FINAL
Infrastructure Needs Assessment: 2024-2030

New Jersey State
Development and Redevelopment Plan

December 2025

Prepared for the New Jersey State Planning Commission
and the New Jersey Office of Planning Advocacy by:

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Answers, Advocacy, Connections

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INTRODUCTION

The New Jersey State Planning Act (N.J.S.A. 52:18A-196 et. seq.) requires that the State Planning Commission "prepare and adopt as part of the State Plan a long-term Infrastructure Needs Assessment, which shall provide information on present and prospective conditions, needs and costs with regard to State, county and municipal capital facilities, including water, sewerage, transportation, solid waste, drainage, flood protection, shore protection and related capital facilities."[1]

With the release of the preliminary draft of the State Development and Redevelopment Plan in December of 2024, it is also time for an update to the Infrastructure Needs Assessment (INA) that is statutorily required to accompany the State Plan. The last INA was completed in 2001. The State Plan defines infrastructure broadly as "those capital facilities and land assets under public ownership, or operated or maintained for public benefit, that are necessary to support development and redevelopment and to protect public health, safety and welfare."[2] The 2001 INA addressed the seven statutorily required infrastructure systems as well 10 additional infrastructure systems. The current INA focuses on the same sectors and combines sectors where appropriate based on topic overlap.

This INA describes the federal, state, and local planning, policy, and regulatory framework that shapes infrastructure investment decisions in New Jersey and compiles and summarizes information and data presented in recent planning documents, capital investment plans, and/or provided by state agencies. The most comprehensive and methodologically consistent assessments of conditions and needs are prepared as part of regional, statewide, or national studies. Where these studies were available, they were used to compile need estimates. If comprehensive assessments were not available, information contained in sector and agency capital plans were utilized.

The goal of this assessment is to increase the time horizon for capital planning, help state and local agencies base capital budgets on long-term capital plans, and utilize consistent and coordinated capital planning methods. This assessment will present key findings and overall methodology then analyze sector-specific infrastructure needs.

KEY FINDINGS

The following represents a high-level overview of estimated infrastructure needs and trends across all sectors. More detailed, sector-specific information is provided in subsequent sections.

The **transportation sector** in total has an estimated present need (FY2024-FY2030) of **$65.7 billion** in infrastructure investments. This includes funding for roads, bridges, active transportation, aviation, freight, ports, and administration across several state and regional agencies.

Depending on policy priorities, the **energy sector's** predicted infrastructure needs will cost the state anywhere from **$91 billion to $194 billion** over the next decade (FY2025-FY2035) to address power generation, energy storage, and power transmission and distribution.

While New Jersey has a strong **telecommunications** network with 98% of the state having internet access via cable modems, the U.S. Department of Commerce's National Telecommunications and Information Administration is allocating **$263.7 million** to the state to enhance access to high-speed, reliable, and affordable internet service in underserved communities.

Reaching the state's 500,000-acre **farmland preservation** target means protecting roughly 250,000 additional acres in the coming years, the cost of which could exceed **$1 billion** spread over the next two decades (FY2025-FY2045).

New Jersey's Shore Protection Program is focused on preserving coastal resources and maintaining safe and navigable waterways along the state's Atlantic coastline and its shoreline along the Raritan and Delaware Bays. Planned **shore protection** projects from FY2025 to FY2031 are estimated to cost the state **$1 billion** in investment.

The U.S. Environmental Protection Agency estimates that New Jersey needs over **$12 billion** in **water supply** infrastructure investments over the next 20 years (FY2022-FY2040) to ensure all residents have adequate, sustainable, and safe drinking water.

New Jersey has 191 active **wastewater treatment** facilities. The state's estimated need comes to **$11.75 billion** in wastewater infrastructure needs over the next 20 years (FY2022-FY2040).

The New Jersey Department of Environmental Protection invested heavily in **stormwater management** in 2022 and almost all of the state's municipalities now operate under the Municipal Separate Storm Sewers Systems standards. In 2022, NJDEP reported an estimated present need of **$2.9 billion** for gray and green stormwater infrastructure.

To date, New Jersey has protected over 1.6 million acres for preserved **open space and public recreation**. NJDEP has reported **$1.1 billion** in funding requests for the Green Acres Program covering FY2026 to FY2032.

In the **public healthcare** sector, the state's Department of Health and Department of Military and Veteran Affairs estimate a combined capital need of **$9.57 million** through 2031 to modernize all four state psychiatric hospitals and reduce veteran homelessness to near zero.

The state is set to achieve its total **solid waste** recycling target of 50% but may struggle to meet standards set for e-waste and food waste diversion by 2030. Estimated infrastructure needs for solid waste management between now and FY2031 are **$262 million**.

In the **public education** sector, New Jersey's School Development Authority is on track to complete its current project log thanks to over **$1.9 billion** in funding from state allocations.

The state's institutions of **higher education** have seen gains in enrollment over the course of 2023-2025, but they still lag behind pre-pandemic levels. Higher education infrastructure needs between now and FY2031 are estimated at **$13 billion**.

New Jersey's State Library expects to maintain short-term funding of capital upgrades for the nearly 300 **public libraries** in its network. Estimated infrastructure needs for public libraries through FY2031 are about **$15 million**.

While longer-term future needs estimates for **arts and historic resources** are currently not available, state funding allocated for these sectors is predicted to decrease in FY2026 from prior years.

State **justice and public safety** agencies estimate a nearly **$335 million** capital need through FY2031 to modernize correctional facilities, expand reentry support, and reduce youth detention disparities.

The passage of A-4/S-50 has launched the fourth round of **affordable housing** obligations in New Jersey. The NJ Department of Community Affairs estimates a need for over 65,000 deficient housing units and over 84,000 units needed to meet prospective demand.

METHODOLOGY

The methodology guiding this needs assessment draws from a combination of established capital planning practices, regulatory frameworks, and agency-submitted materials. In doing so, it aims to reflect both the structure and variation inherent in public asset management across sectors.

The approach emphasizes planning documents and frameworks that are publicly available, agency-validated, or federally mandated. Where comprehensive needs assessments were available—for example, as part of federal infrastructure reporting, long-range planning, or major capital investment plans—these were used to establish baseline conditions and estimate funding gaps. In cases where such assessments did not exist or were incomplete, the methodology relied on budget requests, facility inventories, or performance reporting compiled by state agencies. This dual-track approach acknowledges that infrastructure systems vary significantly in how consistently their data are tracked and reported.

This INA adopts a long-range perspective and integrates methods commonly used by state agencies, public authorities, and regional planning organizations. Estimates of current need generally reflect aging infrastructure, capacity shortfalls, or unmet regulatory requirements. Future needs were based on forecasted service demand, demographic change, regulatory mandates, and trends in asset degradation. When appropriate, projections were guided by performance-based planning frameworks, needs surveys, or funding eligibility criteria.

Growth Assumptions

After compiling and reviewing these resources, a three-scenario assumptions framework was applied across most sectors to reflect a range of possible investment outcomes. For most sectors, the trajectories were set from the present to 2030-2031 to represent present needs. These include: a **steady state/baseline** scenario assuming existing funding levels continue; a **moderate progress** case where a portion of quantified estimated needs and specific goals are met; and an **aspirational** scenario that reflects substantial progress towards meeting documented and anticipated obligations.

For sectors where data were available, funding under the steady state scenario includes minimum general appropriations from the Commission on Capital Budget and Planning, agency-designated capital funds, public filings, financial disclosure forms, federal grants and loans, as well as other funding strategies outlined in agency plans. The moderate progress scenario reflects a less conservative outlook, recognizing that while some funding challenges remain, partial progress toward key goals is achievable. Various forecasting methods are used to forward value funding allocations. In sectors where data are lacking, moderate progress estimates are calculated as the averages between aspirational and steady-state scenarios. The aspirational case assumes the funding necessary to meet both current and anticipated obligations. In many cases, growth assumptions were segmented by funding level and aligned with target goals based on the relative likelihood of securing those funds. While these scenarios are not predictive, they are intended to help guide capital planning discussions based on capacity, urgency, and policy priorities.

The methodology also considers administrative tools and institutional capacity. Many agencies manage infrastructure using enterprise asset management platforms, while others rely on fragmented or locally maintained systems. This variation affects the availability and reliability of data, and the INA approach seeks to reflect this by noting where systems are well-documented and where additional planning or coordination is needed.

The table below summarizes the range of funding outcomes for infrastructure needs for each sector, with steady-state representing the lower end and aspirational representing the higher end. Given the differences in how data are reported by different agencies and departments, yearly ranges for each sector vary and are noted in the table accordingly. Therefore, the calculated total amount of infrastructure needs should be understood as an estimate that can be used to guide policy decisions rather than a precise quantity.

Table 1 Total Infrastructure Needs by Sector

Sector	Year Range	Aspirational (in billions)	Moderate Progress (in billions)	Steady-State (in billions)
Transportation	FY2024-FY2030	$66	$33	n/a
Energy	FY2025-FY2035	$194	$146	$91
Telecommunications	FY2025-FY2031	$0.264	$0.264	$0.264
Farmland Retention	FY2025-FY2045	$1	$0.5	n/a
Shore Protection	FY2025-FY2031	$1.042	$0.546	$0.05
Water Supply	FY2022-FY2040	$12.253	$9.582	$6.91
Wastewater Disposal	FY2022-FY2041	$11.75	$6.299	$0.848
Stormwater Management and Flood Protection	FY2022-FY2026	$2.9	$1.918	$0.935
Public Recreation and Open Space*	FY2026-FY2032	$1.1	$0.55	n/a
Public Healthcare	FY2025-FY2031	$0.01	$0.006	$0.004
Solid Waste Management	FY2025-FY2031	$0.262	$0.15	$0.077
Public Education	FY2023-FY2029	$1.9	$1.9	$1.9
Higher Education	FY2025-FY2031	$13	$6.5	$0
Public Libraries	FY2025-FY2031	$0.015	$0.008	$0.004
Arts, Culture, and Historic Resources*	FY2025-FY2031	n/a	n/a	n/a
Public Safety, Justice, and Corrections	FY2025-FY2031	$0.335	$0.173	$0.024
Publicly Subsidized Affordable Housing	FY2025-FY2035	$4.89	$3.39	$1.89

* There has been no comprehensive statewide needs assessment performed for this sector. To compile the data necessary to document present needs for each sector is out of the scope of this report. For Open Space, please refer to Table 17 for more information on the definition, scope, and timeframe of each County's OSTF.

New Jersey's Estimated Infrastructure Needs

(Until Approximately FY2031)

Estimated Aspirational Scenario	*Estimated Moderate Progress Scenario*	*Estimated Steady-State Scenario*
$311 billion	**$211 billion**	**$104 billion**

NEEDS ESTIMATES BY SECTOR

TRANSPORTATION

In the U.S., federal laws and regulations establish an investment planning framework for surface transportation, including roads, bridges, tunnels, public transportation, and freight rail, as well as aviation and maritime infrastructure and facilities. With regard to surface transportation, federal law mandates that Metropolitan Planning Organizations (MPOs), and State Departments of Transportation (DOTs) develop **Long-range Transportation Plans (LRTPs)** to guide transportation infrastructure investments. This requirement derives from the most recent federal reauthorization of surface transportation programs which was included in the Bipartisan Infrastructure Law (BIL), also known as the Infrastructure Investment and Jobs Act (IIJA), signed into law in 2022. The law reauthorizes surface transportation programs for five years and provides funding for transportation and related infrastructure. Previous authorizations have included this requirement dating back to the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, and, more recently, from the "Fixing America's Surface Transportation Act (FAST Act) from 2015. Another major federal requirement includes American with Disabilities Act (ADA) Transition Plans, which are legally required and serve as a roadmap for making transportation systems accessible to individuals with disabilities. ADA Transition Plans outline steps for removing accessibility barriers in public rights-of-way and transportation facilities. These plans are critical for ensuring compliance with federal law and promoting equitable access to transportation systems. LRTPs establish a vision and goals for the future transportation system in the State or region and identify projects and programs to achieve the vision and goals. These plans must be updated every four years and most LRTPs use a 20-year planning horizon.

