



Monmouth
PATHS
Access for All

FINAL REPORT AND TOOLKIT





Final Report and Toolkit

Prepared for:



Monmouth County

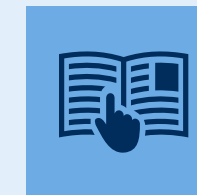


Prepared by:



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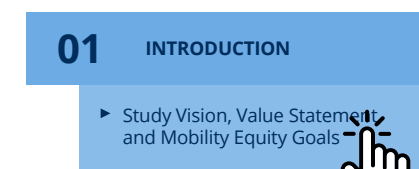


This report and toolkit have been designed with a navigation menu to ensure easy use.

The navigation menu is located along the left hand side of the page and show the five sections of the report.

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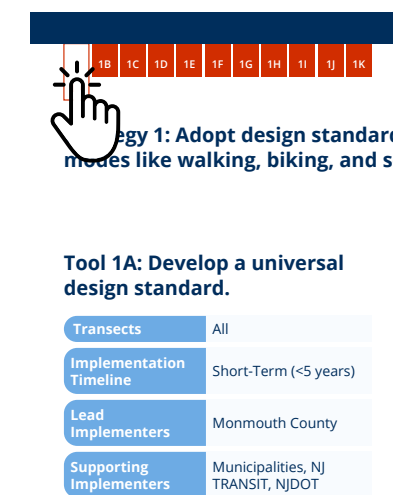


The toolkit is located in Section 4.

Click on Section 4 to reveal each Strategy and its associated tools.



Click on the tool tabs at the top of the page to cycle through each tool within the Strategy.



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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 confronted by barriers to their mobility.

Transportation disadvantaged 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, security concerns, and long crossing distances across wide 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 impacts on mobility, such as making it more difficult to find parking, or higher pass-through volumes on local streets.

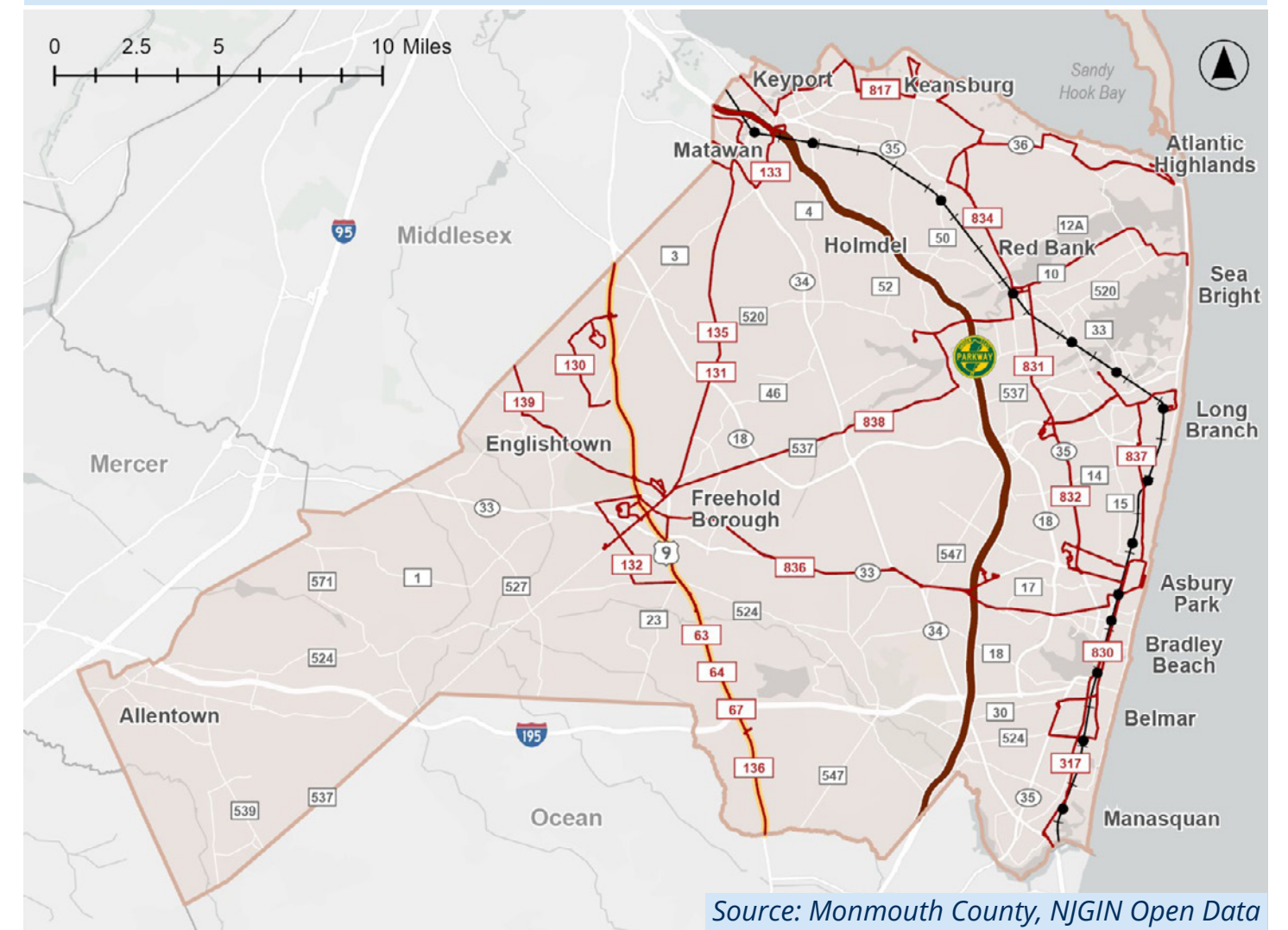
The orientation of the transportation network can also exacerbate mobility issues for transportation disadvantaged populations. Major roadways such as US Route 9 and the Garden State Parkway as well as the two major spines of transit access, the

North Jersey Coast commuter rail line and most bus service, make it relatively easy to travel to and from major cities to the north (see Figure 1).

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

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, and strategies and tools for infrastructure, services, and policies that would help to reduce or eliminate them.

Figure 1: Major Roadways and Transit Service in Monmouth County



Source: Monmouth County, NJGIN Open Data

- Monmouth County
- Rail Stations
- xx Bus Route Numbers
- NJ Transit Bus Routes
- US Route 9
- Garden State Parkway
- Passenger Rail

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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, such as mobility hubs, microtransit, and electric vehicle (EV) charging stations, etc., to be deployed within the County's vulnerable communities to ensure that the benefits offered by new technology are available in these communities.



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Methodology

The study team adopted a six-step process based on the guidance provided by the United Kingdom Department for Transport.

This prescriptive process combines data analytics with the lived experiences of the community to identify the barriers Monmouth County residents face when undertaking a trip and develop strategies and tools to mitigate these barriers. The Monmouth PATHS: Access for All study addresses each step in greater detail in appendices to the Final Report and Toolkit. The County, its municipalities, other state agencies, and private developers, among other interested parties, can utilize the information outlined in this study to begin implementing the strategies and monitoring their performance.

How are Mobility Barriers Defined?

The analysis primarily focuses on the barriers experienced by a user, or a potential user, of the transportation network in Monmouth County. These barriers can be considered as one or more of the following:

- Something that negatively affects a journey. This makes a trip less efficient, more expensive, less comfortable, or more stressful in terms of safety and/or well-being.
- Something that discourages people from travelling by (generally) more sustainable modes. This primarily leads to more private vehicle use and associated negative impacts across a range of policy areas including environment, climate change, equity, and safety.
- Something that stops people from making the trips they would like to make, or goods being moved. This impacts quality of life, well-being, and access to opportunities.

Barriers were identified through a combination of data analysis as well as public and stakeholder outreach as described below.

Data Analysis

The data and analysis that was used to identify barriers discussed in the following section is available in detail through an ArcGIS dashboard that includes information on the transportation network, socio-demographics, active travel, public transit, and car travel, among other information. This was used to identify potential mobility issues by overlaying different data sources together to visualize trends. In addition to the dashboard, the project team utilized a custom tool, the Community Deprivation Audit Tool (CDAT) to further the analysis. The CDAT combined transportation data with demographic data to highlight areas where poor connectivity may be contributing to issues such as access to employment, healthcare, education, and recreation.

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Public and Stakeholder Outreach

Stakeholder and public outreach were critical elements to this study and provided a substantial source of additional information that was used to verify barriers identified within the data as well as to identify barriers that were not apparent within the data. Outreach consisted of the following:

- **Three Technical Advisory Committee (TAC) meetings.** The TAC included representatives from numerous Monmouth County departments, municipalities, organizations, and agencies that are involved with transportation. Its purpose was to guide the project process and provide insight/recommendations about the project findings.
- **Three Experiences Committee (EC) meetings.** The EC included representatives from advocacy and community groups that represent/support vulnerable populations within the County. The purpose of the EC was to provide important information regarding the needs of the people they serve and to help spread the word about the study and encourage public input.

- **Three public meetings.** The project team conducted public meetings in Asbury Park (November 2023), at Brookdale Community College (February 2024), and in Freehold near the transit center (April 2024). The locations of the public meetings were informed by the results of the Underserved Communities Assessment (**see Appendix A**) which identified locations of communities that may be adversely or disproportionately affected by limited mobility. As such, the meeting locations were selected because they were accessible via transit and were in areas with higher proportions of the County's disadvantaged populations. In addition, there was a desire to conduct the meetings in different areas of the County to provide more opportunity for participation by different communities. Virtual meetings were also held after the Brookdale and Freehold public meetings for those unable to attend in person.
- **An online survey was available from November 16, 2023 through February 9, 2024.** An online survey was prepared, and links were provided on the study website, on social media posts, press releases, and via QR codes at the Asbury Park and Brookdale public meetings. The survey included 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 utilized to collect comments online and was also available during the public meetings to collect public comments Online comments and those collected during the public meeting resulted in a total 617 comments left by 499 respondents. Of the six comment types, pedestrian issues received the most comments (288 or approximately 46 percent), followed by traffic safety (137 or approximately 22 percent), biking (90), transit (58), parking (11), and other (34). Common themes among the comments were gaps in the pedestrian and bicycle network across the County; concerns regarding safety of pedestrians and bicyclists when crossing busy roadways; limited and infrequent transit service, particularly east-west in the County; and, the need for new land use and parking policies to support multi-modal travel.

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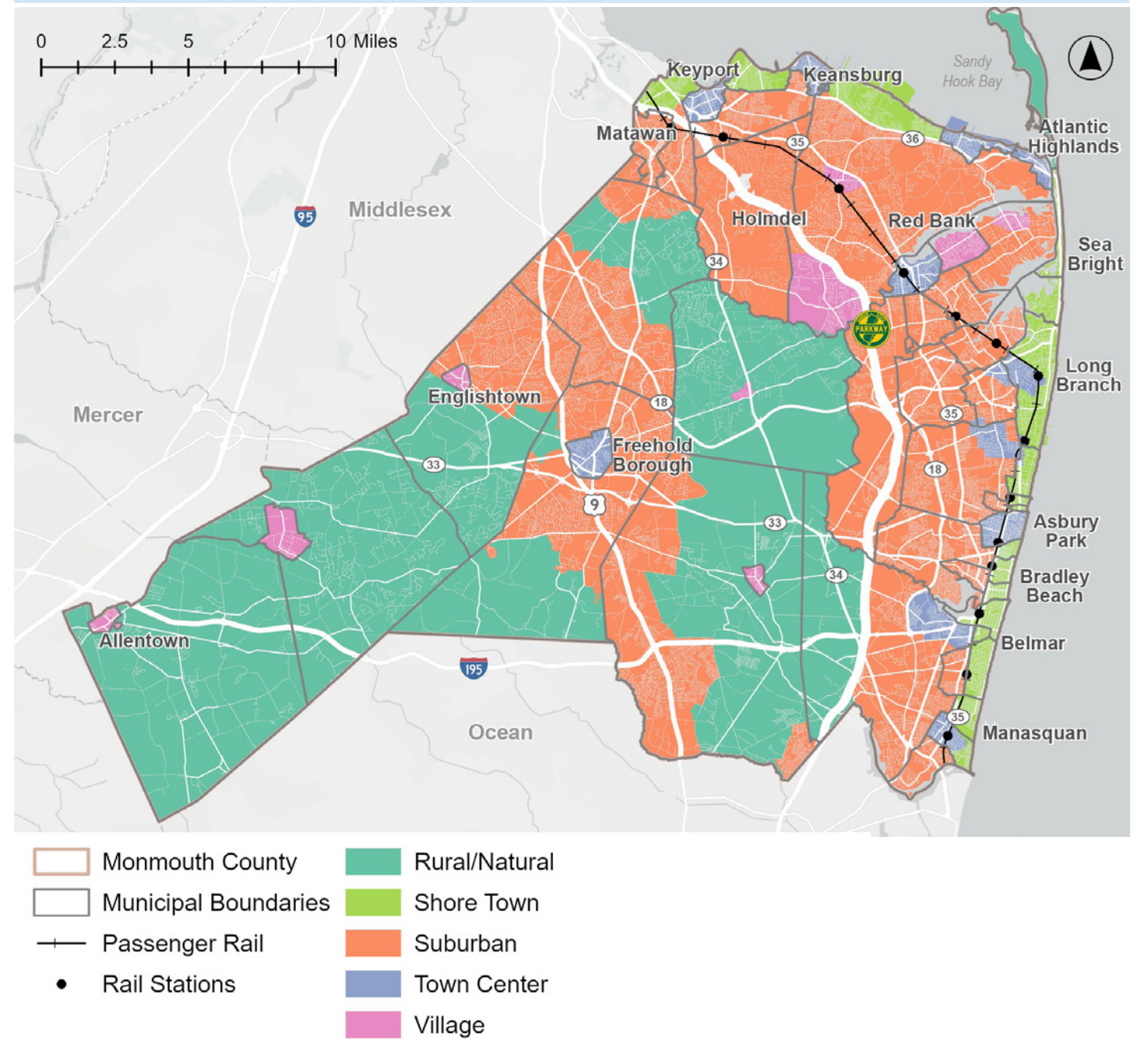
Identification of Barriers

An equitable transportation system is one that works for all users. It means that no matter a person’s age, physical abilities, or socioeconomic status, they enjoy the same level of mobility as any other user.

Where a person lives can also have a substantial impact on the type and severity of mobility barriers they experience. It is critical that the mitigation strategies developed consider the unique challenges and opportunities of the different types of communities as well as residents in the County.

To account for the different areas of the County, barriers were identified by transect. A transect is a land-use term that describes an area based on its relative development density or other characteristics of the natural or built environment. Current zoning was reviewed to identify the County’s main transects. Based on the assessment of zoning and the natural and built environment in the County, five transects were defined (Figure 2). It should be noted that the definition of the transects was not bound by municipal borders. Smaller municipalities like Freehold Borough, Allentown, and Keyport, tend to consist of one transect, while larger municipalities such as Marlboro, Manalapan, Middletown, and Howell Township are made up of multiple types of transects.

Figure 2: Monmouth County Transects



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The transects and a summary of key findings for each are described below:

Rural/Natural: Large parcel sizes primarily consisting of agricultural uses, parks and open space, very low-density residential, and limited low-density commercial and industrial uses, with limited to no transit, pedestrian, or bicycle facilities.

This transect is the most auto-oriented due to the low-density nature of the land uses. Less than 4 percent of households are within 1/2 mile of transit and only 28 percent of roadways are considered low-stress for bicyclists. Several comments received from the public indicate that there are a substantial number of bicyclists that use the roadways in this transect but there is a lack of bike lanes or shoulders. It should also be noted that there are very few accessible services in this transect. For example, there are only two supermarkets within this transect, despite it being the largest transect in terms of land area.

Village: Small areas of low- to moderate-density residential development that typically surrounds a small commercial area. The transportation network in this transect consists of a small but more connected and walkable street network than in the surrounding areas. However, there are few pedestrian and bicycle connections outside of the village area, and there is typically very limited to no transit serving the village.

Despite having higher densities, only 6 percent of households in this transect are within 1/2 mile of a transit stop, and approximately 9 percent of jobs in the County are accessible with up to one seat change, which refers to transferring between mass transit modes. Furthermore, less than 1 percent of jobs are accessible via low-stress bike routes from this transect, which is primarily due to the overall lack of low-stress routes in and around the County's villages. Public comments received for this transect indicate a lack of pedestrian and bicycle connectivity between land uses, as well as high vehicle speeds, and drivers failing to stop for pedestrians.

Suburban: Areas of the County that consist of low- to moderate-density residential, as well as low-density commercial, industrial, and office uses. This transect is also characterized by disconnected subdivisions, discontinuous street networks with cul-de-sacs, and limited connections between land use types. There are limited pedestrian and bicycle connections in this transect, and transit typically occurs along major arterials and has a low frequency of service.

This transect is the largest in terms of population; however, less than 10 percent of households are within walking distance of a transit stop and less than 3 percent of households are within 1/2 mile of a transit stop with service after 7:00 PM. Furthermore, only 10 percent of jobs are accessible from this transect with up to one seat change (transfer between different transit routes or services). This indicates that residents that do not have a car in this transect will have substantial difficulty traveling throughout the County, particularly after 7:00 PM. Despite having the highest number of services of any transect, only three of the 11 services evaluated for this study are within walking distance of households in this transect. It should also be noted that 60 percent of all fatal crashes between 2019 and 2022 in the County occurred within this transect. Public comment identified gaps in the pedestrian and bicycle network, dangerous crossing conditions on major state roadways, and a lack of mobility options to connect to nearby land uses.

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Town Center: Areas of moderate- to high-density development with a more traditional grid network that is typically oriented toward a central business core or a “Main Street” corridor. Most streets within this transect have sidewalks and the large number of local streets provide some low-stress bicycle routes. Within Monmouth County, Town Center transects have a mix of commuter rail and bus service with varying frequencies.

The key metrics for this transect are different than those of the previous three transects. This transect has the highest population of low-income residents and the highest percentage of zero-vehicle households. In addition, this transect has the highest pedestrian and bicycle crash rates of any of the transects, likely because of higher amounts of walking and biking. However, it also indicates a lack of safe facilities for these users, many of which are low-income residents who rely on walking and biking. Less than 11 percent of households are within 1/2 mile of transit with service after 7:00 PM; less than 5 percent of jobs are accessible via biking; and only 25 percent of jobs are accessible from this transect with up to one seat change. Although these metrics are better in this transect than the others, there is still a substantial gap in options for people without access to a private vehicle.

Furthermore, unlike the previous three transects whose comments related to the lack of pedestrian and bicycle facilities, most of the comments provided in the Town Center transect have to do with the condition and safety of these facilities, as well as a lack of transit services, particularly after 7:00 PM.

Shore Town: This transect has many features that are similar to that of the Town Center transect with regards to density and the traditional grid network. Within Monmouth County, communities in this transect may also be served by bus or rail. The primary difference between a Shore Town transect and a Town Center transect is the seasonality of activity in the communities, with population fluctuating between the peak summer season and the rest of the year. This transect also includes some Bay Shore towns. These communities along Raritan Bay do not have the seasonality to the degree of the towns along the ocean but are still oriented to the waterfront.

The key metrics for this transect are similar to that of the Town Center transect. This transect has the second highest population of low-income residents, as well as the second highest percentage of zero vehicle households. In addition, this transect has the second highest pedestrian and bicycle crash rates of any of the transects. Similar to the Town Center transect, this transect typically experiences more people walking and biking, particularly during the summer months.

The Shore Town transect also has limited connectivity to employment areas within the County, and very few households have access to bus service after 7:00 PM, making it difficult to access low-skilled or shift jobs which can start or end after 7:00 PM. Furthermore, despite having a high percentage of low-stress bicycle routes, less than 2 percent of jobs are accessible using low-stress bicycle routes. Public comments within this transect were largely related to lack of connectivity for transit and active modes between municipalities as well as concerns regarding safety when crossing busier roadways.

The key metrics discussed above as well as other data assessed for each transect were then translated to specific critical barriers as identified in **Table 1**.

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Table 1: Critical Barriers by Transect

◆ - indicates a critical barrier that was identified for the transect through the data analysis, outreach, or combination thereof.

○ - indicates that the barrier likely exists in the transect given land use and infrastructure similarities with other transects; however, the data and/or outreach did not specifically identify the barrier for that transect.

Barrier	Rural/Natural	Village	Suburban	Town Center	Shore Town
(A)CTIVE MODES					
A01: Limited low-stress bicycle facilities and poor connectivity to adjacent land uses.	◆	◆	◆	◆	◆
A02: Intersections that are challenging to cross for pedestrians and bicyclists.	◆	◆	◆	◆	◆
A03: Lack of sidewalks throughout the transect that connect neighborhoods, parks, schools, or other complimentary land uses.	◆		◆		
A04: Missing pedestrian and bicycle connections to major destinations outside of the transect.		◆			
A05: Gaps in the sidewalk network, including missing crosswalks.		◆	◆	◆	◆
A06: Sidewalks and/or bike lanes lack a buffer from moving vehicular traffic.	○	◆	○	○	○
A07: Recent roadway projects that have not included enhanced accommodations for pedestrians or bicyclists.	○	○	◆	○	◆
A08: Major state routes act as barriers to pedestrian activity due to difficult crossings and lack of pedestrian and bicycle infrastructure.			◆	○	
A09: Sidewalks, curb ramps, and/or crosswalks are in poor condition.		○	○	◆	◆
A10: Poor lighting that makes it difficult to see pedestrians and bicyclists.	○	○	○	◆	◆
A11: Missing ADA curb ramps or other accessible features.	○	○	○	◆	○
(L)AND USE					
L01: Low-density development with limited connections between land uses.	◆	◆	◆		
L02: Critical services, including supermarkets, pharmacies, healthcare services, etc. are located outside of the transect.	◆	◆		◆	◆
L03: Limited access to employment opportunities.	◆	◆		◆	◆
L04: Lack of affordable, mixed-use, and walkable development.	○		◆		
L05: Zoning polices encourage trips by private vehicles.	◆	○	◆	◆	○
(S)AFETY					
S01: High vehicle speeds, unsafe passing behaviors, and/or limited lighting on roadways in this transect.	◆		◆	◆	◆
S02: Vehicles cutting through residential streets to avoid congestion on arterials.		◆	○	○	○
S03: Lack of driver compliance for yielding at crosswalks.	○	◆	○	◆	◆
S04: On-street parking that impacts sight distance and the ability to see turning vehicles, pedestrians, and bicyclists.		○		◆	○
(T)RANSIT					
T01: Limited access to transit, particularly to east-west service.	◆	◆	◆	◆	◆
T02: Difficulty accessing transit stops due to lack of infrastructure for first-mile/last-mile connections.	○	○	◆	○	◆
T03: Difficulty accessing transit due to missing or damaged rider amenities at stops, and/or lack of ADA accessibility.	○	○	◆	◆	◆
T04: Low frequency transit services with limited operating hours, particularly late-night and on weekends.	◆	◆	◆	◆	◆
T05: Unreliable transit operations and difficulty making connections.	○	○	○	◆	◆
(O)THER					
O01: Seasonal traffic congestion negatively impacts mobility and parking within the transect.	○	○	○	○	◆



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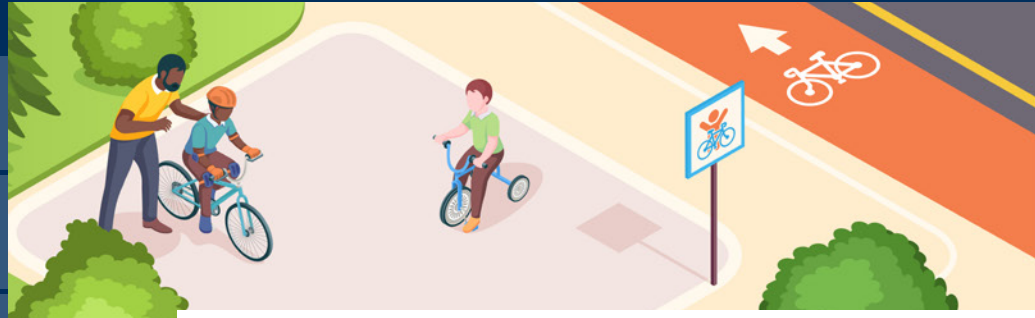
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Toolkit of Strategies to Mitigate Barriers



Based on the barriers identified above, a toolkit was developed to outline the strategies and tools that could be used to mitigate the County's mobility barriers.

The tools in the toolkit are grouped into the following nine strategy statements:

- Strategy 1.** Adopt design standards that support active modes like walking, biking, and scootering for all users.
- Strategy 2.** Develop multi-modal programs that prioritize mobility for the County's transportation disadvantaged populations.
- Strategy 3.** Improve County-wide active mode connections between neighborhoods, land uses, and municipalities.
- Strategy 4.** Consider improving access to transit by addressing transit stop conditions and first- and last-mile challenges.
- Strategy 5.** Investigate potential improvements to transit service and explore increasing transit connections to major activity centers to the west of the County.
- Strategy 6.** Implement policies that encourage mixed-use, multi-modal-supportive development patterns that provide a variety of housing options.
- Strategy 7.** Improve connections between the County's transportation disadvantaged populations and critical services necessary for wellness such as healthcare, education, recreation, grocery stores, and pharmacies.
- Strategy 8.** Improve safety for all roadway users.
- Strategy 9.** Enhance transportation-supported sustainability and resilience efforts.

Each strategy consists of a series of tools that could be implemented to satisfy the strategy. Each tool is associated with the transect(s) that it applies to, the parties responsible for implementation, implementation timeline, and magnitude of cost. The strategies and 64 associated tools are outlined in Appendix C: Limiting Effects and Positive Solutions.

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Strategy 1: Adopt design standards that support active modes like walking, biking, and scootering for all users.

Tool 1A: Develop a universal design standard.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Implementers	Monmouth County Municipalities, NJ TRANSIT, NJDOT, Municipalities
Cost Range	\$ (policy only)

i Description

More than 375 public comments submitted through the survey mapping tool (see Appendix A) related to a need to enhance pedestrian and bicycle infrastructure across the County. Transportation infrastructure and building design standards are managed by a complex set of documents and jurisdictions. For example, Monmouth County uses American Association of State Highway and Transportation Officials (AASHTO) standards for the design of transportation facilities, the ADA requires specific accessibility features on public buildings, and building codes specify how buildings are constructed, and zoning codes determine how developments and their uses relate to the space around them. As the County and its municipalities work toward enhancing active mode infrastructure, they should consider the needs of all users, including elderly individuals and those with disabilities when analyzing and revising the standards and guidelines that they develop and use to ensure transportation infrastructure, from roads to transit shelters, accommodates all users. This tool emphasizes creating inclusive spaces that meet the broadest range of needs, promoting equality and eliminating barriers to mobility and access.

☰ Potential Example Application

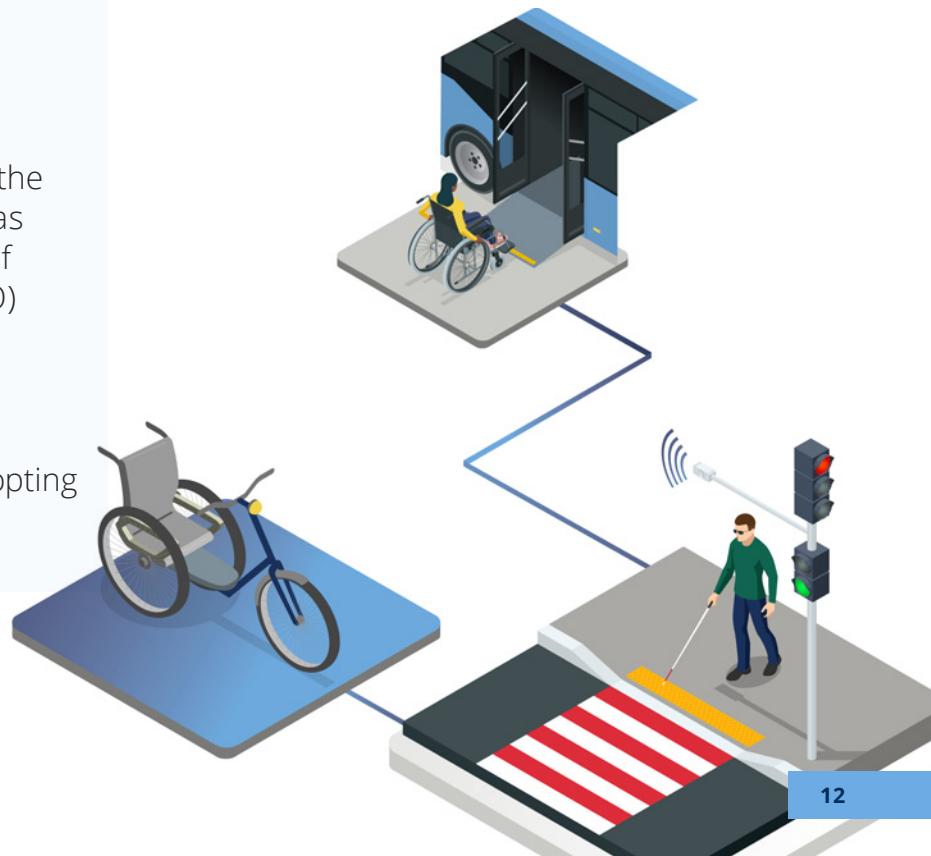
Implementers of bikeshare programs could take one step further and provide a variety of designs that accommodate differently abled users. See Figure 4 for an example. Jurisdictions that have not yet done so should consider adopting strong Complete Streets policies. Guidance and technical assistance is available from the NJ Bicycle and Pedestrian Resource Center at: <https://njbikeped.org/about-complete-streets-in-nj/>.



Figure 4: A bikeshare program can incorporate accessible bikes like the one shown below to be used by those with mobility challenges. (Image Source: Shared-Use Mobility Center)

✓ Action Items

- All jurisdictions should regularly review their standards, regulations, guidelines, and guidance based on the latest guidance from sources such as AASHTO and National Association of City Transportation Officials (NACTO) to ensure that they encourage active transportation and personal mobility for differently abled users.
- All jurisdictions should consider adopting strong Complete Streets policies



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Tool 1B: Update sidewalk ordinances and regulations to ensure their construction, and their design to adhere to the latest standards and design guidelines as a minimum.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Implementers	Municipalities, Monmouth County, NJDOT
Cost Range	\$ (policy only)

i Description

The highest number of survey responses (288) obtained through the online survey mapping tool (Appendix A) related to pedestrian conditions in the County, and approximately 65 percent of the comments were about missing sidewalks and/or crosswalks. Furthermore, based on the assessment of the data presented in Appendix B, the provision and quality of infrastructure are significant issues with clusters of pedestrian needs identified in municipalities such as Asbury Park, Freehold, Howell, Oceanport, Eatonton, Atlantic Highlands, Keansburg, and Keyport, as well as along major corridors including US Route and NJ Routes 9, 33, 79, 35, 36, and 71.

Providing sidewalks is cost effective, as well as the simplest way to enhance pedestrian connectivity in a community. However, to encourage pedestrian activity, sidewalks must be designed in a manner that provides enough width and separation from moving traffic. A review of municipal zoning codes indicated that most Monmouth County municipalities have sidewalk requirements that allow sidewalks to be excluded from a development when it is not immediately clear that there is pedestrian demand.

☰ Potential Example Application

Many municipalities that require sidewalks but provide exemptions at the discretion of the reviewing board, such as if it is determined that the facility would not be used (see Appendix A). The Township of Manalapan has addressed this by amending their Improvement Standards ordinance (§ 95-9.2) requiring developers to pay into a Sidewalk and Curbing Capital Contribution Fund in cases where the reviewing agency grants an exception to the installation of sidewalks. All jurisdictions should review their sidewalk ordinances or other related regulations and consider the action items presented below.

✓ Action Items

- Require the construction of sidewalks along street frontages for new development or when an existing development is applying for modifications regardless of demand.
- Require new or enhanced sidewalk construction as part of all roadway infrastructure projects. Ensure that new sidewalks meet current ADA guidelines.
- Update sidewalk width requirements to maintain the pedestrian through zones⁴ as defined by the latest edition of the current adopted design manual; i.e. AASHTO, NJDOT, and NACTO as appropriate. These design guidelines are preferred, with additional space provided when possible. Ideally, if context allows provide a minimum of:

⁴ A pedestrian through zone is the area of the sidewalk where pedestrians are walking which must be free of obstructions such as street furniture, trees, poles, signs, etc. Engineering judgement may be needed when working in historic or established commercial/downtown areas.

💡 Priority Tool

See Table 3 for All tools to consider for Priority Implementation

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- 6-feet in residential areas.
- 8-feet in downtown/commercial areas in the rural, Village, and Suburban transects.
- 12-feet in downtown/commercial areas in the Town Center and Shore Town transects.
- Update sidewalk design guidance to, and whenever possible include a buffer zone to separate pedestrians from the curb and moving traffic (Figure 5), to the adopted standard, with additional space provided when possible. Ideally, if context allows provide a minimum of:
 - 5-foot wide buffer on lower speed roadways (≤ 35 mph). Consider the context of the environment to determine if a vegetated buffer, or mixed landscaped and hardscaped buffer is appropriate.
 - 10-foot wide buffer on higher speed roadways (≥ 40 mph).
 - Consideration should be given to using buffer spaces for green stormwater management, street trees, lighting, transit stops, and bikeshare/e-scooter stations, etc.
 - A raised bicycle pathway could also act as a buffer between the sidewalk and curb.
 - Where sidewalks exist along the curb and where adding buffer space is not possible, consider reallocating a portion of the roadway to act as a buffer space by converting it to on-street parking or a bike lane.
- Create a sidewalk construction fund for developers to contribute to in lieu of building sidewalks when mobility would not be immediately improved by their construction, as determined by the reviewing board or agency.



Figure 5: Wide sidewalks with a generous buffer provides a more pleasant walking experience. Buffer areas like the one shown in this photo can be used for other community-enhancing amenities such as street trees, landscaping, and green storm water management. (Image Source: NACTO)

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Tool 1C: Include bicycle and pedestrian elements in all intersection projects regardless of demand.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Implementers	Municipalities, Monmouth County, NJDOT
Cost Range	\$ - \$\$

i Description

Similar to Tools 1A and 1B, the impetus for this Tool is based on the substantial feedback received via the online survey mapping tool, where over 375 comments were regarding pedestrian and bicycle infrastructure needs. Crash data indicates that over 80 percent of crashes involving pedestrians and bicyclists occur at intersections. Therefore, all projects affecting intersections should identify pedestrian and bicycle accommodations that reduce crossing distances, increase pedestrian and bicycle visibility and priority, and enhance accessibility.

☰ Potential Example Application

At publication, the County and the municipalities of Asbury Park, Bradley Beach, Highlands, Holmdel, and Red Bank have been awarded Safe Streets for All grants and will be developing Comprehensive Safety Action Plans. This effort will identify high bicycle and pedestrian crash locations with the latest available data. Based on the 2019-2022 crash data, the following corridors were identified as having intersections with pedestrian and bicycle crash clusters:

- The US Route 9 corridor, particularly within the area of Union Hill Road, and around the NJ Route 33 interchange.
- The NJ Route 35 corridor, particularly at the Commons/Shrewsbury Plaza intersection, the Deal Road intersection, and between NJ Route 66 and NJ Route 33.
- The NJ Route 71 corridor, particularly at the intersection with Sea Girt Avenue, and along the corridor between Asbury Park and Belmar.
- Memorial Drive in Asbury Park
- Broadway in Long Branch
- NJ Route 36 in Sea Bright
- Main Street in Keansburg
- Main Street in Freehold Borough



Priority Tool

See **Table 3** for All tools to consider for Priority Implementation

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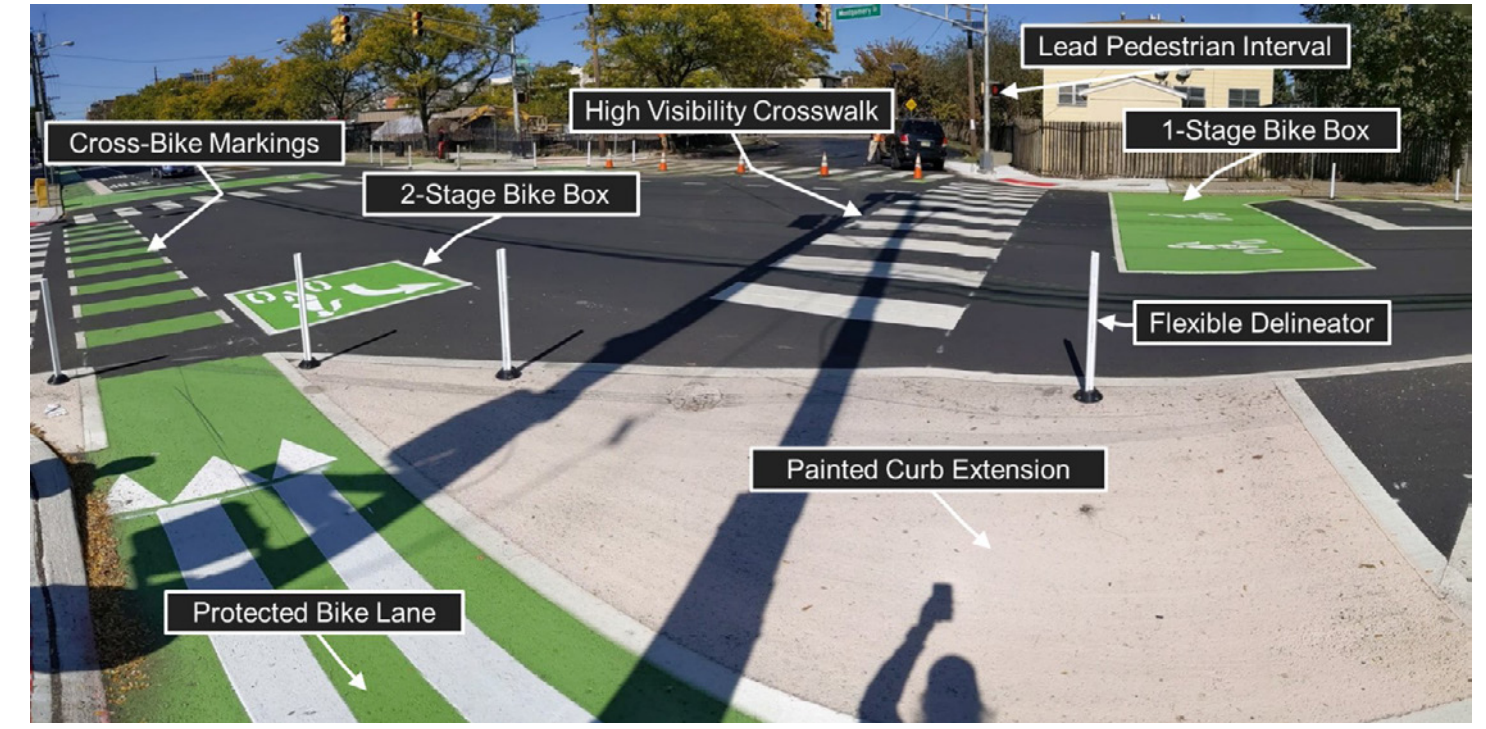
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✓ Action Items

- When addressing intersection operations, determine the feasibility of pedestrian enhancements such as **(Figure 6)**:
 - *Removing channelized right turns.*
 - *Reducing turning radii to require slower turning speeds.*
 - *Painted or permanent curb extensions to shorten crossing distances. If painted curb extensions are installed, provide flexible delineators to discourage vehicle incursions into the pedestrian area.*
 - *Directional curb ramps designed to the most current accessibility requirements.*
 - *Median refuge islands (10-foot in width desired, six-foot minimum), particularly where pedestrians must cross four or more travel lanes.*
 - *High-visibility continental style crosswalks.*
 - *Lead pedestrian intervals at traffic signals, which starts the "Walk" time before vehicles receive the green.*
 - *Audible pedestrian signals to assist those with visual impairments.*
 - *Enhancing signing and pedestrian-actuated rectangular rapid flashing beacons at unsignalized crossings.*
 - *Buffers around intersections that prevent vehicles from parking too closely to corners and obscuring sight distances.*
 - *Add pedestrian-only phase to traffic signals at difficult to cross intersections and roads.*



- *Implement public outreach and education campaigns, such as The North Jersey Transportation Planning Authority's "Be Street Smart NJ" campaign; information and materials are available at beststreetsmart.nj.org.*
- Evaluate the feasibility of the following bicycle treatments when conducting an intersection project:
 - *Bike lanes with cross bike markings through all intersection conflict zones.*
 - *Two stage bike boxes for turning bikes.*
 - *Protected intersections*

Figure 6: Examples of desirable pedestrian and bicycle priority treatments at a signalized intersection in Jersey City. (Image Source: Stantec)

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Tool 1D: Consider implementing policies that encourage the installation of mobility improvements and proven safety countermeasures when the roadway is scheduled for resurfacing or other improvements.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Implementers	Municipalities, Monmouth County, NJDOT
Cost Range	\$ (policy only)

i Description

Conceptualizing rights-of-way as belonging equally to all users, rather than primarily to motorized vehicles, requires mainstream deployment of infrastructure that serves active users. When reviewing the large number of pedestrian and bicycle related public comments submitted for this study in combination with crash data, bicycle and pedestrian volumes, and Bicycle Level of Stress ratings (Appendix B), it is apparent that Monmouth County needs more pedestrian- and bicycle-oriented infrastructure, particularly to connect communities and land uses (for example, commercial to residential). Pedestrian and bicycle infrastructure is both more cost-effective and equitable to address the needs of all roadway users at once, rather than prioritizing the needs of drivers. The opportunity for additional cost and construction time savings exists when a road is being resurfaced or otherwise improved, such as in the case of a real estate development that requires a road widening or other improvement.

While there is an economic advantage to doing maintenance and improvement projects simultaneously, costs will increase. Rather than reduce the scope of an agency's resurfacing program, consider combining funding sources in order to take advantage of the economic and time benefits of doing the improvements alongside maintenance.

✓ Action Items

- Update policies to encourage projects to automatically include upgrades to pedestrian infrastructure.
- Investigate the potential for road diets on multi-lane roadways to calm traffic, reduce crossing distances, and provide room for bicycle and transit infrastructure.
- Consider benefits to pedestrians and cyclists, not just drivers, when prioritizing maintenance and improvement projects.
- Where plans have identified bike routes, construct bike lanes or multi use paths.
- Use community input gathered in the participatory mapping process to identify inadequacies impacting active transit users.
- Plan resurfacing and maintenance so that the installation of mobility improvements and proven safety countermeasures are able to occur simultaneously.

Success Story

Massachusetts Department of Transportation (MassDOT) has updated its design guidelines to require sidewalks, bike lanes, and transit amenities on State Roadway projects.

[**New 'Controlling Criteria' Will Require Sidewalks, Bike Lanes In State Road Projects - Streetsblog Massachusetts**](#)



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Tool 1E: Activate public spaces, such as schools, libraries, parks, and municipal buildings as mobility hubs.

Transects	Village, Suburban, Town Center, Shore Town
Implementation Timeline	Medium-Term (5-10 years)
Implementers	Municipalities, Monmouth County
Cost Range	\$ - \$\$

Description

To support improvements to pedestrian and bicycle infrastructure, capitalize on the community-focused nature of public spaces to provide space for mobility hubs to help address equitable access to bicycles and scooters. Mobility hubs provide centralized access to a variety of modes with a focus on providing a range of choices that are affordable, sustainable, and environmentally friendly. Within Monmouth County these mobility hubs should provide access to bikes and scooters (including provision of accessible devices), areas to access rideshare and taxi services, and transit (if available). A network of mobility hubs, coupled with the provision of pedestrian and bicycle/scooter infrastructure will go a long way to enhancing access to active modes in the County and supporting their integration with other modes.

Potential Example Application

The Monmouth County libraries, parks, and other public facilities could be considered for activation as mobility hubs that could be expanded in the future. Initial implementation should be considered in areas with higher concentrations of low-income and zero-vehicle households in the Town Center and Shore Town transects.

There is an existing Monmouth County project to install electric vehicle chargers on County property, starting with the libraries in Manalapan and Shrewsbury.

Action Items

- Develop County-wide and/or municipal active mode master plans that prioritize connecting community assets and public spaces.
- Work with vendors and local governments to provide bikeshare or scooter-share services across the County. Prioritize single systems to make it easier to use across the County.
- Capitalize on public libraries' strong community ties and public trust. Enable public and school libraries to include bicycles as part of their "Library of Things" programming, in which patrons can "check out" a bicycle. If bikeshare is available in the area, enable libraries to include bikeshare access fobs as part of their "Library of Things" programming, in which patrons for whom bikeshare program costs may be a financial barrier can nevertheless participate.
- Install electric vehicle chargers on publicly accessible County property, including but not limited to libraries, parks, and offices.

Success Story

At Madison, Wisconsin's nine public libraries, residents can check out electric bicycles.

[Bike Libraries Are Boosting Access To Bikes Across The U.S. \(nextcity.org\)](https://www.nextcity.org)

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Tool 1F: Provide street furniture, rest areas, and benches.

Transects	Village, Suburban, Town Center, Shore Town
Implementation Timeline	Medium-Term (5-10 years)
Implementers	Municipalities, Monmouth County, NJDOT
Cost Range	\$ - \$\$

i Description

Encourage walking, biking, and transit use by providing places for people, especially seniors, people with disabilities, and people traveling with children, to stop and rest. These measures can help make longer walking distances more manageable, provide community space, and can be considered elements of street scaping. Consideration should be given to incorporate shade-creating devices in some areas to manage the negative impacts of climate change-induced heat on active modes.



≡ Potential Example Application

Street trees and furniture enhance the pedestrian realm and encourage walking by providing shade, opportunities to rest, and an engaging environment. Where sidewalks exist, many lack these features. Organizations with jurisdiction over these areas should consider a streetscaping program that helps to make pedestrian access between the residential and retail areas more accessible and comfortable for elderly, young, and disabled residents, particularly during hot summer months. A specific area that was identified in this study although others are expected to exist in all transects, is CR520, Newman Springs Road on the boundary of Red Bank and Shrewsbury. Pedestrians from the surrounding lower-income areas of the west side use this sidewalk to access local retail establishments as well as the grocery store.



Figure 7: Art pieces can be designed to provide shading of seating areas along sidewalks. (Image Source: Maricopa Association of Governments)

✓ Action Items

- Incorporate street furniture, rest areas, and benches into all sidewalk projects, where space permits.
- Consider the use of public art as well as volunteer installation and maintenance to create a sense of community ownership and reduce costs.
- Include provisions for multi-functional street furniture, wayfinding and signage, and parklets/outdoor seating.
- In areas with limited shade, install trees or other shade-creating devices along the sidewalk and over seating areas (**Figure 7**).

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Tool 1G: Enhance rural roads through the addition of bicycle and pedestrian infrastructure in the vicinity of commercial and cultural centers. Add bicycle facilities to connect these centers.

Transects	Rural/Natural
Implementation Timeline	Long-Term (>10 years)
Lead Implementers	Municipalities
Supporting Implementers	Monmouth County, NJDOT
Cost Range	\$\$ - \$\$\$

Description

Rural communities are often left out of the discussion of pedestrian and bicycle infrastructure due to their low densities and dispersed nature of development. However, sidewalks, crosswalks, and bike lanes are critical elements that can be used, in combination with traffic calming measures, to reduce vehicle speeds through commercial and cultural centers. Furthermore, public comment and stakeholder outreach has indicated that recreational biking is a significant activity in the County's Rural/Natural transect and thus providing bicycle facilities along rural roadways could help improve safety for bicyclists but also encourage residents of these areas to utilize biking to get around for certain trips. This applies particularly to roads that lead to commercial, civic, and cultural centers, as well as parks, paths, and other attractions.

Potential Example Application

Recreational cyclists are often seen enjoying rides through the rural landscapes of Monmouth County, however the pavement width in these areas is often constrained with narrow shoulders, some of which are less than one foot wide. Road owners should consider upgrading popular cycling corridors with Bicycle Level of Stress levels of three and four to enhance bicycle visibility and separation from moving traffic. A current example is Monmouth County's project to improve County Route 527 (Siloam Road). The County has proposed several mobility enhancing features including construction of a roundabout, widening of shoulders, and improvement in sight distances. The project is currently in the Preliminary Engineering phase.

Priority Tool

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✓ Action Items

- Install sidewalks and crosswalks as outlined in Tools 1A and 1B within rural villages, commercial areas, and cultural centers as part of roadway projects, such as resurfacing.
- Update development regulations to include sidewalks, crosswalks, multi-use pathways, and/or bike lanes along all site frontages and provide non-motorized connectivity within the site.
- When conducting a roadway resurfacing project, enhance the shoulder areas to the adopted mobility standard, and if possible beyond the minimum required, as follows (Figure 8):

- Provide paved and stable surfaced shoulder areas as wide as context allows to provide maximum mobility benefits. Refer to the FHWA's Small Town and Rural Multimodal Networks Guide⁵ for examples, ideally providing improvements up to or beyond its guidance.
- Stripe a small buffer area on the shoulder edge, maintaining at least 6-feet for bicycles. Consider the use of rumble strips near potential conflict areas.
- Install bicycle route signs and pavement markings to emphasize that bicycles will be in the shoulder area for passing vehicles.

- Consider the potential for enhanced shoulder areas to also be used by pedestrians.

⁵ See guidance provided in FHWA's Small Town and Rural Multimodal Networks guide: https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwahep17024_lg.pdf.

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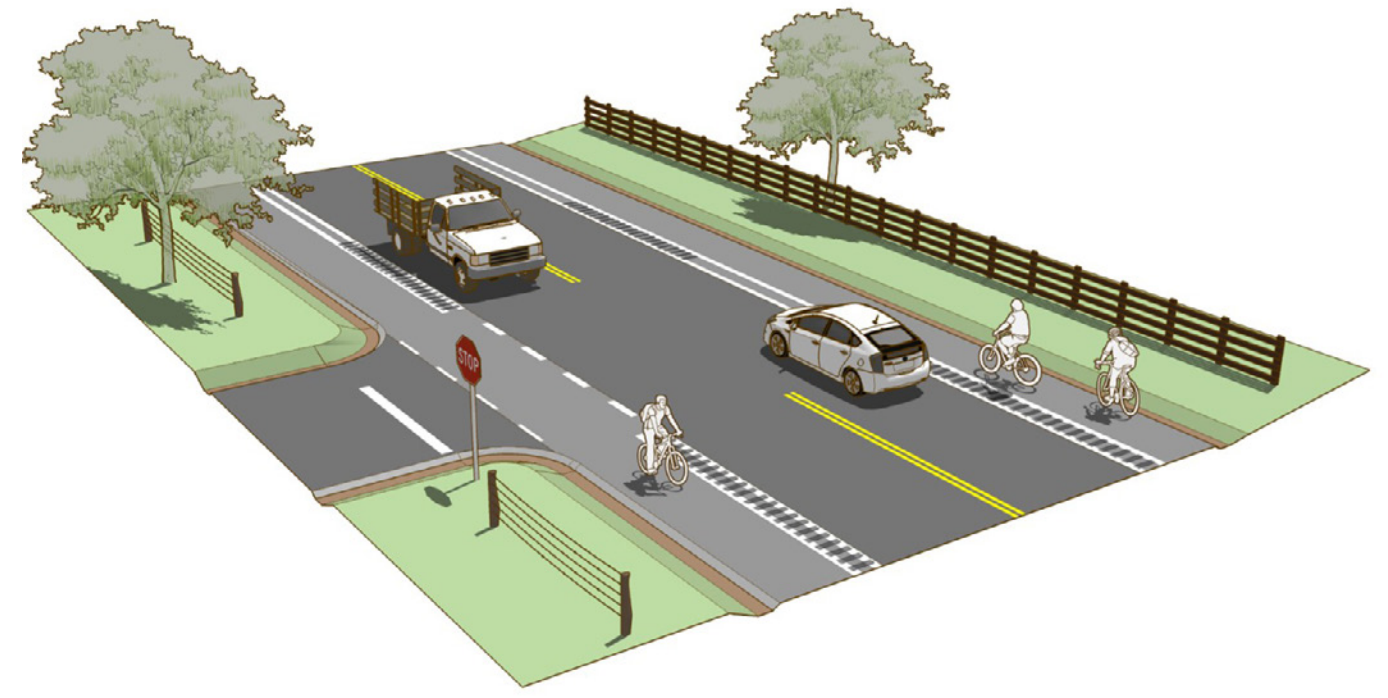


Figure 8: A paved shoulder area with a buffer can enhance the safety and accessibility of a roadway shoulder when used as a bike lane. (Image Source: FHWA Small Town and Rural Multimodal Networks)

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Tool 1H: Reduce seasonal visitor reliance on personal vehicles through expanded wayfinding, bike and scooter share, and transit and rideshare programs.

Transects	Town Center, Shore Town
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementers	Municipalities
Supporting Implementers	Monmouth County
Cost Range	\$ - \$\$

Priority Tool

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Figure 9: Wayfinding signs that provide estimated travel times orient visitors to a town's layout and encourages them to bike short distances. (Image Source: Bike Provincetown)

Description

When seasonal visitors arrive at the County's shore communities they typically do so in a car. Findings from the County's 2021 Monmouth Within Reach study indicated that the majority of visitors who access the Jersey Shore, whether for a day trip or an extended period of time, drive to the County's shore towns. For example, approximately 7 million people visited Asbury Park in 2019 (see Monmouth Within Reach), and during peak weekends travel time between the Parkway and Asbury Park could increase from 22 minutes to over 45 minutes. Changing the arrival mode to the shore is very difficult given that people tend to travel with luggage and supplies for their vacation. However, once they arrive, measures can be taken to encourage them to make short trips to shop, dine, and recreate via other modes like biking or scootering. Removing only a small percentage of vehicles from the roadway network by encouraging more walking, biking, scootering, and transit use can have a measurable impact on local traffic operations and safety.

Potential Example Application

Superpedestrian, the former operator of Asbury Park's LINK scooter rental program, indicated that during the summer months the number of scooter rentals in Asbury Park rivaled that of many major US cities. Asbury Park could coordinate with adjacent municipalities to extend interoperable services. At the time of publication Asbury Park has replaced Superpedestrian's service with scooters from Veo.

Action Items

- Implement the recommendations contained in the County's tourism and event travel demand study: Monmouth Within Reach.
- Work with bike and/or scooter rental companies to expand shared services to all Shore towns in the County.
- Keep the barriers to access, such as complex account creation processes, low for visitors.
- Enhance bicycle infrastructure, such as parking protected bike lanes and cycle tracks that are more comfortable to use for a broader range of experience and ability levels.
- Engage in an information campaign to inform visitors of their mobility options once they arrive.
- Add signage that guides visitors and residents to town centers, assets, tourism points of interest, and details walking and biking distance, which can help with navigation and establish walking or cycling as a normative means of travel (**Figure 9**).

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Tool 1I: Address knowledge gaps related biking and scootering.



Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementers	EZ-Ride, NJ Bike and Walk Coalition, School Districts, Not for Profits
Supporting Implementers	NJDOT, NJ TRANSIT, Monmouth County, Municipalities
Cost Range	\$

Description

As bike lanes and multi-use pathways are installed, and as bikeshare and scooter rental programs expand, cyclists continue to extend trips on transit, and as e-bikes continue to gain in popularity there will be an influx of new riders that may not know how to access, operate, or use the infrastructure in a safe manner. Education of riders and drivers will become critical to reducing violations and promoting safety.

- Action Items**
- Provide bilingual and culturally relevant bike education and access programs to adults, youth, and children prior to bike lane implementation.
 - Address challenges like planning routes, navigating streets with cars, and quick fixes for common bike problems.
 - Work with libraries, schools, cycling shops and groups, and community organizations to host events.
 - Consider partnering with the New Jersey Bike and Walk Coalition.
 - Provide clear guidance on regulations related to traveling on a bike/ebike/ scooter to prevent violations.

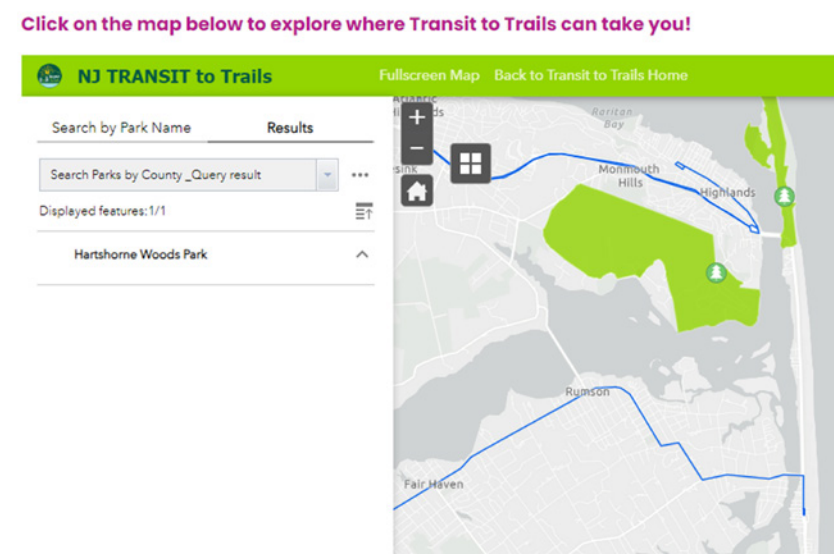
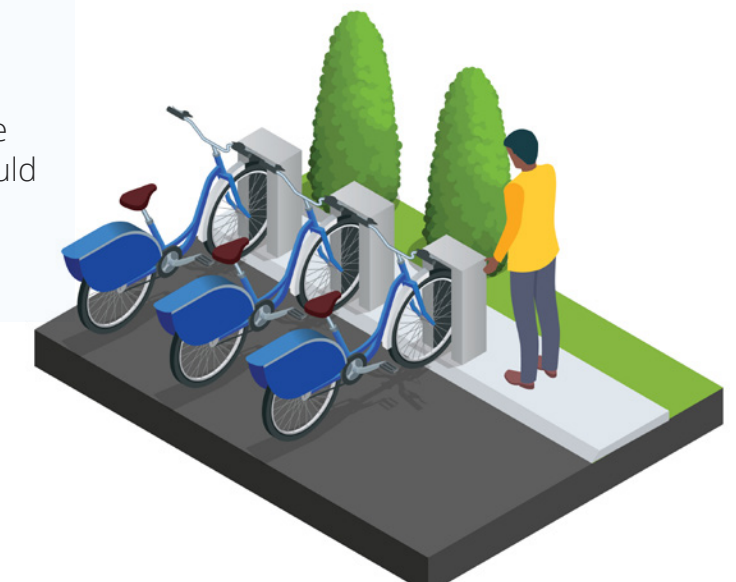


Figure 10: NJ TRANSIT maintains a resource dedicated to assisting people access parks and trails using their services, and guides riders on how to travel with their bicycles (<https://www.njtransit.com/trails>)

Potential Example Application

EZ Ride could extend its successful Safe Routes to School education initiatives to other vulnerable populations. to engage in a pedestrian, bicycle, and scooter safety campaign through schools and libraries. Information should be designed in a manner that make it accessible to the County's vulnerable populations and should encourage participation by people of all ages.



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Tool 1J: Continue development of and education on electric bicycle and scooter regulations.

Transects	All
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementers	Division of Highway Traffic Safety, NJDOT, Municipalities
Supporting Implementers	Monmouth County
Cost Range	\$ (policy only)

Description

i Electric bicycles and scooters have expanded the overall potential of these modes as viable for a variety of trip types, distances, and physical abilities. The higher-speed nature of these devices creates potential safety concerns when mixed with pedestrians, standard bikes and scooters, and vehicle traffic. New Jersey regulates low powered electric scooters and e-bikes as bicycles, with higher powered motorized bicycles treated with more concern, according to the New Jersey Bicycle and Pedestrian Resource Center. However, public comments and observations by the study team show that e-bike regulations are unclear to the general public, riders and other travelers alike. Several public comments noted the increased use of e-bikes and their importance to lower-income communities but also noted that they can create safety concerns when ridden on sidewalks and pathways. Additionally, members of the public relayed they ride e-bikes on sidewalks, and have seen others riding on sidewalks.

☰ Potential Example Application

Regulations and education should continue to be developed for electric bikes and scooters by the Division of Highway Traffic Safety and adopted by municipalities. Currently low speed scooters and e-bikes are regulated like bicycles, and higher powered motorized bicycles have stricter regulations. The installation of informative signage would assist travelers in abiding by adopted rules and regulations.

These regulations should discuss use of these devices on public right-of-way and on trails within parks. However, regulations should not disproportionately impact the County's transportation disadvantaged populations, which use these modes more often to access employment.

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- ✓ Action Items**
- Research and evaluate how other municipalities, counties, and states are handling regulation of electric bikes and scooters.
 - When developing regulations, consider how these regulations may negatively impact the County's transportation disadvantaged populations, which use these modes more often to access employment.
 - When developing mixed-use pathways/trails, provide separation between pedestrians and bicyclists (**Figure 11**).
 - Post rule and regulations so travelers are aware of them to enhance compliance.



Figure 11: The Delaware River Trail has a cycle track that is separated from the pedestrian area. (Image Source: Delaware River Waterfront)

Figure 12: The New Jersey Bicycle and Pedestrian Resource Center's flyer on e-bike regulation. (<https://njbikeped.org/micromobility/>)

New Jersey's E-Bike & E-Scooter Law

VEHICLE TYPES	PROPULSION METHOD	POWER SOURCE	MAX ASSISTED SPEED (MPH)	LICENSE & REGISTRATION	HELMET	PARK ON THE SIDEWALK?	TAKE ON TRANSIT?
LOW-SPEED ELECTRIC SCOOTER	Kickstart and throttle	Electric	19mph	No	Under 17 years old	If not blocking access	Yes*
LOW-SPEED ELECTRIC BICYCLE	Pedal and optional throttle	Electric (<750W)	20mph	No	Under 17 years old	If not blocking access	Yes*
MOTORIZED BICYCLE	Pedal and optional throttle	Gas or Electric (<50cc/<1.5BHP)	28mph	Required	Required	No	No

<https://njbikeped.org/new-law-legalized-e-bikes-and-e-scooters-in-new-jersey/>
* Restrictions may vary by agency. PATH and NJT restrict non-collapsible vehicles during peak travel times. Bus racks have limited availability and may not fit all bikes.

- E-mobility devices make it easier to:**
- Save on gas, parking, and rideshare costs.
 - Access destinations without needing to walk or drive.
 - Reduce carbon emissions.
 - Make "first-mile" and "last-mile" connections for bus and train trips.
 - Climb hills and keep up with traffic without getting sweaty.
 - Help people with limitations due to age, physical fitness levels, or disabilities.

- Low-speed e-bikes and e-scooters are regulated like bicycles. Drivers of low-speed e-bikes and e-scooters:**
- Must ride in the same direction as traffic and obey all traffic lights, signs, and signals.
 - Are advised to wear helmets to minimize potential head injury. Helmets are required in NJ for youth under age 17.
 - Must park devices without blocking pedestrian and/or wheelchair access.
 - Should not ride on sidewalks. Off-road trails generally do not allow motorized bicycles, but may allow e-bikes and e-scooters. Regulations vary by municipality and county. Check all local ordinances and policies. Ride slowly in areas with pedestrians.



For more information, visit the NJ Bicycle and Pedestrian Resource Center at njbikeped.org or the NJ Safe Routes Resource Center at saferoutesnj.org. 01.13.22

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Strategy 2: Develop multi-modal programs that prioritize mobility for the County's vulnerable populations.

Tool 2A: Develop a Transportation Equity Priority Areas framework for identifying where pedestrian and bicycle improvements would impact transportation disadvantaged populations.

Transects	All
Implementation Timeline	Short Term (<5 years)
Implementers	NJDOT, Monmouth County, Municipalities
Cost Range	\$ (policy only)

i Description

Transportation disadvantaged people, including low-income, minority, disabled, young, and elderly populations have traditionally been heavily reliant on walking, cycling, transit, and other modes that don't require car ownership or operation like taxi services, and more recently rideshare services like Uber and Lyft. However, as indicated in the data (see Appendices A and B), many of the County's transportation disadvantaged populations rely most have historically been left out of transportation investment decisions. It is important for municipalities and the County to identify and prioritize transportation disadvantaged communities for pedestrian, bicycle, and transit investments.

≡ Potential Example Application

The Monmouth PATHS Access for All Study is an important step to enhancing mobility equity in the County. However, with such a broad study area it was not possible to study specific and localized mobility and equity conditions. Therefore, the County should consider working with municipalities to establish a framework that can be applied to more localized conditions, and apply the findings in this study. Based on the transect analysis presented in this report, this effort should begin in Town Center transects where there are the highest concentrations of low income, minority, and zero-vehicle households.

✓ Action Items

- Develop a Transportation Equity Framework tool that can be used by the County and its municipalities to identify priority investment areas.

S Success Story

As part of its Racial Equity Framework for Transportation, the City of Minneapolis developed a Transportation Equity Priority tool for prioritizing where improvements to transportation could have this greatest equity impact. The chart shown here provides a scoring system that the City developed to help identify priority areas for transportation equity. For more information refer to the study here:

[www2.minneapolismn.gov/media/content-assets/www2-documents/residents/Racial-Equity-Framework-for-Transportation-\(REF\).pdf](http://www2.minneapolismn.gov/media/content-assets/www2-documents/residents/Racial-Equity-Framework-for-Transportation-(REF).pdf)

Transportation Equity Priority (TEP) Score	Points
Base Equity Score	100
Residents of color	60
Lowest-income population	20
Lower-income population	10
Lack of concentrated affluence	10
Equity+ Score	50
Vehicle availability	15
Commute time	15
Land temperature	10
Population density	10

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Tool 2B: Address financial barriers to cycling and scootering.

Transects	All
Implementation Timeline	Short Term (<5 years)
Lead Implementer	Not For Profit Organizations
Supporting Implementers	Anyone
Cost Range	\$ - \$\$

i Description

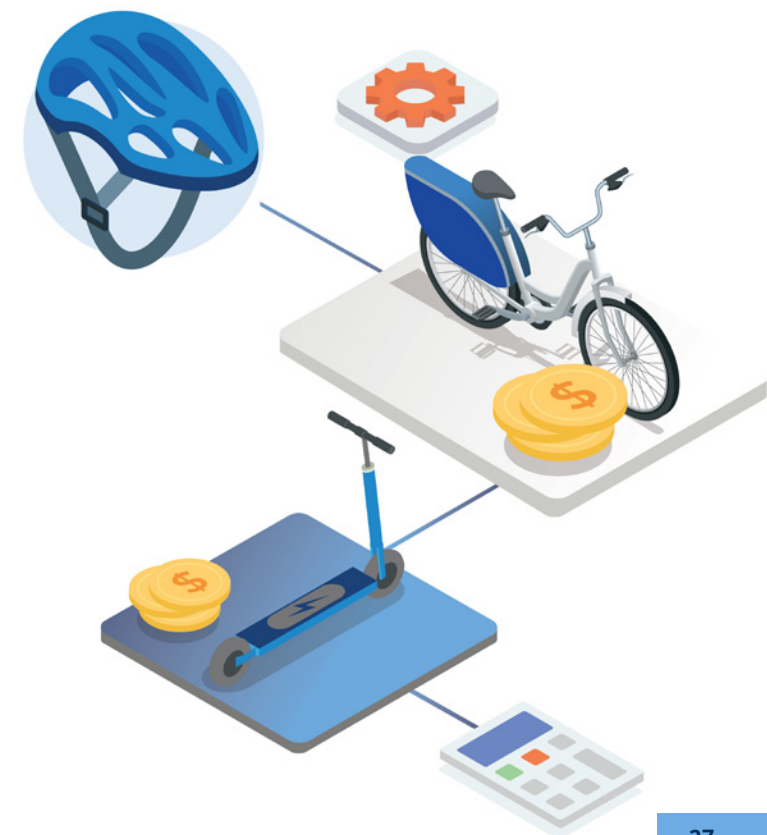
The cost of bicycles, scooters, maintenance, and safety equipment like helmets can limit access. Implementing methods to reduce their cost and adoption can encourage active transportation and improve safety outcomes.

≡ Potential Example Application

The transportation management association for Hudson County, Hudson TMA, runs a bike rehab program that repurposes donated and abandoned bikes for use by adults who cannot afford a bicycle for their trip to work. This program is replicable by a wide variety of entities. More information is available at <https://hudsontma.org/bike-rehab-program/>, or by contacting them at info@hudsontma.org.

✓ Action Items

- Implement a bike rehab/donation program for adults who cannot afford a bicycle who would like to ride to work.
- Partner with local nonprofits to coordinate and/or expand bike giveaway/donation/repair programs.
- Fund programs at local schools or libraries to teach youth and adults to fix bicycles.
- Consider partnering with Asbury Park's Second Life Bikes, which runs a youth-facing Earn-A-Bike program in which youth learn bike mechanics skills while repairing donated bikes.



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Tool 2C: Consider mitigating the impact of arterials on neighborhood connectivity, especially in historically disadvantaged and overburdened communities.

Transects	Suburban, Town Center, Shore Town
Implementation Timeline	Medium-Term (5-10 years)
Implementers	NJDOT, Monmouth County, municipalities
Cost Range	\$\$ - \$\$\$

i Description

When non-interstate arterial highways, such as NJ Routes 33, 35, and 36, pass through disadvantaged and overburdened communities they create barriers to walking, biking, and transit access. Pedestrian and bicycle crash data (see Appendix B) show linear patterns along major corridors within the County. The crash data, when coupled with public comments, highlights the challenges that exist when trying to travel along or across these major corridors without a car. Road diet programs, speed reductions, and crosswalks to improve connectivity should all be considered to reduce the increased rate of pedestrian deaths often found in disadvantaged and overburdened communities.

The New Jersey Department of Environmental Protection maintains an Environmental Justice resource that contains information on New Jersey's Overburdened Communities, located at dep.nj.gov/ej.

☰ Potential Example Application

The US Route 9 and NJ Route 35 corridors have the highest number of combined pedestrian and bike collisions of any major state corridor in the County. NJDOT could consider evaluating crashes in/around the following areas along each corridor that pass near or through vulnerable communities with pedestrian and bike crash clusters:

- US Route 9 within Freehold Township, particularly within the area of the NJ Route 33 interchange; and,
- NJ Route 35 in Neptune.
- As of this publication, five municipalities as well as Monmouth County have been awarded grant funding for the development of Safe Streets for All Comprehensive Action Plans. These plans will analyze crash locations and prioritize safety investment in their jurisdictions. The County plans to reach out to Monmouth municipalities to provide them with data and provide an example for how to use it to prioritize projects in their jurisdiction.

✓ Action Items

- Develop safety plans that prioritize locations for safety investment.
- Implement road diet programs, speed reductions, and crosswalks with roadway projects, including resurfacing.

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Tool 2D: Build relationships and increase positive interaction with government through engagement through addressing infrastructure and service issues.

Transects	All
Implementation Timeline	Medium Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	NJDOT, NJ TRANSIT, Monmouth County
Cost Range	\$ - \$\$

Description

Addressing comparatively simple issues – cracked sidewalks, missing crosswalks, damaged streetlights, potholes – may help bolster or rebuild communities’ relationship with their local government and government agencies. These efforts can improve engagement with transportation disadvantaged communities in broader mobility planning and design efforts, while simultaneously improving mobility conditions.

Potential Example Application

A sidewalk network in poor condition, or an incomplete sidewalk network is a barrier to mobility. The public outreach effort for this study received over 50 comments regarding missing and damaged sidewalks in Keyport, and the study team has observed that it is not the only municipality with sidewalk network issues. Municipalities should conduct bike and walk audits within to identify priority locations for improvements to active transportation infrastructure with a focus on “quick win” projects.

 **Priority Tool**

See **Table 3** for All tools to consider for Priority Implementation

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✓ Action Items

- Empower community members and grassroots organizations to shape their own mobility landscapes. Equity can be improved by working directly and regularly with groups that are transportation disadvantaged, for example those led by or serve immigrants, people of color, people who are differently abled, and older adults.
- Create an inclusive culture of cycling or scootering through intentional engagement and placemaking by:
 - *Encouraging local bike education organizations and bikeshare programs participate in open street events that center community gatherings and street activation.*
 - *Include bicycling alongside other community concerns, such as workforce development, youth employment, affordable housing, and community service.*
 - *Help support or establish community bike shops, grassroots DIY spaces where residents can engage with cycling on their own terms, build relationships, obtain leadership opportunities, and have a “third space” where they can connect and socialize with other people.*

- *Support rides - or design routes - rooted in local culture, through which riders learn about community histories/activism/locally important spots. Make local history a relevant part of bicycle promotion, planning, and policy efforts.*
- *Recognize in policy discussions and decision making that cyclists and pedestrians are a diverse group of people who often walk or ride for different reasons, and that many who rely on these active modes do so as their transportation of last resort.*
- Define and track progress toward equity goals by:
 - *Conducting regular audits that evaluate the performance of active transportation infrastructure.*
 - *Engage the community in demonstration projects that help to educate the community while testing potential pedestrian or bicycle enhancements. The NJTPA hosts the Complete Streets Demonstration Library, which links municipalities and counties with technical assistance and materials to create projects ranging from parklets to temporary bike lanes. More information is available at: <https://www.njtpa.org/demonstrationlibrary.aspx>.*

- *Reporting on metrics such as quantity of new protected bike lanes installed in priority communities; percent cycling/walking mode share in disadvantaged communities; percent of risky intersections with added crosswalks; participation in local bike lending/distribution/sharing programs; percent of new Complete Streets miles implemented in low-income communities; walk/cycle audit scores.*

Success Stories

In Los Angeles, CicLAvia is a non-profit that catalyzes vibrant public spaces, active transportation, and good health through car-free street events. CicLAvia’s efforts have proven benefits documented by UCLA and the RAND Corporation.

<https://www.ciclavia.org/>

The Somerville Bike Kitchen in Somerville, Massachusetts is a volunteer-run bicycle repair cooperative that teaches bicyclists how to repair their own bike and helps to promote safe cycling for transportation and recreation.

<https://somervillebikekitchen.org/>

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Tool 2E: Seek funding for the installation, operations, and maintenance of mobility technology in the County's transportation disadvantaged communities.

Transects	Town Center, Shore Town
Implementation Timeline	Medium-Term (5 - 10 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County, NJ TRANSIT, NJDOT
Cost Range	\$ - \$\$

i Description

As mobility technology advances and changes, it is important for it to be available to all travelers in order to maximize its benefit. Communities with higher proportion of low-income, minority, disabled, elderly, and youth populations are often the last to receive or adopt transportation technology, such as real-time transit information, off-board fare collection, bike and scooter parking/charging, electric vehicle charging, etc... Additionally, attention must be paid to system operations and maintenance after its acquisition.

☰ Potential Example Application

Asbury Park, one of the municipalities with the highest proportion of low-income households in the County, is a leader in the hosting and implementation of technology enabled mobility solutions. At time of publication the city is host to 8 dual-port electric vehicle chargers and a scooter share program, and serves as a model for other communities. A significant part of its success is the hiring of a dedicated mobility manager who is involved in these and other improvements in personal mobility.

✓ Action Items

- Seek out or provide technical assistance for the planning of technology enabled mobility improvements.
- Consider employing a mobility manager focused on these and other issues related to personal mobility.
- Consider developing and implementing a common fare platform between NJ TRANSIT, private bus lines, Monmouth Senior Citizen Transportation (SCAT),



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Tool 2F: Support the development a car share programs.

Transects	Town Center, Shore Town
Implementation Timeline	Medium-Term (5 – 10 years)
Implementers	Municipalities, Monmouth County
Cost Range	\$ - \$\$

i Description

Carshare programs provide access to rental vehicles for short periods of time, often charging by the hour and/or by mileage. Vehicles located throughout an area and can be reserved and accessed through a smart phone app. Carsharing programs are great ways to provide access to a vehicle for those that do not have a personal vehicle or for those that wish to avoid purchasing a second vehicle.

✓ Action Items

- Conduct a feasibility study to explore opportunities for a County-wide, or multi-municipal carshare program, targeting populations who do not have access to personal vehicles or who wish to avoid purchasing a second vehicle.

Resource

Zip Car (<https://www.zipcar.com/carsharing>) and Enterprise (<https://www.enterprise-carshare.com/us/en/home.html>) are two carsharing service providers currently operating in cities like New York, Philadelphia, Boston, and Washington DC.

☰ Potential Example Application

To be successful, carsharing requires higher densities so that the vehicles are utilized more consistently throughout the day. Therefore, feasibility assessments of carsharing should be focused in higher density areas of the County's Town Center and Shore Town transects, such as Freehold, Red Bank, Asbury Park, and Long Branch.



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Tool 2G: Establish community bike bus programs.

Transects	Village, Suburban, Town Center, Shore Town
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	N/A
Cost Range	\$

i Description

Bike bus programs are volunteer-led biking groups that ride together on a set route and following a set timetable. They have been primarily applied for trips to and from school to provide a safer method for children to ride their bikes to and from school. Adult ride leaders set a route and “pick-up” children on their way to school and do the return trip in the afternoon. Asbury Park and Fair Haven have had bike bus programs.

≡ Potential Example Application

The Town Center and Village transects often include a walkable and bikeable street network. The majority of streets within these transects are often designated as low stress and the higher densities would potentially support a bike bus program. Keansburg is a good example of a municipality that may benefit introducing a bike bus program for students travelling to school. One specific example that was mentioned in the public comments was access to Caruso Elementary School in Keansburg.

✓ Action Items

- Work with local school districts and parent-teacher associations (PTAs) to establish bike bus programs to and from local elementary schools.

Success Story

The Portland, Oregon Bike Bus program started as a volunteer-led program to one school, has now expanded across the city. Adult-ride leaders set a route, “picking up” children on their way to school and receive a stipend from the school district equivalent to what is earned by school bus drivers.

<https://www.wired.com/story/how-to-start-a-bike-bus/>

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Tool 2H: Establish community maintenance and stewardship programs.

Transects	Village, Suburban, Town Center, Shore Town
Implementation Timeline	Short-Term (<5 years)
Implementers	Municipalities, NJ TRANSIT, Not For Profits
Cost Range	\$

i Description

This tool refers to a systematic volunteer supported approach to the upkeep and improvement of transportation infrastructure that supports various modes of travel, such as walking, biking, public transit, and vehicular traffic, supporting the long-term usability, safety, and effectiveness of the transportation network, thereby enhancing overall mobility and accessibility. Engaging local communities in the stewardship of transportation infrastructure through programs that encourage reporting of issues, volunteer clean-up or beautification projects, and participation in planning for maintenance and needs. Collaborating with various stakeholders to prioritize maintenance efforts that are based on community needs can leverage additional resources and expertise.

One recent example of this is the Red Bank Green Team and EZ Ride partnered to create temporary bike lanes to accompany a town-wide musical event known as "Porch Fest".

NJ TRANSIT has an "Adopt-a-Station" program, where they will work with volunteer groups to clean and landscape their facilities. More information is available at njtransit.com/adopt.

≡ Potential Example Application

There are 14 registered garden clubs in in Monmouth County. These garden clubs often contribute to the maintenance of planters within the municipalities' business districts. Consideration could be given to working with these or similar organizations on the installation and maintenance of tactical urbanism projects such as traffic calming measures, which can use planters to separate vehicle traffic from pedestrians and bicyclists. Maintaining landscaping used to calm traffic is an important step to maintain its effectiveness as well as maintain a sense of place and pride within a community.

✓ Action Items

- Establish a framework for maintenance and stewardship that includes regular inspection and upkeep of pedestrian, bicycle, and transit infrastructure, adaptive maintenance practices, and community/stakeholder collaborations.
- Work with local neighborhood groups, community organizations, and other advocacy groups to solicit volunteers.

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Strategy 3: Improve County-wide active mode connections between neighborhoods, land uses, and municipalities.

Tool 3A: Develop a County-wide active transportation plan with a focus on cross-County connectivity.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Monmouth County
Supporting Implementers	Municipalities,
Cost Range	\$-\$\$

i Description

Developing a County-wide active transportation plan is an important planning tool to develop a more integrated network of low-stress active mode facilities. The plan should identify opportunities to connect municipalities, employment centers, retail centers, healthcare, education, and recreation, among other critical services. The plan should only consider implementing low-stress bicycle facilities, such as protected bike lanes, multi-use pathways, and paved trails.

≡ Potential Example Application

Monmouth County should apply for grant funding, to create an active transportation plan for the County that addresses major desire lines across the County, with a key focus on connecting transportation disadvantaged populations with opportunities. The plan should also include references to design guidelines for on- and off-street facilities. The plan should be considered for adoption into the County Master Plan.

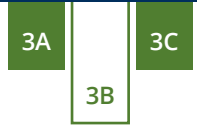
✓ Action Items

- Identify corridors along major desire lines across the County that could be used to enhance bicycle connections.
- Complete gaps in existing trail networks.
- Evaluate methods to utilize existing trails at County parks to make critical connections between communities.
- Consider a combination of protected on-road facilities with off-street facilities, like multi-use pathways.
- Integrate transit as a component of the master plan to make it easier for people walking, biking, or scootering to combine trips to travel farther.
- Utilize the design guidance provided in Tool 3C.

 **Priority Tool**

See **Table 3** for All tools to consider for Priority Implementation

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Tool 3B: Continue making connections in the network of off-street greenway/trail systems.

Transects	All
Implementation Timeline	Long-Term (>10 years)
Implementers	Monmouth County, Municipalities, NJ TRANSIT, NJDOT, NJTA
Cost Range	\$\$\$

i Description

Leverage existing trails, excess roadway rights-of-way, and park and open space to build a connected network greenways and trails that connect people to key recreational, educational, employment, and transportation destinations such as schools, libraries, parks, shopping, civic and job centers, and transit stations. Continue to close gaps and connect existing off-street trails and paths, such as the Henry Hudson Trail, Edgar Felix Memorial Bikeway, the Capital to Coast Trail, and the Union Transportation Trail (UTT), while planning for new paths and trails.

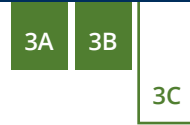
☰ Potential Example Application

One of the most challenging gaps to close on the Henry Hudson Trail is in the Aberdeen-Matawan area, due to the need to cross the Noeth Jersey Coast Line and the Garden State Parkway. The Monmouth County Park System has been coordinating with NJ TRANSIT to connect the Henry Hudson Trail to and through the Aberdeen-Matawan Rail Station and have engaged a consultant to develop plans and obtain NJDEP permits to reconstruct the Lake Matawan Bridge and connect trail to the station from the south. The County owns the rail bridge over the Garden State Parkway and is engaging in engineering studies to assess the bridge for suitability for extending the HHT over the Garden State Parkway.

✓ Action Items

- Prioritize filling gaps in the existing trail network, as well as extending and interconnecting the trails.
- Identify feeder “spurs” that connect the trail to key trip generators and attractors.
- Evaluate methods to utilize existing trails at County parks to make critical connections between communities.
- Prioritize off-street facilities for these trails. If on-street facilities are required to fill gaps, they should be protected from moving traffic using parking, barriers, curbing, or other delineation.
- Allow developers to contribute to trail construction in lieu of vehicle-based improvements.
- Utilize railroad and utility rights-of-way when possible to make connections.

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Tool 3C: Consider creating a network of on-street low-stress bike lanes and shared-use pathways.

Transects	All
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementers	Municipalities, NJDOT Monmouth County
Cost Range	\$\$ - \$\$\$

i Description

Only 50 percent of roadways in the County are considered low-stress for bicyclists, most of which are local residential roadways. There are limited low-stress options for bicyclists to travel to other municipalities or between land uses. Leveraging excess roadway capacity and existing wide sidewalks to build a connected network of low-stress bike lanes and shared-use paths will improve connections to key recreational, educational, and commuting destinations such as schools, libraries, parks, shopping, civic and job centers. Opportunities to expedite this effort by using tactical materials (such as flexible delineators, paint, QuickCurb or similar, jersey barriers/parking stops, etc.) to delineate new roadway configurations should be prioritized.

≡ Potential Example Application

High volume multi-lane arterials exist throughout the County. Over 20 public comments were received about the two-mile long segment of one of these arterials, CR 520 (Newman Springs Road) through Lincroft Village highlighting the need to increase safety and improve accommodations for pedestrians and bicyclists. The County should continue evaluation of this corridor and other high-volume multi lane arterials and ensure that safety, accessibility, and level of service of bikes and pedestrians are considered alongside vehicular operations.

Monmouth County is in the process of improving a significant portion of a high-volume multi-lane arterial that runs through Bradley Beach, Avon-by-the-Sea, and Neptune Township and City, County Route 40A (Memorial Drive, as well as CR25 (Cedar Avenue) in West Long Branch.

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✓ Action Items

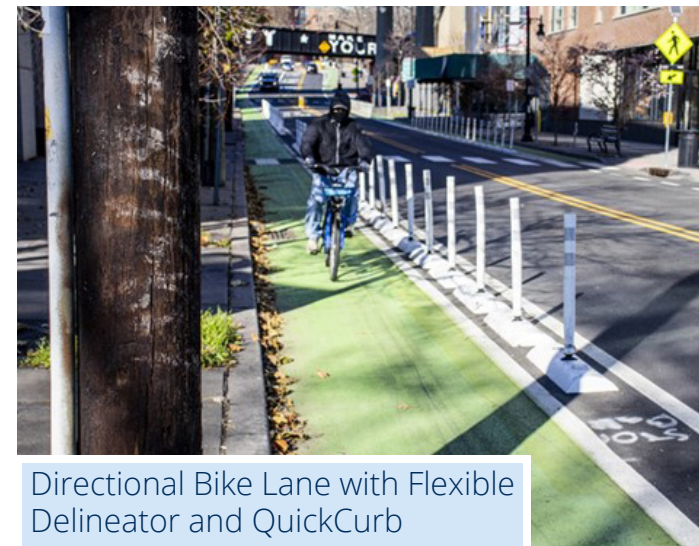
- Evaluate the potential for road diets on bicycle corridors identified in the active transportation plan (Tool 3A).
- Prioritize “quick wins” by utilizing striping to quickly deploy bike lanes in areas of most need.
- Commit to including pedestrian and bicycle safety and operation as a primary goal when evaluating roadway operations.
- Utilize existing resources to establish minimum design criteria for bike facility design. Consider the following examples from the 2019 *Let’s Ride JC (Jersey City) Bikeway Design Guide*:
 - *Directional bike lanes are preferred on-street facilities and should be a minimum of five feet in width (six feet desirable) with protection from the travel lanes through parking protection, buffering, or barriers (Figure 13).*
 - *Where space is more limited, consideration could be given to a two-way cycle track that is protected by parking, a buffer with delineators, or a barrier. Minimum width for a two-way cycle track is eight feet; however, ten feet is desirable.*
 - *Provide protection at intersections and other conflict points using cross bike markings and bike boxes (see Figure 6).*



Parking-Protected directional bike lane



Cycle Track protected by Jersey Barrier



Directional Bike Lane with Flexible Delineator and QuickCurb

Figure 13: Examples of Bike Facility Types with Different Levels of Protection. (Image Source: Stantec)

Resource

Jersey City, New Jersey created a bikeway design guide that is focused on ways to reallocate existing roadway space for bikes. The design guide covers best practices in bike facility design and is a good resource for communities to begin planning their own bikeway.

[Jersey City Bikeway Design Guide \(City of Jersey City\)](#)

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Strategy 4: Access to transit can be improved by addressing transit stop conditions and first and last mile challenges.

Tool 4A: Prioritize comfort at bus stops where possible.

Transects	All
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementer	Municipalities, NJ TRANSIT
Supporting Implementers	Monmouth County
Cost Range	\$ - \$\$

i Description

Bus service within most areas of Monmouth County is low-frequency, and feedback from the public indicate that the system is often unreliable and experiences delayed arrivals (refer to Appendix B). Therefore, transit users can face long wait times at bus stops, even when they plan their arrival at the stop to coincide with the schedule. In addition, delays on one bus route may lead to a user missing their immediate connection to another route. Comfort amenities at bus stops, such as shelters to protect from sun, rain, and wind, can enhance the user experience, and make it more clear to potential riders where transit stops are located.

☰ Potential Example Application

Freehold Center, the primary transit hub in Freehold Borough, is in relatively poor condition. There are no benches or shelters for waiting passengers, and most wait by sitting on a concrete divider between the transit stop and the old municipal building (Figure 14). Given its importance in the community and the large number of riders that board from this location, Freehold should continue to implement the recommendations in the 2018 Freehold Vision Plan, with special consideration for prioritizing the recommendations in its Transit Gateway Area Vision.

Figure 14: Passengers Sitting on Concrete Driveway Divider at Freehold Center While Waiting for the Bus

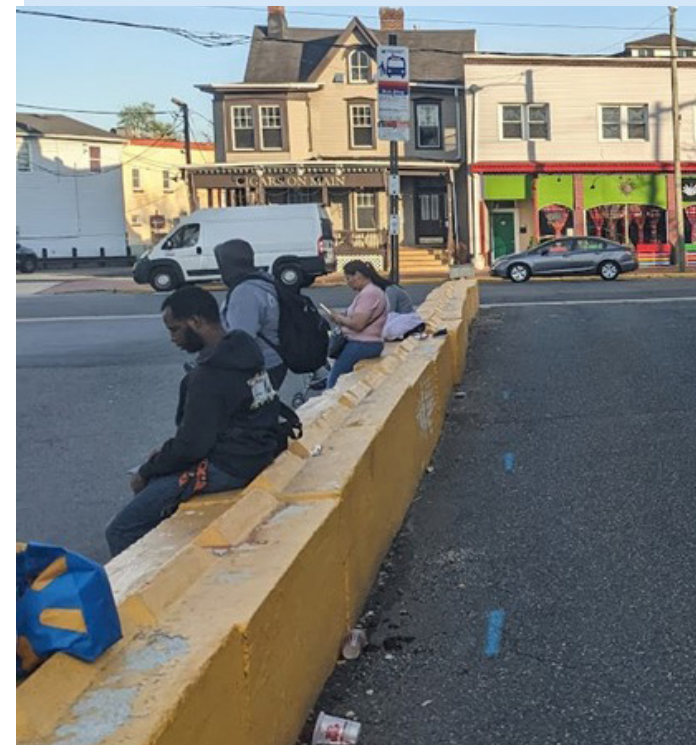


Figure 15: NJ TRANSIT's new solar-powered shelters have lighting and charging ports for electronic devices. (Image Source: NJ TRANSIT)



✓ Action Items

- Identify high-ridership bus stops and install bus shelters. It should be noted that NJ TRANSIT typically installs bus stops, and municipalities are responsible for maintenance. NJ TRANSIT maintains an online resource regarding bus stop responsibilities <https://www.njtransit.com/frequently-asked-questions-about-bus-stops-and-shelters>.
- In lower-density suburban and rural areas with more limited ridership, consider shelters at key activity nodes, such as apartment complexes, shopping centers, or healthcare facilities, etc. For example, Clayton, NJ, a rural borough in Gloucester County, has a single bus stop with a shelter. This location is the most popular stop in the borough.
- Coordinate with community businesses that may be able to offer seating underneath existing awnings or trees where bus shelters may not be possible.
- Consider amenities in shelters, such as charging ports for electronic devices, heaters in cold weather, animal-resistant trash receptacles, real-time transit arrival information boards, up-to-date schedules, MyBus ID on signs, and seating (Figure 15).
- Improve maintenance times for damaged shelters and ensure frequent removal of trash.

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Tool 4B: Consider evaluating the accessibility of transit stops by pedestrians, including those with lower levels of mobility, and support integration with bicycle facilities.

Transects	All
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementer	Municipalities
Supporting Implementers	NJ TRANSIT
Cost Range	\$ - \$\$

i Description
 The ability to make safe and efficient first and last mile connections to transit can be a critical factor in a person’s decision whether or not to use transit. For transit users that do not have other options, the presence of pedestrian and bicycle facilities can significantly impact the usability, accessibility, and safety of accessing transit. Fifty-eight of the 617 public comments (approximately 9 percent) were regarding transit, with about 20 percent of transit comments identifying the need for improved services and comments regarding the need for better connections and amenities at transit stops.

Priority Tool

See Table 3 for All tools to consider for Priority Implementation

Potential Example Application

The US Route 9 corridor has the most frequent bus service with the most operational hours of any route in the County. However, accessing bus stops along the corridor can be a challenge because of a lack of amenities at the bus stop as well as limited pedestrian connections to and from the bus stop. One example stop is the Freehold Mall park-and-ride that, despite having shelters, has several accessibility needs:

- No sidewalks to connect to adjacent residential neighborhoods. A sidewalk should be extended from the bus stop to the north to connect with an existing sidewalk on Helen Avenue.
- No designated walking pathway through the shopping center parking lot that would provide safe passage for pedestrians accessing the retail. The parking lot could be restriped to provide a 10-foot-wide pedestrian walking area from the bus stop to the center of the shopping center building.
- Parking is restricted to Freehold Township residents only, thus excluding riders that may want to access the higher-frequency service at this stop from nearby municipalities like Freehold Borough. Furthermore, the only payment option is by permit which can be challenging for low-income and minority residents. Freehold Township should evaluate post-COVID parking demand and determine if there is the ability to accept residents from other nearby municipalities and explore the potential for daily parking fee options.

Freehold Township should consider working with NJ TRANSIT, NJDOT, and nearby property owners to evaluate the feasibility of these recommendations to enhance access at this stop. This methodology could then be reproduced at other stop locations.

Figure 16: A bus-bike shelter combination in Trondheim, Norway provides protection for bikes as well as transit riders
 (Image Source: Wikimedia Commons)



✓ Action Items

- Identify existing bus stops that are not accessible by walking and/or biking and utilize ridership and equity measures to prioritize enhancements to pedestrian and bicycle access.
- Implement enhanced connections to transit stops (including crosswalks) in all roadway and intersection projects, including resurfacing, especially where neighborhoods are located across high-volume roads such as US Route 9, NJ Routes 35 and 36, etc.
- Enhance pedestrian and bicycle connections to transit with the following measures:
 - *Connect the transit stop by sidewalk to adjacent land uses and existing sidewalks in the area.*
 - *Ensure that there is a marked crosswalk that connects to the opposite direction bus stop within 500 feet of the bus stop. If there is not, install a crosswalk where feasible and safe to do so, and/or relocate the bus stop to a more suitable crossing location.*
 - *Connect bus stops to nearby crosswalks via sidewalks.*
 - *Identify opportunities to incorporate other active modes into the transit stop design, including bicycle and scooter parking, as well as charging ports for electric assisted bikes and scooters (Figure 16).*

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Tool 4C: Identify and further investigate potential intermodal transportation facilities and create mobility hubs.

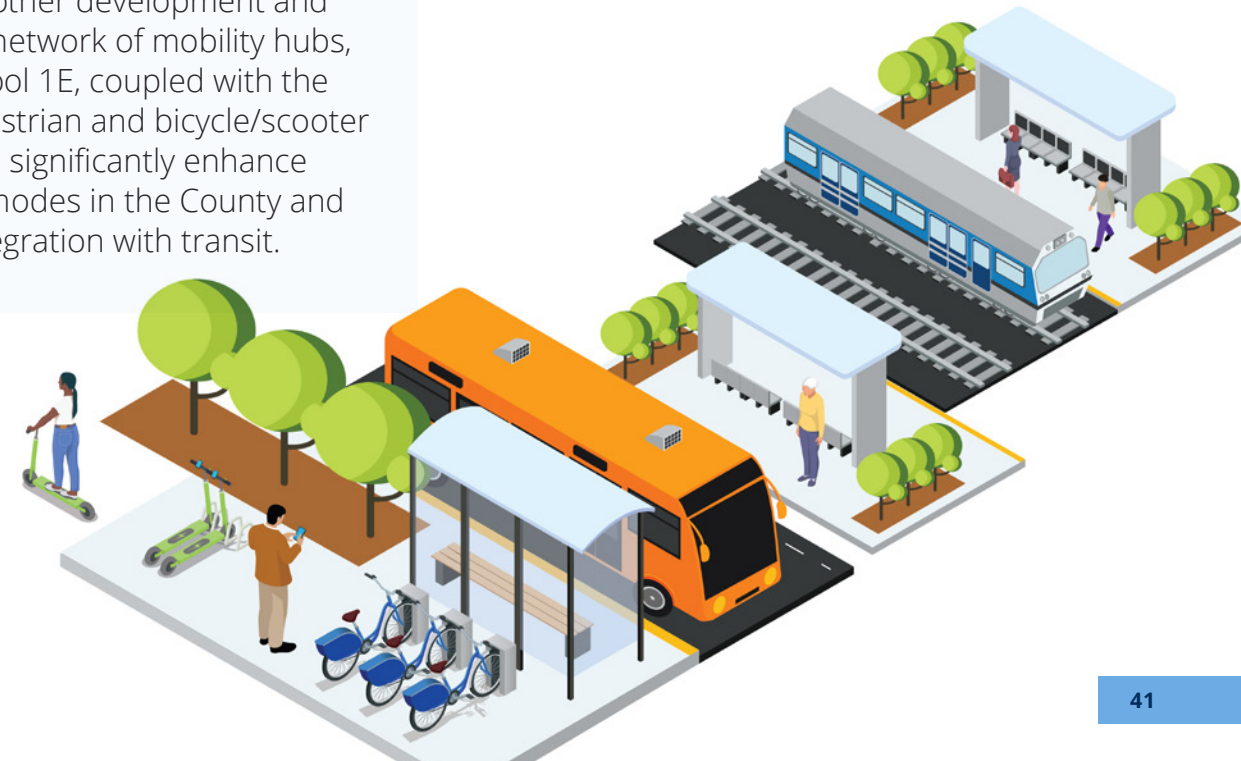
Transects	All
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementer	NJ TRANSIT, Station Owning Municipalities
Supporting Implementers	Monmouth County, Municipalities
Cost Range	\$\$ - \$\$\$

i Description

Maximizing mobility options promotes equity by allowing people to make more informed choices of how and when they travel. However, a key component of building choice is having facilities and infrastructure that supports all modes of travel. Strategically located mobility hubs at transit stations would allow customers to seamlessly switch between modes as best serves their needs. Mobility hubs provide centralized access to a variety of modes with a focus on providing a range of choices that are affordable, sustainable, and environmentally friendly. Within Monmouth County these mobility hubs could interconnect bus, rail, ferry, personal vehicles, taxi/rideshare, bike/scooter parking and charging, shared micro-mobility, and walking. Mobility hubs can also include other development and retail services. A network of mobility hubs, as identified in Tool 1E, coupled with the provision of pedestrian and bicycle/scooter infrastructure will significantly enhance access to active modes in the County and support their integration with transit.

≡ Potential Example Application

Commuter rail stations are high quality locations for the initial implementation of mobility hubs because they often have space within the station area or adjacent parking lots that can be reallocated for a mobility hub. Therefore, NJ TRANSIT should consider developing a mobility hub program for rail stations along the North Jersey Coast Line. Asbury Park, Red Bank, and Long Branch could all be considered as initial implementation locations because of their higher densities, existing provision of pedestrian and bicycle facilities, and higher proportions of transportation disadvantaged communities.



Priority Tool

See **Table 3** for All tools to consider for Priority Implementation

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Figure 17: A rendering of a mobility hub concept in Pasco County, Florida. (Image Source: Stantec)

- ✓ Action Items**
- Allocate space at commuter rail stations, higher-use bus stops, and park-and-rides for mobility hubs.
 - Coordinate mobility hub installation with the construction of connecting sidewalks and bicycle facilities.
 - Consider the following elements in a transit-stop mobility hub (**Figure 17**):
 - Scooter and e-scooter rental/share
 - Bike and e-bike rental/share

- Rideshare pick-up/drop-off area
- Electric vehicle rental and charging
- Restrooms
- Delivery lockers
- Public gathering space/plaza
- Area for pop-up businesses like food trucks

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Tool 4D: Continue to improve passenger information technology.

Transects	All
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementer	NJ TRANSIT
Supporting Implementers	N/A
Cost Range	\$ - \$\$

Description

A common concern expressed by members of the Experiences Committee was that the County’s most transportation disadvantaged populations often do not know what their mobility options are and how to find more information about the options. This tool promotes increasing mobility and transit ridership and accessibility by providing customers with unified fare payment options across local and regional modes (bus, rail, Monmouth SCAT, PATH, NYC Subway) and real-time information about their transportation options within the County, such as trip planning, routes and alerts, real-time travel information and delays. This effort could be expedited by contracting with private sector mobility information companies who can provide, maintain, and update these services as part of their ongoing operations.

Potential Example Application

Monmouth ACTS is planning to create an accessible resource of mobility options that is regularly updated and focused on outreach to the County’s most disadvantaged populations, and the County has recently hired a Transportation Coordinator to assist with this and other mobility related tasks.

Action Items

- Consider a unified payment system for all public transportation services used by County residents, including micro-mobility services.
- Consider developing a transportation information app that provides information on transit, pedestrian, bicycle/scooter, rideshare, and other initiatives for elderly and disabled populations run by NJ TRANSIT, Monmouth County, or E-Z Ride.
- Rural areas may have limited mobility services and ridership, so NJ TRANSIT should consider regularly updating arrival and schedule information at the stop and include maintaining the MyBus stop ID on signage.

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Tool 4E: Consider the potential for feeder services to commuter bus or rail hubs.

Transects	Rural/Natural, Village
Implementation Timeline	Long-Term (> 10 years)
Lead Implementer	Monmouth County, Municipalities, NJ TRANSIT, EZ-Ride
Supporting Implementers	Private Employers
Cost Range	\$\$\$

i Description

Rural areas and villages often lack the population density necessary for regional rail or bus connections. Data indicates that less than 6 percent of households in the rural or village transect are within walking distance of a transit stop. While densities would likely not support full transit service in these transects, some higher density clusters in these transects could benefit from lower-cost transportation options to access employment centers.

≡ Potential Example Application

Located on the southwestern panhandle of the County, Allentown Borough (Village transect) is closer in proximity to employment areas that are outside of the County, such as the nearby Matrix Business Park, rather than those in Monmouth County. Stakeholders could evaluate the potential for a feeder service to connect to nearby employment opportunities, implemented by EZ-Ride, and potentially financially supported by private employers.

✓ Action Items

- Seek funding opportunities that would allow for feeder services to the closest bus and rail hubs and/or business park using small shuttles or multi-passenger vans.
- Leverage support from community advocates.
- Consider potential integration with services that provide transportation for elderly or disabled residents.
- Consider coordinating with rideshare companies (Uber, Lyft) to provide these services.

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Tool 4F: Consider expanding transit coverage to underserved areas using microtransit.

Transects	Town Center, Shore Town
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementers	Monmouth County, Town Center and Shore Town Municipalities, NJ TRANSIT, EZ-Ride
Supporting Implementers	Private Employers
Cost Range	\$\$ - \$\$\$



Figure 18: A microtransit vehicle operating in Jersey City, New Jersey. (Source: Via Jersey City)

i Description

An analysis of transit service in Monmouth County (see Appendix B) revealed that limited frequency and operating hours of most bus routes within the County is a substantial barrier for the County's lower income residents that more commonly work service industry jobs which often have shift schedules that are outside of when most routes end service. Microtransit is shared transportation that lives in the space between traditional fixed route transit and ridesharing like Uber and Lyft (**Figure 18**). It has been most successful outside of Monmouth County in higher density areas like portions of the County's Town Center and Shore Town transects. Microtransit is technology-driven with routes and schedules that can shift based on rider demand. Rides are booked using an app or by phone, and the service typically uses smaller vehicles than traditional transit service that range in size from vans to shuttles. Overall operating costs are reduced due to the smaller vehicle sizes and the demand-responsive nature of the service. Microtransit is often used to fill gaps in the existing transit services for shorter trips, or to provide critical first and last mile connections to fixed route transit.

During the third public meeting that was conducted in Freehold, members of the public explained how local cab companies were already providing a microtransit-like service, particularly for Freehold's Latinx community. Workers rely on these cabs, particularly after transit services stop to get to and from work. These cabs also accept cash and typically have Spanish speaking drivers which is helpful for those that do not have access to other ridesharing services like Uber or Lyft.

☰ Potential Example Application

The County or municipalities in the Town Center and Shore Town Transects could work with a microtransit provider, such as Via, to identify feasible areas that would be capable of supporting microtransit. Freehold Borough, Asbury Park, Long Branch, and Red Bank may be appropriate areas for initial implementation.

✓ Action Items

- Consider how microtransit can be used to enhance mobility of transportation disadvantaged populations, in particular elderly and disabled travelers. Provide booking options for those that do not have access to a credit card.
- Ensure that microtransit fills in gaps of fixed-route transit rather than be in competition with other transit.
- Explore discounting fares that feed into high frequency transit.

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Tool 4G: Continue to improve station parking and pick-up/drop-off.

Transects	All
Implementation Timeline	Medium-Term (5 - 10 years)
Lead Implementer	NJ TRANSIT and Station Lot Owning Municipalities
Supporting Implementers	Monmouth County
Cost Range	\$\$ - \$\$\$

i Description

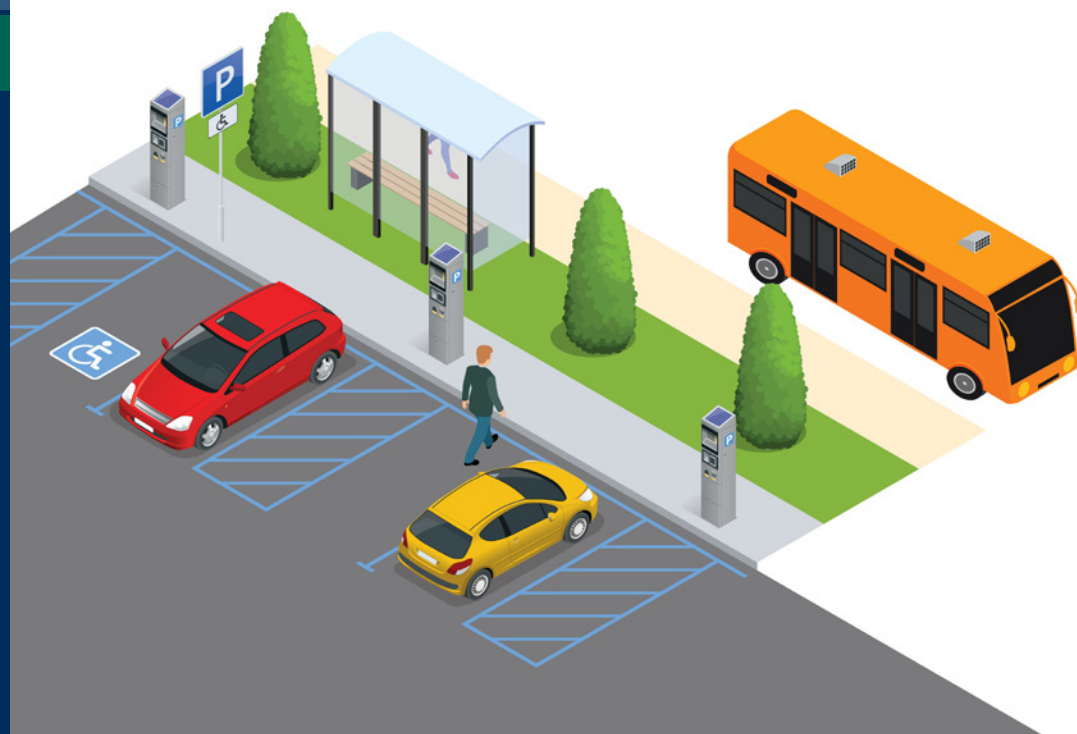
Park-and-ride facilities at bus stops, rail stations, and ferry terminals can help extend the reach of transit. Creating facilities and policies that support easy pick-up/drop-off (PUDO) and places to park where appropriate can increase transit ridership. However, parking and PUDO must be consistently re-evaluated as demands and services change.

☰ Potential Example Application

There is substantial pick-up and drop-off activity at the Red Bank rail station, but there are few short-term (15 min) parking spaces for vehicles waiting to pick up passengers. NJ TRANSIT should consider evaluating PUDO activity and determine the need for and potential of modifying the station to better support PUDO.

✓ Action Items

- Before building a park-and-ride lot, analyze the catchment zone and demand at the location to ensure a lot is necessary or to right-size the lot.
- Anticipate potential peak-hour traffic impacts at certain locations.
- Designate short-term parking for PUDO.
- Consistently re-evaluate park-and-ride lot usage. Some locations may require pricing to manage demand for spaces.
- Transit stops in rural areas, villages, and suburban areas often share spaces with major community destinations such as grocery stores, houses of worship, and big box retail. Sharing parking may help create park-and-ride locations without having the expense of a standalone location.



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Tool 4H: Continue to improve rider amenities at train stations and enhance accessibility.

Transects	Suburban, Town Center, Shore Town
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	NJ TRANSIT, Station Owning Municipalities
Supporting Implementers	Monmouth County, Municipalities
Cost Range	\$\$ - \$\$\$

i Description

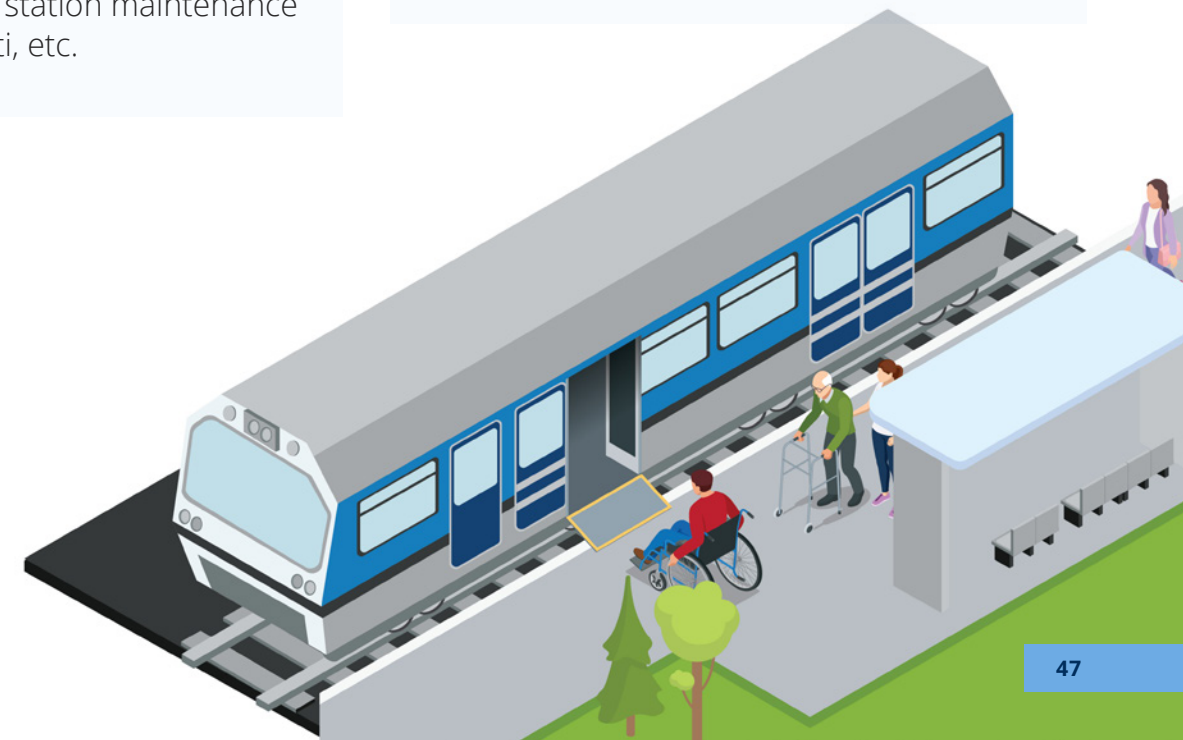
Public feedback obtained for the Monmouth PATHS: Access for All study revealed the need for enhanced rider amenities such as restrooms and safe and secure waiting areas. Furthermore, upgrading low-level platforms to high-level platforms can make it easier for people using wheelchairs or walkers, or pushing strollers, shopping carts, or bicycles, to access the train.

☰ Potential Example Application

NJ TRANSIT should consider working with Asbury Park to identify methods to enhance safety and security in and around the train station area to address community concerns. This could include improved lighting and surveillance, more public safety presence, and general station maintenance to remove trash, graffiti, etc.

✓ Action Items

- Provide and maintain restrooms to improve the customer experience.
- Enhance passenger safety at stations through improved lighting and surveillance.
- Consider increasing police presence at stations with known issues.
- Improve “quality of life” maintenance such as trash clean up and removal, removal of graffiti, maintenance of waiting areas, etc.
- Evaluate the feasibility of upgrading all stations to be ADA accessible with high-level platforms. Low-level platforms currently exist at the Manasquan, Spring Lake, Belmar, Bradley Beach, Allenhurst, Monmouth Park (seasonal), and Little Silver stations.



💡 Priority Tool

See **Table 3** for All tools to consider for Priority Implementation

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Tool 4I: Provide climate-controlled waiting areas at ferry stops.

Transects	Shore Town
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Ferry Service Providers and Terminal Owners
Supporting Implementers	N/A
Cost Range	\$ - \$\$

Description

Public feedback obtained for the Monmouth PATHS: Access for All study noted some of the existing ferry terminals in the County are not sufficiently heated during the winter months.

Potential Example Application

Ferry service providers should consider providing climate-controlled waiting areas for passengers where they do not already exist.

Action Items

- Climate controlled waiting areas to protect passengers from wind and other inclement weather.
- Improve heating, especially outdoor heating in queuing areas, and offer priority seating in warmest locations for seniors and people with disabilities.

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Strategy 5: Investigate potential improvements to transit service within the County and explore increasing transit connections to major activity centers to the west of the County.

Tool 5A: Identify potential transit corridors for evaluation of demand and potential transit or microtransit solutions.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	NJ TRANSIT
Supporting Implementers	Monmouth County
Cost Range	\$ (study only)

i Description

Monmouth County residents expressed multiple barriers to using the existing transit system, including:

- Limited service span, especially on weekends
- Long wait times
- Frequent delays, often resulting in missed transfers
- Lack of east-west connections
- Poor pedestrian or bicycle access to stops/stations, especially for individuals with lower level of mobility
- Lack of comfortable shelters at bus stops and ferry terminal

Service-related strategies tend to be related to County-wide challenges. To address bus service, the County could partner with NJ TRANSIT on a County-wide re-evaluation of existing bus service and transit need. NJ TRANSIT is currently conducting bus network redesigns in Hudson County, Newark and its surrounding areas, and the Burlington, Camden, and Gloucester County areas. A similar effort in Monmouth County may help coordinate services, improve intra-county connections, and enhance existing services.

☰ Potential Example Application

The County should encourage NJ TRANSIT to consider a bus network redesign study to modify bus routes and schedules to better meet the needs of County residents.

✔ Action Items

- Heavily weigh and evaluate service options that are intended to serve the needs of the County's vulnerable populations and their needs when accessing employment, healthcare, education, recreation, and other services.
- Consider annual/periodic review of transit services in the County, especially bus service, with County, NJ TRANSIT and NJDOT.
- Consider evaluating the feasibility of adding intra-county bus service between "centers" as well as along key East-West roads.

💡 Priority Tool

See [Table 3](#) for All tools to consider for Priority Implementation

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Tool 5B: Investigate east west corridors for potential transit or microtransit improvements in coordination with the TMA and NJ TRANSIT.

Transects	All
Implementation Timeline	Medium-Term (<5 years)
Lead Implementer	NJ TRANSIT
Supporting Implementers	Monmouth County, Municipalities, NJDOT
Cost Range	\$\$ - \$\$\$

i Description

Much of the bus and rail network has a north-south orientation, making many intra-county trips lengthy. Furthermore, only one east-west route provides service after 7:00 PM and this service is partially paid for by Monmouth County to keep it running into the evening. Participants in the outreach effort requested additional service along the following east-west corridors: NJ Route 33, Route 18, and I-195. Further opportunities for connections from Bayshore to Freehold could also be explored.

Although US Route 9 is a north-south corridor with frequent service, residents acknowledged its significance for transit access in the County. Residents requested new or enhanced east-west services feeding into US Route 9 to better access New York City. NJ TRANSIT is conducting the US Route 9 Transit-Oriented Development Study to explore how land use changes at major US Route 9 bus stops could support ridership and improve access.

☰ Potential Example Application

As part of a Monmouth County bus network redesign study, NJ TRANSIT and Monmouth County should consider re-evaluating east-west desired service and determine if there are opportunities to enhance connections between the County's transportation disadvantaged communities and employment, education, healthcare, and other services.

✓ Action Items

- Monmouth County could work with NJ TRANSIT to identify potential east-west services along NJ Routes 33 and 18, and I-195.
- Evaluate an increase in frequency of service on existing east-west routes and expand operating hours to meet demands of low-wage employees that are typically employed in the service industry.
- Consider how land use affects the ability to improve transit service and encourage municipalities to allow higher densities of development along bus routes.
- Implement the recommendations of the Monmouth County Bus Rapid Transit Opportunities study.

💡 Priority Tool

See **Table 3** for All tools to consider for Priority Implementation

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Tool 5C: Investigate the need for more convenient transit service to employment centers west of the County such as New Brunswick, Princeton, and Trenton.

Transects	All
Implementation Timeline	Long-Term (5 - 10 years)
Lead Implementer	NJ TRANSIT
Supporting Implementers	Monmouth County, Municipalities, NJDOT
Cost Range	\$\$ - \$\$\$

i Description

Inter-county transit services in Monmouth County are oriented north-south, connecting the County with employment centers such as Newark and New York City. Participants in the outreach effort noted a need to improve connection to other employment centers to the west of the County, such as New Brunswick and Trenton. Although work trip data does not directly indicate the need for transit service to areas to the west, participants noted that there are no direct connections to those cities, and current transit connections require riders to travel north to then return south to those locations.

☰ Potential Example Application

New Brunswick has been identified in the location-based data used for this study as having a minor concentration of both work and education trips for low-income Monmouth County residents. As part of a bus network redesign study, NJ TRANSIT and/or Monmouth County should consider a more detailed examination of potential transit demand between specific areas in the County and employment and educational centers in New Brunswick.

✓ Action Items

- Monmouth County could work with NJ TRANSIT to identify the potential for more convenient transit connections to employment centers to the west of the County, such as New Brunswick, Princeton, and Trenton.
- Consider an initial route that connects to one of these locations through Asbury Park and Freehold.

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Tool 5D: Consider enhancements to local transit service.

Transects	All
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	NJ TRANSIT, Municipalities
Supporting Implementers	Monmouth County
Cost Range	\$\$ - \$\$\$

i Description

Study participants noted that long-haul commuter routes are not the only County-wide need. Some communities may benefit from enhanced local service as well, including:

- Long Branch
- Red Bank/Little Silver
- Asbury Park
- Atlantic Highlands/Highlands
- Cliffwood Beach/Keyport/Union Beach
- Colts Neck
- Eatontown
- Englishtown
- Farmingdale
- Holmdel
- Keansburg/Port Monmouth
- Middletown/North Monmouth/Hazlet
- Western Monmouth County to Mercer County (i.e., Allentown/Allentown/Robbinsville/Hamilton Township)

≡ Potential Example Application

As part of a potential bus network redesign study, Monmouth County could work with NJ TRANSIT to evaluate the potential for operating a higher-frequency rail shuttle route along the North Jersey Coast Line between Long Branch and Bay Head. This could provide enhanced connectivity to areas along the rail line and potentially allow for reallocation of bus resources to other areas of the County that are in need of improved transit.

✓ Action Items

- Evaluate how on-demand and/or microtransit services could be utilized to fill local gaps in fixed-route transit services.
- As per the 2021 Monmouth Within Reach Study, consider the potential to operate a higher-frequency shuttle-style rail service on the North Jersey Coast Line between Long Branch and Bay Head. This service could utilize fewer cars making more frequent trips.

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Tool 5E: Study the need for and feasibility of reducing transit transfers.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	NJ TRANSIT
Supporting Implementers	Monmouth County
Cost Range	\$

i Description

Participants in the study outreach indicated that bus operations are unreliable and lead to difficult or missed transfers. Given the overall low frequency of bus service in the County, a missed transfer between bus routes could require a transit user to wait upwards of one hour to access another bus. Transfers become more critical at the end of the day when bus service on one route may end, leaving riders to seek other options.

≡ Potential Example Application

NJ TRANSIT should consider conducting outreach to riders of local routes to identify where the most challenging transfers exist. The results of the outreach may lead to the identification of the need for a bus network redesign study.

✓ Action Items

- Consider working with community advocates to determine where the challenging transfers exist.
- Consider aligning schedules to minimize wait times at transfer points.
- Consider improving bus tracking and/or communication between bus drivers so that buses may be held at transfer points if one route is running late.

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Tool 5F: Consider providing seasonal transit service to shore communities.

Transects	Shore Town
Implementation Timeline	Medium-Term (5 - 10 years)
Implementers	NJ TRANSIT, Municipalities, Monmouth County
Cost Range	\$\$ - \$\$\$

i Description

The 2021 Monmouth Within Reach Study, highlighted the congestion and parking challenges in shore communities due to the influx of visitors and workers during summer months. Offering convenient, frequent transit service may help address these challenges and provide better access to non-drivers, as well as providing the ability for visitors to travel around the shore communities without needing to drive.

☰ Potential Example Application

Monmouth County could work with Shore Town transect municipalities to identify the potential need for shuttles that can support local transportation for residents, workers, and visitors. Consider precedents set in other communities. For example, the Atlantic City Jitney Association provides a Friday and Saturday shuttle between Avalon and Stone Harbor to provide visitors with options to travel between the activity centers in both shore towns during the peak days for visitation.

✓ Action Items

- Work with NJ TRANSIT to evaluate potential increases in transit services during peak summer months.
- Explore the potential for seasonal microtransit.

📍 Example Application in New Jersey

AC Jitney Service provides a Friday and Saturday shuttle between Avalon and Stone Harbor to provide visitors with options to travel between the activity centers in both shore towns during the peak days for visitation.

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Tool 5G: Consider evaluating the installation of bus priority measures in congested areas.

Transects	Suburban, Town Center, Shore Town
Implementation Timeline	Long-Term (>10 years)
Lead Implementers	NJDOT, NJ TRANSIT
Supporting Implementers	Monmouth County, Municipalities
Cost Range	\$\$ - \$\$\$

i Description

In the highest use transit corridors, such as US Route 9, bus priority measures may help increase the speed of buses. This could help make the bus more competitive with driving, thereby attracting additional ridership.

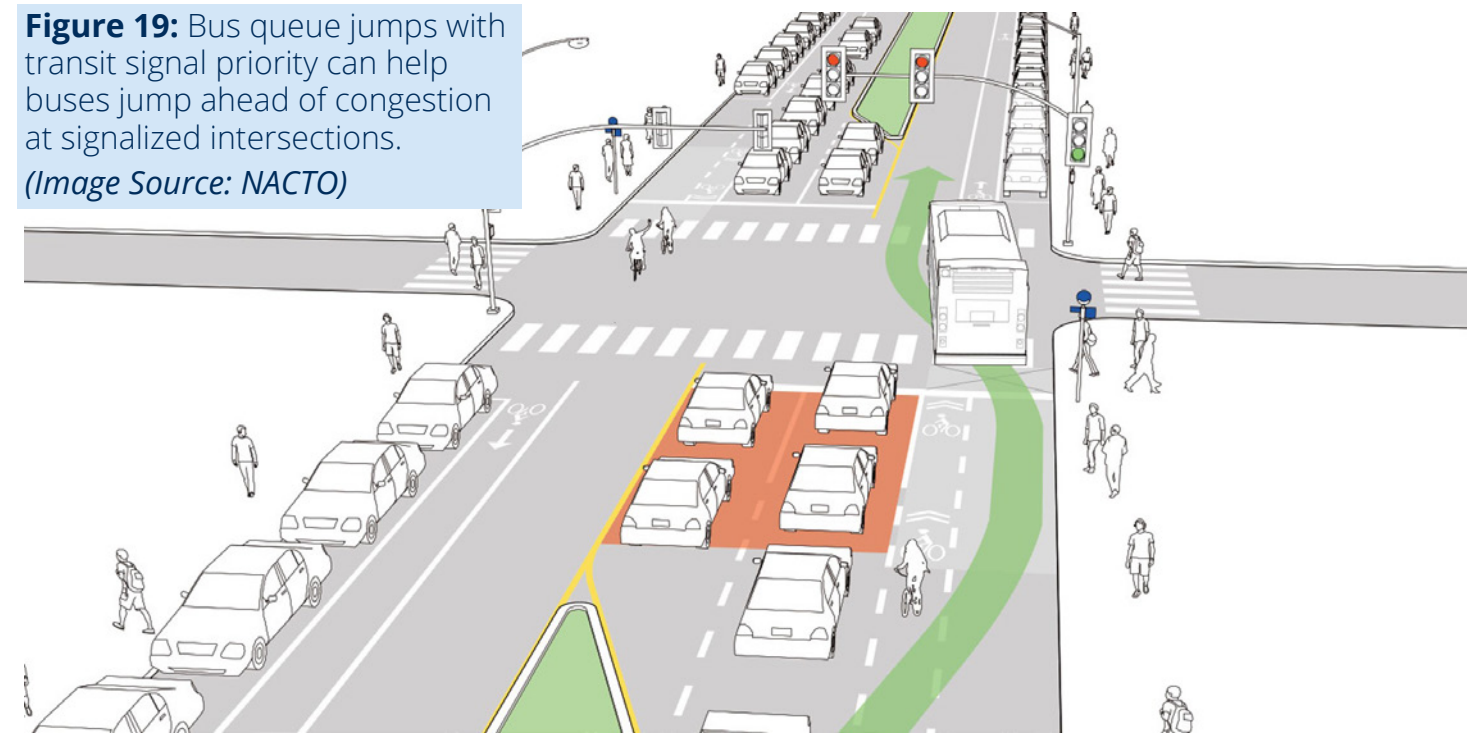
✓ Action Items

- Continue to work with NJ TRANSIT to identify key areas where buses are delayed due to congestion.
- Consider the potential of transit signal priority, dedicated bus lanes, or queue jump lanes (**Figure 19**).
- Evaluate potential time savings of passengers, not just impact on congestion.

≡ Potential Example Application

NJDOT and NJ TRANSIT should continue their ongoing coordination regarding planned transit priority treatments such as signal priority and queue jumps on the US Route 9 corridor.

Figure 19: Bus queue jumps with transit signal priority can help buses jump ahead of congestion at signalized intersections. (Image Source: NACTO)



💡 Priority Tool

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Strategy 6: Implement policies that encourage mixed-use, multi-modal-supportive development patterns that provide a variety of housing options.

The tools presented in Strategy 6 are primarily related to land use and zoning which can be more complicated in nature. Summary guidance is provided in this document and a more detailed explanation of the concepts behind the tools presented here are contained in **Attachment A**.

Tool 6A: Update subdivision and zoning standards to encourage or require transit supportive development.

Transects	Rural/Natural and Suburban
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	N/A
Cost Range	\$ (policy only)

i Description

New development can add barriers to mobility by replicating historic development patterns that support automobile dependence. Rural and suburban municipalities can have larger subdivision projects due to the availability of large parcels and farmland. To address these problems municipalities should update subdivision and zoning standards to encourage or require transit supportive development. For example, cluster development can be designed to form nodes of higher-density development that provides economic growth opportunities and housing in a mixed-use, walkable environment, that can be more easily served by transit.

✓ Action Items

- Encourage transit supportive development throughout a municipality where doing so would reduce the distance between housing and key destinations.
- Consider higher-density transit-oriented development within ¼ mile of bus stops with high-frequency (<30-minute headway) service or within ¼ mile of a commuter rail station.
- Require that developments to have a high degree of internal connectivity.

☰ Potential Example Application

Cox's Corner in Upper Freehold is a growing node due to its proximity to an interchange with I-195. Upper Freehold Township could consider modifying zoning to permit higher-density residential and/or mixed-use development in a more walkable "village" style network. If bus service is provided along the I-195 corridor, the clustered development could serve as a node for that service.

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Tool 6B: Plan for walkable communities that can be enhanced through transit expansion.

Transects	Suburban
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	NJ TRANSIT
Cost Range	\$ (policy only)

Priority Tool

See **Table 3** for All tools to consider for Priority Implementation

i Description

Suburban communities may be home to large shopping centers, big-box commercial areas, major industrial, or institutional tracts that are aging out of their useful life. These areas present opportunities to develop more accessible communities that combine housing, jobs, retail, and amenities in walkable environments.

☰ Potential Example Application

Shopping malls traditionally served as regional hubs for retail and were located at strategic locations that had good access to the regional transportation network. Monmouth Mall, for example, is in close proximity of several highways and major arterials including the Garden State Parkway, NJ Routes 18, 36, and 35. In addition, it is served by two NJ TRANSIT bus routes. As shopping malls continue to struggle, they open the opportunity to harness the transportation connections to provide a wider variety of uses, such as housing (including affordable options), retail, office, and healthcare. A current proposal for Monmouth Mall includes the redevelopment of the site to include 1,000 apartments, new commercial uses, and a central outdoor public space. Eatontown and the developer should work together with NJ TRANSIT to identify ways to incorporate transit into the site design.

✓ Action Items

- Work with property owners to establish development plans.
- Encourage street networks and housing typologies that would support transit expansion, even if no plans are currently in place.
- Identify opportunities for the development of mixed-use communities.
- Identify opportunities for the use of shared access driveways to reduce curb-cuts to prevent conflicts with sidewalk and bicycle lane users.
- Consider adopting zoning and subdivision standards to align with LEED-ND and similar programs that promote smart growth.

Example Application in New Jersey

The former 200-acre Johnson & Johnson property in North Brunswick is planned to include living units, retail stores, commercial office space, restaurants, and a hotel. The developer and the Township are still working with NJ TRANSIT to build a new train stop in the area. However, such major transit infrastructure investments are not always required. Substantially less time and resources are necessary to expand bus service, and close coordination with NJ TRANSIT is a must.

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Tool 6C: Require developers to design sites to accommodate pedestrians, bicyclists, and transit riders.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County
Cost Range	\$ (policy only)

i Description

Several comments received through the public outreach revealed a disconnect between the way sites are designed and how people want to access them. In general, developments in the County have traditionally been auto-oriented with limited sidewalk connections, no accommodations for bikes, and poor transit connectivity where transit is provided nearby. This is particularly true of office, retail (shopping centers), and industrial parks. These land uses tend to consist of low-density development that is spread over a large area and is separated from major pedestrian, bicycle, and transit infrastructure by large parking lots. This type of site design makes it challenging to use modes other than driving, and also makes it difficult to serve these areas with higher-quality transit service or pedestrian/bicycle infrastructure.

≡ Potential Example Application

Municipalities in Monmouth County should consider the development of a mobility-supportive development checklist (see Action Items below) that outlines elements of site design that enhance accessibility for pedestrians, bicyclists, and transit users. This checklist would be particularly valuable in the County's Suburban, Town Center, and Shore Town transects to help avoid common pitfalls of new development. For examples, the West Grove Square shopping center in Neptune lies in an area of traditional "main street" style retail, but is more auto focused in its design with parking laying between the storefronts and the retail. There are no separated pedestrian connections between the surrounding sidewalk network and the storefronts or the nearby bus stop. A checklist that promotes building frontages along the street with parking in the back, or requirements for separated and dedicated sidewalks to connect the storefront to the major streets, could help to make future retail development like this shopping center an extension of existing "main street" style retail.

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✓ Action Items

- Develop a mobility-supportive development checklist that outlines ways to enhance access to new development by walking, riding a bike, or using transit. The checklist should consider factors including, but not limited to the following:
 - *How the layout and circulation plan for the site aligns with other nearby development.*
 - *The potential for double-frontage or other similar building styles that place buildings closer to the street with parking in the rear to enhance accessibility of the development.*
 - *Interconnections between adjacent land uses for vehicles and/or pedestrians. This should include interconnecting roadways between sites where possible to reduce circulation between sites on the adjacent roadway network. Where retail sites abut residential development, look for opportunities to provide a sidewalk connection between the land uses.*
 - *Dedicated pedestrian pathways to building entry points from the surrounding street network. Striped crosswalks through a parking lot should be considered compliant. Separated pedestrian walkways are preferred (see Figure 20).*
 - *Designated routes for bicyclists to use when on-site. Striping or signing may be appropriate along major circulation roadways within the site to indicate the potential presence of bicyclists.*

- *Bicycle parking. Covered bike parking with pump and tool stations should be considered on retail, office, and industrial sites. For office development, developers should be encouraged to provide shower and locker facilities for people that walk or bike to work.*
- *Bus service near the site, are there dedicated pedestrian walkways to connect to the bus stop, with a shelter or other amenities. Municipalities should ensure that there is also a safe pedestrian route to the bus stop in the opposite direction.*
- *Pedestrian-scale lighting along walkways that help enhance the visibility and safety of pedestrians walking from the street to a building entrance.*

Example Application in New Jersey

Figure 20 shows an example of how traditional suburban development can be improved to enhance accessibility for all users. Items of note are the dedicated pedestrian walkway through the center of the site that connects directly to a bus stop on the main roadway **(1)** the additional pedestrian sidewalks that are provided on either end of the site **(2)** a pedestrian connection to the retail site to the west **(3)** a vehicular connection to the retail site to the east **(4)** landscaping and street trees along the sidewalks to provide a more pleasant walking experience **(5)** and dedicated bike parking next to the building at the end of the main driveway from the major roadway **(6)**. All of these measures help to enhance accessibility of the site even in a challenging location.

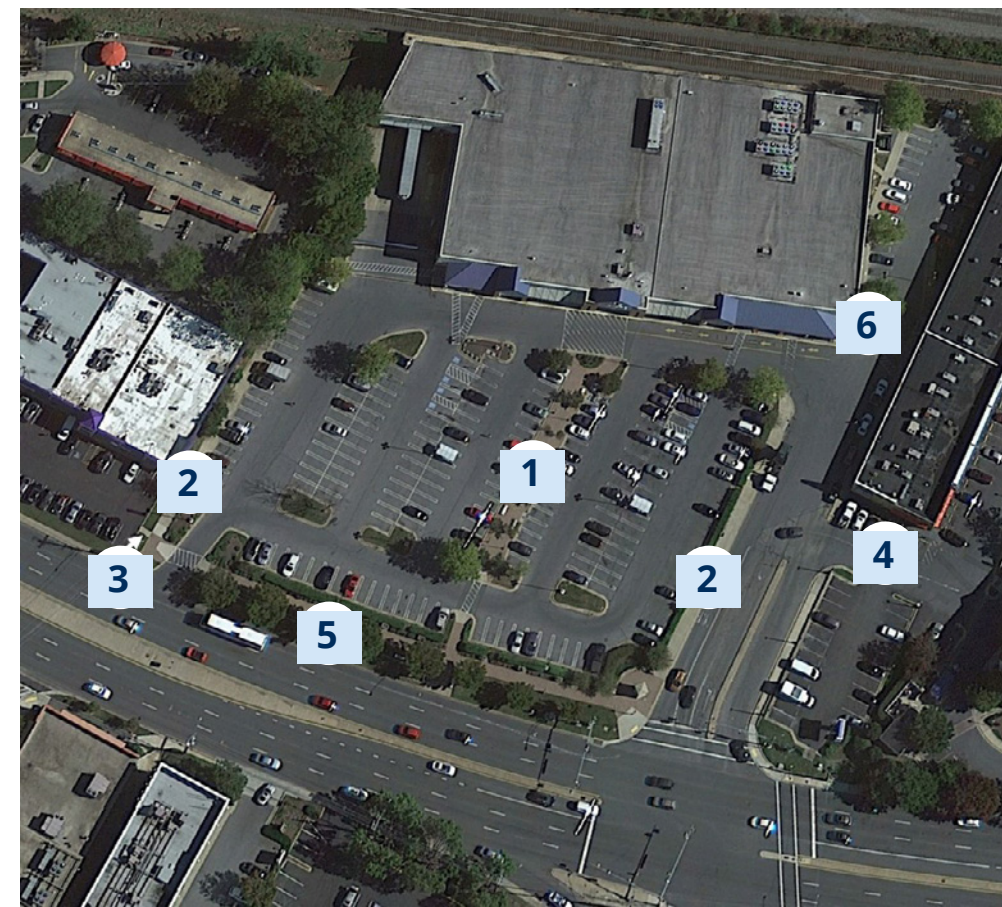


Figure 20: An Example of a Suburban Retail Site with Multi-Modal Design (Image Source: Google Earth)

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Tool 6D: Update subdivision controls.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	Fort Monmouth Economic Revitalization Authority (FMERA)
Cost Range	\$ (policy only)

Description

Subdivision controls allow a municipality to shape the transportation network by requiring new streets to shape blocks of certain dimensions, setting minimum and maximum parameters from intersection to intersection, and establishing general rules for block size and configuration. The creation of new streets frequently accompanies subdivision applications. In New Jersey, the Residential Site Improvement Standards (RSIS) govern the requirements for new streets in all residential projects. However, there is no State-wide standard for how streets should be designed with respect to mixed-use or commercial developments.

Potential Example Application

The Fort Monmouth Redevelopment Plan was first prepared in 2008 and outlined a potential land use and transportation plan. However, the plan is outdated and does not reflect current plans for areas of the Fort that are yet to redevelop. Eatontown and Oceanport should consider working with the Fort Monmouth Economic Revitalization Planning Authority to set specific guidance for the transportation network that would be needed to support the planned development.

Action Items

- Update subdivision controls to:
 - *Require sidewalks in all possible conditions not otherwise governed by RSIS and set standards for their minimum size. Refer to Tool 1A for further guidance on sidewalk requirements.*
 - *Require and set standards for pedestrian-scale lighting.*
 - *Include requirements for street trees, including appropriate spacing.*
 - *Specify driveway requirements, including limiting the size and frequency of curb cuts.*
 - *Identify what types of development should trigger the provision of bicycle infrastructure.*

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Tool 6E: Adopt an Official Map.

Transects	All
Implementation Timeline	Medium-Term (5 – 10 years)
Implementers	Municipalities, Monmouth County
Cost Range	\$ (policy only)

i Description

The official map identifies the location and width of streets, whether such streets are improved, unimproved, or are in actual physical existence, among other elements. The official map gives a municipality the authority to deny permits to build on the reserved areas. The map provides a very clear picture to property owners, developers, and the of the municipality's intentions regarding physical form and design.

≡ Potential Example Application

As part of master planning efforts, municipalities should consider creating or updating an official map that secures rights-of-way for future transportation needs, particularly as it applies to subdivisions. An official map should include separate pedestrian and bicycle pathway rights-of-way as needed to enhance connections between land uses or to/from existing pedestrian or bicycle infrastructure. Similarly, the County should consider updating its Road Plan, which shows the desired right of way and cross sections of the County road network. These plans should be adopted into the appropriate master plan.

✓ Action Items

- Adopt into the appropriate master plan an official map that establishes the following (refer to **Attachment A** for further guidance):
 - *Location and width*
 - *Typical cross sections*
 - *The type (improved, rights-of-way, unimproved, future, etc.)*
 - *Location of planned roads*
 - *Form and function*
 - *Trail locations and potential connections*

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Tool 6F: Allow for shared parking.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	N/A
Cost Range	\$ (policy only)

i Description

In many areas, parking is designed with a one-size-fits-all approach, primarily catering to private car ownership. This model often leads to inefficient use of space, with parking lots and structures remaining underused during off-peak hours and overly congested during peak times. The lack of flexibility in traditional parking systems creates a barrier to integrating different modes of transportation, such as public transit, cycling, and carsharing, thus discouraging their use.

Shared parking standards introduce a dynamic and flexible approach to parking management. These standards are based on the principle of sharing parking spaces among multiple users and uses, depending on the time of day, day of the week, and specific needs of the area. For example, a parking lot could serve an office building during weekdays and a recreational facility during weekends.

☰ Potential Example Application

As noted in Appendix A, Long Branch does not currently have shared parking guidance as part of its parking ordinance. Shared parking is allowed to be shared between uses, but the total number of parking spaces provided must be able to support the aggregate demand of the uses. While the ordinance does technically permit shared parking, it does not specify a methodology for computing shared parking potential. Therefore, Long Branch should consider adopting a shared parking policy, such as the one adopted by Red Bank.

Example Application in New Jersey

Red Bank has 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. These policies work to reduce the area needed for parking and promote cleaner forms of transportation.

✓ Action Items

- Create provisions that allow for agreements between property owners to provide parking within 500 feet of new commercial development.
- Examine opportunities where municipal parking lots could also support commercial properties. Where opportunities exist, consider fee-in-lieu of parking provisions.
- Where mixed-used development occurs, allow applicants to petition for a reduction in parking requirements where they can demonstrate that shared parking strategies would decrease physical demand.
- Where mixed-use communities are possible, consider district parking and other strategies to reduce the overall demand for and supply of parking.
- In the Shore Town transect, examine opportunities where seasonal parking lots could provide parking during off-peak times/seasons to reduce the overall amount of land dedicated to parking.

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Tool 6G: Consider updating traffic impact study guidelines to require pedestrian and bicycle safety analyses as a measure of effectiveness that has equal weight to vehicle metrics.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementers	NJDOT, Municipalities, Monmouth County
Cost Range	\$ (policy only)

i Description

Traffic impact study requirements utilized by NJDOT, the County, and most municipalities largely focus on vehicle operations and require mitigation measures that prioritize vehicles, often at the expense of other modes. Traffic impact study guidelines should focus on the performance and safety of all modes and require or incentivize developers to contribute to active mode and transit infrastructure, where feasible and a rational nexus exists, to offset impacts and improve safety outcomes.

≡ Potential Example Application

Implementers should consider revisions to traffic impact study requirements that require or incentivize developers to offset impacts and improve safety by providing pedestrian, bicycle, and transit (where available) enhancements on and off-site, where a rational nexus exists.

✓ Action Items

- Consider the roadway conditions in and around the development site, in the context of its surroundings as related to mobility and safety for all travelers.
- Consider providing standards and guidelines within the required mitigation guidance that requires or incentivizes developers to provide other multimodal improvements such as bicycle lanes, multi-use pathways, enhances transit amenities, etc. that encourage access by modes other than driving.

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Tool 6H: Adopt multimodal parking requirements.

Transects	All
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	N/A
Cost Range	\$ (policy only)

i Description

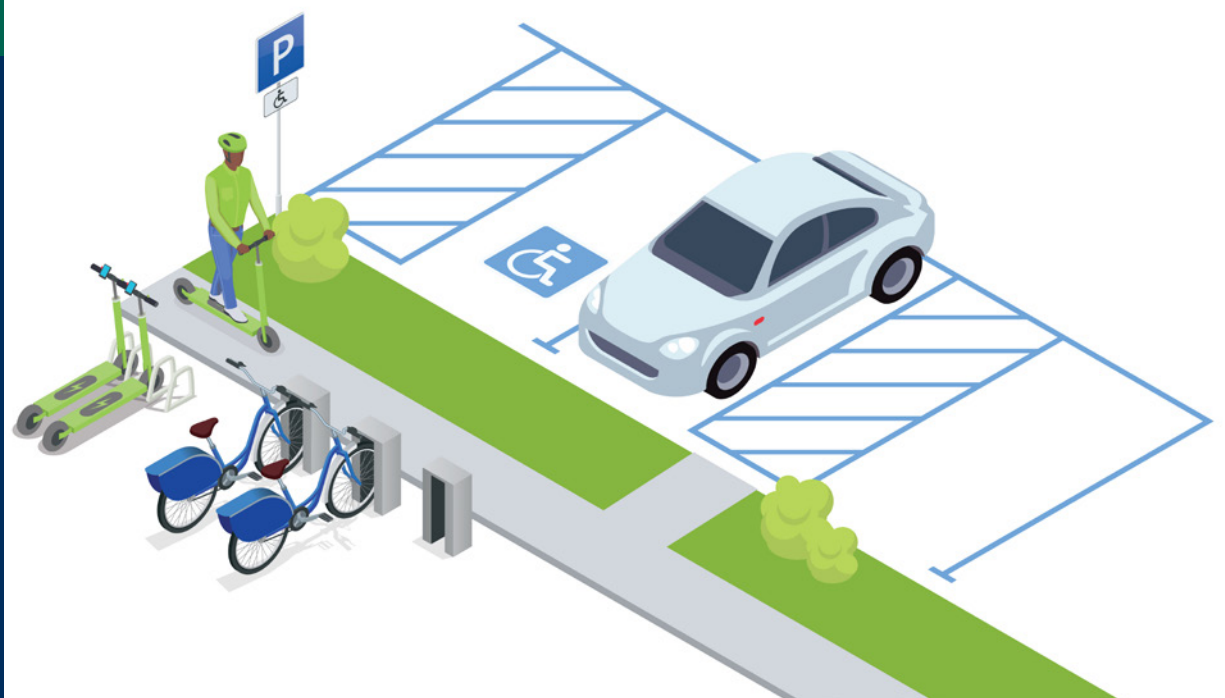
Requiring parking spots for bicycles, scooters, and car-sharing vehicles in strategic locations encourages their use and facilitates easy transfers between modes. This not only makes transportation more accessible but also reduces reliance on private vehicles, leading to improvements in mobility for all users.

☰ Potential Example Application

The majority of municipalities in Monmouth County do not have specific requirements for parking areas for bikes and scooters. All municipalities should provide guidance for bike and scooter parking with provisions for secured, covered parking, battery charging and/or pump and tool stations.

✓ Action Items

- Create provisions that require bicycle parking for all new commercial and multi-family development.
- Establish electric vehicle parking requirements for commercial, office, industrial, and multi-family development.
- Consider secured and protected parking that goes beyond traditional bike racks.
- Consider provisions that support carsharing and micro-mobility users in Suburban, Town Center, and Shore Town transects.



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Tool 6I: Create buffering and landscaping requirements for parking areas that abut public rights of way.

Transects	Village, Suburban, Town Center, Shore Town
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County, NJDOT
Cost Range	\$ (policy only)

i Description

Uses in Village and Suburban transects are likely to be serviced by surface parking lots and it may be unavoidable for that parking to be located near pedestrian areas. Town centers are likely to have the most robust pedestrian infrastructure and it will be important to protect those areas from the negative impacts from surface and structure parking. Requiring enhanced landscaping standards can ensure people have an attractive and comfortable walking environment.

≡ Potential Example Application

Municipalities should re-evaluate landscape requirements for surface parking lots to enhance the walking environment, such as street trees, buffering between parking and walkways, street furniture, and pedestrian-scale lighting.

✓ Action Items

- Create buffering and landscaping requirements for parking areas that abut public rights of way.
- Consider using buffer spaces to provide areas for bicycle and scooter parking, charging or sharing.

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Strategy 7: Improve connections between the County’s transportation disadvantaged populations and critical services such as healthcare, education, recreation, grocery stores, and pharmacies.

The tools presented in Strategy 7 are primarily related to land use and zoning which can be more complicated in nature. Summary guidance is provided in this document and a more detailed explanation of the concepts behind the tools presented here are contained in **Attachment A**.

Tool 7A: Permit missing middle and compact housing types in residential neighborhoods.

Transects	Village, Suburban, Town Center
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	N/A
Cost Range	\$ (policy only)

Description

Village and Town Center transects may have residential areas adjacent to commercial areas and job centers where new residential development would support walking, biking, and taking transit. In this transect, these are likely to be neighborhoods adjacent to main streets and historic commercial districts that would support a higher density of missing middle housing. This type of housing bridges that gap between single family and mid-rise residential by providing more affordable options such as townhomes, condos, duplexes, triplexes, cottages, etc. **(Figure 21)**.

Potential Example Application

Many municipalities utilize the Redevelopment Area adoption process to revitalize blighted or underutilized areas. During this process a redevelopment plan is developed. When developing the plan, municipalities should assess housing stock and provide recommendations within the plan for missing middle housing types, such as cottages, duplexes, triplexes, and other intermediate housing types.

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See **Table 3** for All tools to consider for Priority Implementation

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✓ Action Items

- Explore with community members the historical patterns of development that might have included small multi-family development.
- Identify an appropriate range and scale of new residential development. For neighborhoods in this transect, it is likely to include accessory dwelling unit (ADU), twins, and multi-family development with up to four units that are designed to be similar in scale to single-family detached housing. Permit such development.
- Consider the adoption of hybrid form-based codes to ensure new projects are consistent with the character of the surrounding community.

Figure 21: Missing Middle Housing
(Image Source: Opticos)

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Tool 7B: Plan for growth in nodes and mobility-rich areas through unified land use and circulation planning.

Transects	All
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County, NJ TRANSIT
Cost Range	\$ (policy only)

Description

Throughout the County, one of the biggest obstacles to mobility is frequently the distance between origin and destination and the lack of alternatives to driving. To address this, municipalities should consider merging transportation planning and land use policies to encourage development focused on nodes of mobility. This tool has common action items that correspond to more than one transect, as well transect-specific items.

Potential Example Application

NJ TRANSIT is currently evaluating ways to coordinate with property owners about the potential for transit-oriented development along the US Route 9 corridor. Municipalities along this corridor such as Howell, Freehold, Manalapan, and Marlboro should consider revising their zoning ordinances to allow higher-density mixed-use development around the corridor's bus stops. Incentives should be created that support this type of development on already developed, but underutilized, sites, such as shopping centers.

Action Items

All Transects:

- Plan for growth around bus stops and the intersection of major transportation infrastructure.
- Identify locations where new opportunities for higher-density development can be permitted while respecting the existing community character. Focus on areas near bus stops or with strong connections to commercial areas and job centers.
- Improve mobility by creating incentives for developers to build on already developed land in areas already served by transit or with existing sidewalks, bike paths, and other transportation options. Create disincentives, such as requiring developers to pay for utility extension lines, to greenfield development.
- Revise zoning ordinances to reduce building setback requirements and encourage development closer to the street, parking in the rear, and encouraging double frontage buildings.
- Encourage development in these areas to include grocery stores, pharmacies, healthcare facilities, and other services within walking distance of allocations of affordable housing.

 **Priority Tool**

See **Table 3** for All tools to consider for Priority Implementation

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✓ Action Items

Rural/Natural and Village Transects:

- Explore strategies such as Transfer of Development Rights (TDR) and cluster zoning to support additional density near nodes without impacting overall community densities in Rural/Natural and Village transects.

Suburban Transect:

- In Suburban transects, consider how mobility-rich locations such as major shopping malls or rail stations can be redeveloped into higher-density residential or mixed-use development.

Town Center Transect:

- Town Centers are most likely to have mobility-rich areas. These may include fixed-rail transit facilities as well as high-frequency bus stops.
- Within 1/4 mile of these assets, plan for multi-family and mixed-use development at densities that are appropriate for the facilities.
- Within 1/2 mile of these assets, consider planning for missing middle housing that is compatible with surrounding development patterns.
- Identify mobility improvements, including wider sidewalks and bicycle facilities that would support increased access to transit surrounding neighborhoods.

Shore Town Transect:

- Shore Towns are frequently oriented towards their primary physical asset: the beach. As such, communities should plan for growth near these areas while recognizing the limitations of growing in areas that are likely within the floodplain.

Example Application in New Jersey

Several New Jersey communities have undertaken a unified approach including Westfield, Morristown, and Montclair. In addition, more than 35 communities have been designated “Transit Villages,” which means they have met the criteria and demonstrated a commitment to promoting new development near transit assets. Currently, Asbury Park, Belmar, Matawan, and Long Branch are the only transit villages in Monmouth County, though Red Bank and Freehold have both taken steps toward certification.

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Tool 7C: Plan for housing for transportation disadvantaged communities near transit and mobility-rich areas.

Transects	Village, Suburban, Town Center
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	N/A
Cost Range	\$ (policy only)

Description

Transportation disadvantaged communities throughout the County face obstacles accessing jobs and essential services. To address this, municipalities should consider policies that promote the provision of affordable housing near major transit nodes, commercial centers, and/or employment centers.

Potential Example Application

As mentioned in Tool 7A, NJ TRANSIT is currently evaluating potential for transit-oriented development along the US Route 9 corridor. Municipalities should evaluate affordable housing needs in their communities and offer incentives for developers to provide more affordable housing than is typically required.

Action Items

- Identify the municipality's existing transportation disadvantaged communities and determine the extent to which their housing conditions present a barrier to mobility.
- Identify locations near bus stops, commercial centers, and job destinations that would be appropriate for new housing.
- Identify the type of housing that would be appropriate for the specific subset of transportation disadvantaged communities that are under-served within the community.
- Include recommendations on where such housing should be located.

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Tool 7D: Allow for mixed-use districts.

Transects	Village, Town Center
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	N/A
Cost Range	\$ (policy only)

Description

The largest land-use barrier to mobility is the distance between where people live and where they need to go. As such, traditional Euclidean zoning strategies that separate land uses have extended, and can continue to extend, the distances between housing, jobs, and services, including retail services. Communities looking to overcome barriers to mobility should consider allowing for a variety of land uses proximate to housing, including within the same zone. Where there are concerns about the impact of such uses on the surrounding residential area, municipalities may consider conditional use permissions.

Potential Example Application

Manasquan’s Main Street is abutted by surface parking lots on its south side. In addition, there is a large parking area surrounding the CVS (former ACME) on Main Street. Manasquan could consider evaluating the potential to redevelop some of these surface parking lots to provide higher-density residential with affordable components within close proximity to the Main Street corridor.

Action Items

- Identify areas where additional residential growth would be compatible with existing development patterns. These are likely to be small main streets and historic commercial centers.
- Explore new residential development types that would be appropriate in the area (see Permit Missing Middle and Compact Housing Types). Near commercial corridors, these are likely to be small multi-family projects. Include an examination of age-restricted and accessible housing options.
- Update the ordinance to permit housing with specific site development standards (lot coverage, building height, parking, etc.) that relate to housing development.
- Consider the adoption of hybrid form-based codes to ensure new projects are consistent with the character of the surrounding community.

Priority Tool

See **Table 3** for All tools to consider for Priority Implementation

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Tool 7E: Consider enhancing access to alternative transportation options for elderly, disabled, and residents with mental health needs.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Monmouth County, NJ TRANSIT
Supporting Implementers	Municipalities
Cost Range	\$ (policy only)

i Description

The Experiences Committee identified challenges to providing access to alternative means of transportation for County residents that are elderly, disabled, or live with mental illness. The challenges are two-fold. First, there is a lack of knowledge of the options that currently exist or how to access them, particularly in low-income and minority communities. There is no central repository of information and websites that currently exist often point to other websites which can be difficult to navigate or understand. Second, a lack of resources, such as available drivers with commercial drivers licenses (CDLs), make it difficult to provide access to the services that meets the demand. CDL drivers are in high demand, and it is difficult for agencies to compete with trucking companies when it comes to wages.

≡ Potential Example Application

Shore House is New Jersey's only accredited Clubhouse which is a community-based service that supports and empowers people living with mental illness. It does not provide a treatment program, but rather a place where members can learn new skills, develop new relationships, and explore new opportunities. Shore House staff noted that individuals seeking Access Link rides to appointments for mental health treatment are routinely denied eligibility because mental illness is not a direct qualification metric. In order to be qualified for rides through Access Link, an individual must then submit an appeal, which takes about a month to process. These individuals are generally approved, but the process can be daunting and burdensome, particularly for people living with mental illness.

Shore House assists its members in making appointments, scheduling rides, and filing appeals. But this issue may be problematic for non-members. Therefore, consideration should be given to adjusting the Access Link eligibility requirements to make it easier for those living with mental illness to navigate the application process and avoid the more daunting appeal process.

✓ Action Items

- Consider restructuring Access Link eligibility requirements to make it easier for those living with mental illness to navigate the application process and avoid the more daunting appeal process.
- Investigate opportunities to fund training and licensure of CDL drivers that would work for the County's SCAT program.
- Coordinate with transportation network companies, such as Uber and Lyft, to provide more accessible vehicles, such as vans.
- Consider developing a centralized website that contains all information regarding mobility options for elderly, disabled, and those living with mental illness. This website should contain all information necessary to understand and access the options in a user-friendly format and should not require that users link to other websites.
- Investigate how microtransit can be used to offset demand for services in the County's denser Town Center and Shore Town transects.

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Strategy 8: Improve safety for all roadway users.

Tool 8A: Consider prioritizing proven safety countermeasures that support mobility for vulnerable road users.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Monmouth County, Municipalities, NJDOT
Cost Range	\$\$ - \$\$\$



Figure 22: An example demonstration project in Jersey City that included painted bike lanes, curb extensions, flexible delineators, and a chicane. (Image Source: Stantec)

i Description

Crash data from 2019-2022 reveals clustering of pedestrian and bicycle crashes along major corridors, such as US Route 9, NJ Routes 35 and 36, as well as within Town Center and Shore Town transect communities. Many proven safety countermeasures also fall into the category of "traffic calming", a term used to describe a suite of options that can be deployed to slow traffic, increase visibility of pedestrians and bicyclists, and reduce the number and severity of crashes. Proven safety countermeasures that calm traffic should be prioritized in areas frequented by vulnerable pedestrians populations, such as older adults and children, and others who may be mobility impaired yet reliant on active transportation, to reduce vehicle speeds and enhance safety and comfort for pedestrians and bicyclists.

☰ Potential Example Application

A linear cluster of pedestrian and bicycle crashes exists along Memorial Drive in Asbury Park and Neptune. This corridor lies within one of the County's highest concentrations of vulnerable populations, and several public comments highlighted high vehicle speeds, a wide cross-section south of NJ Route 33, and a lack of pedestrian accommodations as issues along this corridor. The County is continuing the existing road diet condition on Memorial Drive through Bradley Beach, Avon-by-the-Sea, and Neptune Township and City.

✓ Action Items

All Transects:

- Utilize existing resources, such as the FHWA Traffic Calming e-Primer (see resource below) to develop a Monmouth-County focused toolkit of strategies that can be deployed in communities in the County.
- Utilize crash and equity data to identify the areas in most need. Data collected for this study revealed crash clustering in Asbury Park, Ocean Grove, Belmar, Freehold, Keyport, Red Bank, and Kearsburg, which are all areas with higher concentrations of the County's most vulnerable populations.
- Consider measures such as road diets, curb extensions, chockers, chicanes, speed humps, raised crosswalks and intersections, pedestrian island and refuges, neighborhood traffic circles and diverters, and road and turn lane closures.
- Consider demonstration projects in prioritized communities that engage the public to test, evaluate what traffic calming measures they would like to see in their community **(Figure 22)**.

Resource

FHWA's Traffic Calming e-Primer is a great starting resource to learn about what traffic calming is and the suite of traffic calming measures that are available and studied.

<https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer>

💡 Priority Tool

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Tool 8B: Identify “Safe Routes to Schools” that can be enhanced with active mode infrastructure.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County
Cost Range	\$\$ - \$\$\$

i Description
 Children can be counted on to travel to school, to not drive cars, and to want greater independence of motion. Building bike paths and safe walking routes to schools, libraries, playgrounds, and other community assets can serve youth and older adults.

- ✓ Action Items**
- Work with municipalities and school districts to identify school areas in most need of improved pedestrian and bicycle infrastructure.
 - Utilize the guidance provided in Tools 1A and 1B, as well as other “Safe Routes to School” resources to plan and design the infrastructure.

☰ Potential Example Application
 Stone Bridge Middle School lies just outside of the Allentown municipal boundary. Many residential areas in and around Allentown are under the two-mile threshold for bussing, but there are no pedestrian or bicycle facilities along CR 524. The school district should seek obtain funding to provide a sidewalk or multi-use pathway along CR 524 between Breza Road and Whippany Drive to provide options for students to walk or bike to the middle school.

Key Resource
 New Jersey Safe Routes to School Program.
<https://www.saferoutesnj.org/>



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Tool 8C: Complete Comprehensive Safety Action Plans and implement the recommendations.

Transects	All
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementer	Monmouth County
Supporting Implementers	Municipalities
Cost Range	\$ (policy only)

i Description

Monmouth County received a Safe Streets for All grant for fiscal year 2022 to administer the development of Comprehensive Safety Action Plans for Bradley Beach, Highlands, and Holmdel, as well as develop its own. Subsequently Asbury Park and Red Bank were awarded grants. The action plans will be developed to identify and prioritize low-cost, high-impact strategies, and will explore innovative technologies and strategies promoting safety and equity to reduce or eliminate fatal and high-injury crashes.

≡ Potential Example Application

The County Safe Streets for All Comprehensive Safety Action Plan will, among other tasks, perform a crash analysis and develop a prioritized list of projects under County jurisdiction. The study will provide crash information for all of Monmouth’s municipalities, as well as the state, so they can create prioritized project lists for their jurisdictions.

✓ Action Items

- Develop the Safe Streets for All Comprehensive Action Plans for the County, Asbury Park, Bradley Beach, Highlands, Holmdel, and Red Bank. Provide data for the remaining 48 municipalities to prioritize safety investments.

Key Resource

Jersey City developed a Vision Zero Action Plan in 2019 and conducts annual monitoring.

[Vision Zero - City of Jersey City \(jerseycitynj.gov\)](https://www.jerseycitynj.gov/vision-zero)

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Tool 8D: Adopt municipal complete streets policies.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County
Cost Range	\$ (policy only)

Description

Municipalities should consider adopting complete streets policies that require roadways to be designed and operated to enable safe, attractive, and comfortable access for all users. Complete streets policies emphasize the creation of a more integrated and equitable transportation network by incorporating features such as sidewalks, bike lanes, pedestrian crossings, bus lanes, and traffic calming measures into the roadway design. This strategy can be deployed at all Transect levels, but this Tool is most applicable in Suburban, Village, Town Center, and Shore Town contexts. In these contexts, it could mean redesigning existing streetscapes to include safe, dedicated spaces for non-motorized transportation, improving intersections to enhance pedestrian safety, and ensuring that public transit facilities are easily accessible.

Priority Tool

See **Table 3** for All tools to consider for Priority Implementation

Potential Example Application

Few municipalities in Monmouth County have adopted complete streets policies. Middletown Township is an example of a municipality without a formally adopted policy. Continued growth and redevelopment in the Township coupled with its diverse community types, ranging from villages to suburban areas to more dense communities along the bay shore, makes it an excellent candidate for a near-term adoption of a complete streets policy. Middletown should consider adopting a formal resolution requiring complete streets that references resources such as the New Jersey Complete Streets Design Guide. Complete streets policies are most critically needed in areas like Lincroft Village, Kings Highway, North Middletown, Port Monmouth, and Leonardo where there are higher proportions of people walking and biking.

Action Items

All Transects:

- Advocate for municipalities to formally adopt complete streets policies.
- Reference other tools in this toolkit related to complete street features like sidewalk widths, bike lanes, improved pedestrian crossings, etc.
- Consider incorporating public art, green stormwater infrastructure, lighting, and landscaping.

Examples and References in New Jersey

Washington Street Redesign (Hoboken, NJ): Hoboken's main commercial corridor, Washington Street, underwent a significant redesign that incorporated Complete Streets principles. This included the installation of upgraded ADA-compliant curb ramps, rain gardens for stormwater management, new bike lanes, improved pedestrian crosswalks, and traffic signal upgrades with countdown timers and audible signals for visually impaired pedestrians.

<https://www.hobokennj.gov/resources/washington-street>

Speedwell Avenue Revitalization (Morristown, NJ): This project focused on transforming the corridor to enhance pedestrian safety and connectivity. It featured widened sidewalks, new crosswalks, bike lanes, traffic calming measures, and streetscape improvements like lighting, street furniture, and landscaping.

<https://www.townofmorristown.org/index.asp?SEC=8614A6E0-3454-4CBC-91CD-EB44F30779C9&DE=C6B4D830-DAA2-4F37-B780-D55A69951FAF>

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Tool 8E: Update speed limit policies per the most current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County, NJDOT
Cost Range	\$ (policy only)

i Description

Several comments were received regarding concerns over speed limits and how they have been established/maintained. The new MUTCD allows for a context-based engineering study to determine posted speed limits for roadways.

☰ Potential Example Application

The County is updating speed limits using the new context-based engineering study recommended by the MUTCD.

Resource

Resource: Section 2B.21 of the MUTCD provides guidance for conducting engineering studies for speed limit setting.

https://mutcd.fhwa.dot.gov/kno_11th_Edition.htm

✓ Action Items

All Transects:

- Review the latest guidance on setting speed limits based on the current of the MUTCD.
- Develop and implement a speed limit update policy and coordinate with municipalities.
- Consider the following factors:
 - *Roadway environment (such as roadside development, number and frequency of driveways and access points, and land use) and functional classification.*
 - *Public transit volume and location or frequency of stops.*
 - *Presence and type of on-street parking.*
 - *Pedestrian and bicycle facilities and activity.*
 - *Roadway characteristics (such as lane widths, shoulder condition, grade, alignment, median type, and sight distance).*
 - *Geographic context (such as an urban district, rural town center, non-urbanized rural area, or suburban area), and multi-modal trip generation.*
 - *Reported crash experience for at least a 12-month period.*
 - *Speed distribution of free-flowing vehicles including the pace, 50th-percentile speed (median), and 85th percentile speed (the speed at or below which 85% of drivers travel on a specific road segment).*
 - *A review of past speed studies to identify any trends in operating speeds.*

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Tool 8F: Consider improving lighting along sidewalks, bicycle facilities, and trails.

Transects	All
Implementation Timeline	Medium-Term (5-10 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County, NJDOT
Cost Range	\$\$

i Description
 Lighting, or the lack thereof, along sidewalks, bicycle facilities, and trails is a critical issue identified through outreach across the County. Poor lighting increases pedestrian and bicycle-related crash risks, can encourage illicit activities, and can generally discourage walking or biking. Providing pedestrian/bicycle-scale lighting should be a priority, particularly in areas with higher proportions of low-income and zero-vehicle households.



Figure 23: Pedestrian-scale lighting faces the sidewalk in this example in Scottsdale, Arizona (Image Source: Achen Gardner & City of Scottsdale, AZ)

☰ Potential Example Application

Accessing transit can become more difficult during early morning and evening hours if there is a lack of adequate lighting along sidewalks that connect residents to bus stops. An example of this issue is on East Freehold Road in Freehold Township. Public comments received noted that many residents in the nearby neighborhoods walk to the bus stops on US Route 9 and that poor lighting has led to close calls between pedestrians and vehicles. Freehold Township should consider conducting a lighting study to identify needs and improve lighting for vehicles and pedestrians.

☑ Action Items

- Utilize crash data and public feedback to identify areas to prioritize investment in lighting.
- Require pedestrian and bicycle-scale lighting assessments for all intersection and roadway projects, including resurfacing.
- Where new roadway lighting is being installed, install complimentary pedestrian-scale lighting (**Figure 23**).
- Require developers to install pedestrian-scale lighting on sidewalks and pathways within a development.

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Tool 8G: Consider additional safety measures at trail crossings.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Implementers	Monmouth County, NJDOT, Municipalities
Cost Range	\$\$ - \$\$\$

i Description

The data obtained for this study identified safety concerns around existing trail crossings in the County. Enhancing trail crossing safety will reduce pedestrian and bicycle crashes at crossing locations, encourage use of the trails for those with limited biking experience, and address potential increase in exposure that would result from increased trail use (**Figure 24**).

Monmouth County Parks System currently has federal grant funding for improvement to all road crossings along the Henry Hudson Trail in the Bayshore area. The Division of Engineering and Traffic Safety has federal grant funding for improvements to the Union Transportation Trail (UTT) crossings at CR 524 and CR 539 in Upper Freehold.

✓ Action Items

- Improve lighting at the crossing locations. Provide vehicle and pedestrian/bicycle-scale lighting. Where light pollution is a concern, consider lighting that is activated by trail users through detection, or lighting with screening to direct light down to the trail only.
- Install high visibility pavement markings.
- Consider video-detection systems that activate rapid flashing beacons and advanced warning signs.
- At high-volume crossings consider signalization or grade-separated crossing to enhance pedestrian and bicyclist safety.
- Where trails cross wide roadways install curb extensions and/or median refuge islands to shorten crossing distances.
- Consider raised crosswalks at crossings on local roadways.
- Consider advancing technologies for crosswalk safety.

☰ Potential Example Application

The Monmouth County Parks System has recently begun an extension of the Henry Hudson Trail through Freehold Borough, and in order to maintain connectivity of the trail and reduce the potential for active transportation and vehicle conflicts, has opted to utilize the existing elevation of the former railroad bridge over Center Street to construct a bridge to carry the trail south. The Parks System is improving crossings on its trails and considering other locations to implement bridge crossings.

Higher traffic speeds (1) affect driver stopping sight distance when approaching mid-block trail crossings, and higher traffic volumes reduce the number of gaps that trail users have to cross the road in one stage (2). Curved roadways and skewed trail approaches (3) limit visibility and sight distance of trail crossings, and vegetation or buildings near the crossing restrict driver and trail user view of the crossing (4). Wider or multilane roadways create longer crossing distances (5). These conditions are improved by removing visual obstructions such as tall vegetation and installing advance warning signs ahead of the trail crossing. Countermeasures such as refuge islands provide for a multistage crossing and may help reduce approaching speeds, and RRFBs improve driver visibility of the trail crossing.

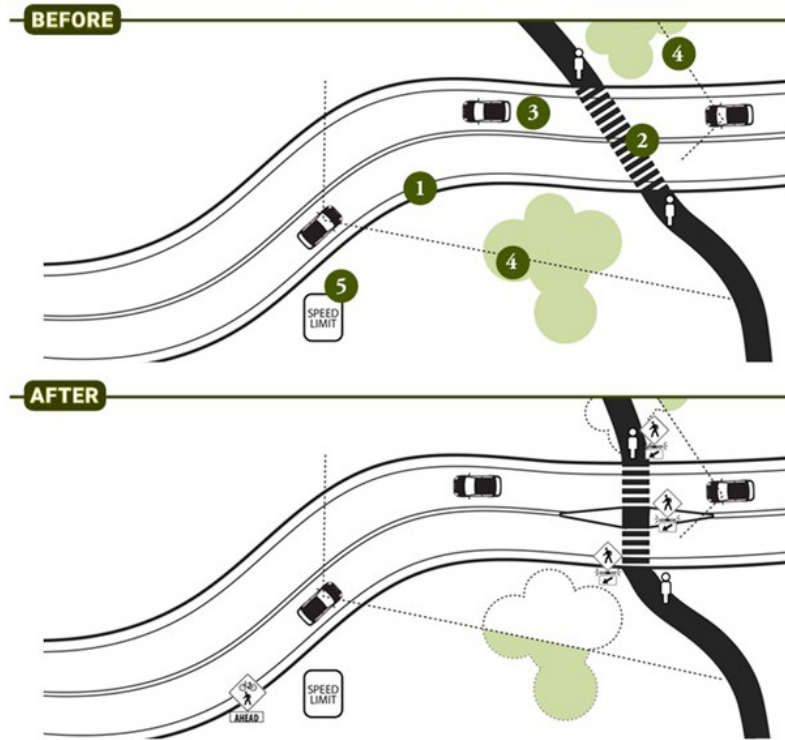


Figure 24: The graphic below shows how a trail crossing could be improved to increase pedestrian visibility and reduce exposure. (Image Source: FHWA)

Important Resource

FHWA's "Improving Visibility at Trail Crossings" provides guidance to enhance trail crossings that can be applied to a variety of crossing types.

[Improving Visibility at Trail Crossings \(FHWA\)](#)

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Tool 8H: Provide adequate facilities and guidance to mitigate the potential for violations and enforcement, and increase active traveler comfort and confidence.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Municipalities
Supporting Implementers	Division of Highway Traffic Safety
Cost Range	\$ (policy only)

i Description

Active transportation users operating outside of the regulations will often make other travelers uncomfortable or create an unsafe situation. Violations may also result in police encounters, which can have a chilling effect on activities like cycling, as they discourage people from risking their own violations. An environment where needs are high, appropriate facilities are not available, and regulations are not well known is ripe for misunderstandings, violations, and police encounters. The risk of police encounters may dissuade undocumented cyclists, cyclists of color, teen/young adult, and other transportation disadvantaged cyclists from riding. Additionally, studies in several cities (outside of Monmouth County) show excess engagement of police with cyclists of color⁶.

During the third public outreach meeting in Freehold, several Latino bike riders that were interviewed that indicated that they have been stopped by police on several occasions for riding their e-bikes to work on the sidewalk. However, they felt that they had no other option because of a lack of bicycle facilities. This type of interaction indicates that there is a need for outreach and education regarding laws and regulations around bicycling in minority and low-income communities, as well as the need to provide safe alternative options to riding on the sidewalk.

⁶ A NACTO report summarizes several research papers that identify excess engagement of police with minority cyclists (<https://nacto.org/wp-content/uploads/2022/08/Bikeway-Design-Enforcement-Paper.pdf>).

✓ Action Items

- Municipal police departments should seek guidance on appropriate uses of ticketing and warning systems to govern active mode use, in order to create a safe environment without discouraging cycling and other active modes.
- Provide more bicycle infrastructure to make it easier to comply with local ordinances. Some evidence suggests that ample bike infrastructure may decrease violations.
- Engage in multi-lingual and multi-cultural outreach and education through a variety of media in addition to enforcement to create a safe environment,
- Support efforts to provide mobility education in schools, like that provided by EZ-Ride and the Safe Routes to School Program.

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Strategy 9: Enhance transportation-supported sustainability and resilience efforts.

Tool 9A: Create a County-wide sustainability and resilience plan.

Transects	All
Implementation Timeline	Short-Term (<5 years)
Lead Implementer	Monmouth County
Supporting Implementers	Municipalities
Cost Range	\$ (plan only)

i Description

A comprehensive sustainability and resilience plan for Monmouth County would help guide transportation investments and development in ways that are equitable, environmentally, and economically sustainable and resilient. The plan would include evaluation of risks (such as major storms, flooding, housing unaffordability, and economic opportunities) and identify local and regional actions that the County could take to create a more sustainable and resilient and vibrant future.

≡ Potential Application

Monmouth County should create a county-wide sustainability and resilience plan. When developing the plan, ensure that impacts to environmentally vulnerable and transportation disadvantaged communities are considered.



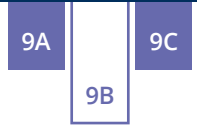
Priority Tool

See **Table 3** for All tools to consider for Priority Implementation

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Tool 9B: Improve stormwater management beyond minimum requirements.

Transects	All
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementers	Monmouth County, Municipalities, NJDOT
Cost Range	\$ - \$\$\$

i Description

As intense storm events are increasing in frequency, there is an ongoing need to improve stormwater management techniques using best management practices to reduce risks to mobility infrastructure.

≡ Potential Application

All jurisdictions should actively seek ways to incorporate green stormwater management techniques on infrastructure and development projects in environmentally vulnerable communities to reduce risk to transportation facilities beyond minimum requirements.



Figure 26: An example of a rain garden in Camden, New Jersey. (Image Source: Rutgers)

✓ Action Items

- Encourage stormwater evaluations on all roadway and real estate development projects, and lower the threshold for projects that require review, to identify opportunities for enhanced stormwater management beyond minimum requirements (N.J.A.C. 7:8 at publication), such as:
 - *Bioswales*
 - *Rain gardens (Figure 26)*
 - *Permeable surfaces and parking lots*
 - *Stormwater planters and bump-outs*
 - *Sub-surface drainage wells*
 - *Blue roof policies*

Resource

Camden SMART Initiative: The Camden SMART (Stormwater Management and Resource Training) Initiative is a comprehensive effort to address the city's flooding and stormwater issues. It includes the installation of numerous rain gardens and bioswales throughout Camden to absorb and filter stormwater, reducing runoff and pollution entering the city's combined sewer system.

<http://www.camdensmart.com/>

Hoboken Green Infrastructure Strategic Plan: Hoboken has implemented several green infrastructure projects, including the installation of permeable pavement in parking lots and public spaces. These efforts are part of the city's broader strategy to mitigate flood risk and manage stormwater more sustainably.

https://cms.jerseywaterworks.org/wp-content/uploads/2016/01/Final-Report_Hoboken-Green-Infrastructure-Strategic-Plan.pdf

Jersey City Green Infrastructure Demonstration Projects: Jersey City has several demonstration projects showcasing green infrastructure solutions like stormwater planters and curb extensions (bump-outs) that capture and filter runoff before it enters the sewer system, particularly in areas with limited green space.

<https://www.sustainablejc.org/projects/green-infrastructure-rain-gardens>

Ocean City Stormwater Management: Ocean City has undertaken significant efforts to manage its stormwater, including the installation of sub-surface drainage wells (injection wells) designed to help manage the volume of stormwater, especially useful in coastal areas prone to flooding.

<https://www.ocnj.us/StormWaterOceanCityNJ>

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Tool 9C: Consider increasing tree coverage.

Transects	Village, Suburban, Town Center, Shore Town
Implementation Timeline	Medium-Term (5 – 10 years)
Lead Implementer	Municipalities
Supporting Implementers	Monmouth County, NJDOT
Cost Range	\$ - \$\$

i Description

Reduce excessive heating and cool ambient temperatures for people biking, walking and taking transit by increasing overall tree coverage, especially near sidewalks, bike paths, and roadways.

≡ Potential Application

The area between NJ Route 36 and Broadway in Long Branch has the one of the greatest concentrations of vulnerable populations within the County. When evaluating streets within this area, most blocks have fewer than three street trees. Long Branch could explore funding sources for planting more street trees in this community to reduce the effects of urban heating on pedestrians and bicyclists.

✓ Action Items

All Transects:

- Develop a tree planning program that supports the planting and maintenance of street trees using features such as:
 - *Suspended pavement systems*
 - *Tree pits*
 - *Sub-surface tree trenches*

Resources and Examples In New Jersey

Jersey City's MillionTrees Initiative: Jersey City launched the MillionTrees initiative, aiming to plant one million new trees across the city by a target year. This initiative focuses on increasing tree coverage in urban areas to provide shade, improve air quality, and reduce the urban heat island effect, benefiting pedestrians, cyclists and residents alike. The initiative is a result of a tree canopy assessment:

https://gicinc.org/wp-content/uploads/Jersey_City_Tree-Canopy_Report.pdf

Newark's Tree Planting Efforts: Newark has undertaken significant tree planting efforts as part of its broader sustainability and green infrastructure goals. The city focuses on planting trees along streets, in parks, and around public spaces to create cooler, more pleasant environments for walking and cycling and to enhance the overall urban ecosystem.

<https://www.tapinto.net/towns/newark/sections/green/articles/this-tree-planting-initiative-is-promoting-sustainability-togetherness-in-newark>

Princeton's Urban Forestry Program: Princeton has a robust urban forestry program that includes planting and maintaining trees along streets, in parks, and in other public spaces. This program aims to expand the town's tree canopy, providing shade and cooling effects that enhance the comfort of outdoor spaces for pedestrians and cyclists.

<https://www.princetonnj.gov/DocumentCenter/View/6245/Community-Forestry-Management-Plan-PDF>



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Summary of Strategies

Table 2: Summary of Strategies and Tools to Mitigate Barriers

Strategy and Tools		Implementation			Transect				
		Lead Implementer	Timeline*	Cost**	Rural/ Natural	Suburban	Village	Town Center	Shore Town
Strategy 1 Adopt design standards that support active modes like walking, biking, and scooting, for all users.									
Tool 1A	Adopt mobility standards and policies	Monmouth County Municipalities, NJ TRANSIT, NJDOT, Municipalities	Short Term	\$	x	x	x	x	x
Tool 1B	Update sidewalk ordinances and regulations to ensure their construction, and their design to adhere to the latest standards and design guidelines as a minimum.	Municipalities, Monmouth County, NJDOT	Short Term	\$	x	x	x	x	x
Tool 1C	Include bicycle and pedestrian elements in all intersection projects regardless of demand.	Municipalities, Monmouth County, NJDOT	Short Term	\$ - \$\$	x	x	x	x	x
Tool 1D	Consider implementing policies that encourage the installation of mobility improvements and proven safety countermeasures when the roadway is scheduled for resurfacing or other improvements.	Municipalities, Monmouth County, NJDOT	Short Term	\$	x	x	x	x	x
Tool 1E	Activate public spaces, such as schools, libraries, parks, and municipal buildings as mobility hubs.	Municipalities, Monmouth County	Medium Term	\$ - \$\$		x	x	x	x
Tool 1F	Provide street furniture, rest areas, and benches.	Municipalities, Monmouth County, NJDOT	Medium Term	\$ - \$\$		x	x	x	x
Tool 1G	Enhance rural roads through the addition of bicycle and pedestrian infrastructure in the vicinity of commercial and cultural centers. Add bicycle facilities to connect these centers.	Municipalities	Long Term	\$\$ - \$\$\$	x				
Tool 1H	Reduce seasonal visitor reliance on personal vehicles through expanded wayfinding, bike and scooter share, and transit and rideshare programs.	Municipalities	Medium Term	\$ - \$\$				x	x
Tool 1I	Address knowledge gaps related biking and scooting.	EZ-Ride, NJ Bike and Walk Coalition, School Districts, Not for Profits	Short Term	\$	x	x	x	x	x
Tool 1J	Continue development of and education on electric bicycle and scooter regulations.	Division of Highway Traffic Safety, NJDOT, Municipalities	Medium Term	\$	x	x	x	x	x

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Strategy and Tools		Implementation			Transect				
		Lead Implementer	Timeline*	Cost**	Rural/ Natural	Suburban	Village	Town Center	Shore Town
Strategy 2 Develop multi-modal programs that prioritize mobility for the County's transportation disadvantaged populations.									
Tool 2A	Develop a Transportation Equity Priority Areas framework for identifying where pedestrian and bicycle improvements would impact transportation disadvantaged populations.	Municipalities, Monmouth County, NJDOT	Short Term	\$	x	x	x	x	x
Tool 2B	Address financial barriers to cycling and scootering.	Not For Profit Organizations	Short Term	\$ - \$\$	x	x	x	x	x
Tool 2C	Consider mitigating the impact of arterials on neighborhood connectivity, especially in historically disadvantaged and overburdened communities.	Municipalities, Monmouth County, NJDOT	Medium Term	\$\$ - \$\$\$		x		x	x
Tool 2D	Build relationships and increase positive interaction with government through engagement through addressing infrastructure and service issues.	Municipalities	Long Term	\$ - \$\$				x	x
Tool 2E	Seek funding for the installation, operations, and maintenance of mobility technology in the County's transportation disadvantaged communities.	Municipalities	Medium Term	\$ - \$\$	x	x	x	x	x
Tool 2F	Support the development car share programs.	Municipalities	Medium Term	\$ - \$\$				x	x
Tool 2G	Establish community bike bus programs.	Monmouth County	Medium Term	\$ - \$\$				x	x
Tool 2H	Establish community maintenance and stewardship programs.	Municipalities, NJ TRANSIT, Not For Profits	Short Term	\$		x	x	x	x
Strategy 3 Improve County-wide active mode connections between neighborhoods, land uses, and municipalities.									
Tool 3A	Develop a County-wide active transportation plan with a focus on cross-County connectivity.	Monmouth County	Short Term	\$	x	x	x	x	x
Tool 3B	Continue making connections in the network of off-street greenway/trail systems.	Monmouth County, Municipalities	Long Term	\$\$\$	x	x	x	x	x
Tool 3C	Consider creating a network of on-street low-stress bike lanes and shared-use pathways.	Municipalities, Monmouth County, NJDOT	Medium Term	\$\$ - \$\$\$	x	x	x	x	x

*Short Term: within 5 years, Medium Term: 5-10 years, Long Term: more than 10 years
 ** \$ - low cost: studies, reallocation of existing resources, or improvements that do not require substantial modifications to infrastructure.
 \$\$ - medium cost: moderate improvements to infrastructure or services that require purchase of new vehicles with additional operating costs.
 \$\$\$ - high cost: significant improvements to infrastructure or services that require substantial changes to existing resources (i.e. vehicles, staff, etc.).

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Strategy and Tools		Implementation			Transect				
		Lead Implementer	Timeline*	Cost**	Rural/ Natural	Suburban	Village	Town Center	Shore Town
Strategy 4 Access to transit can be improved by addressing transit stop conditions and first and last mile challenges.									
Tool 4A	Prioritize comfort at bus stops where possible.	Municipalities, NJ TRANSIT	Medium Term	\$ - \$\$	x	x	x	x	x
Tool 4B	Ensure that stops are accessible by pedestrians, including those with lower levels of mobility, and support integration with bicycle facilities.	Municipalities	Medium Term	\$ - \$\$	x	x	x	x	x
Tool 4C	Identify and further investigate potential intermodal transportation facilities and create mobility hubs.	NJ TRANSIT, Station Owing Municipalities	Medium Term	\$\$ - \$\$\$		x	x	x	x
Tool 4D	Continue to improve passenger information technology.	NJ TRANSIT	Medium Term	\$ - \$\$	x	x	x	x	x
Tool 4E	Consider potential for feeder services to commuter bus or rail hubs.	Monmouth County, Municipalities, NJ TRANSIT, EZ-Ride	Long Term	\$\$\$	x	x	x		
Tool 4F	Consider expanding transit coverage to underserved areas using microtransit.	Monmouth County, Town Center and Shore Town Municipalities, NJ TRANSIT, EZ-Ride	Medium Term	\$\$ - \$\$\$				x	x
Tool 4G	Continue to improve station parking and pick-up/drop-off.	NJ TRANSIT and Station Lot Owing Municipalities	Medium Term	\$\$ - \$\$\$		x		x	x
Tool 4H	Continue to improve rider amenities at train stations and enhance accessibility.	NJ TRANSIT, Station Owing Municipalities	Medium Term	\$\$ - \$\$\$		x		x	x
Tool 4I	Provide climate-controlled waiting areas at ferry stops.	Ferry Service Providers and Terminal Owners	Short Term	\$ - \$\$					x

*Short Term: within 5 years, Medium Term: 5-10 years, Long Term: more than 10 years
 ** \$ - low cost: studies, reallocation of existing resources, or improvements that do not require substantial modifications to infrastructure.
 \$\$ - medium cost: moderate improvements to infrastructure or services that require purchase of new vehicles with additional operating costs.
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Strategy and Tools		Implementation			Transect				
		Lead Implementer	Timeline*	Cost**	Rural/ Natural	Suburban	Village	Town Center	Shore Town
Strategy 5 Investigate potential improvements to transit service and explore increasing transit connections to major activity centers to the west of the County.									
Tool 5A	Identify potential transit corridors for evaluation of demand and potential transit or microtransit solutions.	NJ TRANSIT	Short Term	\$	x	x	x	x	x
Tool 5B	Investigate east west corridors for potential transit or microtransit improvements in coordination with the TMA and NJ TRANSIT.	NJ TRANSIT	Medium Term	\$\$ - \$\$\$		x	x	x	x
Tool 5C	Investigate the need for more convenient transit service to employment centers west of the County such as New Brunswick, Princeton, and Trenton.	NJ TRANSIT	Long Term	\$\$ - \$\$\$		x	x	x	x
Tool 5D	Consider enhancements to local transit service.	NJ TRANSIT, Municipalities	Medium Term	\$\$ - \$\$\$		x	x	x	x
Tool 5E	Study the need for and feasibility of reducing transit transfers.	NJ TRANSIT	Short Term	\$		x	x	x	x
Tool 5F	Consider providing seasonal transit service to shore communities.	NJ TRANSIT, Municipalities, Monmouth County	Medium Term	\$\$ - \$\$\$					x
Tool 5G	Consider evaluating the installation of bus priority measures in congested areas.	NJDOT	Long Term	\$\$ - \$\$\$		x		x	x
Strategy 6 Implement policies that encourage mixed-use, multi-modal-supportive development patterns that provide a variety of housing options.									
Tool 6A	Update subdivision and zoning standards to encourage or require transit supportive development.	Municipalities	Medium Term	\$	x				
Tool 6B	Plan for walkable communities that can be enhanced through transit expansion.	Municipalities	Medium Term	\$		x			
Tool 6C	Require developers to design sites to accommodate pedestrians, bicyclists, and transit riders.	Municipalities	Short Term	\$	x	x	x	x	x
Tool 6D	Update site plan and subdivision controls.	Municipalities	Short Term	\$	x	x	x	x	x
Tool 6E	Adopt an Official Map	Municipalities	Medium Term	\$	x	x	x	x	x
Tool 6F	Allow for shared parking.	Municipalities	Short Term	\$	x	x	x	x	x
Tool 6G	Consider updating traffic impact study guidelines to require pedestrian and bicycle safety analyses as a measure of effectiveness that has equal weight to vehicle metrics.	NJDOT, Municipalities, Monmouth County	Short Term	\$	x	x	x	x	x
Tool 6H	Adopt multimodal parking requirements.	Municipalities	Medium Term	\$	x	x	x	x	x
Tool 6I	Create buffering and landscaping requirements for parking areas that abut public rights of way.	Municipalities	Short Term	\$	x	x	x	x	x

*Short Term: within 5 years, Medium Term: 5-10 years, Long Term: more than 10 years
 ** \$ - low cost: studies, reallocation of existing resources, or improvements that do not require substantial modifications to infrastructure.
 \$\$ - medium cost: moderate improvements to infrastructure or services that require purchase of new vehicles with additional operating costs.
 \$\$\$ - high cost: significant improvements to infrastructure or services that require substantial changes to existing resources (i.e. vehicles, staff, etc.).

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Strategy and Tools	Implementation			Transect					
	Lead Implementer	Timeline*	Cost**	Rural/ Natural	Suburban	Village	Town Center	Shore Town	
Strategy 7 Improve connections between the County’s transportation disadvantaged populations and critical services necessary for wellness such as healthcare, education, recreation, grocery stores, and pharmacies.									
Tool 7A	Permit missing middle and compact housing types in residential neighborhoods.	Municipalities	Medium Term	\$		x	x	x	
Tool 7B	Plan for growth in nodes and mobility-rich areas through unified land use and circulation planning.	Municipalities	Medium Term	\$	x	x	x	x	x
Tool 7C	Plan for housing for transportation disadvantaged communities near transit and mobility-rich areas.	Municipalities	Medium Term	\$		x	x	x	x
Tool 7D	Allow for mixed-use districts.	Municipalities	Medium Term	\$		x	x	x	
Tool 7E	Consider enhancing access to alternative transportation options for elderly, disabled, and residents with mental health needs.	Monmouth County, NJ TRANSIT	Short Term	\$\$-	x	x	x	x	x
Strategy 8 Improve safety for all roadway users.									
Tool 8A	Consider prioritizing proven safety countermeasures that support mobility for vulnerable road users.	Monmouth County, Municipalities, NJDOT	Short Term	\$\$ - \$\$\$	x	x	x	x	x
Tool 8B	Identify “Safe Routes to Schools” that can be enhanced with active mode infrastructure.	Municipalities	Short Term	\$ - \$\$	x	x	x	x	x
Tool 8C	Complete Comprehensive Safety Action Plans and implement the recommendations.	Monmouth County	Medium Term	\$	x	x	x	x	x
Tool 8D	Adopt municipal complete streets policies.	Municipalities	Short Term	\$	x	x	x	x	x
Tool 8E	Update speed limit policies per the most current edition of the Manual on Uniform Traffic Control Devices (MUTCD).	Municipalities	Short Term	\$	x	x	x	x	x
Tool 8F	Consider improving lighting along sidewalks, bicycle facilities, and trails.	Municipalities	Medium Term	\$\$	x	x	x	x	x
Tool 8G	Consider additional safety measures at trail crossings.	Monmouth County	Short Term	\$\$ - \$\$\$	x	x	x	x	x
Tool 8H	Provide adequate facilities and guidance to mitigate the potential for violations and enforcement and increase active traveler comfort and confidence.	Municipalities	Short Term	\$	x	x	x	x	x

*Short Term: within 5 years, Medium Term: 5-10 years, Long Term: more than 10 years
 ** \$ - low cost: studies, reallocation of existing resources, or improvements that do not require substantial modifications to infrastructure.
 \$\$ - medium cost: moderate improvements to infrastructure or services that require purchase of new vehicles with additional operating costs.
 \$\$\$ - high cost: significant improvements to infrastructure or services that require substantial changes to existing resources (i.e. vehicles, staff, etc.).

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Strategy and Tools		Implementation			Transect				
		Lead Implementer	Timeline*	Cost**	Rural/ Natural	Suburban	Village	Town Center	Shore Town
Strategy 9 Enhance transportation-supported sustainability and resilience efforts.									
Tool 9A	Create a County-wide sustainability and resilience plan.	Monmouth County	Short Term	\$	x	x	x	x	x
Tool 9B	Improve stormwater management beyond minimum requirements.	Monmouth County, Municipalities, NJDOT	Medium Term	\$ - \$\$\$	x	x	x	x	x
Tool 9C	Increase tree coverage.	Municipalities	Medium Term	\$ - \$\$		x	x	x	x
Tool 9D	Increase infrastructure storm resilience.	Municipalities, Monmouth County, NJDOT, NJ TRANSIT	Long Term	\$ - \$\$\$					x

*Short Term: within 5 years, Medium Term: 5-10 years, Long Term: more than 10 years

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Recommendations and Next Steps

The County, state agencies, and municipalities can review this document and the attached toolkit to begin working toward a more equitable mobility future for people living, working, and visiting the County.

The attached toolkit includes 64 tools that can be used to address barriers to mobility within the County. However, the large number of tools, while providing flexibility for implementation, can also impede implementation because implementers may not know where to start. The project team has assessed the critical barriers and has highlighted up to five tools that each implementer should consider implementing in the short term (**Table 3**). Municipality-led initiatives are also broken down by transect. However, there should be no limit as to how many tools can be implemented, and implementers should have flexibility to pick and choose which tools they want to implement based on changes in needs and priorities. A full summary of Strategies and Tools to Mitigate Barriers can be found in Appendix C: Limiting Effects and Positive Solutions, as well as the toolkit.

Table 3: Tools to Consider for Priority Implementation by Lead Implementer *(continues on next page)*

Lead Implementer	Tools for Priority Implementation
Monmouth County	Tool 1D: Consider implementing policies that encourage the installation of mobility improvements and proven safety countermeasures when the roadway is scheduled for resurfacing or other improvements.
	Tool 2D: Build relationships and increase positive interaction with government through engagement and through addressing infrastructure and service issues.
	Tool 3A: Develop a County-wide active transportation plan with a focus on cross-County connectivity.
	Tool 8A: Consider prioritizing proven safety countermeasures that support mobility for vulnerable road users.
	Tool 9A: Create a County-wide sustainability and resilience plan.
NJDOT	Tool 1D: Consider implementing policies that encourage the installation of mobility improvements and proven safety countermeasures when the roadway is scheduled for resurfacing or other improvements.
	Tool 6G: Consider updating traffic impact study guidelines to require pedestrian and bicycle safety analyses as a measure of effectiveness that has equal weight to vehicle metrics.
	Tool 5G: Consider evaluating the installation of bus priority measures in congested areas.
	Tool 1J: Continue development of and education on electric bicycle and scooter regulations.
NJ TRANSIT	Tool 5A: Identify potential transit corridors for evaluation of demand and potential transit or microtransit solutions.
	Tool 5B: Investigate east west corridors for potential transit or microtransit improvements in coordination with the TMA and NJ TRANSIT.
	Tool 4H: Consider evaluating the improvement of rider amenities at train stations and enhanced accessibility..
	Tool 4B: Consider evaluating the accessibility of stops by pedestrians, including those with lower levels of mobility, and support integration with bicycle facilities.
	Tool 4C: Identify and further investigate potential intermodal transportation facilities and create mobility hubs.
Municipalities – Rural/ Natural	Tool 6A: Update subdivision and zoning standards to encourage or require transit supportive development.
	Tool 6E: Adopt an official map.
	Tool 1B: Update municipal sidewalk ordinances to reflect latest guidance on sidewalk widths, buffers, and other implementation requirements to create a network of ADA-compliant sidewalks and walking paths.
	Tool 8D: Adopt municipal complete streets policies.
	Tool 1G: Enhance rural main streets and highways through the addition of bicycle and pedestrian infrastructure in the vicinity of commercial and cultural centers. Add bicycle facilities to connect between these centers.

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Table 3: Tools to Consider for Priority Implementation by Lead Implementer (*continued*)

Lead Implementer	Tools for Priority Implementation
Municipalities – Village	Tool 1B: Update municipal sidewalk ordinances to reflect latest guidance on sidewalk widths, buffers, and other implementation requirements to create a network of ADA-compliant sidewalks and walking paths.
	Tool 1C: Include bicycle and pedestrian elements in all intersection projects regardless of demand.
	Tool 7D: Permit missing middle and compact housing types in residential neighborhoods.
	Tool 8D: Adopt municipal complete streets policies.
Municipalities – Suburban	Tool 7B: Plan for growth in nodes and mobility-rich areas through unified land use and circulation planning.
	Tool 1B: Update sidewalk ordinances and regulations to ensure their construction, and their design to adhere to the latest standards and design guidelines as a minimum.
	Tool 1C: Require that bicycle and pedestrian elements are incorporated into all intersection projects regardless of the appearance of immediate demand.
	Tool 1E: Activate public spaces, such as schools, libraries, parks, and municipal buildings as mobility hubs.
Municipalities – Town Center	Tool 6B: Plan for walkable communities that can be enhanced through transit expansion.
	Tool 7B: Plan for growth in nodes and mobility-rich areas through unified land use and circulation planning.
	Tool 1C: Include bicycle and pedestrian elements in all intersection projects regardless of demand.
	Tool 7B: Plan for growth in nodes and mobility-rich areas through unified land use and circulation planning.
Municipalities – Shore Town	Tool 1E: Activate public spaces, such as schools, libraries, parks, and municipal buildings as mobility hubs.
	Tool 7A: Permit missing middle and compact housing types in residential neighborhoods.
	Tool 7B: Plan for growth in nodes and mobility-rich areas through unified land use and circulation planning.
	Tool 8D: Adopt municipal complete streets policies.
Municipalities – Town Center	Tool 1E: Activate public spaces, such as schools, libraries, parks, and municipal buildings as mobility hubs.
	Tool 7B: Plan for growth in nodes and mobility-rich areas through unified land use and circulation planning.
	Tool 7D: Permit missing middle and compact housing types in residential neighborhoods.
	Tool 8D: Adopt municipal complete streets policies.
Municipalities – Shore Town	Tool 1E: Activate public spaces, such as schools, libraries, parks, and municipal buildings as mobility hubs.
	Tool 7A: Permit missing middle and compact housing types in residential neighborhoods.
	Tool 7B: Plan for growth in nodes and mobility-rich areas through unified land use and circulation planning.
	Tool 1H: Reduce seasonal visitor reliance on personal vehicles through expanded wayfinding, bike and scooter share, and transit and rideshare programs.

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Appendices

