are focused on the convenience of drivers and negatively impact people walking and biking to or from a particular use. However, Middletown is the most progressive out of the municipalities examined in this section of the report. There is extensive guidance provided regarding shared parking, including a methodology for calculating shared parking needs. Furthermore, the ordinance provides requirements for electric vehicle charging in any parking areas with more than 20 parking spaces<sup>30</sup>. These policies work to reduce the area needed for parking and promote cleaner forms of transportation.

Red Bank's sidewalk ordinance requires sidewalks to be a minimum of four feet wide, which is an older standard. Minimum sidewalk width should be enhanced to six feet to enhance mobility, particularly for ADA accessibility. However, the zoning code provides for sidewalk cafes and restaurants as ancillary uses to permitted food establishments with over 7,000 square feet of floor area and require a license for these cafes<sup>31</sup>. These types of establishments can promote walking and biking as they are along sidewalks and permitting uses for them are positive for walkability of an area.

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<sup>29</sup> <https://ecode360.com/14161182> & <https://ecode360.com/14161220>

<sup>30</sup> <https://ecode360.com/14159190>

<sup>31</sup> <https://ecode360.com/14227518>

Red Bank maintains a Shade Tree Committee to protect existing trees and plant new trees, as the borough finds that having sufficient forest and tree canopy has many benefits including reduced stormwater runoff and sedimentation, increasing groundwater recharge, and reducing the potential for flooding and erosion<sup>32</sup>. Their zoning laws include planning and development regulations for not only placement of trees but also require a good grade of topsoil, nursery grown trees, planting in a dormant state, and the borough has a Shade Tree Trust Fund to fund this effort. This type of initiative is valuable to promote and maintain green infrastructure which is commonly cited as a feature that increases the walkability and bikeability of neighborhoods and overall can make residents feel their communities are more livable.

## Shore Town: Long Branch

Long Branch's zoning districts are divided into residential, commercial, industrial, manufacturing, transit, medical, and mixed residential-commercial uses. This positively contributes to the area's walkability and bikeability. Furthermore, the center of Long Branch is a designated NJDOT Transit Village, which affirms Long Branch's commitment to "create attractive, vibrant, pedestrian-friendly neighborhoods where people can live, shop, work and play without relying on automobiles."<sup>33</sup>

Long Branch's parking ordinance requires off-street parking for all new uses as well as for any existing use that is being enlarged. The off-street parking requirements are consistent with many other municipalities in the County with parking minimums that are relatively high for uses, such as banks and supermarkets. However, parking minimums create barriers to other modes by focusing site design on the provision of parking spaces rather than spaces for pedestrians, bicyclists, and transit users. Furthermore, there is no shared parking guidance. Parking is allowed to be shared between adjacent uses, but the total number of parking spaces shared has to equal the sum of the individual requirements. Long Branch's zoning ordinances also allow for sidewalk cafes and restaurants. The sidewalk ordinances are also focused on ensuring there are no obstructions, avoiding flooding, aiding in snow removal, and maintenance. However, outside of the ordinance, the municipality's Complete Streets Policy and Green Development Checklist largely affect the area's walkability, bikeability, and parking.

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<sup>32</sup> <https://www.redbanknj.org/235/Shade-Tree-Committee>

<sup>33</sup> [Transit Village Initiative Overview, Community Programs \(nj.gov\)](#)

Long Branch's Green Development Checklist works alongside the Complete Streets Policy and is a checklist for new developments or redevelopments that looks at transit services, Complete Streets designation, housing diversity, mixing land use, open space, alternative parking designs, and pedestrian access. The alternative parking designs aim to reduce parking ratios, increase shared parking, create priority parking for low-emissions vehicles, and develop bike storage. These more progressive policies put more emphasis on other modes of travel which helps to reduce barriers for those without a car. The checklist also asks about low impact design features that do not disturb natural spaces and reduce heat islands. It is aimed at increasing walkability and bikeability and creating resiliency against climate change.

