Point Pleasant, Ocean County

Connecting the Vision to Implementation

INTRODUCTION

THIS PLAN HAS SEVEN AMBITIOUS GOALS that lay the foundation for creating a future transportation system that meets the needs of all users while supporting our region's economy and creating a vibrant place where people want to live work and visit.

New Brunswick, Middlesex County

To make this vision a reality, the NJTPA sought input from a wide range of stakeholders and the public to understand current and future needs and develop strategies to address them. This chapter is broken into sections by goal area to show what must be done to achieve the overall vision, setting a course to a future where communities are well-connected, and people have access to opportunities, goods and services:

- **Section 3.1: Ensure the transportation system meets the needs of all communities.**
- **Section 3.2: Make the transportation system safer for all travelers and reduce fatalities to zero by 2050.**
- **Section 3.3: Enhance system accessibility, efficiency, connectivity, and reliability for the movement of people and goods.**
- **Section 3.4: Make the system resilient to the impacts of extreme weather and other hazards.**
- **Section 3.5: Coordinate land use and transportation to create healthy and vibrant communities that reduce environmental and air quality impacts and support transit ridership, biking, and walking.**
- **Section 3.6: Maintain the transportation system in a state of good repair.**
- **Section 3.7: Increase the region's economic activity, sustainability, and competitiveness.**

Ensure the transportation system meets the needs of all communities.

3.1

THE NJTPA RECOGNIZES that everyone in its region has a right to safely and easily get to where they need to go, whether commuting to work or school, visiting a friend or relative, going to the store or making a delivery. This includes trips by walking, bicycle, vehicle, transit and other modes. Acknowledging that the transportation system needs to more fully address the needs of all travelers, the NJTPA Board of Trustees has added this new plan goal to strengthen its commitment to this principle. The region's population faces a wide range of challenges, ranging from access to transportation, to safety, reliability and environmental concerns, including the disproportionate impact of air pollution on families with young children and older adults and rising sea levels threatening our region's infrastructure.

- Hispanic cyclists and pedestrians made up 29 percent of those killed in crashes, while they are only 24 percent of the population.
- New Jersey is one of eight states where the traffic fatality rate decreased as the income of a county increased, according to a report from the National Highway Traffic Safety Administration.

Also critical is improving system coordination, connectivity, efficiency and reliability. Regionally significant projects like the new Port Authority Bus Terminal in New York City, the Lincoln Tunnel Helix Replacement Project and New Jersey's strategy to replace older buses and trains will help improve transit reliability, ensuring riders get to work on time.

There is too much focus on roads for cars. We need more places for safe walking, biking and more transit options.

—ONLINE SURVEY RESPONSE

Ensuring the transportation system meets the needs of all users is an overarching mission that is incorporated throughout the NJTPA's work, and this is reflected in this plan's six other goals. The next section focuses on making travel safer for everyone and reducing fatalities to zero by 2050. Walking and biking face particular safety challenges:

- Only 2.5 percent of all crashes in the region involved pedestrians and cyclists, but these vulnerable road users account for nearly 30 percent of fatalities and serious injuries.
- Lower income individuals are more likely to use more affordable transportation modes, like walking or biking, putting them at greater risk of death or serious injury.
- Seventeen percent of pedestrians and bicyclists killed in crashes were Black, compared to their 11 percent share of the region's population, according to data from the federal Fatality Analysis Reporting System (2019-2021).

NJ TRANSIT's bus system carries more than twice the number of annual trips as its rail network and is a vital lifeline for many of the region's lower-income and transit-dependent residents. Prioritizing improvements to bus service and infrastructure is essential to enhancing mobility for those who rely on transit the most.

Bus fleet and service enhancements include the procurement of 208 articulated buses and 20 battery-electric buses, which will double capacity per bus, introduce low-floor boarding, USB ports and advanced safety technology. Federal grants funded supportive infrastructure for electric buses, solar powered shelters, micro-transit app-based minibus pilots for first- and last-mile solutions and bike sheds and electric minibuses to support intermodal access and paratransit electrification. Projects with Bus Rapid Transit (BRT) elements include the Liberty Corridor BRT (Newark–Elizabeth); Greater Newark "go bus" Routes; and Route 9 Corridor. Other projects such as the Meadowlands Transitway and the potential for a transitway between Paterson and Newark also include potential aspects of BRT and priority bus service. In addition, NewBus Newark, NewBus Hudson and the

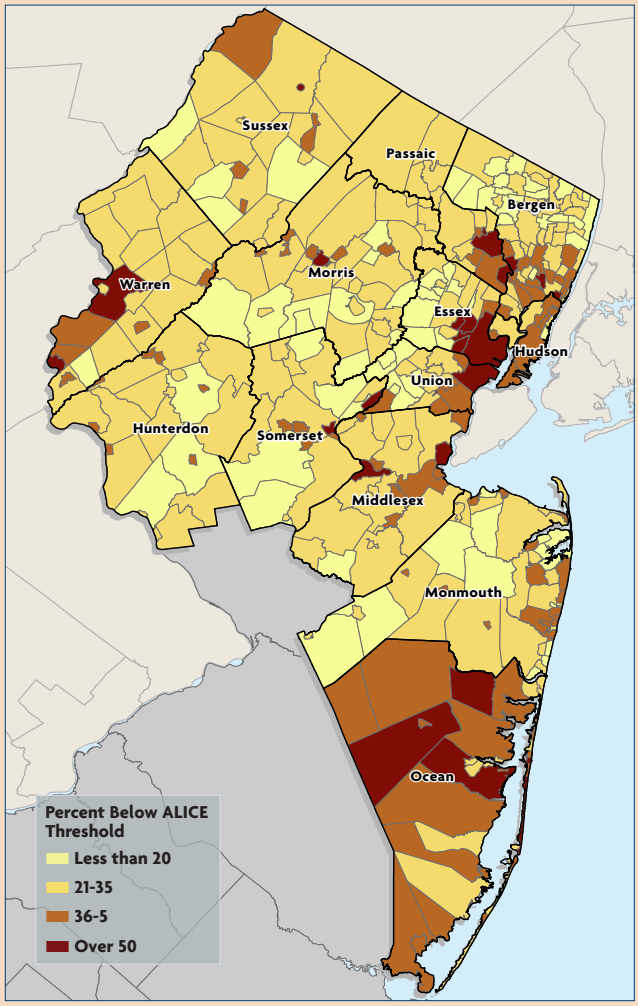
future NewBus Passaic are comprehensive studies and network reorganizations that use community input and performance data to evaluate future bus system needs. These improvements will require capital and operating funding to advance to construction and eventual operation. Appendix A has additional details NJ TRANSIT initiatives.

The cost of transportation also affects access to employment and other destinations. Nearly 9.5 percent of the region's population is living below the federal poverty level. However, the poverty level is the same nationally and does not account for cost-of-living differences between states and regions.

The United Way's Asset Limited, Income Constrained, Employed (ALICE) Threshold for Financial Survival analysis provides a clearer picture of the challenges facing many of the region's residents. The threshold reflects the minimum cost of household necessities, like housing, childcare, food, transportation and healthcare. Under ALICE, 25.4 percent of all households in the region struggle financially to meet these basic needs (compared to 26 percent statewide and 42 percent nationwide).

Housing and transportation combined represent 36 percent of the monthly household survival budget estimated by ALICE, and many working families in the region struggle to meet this budget. In places as diverse as the City of Elizabeth (Union County), White Township (Warren County) and Lakewood Township (Ocean County), 50 to 75 percent of households do not earn enough to meet their needs.

Figure 3.1.1
Percent of Population Below ALICE Threshold



Source: American Community Survey 2022; United Way 2022; Census 2024; Esri 2025.

The estimated percentage of household income consumed by housing and transportation is higher in many outer suburbs and rural areas than in inner suburbs and urban areas, as discussed in Section 3.5.

There is also a need to address access to employment. Most of the region's jobs are concentrated in the urban core, including the cities and older suburbs. The NJTPA's Congestion Management Process (CMP) (Appendix G) considers where residents have access to jobs within an hour commute by car or public transit.

The region's extensive highway network allows people with personal vehicles to access jobs from most cities and suburbs. The exception is the more rural areas of Hunterdon, Ocean, Sussex, and Warren counties, where residents face longer commutes by car and fewer jobs within accessible commuting distance. While the region's urban cores have extensive public transportation networks, the region's rural areas and some newer suburbs lack transit access to jobs. This includes portions of Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, and Warren counties.

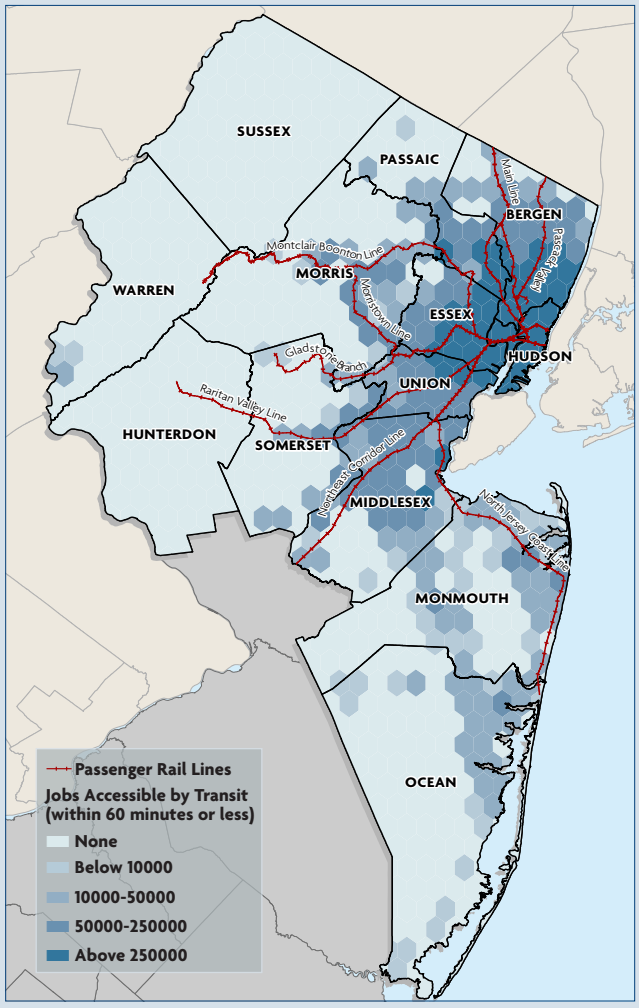
Lower-income workers are particularly in need of affordable housing in areas with higher employment opportunities and public transit access to job sites. Census tracts in Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Somerset, Union and Ocean

counties all contain a geographic mismatch between the location of low-wage jobs and available housing for low-income residents. This includes locations near major interstates and the port facilities in Newark and Elizabeth. Some of these tracts also have average transit commute times of more than an hour. Conversely, some tracts in Middlesex, Morris, Ocean, Somerset, Warren and Sussex counties have a higher number of low-income worker residences than low-wage jobs.

Recurring congestion and delays also disproportionately impact lower income workers, such as those in service and logistics jobs and other industries with inflexible schedules and without work-from-home options. Delays in commuting are especially burdensome for families with small children and older adults, who require care and need to arrive home on time to tend to these responsibilities.

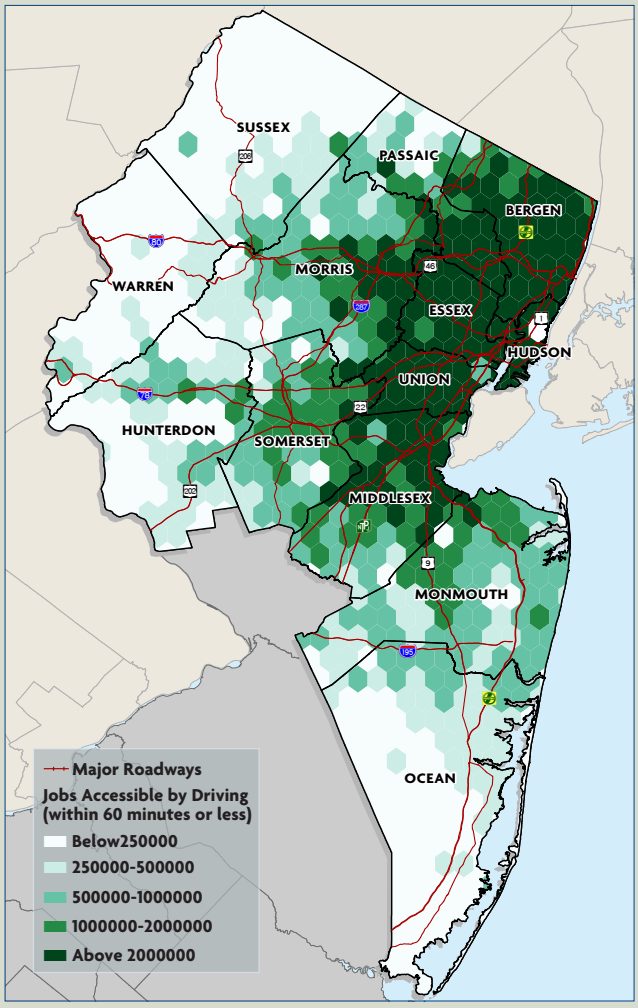
This plan recommends many approaches to address congestion and enhance mobility options that will help ease the undue transportation burdens many workers and residents face. This includes the CMP, which systematically identifies mobility needs around the region and tailors strategies to each community (Section 3.3), and promoting transit-oriented development (TOD), affordable workforce housing and walking/biking facilities (Section 3.5). Many of these approaches also help improve air quality, which can improve health, as noted earlier.

Figure 3.1.2
Jobs Accessible by Transit 60 Minutes or Less



Source: Replica Data 2023; LEHD LODES 2021; Census 2024; NJT 2024; Esri 2025.

Figure 3.1.3
Jobs Accessible by Driving 60 Minutes or Less



Source: Replica Data 2023; LEHD LODES 2021; Census 2024; NJDOT 2015; Esri 2025.

While I am able to get around, it is often cumbersome as the variety of options is not a lot. I often plan routes in advance, mainly to identify gaps in transportation and how I'd need to complete my transportation. Other times, the options are sparse. Despite these concerns, I'm cognizant that the forms of transport I depend on the most, train, bus, and walking are adequate enough to get me to where I need to be.

—NEWARK RESIDENT

Also important is maintaining the transportation system in a state of good repair (Section 3.6), which improves reliability and efficiency. This includes keeping roads free of potholes, making the transportation network more resilient to extreme weather and flooding and maintaining transit fleets in good condition to minimize breakdowns. Programs like the NJTPA's Local Capital Project Delivery (LCPD) Program give subregions access to federal funds for critical infrastructure projects, including replacing local bridges or improving corridor safety and congestion. During Local Concept Development (LCD), the first phase of this program, a demographics analysis is conducted to understand the various communities that might be impacted by the project (see sidebar on next page). Public engagement is tailored to reach as many members of the community as possible and is conducted in an accessible way to ensure the community's needs are met as the project is being developed.

Recommendations

The strategies for meeting the needs of all communities largely overlap with other goals in this chapter and are discussed further in those sections.

- Promote TOD and affordable workforce housing near transit (Section 3.5).
- Provide walking/biking facilities that connect affordable homes to services, education, retail and employment (Section 3.5).
- Maintain the transportation system in a state of good repair, including roads, transit facilities and vehicles (Section 3.6). ●

Addressing Community Needs through Concept Development

One of the early steps in an LCD study is developing a project's purpose and need statement to ensure that any potential recommendations meet the needs of those who will be using the infrastructure for years to come. While cost is a factor in selecting a preferred option to advance to construction, community needs are also considered.

An example of the importance of community involvement is the Clay Street Bridge project, which Hudson and Essex counties are advancing through the LCPD program. Bridge replacements must be done in a manner that ensures waterways they cross remain navigable. It is typically more cost effective to build fixed span bridges, because they have lower maintenance and construction costs than movable ones. However, replacing the swing bridge over the Passaic River with a fixed span in the built-up communities of East Newark and Newark, where little adjacent land is available, would have required a very steep grade. While cars could easily traverse the grade, the NJTPA and counties recognized that it would have been difficult for those who walk, bike and use mobility devices to cross the proposed new span. In response, the NJTPA worked with its state and federal partners to get approval to fund a movable bridge that meets the needs of the community. The project team will continue to engage the local community as it moves toward construction.

Another example is the recently completed LCD study that investigated alternatives for improving congestion and enhancing safety along Kennedy Boulevard (CR 6) and County Line Road (CR 526) in Lakewood Township. The parallel roads experience major congestion and there are concerns about bicycle and pedestrian safety in a community with a large Orthodox Jewish population that frequently relies on walking. The project team ensured stakeholder and public meetings did not conflict with religious observances so that community members could participate. Traffic data collection was also scheduled around these observances to ensure an accurate representation of the existing traffic conditions.

Considering the needs of the community, this study recommends a Complete Streets approach. County Line Road would be converted to one way eastbound and Kennedy Boulevard to one way westbound to improve the flow of traffic without widening the roads. The study also recommends installing 10-foot-wide side paths along both roads to accommodate the high volume of pedestrians and cyclists. Any missing sidewalk links would also be filled.

These are just two examples of how planning and project development work should be conducted. Considering the demographics, conducting robust and accessible public engagement, and identifying where the greatest needs are during project selection, will help create a better transportation network that meets the needs of everyone.

Make the transportation system safer for all travelers and reduce fatalities to zero by 2050.

3.2

EVERY LIFE LOST on New Jersey's roads is one too many. The deaths, injuries and property damage caused by traffic crashes impose untold economic and social costs that demand attention and action. Making travel safer for everyone is a priority in all the NJTPA's work—from vision statements and goals, to plans, programs and projects. National and state safety performance measures have been established to track progress towards improving safety. The NJTPA's regional goal is to eliminate fatalities and serious injuries by 2050.

The number of fatal and serious injury crashes has been trending in the wrong direction in New Jersey in recent years despite many efforts to improve safety. From 2019 to 2022 (the most recent year of complete statewide data), there were 1,510 fatalities and 7,886 serious injury crashes in the NJTPA region. Table 3.2.1 shows the increase in fatalities, including pedestrian and cyclist deaths, from 2019-2022.

Figure 3.2.1
Fatal and Serious Injury Crashes
NJTPA Region, 2019-2022

SAFETY METRIC	YEAR				% CHANGE (2019-2022)
	2019	2020	2021	2022	
FATAL INJURIES (TOTAL)	**333**	**367**	**390**	**420**	**+26.1**
Driver	173	182	208	229	+32.4
Passenger	56	52	49	68	+21.4
Pedestrian	98	121	121	114	+16.3
Cyclist	7	12	12	8	+14.3
SERIOUS INJURY CRASHES	**1910**	**1734**	**2090**	**2148**	**+12.5**

Source: New Jersey State Police

Fatal crashes were more predominant on state roads and interstates (52 percent) than county (25 percent) and municipal (18 percent) roadways, where the average vehicle speed is lower and therefore may result in fewer fatalities. The remaining fatal crashes were predominately on roads managed by authorities, such as the New Jersey Turnpike and Garden State Parkway. The distribution of fatal crashes across jurisdictions and road ownership underscores the need for enhanced coordination between state, county and local governments in addressing safety concerns. This is reflected in the recommendations in this section and in Chapter 5.

The transportation system's most vulnerable road users, bicyclists and pedestrians, represent less than 2.5 percent of all crashes, yet they accounted for nearly 30 percent of fatalities and serious injuries (Source: Safety Voyager). These crashes do not impact every community in the same way, as mentioned in Section 3.1. This mirrors the trend across the country. Nationwide, the danger for pedestrians has grown consistently worse, according to Smart Growth America's 2024 ***Dangerous by Design*** report. In 2022, the number of people who were struck and killed while walking was up 75 percent since 2010, reaching a 40-year high.

At the national and state level, policy guidance and resources have been mobilized to address the rise in injuries and fatalities. The United States Department of Transportation's (USDOT's) Safe System Approach, a framework to eliminate traffic fatalities across the entire transportation system, guides the **National Road Safety Strategy**, **SHSP**, local safety action plans in every county in the state, and the NJTPA's wide-ranging safety initiatives.

The Safe System Approach's bedrock principle is that traffic deaths are preventable. It recognizes that reducing traffic deaths to zero is an ethical imperative. This approach fosters a shift in safety culture, improves coordination among stakeholders and directs transportation safety improvements to anticipate human error and reduce the impact of crashes. The federal Safe Streets and Roads for All (SS4A) competitive grant program, established as part of the IIJA, enables local safety improvements using the Safe System Approach with $5 billion over five years (2022-2026) available for planning and implementation.

To track progress towards improving safety, the NJTPA is required to monitor safety performance measures and adopt annual roadway safety targets

(Appendix D). As mentioned, the NJTPA Board set a goal of reaching zero injuries and deaths by 2050, with an ambitious target of continuous annual reductions of 5 percent during the next few years. In January 2025, New Jersey created the Target Zero Commission, which the NJTPA serves on, and set a goal of reaching zero traffic deaths by 2040. The NJTPA Board must adopt annual safety performance measure targets. The next adoption is anticipated for winter 2025/2026, when the agency can consider aligning its policy with the state's new goal.

Progress toward meeting these goals will continue to be a challenge and will require new and innovative approaches. Fatalities and serious injuries are still increasing despite increased funding for planning and implementation projects through SS4A, improvements in vehicle safety features such as lane departure detection, and educational and enforcement strategies. Contributing causes are likely to be driver behaviors such as speeding, distracted driving, and driving under the influence; heavier vehicles that cause greater injury to pedestrians and bicyclists; or factors related to infrastructure. These point to the need for a Safe System Approach that incorporates education, enforcement, engineering and emergency medical services, but also emphasizes that everyone needs to be involved in improving road safety.

Elizabeth, Union County

NJTPA works closely with NJDOT on SHSP development and implementation.

New Jersey and the NJTPA proactively implement FHWA's Proven Safety Countermeasures as a key way to improve safety. These 28 countermeasures apply to a full range of road and crash types, including those involving speeding, bicyclists and pedestrians, intersections and roadway departures. While support for safe active transportation routes is not an identified countermeasure, many of the countermeasures, such as bike lanes, walkways and appropriate speed limits help to create facilities for active transportation.

Road Safety Audits (RSAs) are one example of a countermeasure used by the NJTPA and NJDOT. During an RSA, a multi-disciplinary team examines road segments or intersections to identify existing road safety issues and to recommend improvements to address them. The NJTPA helps NJDOT select locations for RSAs in the region. In addition, the NJTPA provides funding for RSAs through the Subregional

I would prefer to walk and bike far, far more, but facilities are extremely limited and often unsafe.

—HIGHLAND PARK RESIDENT

Working Toward Zero

The State of New Jersey, the NJTPA, and its subregional partners work diligently to improve safety through policy, planning, collaboration and infrastructure improvements. As part of its efforts to reach zero deaths by 2040, New Jersey is updating its SHSP to reflect the Safe System Approach and other federal requirements. This data-driven, coordinated safety plan provides a comprehensive framework for reducing fatalities and serious injuries on all public roads and builds on the last plan adopted in 2020. The

Studies Program. Middlesex County used this program to conduct five RSAs at key locations to help advance its Vision Zero Plan.

Strategies using new technology to improve safety are being piloted in New Jersey. One such strategy for pedestrians is a Red Light Extension, also sometimes called a Jersey Extension. These signals detect pedestrians waiting to cross, create an all red light phase to give pedestrians safer crossing, and then can hold the red light for pedestrians not yet fully across a road. These advanced signals are being piloted at three intersections on Route 1/9 in the City of Elizabeth in Union County.

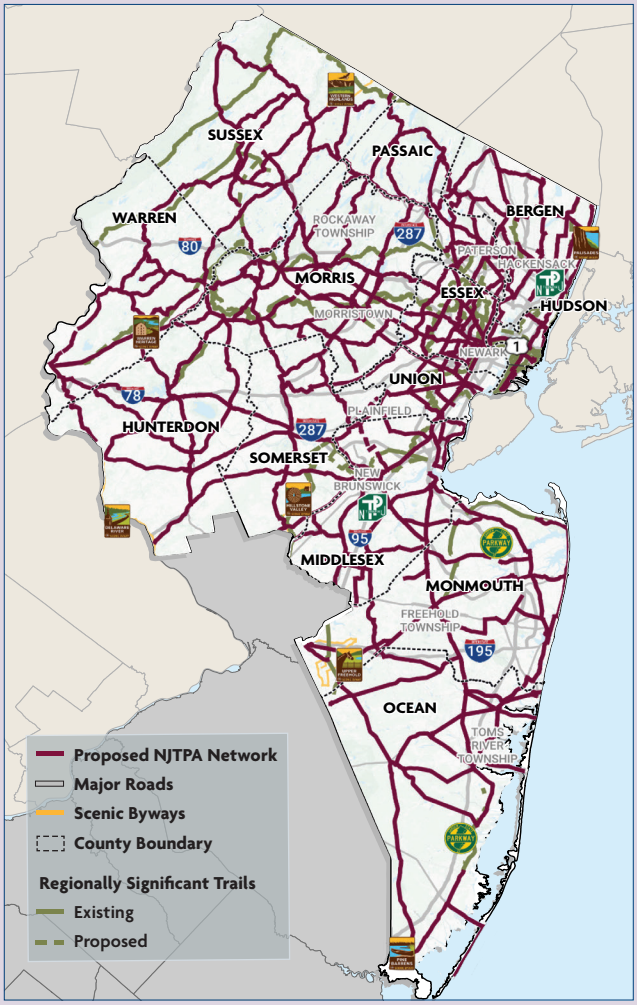
The NJTPA also pursues additional strategies, such as providing technical assistance to municipalities to advance Complete Streets initiatives and supporting pedestrian safety educational and behavioral change campaigns to increase traveler awareness of safety hazards (see **BeStreetSmartNJ.org**). The TMAs are also instrumental in promoting safer travel through conducting speed studies, walkability audits, education and other activities.

Complete Streets are designed to ensure the safe and adequate accommodation of all users of the transportation system, including pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists, and freight vehicles. NJDOT promotes the adoption of Complete Streets standards and policies.

Improving active transportation such as walking and biking, including support for off-road trail development, is critical to improving safety for all travelers. Recognizing this importance, the NJTPA developed a Regional Active Transportation Plan (ATP) in 2023. The ATP identifies a network of potential on- and off-road routes that, when built-out, would provide a safe, functional and connected system that accommodates a variety of trip types and users, including local and regional recreation and utilitarian trips for people walking and biking (Figure 3.2.1). The network establishes a common framework for all jurisdictions—municipal, county, and state—to refer to and to work towards creating an interconnected network of active transportation facilities. The NJTPA continues to seek opportunities to partner with counties, municipalities, and others to refine and realize this regional trail network.

The region has many active transportation facilities under construction and planned that serve as the basis for a regional network. These include the Essex-Hudson Greenway, which will connect Essex and Hudson counties via a nine-mile former rail right of way. Other regional trails include the Morris Canal Greenway, the subject of a 2018 NJTPA study, which has been building out sections in six counties; the East Coast Greenway, a multi-state on- and off- road facility; the Barnegat Branch Trail in Ocean County; and the Northern Valley Greenway, a conceptual plan for a seven-mile trail in Bergen County.

Figure 3.2.2
NJTPA Regional Active Transportation Network



Source: Census, 2020; NJDOT, 2020; NJDEP, 2022; NJTPA, 2023

We need more bike paths to connect to services such as schools, parks, shopping and libraries but also to connect to our neighboring towns.

—ROXBURY PARK RESIDENT

Supporting Local Efforts

The NJTPA provided technical support to eight subregions (Bergen, Hunterdon, Morris, Passaic, Ocean, Somerset, Sussex, and Warren counties) to develop Local Safety Action Plans (LSAPs), which identify and prioritize safety improvements to reduce fatal and serious injury crashes. Other counties in the region had plans in place or received direct federal funding to create their own. LSAPs are required to seek SS4A implementation grants and can serve as focal points for addressing safety on county and local roads even without SS4A funding.

These plans and other safety-related initiatives prominently feature proven safety countermeasures as part of a safety implementation toolbox, which can help ensure they are included in all projects. By the end of 2026, there will be local safety action plans in place that cover every county in New Jersey to help guide the planning process toward the goal of zero deaths.

In addition to assisting with planning, the NJTPA works with NJDOT to provide Highway Safety Improvement Program (HSIP) funding for implementation. Subregions can use LSAP and RSA recommendations to apply to the NJTPA's Local Safety and High Risk Rural Roads (LSP/HRRR) programs, which provide funding for right-of-way acquisition, construction and construction inspection services. These programs have awarded nearly $500 million to almost 175 projects, including modern roundabouts, and safety improvements to approximately 750 intersections and 80 miles of local roads.

Subregions also have the option of applying to the NJTPA's Local Safety Engineering Assistance Program, which provides design support to prepare projects for the LSP/HRRR programs. Since its creation in 2013, 80 projects have advanced through this program.