The BIL and FAST Acts also require MPOs and state DOTs to adopt a **Performance-based Planning and Programming** (PBPP) approach, which integrates performance management principles and practices as a part of transportation decision-making. PBPP applies to development of LRTPs and other federally required plans and programs including Strategic Highway Safety Plans, Asset Management Plans, the Congestion Management Process, Transit Agency Asset Management Plans and Transit Agency Safety Plans, and Transportation Improvement Programs (STIPs and TIPs). While not required, state DOTs and MPOs are also encouraged to develop freight plans that also incorporates a PBPP approach.

Figure 1 Performance-based Planning and Programming

Figure 1 illustrates the PBPP framework recommended by the U.S. Department of Transportation. Planning regulations require that plans incorporate basic common elements including goals, objectives, performance measures and targets. Figure 2 shows the planning factors that must be addressed through the planning process. Federal law also requires that the following national goals be considered for the Federal-Aid Highway Program (23 USC Section 150(b)):

1. **Safety** -To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. **Infrastructure Condition** -To maintain the highway infrastructure asset system in a state of good repair.
3. **Congestion Reduction** -To achieve a significant reduction in congestion on the National Highway System.
4. **System Reliability** -To improve the efficiency of the surface transportation system.
5. **Freight Movement and Economic Vitality** -To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
6. **Environmental Sustainability** -To enhance the performance of the transportation system while protecting and enhancing the natural environment.
7. **Reduced Project Delivery Delays** -To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Metropolitan, Statewide, and Nonmetropolitan Transportation Planning Factors

1. Support the **economic vitality** of the United States, the States, nonmetropolitan areas, and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the **safety** of the transportation system for motorized and non-motorized users.
3. Increase the **security** of the transportation system for motorized and non-motorized users.
4. Increase **accessibility and mobility** of people and freight.
5. Protect and enhance the **environment**, promote **energy conservation**, improve the **quality of life**, and promote consistency between transportation improvements and State and local **planned growth and economic development patterns**.
6. Enhance the **integration and connectivity** of the transportation system across and between modes, people, and freight.
7. Promote **efficient** system management and operation.
8. Emphasize the **preservation** of the existing transportation system.

23 USC Section 135(d)(1) and 23 USC Section 134(h)(1)

Figure 2 Factors that must be addressed as part of PBPP

Consequently, this national goal structure sets the framework for most MPO and statewide transportation plans and programs, as well as the areas of performance most often considered and measured by transportation agencies as part of PBPP and investment decision-making.

Within this federal planning context, transportation investment decisions in New Jersey are made by a myriad of agencies and authorities that own, operate, and maintain transportation infrastructure. These include:

- New Jersey Department of Transportation,
- NJ TRANSIT,
- Amtrak,
- New Jersey Turnpike Authority,
- South Jersey Transportation Authority,
- Port Authority of New York and New Jersey,
- Delaware River and Bay Authority,
- Delaware River Joint Toll Bridge Commission,
- Delaware River Port Authority,
- New Jersey counties and municipalities, and
- A range of private entities such as passenger ferry operators, Conrail Shared Assets, and others.

In addition to the main state agencies and authorities which oversee transportation infrastructure planning and investment, several regional agencies and a variety of State laws and plans inform transportation decision-making. Such regional agencies include the New Jersey Highlands Commission, Fort Monmouth Economic Revitalization Authority, Pinelands Commission, and the New Jersey Sports and Exposition Authority, which is responsible for management of the Meadowlands District.

Finally, New Jersey's three metropolitan planning organizations (MPOs), which include the North Jersey Transportation Planning Authority (NJTPA), South Jersey Transportation Planning Organization (SJTPO), and the Delaware Valley Regional Planning Commission (DVRPC), are responsible for programming billions of dollars in federal transportation funding each year and supporting the transportation planning process undertaken by county and municipal governments in the state. Figure 3 shows the geography of New Jersey's three MPO regions.

The state's transportation infrastructure systems include a vast network of state and local roadways, bridges, and tunnels; public transportation vehicles, rail lines, stops, stations and terminals, and commuter parking facilities; airports and runways; freight railways; maritime ports; and an array of associated assets such as electric catenary, substations, switches, storage yards, maintenance facilities, non-venue vehicles, intelligent transportation systems (ITS) infrastructure, communications infrastructure, administrative buildings, electric vehicle (EV) chargers and other system components. Table 2 through Table 5 provide important contextual statistics about New Jersey's transportation infrastructure assets. Table 5 presents an array of transportation-related statistics and how these figures have changed over time.

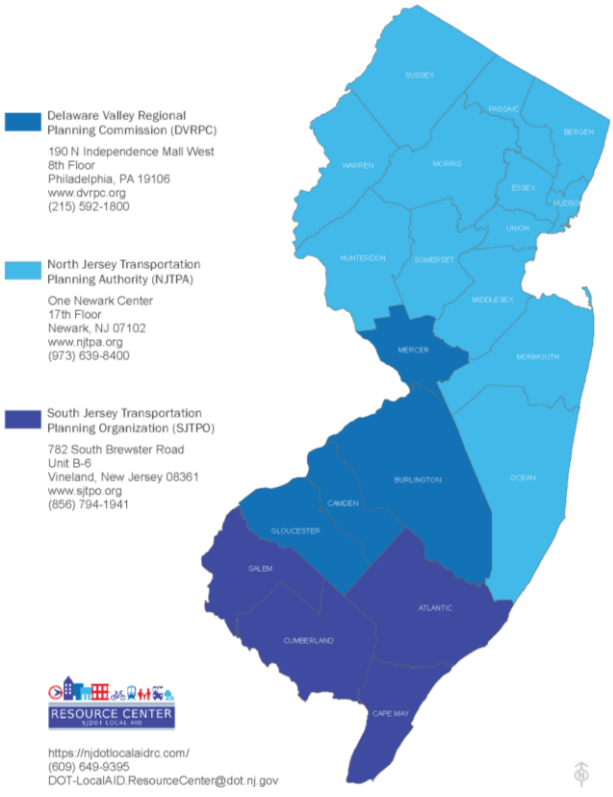


Figure 3 New Jersey MPO Planning Regions

Due to inconsistent datasets available across all levels of government, there are some notable omissions from the tables, including bicycle and pedestrian infrastructure such as sidewalks, curb ramps, bike lanes, bicycle parking spaces, and multi-use trails. Some of these assets are included in the totals provided in publicly available plans, such as miles of trails in recreational plans. Other assets are available for some regions, such as the Delaware Valley Regional Planning Commission's sidewalk inventory, which includes four counties in New Jersey. Other MPOs are undertaking inventories of their own, but as of 2025, these are not available for the entire state. Additionally, some of these resources have not been digitized, but can be documented from available online data, such as the New Jersey Department of Transportation's Roadway Video Log of 12,528 miles of State and all County routes in New Jersey.

Table 2 Roadway infrastructure and assets

Infrastructure/assets	NJDOT	Authorities	Local Gov't
Roadways (centerline miles)			
Interstates	432	---	---
Freeways	488	---	---
Arterials	5,897	---	---
Collectors	4,437	---	---
Local	---	---	27,530
Toll roads (centerline miles)	---	365	---
Tunnels	1	4	---
Bridges	2,408	1,431	2,775
Traffic signals	2,500	---	---
Cameras, sensors, and detectors	2,282	---	---
Park and ride facilities	17	---	---

Sources: Federal Highway Administration Office of Highway Policy Information[1], NJDOT[2], NJ Turnpike Authority, South Jersey Transportation Authority

[1] Federal Highway Administration Office of Highway Policy Information. *Highway Statistics 2022*. https://www.fhwa.dot.gov/policyinformation/statistics/2022/mv1.cfm

[2] NJDOT, Bureau of Transportation Data and Support, Roadway Systems Section. *New Jersey's Annual Certified Public Road Mileage and VMT Estimates, 2023*. https://dot.nj.gov/transportation/refdata/roadway/pdf/hpms2023/prmvmt_23.pdf

Table 3 Public transit infrastructure and assets

Infrastructure/assets	NJ TRANSIT	PATH	PATCO
Bus			
Vehicles	2,954	---	---
Directional route miles	6,140	---	---
Bus stations/stops	15,969	---	---
Non-revenue maintenance vehicles	181	---	---
Maintenance & layover facilities	29	---	---
Commuter parking spaces	>20,600	---	---
Rail (including Light Rail)			
Vehicles (locomotives and cars)	1,363	422	120
Directional route miles of track	1,036	29	32
Stations	228	13	13
Commuter parking spaces	>69,900	---	>12,000
Non-revenue maintenance vehicles	282	160	77
Storage yards & maintenance facilities	25	2	3
Bridges	778	1	1
Signals	1,643	---	---
Grade crossings	454	---	---
Switches	1,570	---	---
Interlockings	163	---	---
Overhead catenary (miles)	315	---	---
Substations	74	---	7
Paratransit and community transportation vehicles	539	---	---

Sources: NJ TRANSIT, PATH[3], PATCO

Table 4 Aviation and freight infrastructure and assets, including ports and air freight

Infrastructure/assets	
Airports	
General aviation (Part 139)	4
Local government	13
Freight rail operators	
Class I railroads	2
Regional railroads	1
Short line railroads	16
Freight rail trackage, including trackage rights (miles)	
Class I railroads	1,526
Regional railroads	91
Short line railroads	859
Freight intermodal connectors on the NHS	
Port terminals	10
Airport	2
Truck/rail facility	5
Truck parking facilities (total spaces)	2,644

Sources: Association of American Railroads, U.S. Department of Transportation, Bureau of Transportation Statistics

[3] Port Authority of New York and New Jersey. *PATH traffic and volume by year*. Retrieved Jun 10, 2025, from https://www.panynj.gov/content/path/en/about/stats.html.

Table 5 Selected transportation statistics (2010-2022)

	2010	2019	2022	2023	Abs. Change 2010-2023	% Change 2010-2023
Population						
Licensed drivers (millions)	5.953	6.377	6.634	6.633	0.68	11.42
Vehicle registrations (millions)	6.628	6.033	5.999	5.999	-0.63	-9.49
Public road (centerline miles)	39,242	38,950	38,783	38,784	-458	-1.17
Vehicle miles traveled (millions)	73,028	78,205	75,288	78,229	5,201	7.12
Transit ridership (millions)						
Commuter rail	80	87.9	39.2	52.8	-27.20	-34.00
Bus	165	151.0	102.6	123.7	-41.30	-25.03
Access link	.920	1.7	1.33	1.34	0.42	45.65
Light rail	10	24.1	16.0	19.3	9.30	93.00
PATH	73.9	82.219	42.582	50.6	-23.30	-31.53
PATCO	10.109	11.108	5.452	5.64	-4.47	-44.21
Ferry	8.2	10.3	5.1	6.6	-1.60	-19.51
Trans-Hudson crossings						
Bridges & tunnels	115	118	106	102	-13.00	-11.30
NJ TRANSIT rail	27	33	19	--	-8.00*	-29.63*
PATH	73.9	82.2	42.6	57.2	-16.70	-22.60
Ferry	8.2	10.3	5.1	6.6	-1.60	-19.51
Total statewide freight flow (million tons)	n/a	361.3	353.2	372		
Port cargo volume (million tons)	162.066	160.357	162.540	--	0.474*	0.003*
Aviation						
Passengers (millions)	15.255	20.682	15.132	49.1	33.85	221.86
Freight tons	351,487	352,307	241,537	686,700	335,213	95.37
Roadway condition (% of miles acceptable)	45.5	53.0	81.5	81.1	35.60	78.24
Bridge condition (% in good or fair condition)	90.9	92.6	93.1	94	3.1	3.41

*Change is measured from 2010 to 2022 due to lack of data availability.

Sources: U.S. Department of Transportation, Bureau of Transportation Statistics[4]

[4] National Census of Ferry Operators (NCFO), Bureau of Transportation Statistics. https://www.bts.gov/NCFO

Present needs

As noted above, transportation infrastructure needs and capital plans are based on performance monitoring and informed by federal requirements/guidance and local priorities. The practice of identifying transportation infrastructure needs based on performance metrics is complex but well-established. Over the past several decades, the integration of asset management principles and practices has been a central focus of transportation agency business. In the transportation sector, most asset managers maintain one or more management systems that repose these data. Examples range from enterprise-wide asset management systems to single component systems such as a pavement management system or safety management system. These systems provide a wealth of baseline data and information on various infrastructure and asset components and conditions and are used widely to inform a range of decisions, including those related to transportation capital planning, operations, and maintenance.