The Complete Streets Policy complies with the Monmouth County Complete Streets Policy and has elements looking at design strategy and street typology. The municipal policy recommends elements based on street type and is informed by ongoing studies, and goals such as safe streets, bicycle and pedestrian plans, forestry and canopy goals, and safe routes to school. It is a very valuable tool not only for connectivity and safety to increase walkability, but also for equity.

According to the EPA's National Walkability Index, Long Branch is above average to the most walkable among neighborhoods in New Jersey. This may largely be due to the Complete Streets Policy and Green Development Checklist.

## Literature Review Findings

The following are takeaways developed for Monmouth County based on the studies and policies summarized in this section. The takeaways from these studies and policies form best practices that consider the needs of vulnerable populations in Monmouth County and the County's goals:

- 1. Determine how and why the current transportation system in Monmouth County has gaps and what policies caused this to happen.**

In its recent plans, the County has effectively found gaps in what is and is not serving its residents. Common themes to be considered in the Monmouth Paths: Access for All Study are expanding services, location of rural or vulnerable communities in relation to public transportation, and funding mechanisms. Like the City of Charlotte NC, the County should reflect on its history and see which policies were detrimental to the transportation system and which policies were beneficial.

## **2. Develop a multifaceted approach to transportation that is not siloed.**

In its *Regional Transportation Plan 2050*, the NJTPA found that the region's employment and gross domestic product proposes economic recovery and growth over the next decade and further. Based on principles outlined by the *Economic Value Atlas* (2019), this economic recovery presents an opportunity to invest in mobility equity to ensure that underinvested communities do not get further left behind. For example, connecting an underinvested community to public transit or rebuilding roads in that community could present an opportunity to better adjoin this community in the region's economic growth. This may not have been possible without the transportation connection and could transform the previously underinvested neighborhood.

Further, as mentioned in the *Mobility and Accessible Transportation Strategic Plan*, Tennessee DOT (2022), funding is often siloed which can cause duplicated, overlapping efforts to address common issues between state agencies. Funding should be available to multiple agencies to allow these agencies to work together, use funds, and address larger issues. For example, the Monmouth County Departments of Public Health and Transportation can work together to address walkability and thus decrease the risks of social determinants of health causing obesity and related health conditions.

In addition, municipalities and vulnerable communities should be included in the discussion and decision-making process. Municipalities should be encouraged to adopt zoning regulations that encourage pedestrian, bicycle, and transit use. Consideration should be given to strategically locating vulnerable populations near critical services.

## **3. Create practical, measurable goals that the County can attain.**

A positive aspect of the 2022 TDOT plan is that it is practical and sets very concise, attainable goals. When compared with the City of Charlotte, NC plan, the TDOT plan appears reasonable. Charlotte's plan aims to provide a transportation system that addresses each individual neighborhood in the city, and as neighborhoods and demographics continue to change this will constantly have to be updated and may even be considered moot in its current state. It is more prudent to start with concise, short-term goals that the County can begin addressing immediately.

## Public Outreach: Experienced Conditions

Obtaining the lived experiences from County residents is a key component of the Monmouth Paths: Access for All study. An outreach effort was conducted from November 2023 through February 2024 to solicit feedback from the public regarding the barriers to mobility that they experience. This outreach consisted of an in-person meeting at Asbury Park City Hall on November 16, 2023, an in-person pop-up meeting at Brookdale Community College on February 7, 2024, and an online survey mapping tool (<https://www.fhstudio-apps.com/monmouth-county/>) that was until February 9, 2024. Public turnout at the Asbury Park meeting was very low (approximately five attendees), and limited feedback was provided. The Brookdale Community college outreach event yielded 36 participants. During both events feedback was recorded through the online survey tool. Therefore, this section of the report will focus on the online survey tool.

### Online Survey Mapping Tool

The online survey mapping tool was prepared and hosted by FHI Studio. Links were provided on the study website, on social media posts and press releases, and via QR codes at the Asbury Park public meeting. The tool consisted of five demographic survey questions that were optional, and then a mapping tool which allowed respondents to select from six comment types that they could pin on a map of the County and then provide additional details as to the exact issues they experienced. The survey tool was closed on February 9, 2024, and a total of 499 unique users left 617 comments.

### Demographics

When respondents access the online mapping tool, they are directed to a landing page with the following five demographic questions:

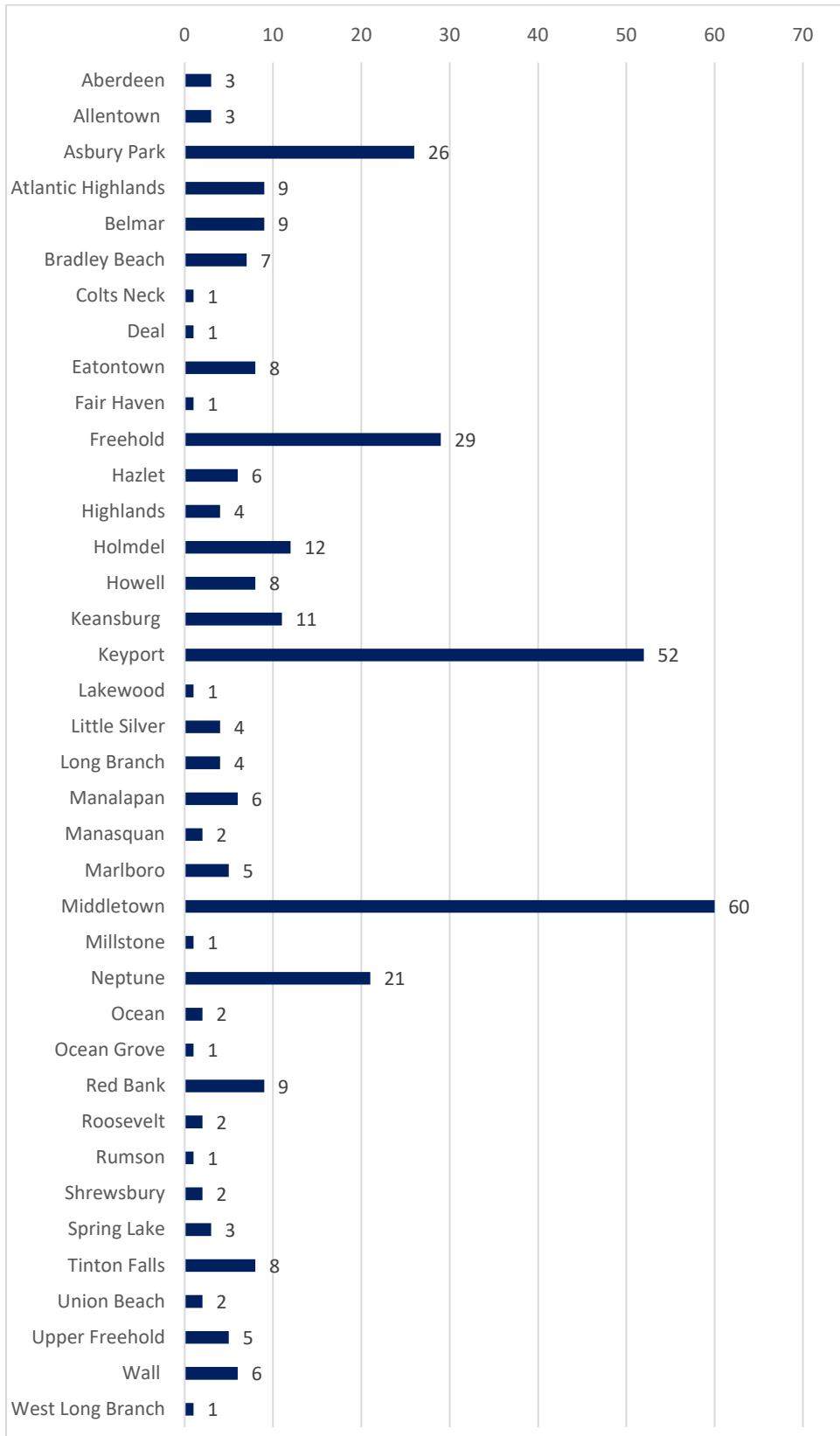
- Provide the city/town or zip code in Monmouth County where you live or work.
- Please select your age.
- Please select your income range.
- Do you identify as a person with a disability?
- Do you own a car or have access to a private vehicle?

These questions were optional; however, 112 respondents answered at least one of the demographic questions.

### *Town/City of Residence*

Of the 499 survey responses, 336 listed their town or zip code of residence. For analysis purposes any zip code answer was converted to a town name. **Figure 26** shows that largest number of respondents (60) were from Middletown, largely from the overwhelming response from Lincroft Village, followed by Keyport (52), Freehold (29), Asbury Park (26), and Neptune (21).

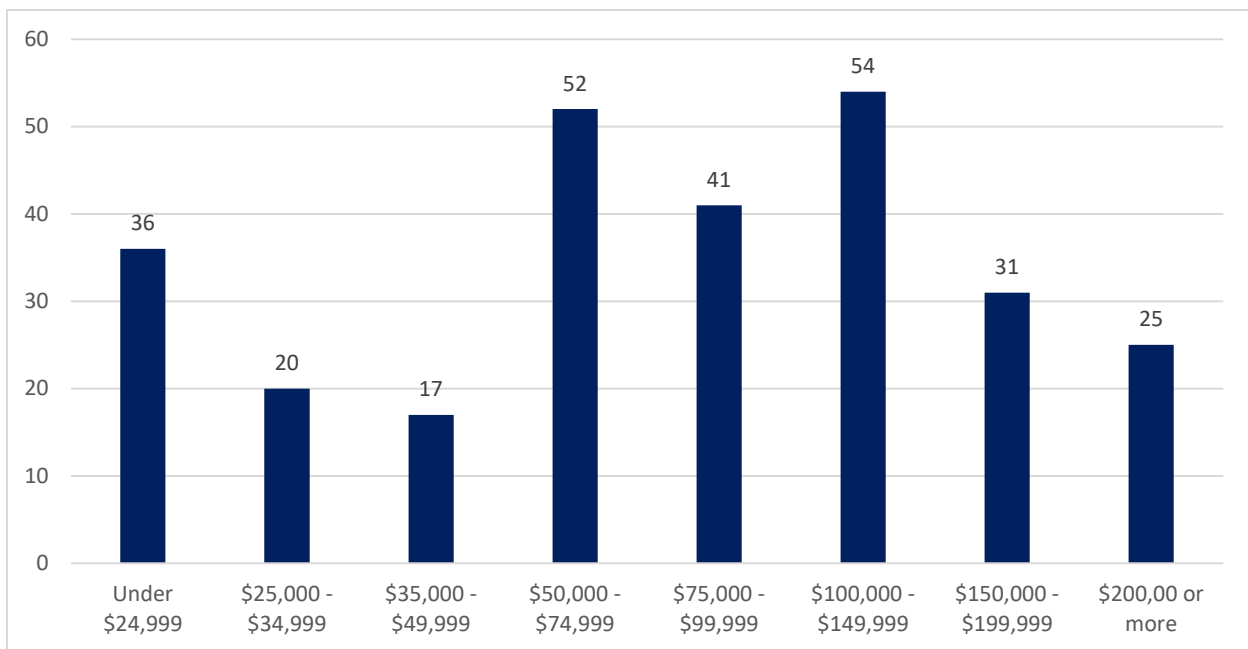
**Figure 26: Town of Residence of Respondents**



### Income Range:

Of the 499 total survey responses, 276 respondents provided a response to the income range question. **Figure 27** shows the distribution of responses. The highest number of respondents (54) reported having an annual income ranging between \$100,000 and \$150,000, and there is a higher representation of respondents making more than \$50,000 than those making less than \$50,000. However, 36 responses had an income range under \$25,000, which represented 13 percent of responses. This percentage is higher than the ratio of low-income residents to the total population of the County (7 percent), indicating that low-income residents are represented in the survey.

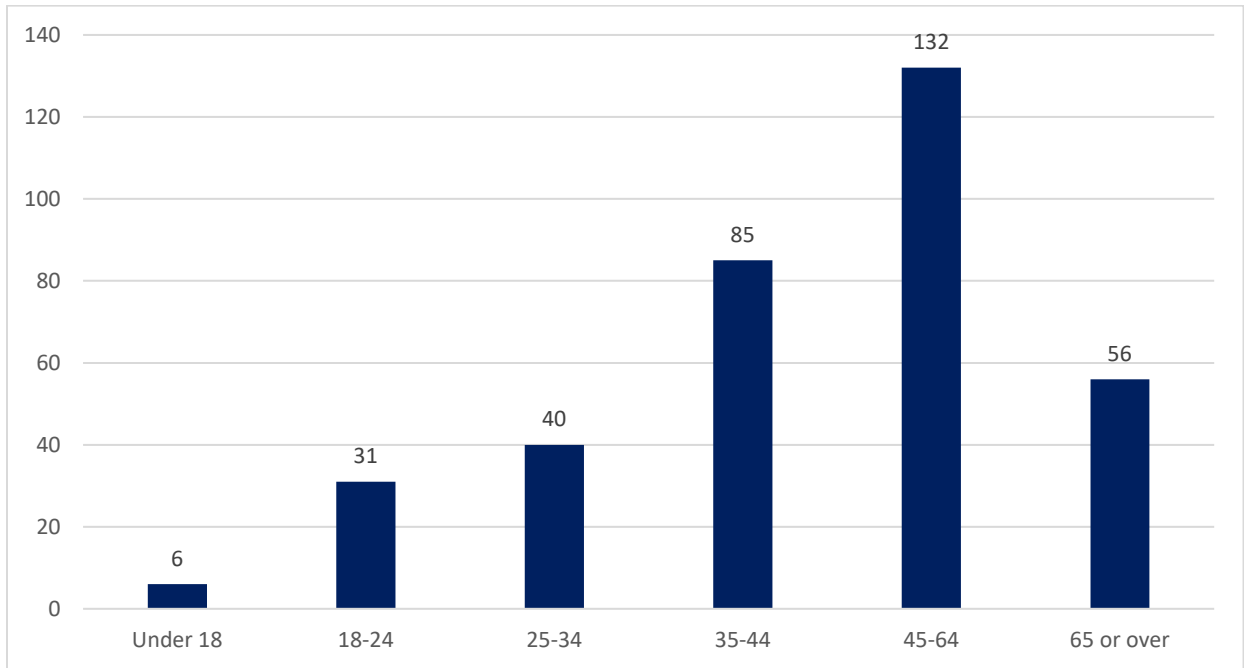
**Figure 27: Income Range of Survey Respondents**



### Age Range

Of the 499 total survey respondents, 350 provided a response to the age range question. **Figure 28** shows the distribution of responses. The highest number of respondents (132) reported being between 45 and 64 years of age. There is an under-representation of respondents under that age of 25, indicating the potential need to increase information and outreach to younger populations.

**Figure 28: Age Range of Respondents**



### *Disability*

Similar to the previous two demographic questions, only a portion (327) of respondents provided a response to a question asking whether or not they consider themselves to have a disability. Of the 327 respondents, 16 percent (52) of respondents indicated that they consider themselves to have a disability. This percentage is comparable to the total percentage of Monmouth County residents that are considered to have a disability (10.1 percent).

### *Vehicle Access*

Of the 337 respondents that provided a response to this question, nine percent indicated that they did not have access to a vehicle. This percentage is consistent with the seven percent of Monmouth County residents that do not have access to a vehicle.

## **Survey Mapping Tool**

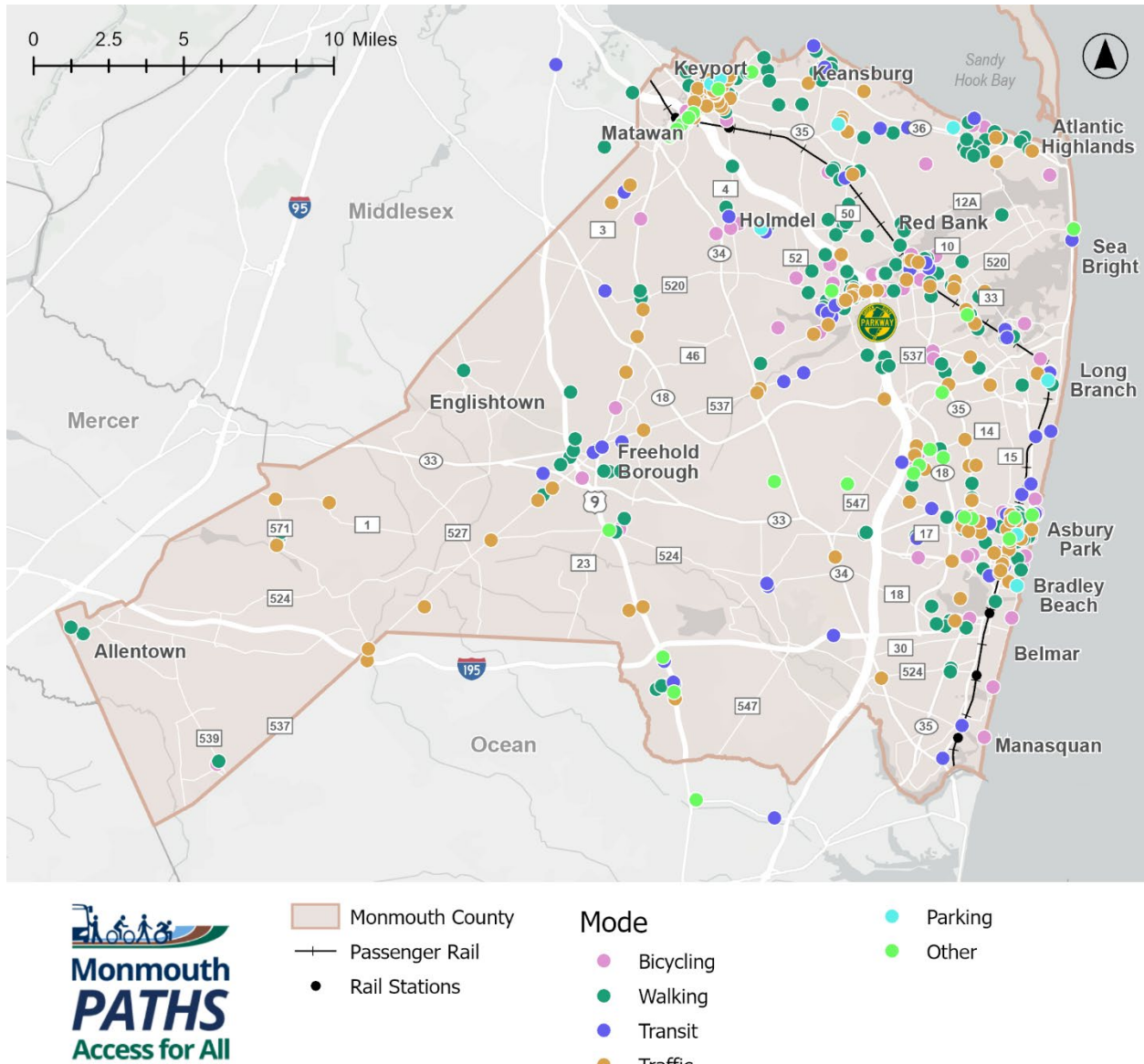
After pressing “continue” on the demographic questions, respondents were then directed to a mapping tool. The intent of the mapping tool was to allow respondents to identify specific areas of the County where they experience mobility issues. Issues were classified into six “pins” that could be selected on the mapping tool:

- Bicycling
- Traffic Safety
- Transit
- Walking
- Parking
- Other

In addition, a respondent could enter a general comment that is not site specific by using a comment box provided under the six pins. However, no general comments were submitted.

Although there were only 499 unique respondents to the survey, there were 617 comments entered into the mapping tool. **Figure 29** clearly shows a clustering of responses in some areas, including Asbury Park, Long Branch/Eatontown, Atlantic Highlands, Freehold, Lincroft Village, Keyport, and along the US Rt. 9 and NJ Rt. 79 corridors.

**Figure 29: Comment Location and Type from Survey Mapping Tool**



A preliminary review of the comments is summarized in **Table 13**. Walking-related comments made up the largest number of comments (288), followed by traffic safety (137), bicycling (89), transit (58), other (34), and parking (11). In general, many responses were related to the lack of pedestrian, bicycle, and transit facilities/services to employment, retail, healthcare, and social services. Other common comments indicate issues with transit system reliability, lighting, vehicle speeds on local roads, and congestion at intersections due to

signal timing issues or a need for turn lanes. A breakdown of comments by transect is provided in Appendix C: Limiting Effects and Positive Solutions Report.

**Table 14: Summary of Mapping Tool Responses**

<b>Response Category</b>	<b>Number of Responses</b>	<b>Summary of Typical Comments</b>
<b>Traffic Safety</b>	137	<p>Safe walking route are needed to/from transit, particularly for those with special needs.</p> <p>Frustration regarding intersection or roadway upgrades that did not include pedestrian or bicycle facilities.</p> <p>Lighting needed (new or upgraded).</p> <p>High vehicle speeds on local roadways.</p> <p>Intersections improvements that are needed such as revised signal timings, new traffic signals, and turn lanes.</p> <p>Sight distance obstructions.</p>
<b>Bicycling</b>	89	<p>A general lack of safe bicycle facilities within the County, particularly between residences and destinations such as grocery stores, healthcare services, retail, etc.</p> <p>Frustration regarding intersection or roadway upgrades that did not include pedestrian or bicycle facilities.</p> <p>Dangerous biking conditions on roadways such as NJ 25.</p> <p>Need for improved education for bike riders.</p> <p>Need for bicycle detection at traffic signals.</p>

Response Category	Number of Responses	Summary of Typical Comments
<p><b>Walking</b></p>	<p>288</p>	<p>Difficulty crossing major roadways such as NJ 35, NJ 18, NJ 33, NJ 71, etc.</p> <p>General lack of sidewalks throughout the County particularly between residences and destinations such as grocery stores, healthcare services, retail, etc.</p> <p>Accessibility mats needed on more beaches.</p> <p>Long crossing distances with short crossing times at major signalized intersections.</p> <p>Need to improve connections to transit, particularly between park-and-rides and transit stops in both directions.</p>
<p><b>Transit</b></p>	<p>58</p>	<p>Need for rail service to the mid and western parts of the County.</p> <p>Increase transit operating hours and frequencies.</p> <p>Increase reliability of bus service – frustration over late buses and missed connections.</p> <p>General lack of transit facilities in the County, particularly in suburban and rural areas.</p> <p>Difficulty accessing retail and social services due to lack of transit service.</p> <p>Frustration regarding need to change trains sometimes at Long Branch to access stations to the south.</p> <p>Need for enhanced amenities at bus stops, rail stations, and SeaStreak ferry. These include sheltered waiting areas, restrooms, etc.</p>

<b>Response Category</b>	<b>Number of Responses</b>	<b>Summary of Typical Comments</b>
<b>Parking</b>	11	<p>All municipalities need more public parking, particularly off-street.</p> <p>Difficulty finding parking in shore communities during peak seasons.</p> <p>On-street parking on narrow streets makes it difficult for cars to travel along the roadway.</p> <p>Parking minimums should be abolished.</p>
<b>Other</b>	34	<p>In general street lighting throughout the County is poor.</p> <p>Concern with personal safety at transit stops and stations.</p> <p>Lack of information regarding transit services and/or stop locations.</p> <p>Bus shelters are not maintained.</p> <p>Lack of transit connections to other cities, such as Trenton.</p>

## Findings

This Experienced Conditions report summarizes existing conditions, identifies services that are currently available in Monmouth County, documents an underserved communities assessment, summarizes existing sources of guidance including previous studies, and evaluates initial public feedback. A review and assessment of this information results in the following key findings that will help inform the remainder of the study process:

1. **The existing transportation network makes it difficult to travel within the County without access to a vehicle.** The high-capacity transit and transportation assets in the County such as the North Jersey Coast Line, the proposed US Rt. 9 BRT corridor, Academy and other private bus carriers, ferry service, the Garden State Parkway, US Rt. 9, and NJ Rt. 18, among others that are oriented to transport people and goods to and from the New York City area. However, the location-based data indicates that the most vulnerable populations in the County are working and traveling closer to home. There is a lack of high-quality transit service, pedestrian, and bicycle facilities connecting vulnerable communities with where they access employment, education, and other services within the County.
2. **Last mile connections to and from transit are a critical need and greatly affect the usability of the transit system.** Transit service improvements are only as good as the ability for people to access them. Providing sidewalks, crosswalks, curb ramps, bicycle facilities, and other infrastructure that helps transit users access the transit services must go hand in hand with any improvements to the transit service itself.
3. **The County and other state agencies need to work closely with municipalities to enhance the linkage between transportation planning and land use.** Smart land use decisions enhance the ability for the County and other state agencies to plan for and make investments in infrastructure and service. Higher densities, mixes of uses, transit-oriented development overlays, and other development ordinances can significantly help agencies provide improved services and enhanced amenities for transit, walking and biking infrastructure.
4. **Create practical, measurable goals that the County can attain.** Eliminating barriers to mobility is a large task and it can easily become overwhelming to know where to start and what to prioritize. This study should result in concise, short-term

goals that the County can begin addressing immediately that can help build momentum and support for larger and longer-term projects.

5. **Vulnerable communities need to be a part of the future of transportation.**

Vulnerable populations have historically been left out of the transportation planning process. However, new technologies and demand for transportation will be transforming how and when people travel. E-bikes, e-scooters, micro transit, electric vehicles, autonomous vehicles, and other transportation technology will help transition the transportation market to a Mobility as a Service (MaaS) system. MaaS combines multiple services into a single, comprehensive, and on-demand mobility platform, offering users a cost-competitive and diverse menu of transport options, including (but not limited to) public transport, active modes such as walking and cycling, ride/ car/bike-sharing, taxi, and car rental or lease, etc. However, in order for vulnerable populations to access this transportation future, they must be included in the planning and adoption of the technologies needed to support it.

6. **There are a lot of studies and guidelines developed by other agencies that encourage equity, but nothing that directly addresses how to breakdown mobility barriers.**

Many of the studies and guidance completed by other agencies highlight the needs of vulnerable communities and the importance of equity in decision making, particularly for transportation. However, there have not been many studies that focus on specific strategies to reduce mobility barriers by combining land use and transportation decision making. The Monmouth Paths: Access for All Study will be one of the first comprehensive studies of this nature. However, it will be up to the County and its municipalities to adopt and implement the strategies contained within.