Recommendations

- Continue to work with partners across disciplines and jurisdictions to identify and address the most serious safety issues, using a data-driven and collaborative approach. This includes providing technical support to Local Implementation Committees seeking to advance recommendations of LSAPs.
- Launch a new NJTPA initiative for safety planning, implementation and collaboration. This will advance SS4A compliant LSAPs by working with municipalities and counties to implement plan recommendations.
- Promote safer speeds through roadway design, education, and enforcement, and by promoting context-appropriate speed limit setting.
- Building on previous work, the NJTPA will update its pedestrian counts inventory to add up to 100 locations.
- Conduct a pedestrian lighting analysis of up to 26 locations and develop recommendations to address the high rate of nighttime pedestrian fatalities.
- Conduct an intersection control evaluation, which was recommended as part of the SHSP, at 15 locations. This effort will help develop a performance-based approach for screening alternatives and identifying optimal geometric and traffic control solutions for high-crash intersections.
- Building on previous work that mapped trail crossings on county roads, develop safety recommendations for each crossing on one pilot trail using FHWA guidance; these recommendations could serve as models for trail crossings throughout the region.
- Continue implementing the ATP through the identification and study of on- and off- road active transportation corridors and trails.

Enhance system accessibility, efficiency, connectivity and reliability for the movement of people and goods.

3.3

THROUGH THIS GOAL the NJTPA seeks to ensure the transportation system fulfills its essential functions in moving people and goods to support economic progress and quality of life in the region.

Each day, the region's transportation system accommodates massive movement of people and vehicles. Upwards of 25 million trips originate in the NJTPA region on a typical weekday, with over 150 million vehicle miles traveled (VMT), as well as more than 3 million walking, 800,000 truck, and 550,000 public transit trips on an extensive road and rail network.

Overall, the system works exceptionally well, underpinning life, work, education, commerce, recreation and social activities for residents and visitors. The plans, policies and projects advanced by the NJTPA and its partners—such as promotion of Complete Streets, TOD and other initiatives—have fostered progress in regional access and mobility. Nonetheless, recent years have brought changes in travel demand and revealed challenges to the functioning of the system that this section highlights and seeks to address.

To connect communities, the transportation system must itself be interconnected, giving travelers viable options to reach their destinations, from walking to biking to public transit to driving. Travel should be efficient, convenient and, above all, predictable and reliable.

Maintenance and preservation of infrastructure are key for a well-functioning transportation network, as discussed in Section 3.6. Providing adequate infrastructure for walking and biking, a focus of the ATP, helps make these essential modes safer and more practical (See Section 3.2). Public transit service and connections to it are also critical, as is the placemaking, development and land use around stops and stations that enhance ridership, as discussed in Section 3.5. And road and transit systems must both deal with varying travel demand throughout the day, week and year, with some locations facing demand that at times overwhelms capacity or disrupts its functioning, with ripple effects throughout the region. Examples include chronic or spot congestion on key roads, backups due to crashes, signal or other breakdowns on the transit network and a host of other events and factors, large and small.

En muchas oportunidades los buses se retrasan o según el aplicativo Transit indica horarios, pero no se cumplen y se tiene que esperar el doble de tiempo más 1 hora por el siguiente bus.

Translation: ***On many occasions buses are delayed or, according to the Transit application, they indicate schedules, but they are not met, and you have to wait twice as long or more than an hour for the next bus.***

—PATERSON RESIDENT

Performance Measures

Since 2018, the federal government has promoted performance-based planning to meet transportation needs. This approach entails gathering and analyzing data about the functioning of the system and evaluating performance based on criteria, targets and benchmarks. Performance-based planning is a guiding principle for the NJTPA and its programs.

Appendix D details the NJTPA's performance measures and targets and efforts to meet them. In addition to the federal requirements, the NJTPA establishes and monitors a set of performance measures tailored

to the region's needs as seen on NJTPA's Regional Performance Measures dashboard (see Figure 3.3.1). Many of the performance measures on this dashboard relate to this goal, particularly those listed under "access/mobility" and "reliability."

Changing Travel

Performance-based planning has become more important as the region adapts to recent changes in transportation. Measures of accessibility (in terms of the ease of reaching desired destinations), mobility, and reliability were significantly impacted by the pandemic and continue to evolve.

Generally, accessibility in the region remains high. About 75 percent of the region's work commutes can be accomplished within 45 minutes. One of the things the NJTPA monitors—and works to increase—is the percent of commuters who travel to work in a way other than driving alone (including those working from home). These non-single occupant vehicle (non-SOV) commutes increased from 31 percent in 2019 to 39 percent in 2023. Fewer people driving alone reduces congestion, improves air quality and improves the viability of public transit or other travel options. It should be noted that the data on non-SOV travel includes remote work, which has increased since the pandemic.

While travel activity has bounced back from the disruptions caused by the pandemic, there have been lasting effects on many aspects of regional transportation. For example, traffic volume, or vehicle miles of travel, dropped by 16 percent from 2019 to 2020 but has now returned to pre-pandemic levels. Transit ridership dipped even more significantly (by half during the height of the pandemic lockdown period) but is recovering, albeit more slowly, with ridership on buses rebounding more than on trains. Walking and biking for local trips has also increased, which benefits livability and the advancement of Complete Streets

Figure 3.3.1
Regional Performance Measures

NJTPA North Jersey Transportation Planning Authority
www.NJTPA.org

Regional Performance Measures Scorecard

Scorecard Key: Moving in Desired Direction | Moving in Undesired Direction

Updated: May 2025

ACCESS/MOBILITY

Measures	Previous Year	Latest Year	Direction of Change
% of workers with travel time under 45 minutes Based on Census Bureau's 1-year ACS and includes all modes	73.6%±0.3% (2022)	74.0%±0.3% (2023)	No Change
% of work trips that are not drive-alone Based on Census Bureau's 1-year ACS and includes all modes	40.9%±0.5% (2022)	39.3%±0.5% (2023)	No Change
Total transit ridership All NJ TRANSIT, PATH, ferry, and public/private buses	236.5 Million (2022)	279.6 Million (2023)	
% rail stations that are ADA accessible Based on federal and NJ Transit sources	56% (2022)	56% (2023)	No Change
Average % household income spent on transportation Based on Bureau of Labor Statistic's Consumer Expenditure Survey for New York-Newark metro area	8.8% (2021 - 22)	10.5% (2022 - 23)	
Annual person-hours of delay per capita Hours spent in traffic that travels at least 20 mph slower than free flow speed (from federal data), divided by NJTPA population	30.7 Hours (2023)	31.5 Hours (2024)	
Annual person-hours of peak-hour excessive delay per capita Hours spent on NHS by people going slower than 60% of the posted speed during peaks, divided by NJTPA population	14.0 Hours (2023)	15.9 Hours (2024)	

SAFETY

Measures	Previous Year	Latest Year	Direction of Change
# of roadway fatalities Based on federal Fatality Analysis Reporting System (FARS)	386 (2023)	425 (2024)	
Rate of roadway fatalities Based on FARS; fatalities per 100 million vehicle-miles traveled	0.69 (2023)	0.75 (2024)	
# of roadway serious injuries Based on traffic crash reports collected by NJDOT	2,418 (2021)	2,472 (2022)	
Rate of roadway serious injuries Based on traffic crash reports collected by NJDOT; serious injuries per 100 million vehicle-miles traveled	4.60 (2021)	4.58 (2022)	
Bicycle and pedestrian fatalities and serious injuries Based on FARS and traffic crash reports collected by NJDOT	678 (2021)	660 (2022)	

RELIABILITY

Measures	Previous Year	Latest Year	Direction of Change
% person-miles traveled on Interstate highways considered "reliable" Based on federal data for Interstate highways in NJTPA region	89.2% (2023)	86.3% (2024)	
% person-miles traveled on other National Highway System roads considered "reliable" Based on federal data for National Highway System major arterials in NJTPA region	85.3% (2023)	86.5% (2024)	
Commuter rail on-time performance Based on NJ Transit Annual Reports	92.1% (2023)	89.9% (2024)	
PATH on-time performance Based on PATH Reports	98.6% (2017)	96.4% (2018)	
Light rail on-time performance Based on NJ Transit Annual Reports	95.7% (2023)	93.8% (2024)	
Bus on-time performance Based on NJ Transit Annual Reports	94% (2023)	91% (2024)	

COMPETITIVENESS

Measures	Previous Year	Latest Year	Direction of Change
Cargo movement at the Port of NY and NJ Based on Port Authority of NY/NJ data; measured in "twenty-foot equivalent containers" (TEUs)	7.81 Million TEUs (2023)	8.70 Million TEUs (2024)	
Passenger volume at Newark International Airport Based on Port Authority of NY/NJ data; covers scheduled, charter, and commuter flights	49.1 Million (2023)	48.9 Million (2024)	
Truck Travel Time Reliability Index Based on federal data; higher index means higher unreliability	1.75 (2023)	1.82 (2024)	

ENVIRONMENT

Measures	Previous Year	Latest Year	Direction of Change
Annual # "bad" air quality days Based on Air Quality Index of five air pollutants	19 Days (2023)	18 Days (2024)	
Annual on-road mobile source greenhouse CO_2 gas emissions Modeled estimates of CO_2 & CO_2 equivalent emissions.	28.53 million metric tons (2019)	25.73 million metric tons (2021)	

COMMUNITY

Measures	Previous Year	Latest Year	Direction of Change
% jobs within ½ mile of regional transit Jobs within walking distance of commuter rail/light rail stations and express bus stops	57.8% (2021)	58.4% (2022)	
% households within ½ mile of regional transit Households within walking distance of commuter rail/light rail stations and express bus stops	52.2% (2022)	52.2% (2023)	No Change

CONDITION

Measures	Previous Year	Latest Year	Direction of Change
% pavement lane-miles considered "acceptable" Based on NJDOT data for National Highway System roadways; rated "fair" or better	79% (2023)	80% (2024)	
% bridge deck area that is in good or fair condition Based on NJDOT data for all NJTPA area bridges; all bridges not rated poor	92.7% (2023)	93.4% (2024)	

RESILIENCY

Regional measures of resiliency have not yet been developed

I can get pretty much anywhere without needing my car.

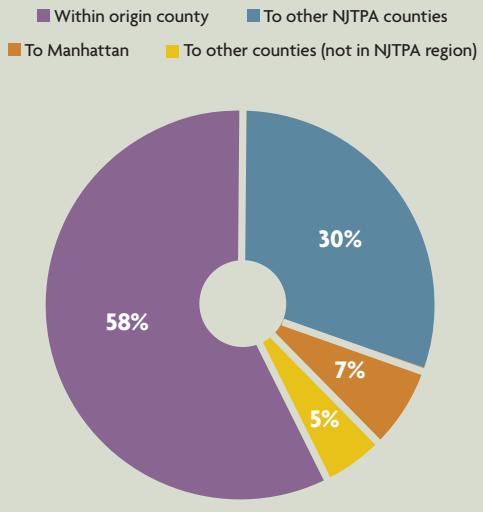
—JERSEY CITY RESIDENT

policies. Walking or biking are the primary modes for more than 14 percent of all trips and a third of trips two miles or less.

In 2023, 14 percent of the region's workers usually worked from home, up from only 5 percent in 2019 (but down from 23 percent in 2021). Many have replaced their daily auto commutes with multiple shorter trips for shopping or to nearby destinations during the day. As a result, traditional peak travel times have spread, with increased traffic on many main arteries during mid-day periods and even extending well into the evening.

Most trips in the region are close to where people live. In 2024, about 60 percent of residents' trips to work were within their home county (Figure 3.3.2) and 30 percent were to other counties in the region. About 7 percent are to Manhattan; this was closer to 10 percent before the pandemic. When looking at trips of all purposes, about 75 percent remain in the same county.

Figure 3.3.2
Origins of Trips in the NJTPA Region



Source: *Replica (Work Trips)*, Spring 2024, Thursday

Many counties, municipalities and transportation providers are still assessing and finding appropriate responses to these travel changes. Planning assistance programs, such as those funded by the NJTPA and its partners, can help advance these efforts at all levels of government.

Roadway Performance

Continued growth in traffic volumes can exacerbate current capacity and congestion issues on key routes. As travel increases, the system also becomes less able to rebound from disruptions. A crash or other event affects many more travelers on a crowded network, and alternate routes are less likely to be able to absorb additional traffic. The pandemic-related drops in traffic resulted in better travel time reliability, with well over 90 percent of person miles traveled (another measure of travel that accounts for how many people are in each vehicle) on the National Highway System (NHS) classified as being on reliable roads. This measure dropped in 2024 to approximately 85 percent for both Interstate and other NHS roadways. A similar measure for truck reliability (measured only on Interstates) shows that truck travel time reliability also improved during the pandemic but has decreased in subsequent years.

The nature of travel over the road system has been altered in other ways. Wide-open roads during the pandemic led to improved travel times but also often to more dangerous driving behaviors, resulting in a spike in crashes and fatalities. While the crash rates have declined from their peak in recent years, there is still a troubling level of injuries and fatalities from crashes, as discussed in Section 3.2.

Transit Performance

While overall transit ridership hasn't returned to pre-pandemic levels, the bus system (which carries most passengers) reached 95 percent of pre-pandemic levels in 2024, with rail ridership rebounding

to about two-thirds of pre-pandemic levels. Monday and Fridays show a particular reduction in commuting. Bus reliability in terms of on-time performance is about 91 percent systemwide, with delays on roads being a significant factor when buses arrive later than scheduled. NJ TRANSIT commuter rail reliability is about 90 percent systemwide.

For NJ TRANSIT, the fall-off in commuting has reduced revenue, even as the need to maintain infrastructure and adequately serve key destinations remains. NJ TRANSIT is seeking to adjust bus and rail schedules to meet changing demand. Its long-term investment plan, NJT2030—A 10-Year Strategic Plan, envisions steps to support the region with improved and expanded services.

In some areas, other services or modes have helped fill the demand for local travel, supplementing or replacing bus and rail transit. This includes demand-responsive travel services, such as Via vans in Jersey City, ride hailing services such as Uber and Lyft, and alternative active transportation, including walking or biking. However, to the extent they compete with traditional transit, they further reduce much needed revenues supporting the system. This impact should be minimized as localities look to implement new demand responsive systems.

Pallisades Park, Bergen County

may not own automobiles, including low-income residents who often depend on transit for essential daily travel. Transit services also help reduce the volume of vehicles on the road by hundreds of millions of vehicle miles each year and contribute to reducing individual carbon footprints by a half to two thirds as compared to automobile use.

There is a lack of connections to the areas I want to go to. Restoring the Lackawanna Cut-Off would make the whole situation of traveling better.

—ONLINE SURVEY RESPONSE

Meeting local transit needs and facilitating first- and last-mile connections to transit stops and destinations are critical links that make transit usable. Many TMAs provide shuttle services and promote safe pedestrian and bicycle access to transit to enable transit trips. In some places, they have also been instrumental in advocating for and coordinating with NJ TRANSIT to provide bicycle lockers at rail stations.

This plan recognizes that ensuring continued and expanded NJ TRANSIT services, and providing adequate funding, is essential to the functioning of the regional transportation system. Accessibility provided by these services is particularly vital for residents who

During public outreach, several people expressed support for NJ TRANSIT's extension of the Morristown Line to a new station in Andover, Sussex County, along the former Lackawanna Cut-Off right-of-way. This is one of many projects NJ TRANSIT has planned to address needs in the region (See Appendix A).

Freight Performance

The region continues to serve as the platform for the distribution of goods to one of the largest consumer markets on Earth. This encompasses the New York-New Jersey-Connecticut metropolitan area and much

I'd like a self-driving car so I can go where I want when I want. I am limited by the location and time of public transportation. It is not always convenient or timely.

—RUTHERFORD RESIDENT

of the Mid-Atlantic and New England states. The region is also a leading U.S. international gateway with the largest port on the Atlantic Coast and one of the largest air cargo operations in the country. In 2025, 399 million tons of goods will move to, from and within the region, mostly by truck.

There is a solid foundation for continued growth of freight traffic in the long term but sustaining this growth will require new approaches to enhancing freight movement through the region's heavily congested network.

Investments by the Port Authority and upgrades to facilities with cooperation from terminal operators and shippers will be vital to sustaining the port's operations and maintaining its competitiveness. Where possible, shifts to rail can be helpful, as are continued marine highway pilot initiatives to supplement or replace truck movements. Other priorities moving forward include upgrading the region's legacy rail infrastructure to accommodate the national railcar size and weight standards and addressing key bottlenecks along major rail freight corridors (See Section 3.7). Perhaps the most promising approach for freight efficiency, recognized by much of the industry, is shifting trucks to evening or overnight deliveries. While port facilities can be available for 24-hour operations, many warehouses and retailers cannot yet accommodate those deliveries. Incentives and new programs must look to expand this promising approach. Addressing the shortage of truck parking is also key to improving efficiency.

Port Newark, Essex County

Innovation and Coordination

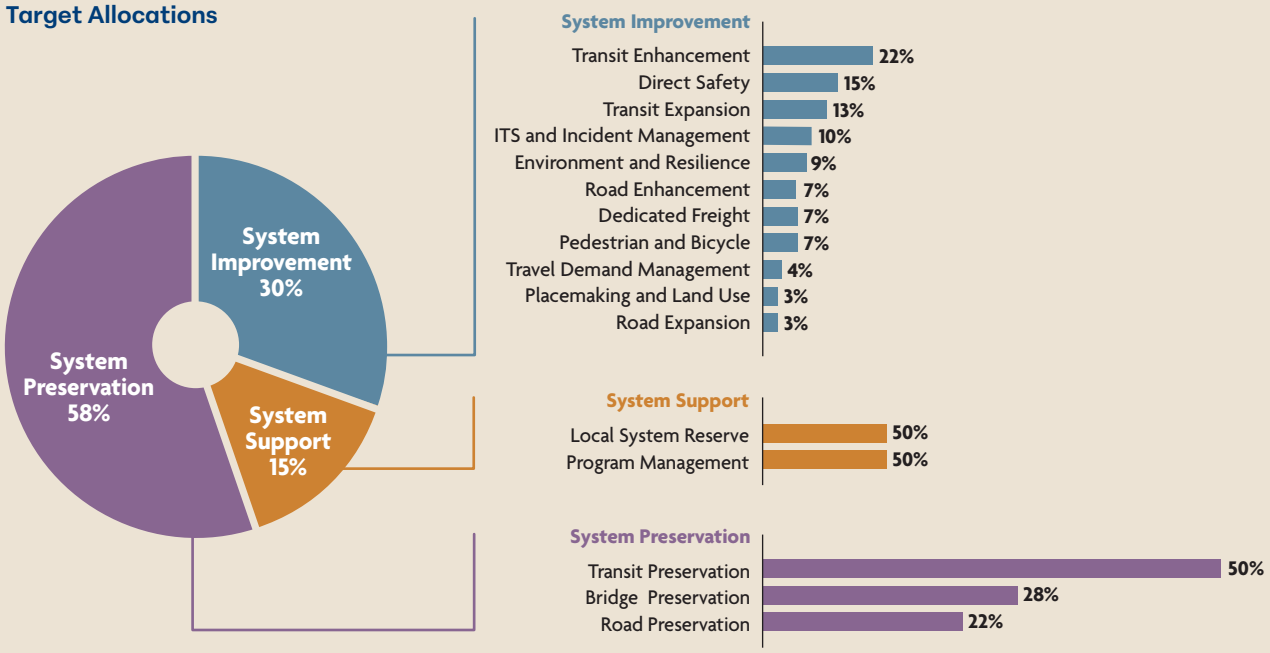
This plan endorses continued development of technologies that are transformative, such as automated or connected vehicles, and those that improve current travel operations, such as connected traffic signals, real time transit information, and public transportation automation.

There has been significant speculation that automated vehicles could drastically alter driving and land use patterns, leading to more efficient transportation and improved quality of life. While these vehicles are actively being tested in other parts of the country, the technology has not yet reached a point where it has made these sorts of significant impacts. Still, the potentially transformative effects of automated vehicles and the prospect for their widespread use continue to attract substantial investment.

Impacts of autonomous vehicles over the life of this plan are anticipated to be limited to specific projects, such as a geographically bound ride-share pilot in an urban area or the potential for platooning of buses in the Port Authority's Exclusive Bus Lane approach to the Lincoln Tunnel and Midtown Bus Terminal.

Connected vehicles technology is similarly being developed and includes roadside investments that will allow these vehicles to communicate with traffic signals and other digital public roadside infrastructure. NJDOT is testing this technology. Widespread deployment would provide drivers with better real-

Figure 3.3.3
RCIS Target Allocations



time information to support route decision making and safety.

Other technologies also hold promise. The region has already benefited from E-ZPass toll collection, traffic and transportation smartphone apps, smart and connected traffic signals, and more. In its planning work, the NJTPA is making use of detailed anonymized travel data from cell phone tracking systems. Further development of these systems will help advance understanding of the transportation system in addition to improving travel.

Data systems increasingly are being used to manage the transportation network and communicate real time information. This coordination is an essential function, notably in the work of TRANSCOM—a coalition of 16 transportation and public safety agencies in New Jersey, New York and Connecticut—and Transportation Systems Management and Operations (TSMO). Coordination among agencies in clearing vehicle crashes or responding to emergencies can keep routes open and minimize delays and improve travel time reliability.

At the local level, investments in modernized signal systems at high-volume, high-conflict locations can improve traffic operations and safety. These systems must consider pedestrian and bicycle movements and not speed vehicles through at the expense of others' safety. Systems to improve the efficiency of traffic signal operations have been funded and deployed, and the NJTPA is developing a strategic framework to guide investments.

Innovation is also significantly improving last-mile connections to transit and providing real time information to help riders make informed choices. Whether personally owned or part of a shared system, electric bicycles and scooters have significantly increased personal mobility and access to transit and replaced shorter vehicle trips. However, there are concerns related to fire risk from batteries and their higher speeds when sharing bicycle and pedestrian facilities. Communities should create standards and practices to encourage the safe and effective use of electric bicycles and scooters, compatible with Complete Streets policies addressed elsewhere in this plan.

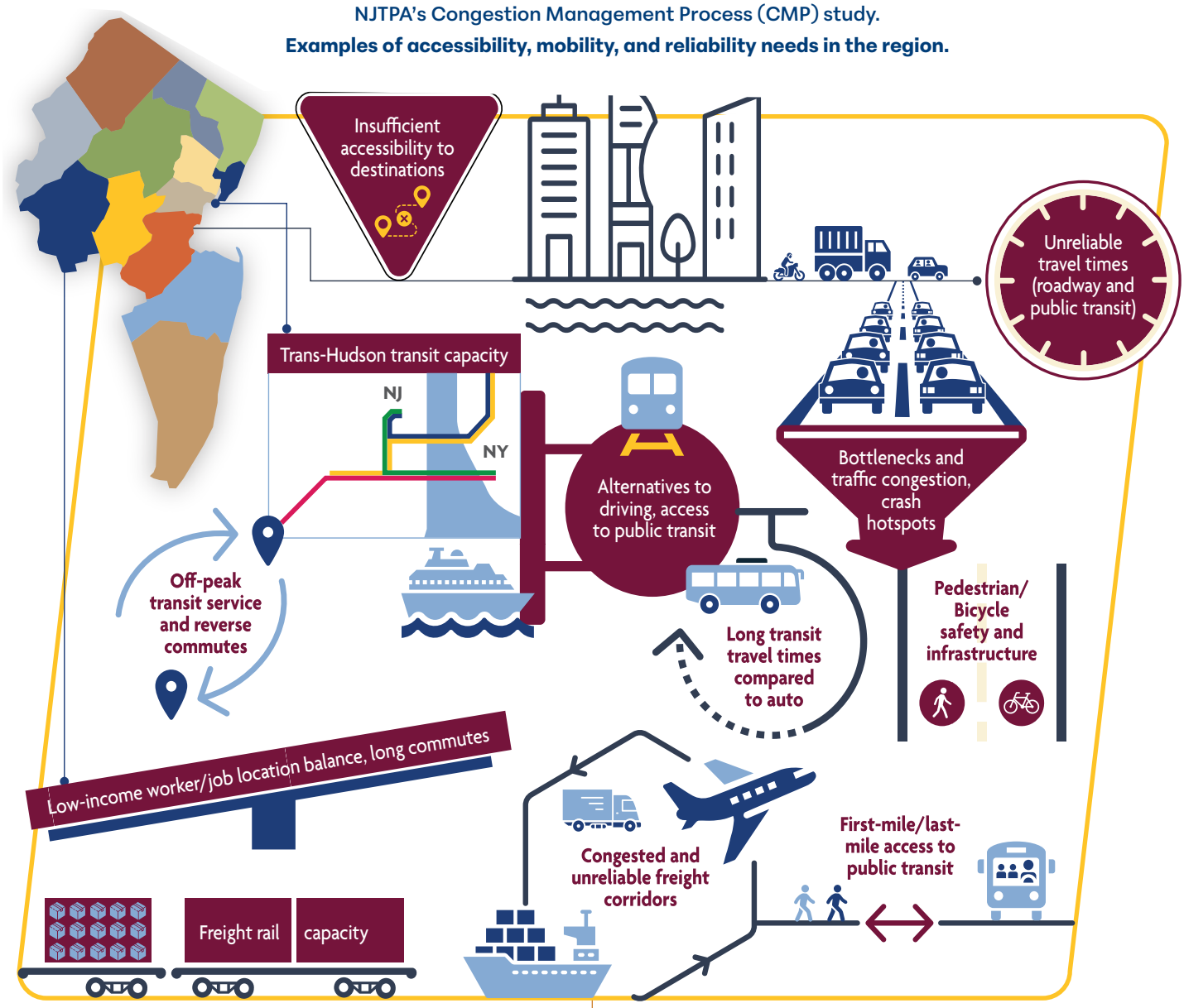
Guiding Investments

In recent years, a substantial increase in federal support for transportation, principally through the IIJA and the Inflation Reduction Act (IRA), has allowed the region to better address critical infrastructure needs

What are our regions needs?

The chart below highlights examples of needs identified in the most recent NJTPA's Congestion Management Process (CMP) study.

Examples of accessibility, mobility, and reliability needs in the region.



on virtually all elements of the region's system—roads, bridges, transit systems, trails and bike lanes and the port. Many of the performance impacts of these investments may take years to fully realize, as funding levels are in many ways a leading indicator of transportation progress. The increase in federal support has been matched by strong state funding through the New Jersey Transportation Trust Fund. Funding for *Connecting Communities* is discussed in Chapter 4.

This plan calls for continued strong state and federal support for transportation. The RCIS, discussed in Chapter 1 and Appendix E, helps bring a regional perspective to planning and guiding investments. Maintenance and preservation projects on the road network and transit system are targeted for the highest share of funding, 55 percent. System improvement is targeted for 30 percent of funding. Compared to the previous plan, this plan increases funding for non-vehicular travel and safety and decreases funding for road enhancement and expansion. The chart on page

41 (Figure 3.3.3) summarizes the target allocations in the RCIS. Note that, although the percentages shown on the bars add up to 100 percent within each investment category group, the length of the bars shows the relative percentages between all investment categories. More details about the RCIS, including its investment principles, performance outcomes, and investment category guidelines and funding targets can be found at **rcis.njtpa.org**.

While the RCIS guides the allocation of funding across several investment categories, technical planning also informs where and how investments can best be made. The NJTPA periodically assesses accessibility and mobility needs and potential strategies to address them through a federally required CMP. This systematic study makes use of the latest modeling tools and data resources and focuses on providing benefits for all communities and travel modes. Its findings draw upon extensive consultation with planners throughout the region.

The CMP is an important resource and is part of the project development process. Information from the CMP, along with that from numerous other regional, subregional and partner agency planning studies, is compiled in the NJTPA's PRIME study library to support implementation and collaboration. In addition, the CMP must be used in decisions to add roadway capacity, and it helps to identify complementary travel demand management and operational strategies to avoid negative impacts. The chart below highlights examples of needs identified in the most recent CMP study.

These needs and associated strategies provide a foundation for future improvements. Further assessments, using a performance-based planning approach, will be needed before implementing recommendations. This includes gathering relevant data and responding to stakeholder and public input. This work is supported through the NJTPA's Subregional Studies and Planning for Emerging Centers programs, among others.

Recommendations

- The RCIS and CMP identify guidelines and recommendations for the region to improve system coordination, efficiency, connectivity, and reliability for the movement of people and goods. The CMP and other NJTPA and partner planning studies serve as a basis for further exploring local needs and potential projects that could be funded through the TIP. As with other sections in this chapter, there is an overlap between the goals. Below is a list of recommendations that are not addressed in other sections:
- Manage travel demand and efficiently operate the transportation system. Investments should support reductions in motorized trips and vehicle miles, and transportation system management should improve information flow and operational coordination.
- Encourage the development of transportation technologies and support the deployment of systems that have proven safe and reliable, notably adaptive signal systems and regional systems for traveler information and fares.
- Support the transport of goods with improvements in the operations, efficiency, and connectivity of truck and freight rail networks, as well as waterborne facilities, while also mitigating the impacts of excessive freight traffic on communities.
- Take advantage of innovations in transportation planning technologies including new data sources to enhance modeling and real time system management and coordination.
- Strive to understand the changing nature of commuting and local travel to create new programs and investments that will better meet the needs of the travelers and the region's communities in the long term. ●

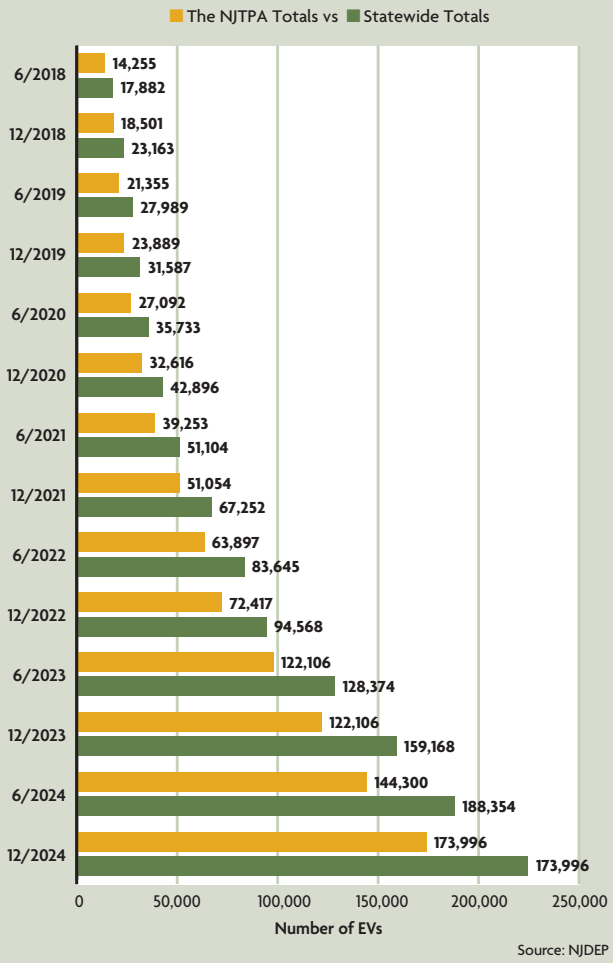
Phillipsburg, Warren County

Make the system resilient to the impacts of extreme weather and other hazards.

3.4

EXTREME WEATHER PRESENTS a growing challenge to the effective functioning of the transportation system and its ability to meet the increasing demands for movement of people and goods on which the economy depends. Rising sea levels, more extreme weather patterns and increasing temperatures result in more frequent and severe flooding of roads and rails, erosion that can undermine infrastructure foundations, accelerated deterioration of rail and roadway systems and other impacts. Along with broader disruptions to the economy, environment, quality of life and public health, these threats create an urgent need for the transportation sector to reduce air pollution and for infrastructure to be built, retrofitted, or even relocated, in a more resilient way.

Figure 3.4.1:
Electric Vehicles in New Jersey and the NJTPA Region, 2018—2024



Source: NJDEP

The impacts for New Jersey are projected to be severe within the life of this plan. The latest projection for sea level rise is between two feet by 2050 and five feet by 2100, according to the New Jersey Department of Environmental Protection (NJDEP). The NJDEP recommends that decision-makers use 2100 as a planning horizon. As a result, the state's coast has become more subject to tidal flooding, also known as sunny day or nuisance flooding. Tidal flooding occurs when high tides cause flooding that is not associated with storm surge or extreme wave effects.

In addition, there is a scientific consensus that Earth's temperature is increasing. The 2023 Rutgers State of the Climate New Jersey report states that, "This warming trend is expected to accelerate … leading to increased heat stress-related health conditions, especially among vulnerable populations; more widespread damage to infrastructure, such as roads and electrical wires; and exacerbation of conditions contributing to wildfires." Materials such as asphalt, steel, concrete and others may be compromised, and transit riders face potential health impacts from exposure to the heat as they wait for their buses and trains.

Addressing these risks not only advances this goal, but also contributes to accessibility, economic well-being and the health of the region's residents. Extreme weather events will disrupt accessibility for all types of travel, but especially for those without a personal vehicle. This impact will be particularly felt for those with lower incomes, older residents and people with disabilities or health issues, who are less mobile and less able to recover and adapt from significant weather events. In addition, air quality and pollution worsen as the temperature rises, creating unhealthy conditions for vulnerable residents.

The NJTPA continues to actively promote resilience of the transportation system and, in partnership with the Port Authority, recently adopted a Resiliency Improvement Plan (Appendix I), which provides a risk-based assessment of vulnerable transportation assets. It includes actions and strategies to preserve the

transportation system from damage and disruption and addresses bridges, culverts, rail assets, road assets and transit rolling stock. The plan accounts for hazards, including flooding, sea level rise, storm surge and extreme heat events. Having this plan in place reduces the local funding match requirements for entities in the region who are awarded federal Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Program grants and helps make their applications more competitive.

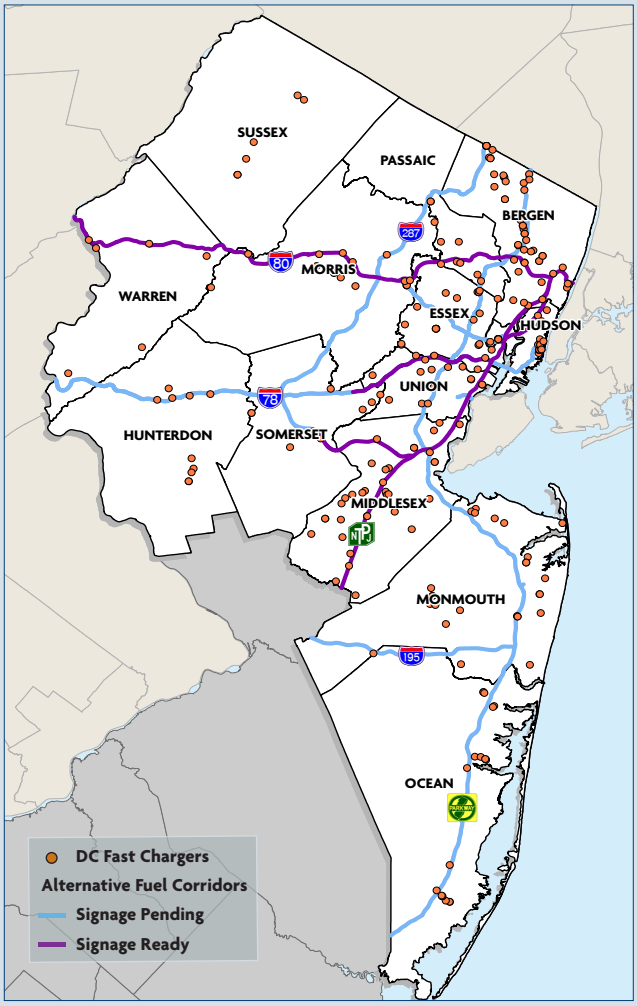
Emission Reductions

There is general scientific consensus that carbon dioxide and other emissions primarily contribute to the increasingly extreme and unpredictable weather. Transportation accounts for the largest portion of the state's emissions, 36 percent, according to the most recent NJDEP analysis. Most of the region's on-road transportation emissions come from passenger cars and light-duty trucks (79 percent), while short- and long-haul trucks, refuse trucks and buses account for nearly 20 percent. Counties with larger populations, such as Bergen and Middlesex, generally have higher emissions, while counties with smaller populations, like Warren and Sussex, have lower emissions. However, Essex and Hudson counties have large populations but have relatively lower emissions due to their public transit accessibility and land use patterns that encourage shorter trips, especially where they can be made by biking and walking.

Emissions from transportation are projected to decline as vehicles become even more efficient and increasingly electric. Electricity production from low- and zero-carbon sources will further contribute to reducing emissions associated with charging electric vehicles (EVs). According to the NJTPA's most recent analysis using the combination of the NJRTM-E Travel Demand Model and the federal Environmental Protection Agency's MOVES model, on-road transportation emissions in the region could decrease by nearly 50 percent by 2050, even as VMT increase by more than 8 percent. This would represent meaningful progress towards reducing emissions, but it is not enough to meet the targets set by the state. Reaching those goals will require faster EV adoption and broader measures to reduce VMT, such as improving and expanding active transportation and public transit, as well as supporting smart growth planning, zoning and redevelopment. The NJTPA and its planning partners must continue advancing comprehensive measures to further reduce on-road transportation emissions and help the state meet its goal.

Widespread EV adoption is a critical way to reduce emissions and improve air quality. The NJTPA commits to encouraging the adoption of EVs throughout the state and to monitor advancements in other alternative fuel vehicle adoption in our region. As of December 2024, there were nearly 225,000 EVs registered in the state, with about 174,000 of them in the NJTPA region. EVs account for more than 3 percent of all vehicles in the region. EV adoption is

Figure 3.4.2
NJ Alternative Fuel Corridors



Source: NREL2025; Census 2024; FHWA 2025.

Asbury Park, Monmouth County

growing rapidly, with the region adding about 30,000 between June and December 2024 (see figure 3.4.1). New Jersey has set aggressive goals—330,000 EVs by the end of this year, 2 million by 2035 and 85 percent of all vehicles by 2040. The state has various incentive programs, including up to $4,000 for purchasing a new EV and $250 toward an in-home charger. The NJTPA supports and encourages partner agencies and industry experts' further study of the electrical grid demand in order to meet EV adoption and state clean energy goals.

As EV use continues to grow, publicly available charging has also expanded with the help of federal and state initiatives. At the national level, the federal government has designated Alternative Fuel Corridors (AFC) where a network of fast chargers is to be located (Figure 3.4.2). At the state level, incentive programs such as NJDEP's It Pay$ to Plug In and the Multi-Unit Dwelling EV Charger Incentive Program have greatly increased the number of charging ports. There are more than 4,000 publicly accessible charging ports in New Jersey with most of them in the NJTPA region.

As part of this plan, the NJTPA developed a Carbon Reduction Strategy to address emissions (Appendix J). NJDOT published a Carbon Reduction Strategy for the state in 2023. In addition to advancing EV adoption, both plans identify actions to reduce VMT by increasing transit use, reducing SOV travel and supporting walking and biking. The NJTPA Carbon Reduction Strategy calls for enhancing and building active transportation facilities, improving and expanding public transit and supporting increased development around transit stations and hubs. These strategies directly support other goals in the plan, including enhancing system accessibility (Section 3.3), state of good repair (Section 3.6), and increasing the region's economic competitiveness (Section 3.7).

Recommendations

The NJTPA will take additional steps to mitigate and adapt to extensive flooding, rising sea levels and extreme heat. A new environment and resilience category in the RCIS (Appendix E) will help guide investment of Carbon Reduction, PROTECT and other federal transportation funds in the TIP. The NJTPA's RIP serves as a reference to identify planning and programing priorities to meet the new RCIS category. In 2025, the NJTPA launched a Subregional EV Charging Grant program to further assist subregions with installing charging infrastructure on their properties for their fleets or for public use. Beyond these, actions to improve the resilience of the region's transportation system and protect residents from the impacts of extreme weather include:

- Incorporate measures to reduce flooding and extreme heat impacts into the Complete Streets Technical Assistance Program.
- Promote resilience strategies at the municipal level through comprehensive planning, including developing guidance for the establishment of places that serve as critical community resources before, during and after extreme weather events (i.e., Resilience Hubs).
- Continue to develop and program projects using Carbon Reduction funds consistent with the agency's Carbon Reduction Strategy
- Provide relevant data to counties and municipalities to support resilience and environmental planning efforts.
- Participate in and support partners' efforts including NJDEP's Resilient NJ initiative.
- Continue to support subregional EV readiness planning in the Subregional Studies Program.

Coordinate land use and transportation to create healthy and vibrant communities that reduce environmental and air quality impacts and support transit ridership, biking, and walking.

3.5

LAND USE DECISIONS shape how people move around the region. The location of housing, its cost, and its proximity to jobs and daily activities influence transportation choices. The ability to provide transportation options depends on municipal land use and development decisions. This impacts how people travel, how much it costs, and how long it takes—important components of quality of life. Land use choices also affect the environment and the region's transportation investments and their associated cost. Transportation and land use decisions must be coordinated to create healthy, vibrant communities.

Housing Affordability

Housing and transportation are two of the most significant and unavoidable household expenses. The rising cost of housing is impacting many families. More than a third (36 percent) of households in the region are housing cost burdened, meaning they spend 30 percent or more of their income on housing and utilities. Nationally, the cost of housing has been rising faster than income for the past two decades. In part, this reflects an increase in demand as population growth boosts household formation and the number of people looking to buy homes. It also reflects inadequate supply. Both the 2008 financial crisis and the COVID-19 pandemic caused significant reductions in construction, which continues to lag demand. Zoning restrictions and other local land use regulations also play a role in slowing home construction. Due to these factors, fewer families have been able to find homes that meet their needs.

An unaffordable housing market has particularly impacted low-income families, people with disabilities and older adults. Low wage jobs can leave people with no choice but to accept inadequate housing and some can be pushed into homelessness. Analysis of the 2010 Census found that almost half of people living in shelters have some sort of formal employment.

The number of people experiencing homelessness has been increasing, reaching 12,680 during the statewide count in January 2024, a 24 percent increase from 2023, according to Monarch Housing Associates, a non-profit involved in developing affordable and mixed-income housing in New Jersey. The largest percentage increases were in Passaic County (74 percent) and Union County (73 percent). Essex County had the largest unhoused population, at about 2,500.

As detailed in Section 3.1, the United Way's ALICE Household Survival Budget (2022) estimates the minimum cost to live and work in New Jersey. The minimum survival budget for a family of four with two school-aged children is $6,805 a month. However, a two-income household working full time at the New Jersey minimum wage will gross only about $5,450 a month. The average combined housing and transportation costs for such a household exceeds 46 percent, above the 45 percent generally considered as the upper limit of affordability.

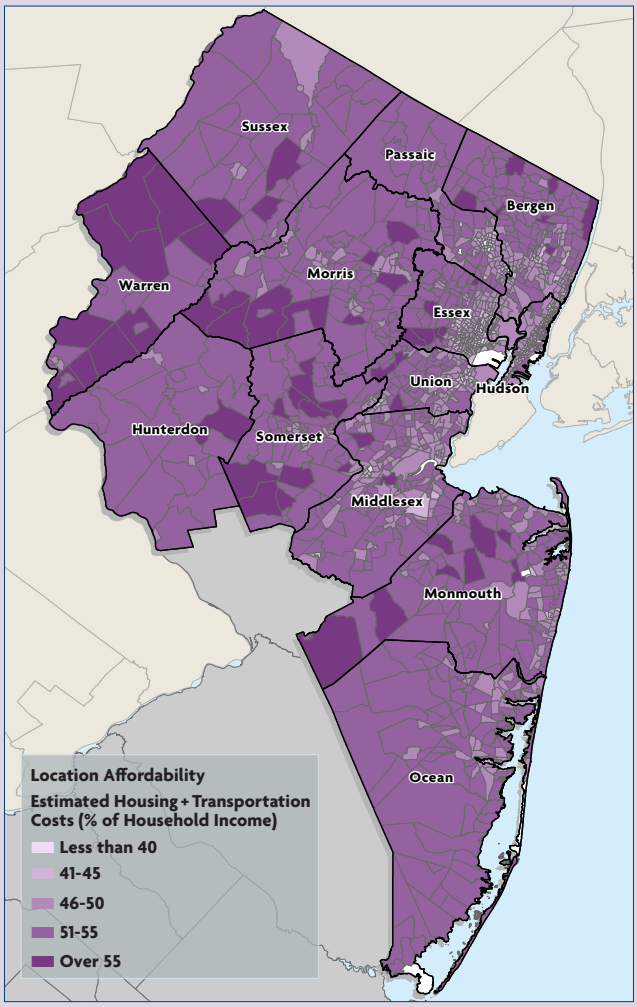
The high cost of housing doesn't just impact our most vulnerable residents, it also impacts higher income renters, existing homeowners and those looking to buy a home. Taking advantage of TOD and improving coordination of housing development, employment growth and transit investment would give many households better access to jobs, educa-

Flemington, Hunterdon County

tion, healthcare, services and green spaces. In rural areas with declining populations and a predominance of detached single-family homes, more diverse and affordable housing options can play a role in revitalization.

As mentioned in Chapter 2, the NJTPA engaged state planning and policy stakeholders to discuss housing affordability. Participants noted the need for more housing at all income levels and of all types and unit sizes, including more small-scale residential infill housing, which can help make housing more affordable and provide options for starter homes and for aging households. Examples of infill housing include duplexes, small apartment buildings, and accessory dwelling units (ADUs), which are small homes located on the same property as a one- or two-family home. They shared that more needs to be done to promote and facilitate the production of diverse affordable housing in areas served by an extensive transit network (bus, commuter rail, light rail and ferry). Participants suggested the region take advantage of its extensive transit system by loosening zoning restrictions to allow for more density and diversity of housing near transit.

Figure 3.5.1
Estimated Housing & Transportation Cost as Percent of Income



Source: HUD 2024; Census 2024;

Transportation Costs

Transportation is just one of many factors that households consider when choosing where to live, along with work opportunities, schools, safety, personal preferences and housing cost. Many of the region's cities and commuter suburbs have bus and rail transit that connect them to key destinations. This reduces transportation costs, but these places often have comparatively more expensive housing. Suburban and rural parts of the region may have lower housing costs, but the longer distances to everyday destinations and the lack of transit means that these households own more cars and drive them further, increasing transportation costs.

The estimated percentage of household income taken up by housing and transportation combined is higher in many outer suburbs and rural areas than in inner suburbs and urban areas, as shown in Figure 3.5.1. It depicts the Location Affordability Index from the U.S. Department of Housing and Urban Development, which estimates housing and transportation costs based on factors such as cars owned per household, distance and mode of commute, access to public transportation, neighborhood density and land use, cost of vehicle ownership, and the market rate housing price.

Housing Production

Housing costs have significantly increased because production has not kept up with demand. Construction declined sharply due to the 2008 financial crisis, and, though housing production has been slowly recovering, it is insufficient to meet regional needs. Housing construction increased significantly

over the past decade but is still far below the 21,000 units constructed in 2006.

The types of homes being built in the region have changed. A decade ago, more than 50 percent of new housing units were one- or two-family homes. Today, about two-thirds of new homes are part of a multifamily development.

The multifamily housing boom has centered on Hudson County, which accounts for 34 percent of all new multifamily units in the region over the last 11 years (Figure 3.5.4). The City of Jersey City led the state in multi-family construction with over 35,000 units, followed by the City of Newark with more than 8,000 units. Bergen, Essex, Union and Middlesex counties also saw significant multifamily housing development.

Conversely, Ocean County led the region in the construction of one- and two- family homes over the same timespan, comprising 87 percent of all new homes in the county. Lakewood Township gained about 4,700 units, followed by Toms River with over 3,100 units. Monmouth is the only other county in the region where more one- and two-family homes were built than multifamily units. Notably, Jersey City and the City of Newark saw both multifamily and one- and two-family housing growth.

More than half of New Jersey's housing stock (52.3 percent) consists of detached single-family homes, according to the 2023 American Community Survey 1-Year Estimates. The State Plan and housing policy experts both advocate for planning and investment that creates a greater housing diversity, including accessory and multi-unit dwellings, which would help alleviate the shortage by providing options for families to find homes that best meet their needs.

The region's inner counties, which also tend to be the areas experiencing the highest growth, offer more alternatives to single-family homes. In Hudson County, single-family detached housing accounts for only 9.8 percent of the supply. This housing type also comprises less than half of the housing stock in Essex (34.1 percent) and Passaic (41.4 percent) counties. At the same time, single-family detached housing makes up more than 70 percent of all housing units in Hunterdon (72.6 percent), Ocean (73.8 percent), and Sussex (75.8 percent) counties.

Figure 3.5.2
Housing Production Trends in the NJTPA Region, 2013-2023

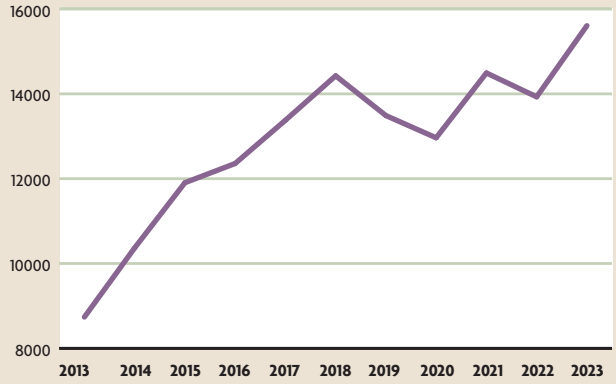
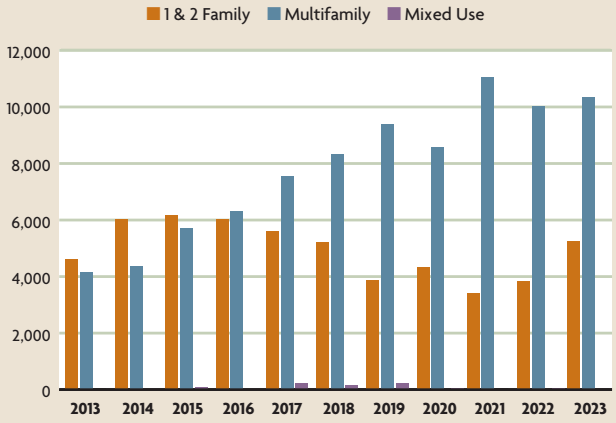


Figure 3.5.3
New Housing Units by Year and Type in the NJTPA Region, 2013-3023

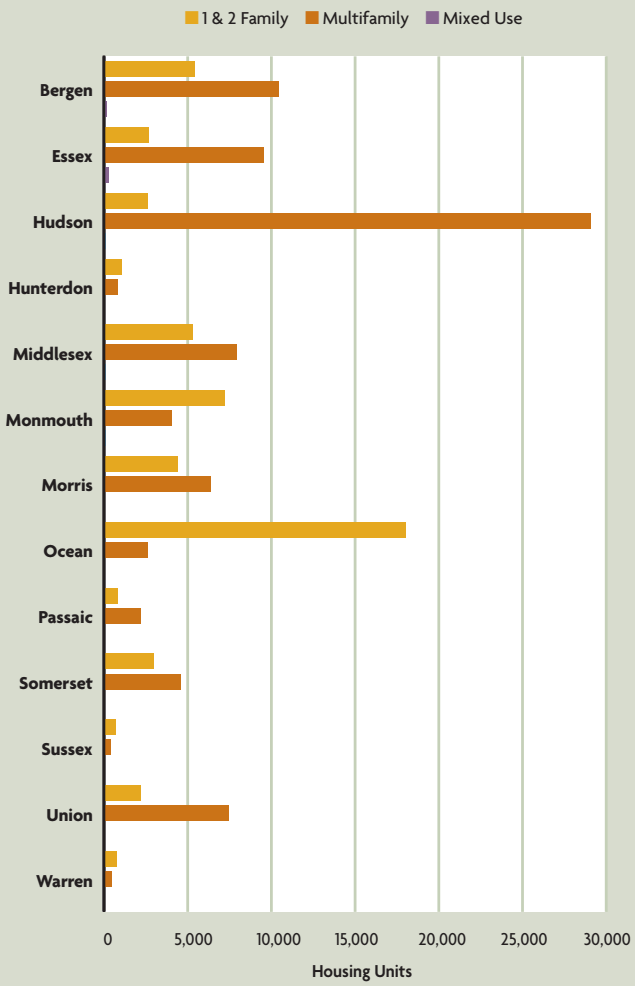


Source (for both): NJ Construction Reporter Housing Data

Housing and Transit

Incorporating housing near transit facilities is an opportunity to meet the region's housing needs while reducing reliance on personal vehicles. High frequency bus corridors, like Route 9, are prime locations for mixed use housing. The NJ TRANSIT Route 9 TOD Vision Plan provides guidance on potential housing infill and enhancements to the existing bus service. The Regional Plan Association's report Homes on Track: Building Thriving Communities Around Transit examined transit stations across the New York City metro-

Figure 3.5.4
New Housing Units by County in the NJTPA Region, 2013-3023



Source: NJ Construction Reporter Housing Data

politan area and found significant vacant or unbuilt land that has the potential for more housing. The report also noted that most housing units within walking distance of commuter rail stations are single family homes. NJ TRANSIT's Gentle Density and Missing Middle Housing in NJ Guide provides zoning and design policies that allow municipalities to provide for smaller scale, multi-unit structures in traditional single-family neighborhoods. This technique preserves the scale while increasing affordability and housing choice. Proactive planning and adjustments to local zoning ordinances are needed to make these changes.

Affordable housing professionals cite the importance of building affordable housing near transit, especially bus routes, to provide residents with options for getting to work, school and other destinations. Affordable housing builders say it is challenging to find tenants for affordable homes in rural areas that lack transit or other non-auto options. Transportation options will become increasingly important as municipalities in these areas approve inclusionary housing developments to comply with their fourth-round affordable housing obligations under the New Jersey Supreme Court's Mount Laurel doctrine and the State's Fair Housing Act. Continued coordination between affordable housing and transportation agencies during the planning process will be key to addressing this issue.

Warehouse Expansion

The NJTPA region has seen a significant expansion of warehouse facilities to serve the growth of e-commerce. Nearly 40 percent of warehouse growth between 2013-2023 was in the area around exit 8A of the New Jersey Turnpike in Middlesex County. The impact of warehouse growth far from the Port and major population centers has increased truck traffic, localized air pollution issues, and created jobs that are largely only accessible by car. The challenges with warehouse development are discussed in Section 3.7. As these are land intensive facilities, there is also a need to balance open space and natural lands with this kind of development.

As with other types of development in suburban and rural areas, warehouse development should be accompanied by efforts to assess and improve workforce transit access to these locations including transit improvements in the employee's communities. This can be pursued through private partnerships, assistance by non-profit TMAs, discussed in Section 3.3, and resources of state programs. NJTPA programs, as discussed below, can also support needed county and local planning.

Supporting Local Efforts

The NJTPA provides assistance to communities in the region that reflect the goals of *Connecting Communities* and the State Plan through various programs.

Planning for Emerging Centers provides technical assistance to support municipal efforts to create more sustainable, transit-supportive and walkable communities. Through this program municipalities can conduct various planning studies including integrating transportation into land use plans, transit area plans, multimodal (e.g., vehicular, bus, bike, pedestrian) circulation elements of master plans, climate change and sustainability plans, among others.

The Transit Hub Planning Program—a partnership with the Center for Community Planning and the American Planning Association New Jersey Chapter—creates strategic plans to reuse, redevelop, or improve areas surrounding a bus, rail, light rail or ferry station or facility. These plans identify strategies to improve access to transit, increase economic activity in the station area, create improved public spaces and promote a more vibrant and connected community.

The NJTPA is collecting and analyzing zoning data for the region's 384 municipalities. Once completed, this zoning atlas will allow state, regional and municipal policymakers to better coordinate land use and transportation planning across the region. This can foster housing development, stronger economies, healthier environments and more connected communities.

Recommendations

- Continue and potentially expand coordinated land use and transportation planning technical assistance programs, such as the Planning for Emerging Centers and Vibrant Places programs.
- Educate municipalities about how the zoning atlas can be used to better connect new housing and commercial development to the transportation system.
- Educate municipalities on the importance of integrating transportation considerations into affordable housing planning, including locating housing near walkable, mixed-use centers on existing transit routes.
- Include consideration of housing and transportation costs in NJTPA-sponsored studies and subregional studies, as appropriate.
- Plan for and invest in first- and last-mile transportation options such as transit shuttle and micromobility facilities and services to connect housing and employment centers to a broader transit network.
- Improve coordination between NJDOT, NJ TRANSIT, and other agencies (New Jersey School Development Authority, New Jersey Economic Development Authority, Department of Community Affairs and NJDEP, for example) with communities to locate facilities in accessible places.

Supporting Transit-Oriented Development

The NJTPA offers technical assistance to municipalities through the Transit Hub Planning Program. This program, a collaboration between the NJTPA and the New Jersey Chapter of the American Planning Association, aims to strengthen transit hubs in the region. The City of Passaic's participation in the program offers an example of how a municipality can leverage public transportation investment to enhance local economic development.

Through this program, a plan was developed for the City of Passaic to improve intermodal connections between the new NJ TRANSIT bus station, local bus routes, and the surrounding commercial district. Recommendations include improved pedestrian connections, a circulatory transit service to improve regional connectivity, and assistance to the city in pursuing Transit Village designation from NJDOT.

This project followed the completion of an LCD study that explored ways to improve travel safety, traffic flow, transit access, walkability and economic development along Main Avenue from Monroe Street to Gregory Street. The study recommends converting a parking area in the middle of the corridor into green space and moving parking adjacent to the businesses.

Maintain the transportation system in a state of good repair.

3.6

MAINTAINING AND IMPROVING the region's transportation infrastructure is necessary for safety and economic competitiveness. Delay caused by infrastructure failures, such as the recent sinkholes on I-80 in Morris County, can be costly and disrupt communities due to diverted traffic, increased air pollution and noise, and a loss of reliable travel. The state's aging infrastructure, funding constraints, and the need to make the transportation system more resilient present challenges. Continued and improved collaboration among all partners in the planning and capital programming process—including NJDOT, NJ TRANSIT, the Port Authority, counties and municipalities—is necessary to strategically address maintenance and preservation needs.

The commitment to maintaining a state of good repair is reflected in the NJTPA's project prioritization process, which evaluates and scores projects that are candidates for federal funding through the TIP. The NJTPA is in the process of updating project selection criteria to better target investment to the highest priority needs in keeping with the *Connecting Communities* goals. Most projects included in the TIP are for maintenance or preservation, as discussed in Section 3.3. The RCIS also commits to infrastructure maintenance, with a target to devote more than half of the region's limited transportation funding to transportation preservation projects.

Accomplishing this goal means overcoming significant challenges. Aging infrastructure, funding constraints, limited staffing resources and evolving travel demands require a strategic approach for extending the life of infrastructure assets. Increased flooding, extreme heat and rising sea levels pose additional serious threats to the transportation system. Integrating resiliency into project planning is particularly important, as discussed in Section 3.4.

The Rt. 80 sinkhole disaster is adding everyone that would be driving on 80 into my town. I can't get my kids to school safely due to the millions of cars traveling through my town daily. The commute to their school alone has tripled. People are speeding through quiet 25 mph neighborhoods doing at least double. There is no option to walk, as there are no sidewalks, and the roads are windy and narrow. HELP!!.

—FLANDERS RESIDENT

Through multiagency collaboration, the NJTPA supports data-driven assessments of existing conditions of roads, transit, bicycle and pedestrian facilities and freight infrastructure to identify and recommend long term strategies and programs for improving the state of good repair. These assessments include maintaining up-to-date inventories of facilities and monitoring their conditions through pavement testing; performing bridge inspections; tracking transit capital, stations and fleets; and other ongoing efforts.

Performance trends from these assessments are benchmarked against historical data and national standards to plan for addressing anticipated investment needs over the expected lifespan of facilities—called lifecycle asset management. In doing so, the NJTPA and its partners recognize the need to address infrastructure condition disparities across all communities.

Bridges

Some of the region's bridges are more than 100 years old and many do not meet current standards. There are more than 4,100 bridges within the NJTPA region, all of which require ongoing preservation, rehabilitation, or replacement and continuing maintenance (see Table 3.6.1).

NJDOT uses a bridge management system, which includes structure condition ratings, risk factors, detour lengths and other factors to help determine the most cost-effective distribution of resources to maintain a state of good repair. The number of bridges in poor condition has been reduced by 36 percent over the last 12 years, from 432 in 2011 to 278 in 2023. As of 2020, 8 percent of bridges 20 feet or greater in length in the region were rated poor (based upon National Bridge Inspection Standards). By the end of 2023 this was down to less than 7 percent (See Table 3.6.2).

This slow but steady progress to rehabilitate or replace structures in poor condition will allow for more preservation efforts and achieving the lowest life cycle costs in the future.

Bridge maintenance is essential to ensure safety, structural integrity and longevity. Bridges are particularly vulnerable to damage due to flooding and severe weather. Flooding can cause scouring around piers and abutments, removing sediment and weakening structural foundations. Large fluctuations in temperature and heat can also cause damage. Expansion joints on bridges are designed to allow for the movement of a structure due to temperature changes. Over time, when the temperature increases the heat will affect the thermal expansion of the joints, accelerate degradation of the joint material and increase stresses in the structure. Without proper maintenance this can worsen a bridge's condition. This is particularly concerning because delayed maintenance resulting in travel restrictions or closures can disrupt regular travel, as well as emergency evacuation from vulnerable areas, such as the shore, and movement of critical supplies in an emergency.

Pavement

There are more than 55,000 lane miles of paved roadway in the region, with municipalities, counties, the state and various agencies sharing responsibility for maintaining them.

Table 3.6.3 identifies roads as NHS, non-NHS or off system, using functional classifications that group roads according to the service provided. The NHS includes the Interstate Highway System as well as other freeways or expressways and principal arterials. Other federal-aid highways that are non-NHS include minor arterials, major collectors, and urban minor collectors. Off-system roads are not on the federal aid

Figure 3.6.1
Bridges by Ownership in the NJTPA Region

BRIDGE OWNER CATEGORY	TOTAL BRIDGES	TOTAL PERCENTAGE OF BRIDGES	TOTAL DECK AREA	TOTAL PERCENTAGE OF DECK AREA
County/Municipality	2,090	51%	6,455,002	19%
NJ Transit	89	2%	417,457	1%
Federal	24	1%	61,259	1%
Private	19	1%	128,807	
Special Agency	18	1%	99,535	
State Maintained	1,865	45%	27,136,001	79%
TOTAL	**4,105**	**100%**	**34,298,060**	**100%**

Source: NJDOT Bridge Management System (2019)

Figure 3.6.2
Percent Bridges in Poor Condition in the NJTPA Region, 2011-2023

OWNER	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
County/Municipality	9.4%	8.5%	8.5%	8.1%	8.2%	7.8%	7.3%	7.2%	6.8%	6.3%	5.7%	5.6%	5.1%
Federal	4.5%	8.7%	4.0%	7.7%	7.7%	11.5%	11.5%	11.5%	8.3%	8.3%	8.3%	8.3%	8.3%
NJ TRANSIT	15.4%	14.3%	14.3%	14.3%	18.3%	18.3%	17.2%	17.2%	15.1%	15.1%	14.0%	13.5%	13.5%
Private	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Special Agency	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
State Maintained	11.7%	11.1%	11.1%	10.9%	10.9%	10.8%	10.9%	10.4%	9.8%	9.7%	9.2%	9.0%	8.5%
Toll	0.9%	1.1%	1.1%	1.0%	0.6%	0.5%	0.3%	0.8%	0.8%	0.7%	0.5%	0.4%	0.4%
TOTAL PERCENT	**10.5%**	**9.7%**	**9.7%**	**9.4%**	**9.6%**	**9.4%**	**9.1%**	**8.8%**	**8.3%**	**8.0%**	**7.5%**	**7.3%**	**6.8%**

Figure 3.6.3
Lane Miles of Roadway in the NJTPA Region by Owner

NJTPA LANE MILES BY OWNER				
JURISDICTION	NHS	NON-NHS*	OFF SYSTEM	NJTPA TOTAL
County	1,285	6,318	1,131	8,733
Delaware River Joint Toll Bridge Commission	31	1	1	33
Municipal	173	3,681	35,742	39,596
NJDOT	5,271	425	17	5,712
New Jersey Turnpike Authority	1,601	0	0	1,601
Palisades Interstate Parkway Commission	47	0	0	47
Port Authority of NY & NJ	47	0	0	47
	8,454	**10,425**	**36,890**	**55,768**

system and include rural minor collectors or locally classified routes.

NJDOT has the largest share of NHS lane miles, with counties and municipalities responsible for most of the non-NHS roads. It can be financially difficult for counties and municipalities to maintain this large inventory of roads. Table 3.6.4 breaks down the total mileage by road ownership in each county.

As with bridges, NJDOT uses a database to track the pavement conditions of roads it is responsible for maintaining. The state has been making steady progress in reducing the percent of its roads rated poor, down to 20 percent in the NJTPA region in 2024 from 28 percent in 2020 (Figure 3.6.5). NJDOT has been using pavement preservation treatments to extend the life of state highways in good and fair condition. Pavement preservation seals roads with a thinner, less expensive treatment than traditional repaving, increasing safety, enhancing durability and minimizing costs.

Figure 3.6.4
Lane Miles by Jurisdiction in NJTPA Counties

COUNTY	NJDOT	AUTHORITY	COUNTY	MUNICIPAL	TOTAL MILEAGE
Bergen	106	40	438	2,413	2,998
Essex	63	19	212	1,375	1,670
Hudson	34	21	55	518	629
Hunterdon	115	1	241	1,089	1,446
Middlesex	137	43	312	2,097	2,589
Monmouth	205	0	519	2,261	2,985
Morris	163	0	283	2,118	2,565
Ocean	140	8	610	2,280	3,038
Passaic	55	5	244	1,023	1,326
Somerset	113	0	246	1,410	1,769
Sussex	112	0	311	1,173	1,596
Union	67	17	178	1,166	1,429
Warren	104	6	259	693	1,062
NJTPA MILES (CL)	**1,413**	**218**	**3,766**	**19,753**	**25,149**
NJTPA MILES (LM)	**5,712**	**1,727**	**8,734**	**39,596**	**55,768**

Federal Funding

IIJA discretionary grants allowed NJTPA to program additional state of good repair projects using formula funding. This, along with innovative funding mechanisms, asset management technologies and performance-based planning, improved funding allocation and infrastructure construction and maintenance.

Since 2022, the region has seen a 27 percent increase in funding available for maintaining infrastructure. While much of this was realized through IIJA increases in federal formula funding, the region has also benefited from competi-

tive federal grant awards. An example of this is the Route 7, Kearny, drainage improvements project, which was awarded $26 million through the federal Infrastructure of Rebuilding American (INFRA) grant program. INFRA funds projects of national or regional significance that improve the safety, efficiency and reliability of the movement of freight and people. The Route 7 project will raise the roadway and improve drainage along a two-mile stretch that floods and requires detours during heavy rainfall. The trend of more extreme and variable weather adds another layer of complexity, requiring resilience-focused planning (See Section 3.4).

These challenges present opportunities to better plan for achieving a long-term state of good repair with state and federal funding.

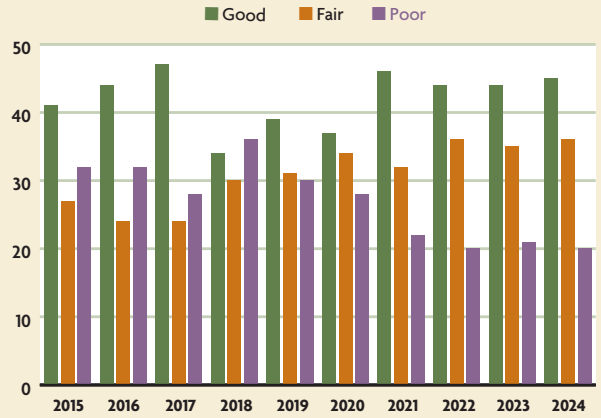
The NJTPA continues to work with subregions to advance local priority projects through the LCPD and Freight Concept Development programs. One example of putting federal dollars to work at the local level is the recently completed Rumson-Sea Bright Bridge. The old bridge was rated poor due to severe corrosion and section loss. The NJTPA provided $107 million to Monmouth County through its LCPD Program to study options and ultimately construct a new bridge that provides a safer and more efficient crossing.

Through these and other efforts, work to achieve a state of good repair can result in far reaching benefits. Improved infrastructure enhances safety and reliability, reduces crashes, minimizes environmental impacts and improves mobility while supporting economic competitiveness for the benefit of all the region's communities.

Recommendations

Connecting Communities recognizes that proactive maintenance and rehabilitation of roads, bridges and transit assets extend their lifespan and is a critical investment. These recommendations can help make the best use of resources to keep the region's vast infrastructure in a state of good repair.

Figure 3.6.5
NJDOT Owned Pavement Conditions
NJTPA TOTAL (5,785 LINE MILES)



- Rehabilitation and replacement programs should continually seek new data and technology to enhance monitoring and decision-making and support a data-driven approach to asset management.
- Innovation and research into new materials and approaches promise to enhance the effective use of resources to extend infrastructure lifespans and to maximize the use of resources.
- Infrastructure owners should seek to implement the actions and strategies in the RIP (See Appendix I) to improve resiliency.
- Address infrastructure condition disparities across communities in the region.
- The NJTPA and partner agencies should explore streamlining the pipeline, from planning to construction, to speed completion of needed projects.

Increase the region's economic activity, sustainability, and competitiveness.

3.7

THIS GOAL SEEKS to enhance the transportation system's role in supporting nearly every aspect of the region's economy. It also recognizes the significant economic benefits the transportation sector provides, employing many thousands at the port, Newark Liberty International Airport, warehouses, trucking firms and other employers in the region.

As discussed in Chapter 1, after a steep decline during the pandemic, travel over roads and rail lines has largely bounced back. Commerce through the port is above pre-pandemic levels and growing. This has propelled an economic recovery, though not without challenges for future growth. These challenges may arise from trade policy, such as tariffs, extreme weather events such as hurricanes, or other disruptions. These may cause short-term fluctuations in freight volumes; however, the region is well positioned for significant growth in the future.

This goal is connected to others in this chapter. The economic benefits of ensuring the system is sustainable and efficient were touched on earlier (Section 3.3), as was the importance of maintaining the transportation network in a state of good repair (Section 3.6). Also discussed is the importance of coordinating housing and local land use decisions with the multi-modal transportation system, so that the system can meet the needs of communities without being overwhelmed by congestion and safety issues (Section 3.5).

Belvidere, Warren County

Employment

More than half of the region's employment is in the professional, scientific, health and social services sector (53.8 percent); wholesale and retail trade are 16.7 percent; manufacturing is 6.3 percent; and transportation and warehousing are 6 percent.

Despite New Jersey's relatively small size, the state ranks 10th in the nation in Gross Domestic Product (GDP) and continues modest growth of 2.1 percent GDP annually. However, New Jersey has lagged other states in recovering from the pandemic and has been almost a percentage point behind the national growth rate annually since 1998. In December 2024, New Jersey's unemployment rate was 4.6 percent, while the national average was 3.8 percent.

Employment in the region is projected to grow to almost 3.6 million jobs by 2050, a 13.7 percent increase over current levels. Among the factors that hold employment and business growth back are a generally higher cost of living and of doing business compared to other regions and states. The higher costs are at least partially offset by higher incomes: New Jersey residents had the fifth highest per capita income in the nation ($82,103) in 2023—though many residents and communities are left behind in terms of income and opportunities (See Section 3.1).

Yet the state also has distinct economic advantages. Among them are its position at the center of the larger Mid-Atlantic region—with one of the largest consumer bases in the country, a highly educated workforce, and an existing foundation of major business enterprises.

The transportation system is also a substantial economic asset, accommodating heavy volumes of travel each day. The port, New Jersey Turnpike and the Northeast Corridor rail line are among the busiest facilities of their kind in the nation. The system also offers a broader array of commuting and travel options when compared to many other regions.

NJ TRANSIT is the nation's largest statewide public transportation system and is the third-largest transit system in the country by ridership.

Investments to maintain and improve the multimodal system will be vital for the region's long-term economic growth, particularly as demand for travel and goods movement on the system grows.

Commuting

The region's economy is closely tied to New York City, with 7 percent of residents commuting to Manhattan. This commuter flow—while diminished due to increased remote work following the pandemic—is vital in terms of income brought back to the region. According to the Regional Plan Association, in 2022, each day, 447,000 commuters from North Jersey to New York City (including hybrid and remote workers) had average wages of $138,000, two-thirds higher than those who worked in the NJTPA region. They earned a total of $61.7 billion.

Economic integration also supports local economies through business facilities serving the larger metropolitan area economy (such as New Jersey back offices or warehouses for New York firms). North Jersey port facilities also serve the larger region, as discussed later in this section.

Major infrastructure projects—notably completing the Hudson River Tunnel project, other Gateway Program upgrades to trans-Hudson infrastructure and port improvements– are vital to safeguard bi-state integration and continued economic progress. It should be noted that there is also a substantial reverse commute flow, with an estimated 70,638 New Yorkers commuting to jobs in North Jersey daily in 2022.

In addition, the NJTPA region is a vital part of the larger multistate metropolitan economy, stretching from eastern Pennsylvania through downstate New York and western Connecticut. MPOs in this wider area coordinate through the MAP Forum, helping address issues shared across the transportation network. Advancing major projects such as the Gateway Program is a key priority. A 2025 Regional Plan Association report said the Gateway Program has the potential to generate $230 billion in economic benefits to the tri-state region and over $400 billion nationwide through 2060.

Newark, Essex County

Despite the importance of this economic integration across states, most residents commute either within their home county (30 percent) or to another county in the NJTPA region (58 percent). This is evidence of the region's strong economic base. The predominance of local commuting argues for a continued focus of transportation planning and investment on enhancing local travel options, in keeping with the *Connecting Communities* theme of this plan. This includes upgrading transportation to economically important destinations and attractions, including the Jersey Shore and Meadowlands sports, entertainment and shopping facilities.

The CMP (see Appendix G) identifies local mobility needs around the region and where improvement strategies can best be implemented. Attention to these local needs is more important now that many people are working from home at least part of each week and making short trips rather than long commutes. As mentioned earlier, Complete Streets, community placemaking and expanding opportunities for walking and biking are strategies for addressing the new realities of commuting (see Sections 3.3 and 3.5).

However, particular attention must be paid to the needs of those communities, residents and households not fully sharing in the economic opportunities afforded by the transportation system—due to lack of access to transit, outmoded infrastructure, above

average and unreliable commute times, and other challenges. Many lower-income residents are employed in jobs—in retail and childcare, for instance—that lack the flexible commuting options of remote or hybrid employees. The economic benefits of the transportation system must be shared widely to benefit all residents, all communities and all sectors of the economy.

Economic and Community Development

On a day-to-day basis, the health of the region's economy is driven by innumerable decisions, actions and investments by private companies using the regional transportation system. Government agencies promote economic growth through programs and incentives for companies and seek to guide business investments in ways that support a long-term and sustainable economic base.

Municipalities with walkable mixed-use downtowns are important to the region's economic vitality and identity. Their main streets hold significant social and commercial potential to create thriving and connected communities. Enhancing these downtowns through the practice of placemaking can spur economic investment and growth.

The NJTPA's Vibrant Places Program provides technical assistance to counties, municipalities and non-profit organizations for placemaking that integrates arts, culture and other community assets to attract new investment and strengthen the local economy. The NJTPA also holds workshops and symposia to educate and promote various placemaking strategies, including design guidance for parklets and placemaking through arts and humanities.

In the area of transportation, the NJTPA and partner agencies encourage companies to consider job access in location decisions, undertake TOD and brownfield development, mitigate environmental impacts and realize other priorities touched upon elsewhere in this plan. For example, the Planning for Emerging Centers Program supports municipal planning activities, including retooling local zoning ordinances, to support economic development compatible with these priorities.

The NJTPA also supports initiatives of the TMAs and other organizations to help communities and businesses meet their transportation and mobility needs. The TMAs have partnered with municipalities and used the NJTPA Complete Streets Demonstration Library to create temporary installations that enable communities to try out things like bike lanes, roundabouts, bump outs and other safety improvements before permanent installation. This is another way

Celebrating Local History

The Springwood Avenue Heritage Walk highlights the rich legacy of Springwood Avenue, once a vibrant center of Black-owned businesses, music and community on the west side of Asbury Park.

The project team developed an interactive, self-guided tour to commemorate the businesses that once lined the well-known Springwood Avenue corridor located in the City of Asbury Park's Westside neighborhood. The project included extensive research, including interviewing residents and businesses to create oral histories and archives. The project also recommended physical improvements to restore the street as a lively public space to host community events, such as banners, signage and potential historic designation.

The project won a New Jersey Chapter of the American Planning Association 2024 Outstanding Community Engagement Award. The virtual tour can be viewed at ***tinyurl.com/SpringwoodAveHeritageWalk.***

that the public and private sector can work together to find innovative transportation solutions that enhance communities and economic vitality.

These and other efforts cultivate cooperation between the public and private sectors, which is essential to economic progress. However, cooperation can sometimes be difficult. In recent years, the location of new warehouses and distribution facilities has been a particular concern in many communities in the region, prompting often contentious public debate. The lessons for the long term are that improved dialog and planning activities early in the development process can better mesh business interests with community needs.

There have been notable achievements realized through public-private cooperation in recent years. For example, many communities and companies are cooperating to adapt to the impact on the retail sector of the boom of e-commerce. It has contributed to the decline of regional shopping malls and commercial corridors. With local government support and planning, shopping centers like Garden State Plaza in Bergen County and Monmouth Mall in Monmouth County are being transformed to incorporate mixed-use housing.

In addition, drawing on supportive public planning and resources, cities like New Brunswick are realizing TOD in conjunction with placemaking efforts to boost downtowns and provide jobs close to dense neighborhoods. The demise of suburban office parks has also prompted local support for creative reuse of properties. Examples include the makeover of Bell Labs in Holmdel into Bell Works, a multifaceted living and working community. Nokia Bell Labs plans to relocate more than 1,000 employees from New Providence to Health & Life Science Exchange (HELIX NJ), New Brunswick's most ambitious capital project, by 2028. The three-building complex, being developed through public-private partnerships, will also include Rutgers New Jersey Medical School.

These examples underscore the long-term priority to manage and adapt the transportation system to meet the needs of both communities and businesses, realizing shared goals and economic progress.

Jersey City, Hudson County

Freight

The Port of New York and New Jersey, with terminals in Essex, Hudson and Union counties, has long been an economic engine for the region and perhaps even more so in recent years. New Jersey is home to the largest container port on the Atlantic seaboard and Newark Liberty International Airport ranks 12th among cargo airports in North America. The region is served by two Class I railroads—CSX and Norfolk Southern, a regional railroad (the New York, Susquehanna & Western) and several short line railroads. This region also includes the Conrail Shared Assets Area and extensive on- and near-dock rail operations that serve the Port. Key freight corridors serving the region include: NJ Turnpike, I-78, I-80, I-287, and NJ 17. According to NJTPA's ***2050 Freight Industry Level Forecasts Update Study***, some 399 million tons of goods will move to, from and within the region in 2025, predominantly by truck, while 38.8 million tons of rail freight moved to and from New Jersey in 2023, according to the Association of American Railroads.

During the COVID-19 pandemic, consumer spending on services declined drastically, while goods purchases soared, leading to record high port volumes in 2022. The port briefly became the busiest in the country, reaching levels that had not been expected for another decade. While growth has slowed, it has still increased dramatically, as shown in Figure 3.7.1. This

Figure 3.7.1
Annual Volume of Goods at the Port of New York and New Jersey, in TEUs

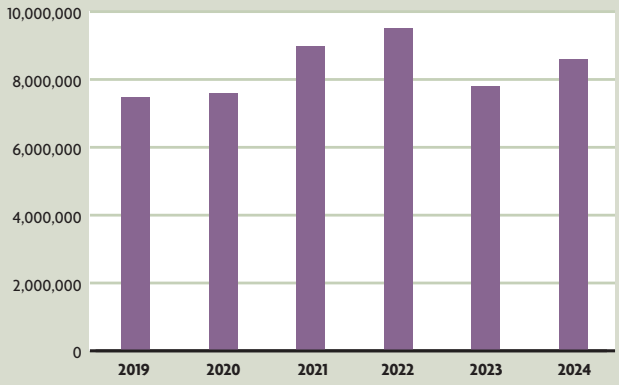


Figure 3.7.2
Industrial Square Feet, NJTPA Region
NORTHERN AND CENTRAL NJ (MILLIONS)

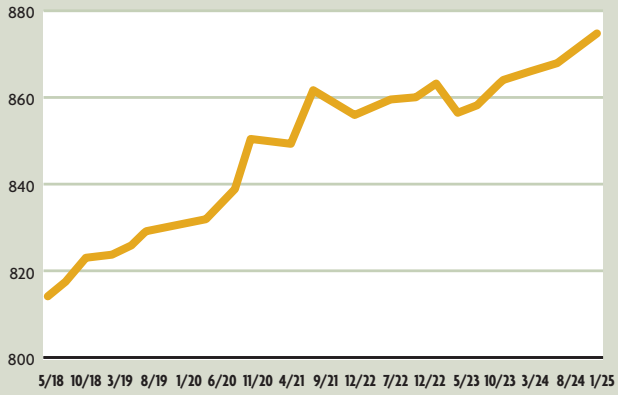


figure shows the volume of goods moving through the port in Twenty-Foot Equivalent Units (TEU), the volume of a 20-foot shipping container.

As mentioned earlier, while trade policy may cause short-term fluctuations in freight volumes, the region is well positioned for significant future growth. This growth will present challenges. Investments by the Port Authority and upgrades to facilities with cooperation from terminal operators and shippers through the Council on Port Performance will be vital to sustaining operations and maintaining competitiveness.

Important investments are underway, such as the Port Street Corridor Improvement Project that will help modernize a nearly three-mile stretch of the north entrance to Port Newark-Elizabeth. Other upgrades include improvements to port terminals and air cargo handling facilities and replacement of the Point-No-Point rail bridge linking Newark and Kearny, which is nearing completion. Further harbor deepening plans to advance navigational channels to 55 feet will contribute to increases in port volumes in the long-term putting more pressure on the need to move to a 24/7 operation. Other long-term priorities for the port and the freight system include:

- Implementing 24-hour port terminal gate operations by expanding off-hours delivery at warehouses.
- Relieving truck traffic on roads and trans-Hudson bridges by growing cross-harbor car float operations and exploring new marine highway initiatives.
- Moving more inland cargo via the Port's ExpressRail facilities.
- Upgrading the region's legacy rail infrastructure to accommodate the national railcar size and weight standards, as well as addressing key bottlenecks along major rail freight corridors.

Another significant trend affecting regional freight has been the rise of e-commerce, which accelerated during the pandemic with a cascading effect throughout the interconnected region. The number of packages increased 237 percent from 2018 to 2023, more than the national increase of 217 percent. Package deliveries are forecast to increase another 152 percent by 2050. The need by companies to store more products within a few hours' drive of a vast population led to a boom in warehouse construction. Industrial space in the NJTPA region has grown steadily, from about 833 million square feet in 2019 to almost 875 million square feet in 2024—an increase of about 5 percent (Figure 3.7.2). Many long vacant or underused brownfields were redeveloped during this time. However, this construction has waned, with demand softening particularly for older and less efficient warehouse spaces. In 2020, at the height of the pandemic, the warehouse and industrial space vacancy rate was only 1.3 percent; by 2024, this rose to 6.1 percent.

With a stabilized industrial real estate market, there is an opportunity to better plan for and manage warehouse and related development, as noted pre-

viously. This includes bringing labor to those good paying jobs, balancing open space and development, better accommodating and routing truck traffic, addressing the truck parking shortage and, as appropriate, identifying and prioritizing locations that provide direct rail freight access.

Lack of adequate truck parking is a safety issue, as truck drivers must rest periodically in compliance with federal regulation, and it is unsafe for them to not rest or to have to park on highway shoulders or other unauthorized areas. This is a particularly acute safety concern for the growing number of women truck drivers. New Jersey's 272-space truck parking shortfall is projected to surge to 1,861 in 2050, according to NJDOT's 2025 New Jersey Truck Parking Profile. Locations along the New Jersey Turnpike and I-78 are experiencing the most significant need. Overall, looking at detours and costs of crashes, insufficient truck parking costs almost $93 million annually in the state.

There is also a need to regulate and manage the growing number of package delivery trucks on local streets in residential and mixed-use neighborhoods. The massive surge in deliveries has created a challenge for municipalities, with more vans and trucks competing with residents for curb space. Addressing this will require innovative thinking and possibly new regulations to share curb space fairly to accommodate all users, including transit vehicles, bicyclists and others. Another solution for deliveries is to encourage smaller vehicles, cargo bikes and/or other technologies to enhance efficiency. The delivery traffic has added congestion and air quality concerns, though some studies have found that the benefits of reduced travel by households for in-store purchases have more than offset the effects of increased e-commerce deliveries. Hudson County, through the Subregional Studies Program, investigated this issue and developed recommendations for rationalizing deliveries and sharing curb space.

The NJTPA's planning activities are fostering public-private cooperation and dialog on these and other freight issues through meetings of the Freight Initiatives Committee. The Freight Concept Development Program has helped subregions address local issues. Current projects include the Southern Middlesex County North-South Truck Corridor Project and the East Hanover Avenue Bridge Catenary Rail Clearance Project in Morris County.

Recommendations

Key priorities for ensuring transportation support for sustainable economic development include:

- The region must capitalize on its well-developed and extensive transportation system as a substantial economic asset and competitive advantage.
- Investments to maintain and improve the multimodal system must keep pace with the growth of demand for movement of people and goods affecting the highway network, the transit system, the port, freight rail network and other critical facilities.
- Major infrastructure projects—notably completing the trans-Hudson River tunnels and larger Gateway program, upgrades to trans-Hudson bridges and improvements at the port—are vital to safeguard the bistate economy.
- The MAP Forum should continue collaborating and coordinating planning across regional and state boundaries to support the larger region's economy.
- Attention to local mobility needs is more important now that many people are working from home. This includes addressing needs in those communities and households not fully sharing in the economic opportunities.
- Ongoing cooperation between the public and private sectors is essential to economic progress. This includes improved dialog and planning activities early in the development process to better mesh business interests with community needs.
- Investments by the Port Authority and upgrades to facilities with cooperation of terminal operators and shippers through the Council on Port Performance will be vital to sustaining port operations over the long term
- With a stabilized industrial real estate market, regional and state agencies should strive to better plan for and manage warehouse and related development, including addressing truck traffic and the truck parking shortage.
- Local governments should adapt to e-commerce deliveries by creating Complete Streets that accommodate all curbside and road users, including delivery trucks, transit vehicles, bicyclists and pedestrians, parking, and non-transportation uses of the street. Innovations such as smaller vehicles or cargo bikes may be appropriate in some locations.