Transportation capital planning in New Jersey is an ongoing and continuous process, and plans and programs are generally coordinated across agencies (NJDOT, NJ TRANSIT, MPOs, and authorities). At the same time, capital planning practices can vary across agencies. For example, planning horizons range from five to ten years, and agencies are not all on the same calendar planning cycle. In addition, there remain opportunities to more fully coordinate transportation planning investments, such as transit improvements, across multiple state and regional agencies and authorities. For the last several decades, state of good repair and modernization of New Jersey's legacy transportation infrastructure has driven capital investments. Safety is another priority, and since Hurricane Sandy in 2012, there has been an increased focus on resilience investment. Short-term capital plans are constrained by anticipated revenues that fall short of full, long-term capital needs.

To estimate present needs for transportation infrastructure, the research team compiled and analyzed current transportation agency capital plans. Given the extensive availability of transportation-related data collected and shared by numerous governmental agencies and regulatory authorities, it is possible to develop a comprehensive understanding of current and projected needs within the sector. As a result, the estimates for transportation infrastructure funding requirements are consolidated into a single, unified scenario rather than differentiated projections based on varying future funding assumptions. As shown in Table 6, the estimated total cost of transportation infrastructure present needs (short-term capital costs) is approximately $65.7 billion. The summary of infrastructure needs, priorities and capital plans for each agency shown in Table 6 is described in more detail in the sections that follow.

Moving forward, it would benefit agencies to keep an updated inventory of assets they own or that are present within their jurisdiction/service area. Some MPOs are undertaking an inventory process of sidewalks within their service areas, and several counties have bicycle and pedestrian master plans which document existing trails, multiuse paths, and bike lanes in their regions. The New Jersey Board of Public Utilities is expanding its Electric Vehicle program to include micromobility options and could include electric bicycle and scooter chargers with its comprehensive list of available Electric Vehicle chargers. The NJDOT and NJDEP have vast amounts of data from which existing infrastructure can be extrapolated, digitized, and indexed to be readily available. Finally, the rapid emergence of data centers presents a new challenge and a potential need in future State Plan updates and iterations of the Infrastructure Needs Assessment. While the needs and solutions may look different, initial cases to explore might be Virginia or Texas, which have promoted themselves as capable of handling large centers.

Table 6 Estimated transportation infrastructure need estimates – FY2024-2030 / $ millions

Infrastructure Owner / Subsector	Roads, Bridges, and Tunnels	Bicycle, Pedestrian, and ADA (1)	Public Transit	Aviation, including air freight	Freight, including ports	O&M, Admin. Facilities and Equipment	TOTAL
NJDOT	14,392.4	240.7	313.4	31.5	174.0	343.0	15,495.1
NJ TRANSIT	---	---	18,191.6	---	---	4,464.2	22,655.8
NJTA (2)	9,631.4	---		---	---	---	9,631.4
SJTA	---	---	---	---	---	---	---
PANYNJ (3)	4,480.2	---	4,459.4	839.8	419.7	---	10,199.1
DRBA	363.1	---	---	36.9	633.7	---	1,033.7
DRJTBC	---	---	---	---	---	---	---
DRPA	812.0	---	200.0	---	---	---	1,012.0
Counties & municipalities	5,233.3	---	473.7	---	---	---	5,707.0
TOTAL	**34,912.4**	**240.7**	**23,638.1**	**908.2**	**1,227.4**	**4,807.2**	**65,734.0**

Notes: 1 – only the NJDOT tracks capital costs for bicycle and pedestrian infrastructure as a separate category, 2 – Estimates based on FY2024-2027 capital plan, 3 – Estimates based on FY2022-2026 capital plan.

New Jersey Department of Transportation (NJDOT)

The New Jersey Department of Transportation (NJDOT) oversees the state's non-toll highway system, while several Authorities manage toll roads, major bridges, and tunnels. Additionally, local governments (counties and municipalities) own and maintain extensive local road networks. Below is a detailed breakdown of major highways, bridges, tunnels, and other roadway assets in New Jersey organized by ownership category, with examples of key facilities under each. The plans and policies that guide investment decisions include:

- Long Range Transportation Plan
- Strategic Highway Safety Plan
- Transportation Asset Management Plan
- The State Airport System Plan
- Statewide Freight Plan
- Bicycle and Pedestrian Master Plan
- ADA Transition Plan

The priorities identified in New Jersey's 2024-2033 Statewide Transportation Improvement Program (STIP) include:

- Highway and Bridge Upgrades
- Public Transit Improvements
- Regional and Local Transportation Projects
- Environmental and Sustainability Efforts

Major projects and initiatives include:

- **Portal North Bridge Replacement** – Eliminates delays caused by the aging swing bridge over the Hackensack River.
- **Interstate Rehabilitation** – Upgrades to I-78, I-80, I-287, and I-295 to improve safety and traffic flow.
- **Movable Bridge Program** – Repairs and modernization of drawbridges and power systems.
- **Route 17 Corridor Improvements** – Expansion and upgrades to reduce congestion in North Jersey.
- **NJ Transit Rail Station Accessibility** – ADA compliance upgrades at key stations, including Hackensack and Bradley Beach.
- **Rail Infrastructure Modernization** – Track repairs and platform extensions to improve service reliability.
- **Bus System Expansion** – Investments in new buses and improved transit hubs.
- **Accessibility Improvements** - Expand ADA-compliant facilities and services

NJDOT receives approximately $1.62 billion in federal funding annually to support transportation investment. This is matched by approximately $1.2 billion from the Transportation Trust Fund, the primary sources of which are the State Motor Fuels Tax, the Petroleum Products Gross Tax, and Sales and Use Tax Contributions.[5] The most recent funding allocations for FY 2025–2029 are as follows:

- $10.37 billion total appropriations for transportation projects.
- $8.84 billion in bonding authority.
- $1.5 billion in pay-as-you-go funding.
- Annual gas tax increase of 1.9 cents starting July 1, 2024.
- New $250 annual fee for electric vehicles to ensure all road users contribute.

NJ TRANSIT

NJ TRANSIT is committed to providing safe, reliable, and affordable public transportation, connecting people to their everyday lives in New Jersey and the surrounding region.[6] As the largest state transit system in the US, NJ TRANSIT transports nearly one million customers daily using train, bus, light rail, and Access Link services, supporting the regional economy. The agency's main planning and investment documents comprise the following:

NJT2030: A 10-Year Strategic Plan

Key Goals:

1. Reliability & Safety – Ensure consistent, dependable service across all transit modes.

[5] New Jersey Transportation Trust Fund Authority. *FAQ*. https://nj.gov/ttfa/faq/
[6] NJ TRANSIT. (2023). *Annual Report*. https://content.njtransit.com/sites/default/files/marketing/website/pdf/2023%20NJTRANSIT%20Annual%20Report.pdf

2. Customer Experience – Improve accessibility, comfort, and real-time information for riders.
3. Economic Growth – Strengthen transit's role in supporting regional development.
4. Sustainability – Expand green initiatives, including electrification of the bus fleet.
5. Innovation & Accountability – Modernize operations and enhance transparency.

Major Initiatives:

- Fleet Upgrades: Replace aging railcars and buses, including a transition to net-zero emissions buses.
- Service Enhancements: Increase frequency on congested routes and improve on-time performance.
- Infrastructure Investments: Upgrade stations, tracks, and technology systems.
- Accessibility Improvements: Expand ADA-compliant facilities and services.
- Resiliency Projects: Strengthen transit infrastructure against climate-related disruptions.

2022 Capital Plan Update

NJ TRANSIT's most recent Capital Plan Update lays out its total five-year spending needs of roughly $20.4 billion (2022–2026), far exceeding anticipated revenues of about $12 billion, leaving an estimated $8.4 billion funding gap. The $20.4 estimated by NJ TRANSIT is made up of the following needs:

- State-of-Good-Repair (SOGR) – $8.7 B
- Rail infrastructure (track, signals, bridges): $4.5 B
- Bus (garages, and fleet overhaul): $2.1 B
- Light rail (overhaul and system upgrades): $1.2 B
- Ferry (fleet and terminal upkeep): $0.9 B
- Fleet Modernization – $4.3 B
- Railcars replacement: $2.6 B
- Zero-emission buses: $1.1 B
- Light-rail vehicles: $0.3 B
- Ferries: $0.3 B
- Capacity & Growth Initiatives – $3.2 B
- Service expansion (infill stations, additional trips)
- New facilities (maintenance yards, interlockings)
- Transit-oriented development support
- Accessibility & Customer Experience – $2.1 B
- Station accessibility upgrades (elevators, ramps): $1.1 B

- Passenger amenities (real-time signage, shelters, bicycle parking): $0.6 B
- Wayfinding and technology enhancements: $0.4 B
- Resiliency & Sustainability – $2.1 B needed
- Flood-proofing, storm hardening: $1.3 BS
- Energy-efficiency projects (HVAC, lighting): $0.5 B
- Electric bus charging infrastructure: $0.3 B

New Jersey Turnpike Authority (NJTA)

NJTA is responsible for maintaining the New Jersey Turnpike and the Garden State Parkway, two toll roads in New Jersey. It was created in 1949 to oversee the construction and maintenance of the New Jersey Turnpike and assumed control of the Garden State Parkway in 2003. The NJTA also manages the Statewide Traffic Management Center, monitors traffic on the Turnpike and the Parkway, operates more than 200 variable message and speed limit signs, and ensures the structural integrity of over 1,000 bridge structures on these roads. NJTA's efforts are guided by the following documents:

- 2020-2029 Capital Plan and Strategic Plan
- 2023-2027 Projects Summary

South Jersey Transportation Authority (SJTA)

The Mission of the South Jersey Transportation Authority is to provide the traveling public with safe and efficient transportation through the acquisition, construction, maintenance, operation, and support of expressway, airport, transit, parking, other transportation projects and services that support the economies of Atlantic, Camden, Cape May, Cumberland, Gloucester, and Salem Counties. The SJTA's responsibilities include managing the Atlantic City Expressway, Atlantic City International Airport, and various transportation services. The main investment and planning document guiding SJTA's activities is the 2020 Capital Improvement Program.

Port Authority of New York & New Jersey (PANYNJ)

PANYNJ oversees regional transportation infrastructure in the Port of New York and New Jersey area, including bridges, tunnels, airports, and seaports. It operates the Port Newark–Elizabeth Marine Terminal, six bi-state crossings, the Port Authority Bus Terminal, the PATH rail system, and several airports. PANYNJ's relevant plans include:

- 2017-2026 Capital Plan
- Port Master Plan 2050
- Annual Airport Traffic Reports

Delaware River and Bay Authority (DRBA)

The Authority's primary road asset is the Delaware Memorial Bridge, while NJDOT and DelDOT maintain highways I-295 on the NJ side and I-95/US 40 on the DE up to the bridge entrances. DRBA also operates

some regional airports, and the Cape May–Lewes Ferry, a car ferry across the mouth of the Delaware Bay, connecting the NJ Route 109 area near Cape May to coastal Delaware.

Delaware River Joint Toll Bridge Commission (DRJTBC)

The DRJTBC is an agency that owns and operates numerous bridges over the Delaware River between New Jersey, Pennsylvania, and Delaware. The Commission oversees eight toll bridges and 12 toll-free bridges between NJ and PA.

Delaware River Port Authority (DRPA)

The DRPA is a bi-state agency (NJ and PA) that operates several major toll bridges over the Delaware River in the Philadelphia/South Jersey region. DRPA serves as the steward of four major highway bridges connecting southern New Jersey with the Philadelphia metro, including the Benjamin Franklin Bridge, the Walt Whitman Bridge, the Commodore Barry Bridge, and the Betsy Ross Bridge.

Counties and municipalities

In addition to the statewide and bi-state agencies above, **county-level bridge commissions** manage some crossings, effectively acting as local authorities. For example, the **Burlington County Bridge Commission** (in NJ) operates several bridges over the Delaware River that are not part of the larger authority networks. Similarly, the **Cape May County Bridge Commission** operates a series of fives small toll bridges along **Ocean Drive** in Cape May County.

Most of New Jersey's road mileage is under local government ownership, meaning county or municipal jurisdiction. While these roads are generally smaller in scale than NJDOT or Authority highways, many are significant for regional connectivity. County roads and municipal streets make up about 93% of the road mileage in New Jersey, totaling over 35,000 miles combined. This includes everything from multi-lane county highways to residential neighborhood roads. However, these local roads carry only about 34% of the vehicle traffic volume, since State and authority highways handle most of the heavy and through traffic. In total, New Jersey's 565 municipalities maintain about 28,500 miles of roadway.

Gateway Program

The Gateway Program is a comprehensive rail infrastructure initiative to expand and modernize the critical 10-mile Northeast Corridor segment between Newark, New Jersey, and New York City. The program includes multiple large-scale projects – new tunnels, bridges, and station upgrades – designed to double current rail capacity into Manhattan and replace century-old assets. After nearly a decade of planning and funding negotiations, construction formally began in 2023, with the new tunnels expected to be in service by 2035, and rehabilitations completed by 2038. Altogether, Gateway represents one of the nation's most ambitious transportation investments, with an estimated cost of around $16 billion for its first phase (the Hudson Tunnel Project). The major components include:

- **Hudson Tunnel Project:** Excavation of a new two-track rail tunnel under the Hudson River from New Jersey to Manhattan, and rehabilitation of the existing two-track **North River Tunnel** that opened in 1910. This linchpin project will create a total of four parallel tracks under the Hudson (once the old tubes are refurbished) to greatly increase reliability and capacity. An initial related task has been the construction of a concrete casing under Manhattan's Hudson Yards to preserve the right-of-way for the future tunnel connection to Penn Station. The new tunnel is slated to open by 2035, after which the old tunnel will be taken out of service for a full overhaul by 2038.
- **Portal North and South Bridges:** Replacement of the aging **Portal Bridge** over the Hackensack River in New Jersey with two new high-level fixed spans. The existing 112-year-old Portal Bridge is a low swing-span that frequently gets stuck open, causing major train delays. Gateway's plan is to build a new two-track **Portal North Bridge** (already under construction as of 2022) adjacent to the old bridge, then remove the old span and later add a second two-track **Portal South Bridge**. Together, the new bridges will boost reliability and eventually expand this choke point from two tracks to four, matching the increased corridor capacity.
- **Sawtooth Bridges Replacement:** Construction of new rail bridges in the Kearny Meadows (New Jersey) to widen a pinch-point where the Northeast Corridor narrows to two tracks. The "Sawtooth Bridges" carry tracks that merge various NJ Transit lines and Amtrak in/out of Newark. Gateway will replace these structures and add parallel spans so that this segment can handle four tracks, eliminating another capacity constraint on approach to Newark Penn Station.
- **Dock Bridge Rehabilitation:** Overhaul of the **Dock Bridge**, a nearly 90-year-old swing bridge that carries trains over the Passaic River between Newark and Harrison. While not as notorious as Portal Bridge, the Dock Bridge infrastructure is aging and in need of modernization. Refurbishing it will ensure reliable throughput of trains entering/exiting Newark Penn Station, complementing the other upgrades.
- **Harrison Fourth Track:** Addition of a fourth track through the Harrison Station area in New Jersey. Harrison lies just east of Newark, where today three train tracks squeeze past the PATH rapid transit line. Gateway plans call for adding a new fourth track to increase capacity for intercity and commuter trains traveling between Newark and the new Portal Bridge area. This expansion will allow more flexible train routing and help feed the higher-capacity sections of railroad beyond.
- **Secaucus Junction Expansion and Bergen Loops:** Enhancements around NJ Transit's Secaucus Junction transfer station to enable direct service into New York from more lines. This includes constructing new loop track connections (the **"Bergen Loops"**) that would allow trains from New Jersey's Bergen County lines (and other lines currently terminating in Hoboken) to merge onto the Northeast Corridor and continue to New York Penn Station without passengers switching trains. In tandem, the Secaucus station trackage and platforms will be expanded to handle the additional traffic. Gateway also envisions a new NJ Transit rail storage yard in New Jersey to accommodate the increased fleet and service frequency facilitated by these loops.
- **New York Penn Station Capacity Expansion:** Construction of a new terminal annex adjacent to the existing Penn Station New York to handle the influx of trains from the new tunnels. Often referred to as the "Penn Station Expansion," this project will add new tracks and platforms in Manhattan, directly connected to the current station complex. The expansion relieves overcrowding at the

nation's busiest rail hub and ensures the doubled trans-Hudson capacity can be fully utilized. (Separately, the Gateway Program partners are also coordinating with the ongoing Penn Station renovation efforts led by New York to modernize the passenger facilities.)

Funding and Financing

Funding for the Gateway Program is being provided through a public partnership of federal and state sources, with the federal government now shouldering most costs. In 2021–2024, the U.S. Department of Transportation and Congress committed unprecedented support to the Gateway – roughly 70%–73% of the Hudson Tunnel Project's $16 billion cost – recognizing it as a project of national significance. This includes the largest transit grants ever awarded: a proposed $6.88 billion from the Federal Transit Administration's Capital Investment Grants program (New Starts) and about $3.8–4 billion from the Federal Railroad Administration's Federal-State Partnership grants, among other federal funding streams.

In addition, the project secured low-interest federal loans (over $4 billion through the Railroad Rehabilitation & Improvement Financing program) to help finance local shares. The federal commitment – comparable to the 80–90% federal share typical for interstate highway mega-projects – reflects Gateway's importance and was strongly championed by regional allies and the Biden administration, though it is unclear how ongoing changes at the federal level may affect future funding for the Gateway Program.

New York and New Jersey are funding the remaining share (roughly 30% or less of Phase 1 costs) through a bi-state framework. The two states had initially agreed to split 50% of project costs (25% each) before federal grants were increased. With recent grants, the states' burden dropped sharply – New Jersey's tunnel contribution may fall below $500 million, down from a previously expected $2.2 billion.

New York, New Jersey, and the Port Authority of NY/NJ will provide local matching funds via their transportation agencies and capital budgets. For example, New Jersey has dedicated funding from its Turnpike Authority and is covering the separate Portal North Bridge project cost (with federal aid) through NJ TRANSIT.

The Gateway Development Commission, a new bi-state entity established in 2019, coordinates funding and delivery of the program, and can receive contributions from Amtrak and other sources. Amtrak (the owner of the Northeast Corridor) is a partner in Gateway and contributed early design money, and Port Authority provided initial funding for planning. The financing approach is a collaborative effort, leveraging federal grants heavily with state/local matches, advancing a project long-delayed by funding disputes.

ENERGY

Energy Infrastructure Needs Assessments (INA) vary based on the goals and jurisdiction of the studies. Fundamental to all INAs is resource adequacy analysis. For example, a recent PJM study[7] looked at scenarios related to resource adequacy and created a resource mix balance sheet. The balance sheet considers demand growth, generation requirements, and new entry of generation. In this example, PJM evaluated the future of resource adequacy by looking at the capacity required to cover load expectations versus existing capacity for a defined period. Energy INAs also consider geographical and socio-demographic variation to guide investment decisions. Some recent INAs include and associate vulnerability indicators such as disadvantaged community (DAC) status, median income, and number of high heat days[8].

The 2024 New Jersey INA, with respect to the Energy sector, adopts the resource adequacy framework, inclusive of available geographic and socio-demographic data. The scenarios for the INA, influenced by the 2019 Energy Master Plan (EMP)[9], include three main projections: Steady-State, Moderate-Progress, and Aspirational 2035. These scenarios are designed based on differing levels of regional cooperation, natural gas and nuclear utilization, transportation electrification, and technological advancements. These frameworks are crucial for strategic planning and decision-making in the state's energy sector, addressing both current investments and future infrastructural needs. In the future, these may be replaced by newer scenarios that result from the Board of Public Utilities' (NJBPU's) Grid Optimization effort and other work underway including the State of New Jersey Energy Assurance Plan. A redacted 2012 version of the latter informs this work, which will be updated in early 2024 for NJBPU from Rowan University. Note that not all aspects of the Energy Assurance Plan may be made public. This INA focuses on the following subsectors, with correspondingly distinct federal and state regulations and planning contexts treated in turn below.

[7] PJM Interconnection, *Energy Transition in PJM: Resource Retirements, Replacements & Risks* (Special Report, Feb. 24, 2023), https://www.pjm.com/-/media/DotCom/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx

[8] Southern California Regional Energy Needs Assessment. **UCLA Luskin Center for Innovation** (July 2021). https://innovation.luskin.ucla.edu/wp-content/uploads/2021/07/Southern-California-Regional-Energy-Needs-Assessment.pdf

[9] New Jersey Energy Master Plan https://www.nj.gov/emp/

Table 7: Categories and Components in Energy Infrastructure Systems

Power Generation	Electricity Nuclear Renewables Gas Turbines Natural Gas Petroleum/Delivered Fuels
EE & Energy Storage	Energy Efficiency Energy Storage
Power Transmission and Distribution	Electricity Natural Gas Petroleum/Delivered Fuels Pipelines

Electric Power System: History and Federal Regulation Overview

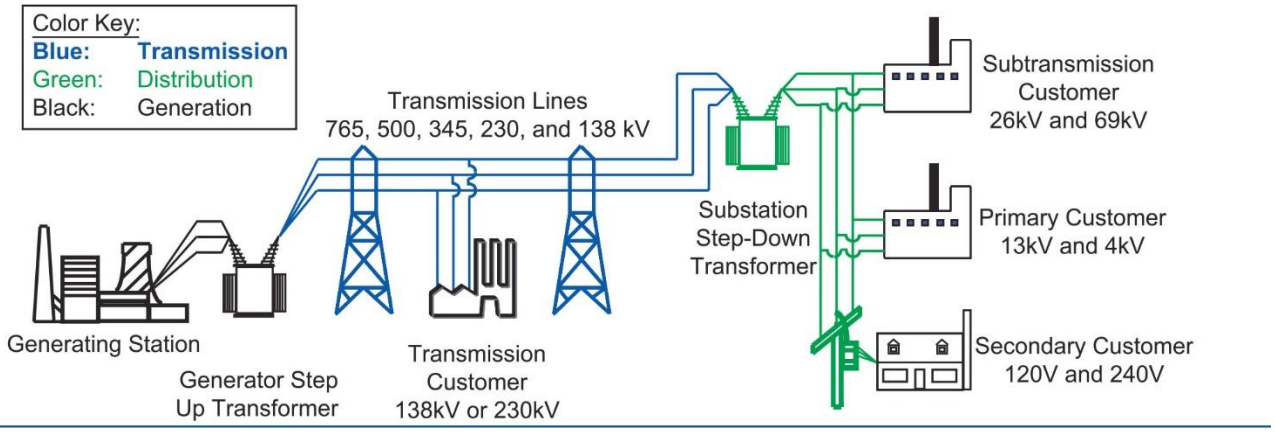
North American Electric Power System

The North American electric system constitutes a substantial technical undertaking, necessitating real-time evaluation, control, and synchronization of electricity generation across myriad power plants, the transportation of electricity through extensive networks of interconnected transmission lines, and the final delivery of this electricity to countless consumers through expansive distribution networks. The aggregate worth of the North American electric system surpasses $1 trillion, encompassing over 240,000 miles of transmission lines operational at or exceeding 230 kilovolts, an aggregate power generation capacity exceeding 1.1 million megawatts (MW), and the presence of nearly 3,500 utility organizations serving a populace surpassing 334 million individuals. The cumulative electricity demand from these constituents surmounts 830 gigawatts[10].

The electric power system is structured upon three principal components: generation, transmission, and distribution. Electric generation entails the conversion of various energy sources into electricity via distinct technological processes characterized by specific operational attributes. The transmission infrastructure interconnects power generators with the distribution network, facilitating the movement of substantial power volumes to population centers. This distribution framework subsequently disperses electricity to individual consumers, referred to as "load."

[10] ASCE's 2021 American Infrastructure Report Card | GPA: C-. (2017, January 11). *ASCE's 2021 Infrastructure Report Card* |. https://infrastructurereportcard.org/

Figure 4: Structure of the Electrical Power Systems



Source: Federal Energy Regulatory Commission (FERC)
https://www.nps.gov/subjects/renewableenergy/transmission.htm

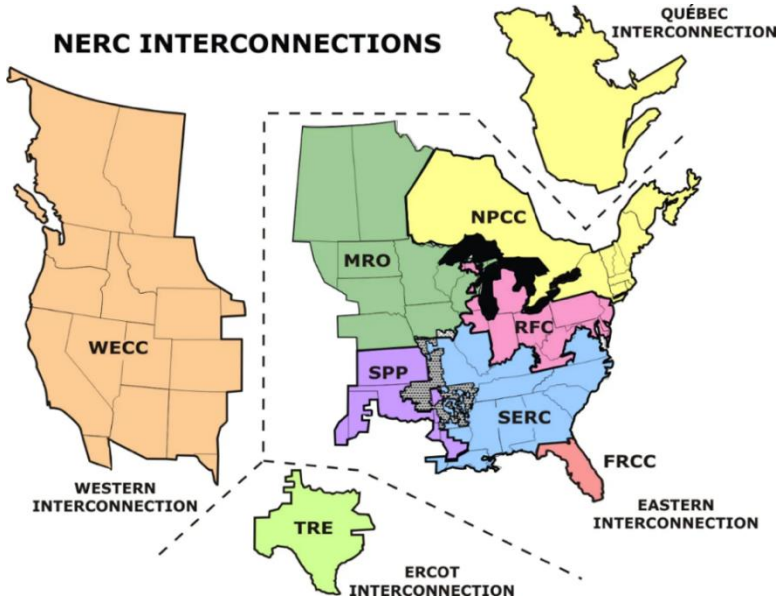
Historically, electricity systems functioned in isolation, catering to local communities or regions. After World War II, the escalation in North American electricity demand prompted the integration of these systems. This integration was motivated by both technical and economic factors, encompassing economies of scale, load factor, and enhanced reliability. Ensuring the dependable operation of the electric grid falls under the jurisdiction of the Federal Energy Regulatory Commission (FERC). Through its authority vested by section 215 of the Federal Power Act, FERC oversees the formulation and enforcement of obligatory "Reliability Standards," which delineate responsibilities for users, owners, and operators of the bulk power system to guarantee reliable grid operations.

Major Interconnections in the North American Electric Power System

The North American electricity system is segmented into four distinct power grids, referred to as "interconnections," each serving a defined geographic area. These interconnections encompass the Eastern interconnection, Western interconnection, Electric Reliability Council of Texas (ERCOT) interconnection, and Québec interconnection. The Eastern interconnection envelops the eastern two-thirds of the continental United States, including New Jersey, and extends into Canada, spanning from Saskatchewan to the Maritime Provinces.

These interconnected transmission networks deliver substantial economic advantages to the involved nations, allowing electric utility entities to engage in cross-border power transactions, thereby realizing cost savings and sharing essential support services vital for energy delivery. However, this interwoven electrical network introduces certain vulnerabilities, as underscored by the Northeast blackout of 2003 (August 14), which was caused by a “software bug” in the alarm system at the control room of FirstEnergy, an Akron, Ohio–based company. The implementation of shared operational protocols and Reliability Standards across both the United States and Canada serve as a robust mechanism to ameliorate such vulnerabilities inherent to interconnected systems.

Figure 5: NERC Interconnections



Source: NERC 2020

Key Concepts for Ensuring Transmission Grid Reliability

Central to the North American electricity system are foundational concepts encompassing frequency control, voltage control, and comprehensive planning strategies, both in the short- and long-term. Maintaining frequency control – a balance between power generation and load consumption – is an essential prerequisite to upholding grid stability. The grid's frequency represents a barometer of the equilibrium between generation and demand and must remain within a precise range to ensure unwavering grid dependability. Departures from this nominal frequency can precipitate deleterious consequences, including potential damage to generation infrastructure and the fragmentation of the grid into discrete electrical islands.[11] Beyond these principles, grid reliability also looks covers vegetation management and rigorous equipment maintenance.[12]

NERC's Reliability Standards program consists of approximately 117 separate standards and a Glossary of Terms Used in Reliability Standards, which are grouped into 14 topical categories, each designated with a three-letter code.

Federal Reliability Indicators Mandated by NERC[13]

Reliability indicators that have been established by the Electric Reliability Organization (ERO) in collaboration with the Performance Analysis Subcommittee. These reliability indicators are designed to assess the

[11] FERC. (2014). Order approving Frequency Response and Frequency Bias Setting Reliability Standard (BAL-003-1) [FERC Order No. 794].
[12] FERC. (2014). Order approving Frequency Response and Frequency Bias Setting Reliability Standard (BAL-003-1) [FERC Order No. 794].
[13] North American Electric Reliability Corporation. (2020). 2020 State of Reliability: An Assessment of 2019 Bulk Power System Performance: https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC_SOR_2020.pdf

performance of the Bulk Power System (BPS) in relation to specific reliability performance objectives defined by the North American Electric Reliability Corporation (NERC). These performance objectives are determined based on NERC's definition of an adequate level of reliability (ALR).

Each reliability indicator is associated with a particular performance objective and is assessed to determine whether the actual performance of the power system aligns with the expectations set by the ALR. Additionally, trends over a prior five-year historical period are analyzed to assess whether various aspects of reliability are improving, deteriorating, or remaining stable over time. Appendix B gives a more detailed definition of the various indicators in the table below.

The reliability indicators represent four fundamental dimensions of system performance that can be measured and quantified:

- Resource Adequacy: This indicator assesses whether the power system possesses an adequate amount of capacity, energy, and ancillary services to meet demand.
- Transmission Performance and Availability: This indicator evaluates the sufficiency of the transmission system to reliably deliver electricity to all consumers.
- Generation Performance and Availability: This indicator examines whether the generation fleet is limited in terms of energy production.
- System Protection and Disturbance Performance: This indicator gauges the ability of the power system to withstand disturbances and maintain stability during adverse events.

Table 8: Federal Reliability Indicators

Indicator Category	Indicator Name
Overall	Severity Risk Index
Resource Adequacy	Planning Reserve Margin
	Energy Emergency Alerts
Transmission Performance and Unavailability	Transmission-Related Events Resulting in Loss of Load
	Automatic AC Transmission Outages
	Automatic AC Transformer Outages
	Transmission Element Unavailability
Generation Performance and Availability	Weighted-Equivalent Generation Forced Outage Rate
System Protection and Disturbance Performance	Interconnection Frequency Response
	Disturbance Control Standard Failures
	Protection System Misoperations
	Interconnection Reliability Operating Limit Exceedances

Current Electric System Infrastructure

As earlier noted, NERC sets the reliability standards for the bulk electric system facilities listed above including their associated substations, switching stations, and transformers. PJM monitors these facilities for NERC compliance but does not own the bulk power transmission line facilities that deliver electricity to the

load. If a NERC violation is found, PJM recommends remediation measures in its annual Regional Transmission Expansion Plan (RTEP) assessment of the bulk electric system. The PJM annual RTEP assessment recommends transmission upgrades to address near-term reliability needs within five years and assesses long-term needs that require a planning horizon of 15 years or more.

Electricity Distribution

Typically, the term transmission line includes power lines with a line voltage of 100 kV and above. Lower voltages such as 69 kV are usually considered sub-transmission but are occasionally used on long distances with light loads. Voltages less than 34 kV are usually used for distribution.

Each EDC establishes its own service area-specific criteria for determining what lower line voltages (e.g., 26kV, 12kV, 4kV, etc.) will be used to deliver electricity to its customers. In a typical distribution system, the input for a distribution substation is at least two transmission or sub-transmission lines. The output is several feeders with voltages typically between 4kV and 12kV, depending on the local load needs or size of the area served. The feeders run along streets overhead or underground, and power the distribution transformers at or near the customer.

Recent Developments in Electric System Regulation

In recent years, FERC has taken significant steps to enhance the reliability and security of the nation's electric grid by approving new and revised Reliability Standards. One such instance occurred in 2015 when FERC endorsed the Reliability Standard CIP-014-1 (Physical Security), mandating transmission owners and operators to safeguard critical facilities that, if compromised, could lead to widespread blackouts or instability. Cooperation with local law enforcement information sharing with relevant entities were key components of this standard[14]. Subsequently, in 2016, FERC approved the Reliability Standard TPL-007-1 (Transmission System Planned Performance for Geomagnetic Disturbance Events), requiring transmission planners and owners to evaluate their systems' susceptibility to geomagnetic disturbances, caused by solar storms that disrupt electricity flow and equipment operation. The standard also mandated corrective action plans to counteract potential impacts [15].

In 2017, FERC greenlit the Reliability Standard CIP-013-1 (Cyber Security - Supply Chain Risk Management), compelling responsible entities to implement security controls for the supply chain of high and medium-impact bulk electric system cyber systems, thereby addressing threats from malicious actors exploiting supply chain vulnerabilities[16]. Additionally, 2018 witnessed the approval of revised Reliability Standards related to communication equipment protection at facilities conducting transmission functions. These included PRC-001-1.2(ii) (System Protection Coordination), PRC-019-2 (Coordination of Generating Unit or Plant Capabilities, Voltage Regulating Controls, and Protection), PRC-024-3 (Generator Frequency and

[14] FERC. (2015). Order approving revised critical infrastructure protection reliability standards [FERC Order No. 822]
[15] Reliability Standard TPL-007-1. (2016). North American Electric Reliability Corporation (NERC).
[16] FERC. (2017). Order approving revised critical infrastructure protection reliability standards [FERC Order No. 829].

Voltage Protective Relay Settings), and PRC-025-2 (Generator Relay Loadability), collectively aimed at refining protection system coordination and performance.[17]

Further demonstrating its commitment to cybersecurity, in 2019, FERC endorsed the Reliability Standard CIP-008-6 (Cyber Security - Incident Reporting and Response Planning). This reliability standard mandated responsible entities to report cyber incidents impacting bulk electric system cyber systems and maintain incident response plans while sharing pertinent information with NERC and other relevant entities[18]. These FERC-approved Reliability Standards collectively contribute to a more resilient and secure electric grid.

Order No. 2222-A, issued on March 18, 2021, builds upon the original Order No. 2222. This ruling facilitates the participation of distributed energy resources (DERs) in wholesale electricity markets. It provides clarifications and addresses stakeholder concerns to ensure effective aggregation of DERs. It mandates that regional transmission organizations (RTOs) and independent system operators (ISOs) develop rules allowing these resources to compete on a level playing field with traditional power plants. The order focuses on removing barriers to entry for DERs, ensuring they can provide energy, capacity, and ancillary services to the grid.

The Transmission Planning and Cost Allocation Rule, known as Order No. 1000, implemented in 2022, was issued by FERC to enhance the transmission planning process and ensure fair cost allocation for new transmission facilities. Order No. 1000 aimed to improve the regional transmission planning process, foster competition in transmission development, and ensure that the costs of new transmission projects are allocated fairly among beneficiaries. It mandates that each public utility transmission provider participate in a regional transmission planning process and requires that costs be allocated to beneficiaries of the transmission projects in a manner that is roughly commensurate with the benefits received.

On May 13, 2024, FERC issued Order No. 1920, "Building for the Future Through Electric Regional Transmission Planning and Cost Allocation." This order aims to modernize the aging power grid by enhancing regional transmission planning and cost allocation processes, following up on the groundwork laid by Order No. 1000. Order No. 1920 mandates that transmission providers engage in regional long-term transmission planning to identify needs over at least 20 years. Providers must develop transparent processes and criteria for selecting transmission facilities, incorporating key factors such as regulatory changes, resource retirements, and fuel cost trends. The planning scenarios must consider seven specific factors, including laws and regulations on decarbonization and electrification, and trends in fuel costs.

Natural Gas Industry

Natural gas is one of the main sources of energy in the United States, accounting for about 16% of total energy consumption in 2023. The U.S. is the world's largest producer and consumer of natural gas, producing about 45.6 trillion cubic feet and consuming about 32.5 trillion cubic feet in 2020. Proven natural gas reserves in the U.S. total about 489 trillion cubic feet, enough to last about 95 years at current production rates.[19]

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[17] FERC. (2018). Order approving revised protection and control reliability standards [FERC Order No. 835].
[18] FERC. (2019). Order approving revised critical infrastructure protection reliability standards [FERC Order No. 843]. Federal Energy Regulatory Commission
[19]U.S. Energy Information Administration, "U.S. Natural Gas Gross Withdrawals and Production" (2023). https://www.eia.gov/dnav/ng/ng_prod_sum_a_EPG0_FGW_mmcf_m.htm

The U.S. natural gas pipeline network is extensive, consisting of over 300,000 miles of transmission pipelines and over 2 million miles of distribution pipelines. Major natural gas production areas include Texas, Pennsylvania, Louisiana, Oklahoma, and Ohio. Large pipeline systems transport gas from basins like the Marcellus Shale to market centers for power generation, heating, and industrial use. Imports come mainly from Canada, while the U.S. is a net exporter of natural gas, mostly to Mexico and Canada.[20]

The natural gas industry provides over 600,000 direct jobs in the U.S. and supports over 3 million jobs overall when accounting for indirect employment (American Petroleum Institute, 2020)[21]. Newer technologies like hydraulic fracturing and directional drilling have allowed increased production of unconventional gas from shale formations. However, aging infrastructure leads to leaks and safety issues, requiring upgrades and replacements. Natural gas use is expected to grow moderately through 2050 for power generation, heating, and industrial processes.[22]

Similar to the electric power subsector, New Jersey's natural gas customers rely on a regional infrastructure that includes: (1) interstate pipeline companies, (2) regional storage facilities, (3) LNG facilities, and (4) local distribution pipelines.

Interstate pipelines

Each region possesses its own gas service profile based on several factors including weather, access to gas supplies, and population characteristics. Gas moves within the region toward New Jersey, New York City, and the Boston area, where the interstate pipelines connect to the LDCs. Large compressor stations along the pipeline route ensure a continuous flow of gas as it moves through the region. Five interstate pipelines operate within New Jersey. An overview map of these pipelines is provided below. These pipelines are categorized as either trunk lines (large-diameter mainlines used in transporting gas over long distances), or grid systems connected to regional storage and LNG facilities.

Regional storage

Underground storage facilities play an important role in the natural gas delivery system both regionally and locally. Interstate pipeline companies rely heavily on underground storage to facilitate load balancing on their long-distance transmission lines. Locally, LDCs use underground storage to meet the seasonal demand of their customers.

LNG facilities

Locally, New Jersey's four LDCs each own and operate smaller LNG facilities to supplement winter peak demand during extreme weather conditions. On these peak demand days, space-heating demand can spike, raising a utility's overall demand by as much as 25%. LNG storage facilities meet this demand with the capability of regasifying and delivering a burst of natural gas into distribution systems with short notice,

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[20] U.S. Energy Information Administration (EIA). (2021). *Natural Gas Explained: Where Our Natural Gas Comes From — Imports & Exports*; and *Annual Energy Outlook 2021* (projections to 2050). https://www.eia.gov/energyexplained/natural-gas/ and https://www.eia.gov/outlooks/aeo/.

[21] American Petroleum Institute. (2020). Exploration and production.

[22] U.S. Energy Information Administration (EIA). (2021). *Natural Gas Explained: Where Our Natural Gas Comes From — Imports & Exports*; and *Annual Energy Outlook 2021* (projections to 2050). https://www.eia.gov/energyexplained/natural-gas/ and https://www.eia.gov/outlooks/aeo/.

otherwise known as high deliverability. LNG storage facilities operated by PSE&G, ETG, NJNG, and SJG have a combined capacity of about 4 billion cubic feet (bcf).

Local Distribution

New Jersey's four LDCs own and operate the local distribution system that connects to the interstate pipeline companies. While some large industrial, commercial, and electric generation customers receive natural gas directly from interstate and intrastate pipelines through contractual agreements, most receive natural gas directly from the LDCs. Most LDCs transport natural gas from delivery points located on interstate pipelines to households and businesses through thousands of miles of small-diameter distribution pipes.

The delivery point where the natural gas is transferred from an interstate transmission pipeline to the LDC is termed the city gate and is an important market center for the pricing of natural gas to urban areas. LDCs take ownership of the natural gas at the city gate and deliver it to individual customers. This requires an extensive network of large-diameter transmission and small-diameter distribution pipelines or mains. Combined, New Jersey's four LDCs own and operate 1,600 miles of transmission and almost 36,000 miles of mains.[23]

[23] U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration. *Pipeline Mileage and Facilities*. https://www.phmsa.dot.gov/data-and-statistics/pipeline/pipeline-mileage-and-facilities

Table 9: New Jersey Interstate and Intrastate Pipelines

Pipeline Company	Product	Interstate / Intrastate	Mileage
HESS CORPORATION	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	23.5
BUCKEYE PARTNERS, LP	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	131.6
COLONIAL PIPELINE	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	181
HARBOR PIPELINE	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	80.5
INTERSTATE STORAGE & PIPELINE	Refined and/or Petroleum Product (non-HVL)	INTRASTATE	11.8
SUNOCO PIPELINE L.P.	HVL	INTERSTATE	12
SUNOCO PIPELINE L.P.	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	192.5
SUNOCO, INC (R&M)	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	0.4
KINDER MORGAN LIQUID TERMINALS, LLC	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	8
NUSTAR TERMINALS OPERATIONS PARTNERSHIP	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	1.5
NUSTAR TERMINALS OPERATIONS PARTNERSHIP	Refined and/or Petroleum Product (non-HVL)	INTRASTATE	5.4
BP USFO/LOGISTICS	Refined and/or Petroleum Product (non-HVL)	INTRASTATE	0.6
IMTT-PIPELINE	Refined and/or Petroleum Product (non-HVL)	INTERSTATE	5
IMTT-PIPELINE	Refined and/or Petroleum Product (non-HVL)	INTRASTATE	7.7
CITGO PETROLEUM CORPORATION (TERMINALS)	Refined and/or Petroleum Product (non-HVL)	INTRASTATE	10.9

Planned Retirements

In planning infrastructure needs for New Jersey, it is important to take into account any planned retirements of power plants due to age or cost-ineffectiveness as compared to newer technologies. According to the EIA[24], NJ has about 155 MW of Natural Gas Combustion Turbine scheduled to be retired in 2024. For Solar PV installations, 1.1 MW is scheduled to be retired in 2026, 3.8 MW in 2027, 7.9 MW in 2028, and 0.7MW in 2031.

Regulatory Overview of the Natural Gas Industry

The natural gas industry in the United States operates under a complex regulatory system that involves multiple federal and state government agencies. The primary regulator at the federal level is FERC, which

[24] EIA Form 860, 2022 (Generator Y2022 file). https://www.eia.gov/electricity/data/eia860/

oversees interstate transportation of natural gas, sales for resale of natural gas, and liquefied natural gas (LNG) facilities. The Federal Pipeline and Hazardous Materials Safety Administration (PHMSA) handles pipeline safety regulations. At the state level, public utility commissions regulate natural gas local distribution companies and retail services. State agencies may also implement regulations related to natural gas production and environmental protection. Overall, the regulatory system aims to facilitate an efficient, competitive, and safe natural gas market across the supply chain from production to end use. The system delineates between federal and state jurisdictions. FERC focuses on interstate activities and wholesale markets, while states oversee retail services and local distribution. Safety is handled at both levels. This cooperative federalism model allows for federal-level regulation of a national market while enabling states to address intrastate matters. The regulatory standards have evolved with the natural gas industry to balance multiple priorities of reliability, consumer protection, competition, and safety.

- Production: The production and gathering of natural gas is exempt from federal regulation under the Natural Gas Act. Specifically, Section 1(b) states that the provisions of the Natural Gas Act related to the transportation of natural gas and the sale thereof shall not apply to "the production or gathering of natural gas." [25] While production and gathering activities are exempt from FERC jurisdiction, states may choose to regulate natural gas production and gathering to some degree under their authority.[26]
- Interstate Pipelines: Interstate natural gas pipelines are regulated by FERC under the Natural Gas Act. Interstate pipelines must charge just and reasonable rates for their services and allow open-access transportation on a non-discriminatory basis.[27] Under Section 7 of the Natural Gas Act, interstate pipelines must obtain certificates of public convenience and necessity from FERC for constructing or extending facilities.[28] Pipelines are also required to file their rates and tariffs with FERC. Overall, FERC's regulation aims to facilitate competitive and efficient interstate natural gas markets.
- Refining: FERC also regulates interstate natural gas storage facilities under its Natural Gas Act authorities. The Energy Policy Act of 2005 gave FERC the ability to allow market-based rates for new natural gas storage capacity, even if the developer cannot show it lacks market power.[29] This was intended to spur investment in new storage facilities.
- Imports and Exports: For imports and exports of liquefied natural gas (LNG), FERC has exclusive authority to approve the siting and construction of onshore LNG import and export terminals under Section 3 of the Natural Gas Act.[30] However, the U.S. Department of Energy is responsible for authorizing the import and export of the commodity itself.

[25] 15 U.S.C. § 717(b) (2018).
[26] U.S. Energy Information Administration. (2018, May 15). Regulation of natural gas production varies widely from state to state. https://www.eia.gov/todayinenergy/detail.php?id=27072
[27] 15 U.S.C. § 717 (2018)
[28] U.S. Energy Information Administration. (2018, May 15). Regulation of natural gas production varies widely from state to state. https://www.eia.gov/todayinenergy/detail.php?id=27072
[29] U.S. Energy Information Administration. (2018, May 15). Regulation of natural gas production varies widely from state to state. https://www.eia.gov/todayinenergy/detail.php?id=27072
[30] U.S. Energy Information Administration. (2018, May 15). Regulation of natural gas production varies widely from state to state. https://www.eia.gov/todayinenergy/detail.php?id=27072

- Trading: The physical trading of natural gas as a commodity is largely unregulated. FERC does monitor natural gas markets for potential manipulation under its Anti-Manipulation Rule and can issue civil penalties. But the buying and selling of natural gas is otherwise freely negotiated between parties.
- Retail Distribution: At the retail level, state public utility commissions are responsible for regulating natural gas local distribution companies and retail sales of gas to consumers. Some states have moved to allow retail competition in natural gas supply (National Association of Regulatory Utility Commissioners).

Reliability and safety regulation is outside FERC's jurisdiction. The Department of Transportation's Pipeline and Hazardous Materials Safety Administration handles pipeline safety through codes and standards. Other agencies like the North American Electric Reliability Corporation oversee gas-electric coordination.

The natural gas regulatory structure allocates oversight of different components to FERC at the federal level and state public utility commissions at the retail level. Safety and reliability are covered by other specialized agencies. This aims to ensure open, competitive, and reliable natural gas service across the supply chain.

Oil and Petroleum Industry

The United States is the world's largest petroleum producer and consumer. In 2020, the U.S. produced about 12.9 million barrels per day of petroleum and consumed about 20.2 million barrels per day.[31] The U.S. has the largest proven oil reserves globally, with over 47 billion barrels located mostly in states like Texas, New Mexico, North Dakota, Alaska, California, and the Gulf of Mexico.

There are currently over 135 oil refineries operating in the U.S. with a total crude oil distillation capacity exceeding 20 million barrels per day, the most in the world.[32] Major refining centers are situated along the Gulf Coast, the Mid-Continent region, California, and the Northeast. Most U.S. crude oil and petroleum product imports originate from Canada, Mexico, Saudi Arabia, and Venezuela. In 2023, the U.S. exported about 10.15 million barrels per day of petroleum, with the majority going to Canada, Mexico, Japan, South Korea, and India.[13]

The oil and natural gas industry directly employs nearly 200,000 people in the U.S. When accounting for indirect jobs, the oil and gas industry supports over 10 million American jobs (American Petroleum Institute, 2020).[33] Critical pipeline systems transport oil from production areas like the Gulf Coast and Rocky Mountains to refining hubs. Prominent oil pipelines are the Keystone Pipeline System and Dakota Access Pipeline. Extensive pipeline networks also distribute refined products like gasoline and diesel to end-use markets nationwide. According to projections from the U.S. Energy Information Administration, U.S. petroleum consumption will gradually decline through 2050 as fuel economy improves and alternative fuels

[31] U.S. Energy Information Administration, "U.S. Field Production of Crude Oil" (2023) https://www.eia.gov/dnav/pet/pet_cons_psup_dc_nus_mbblpd_a.htm
[32] U.S. Energy Information Administration, "U.S. Field Production of Crude Oil" (2023) https://www.eia.gov/dnav/pet/pet_cons_psup_dc_nus_mbblpd_a.htm
[33] American Petroleum Institute. (2020). Exploration and production.

gain market share. However, oil is forecast to remain the primary energy source for transportation in the U.S. for the foreseeable future. [13]

The petroleum industry's major infrastructure components can be broadly categorized as: (1) refineries, (2) pipelines, (3) bulk storage terminals, and (4) local distribution.

Refineries

New Jersey is home to two refineries with a refining capacity of 418,500 barrels per calendar day (BPD). These refineries are massive factories operating 24 hours per day converting crude oil into commercial petroleum products. Increasing the available capacity of the nation's refineries is generally expensive and difficult. Large complexes of expensive, sophisticated equipment, and refineries can cost billions of dollars to build and maintain. The last major new refinery built in the United States was constructed in 1976, although improvements and additions to existing facilities have enabled refiners to increase capacity and output over time.

Pipelines

In the northeast region, pipelines are the primary method of transportation for petroleum products, moving crude oil from land-based or offshore oil fields to refineries and then carrying refined petroleum products to downstream terminals. The rate at which pipelines move product varies depending on several factors including the size of the pipe, the terrain, and the type of product being transported. Typically, it takes two to three weeks for petroleum products to travel from refineries in the Gulf Coast to distribution centers in New Jersey.

New Jersey has an extensive petroleum pipeline infrastructure that interconnects petroleum facilities throughout the State. A total of 15 liquid pipeline companies operate within the State delivering petroleum products to distribution centers, bulk terminal facilities, and interconnecting with refineries (Table 10). Out-of-state imports are provided primarily by Buckeye Pipeline, Sunoco Logistics, Harbor Pipeline, and Colonial Pipeline. Colonial is the largest of the interstate pipelines and operates more than 5,500 miles of petroleum products pipeline stretching from Houston, Texas to Linden, NJ. Colonial Pipeline also has a network of smaller pipelines that branch out from the end of the mainline in Linden to several locations throughout NJ/NY Harbor. Colonial also has direct connections to both the Buckeye and the Sunoco pipelines. Similar to Colonial, Buckeye, and Sunoco serve many terminals in northern New Jersey and the greater New York Harbor area.

Regulatory Overview of the Oil and Petroleum Industry

The crude oil and petroleum products industry operates under more limited federal regulation compared to natural gas. FERC is the key regulator overseeing interstate oil pipelines, and regulates rates, access, and new pipeline construction. The Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) handles pipeline safety. At the federal level, there are no direct regulations on crude oil production, refining, storage, or trading. The USEPA sets some fuel standards that affect refinery output. Exports of crude oil require authorization from the Bureau of Industry and Security (BIS). State agencies play a larger role in oil regulation. States implement regulations on oil and gas drilling as well as environmental protection standards. They also oversee intrastate pipelines and retailing of petroleum products.

Overall, the oil regulatory system is focused more on facilitating commerce rather than setting national market rules. FERC and PHMSA provide federal interstate pipeline oversight. But production, refining, storage, trading, and exports have minimal regulation compared to other energy sources. The structure aims to promote market freedom with targeted transportation rules.

- Production: Crude oil production is generally not federally regulated, besides some minimum standards for operations on federal lands. States may implement regulations related to well drilling, permitting, and environmental protection under state authorities.
- Interstate Pipelines: FERC regulates interstate crude oil and petroleum product pipelines under the Interstate Commerce Act.[34] Pipelines must charge just and reasonable rates, allow open-access transportation to all shippers, and get approval from FERC for new pipeline construction projects.
- Refining: There are no direct federal regulations on crude oil refining operations. However, the EPA sets standards for vehicle emissions and fuel composition that influence refinery configurations and output. States also implement environmental regulations under state laws.
- Storage: There are no specific federal regulations for crude oil or petroleum product storage facilities. General environmental and safety laws apply.
- Trading: The physical trading of crude oil and petroleum products is not federally regulated. The Commodity Futures Trading Commission (CFTC) oversees futures trading on exchanges like the New York Mercantile Exchange (NYMEX) under the Commodity Exchange Act. [35]
- Exports: Companies need authorization from the Bureau of Industry and Security (BIS) to export U.S. crude oil to most countries under the Export Administration Regulations (EAR). [36] Organizations seeking to engage in cross-border oil imports or exports are required to adhere to the regulations outlined in the Energy Policy and Conservation Act (EPCA). Enacted in 1973 in response to the global oil crisis, the EPCA holds significant importance. It established the U.S. Strategic Petroleum Reserve, a reserve of petroleum overseen by the Department of Energy (DOE) to ensure a secure supply during emergencies. The DOE, the overseeing authority for imports and exports, grants these permissions based on factors including the Strategic Petroleum Reserve's status and the perceived requirements of the United States.
- Transportation: The Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) regulates pipeline safety and spill response planning under the Pipeline Safety Laws.[37] The Interstate Commerce Act (ICA) establishes oil pipelines as common carriers in the U.S. As common carriers, oil pipelines must provide transportation service to any party that reasonably requests such service, even if capacity is constrained. Where constraints exist, pipelines are required to curtail or reduce the amount of oil transported by existing customers to create capacity to transport the oil of a customer whose request would otherwise be denied due to limited capacity. Intrastate pipelines also are subject to reliability and safety regulations that are administered by the U.S. Department of Transportation.

[34] (49 U.S.C. App. §§ 1(1), 1(4) and 1(5), 2020)

[35] Commodity Futures Trading Commission. (2020). Energy.

[36] Bureau of Industry and Security. (2020).

[37] Pipeline and Hazardous Materials Safety Administration. (2020). Pipeline safety laws.

- Retail Distribution: Retail distribution is regulated at the state level. There are regulatory commissions in all 50 states that supervise the rates and services of Local Distribution Companies (LDCs). Traditionally, LDCs have been given service territories that amount to the exclusive right to provide service within the designated service area.

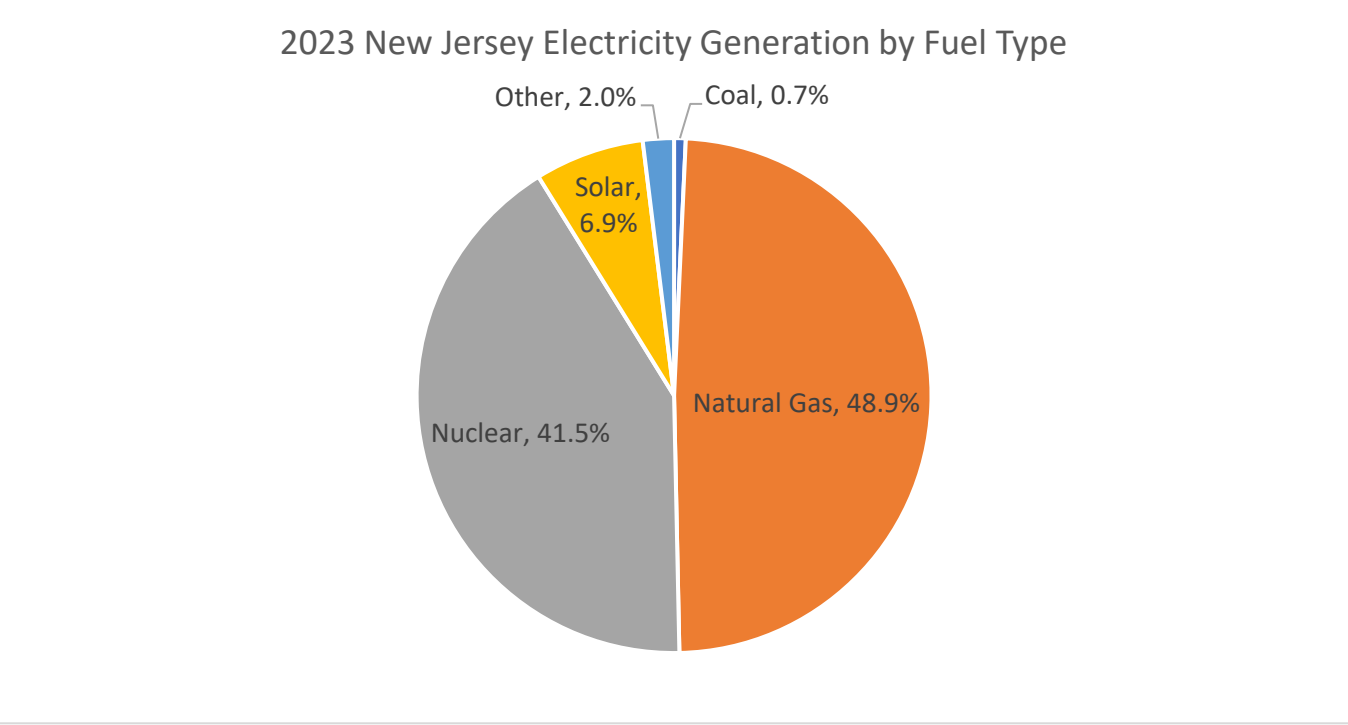
In summary, the oil market regulatory structure is limited compared to natural gas. Safety is overseen by PHMSA, EPA handles some environmental policies, and FERC regulates interstate pipelines. However, production, storage, trading, and exports have minimal federal regulation.

New Jersey's Energy Infrastructure

New Jersey's Electric Power Generation

As members of the Eastern Interconnection and PJM electricity market, New Jersey's electric utilities rely on a mix of fossil fuel, nuclear, and renewable generation sources to meet their electricity needs. The State's electricity needs are supplied by both in-state power plants and out-of-state power from within the PJM region. According to the Energy Information Administration, in 2022, New Jersey consumed a total of 74,443 Gigawatt-hours (GWh) of electricity.[38] As of 2023, In-state power plants generated approximately 68,234 MWh or 91% of New Jersey's annual electricity consumption. Figure 6 provides a breakdown of New Jersey's 2023 electricity generation by fuel type.

Figure 6: New Jersey Electric Generation by Fuel Type 2023



Source: EIA Electricity Data Browser

[38] EIA Electricity Data Browser: https://www.eia.gov/electricity/state/newjersey/

Nuclear Power Plants

New Jersey relies on a variety of sources for its electric power generation including three nuclear power plants: Hope Creek and Salem 1 and 2. Combined, these three power plants represent approximately 19% of the State's available generation capacity (i.e., available MW) and provide approximately 41.9% of all electricity consumed in the State. With their current renewed licenses, the three plants are authorized to run until 2036 (Salem Unit 1), 2040 (Salem Unit 2), and 2046 (Hope Creek). Currently, nuclear technology provides about 84% of non-fossil fuel electricity generation in the State. Typically, nuclear power plants operate at a higher average capacity factor than other generation technologies. A nuclear power plant's average capacity factor is a measure of actual plant output versus full nameplate output and can reach above 90%.

Electric Utility Companies

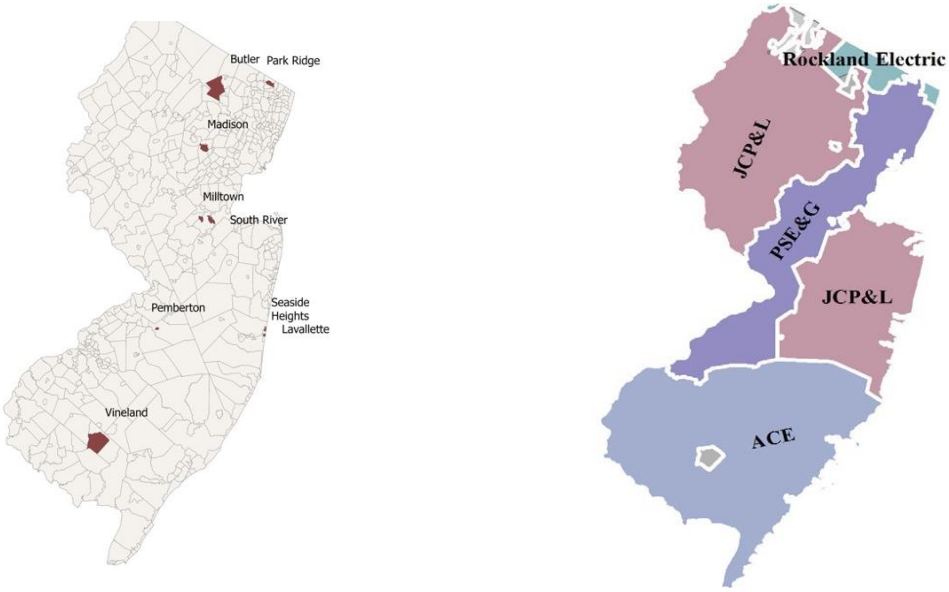
In New Jersey, there are four investor-owned electric utility companies (also known as electric distribution companies or EDCs), operating within the PJM electricity market and the Reliability First Corporation (RFC)[39] region (Figure 7). They include Public Service Electric and Gas (PSE&G), Jersey Central Power & Light Company (JCP&L), Atlantic City Electric Company (ACE), and Rockland Electric Company (RECO). These four EDCs serve most New Jersey's electricity customers, although nine public entities and one cooperative also transmit and distribute electricity to small pockets of the State's consumers. New Jersey's EDCs have defined service territories that are geographically distinct from one another, and as public utilities, are subject to state regulation by NJBPU. Combined, the four EDCs provide electric utility service to over 4.2 million customers.

Municipally Owned Utilities

Nine municipalities in New Jersey own and operate their own electric distribution system. They include Butler, Lavalette, Madison, Milltown, Park Ridge, Pemberton, Seaside Heights, South River, and Vineland. These nine municipalities are not subject to the jurisdiction and regulations of the New Jersey Board of Public Utilities. As such, customers of these utilities do not contribute to the Societal Benefits Charge and are currently not able to access incentives or services offered by the New Jersey Clean Energy Program or the programs offered by Investor-owned utilities in the State. NJBPU and municipally owned utilities are currently in discussion about future program incentives for customers.

[39] *Reliability | Bulk Electric System Reliability*. ReliabilityFirst. Retrieved September 3, 2025, from https://www.rfirst.org/
("Reliability First is one of six regional organizations which, in conjunction with the North American Electric Reliability Corporation (NERC), are known as the Electric Reliability Organization (ERO) Enterprise, responsible for ensuring the reliability and security of the North American Bulk Electric System.").

Figure 7: New Jersey Electric Utilities

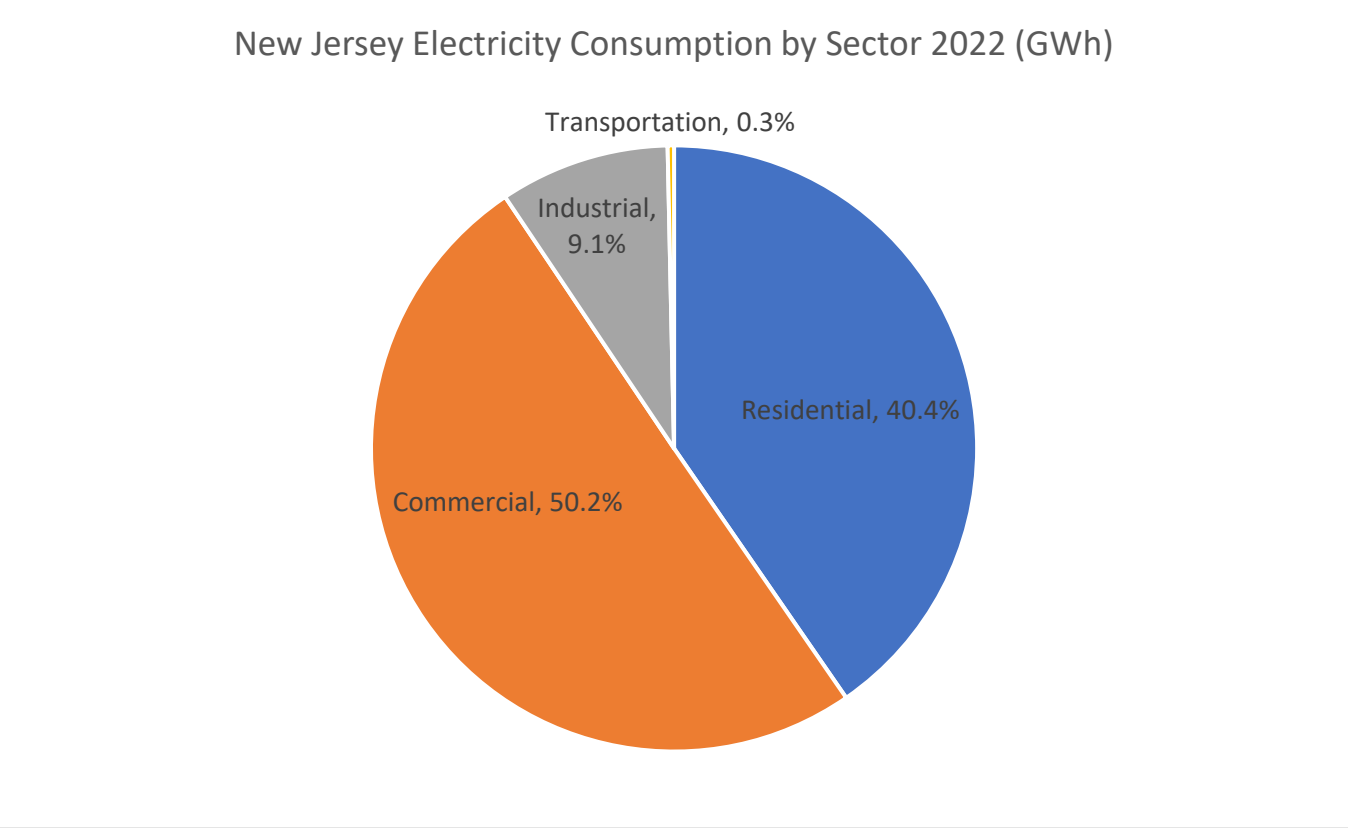


Electricity Demand: Electricity User Demographics

Electricity demand fluctuates in the short-term in response to business cycles, weather conditions, and prices. From 2011 to 2022, total electricity demand in New Jersey decreased by 6%, but over time, r electricity consumption has increased. [40] The demand for electricity in New Jersey is divided into four consuming sectors: residential, commercial, industrial, and transportation. The commercial sector consumes the largest amount of electricity at 50% followed by the residential sector at 40%, and the industrial sector at 9%. The transportation sector – which includes electrified rail and various urban transit systems where the principal energy source is electricity – represents less than 1% of the State's total electricity use (Figure 8).

[40] EIA Electricity Browser: https://www.eia.gov/electricity/data/browser/#/topic/5?agg=0,1&geo=0004&endsec=vg&freq=A&start=2008&end=2022&ctype=linechart&ltype=pin&rtype=s&pin=&rse=0&maptype=0

Figure 8: Electricity Use in New Jersey by Consuming Sector 2022 (GWh)



Renewable Energy Resources

New Jersey's Renewable Portfolio Standards (RPS) were first adopted in 1999 and have been updated several times. In May 2018, A3723 increased the total RPS requirement in New Jersey to 35% by 2025 and 50% by 2030, where the specified percentage of electricity sold in the state must come from qualified Class I renewable energy sources. In addition, 2.5% of the electricity each year must come from qualified Class II renewable energy sources. As it is set up today, the RPS includes two separate provisions for renewable energy. The first provision, which was part of the initial RPS goal requires each supplier/provider serving retail customers in the state to procure 50% of the electricity it sells in New Jersey from qualifying renewables by EY2030 (energy year 2030 runs from June 2029 – May 2030). Solar-specific provision was added later in 2010 (A3520) which requires suppliers and providers to procure an additional maximum of 5.1% of sales (updated May 2018) from qualifying solar electric generation facilities by EY 2021, which is then gradually reduced to 1.1% by EY 2031.

"Class I" renewable energy is defined as electricity derived from solar energy, wind energy, wave or tidal action, geothermal energy, landfill gas, anaerobic digestion, fuel cells using renewable fuels, and -- with the written permission of the New Jersey Department of Environmental Protection (NJDEP) -- certain other forms of sustainable biomass. Class I renewable energy also includes hydroelectric facilities of 3 MW or less that are: placed in service after July 23, 2012 (the effective date of S1925); located in the state and connected to the distribution system; and, certified as low-impact by a nationally recognized organization based on a system that includes a variety of minimum criteria.

"Class II" renewable energy is defined as electricity generated by hydropower facilities larger than 3 MW and less than 30 MW*, and resource-recovery facilities (i.e., municipal solid waste or MSW) located in New Jersey approved by the DEP.

“SREC” is a Solar Renewable Energy Certificate issued for every megawatt-hour (MWh) of electricity generated by eligible solar facilities under New Jersey’s legacy incentive program. These certificates were tradable in a market-based system, allowing energy suppliers to meet their solar carve-out obligations under the RPS.

“TREC” is a Transition Renewable Energy Certificate introduced to replace the SREC program. TRECs are also issued per MWh of solar electricity generated but feature a fixed incentive value based on project type (e.g., residential, community solar, grid supply). Unlike SRECs, TRECs are not traded in a market, offering greater price stability.

Furthermore, in September 2022, Governor Murphy signed Executive Order 307 which increased New Jersey’s offshore wind goal by nearly 50% from 7,500 MW to 11,000 MW by 2040. Orsted Ocean Wind is currently approved to install 3,700 MW of offshore wind off the New Jersey coast.

Table 10: New Jersey Renewable Energy Compliance by Type (MWh) FY22

Type of Renewable Credit	MWh Retired
RPS Class I	11,112,609
RPS Class II	1,797,319
Solar SREC	3,467,636
Solar TREC	848,780

Source: RPS Compliance Report FY22[41]

[41] RPS Compliance Report FY22: https://njcleanenergy.com/files/file/BPU/EY22/EY%2022%20RPS%20Compliance%20Results%202004%20to%202022.pdf

Table 11: New Jersey Solar Projects - Installed and Pipelines

	Project Quantity		Capacity (kW)		% Capacity	
Interconnection Type	*Installed*	*Pipeline*	*Installed*	*Pipeline*	*Installed*	*Pipeline*
Behind the Meter	178,414	14,315	3,603,395	299,134	80.7%	40.7%
Grid Supply	191	15	815,013	273,299	18.2%	37.2%
Community Solar	25	101	47,664	162,383	1.1%	22.1%
Total	**178,630**	**14,431**	**4,466,072**	**734,816**	**100.0%**	**100.0%**

Total Installed and Pipeline	**193,061**	**5,200,888 kW**

Source: NJBPU Solar Activity Report (May 2023)[42]

New Jersey's Natural Gas Profile

Regional Sources of Natural Gas

In New Jersey, five interstate pipeline companies deliver natural gas to the State's four local distribution companies (LDCs). In addition to supplying natural gas to the State's LDCs, the interstate pipelines also serve large industrial customers and, increasingly, natural gas-fired electric power generation facilities both in New Jersey and throughout the northeast region.

The interstate pipelines have access to supplies from several major domestic natural gas-producing areas and Canada. These companies include: (1) Transcontinental Gas Pipeline Company which extends from South Texas to the New York City area; (2) Tennessee Gas Pipeline Company; (3) Texas Eastern Transmission Company (Spectra Energy) which brings supplies to the northeast from Texas, Louisiana, and the Gulf of Mexico; (4) Algonquin Gas Transmission Company, an affiliate of Texas Eastern; and (5) Columbia Gas who receives Gulf of Mexico natural gas at the Kentucky border from its major trunk line transport, Columbia Gulf Transmission Company.

Like petroleum, natural gas is an energy source that can be stored for later use. Because natural gas demand is greater in the winter, it is stored along the way between production and market areas in large underground storage systems. These storage systems include old oil and gas wells or caverns formed in old salt beds. The gas remains there until it is added back into the pipeline system when consumers begin to use more gas, such as in the winter to heat homes. Conversion of existing fields from production to storage takes advantage of existing wells, gathering systems, and pipeline connections. Most storage fields in the region are located along the western Pennsylvania/New York State border.

[42] NJBPU Solar Activity Report, May 2023
https://njcleanenergy.com/renewable-energy/project-activity-reports/project-activity-reports
Accessed October 16, 2023

Interstate pipeline companies rely heavily on underground storage to facilitate load balancing and system supply management on their long-haul pipelines. FERC regulations allow interstate pipeline companies to reserve some portion of their storage capacity for this purpose.

Nonetheless, the bulk of their storage capacity is leased to other natural gas market participants. On a smaller scale, LDCs also use local storage capacity to serve high demand in the winter months.

Natural Gas Utility Companies

Four LDCs supply the natural gas needs of the State's residents, businesses, and industries. The four LDCs include: Public Service Electric & