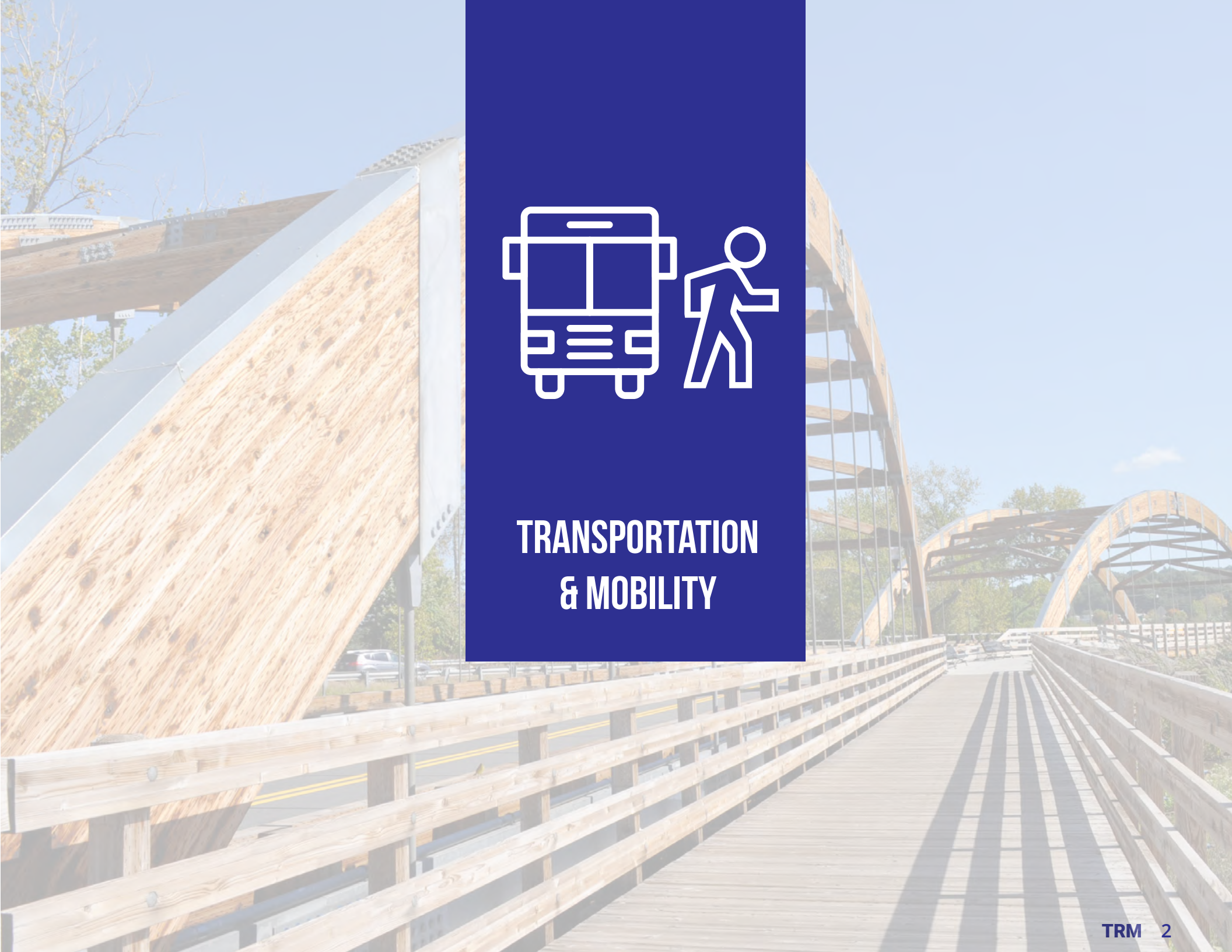


TRANSPORTATION & MOBILITY

TRANSPORTATION AND MOBILITY

With over 246 square miles of area, it is no surprise that Bergen County has an extensive road network, dating back to its first formalization in the 17th Century where the County Roads were laid out as the main thoroughfares through the business districts of the communities, and extended and further interwoven from there. Railway infrastructure has and continues to play an important role in the county, given its geographic proximity to New York City, as well as its location in both the New York Metropolitan Area and greater Northeast megalopolis that stretches from Boston to Washington DC. However, the distribution of services and transit options throughout the county varies widely.

Bergen County's close proximity to New York City has both supported and challenged the county's transportation network. Traffic is a challenge, with incredible numbers of commuters heading through the county daily to employment centers both in the county itself, but also to areas in Hudson County and New York City. Access to bus and rail stations, while an asset to many, is limited to those in the farther reaches of the county where development is more remote and density falls.

Yet the County of Bergen continues to become a destination for employment, residence, and enjoyment. To improve the quality-of-life for residents, employees, and visitors, Bergen County requires an efficient, accessible, and safe transportation network to connect destination land uses in and around the county.

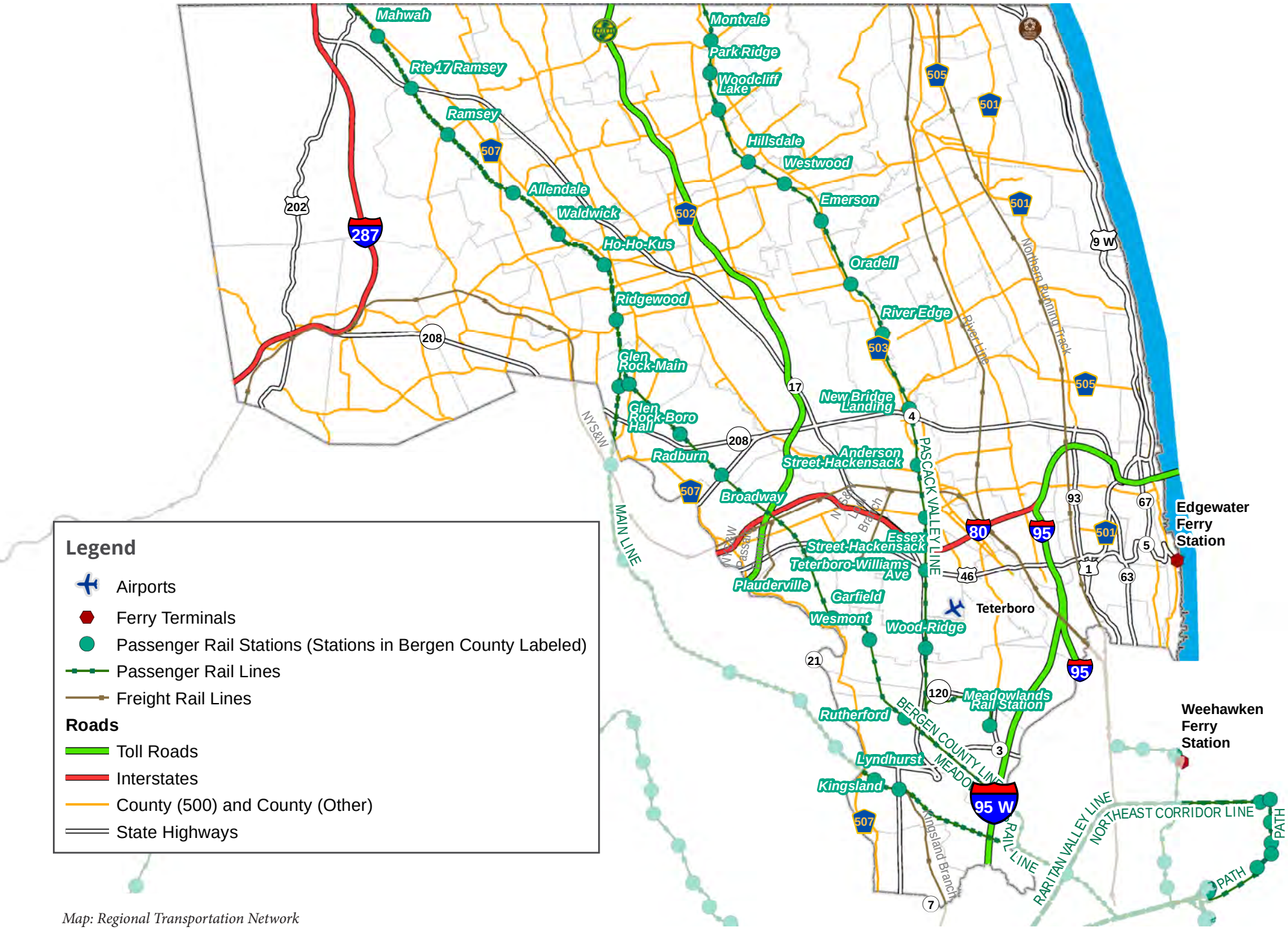
Current regional transportation facilities are outlined in the Regional Transportation Network Map. Bus service, commuter rail, and the impending extension of the Light Rail are possible solutions to the traffic congestion that threatens Bergen County's success. However, efforts to support and encourage alternatives to private motor vehicle travel is challenged by lower-density development and limited transit routes.

Commuter rail lines are limited in their routes, though increased service has been implemented to positive results. However, bus services—whether traditional NJ Transit buses or Express Bus services—have the flexibility of expanding routes, services, or frequency as needed. With the incentive of transit-oriented development, or perhaps simply a change in the commuter's demands, it may be possible to make bus service more expansive, reliable, and efficient.

New ways of thinking and living may also offer new transit opportunities. Downtowns are seeing a comeback, with both young adults and older adults returning for the car-free (or at least less-car) lifestyle that they provide. Walking and biking, car share, bikeshare, and the like show great promise, contingent on infrastructure improvements, programmatic advances, and a clear policy direction. Reducing car reliance, even for leisure activities, will make a difference.

This element explores the existing transportation conditions throughout the county and sets forth a series of county Goals and Objectives related to transit with recommended action steps, programs, or changes that will help see these goals come to fruition.

NJ Transit Bus. Source: Bergen County Division of Planning



Legend

- Airports
- Ferry Terminals
- Passenger Rail Stations (Stations in Bergen County Labeled)
- Passenger Rail Lines
- Freight Rail Lines

Roads

- Toll Roads
- Interstates
- County (500) and County (Other)
- State Highways

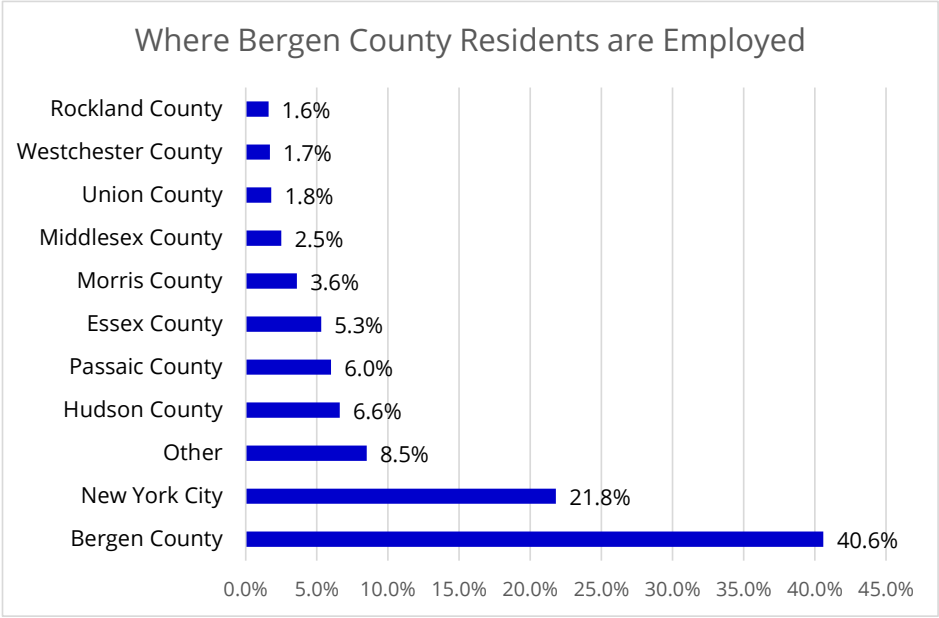
Map: Regional Transportation Network

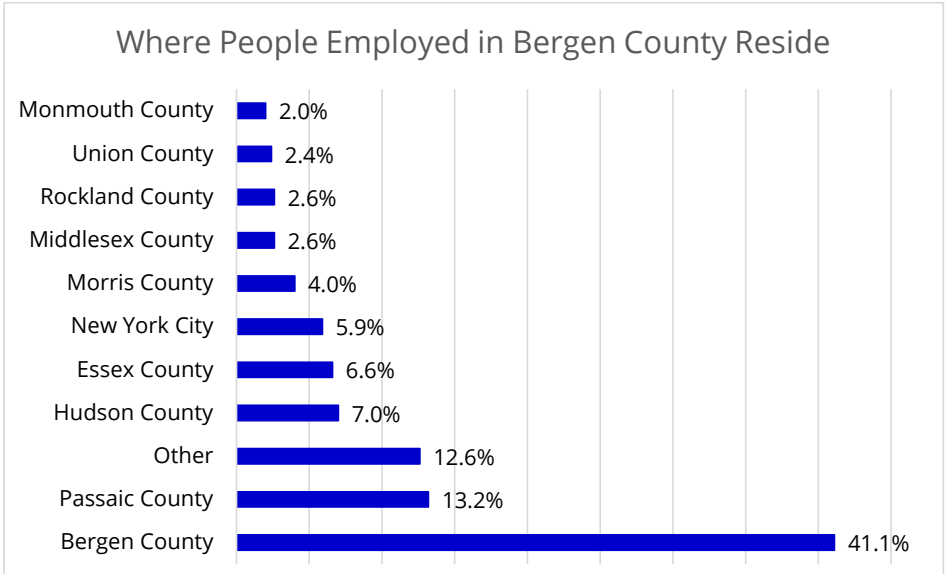
TRAVEL BEHAVIOR

WHERE DO BERGEN COUNTY RESIDENTS WORK?

While tradition holds that Bergen County is a so-called "bedroom community" for New York City employment, it has emerged as center of business and commerce in its own right. Census estimates for 2019 suggest that 40.6 percent of residents are employed within the county, while 21.8 percent of residents are employed in New York City, most of whom work in Manhattan. This is followed by Hudson and Passaic counties, employing approximately 6.6 percent and 6.0 percent of Bergen County residents, respectively, followed by Essex County (5.3 percent), Morris County (3.6 percent), and Middlesex County (2.5 percent).[1] Of course, this data pre-dates the COVID-19 pandemic which necessitated many employers to adopt hybrid or work-from home arrangements. As of 2022, while some employers and their employees have returned to working fully in-person, it is likely that some of these alternative working arrangements may continue after the pandemic recedes. If that is the case, for example, future data may suggest that the proportion of residents that had worked in New York City will decrease, which has the potential to change some of the transportation dynamics in Bergen County and the surrounding New York Metropolitan Area.

Out of the total pool of people employed within Bergen County, 41.1 percent are Bergen residents, with neighboring Passaic County contributing 13.5 percent of Bergen employees, and Hudson County contributing 7 percent. Reverse-commuting from New York City is also represented, at 5.9 percent of overall Bergen County employment.





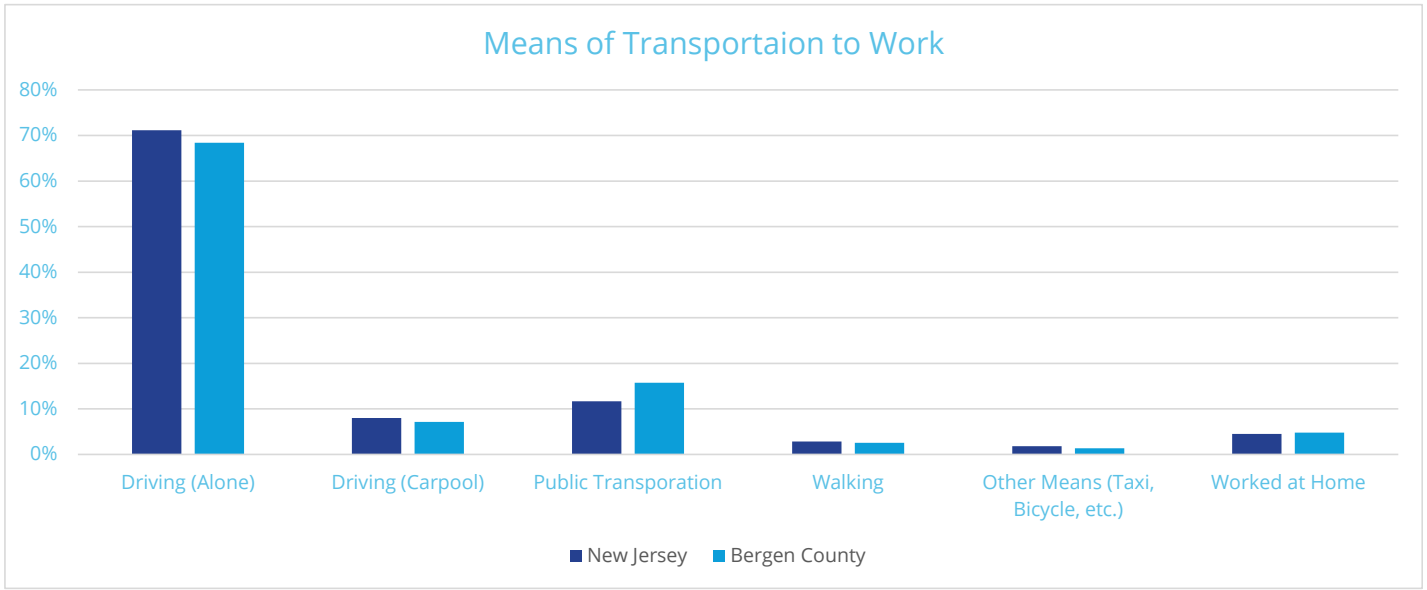
HOW DO BERGEN COUNTY RESIDENTS COMMUTE TO WORK?

There is a definitive preference for the private, mostly single-occupant automobile when it comes to mode split in Bergen County: 75.6 percent of Bergen County residents drive to work (approximately 68.4 percent driving alone, and 7.2 percent carpool), while 15.7 percent use public transit (excluding taxis).[2] For residents who work within Bergen County, however, this divide is even greater, where a vast majority (81.9 percent) commute by auto, and just over 3.5 percent commute to work via public transit.[3] This over-reliance on and preference for the single-occupant vehicle presents a sizeable challenge for Bergen County and the transportation issues that confront us.

Transit ridership increased from 13.1 percent to 15.7 percent from 2010 to 2019, while automobile commutation decreased from 78.3 percent to 75.6 percent. Average travel time to work increased from 29.6 to 33.1 minutes.[4] Note that this data only reflects work trips and does not include discretionary or non-work trips; nor does this data include changes to commuting patterns as a result of the COVID-19 pandemic, which has included more people working from home, fewer people using mass transit, and increased personal automobile usage. While transit ridership continues to return to pre-pandemic levels, it is not clear if prior commuting trends will continue, or which pandemic-related adaptations may remain.

Bike Rack. Source: Colliers Engineering & Design

While other modes of travel were negligible, it is noteworthy that 2.6 percent of commuters reported that they walked to work, and 4.8 percent report that they work from home.[5] As noted above, given the transition of many employers to adopt hybrid or remote working environments in response to the COVID-19 pandemic, this proportion may continue to increase.



ROADS

REGIONAL ROAD NETWORK

Ranging from the highway to the cul-de-sac, Bergen County's roads and highways serve as the primary means of transport throughout the county. While roads provide access to all corners of the county, the primary routes are concentrated within its central and southern sectors. Here, key corridors, including I-80, NJ-3, and the I-95/New Jersey Turnpike corridor converge and intermesh. The county's commercial spines—NJ-4 and NJ-17—meet at an interchange in Paramus that serves as the heart of regional commerce. Routes are more sparsely located, however, in the northern reaches of the county. In fact, interspersed between the NJ-17 and Garden State Parkway corridors and the Palisades Interstate Parkway, the northeastern area of the county relies solely upon overburdened county and local roads. And, since most of the major roads in northern Bergen siphon traffic north/south, these more local roads provide the only means for east/west travel.

Limited Access Routes (Freeways, Expressways, & Toll Roads)

Bergen County has a number of limited-access routes which serve as commuter and commercial express routes. While three of these are bannered under the federal highway network (part of the Interstate Highway System), two are maintained by the New Jersey Department of Transportation (NJDOT), namely I-80 and I-287, while I-95 is maintained by the New Jersey Turnpike Authority (NJTA). Jurisdictional responsibilities for these interstate highways fall under the New Jersey State Police,[6] and snow plowing and maintenance fall under the jurisdiction of the NJDOT.

- **I-80** serves east/west travel at the center of the county, carrying traffic east from Paterson, through **Hackensack**, and continuing on to join the New Jersey Turnpike to form the approaches to the George Washington Bridge. As such, it is a key commuter route into New York City.
- **I-95** is carried by the New Jersey Turnpike on two separate spurs that enter the county to the south on either side of the Hackensack River. The Western Spur of the Turnpike serves the Southwest Bergen region with interchanges in the Meadowlands before joining with the Eastern Spur to access the Southeast Bergen region at US-46 in **Ridgefield Park**, I-80 in **Teaneck**, and **Fort Lee** along the George Washington Bridge approach, which itself falls under the jurisdiction of the Port Authority of New York and New Jersey (PANYNJ).
- **I-287** is the most recent addition to the Interstate Highway System within Bergen County. Opening in 1994, I-287 loops off the New York State Thruway north of **Mahwah**, serving the extreme northwest portion of Bergen County, passing through **Mahwah, Franklin Lakes**, and **Oakland,** before continuing into Passaic and Morris Counties to form the northernmost leg of a circumferential route around the New York-New Jersey metropolitan area.

There are also a number of non-interstate freeways and expressways that provide limited access service to Bergen County:

- **The Garden State Parkway (GSP),** a toll road under the jurisdiction of the NJTA, runs north/south across the center of the county, entering at its Passaic River crossing in Elmwood Park, extending through **Paramus**, and exiting New Jersey at **Montvale**, where it continues north to tie into the New York State Thruway (I-87/287). Commercial vehicles exceeding 10,000 pounds are not permitted on the Parkway in Bergen County. Policing along the GSP is the responsibility of the New Jersey State Police; maintenance and plowing are under the jurisdiction of the NJTA.
- The **Palisades Interstate Parkway** serves the Northern Valley region along its easternmost perimeter. This recreational highway emerged as a back door approach to the George Washington Bridge almost as soon as nearby sections began opening in stages throughout the 1940s and 1950s, when development in northern Bergen County and eastern Rockland County came to comprise a sizeable commutershed. Commercial vehicles and buses are not permitted on the Parkway. Policing is the responsibility of the Palisades Interstate Parkway Police, and maintenance and construction in Bergen County is the responsibility of NJDOT under the supervision of the Palisades Interstate Parkway Commission (PIPC).[7]
- **NJ-208** connects I-287 and the northwestern corner of Bergen County with NJ-4, NJ-17, the Garden State Parkway, and the commercial core of **Paramus**. These roads are under the jurisdiction of the New Jersey State Police; however, enforcement is also conducted by the Bergen County Sheriff's Office and the various local police departments. Snow plowing and maintenance fall under the jurisdiction of the NJDOT.
- **NJ-3** serves the Meadowlands region of the Southwest Bergen region along an east/west spine, with interchanges providing access to office and

industrial developments as well as the Sports Complex before feeding into the New Jersey Turnpike, Hudson County, and the Lincoln Tunnel. These roads are under the jurisdiction of the New Jersey State Police; however, enforcement is also conducted by the Bergen County Sheriff's Office and the various local police departments. Snow plowing and maintenance fall under the jurisdiction of the NJDOT.

2020 STRATEGIC HIGHWAY SAFETY PLAN

The New Jersey Department of Transportation (NJDOT) released its Strategic Highway Safety Plan in August 2020, an update of previous plans adopted in 2007 and 2015. The document serves as a five year plan to reduce fatalities and serious injuries on all of New Jersey's public roads, with an emphasis on those areas that provide the greatest opportunity for a positive impact on safety. The overarching stated goal of the Strategic Plan is to achieve zero deaths and serious injuries on all of New Jersey's public roads, and was produced by NJDOT with collaboration from a steering committee of various federal, state, regional, county, municipal, and non-profit partners. The plan focuses its efforts to achieve this goal through education, enforcement, engineering, emergency response, and equity. Implementation of this plan is intended to be guided by the following goals:

- Equity Emphasis Area Goal: Ensure highway safety investment is inclusive of the interests of traditionally underserved populations and is considered more deliberately.
- Lane Departure Emphasis Area Goal: Keep vehicles in the lane, provide for safe recovery, and reduce crash severity.
- Intersection Emphasis Area Goal: Eliminate all fatalities and serious injuries at intersections for all road users through engineering, education, and enforcement.
- Driver Behavior Emphasis Area Goal 1: New Jersey will encourage positive driving behavior.
- Driver Behavior Emphasis Area Goal 2: Law enforcement and judiciary will encourage positive safety culture in New Jersey road systems.
- Driver Behavior Emphasis Area Goal 3: New Jersey will have a road system that is designed to encourage safe driving behavior.
- Driver Behavior Emphasis Area Goal 4: Driver Behavior EA goals, objectives, and strategies will consider all populations (Race, gender, ethnicity, economic status) equitably in development and implementation.
- Pedestrian and Bicyclists Emphasis Area Goal: Eliminate pedestrian and bicyclist fatalities and serious injuries on all public roads.
- Other Vulnerable Road Users Emphasis Area Goal: Eliminate Other Vulnerable Road User fatalities and serious injuries.
- Data Emphasis Area Goal 1: Improve crash reporting process.
- Data Emphasis Area Goal 2: Improve quality of data and integrate it with existing open data portal for New Jersey.
- Data Emphasis Area Goal 3: Improve data inventory.
- Data Emphasis Area Goal 4: Integrate health and equity considerations into safety analyses.
- Data Emphasis Area Goal 5: Assess the consistency of crash data on all data query platforms.

Other Highways

A number of land-service state highways, primarily located in the central and southern extents of the county, help to distribute traffic to various commercial and employment centers. These roads are policed by NJ State Police[8] and snow plowing and maintenance fall under the jurisdiction of the NJDOT. These roads are under the jurisdiction of the New Jersey State Police; however, enforcement is also conducted by the Bergen County Sheriff's Office and the various local police departments. Snow plowing and maintenance fall under the jurisdiction of the NJDOT.

- **NJ-17** descends from I-287 in **Mahwah** and bisects the county along a north/south spine, passing through **Paramus, Hackensack**, and the Meadowlands before paring down to become a two-lane local road in **Lyndhurst** and **North Arlington**. NJ-17 also acts as the primary connector for commercial truck traffic to access the New York State Thruway to and from the New Jersey Turnpike/I-95 Corridor.

- **NJ-4** connects Paterson with **Paramus** before extending eastward toward the George Washington Bridge approach. This route meets NJ-17 in the center of the county at **Paramus** to form the crossroads of Bergen County commerce. This interchange represents the heart of the **Paramus** shopping corridor, with a number of large malls and commercial outposts. Extending in any direction on either route, the rights-of-way are saturated with storefronts, plazas, and commercial strip development.

- **US-46** crosses the county on an east/west alignment south of I-80, serving the corridor from **Garfield** and **Lodi** to **South Hackensack, Teterboro, Little Ferry,** and **Ridgefield Park** before joining up with US-1&9. This, too, is a highly commercialized route, lined with strips of stores, businesses, and industrial outposts.

- **US-1&9** runs north/south, carrying traffic through the Southeast Bergen region from Jersey City, Secaucus, and points south, before joining up with US-46 to funnel into the George Washington Bridge approach. US-1&9 is under the jurisdiction of the NJDOT west of Mile Post 64.88 where the highway merges with I-95.[9] East of the US-1&9 and I-95 merge, the highway provides access to the George Washington Bridge, which is under the jurisdiction of the PANYNJ.

- **NJ-120** serves as an auxiliary route to NJ-3, feeding traffic to the Meadowlands Sports Complex and various commercial and industrial complexes in that vicinity, before looping into NJ-17 at **East Rutherford** and **Carlstadt**.

More localized facilities under the banner of the New Jersey State Highway system are scattered in various areas of the county to supplement the major routes in distributing traffic. These serve as urban principal arterials and major collectors, depending on the nature and location of the highway, relative to the overall system.

- **US-202** is carried by Ramapo Valley Road through Northwest Bergen and runs parallel to and intertwines with I-287, providing local access to **Mahwah** and **Oakland** before continuing southward to Wayne and Morristown. Although bannered as a "U.S. Route", this roadway is actually under the jurisdiction of Bergen County.

- **US-9W** closely parallels the Palisades Interstate Parkway on the easternmost perimeter of the Northern Valley region, providing an access route for commercial traffic which ties into the George Washington Bridge approach, New Jersey Turnpike, and US-1&9 at its southern terminus.

- **NJ-7** forms the county boundary with Hudson County between **North Arlington** and Kearny, carried by the Belleville Turnpike, connecting a Passaic River crossing to Essex County into a route across the southerly extent of the Meadowlands toward Jersey City and the Holland Tunnel approach.

A number of local-traffic oriented state highways infiltrate the densely-developed southeastern corner of Bergen County:

- NJ-93 is carried by Grand Avenue, directing traffic along a north/south branch from NJ-4 in **Englewood** to US-1&9 in **Ridgefield.**

- NJ-63 is carried by Bergen Boulevard, connecting **Fort Lee, Palisades Park, Cliffside Park,** and **Fairview.**

- NJ-67 is carried by Lemoine Avenue and Palisade Avenue, connecting US-9W in **Fort Lee** with NJ-5 in **Cliffside Park.**

- NJ-5 runs east/west from US-1&9 in **Ridgefield**, winding its way down to the Hudson River waterfront at **Edgewater.**

COUNTY ROADS

Given its role in the greater regional transportation network, the County Road Network should provide a logical linkage between higher-order systems and routes (State Highway System, Limited-Access Authority Roads, and major trunkline county routes) and more localized routes (other county routes, municipal streets, and local landside access). The differing roles of county and local roads were set forth in the 1962 Master Plan of Bergen County: "The roadways of the County Road System are designed and intended, primarily to afford accommodation for convenient Intra-County traffic movement and provide or afford convenient access to the State Highways, and other Main traffic ways," while "local roadways are created primarily to provide service to lands through or to which they are constructed." On county roads, maintenance is a county responsibility and policing is a shared responsibility with the local municipality. Snow plowing is handled by the County through shared agreements with the various municipalities.

County Roads serve as a conduit for the movement of people, goods, and services throughout the County. In this way, they symbolically serve as the circulatory system carrying the lifeblood of our economy and quality of life. As such, the County seeks to minimize impacts from road closures and disruptions that impede this flow, affect traffic, and increase congestion and travel times. The Department of Public Works and County Engineer are thereby charged with setting regulations that address this issue, in line with their charge over the control and maintenance of roads and highways under County jurisdiction, such as Road Opening/Closure Permits; County Connection Drain Permits; Overweight/Superload Vehicle Permits and Lane Closure Fee Ordinance to address impacts to the County Road system. Additionally, where land development is reviewed and approved by the County Planning Board through the Commissioner-adopted Site Plan and Subdivision Ordinances that requires improvements to be completed along County Roads and Rights-of-Way; and where the relocation of utilities are required, it will be the sole financial responsibility of the utility companies to move these utilities.

These regulations may take the form of an ordinance or resolution, and associated guidelines/manual that would provide a comprehensive overview of all aspects of roadway function, access, use, and maintenance, including: general requirements, fees/bonds/insurance, all relevant permits (as appropriate and required), access management, utilities (including relocations), streetscape, traffic control, and permitted vs. prohibited activities. This shall also set forth a schedule of fees and guidelines for permit procedures through the County Road Operations.

Following the decennial Census, urban boundaries are redrawn accordingly, and Federal Functional Classifications are typically updated. The most recent update was conducted in conjunction with the NJTPA and the NJDOT in 2013. Bergen County as a whole has been classified as "Urban." Definitions and explanations of each of the roadway classification types that apply to the County Road system (as defined in Federal Highway Administration Guidelines Section II-1) are as follows:

- **Urban Principal Arterials** "serve the major centers of activity of a metropolitan area, the highest traffic volume corridors, and the longest trip desires, and should carry a high proportion of the total urban area travel on a minimum of mileage." In Bergen County, these include non-expressway State Highways, as well as key county trunkline routes. These county trunklines thereby provide a connection for travel between state highway interchanges and county secondary/connector routes and local roads.

- **Urban Minor Arterials** "interconnect with and augment the urban principal arterial system and provide service to trips of moderate length at a somewhat lower level of travel mobility than principal arterials. This system also distributes travel to geographic areas smaller than those identified with the higher system." In Bergen County, these include most other (the bulk of) county roads that provide lesser arterial trunklines to funnel traffic between communities and connect the arterial system with the more local collector routes (as below). The current classification system also includes some higher-order municipal routes that essentially serve a more regional "county road" type function.

- **Urban Collectors** "provide both land access service and traffic circulation within residential neighborhoods, commercial and industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to the ultimate destination. Conversely, the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system." In Bergen County, these include a minimal amount of minor county roads and focus primarily on roads under municipal jurisdiction that collect traffic from smaller neighborhoods and developments and filter it into higher-order routes, thereby providing important connections to the overall regional network.

Of the almost 3,000 roadway miles delineated in the Federal Functional Classification within the County's borders, the breakdown by classification is described in the table below.

Roadway Categories in Bergen County		
Roadway Classification	Miles	Percent Total
Urban Interstate	32.89	1.1%
Urban Freeway/Expressway	65.13	2.2%
Urban Principal Arterial	195.29	6.5%
Urban Minor Arterial	338.63	11.3%
Urban Collector	246.09	8.2%
Urban Local	2,118.98	70.7%
Total Mileage	2,997.28	100%

Source: https://www.state.nj.us/transportation/refdata/roadway/gismaps/Bergen.pdf

Statewide "500" Series

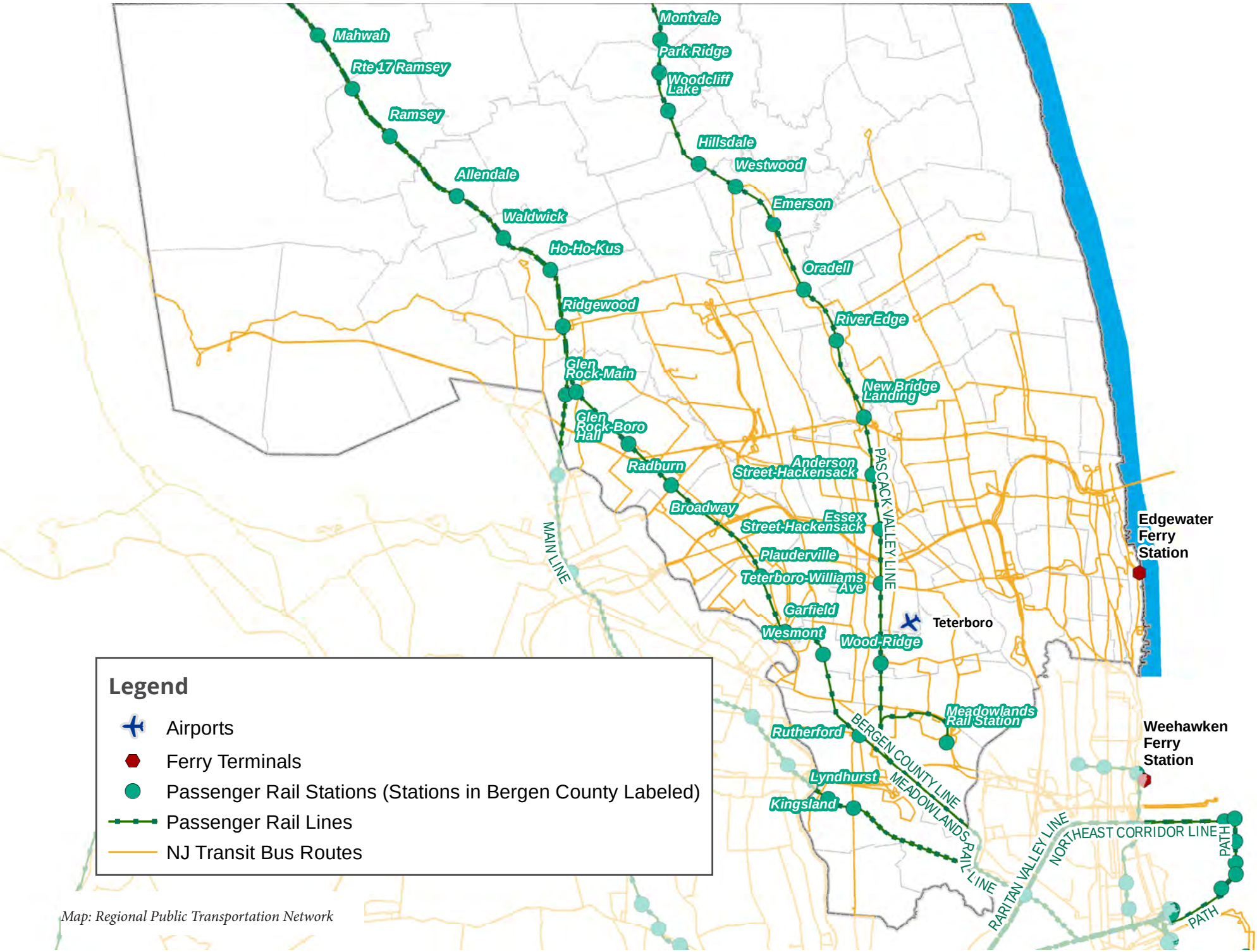
Another wrinkle in the County Road Network is the existence of the statewide "500 Series". The 500 Series County Routes, also called state secondary routes (secondary to the state highway), are county highways numbered in a statewide system with three-digit numbers that begin with 5 (Bergen County's routes posted as 501, 502, 503, 505, and 507). These routes are identified as key feeders to the State Highway System from other local and county roads, signed uniformly to provide for ease of identification, traversing the county by way of a network of interconnected major local streets and county roads. These routes are recognized statewide, yet under county jurisdiction (though in a few cases, the 500 Routes are posted on streets under municipal jurisdiction for continuity's sake); they cross county boundaries to provide for intercounty travel to key locations in neighboring counties; and, historically they serve as statewide evacuation corridors that work alongside the state highway system. These routes fit into the county trunkline network, as the bulk of these routes represent Federally-classified arterial routes, and they work alongside the other county trunklines to provide longer-haul intra-county and intercounty travel. The 500 Series routes are generally even-numbered for east/west travel, and odd-numbered for north/south.

BICYCLE AND PEDESTRIAN FACILITIES

Through the North Jersey Transportation Planning Authority (NJTPA), the County of Bergen published a study called The Central Bergen Bicycle & Pedestrian Plans in May 2015. The study area included **Elmwood Park, Fair Lawn, Glen Rock, Maywood, Paramus, Ridgewood, Rochelle Park,** and **Saddle Brook.** This study identified a desire for bicycle infrastructure and presented a Complete Streets approach, which "ensures that roadways are planned, designed, constructed, maintained, and operated for all users of all abilities—including pedestrians, bicyclists, motor vehicle drivers, emergency vehicles, public transportation riders and operators, and commercial goods/freight drivers."[10] Of the county's 70 municipalities, 21 currently have a municipal complete streets policy as of February 2022: **Bergenfield, Emerson, Fair Lawn, Fort Lee, Garfield, Hackensack, Haworth, Leonia, Maywood, Montvale, New Milford, Northvale, Old Tappan, Ramsey, Ridgewood, River Edge, River Vale, Rutherford, Tenafly, Washington Township,** and **Westwood.**[11] Bergen County is currently considering drafting a Complete Streets policy which will be applicable to county roads.

The NJDOT adopted a Complete Streets Design Guide in 2017.[12] The Guide provides direction in establishing Complete Streets in a variety of settings and jurisdictions. It provides flexible standards to meet the specific needs of a community in New Jersey. The guide details public right-of-way decisions, including the construction of new streets and improvements to existing streets. The New Jersey Complete Streets Design Guide was developed to supplement existing standards established federally by the Manual on Uniform Traffic Control (MUTCD), the National Association of City Transportation Officials (NATCO) and the American Association of State Highway and Transportation Officials (AASHTO). It is recommended that Complete Street policies and improvements in the right-of-way meet federal standards and consider the New Jersey Complete Streets Design Guide, except in cases of design infeasibility.

An avid street cycling culture has emerged in the Northern Valley and Southeast Bergen sub-areas of the county, which may serve as a unique opportunity to study how this trend can be accommodated in other parts of the county, for both a recreational and a commuting cyclist culture. Using county, state and federal Complete Streets standards, improvements in these sectors of Bergen County could encompass cyclist and pedestrian connections to benefit the public.



Map: Regional Public Transportation Network

BUS SERVICE

Bergen County is served by 56 NJ Transit bus routes (21 local bus routes, 3 of which serve Newark and 35 bus routes to New York[13]), the majority of which serve the residents of the central and southern extents of the county.[14] NJ Transit not only operates its own bus service, but also subsidizes the operations of the various private carriers. The major private carrier serving Bergen County is Coach USA, with its subsidiaries Rockland Coaches and Short Line. Additionally, Saddle River Tours offers some commuter services between Rockland County and Manhattan. Worthy of note, most of the trans-Hudson service is directly operated by NJ Transit; conversely, much of the local bus service has been contracted out by NJ Transit with a private contract bus operator running NJ Transit-branded buses, on NJ Transit route and schedules, and collecting the same uniform zone-based fares.

NJ Transit operates two different routes types within Bergen County as follows:

- **Interstate Routes**. Operating between New Jersey and New York to destinations in New York City such as the Port Authority Bus Terminal in midtown and the George Washington Bridge Bus Station uptown. Some of these routes operate weekday peak hours only with others operating daily.
- **Local/Intrastate Routes.** Operating solely within Bergen County or between Bergen County and the neighboring counties of Essex, Hudson, and Passaic. Some of these routes operate weekday peak hours only, some operate Monday through Saturday only and some operate 7 days a week. Some local routes operating within Bergen County are subsidized in part by Bergen County.

The routes serving Bergen County, however, are not distributed evenly across the landscape, as evidenced in the Regional Public Transportation Network Map, and do not provide for convenient travel in certain directions. The concentration of service in the south is closely linked to the higher population density and lower levels of auto ownership in that area, which in turn generates sufficient demand to support a greater level of transit service. The northern and western sections of the county, by contrast, have higher levels of auto ownership, lower population densities, and fewer bus lines servicing the region.

Within Bergen County, Hackensack provides a key terminal point (Hackensack Bus Transfer), Fort Lee is a feeder into the George Washington Bridge, routes along I-80 and the New Jersey Turnpike (I-95) are heavily trafficked, and routes leading to the Lincoln Tunnel are in high demand. Buses destined for Midtown Manhattan receive special accommodation at the Lincoln Tunnel via the Exclusive Bus Lane (XBL), a reversible lane for inbound travel during the morning peak, and outbound travel during the evening peak along the I-495 approach. This lane is key to providing direct access into the Port Authority Bus Terminal.

The existing bus transit facilities carry impressive numbers of commuters. However, they are chronically plagued by capacity constraints: buses are often close to, at, or above their capacity. This, coupled with the fact that buses compete for the same overburdened roadway that cars congest each workday, necessitates a closer look at the operation of the bus transit system.

Bus services in Bergen County are heavily focused on interstate travel to/from New York City. Thirty-five of the 56 Bergen County routes, or 62.5 percent, terminate at either Port Authority Bus Terminal or the George Washington Bridge Bus Station.[15] All of the private carrier bus routes that operate in Bergen County have a route to/from New York City.[16]

While private bus carriers do extend to the northernmost municipalities of the county, NJ Transit only serves as far north as **Harrington Park, Westwood, Ridgewood, and Oakland** (see Regional Public Transportation Network Map). Additionally, in the northern reaches of Bergen County, the already-limited routes run mainly north/south along primary county roads and only tend to pick up/drop off at designated bus stop locations. There is little provision made for east/west travel, a problem reflective of the fact that the roads in this area are discontinuous and circuitous and therefore inadequate in providing direct routes.

In early 2021, the Port Authority announced plans for the replacement of the Bus Terminal in New York City. The new facility would accommodate a projected increase in rider capacity, serve an all-electric bus fleet, and accommodate autonomous vehicles and artificial intelligence-aided traffic management in the terminal for increased efficiency. The release of the final scoping document in early 2021 allows the Federal Transit Administration to begin the environmental review process.[17]

LOCAL BUS SERVICE

For the most part, local buses (known informally as the "B Lines") serve residents who do not own cars or prefer not to drive. To attract "choice" riders who do have a car available to them but prefer to ride, buses must be able to compete from a travel time perspective. This is difficult, because as long as buses have to share the same roads with other traffic, they will face the same congestion delays as private vehicles. Even worse, buses are slowed because they must stop frequently to drop off and receive passengers, making travel times by bus even less competitive. Beyond this, in order to serve a variety of locations to support ridership and usage, bus routes can often be circuitous and lengthy. In recent years, concepts to speed bus service have been introduced under the rubric of Bus Rapid Transit (BRT).

CoachUSA Bus Staging Area. Source: Colliers Engineering & Design

BUS RAPID TRANSIT (BRT)

One initiative the county is investigating relative to improving transit in this vein is Bus Rapid Transit (BRT), a transportation system that combines the efficiency of trains with the flexibility of buses. Essentially, BRT employs a combination of transit strategies to allow riders to travel more quickly on the current network of roads and highways, including preferential treatment at intersections such as signal priority and exclusive turning lanes, infrastructure and rolling-stock investment such as new stations and stops with off-vehicle fare collection to speed up loading, and rapid transit vehicles with low floors to reduce the effort and time for boarding and alighting. BRT service is further bolstered by branding it as "premium" transit. These technological improvements allow BRT vehicles to travel faster, cleaner, and more reliably than regular buses.

In July 2017, Bergen County and NJ Transit released the "Bergen County Bus Rapid Transit Implementation Study" to select the most viable routes to advance as BRT corridors. The study proposed four potential new routes to comprise the preferred network. Route A begins at the Paramus-Valley Health Plaza/ Winters Ave, and terminates at Secaucus Junction Bus Terminal with stops at major malls, government buildings, and employment centers in **Paramus, Hackensack, Teterboro, East Rutherford,** and **Hudson County.** Route B begins at the Montvale Park & Ride and terminates at Secaucus Junction Bus Terminal. Route B converges with Route A in **Paramus** and runs a similar course. Route C begins and ends at the Route B terminus, but bypasses **Hackensack** altogether, as a more "express" service. Route D begins in the east at Englewood Hospital and cuts through central Bergen County via **Leonia, Bogota, Hackensack, Paramus**, and Paterson to the NJ Transit Broadway Bus Terminal in Passaic County. The study recommends an incremental implementation of the routes, with Phase 1 including Routes A and D, and Phase 2 including Routes B and C. The routes outlined in the study would be contingent on a new NJ Transit bus maintenance facility at an estimated cost of $50 million (2015).[18]

More recently, NJ Transit has been considering BRT-type service and improvements along the Cross-County Corridor between Paterson, Hackensack, and Hudson County, as part of its Passaic-Bergen-Hudson Transit study.

BRT

In 2017, Bergen County released its Bus Rapid Transit Implementation Study, a collaboration between NJ Transit and the Bergen County Department of Planning and Engineering. In addition to the written report, the project included the deployment of a website providing information on BRT, including the following list describing the features of BRT: What makes BRT so attractive? Different systems use different techniques. Here are some of the most popular features:

- More frequent service and limited stops. BRT can provide direct service to major destinations within Bergen County and offer connections outside of the County. BRT vehicles may make stops along a route at fewer locations to provide more express travel time for the majority of the route's passengers.
- Exclusive bus lanes, queue jumps at intersections, and other approaches that enable buses to consistently travel at posted speed limits. BRT explores different roadway treatments that can help to maintain a reliable schedule.
- Improved fare payment technology, including ways to pay before you board. BRT can offer rider-friendly options for off-board ticket purchase to reduce the time it takes passengers to board.
- Traffic signal priority that adjusts traffic lights to keep buses moving. BRT has the capacity to be connected to the traffic signal system in order to keep you moving.
- Advanced buses that may be larger, easier to get on and off, and use cleaner fuels. BRT often uses new buses that make the system more comfortable, more sustainable, and more identifiable.
- Enhanced and more customer-friendly bus stations. BRT is a flexible transportation system that strives to provide riders with more comfortable passenger shelters and bus stations that provide additional amenities.
- Real-time travel information for waiting riders. BRT passengers may be able to obtain information about arrival and departure times, whether available at the station or accessible to riders through the Web or on cell phones.

LAST MILE SHUTTLES

"First Mile" and "Last Mile" shuttles refer to the buses that take rail passengers from home to station and from station to workplace respectively. Research by the Voorhees Transportation Center at Rutgers University has shown that "Last Mile" shuttles in New Jersey are mostly used by commuters from "carless, low-income, racial minority and immigrant households."[19] Thus, "Last Mile" shuttles serve an important function transporting employees to and from work. In Bergen County, three shuttles operate within the Southwest Bergen sector to serve high-density residential and employment centers. The Secaucus-Carlstadt/Moonachie, Lyndhurst, and Meadowlands Shuttle are all operated by EZ Ride TMA. The Secaucus-Carlstadt/Moonachie and Meadowlands Shuttles are funded privately and with federal funds from the Job Access and Reverse Commute (JARC) program. The Lyndhurst shuttle is funded privately and by New Freedom and the New Jersey Sports and Exposition Authority (NJSEA).[20]

JITNEYS

Informal transit in Bergen County has accelerated over the past two decades in parallel with an increase in immigrant populations. These services, colloquially called jitneys, are often perceived as more accessible to immigrants because they often have bilingual drivers, are more affordable, and serve many areas that are not covered by the NJ Transit network. Little is documented about how these services operate within the region, though most of these services are concentrated in Southeast Bergen, connecting to Hudson County, as well as along the NJ-4 corridor between Paterson, Paramus, Fort Lee, and New York City. In 2011, the North Jersey Transportation Authority (NJTPA) released the "Hudson County Jitney Study," shedding some light on these operations, their challenges and opportunities, and their common routes. The study recommended establishing a regulatory framework for these transit services to better and more safely serve residents.

PASSENGER RAIL SERVICE

NJ Transit currently operates four rail lines that provide service to Bergen County communities: the Bergen County Line, Main Line, Pascack Valley Line, and the Meadowlands Rail Line. Two of these lines, the Bergen Line and the Main Line, share a right-of-way for the northern expanse of the route for all stations north of Glen Rock. As depicted in Regional Public Transportation Network Map, the Bergen Line services 14 stations in Bergen County, the Main Line provides service to 10 stations in Bergen County, and the Pascack Valley Line operates out of 13 Bergen County stations. The Meadowlands Rail Line provides service to one station in Bergen County, the Meadowlands Sports Complex in **East Rutherford.**[21] Each of these lines are described in the following section.

All lines have weekend service and run until approximately 1:00 a.m. (on the Main/Bergen Line, the last train departs Hoboken at 1:32 a.m., and at 1:22 a.m. from New York Penn Station via connecting service at Secaucus Junction);[22] on the Pascack Valley Line, the last train departs Hoboken at 12:45 a.m.[23] The Bergen and Main Lines have relatively frequent service throughout the morning and evening peak, with an average of four trains per hour in the peak direction, and an average of two trains per hour during off-peak periods. Average weekday ridership on the Bergen and Main Lines (with service to Port Jervis, NY) has grown from 13,099 to 14,725 riders from fall 2011 to fall 2017, with a peak of 15,575 riders in fall 2015.[24] Average weekday ridership on the Pascack Valley Line increased from 3,425 to 3,925 riders from fall 2011 to fall 2017.[25] It is important to note that although these rail lines service mostly Bergen County, the Bergen and Main Lines also service Suffern, NY and connect to the MTA Metro-North Port Jervis Line. The Pascack Valley Line services Pearl River, Nanuet, and Spring Valley, NY. As a result, ridership rates include commuters from Bergen, Rockland (NY), and Orange (NY) Counties.[26]

The Bergen and Main Lines still carry about 3.75 times the number of passengers as the Pascack Valley (14,725 average weekday ridership versus 3,925). This difference can be explained in a number of ways. First, the Bergen and Main Lines have long provided a more robust service pattern with service throughout the day and on weekends. Second, the Pascack Valley Line is a slower service, with its speed hampered by closely spaced stations. Third, the Pascack Valley Line typically has stations with fewer parking spaces available, constraining the usage of its stations as seen in the following table.

Parking Supplies at NJ Transit Stations along Bergen Line and Pascack Valley Line

NJ Transit Line	Parking Supply[1]
Main/Bergen Line (Suffern to Glen Rock)	3,785 Parking Spaces
Bergen Line (Radburn and East)	780 Parking Spaces
Main/Bergen Line Total	**4,565 Parking Spaces**
Pascack Valley Line (River Edge and West)	2,580 Parking Spaces
Pascack Valley Line (No. Hackensack and East)	590 Parking Spaces
Pascack Valley Line Total	**3,170 Parking Spaces**

[1] Access to the Region's Core in Hudson County, New Jersey and New York County, FTA, NJT, and PANYNJ. https://dspace.njstatelib.org/xmlui/bitstream/handle/10929/37691/03.2_Station%20Access%20and%20Parking%20FEIS.pdf, Accessed November 2, 2018.

As noted previously in this section, the COVID-19 pandemic, which began to affect New Jersey in early 2020, disrupted commuting habits for many in the state. In the first few months of the pandemic, statewide restrictions on public gathering severely limited capacity on mass transit, as well as within workplaces. As a result, some industries adopted remote or hybrid (remote/in person) environments to comply with capacity restrictions. While these capacity restrictions were reduced and ultimately eliminated later in 2020 and 2021, transit ridership has continued to increase, but has yet to return to pre-pandemic levels.[27]

ADDITIONAL RAIL VEHICLES

As of late 2018, NJ Transit purchased 113 multi-level train cars to ease overcrowding and add additional capacity to the rail system, a step toward addressing the overcrowding problems faced by rail commuters, including those in Bergen County. In February 2022, NJ Transit approved the purchase of another 25 multi-level train cars.[28]

MAIN LINE AND BERGEN LINE

The Main Line descends from Orange and Rockland Counties to the north (via the Port Jervis Line) into **Mahwah** and extends southward into Ridgewood before a split at **Glen Rock**. Here, the Main Line continues on toward Hawthorne, Paterson, Clifton, and Passaic before looping back into Bergen County at **Lyndhurst**. The Bergen Line, on the other hand, proceeds into **Fair Lawn, Elmwood Park,** and **Garfield** following the split, and continues forth past **Rutherford** to parallel the Main Line through the Meadowlands. Both routes come together again at Secaucus Junction and terminate in Hoboken. Combined, these two lines account for 29.5 line-miles in Bergen County. Both lines provide service in both directions throughout the course of the day, with Hoboken-bound trains concentrated on serving the morning rush, and sparser service later in the day. Conversely, northbound trains leaving Hoboken toward Suffern are concentrated throughout the evening rush period. These lines also provide limited weekend and holiday service.

Waldwick Museum of Local History.
Source: Bergen County Division of Cultural and Historic Affairs

PASCACK VALLEY LINE

The Pascack Valley Line is a spur from the Bergen Line at **Rutherford**, extending along the western edge of the Meadowlands into **Hackensack**, then northward through **Oradell** and **Montvale**, thereby cutting a north/south swath through the center of Bergen County before terminating at Spring Valley, New York. The Pascack Valley comprises a total of 17.7 line-miles in Bergen County. As it utilizes a single track with limited passing sidings, this line has limited service throughout the day. In October 2007, improvements to provide limited passing sidings permitted bidirectional service on this line, which previously only hosted one-way service.[29] The reverse peak-hour (northbound AM and southbound PM) service is, however, extremely limited. Additional passing sidings above those already constructed were planned for other locations along the line that would enable increased service and reliability, but were subsequently terminated due to local opposition over 10 years ago. Like the Bergen and Main Lines, the Pascack Valley Line provides service to Secaucus Junction and terminates in Hoboken.

MEADOWLANDS SERVICE

A spur is provided off the Pascack Valley Line at **East Rutherford** to access the Meadowlands Sports Complex. Trains are currently provided on this line only as an event-based service. As it is currently configured, service is provided from the south only, meaning that Bergen residents using the line from points north must pass the Sports Complex and transfer at Secaucus Junction for a northbound train to access the Meadowlands station.

WTC/OCULUS PATH STATION (CONNECTING TO BERGEN/MAIN LINE FROM HOBOKEN)

After September 11, 2001, the World Trade Center PATH line was put out of service until November 2003, after which it reopened in the midst of a construction zone and remained operational in temporary station arrangements for thirteen years. The new permanent station, called "The Oculus," opened in 2016. There are five rail tracks connecting Lower Manhattan to New Jersey and 12 subway connections, as well as shopping in the Oculus, Fulton Center, and Brookfield Place. Bergen County residents who commute via NJ Transit trains through Hoboken can transfer to the PATH for Lower Manhattan access through the Oculus.

FUTURE PASSENGER RAIL SERVICE

One issue of particular importance to the future viability of Bergen County rail commutation is Trans-Hudson capacity. The once-proposed Access to the Region's Core (ARC Tunnel) project—a new tunnel and increased platform capacity to Manhattan along with a direct-connect loop to the Bergen County rail lines—would have provided a one-seat ride from the two Bergen County lines to Penn Station New York (PSNY), as well as much-needed additional capacity on the Manhattan end of the trip. Former Governor Chris Christie terminated the project in 2010.[30] In its stead, Amtrak subsequently announced plans for an alternative tunnel project. The current iteration of the tunnel, known as the Gateway Program, was endorsed by state and federal officials in November 2015,[31] though reliance on federal funding leaves much of the project at the mercy of the federal budget. Phase I of the Gateway Program seeks to expand Amtrak's Northeast Corridor (NEC) line. Phase 1A, which began construction in October 2017, will replace the Portal Bridge along the Hackensack River with a new Portal North Bridge. Phase 1B, the Hudson Tunnel Project, will undertake "the construction of a new two-track Hudson River rail tunnel from New Jersey to Manhattan that will directly serve PSNY… and the rehabilitation of the 106-year old, existing North River Tunnel, which incurred serious damage during Superstorm Sandy in 2012."[32] The Hudson Tunnel Project Draft Environmental Impact Statement was released in July 2017.[33] In late 2021, Governor Murphy announced that the NJ Transit board of directors approved a contract to build a new Portal North Bridge.[34] The 2021 Infrastructure Investment and Jobs Act/Bipartisan Infrastructure Law allocated money to the states and Amtrak, which could go toward the development of the Gateway Program. In early 2022, the Federal Transit Administration upgraded the project's eligibility to receive funding.[35]

Several recent improvements to the passenger rail system in Bergen County worthy of note are reviewed in the following sections.

Secaucus Junction

For the most part, the regional rail network represents an historic legacy, with an obvious orientation toward New York City as the regional hub. A number of improvements have been undertaken over the course of the past decade or so to improve commuter rail service for riders to and from Bergen County. One of the most significant improvements was the opening of the Secaucus Junction Station in 2003. This station made it possible for commuters on the three Bergen County rail lines to access midtown Manhattan more quickly and conveniently by transferring at the new station and boarding trains for Penn Station, New York. These commuters previously had to transfer in Hoboken and use the 33rd Street-bound PATH train to reach Midtown Manhattan. In addition, Secaucus Junction provides the opportunity to transfer between the majority of NJ Transit's rail lines at one location, thereby enhancing mobility throughout all of New Jersey and the region.

Options for future access improvements here include working with Amtrak to secure a Northeast Corridor stop at Secaucus so that Bergen residents do not have to go into New York City with a change at Secaucus, only to board an Amtrak train which then comes back through Secaucus.

Rutherford Train Station. Source: Bergen County Division of Planning

Passing Sidings

As previously mentioned, until October 2007 service on the Pascack Valley Line was infrequent and limited to peak direction traffic due to its single-track configuration.[36] Trains were stored at Hoboken Yards during the day and turned around for the evening commute to Spring Valley. In 2007, NJ Transit completed the construction of four passing sidings, making bi-directional service possible on the line. These improvements enabled NJ Transit to add 15 additional trains each weekday, and 23 on the weekends where there was previously no service available. Today, there are an average of three trains per peak hour, and hourly service at other times. Additional passing sidings, above those already constructed, were planned for other locations along the line that would enable increased service and reliability, but were subsequently terminated due to local opposition.

In addition, light rail service has also been advanced in the eastern tier of the county via the Northern Branch. This area is traditionally underserved relative to transit service. Passenger service on the Northern Branch and West Shore (River) Lines, which had served the eastern portion of Bergen County, was discontinued in the 1950s.

Northern Branch Extension of Hudson-Bergen Light Rail Transit (HBLRT) System

Bergen County has worked alongside NJ Transit for a number of years to advance passenger rail opportunities along the Northern Branch rail corridor in the eastern tier of the county, connecting to HBLRT services in Hudson County further south. The Northern Branch is a single-track rail line running approximately 11 miles from North Bergen in Hudson County through the Bergen County communities of **Fairview, Ridgefield, Palisades Park, Leonia,** and **Englewood**. The line is currently owned by CSX Transportation which operates freight trains on the line to service a small number of customers. As the Northern Branch will operate as an extension of the current HBLRT system, riders would be able to transfer to ferries at Port Imperial, as well as the PATH system and seven of the ten lines of the NJ Transit rail system at Hoboken. NJ Transit plans to operate service from early morning through late evening hours, seven days a week, with trains running every 6-12 minutes at rush hour. As of the time of this report, the Northern Branch project had most recently held a public hearing on the Supplemental Draft Environmental Impact Statement (SDEIS) on April 24, 2017,[37] and subsequently submitted the Final EIS to the Federal Transit Administration (FTA) for review and approval.

Planned Connection to the American Dream

In 2018, New Jersey Governor Phil Murphy pledged $4 million toward bus and rail improvements to serve anticipated traffic at the American Dream complex.[38] While funding details are unknown, some sort of enhanced public transit investment is anticipated to serve this regional activity center.

TRANSIT-ORIENTED DEVELOPMENT

Transit-oriented development has been a statewide priority since 1999, when NJ Transit partnered with NJDOT to create the Transit Village initiative to recognize "New Jersey communities that zone for and encourage mixed-use, transit-oriented development within a half mile of a public transit facility."[39] As of February 2022, of the 34 designated Transit Villages statewide, 3 are found in Bergen County: **Rutherford, Park Ridge,** and **Hackensack. Rutherford** was designated a transit village in 1999, while **Park Ridge** and **Hackensack** were both designated Transit Villages in 2015.[40]

NJ Transit has recently begun entering partnerships with private developers to explore connecting railways to proposed transit-oriented and mixed-use developments. One such partnership resulted in the Bergen County Line's new Wesmont Station in **Wood-Ridge** in 2016. As another example, NJ Transit's sale of property to a private developer in 2016 has resulted in a 110-unit rental apartment complex next to Waldwick Station that opened in late 2017.[41, 42] Further, NJ Transit also entered an agreement with a developer in **Fair Lawn** in 2016, while the municipality endorsed a Fair Lawn Avenue/Radburn Station Corridor Analysis Study to plan redevelopment around Radburn Station.[43] In late 2018, Governor Phil Murphy signed Assembly Bill 3654 into law, which requires NJ Transit to establish an office of real estate economic and transit-oriented development. This office will be responsible for reviewing land owned by NJ Transit to see where it can generate revenue, such as through redevelopment around train stations. NJ Transit's commitment to transit-oriented development has endured over time, and its interest in development in Bergen County has amplified in the last few years.

FREIGHT RAIL SERVICE

In addition to passenger trains, NJ Transit allows freight rail service to operate over its lines via trackage rights. Owned by NJ Transit, the Bergen, Main, and Pascack Valley Lines all host freight service operated by the Norfolk Southern Railway. The Morristown and Erie Railway, a short-line railroad located in Morristown, New Jersey, also has trackage rights along the lower portion of the Bergen and Main Lines, utilizing them to interchange with the New York Susquehanna and Western Railway. The Bergen and Main Lines come together and continue north as the Port Jervis Line in New York.

Bergen County is also home to three lines that exclusively carry freight, as depicted in the Regional Rail Network Map. Although today they are used exclusively for freight transport, in their heyday these railways provided substantial commuter service as well. Left behind are inactive rail stations which now stand as historic landmarks along the rights-of-way, as well as historic land use patterns in the vicinity of many of these lines where, at one time, local commercial and residential development was focused around these station locations.

NORTHERN BRANCH

The easternmost of these lines, the Northern Branch, descends from the Bergen-Rockland County border into **Northvale** and passes through the Northern Valley and further south through **Englewood, Leonia, Palisades Park,** and **Ridgefield** before paralleling the eastern extent of the Meadowlands and the western edge of the Palisades into North Bergen. North of the state line, the tracks have been removed and the Northern Branch right-of-way has been converted into a multi-use path through a rails-to-trails initiative. As noted, the Northern Branch is currently owned by CSX Transportation which operates freight trains to service an increasingly small number of customers along the path of the dead-ended line.

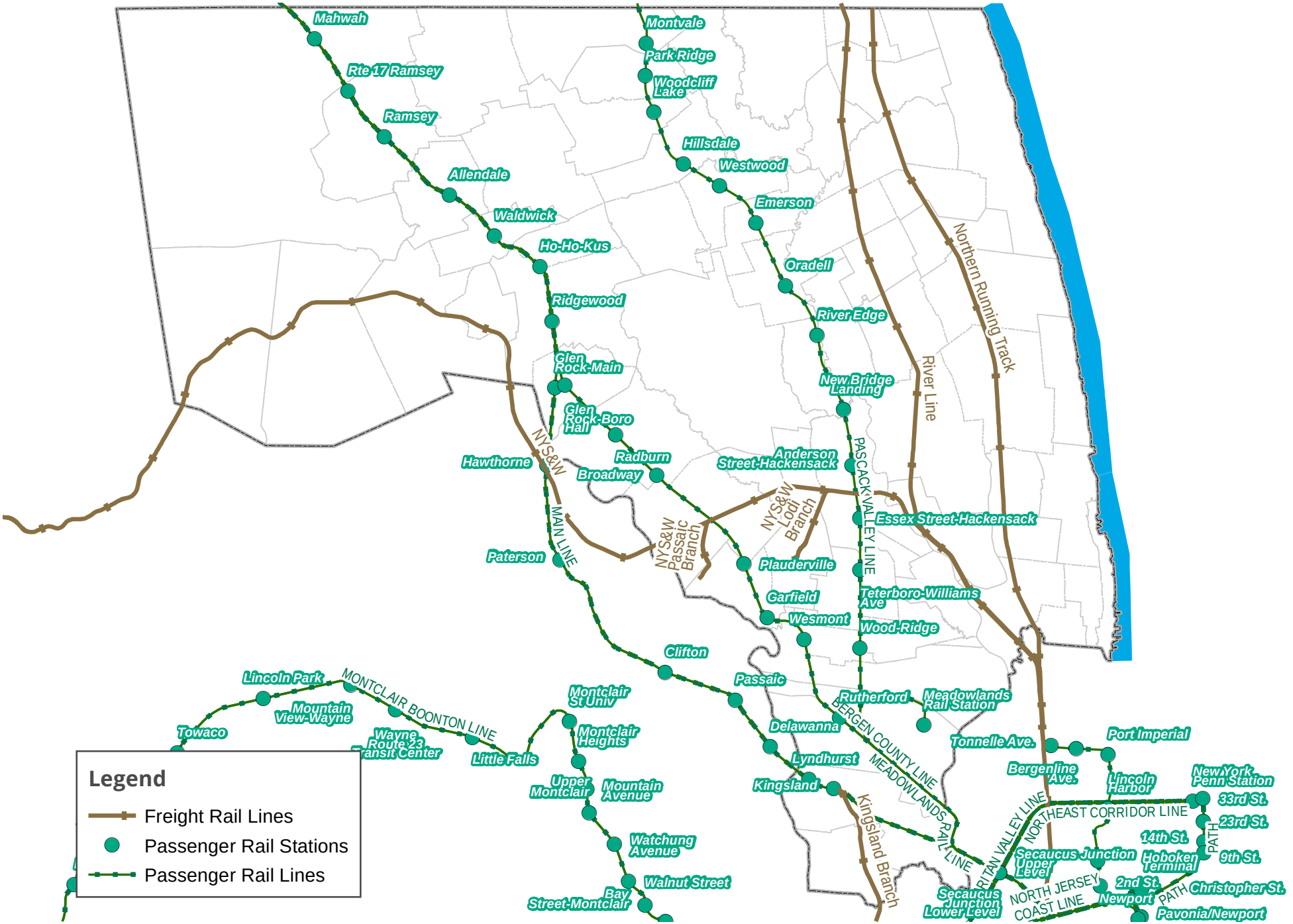
WEST SHORE (RIVER) LINE

The West Shore Line is operated by CSX as the River Line, a key and heavily-trafficked north/south corridor for the movement of freight. This line passes through the westerly tier of the Northern Valley communities, between **Norwood** and **Bergenfield,** and continues onward through **Teaneck** and **Ridgefield** before entering Hudson County.

NEW YORK, SUSQUEHANNA, AND WESTERN (NYS&W)

The NYS&W enters Bergen County at **Oakland** after passing through a circuitous path of mountains and valleys in Sussex, Morris, and Passaic Counties. It proceeds through **Franklin Lakes, Wyckoff,** and **Midland Park** in Northwest Bergen before cutting south toward Paterson. It re-enters the county at Elmwood Park on an east/west alignment through Central Bergen, passing through **Hackensack** and then crossing the Hackensack River to resume a north/south orientation parallel to the West Shore Line at **Bogota.** There are also a number of spur lines and industrial sidings that jut off the NYS&W line along its length, most notably the Passaic Spur at **Elmwood Park/Saddle Brook** and the Lodi Spur at **Hackensack**.

Freight Rail. Source: Bergen County Division of Planning



Map: Existing Rail Network

FREIGHT MOVEMENT

In 2020, approximately 56 million tons of freight moved into or out of Bergen County, by all modes of transportation (truck, rail, water, and air). This figure includes commodities moving into or out of Bergen County, but excludes pass-through tonnage. According to the NJTPA, more than 15.4 million eCommerce shipments containing 21.9 million items were delivered to consumers in Bergen County. The sum of inbound tonnage outweighed outbound tonnage by over 10 million tons.[44] Bergen County's major trading partners are within the state of New Jersey, with nearly 30 million tons of freight transported to other areas of the state. New York exchanged 5.5 million tons of freight with Bergen County, and Pennsylvania exchanged more than 4.5 million tons of freight with Bergen County. Other trading partners identified include California, Connecticut, Georgia, Maryland, Ohio, and Texas. NJTPA anticipates that commodity flows will continue to grow, increasing from 56 million tons in 2020 to 63.6 million tons by 2050. [44]

Freight can be handled by truck, rail, air, or water. The choice of mode depends on a variety of factors, including: length of trip (rail and air are more competitive at longer distances), commodity type (rail and water are more competitive for heavy materials), time sensitivity (truck and air are most competitive for expedient delivery), need for door-to-door service (trucking is necessary unless the customer has a dock or rail connection). For domestic freight traveling to, from, or within Bergen County, 94 percent travels by truck, 3 percent by rail, and the other 3 percent by other modes.[45] This has major implications on the Bergen County road and highway network, especially given that this does not even account for the through-traffic carried on such routes as NJ-17 which, as noted, acts as a key link between New Jersey Turnpike and the Hudson River crossings and the New York State Thruway, especially in winter when freezing renders northern ports less accessible to ships, if not completely inaccessible. NJTPA anticipates that the highway network will continue to remain the primary conveyor of freight into, out of, within and through Bergen County.

Segments of the New Jersey Turnpike/I-95 corridor carries up to 7,200 commodity trucks per day, and I-80 carries about 5,200 commodity trucks per day in each direction between I-95 and NJ-17. Portions of NJ-17 and NJ-3 carry between 3,000 and 4,000 trucks per day.[46] Further, Bergen County's highway network serves to connect its major freight activity centers with key trading partners elsewhere in the county, the state, and the remainder of the nation, as well as globally via international seaports and airports.

On a more global scale, the expansion of the Panama Canal in 2016 now enables large "New Generation Post-Panamax" vessels to access East Coast ports via the Panama Canal. The Port of New York and New Jersey (as well as other major U.S. ports) has made significant infrastructure investments to accommodate these larger vessels to ensure that the port, and surrounding region, can continue to remain globally competitive. Major investments have been made to raise the height of the Bayonne Bridge to 215 feet, which was completed in 2017 (the same height as the Verrazano Bridge), and the dredging of the Kill Van Kull and the entrance to Port Newark/Elizabeth to accommodate New Generation Post-Panamax vessels. According to the NJTPA, "Port Authority forecasts show that overall growth in container trade is expected to increase at 3.7 percent per annum during 2011 to 2030 and total throughput at the Port is expected to double by 2030."[47] This freight must move out of the Port either by rail or truck—each with its advantages, disadvantages, and impact upon the region's rail and roadway network.

The COVID-19 pandemic has amplified the importance of freight movement, notably when consumers conducted more transactions using e-commerce. Pandemic-related restrictions that limited indoor capacity, and social distancing recommendations helped to fuel demand for delivery from groceries and meals to durable goods, which in turn has fueled demand for more spaces dedicated to warehousing and fulfillment. These new developments, and the traffic generated by these uses, have resulted in bills before the state legislature that would increase their regulation.

Teterboro Airport. Source: Bergen County Division of Planning

AIR TRANSPORT

Owned and operated by the Port Authority of New York and New Jersey (PANYNJ), Teterboro Airport is located in **Teterboro, Moonachie,** and **Hasbrouck Heights**. According to the Port Authority website, Teterboro is the oldest operating airport in the metropolitan area. In addition, Teterboro Airport is listed as among the busiest private general aviation airports in the country.[48] Designated as a "reliever" airport, Teterboro's focus is on removing the smaller and slower aircraft from the regional air traffic that would cause major congestion at the Port Authority's commercial airports. The airport consists of 827 acres: 90 acres are for aircraft hangars, maintenance and office facilities; 408 acres are for aeronautical use; and 329 acres are undeveloped. Teterboro is also home to many private aviation charter companies that fly nationally and globally. In addition, Bergen County is within relatively close reach of Newark Liberty International Airport, LaGuardia and JFK International Airports in New York City, and Stewart International Airport near Newburgh, New York.

FERRY TRANSPORT

The various ferry locations available to Bergen County commuters are depicted in the Regional Public Transportation Network Map. Among these, only the Edgewater Ferry is located within Bergen County; the other locations can be accessed via transit connections or automobile. The county's one existing ferry landing is located in the municipality of **Edgewater** off CR-505 (River Road) at the Grand Cove Marina. New York Waterway runs a single service to Pier 79 on West 39th Street in Manhattan and provides a free transfer to crosstown buses. Land-side access to **Edgewater** is an issue, however. Traffic congestion along the River Road corridor, limited east/west connections to the communities on the upper Palisades, and the lack of commuter parking and integrated bus transit connections may be major factors contributing to the limited numbers for ridership on the Edgewater Ferry, while alternatives like the nearby Weehawken Ferry in Hudson County have connections to the Hudson Bergen Light Rail Transit (HBLRT) system and numerous bus routes and boasts twelve times the ridership of **Edgewater.**[49] There has been some discussion regarding a possible second ferry terminal location in **Edgewater** at a redevelopment site in the southeast quadrant of the intersection of River Road and Gorge Road. In addition, New York Waterway ferry company has partnered with residential developments in **Edgewater** and **Fort Lee** to provide shuttle service to ferry passengers as a way to improve access, while providing a residential amenity.

THE SHARING ECONOMY

RIDE SHARING

In recent years, ride sharing companies such as Uber and Lyft have also emerged and present unique challenges and opportunities. Private ride-sharing services may siphon off some of the population that would normally take public transit, bike, or walk to close destinations and may serve those without current public transit infrastructure nearby. Opportunities to encourage ride sharing should be explored as a means to reduce private car ownership, supplement the needs of elderly or disabled residents, or service those portions of the county without robust bus service.

CAR SHARING

Similarly, car sharing services such as Zipcar may offset the need for private car ownership in more densely populated parts of the county. Where day-to-day car ownership is not necessary, participation in a car sharing service often allows residents to forego the cost of a car if they feel confident that a rental will be available to them when needed for day trips and errands. Early adoption of this tool has proven particularly popular among the Millennial population, however, as usership becomes more commonplace, car-sharing is likely to become popular among a larger segment of the population.

BIKESHARE

Bikeshare systems have been implemented throughout New Jersey, providing an alternative transportation mode to reduce vehicular traffic. In neighboring Hudson County, the county has established the Hudson Bike Share Program, with stations in Hoboken, Bayonne, Guttenberg, North Bergen, Weehawken, West New York, and Liberty State Park (Jersey City). This program has also expanded as part of a "JerseyBike" program, with new services being offered in Woodbridge and Point Pleasant Beach. Jersey City utilizes New York City's bikeshare system. Other privatized companies have established bikeshare systems in local New Jersey municipalities as well, with bikeshare systems established in Asbury Park, Camden, Keyport, Metuchen, Plainfield, and Princeton. Many of these systems have stations within the public right-of-way and would need to be established with or approved by a public entity. Bikeshare programs have the opportunity to reduce both vehicular demand and excess personal bicycle storage needs. Bikeshare systems could be integrated at NJ Transit train stations along the Spring Valley Line, Bergen County Line and Main Line to provide a means to connect residential areas to transit.

EV Charging Space at Overpeck County Park. Source: Colliers Engineering & Design

School Bus in Glen Rock. Source: Colliers Engineering & Design

COMMUNITY TRANSPORTATION/PARATRANSIT

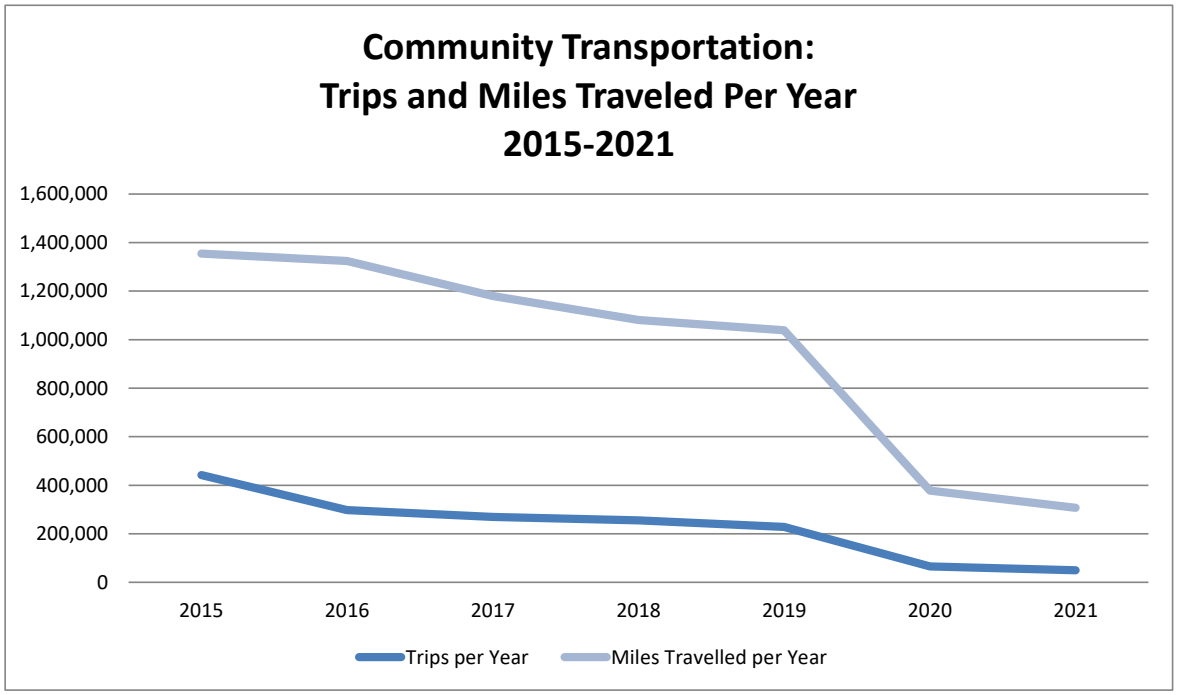
Most of New Jersey's community transit services—defined as services operated with other than fixed route bus and rail—date back to the early 1970s, an outgrowth of Title XX (now Social Services Block Grant). This allowed for the Social Security Act budget to fund travel services to vocational workshops for persons with disabilities, as well as, when coupled with Title III Older Americans Act funding, to meet shopping, medical and nutritional needs for senior citizens. Title XIX Social Security Act (Medicaid) funds were also applied to the provision of transportation for Medicaid-eligible individuals to medical appointments which initially included medically qualified vocational services.

Bergen County established the Bergen County Community Transportation Division (then known as "Special Transportation") in the late 1970s to "provide a safe, trouble-free, scheduled transportation system for persons with disabilities, seniors, and frail residents of Bergen County." Today, the fleet contains 88 registered vehicles[50] comprises mini buses, minivans, delivery trucks for Meals on Wheels, and passenger vans.[51] The following table provides a snapshot of the number of trips and miles traveled for the years 2015 through 2021.[52] Data from 2015-2019 show a gradual decline in both miles traveled per year and trips per year, with a notable drop in 2020 and 2021. While the 2020 and 2021 numbers can likely be attributed to the COVID-19 pandemic, it is not clear what factors, if any, have been responsible for the gradual declines observed over the preceding years.

The other major provider of transportation services in Bergen County is the area's Transportation Management Association (TMA), EZ Ride. EZ Ride is funded with federal grants, private sector monies, and public-sector fee-for-service, to provide numerous transportation services including: rideshare matching assistance for carpools/vanpools; outreach to private sector employers providing transportation alternatives and services and trip planning assistance; outreach to local schools for the Safe Routes to Schools Program; other safety initiatives including coordination for NJTPA's Street Smart user safety program; and the Development of low-cost transportation services to meet the needs of seniors, people with reduced mobility, and low income clients. In addition to the EZ Ride service, there exist several local free mini-bus/shuttle services operated and run by the municipalities including **Edgewater, Fair Lawn, Fort Lee, Hackensack,** and **Teaneck.**

Beyond this, there are a number of independent taxi and shuttle services that offer demand-responsive service to residents of Bergen County. One of the fastest growing providers of paratransit in Bergen County is iTNNorthJersey. This non-profit organization, started in 2015, is based on a social entrepreneurship business model. They provide private or shared automobile-based transportation 24/7 to people 60 years and older or adults with visual impairments. It is supported by various foundations, membership fees, ride costs, as well as volunteers. Members subscribing to the service must be capable of getting in and out of a car with no more than a steadying arm or hand for assistance. Vehicles, however, are not equipped with wheelchair lifts as drivers use their own vehicles.

Bergen County is working with the NJTPA to better coordinate the various transportation services provided by these agencies, along with those provided by municipalities and other non-profit organizations, in order to optimize delivery of services to the public-at-large.



Hackensack Bus Terminal. Source: Donna Brennan

GOALS & OBJECTIVES

Goal 1: Increase the provision, efficiency and use of mass transit

What is it?

Mass transit is any large-scale transportation service for the public. Efficient transit seeks to move people to where they want to go at a reasonable cost, in a timely manner, and in a convenient way. Increasing the use of mass transit means attracting new riders to it, while increasing its efficiency may also take the form of realigning services, bridging gaps in service, adjusting schedules, and, in some cases, providing new or more robust services.

What will it do?

This goal will bring new mass transit service to Bergen County and expand existing mass transit services. It will help alleviate roadway congestion by making transit a competitive alternative to the automobile, attracting new riders to both new and existing services.

Why should the county pursue it?

Mass transit is the primary alternative mode of travel to the automobile. Expanding and optimizing transit services will make this option more accessible to the public and expand its use. Increasing the efficiency of transit will also make it a more appealing alternative to driving. Greater use of mass transit can reduce roadway congestion by encouraging alternatives to personal vehicle use, as well as some of its negative impacts: air and water pollution, emission of greenhouse gases, and traffic accidents among them. Mass transit can provide greater mobility and a better quality-of-life to those who cannot, or choose not, to drive. Mass transit offers the most energy efficient and environmentally-conscious means to meet this travel need.

NJ Transit. Source: Bergen County Division of Planning.

Passenger rail service includes any service using steel wheel on rail technology to move riders, such as commuter rail, light rail or trolleys, and subways. Establishing new rail services in Bergen County is limited due to the cost and supply of land necessary to be assembled to create a new rail corridor. The best potential for new rail service in the county is the re-establishment of passenger rail on existing corridors.

Opportunities to restore passenger rail along existing rail corridors does have its challenges, however. The West Shore, or River Line, was abandoned for passenger service in the late 1950s and now is owned by CSX Transportation. This corridor serves as a major north-south freight corridor from points south to points north and west of New Jersey. Passenger services were studied at length as part of the West Shore Region Major Investment Study/ Draft Environmental Impact Statement in the 1990s, but ultimately NJ Transit effectively abandoned interest in the West Shore/River Line due to the heightened freight activities forecasted from the Port Newark/Elizabeth expansion. At that time, attention for passenger services subsequently turned to increased service on NJ Transit's existing Pascack Valley Line, as well as investigation into two available freight corridors: the Northern Branch (as an extension of the Hudson-Bergen Light Rail Transit service) and the NYS&W Line (as a possible "Cross-County" corridor utilizing Diesel Multiple Unit trainsets).

In the 19th century, the Northern Branch corridor (aka Erie Railroad and later Erie-Lackawanna) transformed the surrounding area into a series of rapidly growing bedroom communities. During the second half of the 20th century, a combination of national and regional trends led to its deterioration for both passenger and freight services. Currently, CSX Transportation hosts minimal freight services on this line, providing the County's best opportunity for new passenger rail services – an extension of the Hudson-Bergen Light Rail from its current terminus in North Bergen at Tonnelle Avenue northward to Englewood Hospital (traversing **Ridgefield, Palisades Park, Leonia,** and **Englewood**). NJ Transit is currently working through the federal environmental process to secure federal funding for the light rail extension.

The New York Susquehanna and Western (aka the Cross-County) Line is the only east-west rail line in Bergen and was established in 1881 from the consolidation of numerous smaller railroad systems. The line was used originally to transport coal from eastern Pennsylvania to New York City, and remains an active freight line. There has been interest to re-introduce passenger services on portions of the line, connecting Paterson with Hackensack, with potential stations in **Saddle Brook, Rochelle Park**, and **Hackensack**.[53] With current freight operations, however, passenger service would need to be heavy rail to share track rights and would need to traverse the Little Ferry Yards. This extremely busy freight yard is also constrained by environmentally sensitive wetlands around its perimeter, making the passage of passenger rail through or around this busy freight yard difficult.

Finally, the Pascack Valley Line is a single-track corridor with passing sidings terminating in Spring Valley. The introduction of a series of passing sidings several years ago along its right-of-way permitted more frequent, two-way service, leading to an increase in ridership. Where possible, adding additional sidings beyond what currently exists would enable even more services.

NJ Transit. Source: Bergen County Division of Planning.

Expanding bus service means increasing the frequency, duration, and area of service. Bergen County is extremely rich in bus services but that same service is not evenly dispersed, as depicted in Regional Public Transportation Network Map. Given the densities and rich roadway network in Central Bergen, Southeast Bergen, and Southwest Bergen, bus service is plentiful and frequent. The other regions of the County do not enjoy similar services. Land patterns, densities, and lack of east-west through routes make transit more difficult and expensive to provide further north in the county. The cost per mile of running bus services in suburban landscapes combined with the lower customer service base and spread-out or isolated land uses is extremely challenging to design and difficult to justify in terms of costs vs revenue.

Paratransit Services provided by the County for seniors and disabled not withstanding, the County is not a transit operator and must rely on NJ Transit and the various private bus carriers to provide transit services. Instead, the county can work with these operators to think creatively and out of the box while educating residents and employees to forgo the traditional and much coveted commuting notion of the one-seat-ride. Visiting Washington D.C. for example, one would not think twice of transferring lines once or twice from their location near a Metro stop out in the Maryland or Virginia suburbs to arrive at a destination somewhere within the metropolitan area. All the individual parts of the system work together such that the sum is greater than its parts. The Metro cannot serve every location in Metropolitan D.C., so stops are strategically located to create more localized transit hubs immediately surrounded by compact, mixed land uses. These stops serve as a community transit magnet, with local bus services accessing them to bring more riders into the system.

While not a city, Bergen County can adapt this concept in a similarly creative manner. Utilizing the existing bus and rail network and making them work together seamlessly can create a "spoke and wheel" layout with hubs at the center that serve as entry points into the network. It is here that municipalities can participate in the funding and operation of shuttle services to these transit hubs in order to make their communities better connected to the robust mass transit network of the New York/New Jersey metropolitan area. Spread-out land use patterns and a circuitous roadway network may limit service to some parts of the County, but the designation of transit hubs shared among a set of communities can be served efficiently by higher speed transit routes connecting them to the other transit hubs of the county.

In turn, the residential areas surrounding these transit hubs can be served by localized shuttles or can at least enable residents to drive and park at a transit hub and complete the remainder of their trip by transit.

An additional component includes the introduction of Bus Rapid Transit (BRT). BRT can emulate many of the premium features of a light rail line, but with a considerably smaller price tag. While BRT operates on existing roadways which are often congested, there are features that can be employed to improve service and attract riders, such as exclusive bus lanes on shoulders of roadways, where it can bypass traffic that slows a regular bus. Other enhancements to expedite service could include special technology to speed its way through traffic signals (connecting signals to the BRT system), allow passengers to board more quickly due to off-board fare collection, low floor vehicles (quick boarding and alighting as there are no stairs), and queue jumping at traffic signals where the right-of-way exists to construct these by-pass lanes. BRT typically runs on a set schedule like a train, but because it is not tied to fixed rails, BRT routes can be modified as demand changes, or to avoid traffic snags in real-time as they arise. BRT is designed as a premium service that runs along high-density corridors to attract higher revenue streams to justify its higher operating costs. As such, it can serve as the main "trunk lines" of a transit network, running along the major corridors between high density transit hubs. The existing bus network would be coordinated to feed into these routes. Together, the individual parts of the system- local transit hubs (with parking availability and shuttles serving them from the surrounding communities), local and express bus routes, major transit centers, and BRT all work together to create a transit network greater than the sum of its parts and capable of providing residents with additional mass transit options. Given Bergen County's geography, land use patterns, densities, and congestion –this can provide a cost-effective strategy to implement new transit services that are adaptable to existing

Objective 1.3: Consider enhancements and expansion of ferry services

As referenced in the previous section, there currently is limited ferry service in Bergen County, with one ferry terminal in **Edgewater** used by NY Waterway to provide weekday service to West 39th Street in Manhattan's Midtown during peak commute periods. While available ridership data from the **Edgewater** station indicates ridership is significantly less than at the nearby Weehawken Ferry Terminal, service at Weehawken is offered more frequently (every 20 minutes, compared to every 30 minutes), is offered during non-traditional commuting hours (mid-day and late evening) and weekends, offers stops to Midtown Manhattan and lower Manhattan (Both Wall Street and Battery Park City). Considering the ongoing maintenance issues facing New Jersey's Trans-Hudson rail connections to New York, both planned repairs and unplanned emergency repairs, and the disruptions they create for commuters and employers, enhancements to ferry services could provide a viable alternative, particularly as journey to work data suggests that an increasing proportion of Bergen County residents are utilizing public transportation. Investigating ferry service expansion, whether through increased service frequency, number of vehicles, locations, and even types of vehicles (smaller-scale water taxis) served may identify opportunities to increase ridership and provide an additional alternative to the automobile. In addition, commuter data described in the existing conditions section of this report indicates that in addition to New York City, over 28,000 people from Hudson County commute to Bergen County for work, and over 24,000 people from Bergen County commute to Hudson County for work. Further investigation into these flows may reveal potential areas to expand intra-state ferry service, similar to New York City's development of its NYC Ferry service.

Objective 1.4: Facilitate safe multi-modal connections to transit

Multi-modal connections are links between different travel modes. Multi-modal connections include links between different modes of transit. Wherever two modes of transit intersect, travelers should be able to make a safe, easy, and convenient transfer. This also includes how people get to their car, bus, ferry or train, such as access to train station, train platforms, bus shelters, parking spaces, and streets and sidewalks approaching the station. Connections are often the vital difference between making an entire trip by mass transit and having to use an automobile for part of it.

It is not always possible, nor easy and convenient, to transfer between travel modes in Bergen County. Without connections between modes, the transit rider is unable to complete the journey by transit and must rely on an automobile for a portion or all of their trip.

Increasing and improving the connections between transit and other modes, and among transit modes, can make mass transit more efficient and can increase transit use as an alternative to driving, because more trips could be completed or partially made by mass transit.

Given the built-out landscape of Bergen County, the possibility to build new roadways is virtually non-existent, and widening projects often prove problematic given right-of-way limitations, and the need for property acquisition and the associated impacts on adjacent properties. Instead, identifying more efficient ways to utilize existing transportation infrastructure is a more realistic alternative. Given the connection between transportation and land use, housing, and the balance between environmental and economic sustainability, this objective considers options within the existing transit network, seeking ways to fill in transit voids and identify potential transit nodes and hubs that encourage greater transferability to gain access to more destinations within the County. Related considerations include looking at options to create economic development opportunities at these nodes/hubs, improve and increase parking for all County residents at transit stations, and better integrate various modes of transit to one another.

Mass transit is efficient in getting people to where they want to go at—ideally -- a reasonable cost, in a timely manner, and in a convenient way. A major obstacle in Bergen County in achieving greater utilization of current transit is access to the service. Many towns with transit stations restrict station parking to their residents, increasing the infeasibility of rail transit to residents in surrounding towns who are unable to access the transit station. Making existing transit accessible to more commuters results in increased service by attracting new riders and reducing the need for additional automobiles on already congested roadways. Limited station parking is the result of limited land availability and the inability of municipalities to finance parking structures that would provide additional parking within finite parcels, most of which occur in or near the downtown business district.

Objective 1.5: Encourage transit-oriented development

The County can educate and encourage local towns, developers, business community, and others as to the benefits of Transit Oriented Development (TOD).

Land use and transit are inextricably connected. Compact, densely developed areas can be more efficiently served by transit than in suburban land patterns characterized by larger lots. This can be seen in older towns with traditional "main street" downtown areas that had originally developed around a rail station, including many in Bergen County. Transit Oriented Development (TOD) is a term used to describe this particular development pattern, where streets and buildings are oriented to the use of mass transit with compact designs that contain a mix of land uses and can be accessed by foot, as many of these towns predated the automobile. In the second half of the 20th century, however, a variety of different outside factors (including, but certainly not limited to the increased affordability of automobiles and government subsidized home mortgages) shifted interests in new development toward undeveloped "greenfields," such as farms and forests, where land uses were separated into clearly distinct areas of the community, each located on larger lots. This style of development is often referred to as "suburban" or "exurban." While there is still interest in, and demand for this type of development, market demands have started to shift back towards compact, transit-oriented development. The Land Use and Housing, and Economic Vitality elements review these changing demands in greater detail through commute to work trends and the types of building permits that have been issued over time.

Presently, one of the few elements missing in many of Bergen County's existing commercial and downtown areas is the availability of residential opportunities. Apartments and condominiums in downtowns, whether in underutilized space over stores and offices, or mid-rise residential buildings tucked between and amongst commercial areas, provide not only an opportunity to live within walking distance of mass transit, but can offer attractive housing options for those not interested in, or unable to afford, home ownership. This type of housing also provides a viable option for older residents that wish to maintain their independence while safely aging-in-place in the town where they raised their families, but no longer require a large home. Living in a downtown affords residents ability to be within an easy walk to shops, attend to medical services, and avail themselves of entertainment venues without the need to drive.

This is not to say that these densities should be introduced throughout a municipality, but concentrated in the downtown district. A downtown TOD can be the focus of future growth and development -- areas near transit stations that typically do not attract additional automobiles. Despite increased densities, automobile congestion can be reduced when more people can access their everyday needs without a car.

The main benefit of a TOD is the creation of a place where residents, workers, and visitors have safe, easy and convenient access to mass transit. TOD can create places where people walk and bike more, drive less, and have more travel options. Bergen County has many opportunities for TOD because there are many transit stations that are located adjacent to areas with redevelopment opportunity, such as expansive surface parking lots. Providing for residential opportunities in these downtowns can increase the vibrancy of the area by ensuring a base of customers to keep these areas economically strong and competitive.

Transportation and land use reinforce each other in a TOD. This is in contrast to certain types of suburban development decisions, such as when a large business or high density residential development is constructed in a remote location necessitating automobile use. Employees of this business, or residents of such a development, particularly those without access to an automobile, then require an alternative means of travel. Often, employers turn to the County for assistance in getting their employees to and from work. The County's resources are not well-spent in subsidizing such land use decisions, and providing free shuttle services only further reinforce and exacerbate this type of development. Companies, such as EZ Ride, and increasingly through ride-hailing/sharing mobile applications such as Uber and Lyft, will work with employers to develop and operate such transportation services- albeit at a cost.

Working through its Economic Development division, the County has developed Bergen for Business, an interactive web-based tool that assists existing and prospective employers to identify employment locations that are closer to where their employees live, or located closer to transit stops, or any other transportation facility that would reduce the distance or need to travel. Encouraging employers to locate closer to their workforce reduces the time spent commuting to work. In this way, relocation is a strategy that can lower the overall demand on the transportation system. More information about Bergen for Business and economic development in Bergen County is reviewed in greater detail as part of the Economic Vitality Element.

NJ Transit. Source: Donna Brennan, Bergen County

GOALS & OBJECTIVES

GOAL 2: Improve and maintain a safe, efficient and multi-modal road system

What is it?

A safe and efficient road system is one that meets the mobility and accessibility needs of its users in a safe, timely, and cost-effective manner. A multi-modal system means that it can accommodate all modes of travel: walking, bicycling, mass transit, motorcycling, as well as the automobile. Also known as "Complete Streets," this system recognizes and addresses the competing uses of pedestrians, bicyclists, mass transit, automobiles and other motorized personal transit (local, regional, and intra-regional traffic) as well as local and through-goods movements (trucks).

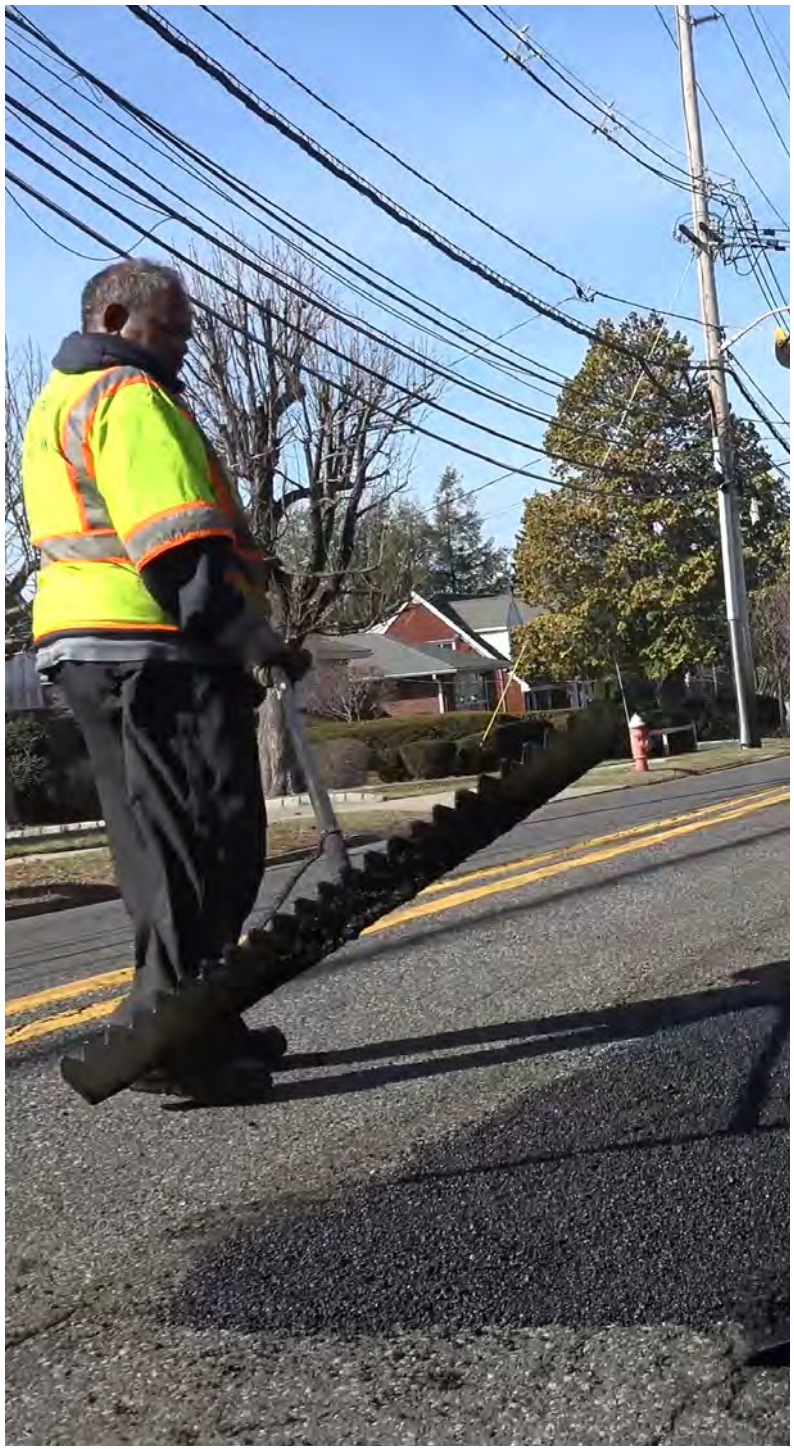
What will it do?

This goal will make the existing road system as safe as possible for all users, get the most capacity out of it as the lowest cost, and ensure it accommodates all modes of travel.

Why should the county pursue it?

The County of Bergen has jurisdiction of over 450 miles of roads, bridges, and intersections. Additional miles fall under local, authority (New Jersey Turnpike Authority, Port Authority of New York and New Jersey, Palisades Interstate Park Commission, and the New Jersey Sports and Exposition Authority[54]) and state jurisdiction. Each of these entities have the responsibility to maintain a safe road system in a state of good repair and to upgrade and improve their roads as necessary. The access and mobility provided by the road system brings residents and visitors to many of the jobs, shopping, entertainment, and recreational opportunities found in Bergen County. Roads allow for the delivery of vital goods and services to residents and businesses; as a result, the proper maintenance of these roads is critical to the county's economy and quality of life.

While the County of Bergen seeks to encourage alternatives to the private automobile, vehicular travel remains the dominant mode of transportation, with journey to work data suggesting that over 75 percent of residents use a car to reach their place of employment, either alone or via carpool. This goal reflects a "fix it first" mentality, which promotes the improvement, maintenance, and optimization of the existing system to work better and more efficiently.



Road Repair. Source: Donna Brennan, Bergen County

Traffic control devices regulate the flow of traffic and prevent conflicts for space in the right-of-way. They advise and warn pedestrians, bicyclists, and motorists. Maintaining these signals as fully-functional maximizes their safety. Traffic responsive devices (Adaptive or Intelligent Signals) are systems that can be installed within existing or new traffic signals to increase the overall efficiency of roads by increasing or decreasing capacity as demand changes (within the day by the hour, peak vs non-peak, weekday vs weekend) without the need to widen the roadway. Put simply, these devices make existing roads work better. The effectiveness of these signals, however, is dependent on their integration with the broader street network. Traffic signals in Bergen County are maintained by several different levels of jurisdiction including state signals, county signals, and municipal signals. Matters are further complicated when multiple signal owners might exist along a single roadway. There are no standards for signals (other than the Manual on Uniform Traffic Control Devices (MUTCD)) between jurisdictions regarding equipment, software, and signal timing-- making coordination amongst and between signals difficult if not impossible. This is an area where the County could take the lead and coordinate a standardized signal network in cooperation with all 70 municipalities and the state. An initial step in this effort has been the compilation of an inventory, using Geographic Information Systems (GIS) software, of all right of ways, as well as county-owned intersections and traffic control devices. Maintaining this inventory will ensure the effective management of county resources, in general, but also identify opportunities for optimization, and where collaboration with state and municipalities could yield greater benefits.

Currently, the County's approach has been to transfer responsibility of its traffic signals over to either state or municipal jurisdictions to reduce capital or maintenance costs. Perhaps a more uniform and logical approach would be to restore a logical hierarchy of jurisdiction amongst signals, with the NJDOT handling any signals along State Highways, Bergen County overseeing signals along county roads where they intersect another county road or municipal street, and individual municipalities taking jurisdiction of signals where two municipal streets meet.

Also, the County might consider an alternative to traditional signalized intersections by introducing a modern roundabout approach at appropriate locations, as per Federal Highway Administration and NJDOT guidelines.

The roundabout provides a circular intersection in which traffic flows almost continuously in one direction around a central island; modern roundabouts require traffic entering the intersection to yield to traffic already in the roundabout. Compared to other traffic control devices at intersections (e.g., stop signs, traffic signals, older high-speed "traffic circle" configurations), these roundabouts have been found to reduce the likelihood and severity of collisions by reducing traffic speeds and minimizing collisions.

Road Repair. Source: Donna Brennan, Bergen County

Objective 2.2: Address major recurring congestion

Recurring congestion is when the number of vehicles traveling a roadway exceeds the capacity of the roadway. Major recurring congestion is not associated with incidents, special events, or periodic or seasonal conditions. Rather, it is the result of operational or functional deficiencies of the road system in specific locations such as interchanges, merges, or too many curb cuts into commercial properties (entrances and exits of commercial driveways causing traffic conflicts with moving traffic). Often, the solution purported by many is to widen the roadway. Unfortunately, while some improvement may be achieved in the near-term, this is often not an effective long-term solution. One reason is that when a roadway is widened, drivers perceive that there is less congestion so more will come to drive on that road. This so called "Latent Demand" (also known as "Induced Demand") emerges as those who would have taken parallel routes or side streets to avoid congestion, begin to drive the more direct corridor, resulting in congestion on the newly-expanded road. In addition, Bergen County is a built-out landscape, with very little developable open space—most of it is already built upon. A wholesale expansion of the roadway network would require expensive property acquisition – not a popular action politically, and far too expensive given the value of land in Bergen County. While there are select locations within the county that can and should be improved this way, most other situations may be addressed by increasing the efficiency of the existing network.

Traffic congestion reduces productivity and quality-of-life. It makes roads less safe and wastes fuel. It reduces the capacity of the road system and causes it to operate far less efficiently. Congestion on highways can spillover to local roads and negatively impact local communities. It also contributes to poor air quality and can be detrimental to the environment. Elimination of predictable congestion can reduce these negative impacts, improving roadway efficiency and safety.

One example, which has been a priority project for the County, has been to remove a longstanding regional bottleneck along Route 17 – a key improvement along this heavily utilized highway corridor, critical for commuting, shopping, commerce, and freight movement. Since the dawn of the automobile era, Route 17 has served as an economic lifeline for Bergen County – and as a proxy northern extension, especially for freight movement, of the once-proposed but never-realized Northern Extension of the New Jersey Turnpike from its northern terminus at the I-80/George Washington Bridge approach to the New York State Thruway. Route 17 now provides this missing link in the regional

Source: Colliers Engineering & Design

highway grid, despite the fact that it is not a limited-access highway like the other important regional routes it connects. The County has maintained ongoing coordination with the prime consultant team – as well as consultants on related breakout projects– in order to keep the project on the radar, as current as possible, and efforts at-the-ready in order to proceed upon NJDOT action. The County received NJDOT approval for funding to complete the Concept Development Phase of work in October 2021, and Notice to Proceed has been issued with project kickoff underway.

There are many tools available to help address recurring congestion, however, there is no "one size fits all" approach and each has its own set of costs and benefits that require consideration. Most congestion reduction strategies will likely require a variety of different interdependent tools. In the abstract, reducing roadway congestion likely has few detractors, but the short term means required to do so could be challenging both economically and politically. The question is: how much are people willing to pay? Not only in terms of money, but a willingness to alter traditional driving patterns. For example, is there a willingness to develop high occupancy toll lanes on highways where those willing to pay extra have access to a dedicated, express lane?

On the surface, this approach seems inequitable, however, drivers willing to pay a premium to drive in an express, higher speed lane, provide for greater capacity on the non-tolled lanes for drivers unable or not willing to pay the premium fee. The same high occupancy lanes also provide a lane for buses and other transit (for example, Bus Rapid Transit) to move about the county freely, without getting caught in the same congestion as the other drivers, making bus travel more competitive with the automobile. This action alone could attract more drivers to consider giving up their car totally or even just for a couple of days a week to use mass transit, reducing the number of vehicles on a roadway

Objective 2.2: Address major recurring congestion (cont.)

and providing more capacity for those who have no option but to drive. These potential solutions need to be coupled with changes to the mass transit network to better coordinate services and routes.

The increasing prevalence of new and innovative commuting practices and technologies may offer some potential improvements, but these too do not offer a singular "one size fits all" solution. The increasing prevalence of ride sharing programs, and ride-hailing mobile applications suggest that personal automobile ownership may not be as universally necessary as perceived previously, particularly when other technologies, namely eCommerce, reduce the need for certain trips. It should be noted, however, that eCommerce delivery, which can range from packaged goods, meals, and even services, may require additional analysis and unique solutions to address traffic, parking, and loading. Similarly, real-time navigation programs can help to optimize travel times, however, they can result in the unintended (and unanticipated) consequence of increased congestion on roadways that were not designed for through traffic. It is important to view these technologies and practices within a broader context instead of as solutions or problems on their own right. For example, if navigation applications are diverting through traffic onto streets not intended for such uses, then it is worth evaluating why the navigation software made that decision. It means evaluating ways to improve the flow of traffic on the highways, but also a reevaluation of local road design (i.e. minimum width of the cartway) and regulations for road use (i.e. on street parking) to understand what steps can be taken to encourage slower speeds.

On local roadways, there are also many options available to address congestion. The introduction of adaptive/intelligent traffic signals can improve traffic flow and reduce delays from uncoordinated signals, or providing more green time along major thoroughfares when there is no traffic on the side roads at the intersections. The reduction of curb cuts along roadways is another improvement that can be made by all levels of government. Zoning codes dictate the number and type of curb cuts. Having a curb cut every 20 feet, for example, significantly hampers traffic flow and creates congestion as vehicles slow down to exit into a commercial property or conversely, exit the property onto the roadway. The conflicts between moving traffic and these vehicles slow traffic down for all. If commercial properties were to share curb cuts or have access to a service road with minimal curb cuts onto the main roadway, these conflicts would be greatly reduced, and such locations could also be designed to have proper deceleration/acceleration lanes to take the slower moving vehicles out of the main traffic flow. Unfortunately, curb cuts are controlled by access permits, not just zoning, and are often issued despite local zoning regulations for fear of lawsuits by developers. In addition, development of neighboring properties is often not synchronized, making it difficult to establish an effective shared access.

Objective 2.3: Restore functional hierarchy between all levels of roads

Functional hierarchy provides a classification system where each roadway is designated to move a specific kind of traffic. For example, highways are in the highest functional class, carrying the fastest and longest-distance traffic, while a residential street carrying only local traffic is in the lowest class. Restoring a hierarchy between all levels also has ramifications based upon jurisdictional levels: state, county, and municipal.

Many roads in Bergen County no longer serve their intended purpose and their original classifications are no longer relevant. Some residential streets carry through traffic, negatively impacting local quality of life. Many arterial roads designed to be the 'main streets' of small towns now carry long-distance traffic. Appropriately separating the different types of traffic such as local, intra-county, and inter-county, can make roads safer by reducing conflicts between different types of drivers and vehicles. It can move traffic more efficiently by balancing the overall distribution of traffic.

Roadway classifications should accurately represent their actual use and maintain a proper functional hierarchy to the greatest extent practicable. In addition, these classifications could be used in order to prioritize or direct funding to future improvement projects, with a focus on corridor-wide improvements that seek to move traffic on the trunkline county roads for longer distances.

Objective 2.4: Provide comprehensive, rational numbering and signage

Rational numbering and signage can make roads safer by reducing driver confusion and make them more efficient by reducing navigational errors. Bergen County's route numbering system reflects decades of differing approaches, resulting in a network that can be confusing and inconsistent -- at best, an inconvenience to businesses, residents and businesses, and at worst, adding additional time to emergency responders. Most other counties in New Jersey have adopted a system of 500-, 600-, and 700- numbered County roads, often with odd and even numbers denoting north-south and east-west orientation, respectively. Bergen County has some routes signposted, but it also has older numbering systems in some parts of the county that are inconsistent, confusing, and rarely posted with any sort of continuity along the route. In addition, these older numbers bear no relation to the function or direction of the road. The result is that county route signs provide less information than in other counties, and it is more difficult to navigate the county road system than it should be. A logical route numbering system (with corridor-wide improvements to sign post trunkline county roads for longer distances), combined with an effective wayfinding program can help better direct traffic to the appropriate routes and improve commerce and travel between each of Bergen County's municipalities.

County Road Signs. Source: Bergen County Division of Planning

Objective 2.5: Improve safety, access, and mobility for all users

While most roads in Bergen County are used primarily for vehicular travel, people can and do walk, bike, and ride transit along these corridors. Safe access and mobility for them means having the ability to use county roads without dangerous conflicts with vehicles and being able to easily and safely transfer between modes. Multi-modal roadways make the road network part of a bigger transportation system for use by both motorists and non-motorized users. It can result in more efficient use of county roads, moving people on foot, bicycle, or mass transit. Considering the limited availability of vacant and developable land to increase roadway capacity, it is important to maximize the capacity of existing roads. This can also mean safer travel for motorists and non-motorists alike by accommodating both and seeking to minimize conflicts. Adoption of Complete Streets policies could help ensure that all users of the road are considered as part of future roadway projects.

In addition, establishing and maintaining full ADA compliance will ensure the County road system is safe and accessible for users with disabilities. Title II of the Americans with Disabilities Act of 1990 is the section of the ADA Act regarding transportation and it prohibits disability discrimination by all public entities at the local level. The County of Bergen is proactively working to establish full compliance of Title II along all county roads.

Another aspect of safety is to ensure there is adequate drainage. Drainage is the removal of all stormwater runoff and other precipitation in a timely and environmentally sound manner so that use of a county road is not impaired and roadway safety is not compromised. Standing water on roads can be a serious hazard. Adequately drained roads will stay in good operating condition longer with lower maintenance costs.

Increasing efficiency in roads is another means of moving more people within existing facilities and therefore increasing road capacity. Newer and innovative strategies need to be explored to increase roadway efficiency. Some examples include Intelligent Transportation System (ITS) improvements, traffic signal coordination, congestion pricing, high-occupancy vehicle lanes, and reversible lane arrangements. Innovative roadway strategies can also be used to minimize and mitigate the negative impacts of roads, including excess noise, vibration, pollution, stormwater runoff, and crashes. Further, these strategies can make roads safer and more efficient with better allocations of traffic signal time, roadway space, and lane arrangements. Tools that provide more up-to-the-minute and accurate information can help users make smarter choices.

Bike Lane in Ridgewood. Source: Google StreetView

GOALS & OBJECTIVES

GOAL 3: Increase opportunities for and encourage safe walking and bicycling

What is it?

Increasing bicycle and pedestrian opportunities means providing more safe and convenient places for people to walk and bike, both for recreation and transportation. Encouraging these opportunities means supporting people who want to walk and bike with the infrastructure and amenities necessary to make it safe, enjoyable, and predictable, while providing the means to get to varying destinations without the use of an automobile.

What will it do?

This goal will address opportunities to create new – and improve existing -- places to walk and bike safely, whether walking to a transit stop or station, biking to school, transit, and local destinations, or simply enabling residents to safely get around their communities without the need for an automobile.

Why should the county pursue it?

Increasing opportunities to bike and walk will benefit the County because more trips can be made by these alternative modes of transportation, further reducing vehicle use and its negative impacts. Providing safe facilities for bicyclists and pedestrians can reduce the number of conflicts between them and vehicles, making roads safer for everyone. For those who take advantage of these opportunities, additional benefits are realized in more active and healthier lifestyles, along with decreased transportation costs. Finally, providing for more walking and biking is a relatively low-cost way of increasing the capacity and efficiency of the transportation system. When pedestrian and bicycle facilities are proactively planned, they can be accommodated at relatively little extra cost when designed as a component of other transportation projects. Otherwise, these must be built as standalone projects that are essentially expensive retrofits.

Objective 3.1: Safely accommodate pedestrians along and across roads

Safe accommodation is providing a safe, easily accessible, and convenient place for pedestrians to walk in the right-of-way. Conflicts with vehicles should be minimized, and pedestrians of all ages and abilities should be able to cross the road at convenient points safely and easily. They should have enough time to cross the street and in the case of very wide streets, refuge islands would warrant consideration. To truly accommodate pedestrians, their presence must be proactively anticipated and future demand for pedestrian travel must be included in the design or redesign of transportation facilities.

Safely accommodating pedestrians of all ages and abilities along and across roads will increase opportunities for safe walking by ensuring that roads are designed for people as well as cars. Providing sidewalks, crosswalks, center islands and medians, pedestrian signals and phases, signage, pathways and walkways, and other facilities will greatly encourage walking as a legitimate mode of travel, as well as a recreational amenity.

COMPLETE STREETS

Complete streets are systems that ensure that roadways can accommodate users of all ages and abilities by providing multiple modes of travel, including: walking, bicycling, mass transit, and the automobile. Communities that adopt a complete streets policy are expected to consider complete streets as part of future road improvements and development projects.

Objective 3.2: Safely and appropriately accommodate bicyclists

Safely and appropriately accommodating bicyclists means having designated bikeways on or along a right-of-way. However, bikeways can vary in their design and not all are appropriate for every kind of road, nor every level of cyclist. A designated bikeway can take the form of a signed bike route, a bike lane, or bike path. It can be physically separated from vehicular traffic or share the same roadway.

Safely and appropriately accommodating bicyclists of all abilities means providing a comprehensive network of bikeways that consider routes that can safely and conveniently access popular destinations. Each bikeway designation should consider road conditions, the volume and speed of traffic, and the ability level of the bicyclists who may use it. Researching the factors that contribute to cycling culture and identifying hot spots of cycling activity may help to focus where initial bicycle routes may be most effective.

The County of Bergen does not currently have any designated bicycle routes on county roads. Instead, individual bicyclists and biking groups rely upon their own knowledge of preferred routes for bikes. For visitors or less experienced cyclists, this can hinder their safety and mobility.

Safely and appropriately accommodating bicyclists of all abilities on roads will increase opportunities for safe bicycling by ensuring that roads are designed for bicycles as well as cars. Providing bikeways will greatly encourage bicycling as a legitimate mode of travel as well as for recreation. To truly accommodate bicyclists, their presence must be proactively anticipated and future demand for bicycle travel must be included in the design of transportation facilities. These goals are similar to those identified in the Open Space, Agriculture, Parks and Recreation Element, where bicycle and pedestrian access, and connections between parks and open space is critical to ensuring that residents and visitors of all ages and abilities can utilize Bergen County's natural and recreational assets.

Objective 3.3: Include bicycle and pedestrian facilities in new developments

Pedestrian facilities include, but are not limited to sidewalks, walkways, pathways to buildings, to and within parking areas, and safe, marked pedestrian crossings. Bicycle facilities can include such items and amenities as bike racks, lockers, and perhaps shower facilities, and a location on a designated bikeway. At a minimum, incorporating bicycle and pedestrian facilities as part of a development project can reduce some of the barriers or restrictions to walking or bicycling.

Incorporating bicycle and pedestrian facilities in development and redevelopment will create more bicycle and pedestrian friendly places, thereby increasing opportunities to safely walk and bicycle beyond rights-of-way in sites that are public, or private but accessible to the public. Having more bicycle and pedestrian friendly places can encourage more bicycling and walking by giving pedestrians and bicyclists more places to walk and bike.

The county recently adopted a revised site plan and subdivision ordinance for development projects under its jurisdiction. These ordinances include design standards for off-street parking areas that require bicycle racks for multifamily, non-residential, and mixed-use development projects. While the county has limited control over land use, it can serve as a resource for municipalities interested in promoting bicycle and pedestrian activity. Many of the design standards described in the county's site plan and subdivision ordinances could be used as a model to adapt at the local level. A design manual for the location and design of bike racks, bike storage spaces in office and residential buildings, bike lanes, and bike parking requirements could provide useful examples that could be adopted locally into zoning ordinances or land use plans. Communities could also consider reductions in off-street parking spaces for developments that provide bicycle or car-share services.

Objective 3.4: Create more off-road bicycle and pedestrian facilities

Off-road bicycle and pedestrian facilities, commonly called multi-use pathways, are wide, often two-way paths in parks and open spaces. However, they may also run parallel to a road in the right-of-way but are physically separated from vehicular traffic.

Creating more off-road facilities will provide more opportunities to safely walk and bike. They can encourage more bicycling and walking as legitimate modes of travel as well as for recreation. Connecting existing off-road paths to other existing and planned paths in the county, as well as in county parks, through new off-road paths or bicycle infrastructure variations such as bike lanes or "sharrows," could further increase their use.

Objective 3.5: Increase and improve pedestrian and bicycle access to transit

Connecting bicyclists and pedestrians to transit means providing safe, easy, and convenient access to transit stations and stops from where people live, work, and play. For bicyclists, it also includes the ability to board with their bicycle or leave it behind in a secure location.

This would increase the opportunities for and encourage safe walking and bicycling by allowing many more trips to be completed by both transit and bicycling or walking, connecting two or more modes of travel. It also can maximize the use of existing transit services with no or low-cost investments that accommodate bicycles such as simply changing existing policies, installing bike racks on buses, or placing bike racks and lockers at transit stations.

The increasing popularity of bike sharing programs may be another area to provide convenient access to transit. Grant funding opportunities exist that could seek to establish a demonstration project in a community with a downtown transit station.

Objective 3.6: Provide advocacy, education, and promote the benefits of bicycling and walking

Providing advocacy means having an official voice to speak for the rights of bicyclists and pedestrians. Education would further teach people about the laws governing walking and bicycling in the state, not only for bicyclists and pedestrians, but also motorists. Education can include proactive advice and tips for safe travel (such as through presentations at schools for younger bicyclists), as well as in-field educational campaigns (such as officers issuing warnings and "tickets" to correct for unsafe practices, or conversely, "tickets" that award responsible behaviors with prizes to promote bicycle lighting or helmet use). Promoting the benefits of walking and bicycling means increasing the awareness of the health and economic benefits of walking and biking, and making sure people know about the facilities available to enjoy these benefits.

During the COVID-19 pandemic, many people took to bicycling and walking as an activity that was relatively safe due to reduced transmissibility outdoors, and as a way to maintain contact with others. Continuing to provide amenities that encourage bicycling and walking will be key to retaining these practices amongst these individuals as the pandemic wanes.

Walking and bicycling advocacy, education, and the promotion of their benefits will increase and encourage opportunities for safe walking and bicycling. Many organizations, including Transportation Management Associations (TMAs), bicycle clubs, schools, health organizations, law enforcement agencies, and others already advocate and educate bicyclists and pedestrians; county advocacy, education, and promotion efforts can complement and strengthen these other efforts. The county may be able to assist many of these organizations through access to planning grants for bike and pedestrian improvements.

Richard W. DeKorte Park. Source: Colliers Engineering & Design.

GOALS & OBJECTIVES

GOAL 4: Improve and expand the use of paratransit and shuttle services

What is it?

Paratransit is public transit service that supplements larger mass transit systems by providing individualized rides without fixed routes or timetables. Shuttle services usually take the form of vehicles that provide frequent and predictable travel between two or more points. Paratransit and shuttle services typically use smaller vehicles than mass transit, such as vans and mini buses. The Bergen County Division of Community Transportation runs a paratransit service for senior citizens and persons with disabilities on an appointment basis (donations accepted, no fee charged). Other paratransit services in the County include: EZ Ride, ITN North Jersey, as well as many social service organizations and municipalities on a limited basis based upon different factors, including geography and market area, residents' needs, and regular clients.

What will it do?

Improvement of paratransit and shuttle services will make them more effective in meeting the needs of their users. Improvements can take the form of more efficient routes, stops and schedules, better vehicles, training opportunities and best practices for operators and agencies, among other strategies. Expanding the use of these services means increasing their geographic area and frequency to serve more people and increasing the awareness of services so more people know what is available to them. Expansion of service is also achieved by making connections to larger mass transit systems.

Why should the county pursue it?

Persons with limited mobility often have travel needs that cannot be met by the existing transit system. Those who cannot drive due to physical disability, or who choose not to drive, can and should be able to travel by mass transit or paratransit to reach employment, medical care, shopping, and recreational opportunities.

Road Repair. Source: Donna Brennan, Bergen County

Objective 4.1: Coordinate services among different providers

The state, county, municipalities, non-profits, and TMAs all provide paratransit and shuttle services of some kind. Coordination among services would mean eliminating duplication and gaps in service, operating the most appropriate and efficient service for each carrier, and providing service on schedules and frequencies that best meet the mobility needs of its passengers and clients.

Better coordination among providers and between the services, routes, and schedules of the same provider is a low-cost, easy way to improve paratransit and shuttle service. Improving service in this manner can encourage more people to use paratransit and shuttle services by making schedules and routes more convenient and practical for them.

Objective 4.2: Ensure shuttles feed into mass transit systems

Feeding into mass transit means providing service to rail stations and bus and ferry stops with schedules that allow for timely and convenient transfers. Many areas of the County lack densities necessary to allow traditional transit to operate efficiently and cost-effectively. Localized shuttles that pick-up passengers in such areas and deliver them to transit hubs where they then can feed into existing, frequent services is a model that may be more attuned to the less densely-developed areas of Bergen County. Again, coordination between the shuttle providers and transit is essential to ensure the system works as seamlessly as possible to deliver customers to their destinations.

Shuttles can also improve the mobility of those who use paratransit and shuttle services by increasing the overall number of destinations that can be reached by transit, thereby giving many more travel options to users of shuttle services. With more options for shuttle users, they may be encouraged to make more trips, and travel further by mass transit, helping reduce automobile congestion and ensuring that residents have access to everyday needs.

Objective 4.3: Expand and improve capacity, service, and reliability

Capacity can be expanded by increasing the number of passengers per vehicle, the overall number of vehicles, or the scheduled frequency with which vehicles service a stop or passengers. Expanding service means serving new geographic areas or increasing the frequency of service to existing areas served. For example, this could take the form of offering evening or weekend service to an area that currently has only daytime or weekday service.

Improving service and reliability means providing more and better amenities, conveniences, on-time performance to meet passenger needs, and coordination between and amongst all the service providers to create a reliable transit network.

Any of the above improvements, alone or in combination, can encourage more people to use paratransit and shuttle services by offering new travel options and destinations, more convenience, and an overall better experience.

Objective 4.4: Reduce costs and operate as efficiently as possible

Reducing costs and operating as efficiently as possible means providing the best possible services to meet passenger needs at the lowest cost to users and operators.

Operating as efficiently as possible will allow more funding to be put towards expansions and improvements, such as those listed in the previous objectives. Reducing costs decreases the overall public expenditure; however, it should be noted that some objectives that further the goal of improving and expanding service typically have some cost associated with them.

Objective 4.5: Increase the awareness of paratransit and shuttle services

Increasing the awareness of these services means communicating their availability and their benefits to the public and to the particular segments of the population who need them the most.

Increasing awareness of paratransit and shuttle services can increase their use and thus the overall use of transit. It is critical, however, that a reliable, coordinated paratransit and shuttle system exists in place before outreach is made to encourage users about their availability. To market a system that cannot deliver its promised services in a timely, efficient, reliable, and cost-effective manner is a prescription for failure.

Truck Terminal in Moonachie. Source: Bergen County Division of Planning

GOALS & OBJECTIVES

GOAL 5: Balance the role of freight transportation and its impacts

What is it?

Freight transportation is the movement of goods and materials individually or in bulk. Balancing the benefits and costs of freight transportation means having enough freight infrastructure to bring the goods necessary to maintain a high quality-of-life and economic vitality while limiting its negative effects. This includes an evaluation of the need for goods with the costs of delivery, and taking goods produced locally for distribution elsewhere. Bergen County's ability to retain and attract business relies on the efficient transportation of freight. Transport by rail may be more efficient in general, but the impacts to host communities as well as the interface between rail and road (at grade crossings) are not insignificant. Transporting freight by truck is also problematic given the congestion already existing on regional and local roadways, ongoing maintenance for the added wear and tear that truck traffic presents, negative impacts to air quality, and the infeasibility of widening existing highways or constructing new routes.

What will it do?

This goal addresses the need to balance freight movement with other modes on the transportation system, and within the transportation system – including an appropriate balance between freight movement by rail and roads, thus reducing the negative impacts of freight movement within and through the county and surrounding region.

Why should the county pursue it?

Freight transportation is critical to the local economy. While the county itself is not a transporter of freight, it hosts many private freight carriers on both roads and rails, as well as the business community and industries that rely upon goods movement. The county and the freight industry must work together to achieve this goal. Freight transportation is responsible for providing necessities such as food and fuel to Bergen County's residents, visitors, and businesses, as well as countless other products. Freight transportation enables Bergen County's businesses and industries to distribute their product to a local, regional, and global economy. By the same token, freight movement also contributes to traffic congestion and competes for space on a limited road and railroad network. The most important aspect is ensuring that transportation rights-of-way move freight in a balanced manner: at appropriate times, levels, and locations so it can operate as harmoniously as possible with other transportation modes and surrounding land uses to the best extent possible.

Objective 5.1: Balance freight and passenger traffic on roads and rails

Balanced freight and passenger activities on roads and rails means that both freight and passenger travelers can meet their mobility needs without limiting the ability of the other, and without overburdening the roadway or rail line. The federal government regulates trucking, which limits the actions that the county can take. Instead, addressing this objective can include working around the many obstacles presented in freight movement and coordinating with the trucking industry and freight railroads whenever possible.

Objective 5.2: Mitigate the negative impacts of freight movement

Freight movement can create many negative impacts. One impact is that trucks are often viewed by motorists as taking up vital highway capacity and making roads potentially more hazardous. Another occurs when freight trains block railroad grade crossings, delaying motorists and -- more critically -- emergency responders. Freight trains and trucks can negatively impact communities with excess levels of noise, vibration, emissions, and odor, and the security, toxicity, and flammability of their contents is often a concern. Reducing the use of freight vehicles by eliminating unnecessary, excessive, and duplicative truck trips, such as by combining several shorter routes into one, or by relocating distribution centers to more logical points in the freight system, such as along a rail line, are ways that can reduce impacts. Creating a countywide truck route network that is widely dispersed within the trucking industry and carriers along with local enforcement is one potential solution. Another much more expensive solution is to construct over/underpasses where major county roads cross existing freight railroads. Properly locating warehouse, distribution, and industrial facilities along major highways and freight corridors can help minimize the impact of freight traffic on local roadways. In many cases, local support from municipalities can help improve the safety and efficiency of roadways, such as approving development applications and new businesses that conduct loading and unloading on the property itself instead of on local streets. The increasing presence of eCommerce has borne witness to a corresponding increase in the numbers of local courier services, utilizing roads and loading/unloading on the street, often in areas previously not anticipated for freight delivery. In the absence of creating localized drop-off/pickup locations and eliminating private residential deliveries, this trend will continue to grow.

Minimizing and mitigating the negative impacts of freight movement will further preserve and improve Bergen County's quality of life.

Objective 5.3: Ensure freight facilities are appropriately located

Freight facilities include rail yards, depots, intermodal facilities, bulk transfer facilities, team tracks, warehouses, truck terminals, distribution centers, and truck stops. It can also include major freight generators, such as a business or building that receives a significant amount of deliveries by truck or rail freight, or itself originates a significant amount of truck or rail freight trips. Appropriate locations for such facilities are those that do not interfere with existing residences, businesses, schools, parks, natural areas, and community facilities. Appropriate locations also include places where additional truck trips do not significantly impede the flow of traffic or degrade the level of service of existing intersections and roadway segments.

Ensuring that freight facilities and generators are appropriately located can further reduce their negative impacts and can help to balance freight and passenger traffic. Appropriately locating each freight generator as described above will help to separate freight facilities from where they could have significant impacts on roads, rails, and communities.

GOALS & OBJECTIVES

GOAL 6: Ensure transportation remains responsive to emerging technology and trends

What is it?

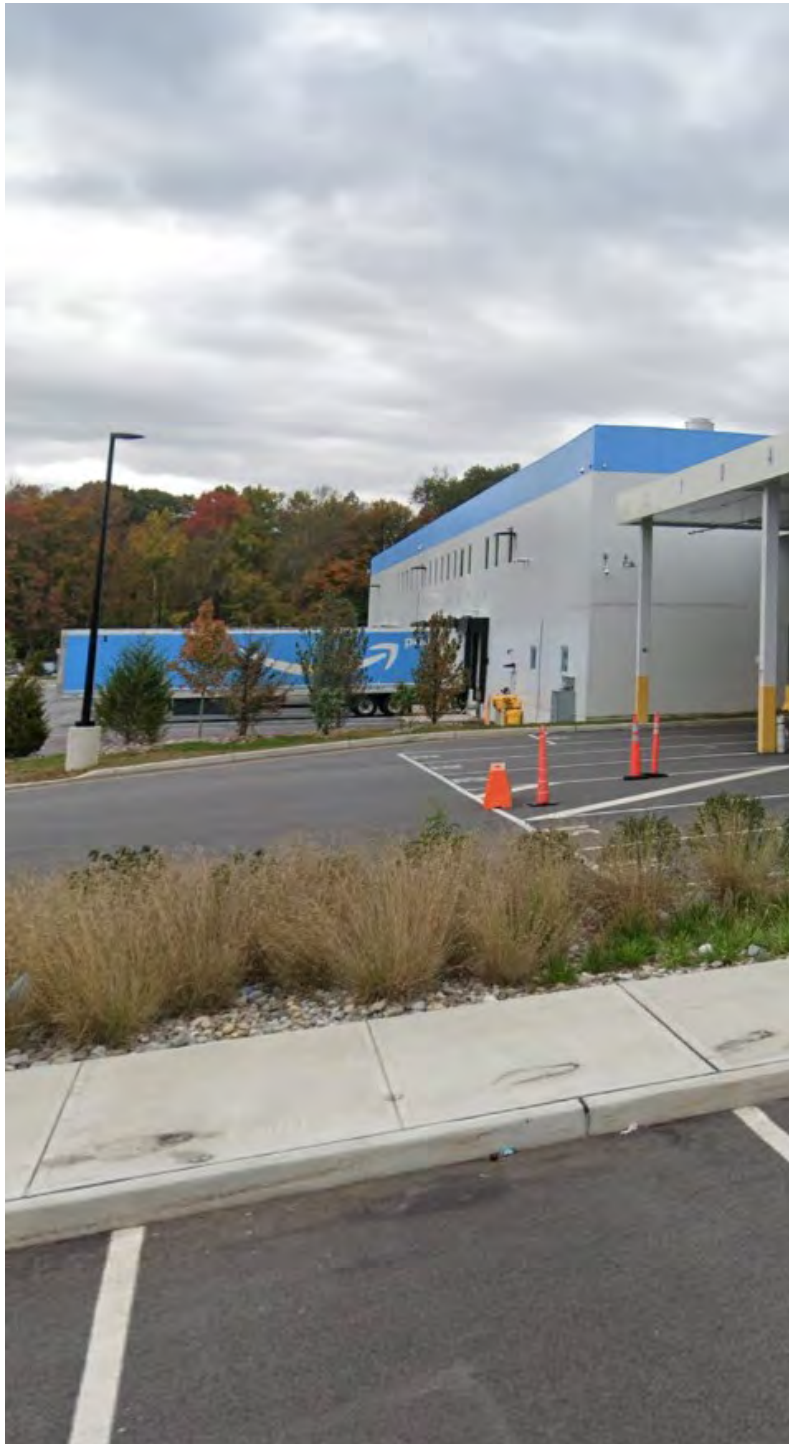
Advancements in telecommunications and mobile internet technology have had profound impacts on how people live, work, and play, but also how they travel, recreate, and invest. This includes the increasing prevalence of eCommerce, and how an ever-growing share of the population is choosing to shop remotely (both from internet-based retailers and traditional "brick and mortar" facilities that now offer home delivery). While this trend was certainly evident prior to COVID-19, the pandemic amplified such demands, and the extended duration of which has spurred new types of businesses and likely solidified the personal shopping habits of many consumers. Cloud-based computing and increased access to high-speed internet has increased the ability for people to work from their homes, reducing the need for people to be present in the office five days per week. It includes ride sharing and ride hailing applications, as well as real-time navigation programs. It is also likely to include autonomous vehicles, and new applications for unmanned aerial vehicles (UAVs, or "drones"). These technologies will continue to evolve based on changes over time in market preferences and technological advancements, but also in ways that cannot be anticipated at this time.

What will it do?

Remaining responsive to emerging technology and trends will help to better inform future planning, policy, and development.

Why should the county pursue it?

While it is nearly impossible to anticipate technological advancements and confidently plan for them, maintaining a critical awareness of changing technologies and the challenges and opportunities they present will help Bergen County maintain its high quality of life and remain economically competitive.



Amazon Fulfillment Center in Mahwah. Source: Google StreetView.

Objective 6.1: Evaluate the changes to parking demands caused by ride-sharing or ride-hailing applications

Mobile applications for ride sharing and ride hailing, and their increased use and public adoption may be part of the reason that the number of people without drivers licenses has started to increase. Considering the costs to own or lease a car, in addition to insurance, gas, maintenance, and, in some cases, parking, it may be more economically advantageous for some people to opt for these types of services, for some, or all of their daily trips. In addition, using these services for those who continue to own an automobile is sometimes an attractive alternative when traveling to high traffic and high-density areas where parking is often a limited commodity. Considering the financial expenses associated with structured parking as well as the detrimental impact that large surface parking lots have on stormwater, lost development potential for more productive uses, and pedestrian friendly downtown areas, finding ways to incorporate and utilize ride hailing and ride sharing services may offer some communities an alternative approach to address parking needs.

Objective 6.2: Consider the potential impacts of autonomous vehicles

As referenced throughout this Master Plan, the automobile played a profound role in the physical development of Bergen County's roadways and landscapes. While the use of autonomous, or driverless vehicles is currently limited to small scale pilot programs and specialty vehicles, it is almost inevitable that they will become increasingly more commonplace and significantly affect land use and transportation. For example, from the perspective of land use, autonomous vehicles could incentivize sprawl development and longer commuting distances if passengers do not have to drive, instead using that time to work, sleep, or engage in other activities. On the other hand, from the perspective of transportation, autonomous vehicles themselves serve as another form of ITS; by removing human error, traffic can move more efficiently. In addition, autonomous cars may require less room for parking, which could free up additional space for other purposes. Continuing to monitor the technological improvements in autonomous vehicles and any associated regulation on the federal and state levels may help to understand, anticipate, and respond to the potential impacts of these vehicles.

Objective 6.3: Examine changes in commuting trends

Commute to work data suggests that an increasing proportion of the population is utilizing public transportation to get to work. Evaluating where these changes are occurring, or not occurring, could provide useful indicators for future improvements. Areas with increasing public transportation use may start to experience development pressure for new development and parking availability. In areas with declining or level public transportation use, understanding the specific factors that inhibit use may be helpful to identify potential improvements.

Commute to work data also suggests that an increasing proportion of the population is working from home; worth noting is that this data pre-dates the COVID-19 pandemic, which forced many businesses and individuals to adopt remote or other hybrid work environments. Currently, the Census identifies travel to work based on how a respondent "usually" gets to work. This clearly includes those with home-based businesses and those that telecommute on a nearly permanent basis, however, it may not capture those who telecommute for a portion of the work week, which, as technology continues to improve, may become an even larger segment of the population. Increased telecommuting may change work schedules from the traditional 9 AM to 5 PM. The increasing number of people working from home may necessitate an evaluation of how it affects transportation demands and patterns. While these people may not drive from their homes to a traditional place of work during traditional commuting times, they may be traveling to another location for work (i.e. a coffee shop, or other public area with internet access), or they may be traveling to conduct household errands (i.e. shopping, doctor appointments, children's activities) during these periods of time, changing where and when certain roads experience greater volume.

Objective 6.4: Manage traffic through roadway design

As referenced in a previous section, real-time traffic navigation applications have helped drivers find the most efficient way to reach their destination, however, this has sometimes come at the cost of increased traffic on roads not previously envisioned for such uses. Evaluating where these diversions are located, the design of the road, and the surrounding land use may help to reveal why the algorithms in these navigation programs find these roads to be attractive alternatives to the highway. For example, just because a roadway is located in a residential neighborhood does not mean that the road was necessarily designed for residential uses or slow speeds. Wide roads with banked or gradual turns can encourage motorists to drive at faster speeds despite what a posted speed limit might require; without constant enforcement through a physical police presence, these speed limits will not be followed. Further exacerbating the issue is when communities prohibit on-street parking on a road that may have been designed to accommodate parked traffic. Identifying these types roads, and roads of similar design, could reveal areas where traffic calming measures may help to reduce speeds and discourage through traffic. Traffic calming is the practice of engineered improvements to roadways to encourage a certain speed, and include a variety of different tools, including speed bumps, narrowing of the roadway (such as through the addition of a planted boulevard, or a dedicated bicycle lane), and permitting on-street parking.

Road Closure. Source: Donna Brennan, Bergen County

Objective 6.5: Work with communities to address issues related to eCommerce logistics

The increasing eCommerce market will continue to shape numerous aspects of transportation and land use in not only Bergen County, but also the nation as a whole. Many of these issues related to eCommerce are discussed throughout this Element as well as other elements in this Master Plan, however, it is also important to understand the impacts of eCommerce logistics, or the steps necessary to deliver a product to a customer. While eCommerce eliminates the need for a customer to visit a "brick and mortar" retail facility to purchase a product, large-scale fulfillment warehouses are required to fill orders and quickly ship them to customers. These warehouses have different traffic, loading, and parking demands from traditional warehouses, and with increasing expectations by customers for same-day or next-day delivery, centers must be located strategically to process orders. In addition, and similar to autonomous vehicles, advancements in technology and regulatory acceptance may also lead to the use of unmanned aerial vehicles (UAVs or "drones") for deliveries. Understanding the needs of these companies, and the subsequent impacts on land use and transportation is likely to remain an important issue for the County and its municipalities in addressing new development but also identifying opportunities for redevelopment, such as repurposing of underutilized office and warehouse facilities for eCommerce fulfillment.

Objective 6.6: Continue to utilize and expand ITS

As described in a previous section, advancements in technology, cloud computing, and telecommunications offers additional innovative tools to optimize traffic flows. Expanding ITS strategies, including adaptive signalization to new corridors can help communities and regions address congestion without costly, and, as described in the previous section, inefficient approaches, such as roadway expansion. Several communities, including **Fort Lee, Hackensack**, and the Meadowlands District have started the process of installing adaptive signalization for this purpose. In the Meadowlands, the Meadowlands Adaptive Signal System for Traffic Reduction (MAASTR) includes 124 adaptive traffic signals, the installation of which was completed in November 2017.[55] Evaluating the efficacy of these projects may help to encourage further expansion and adoption.

Bergen County Courthouse. Source: Bergen County Division of Economic Development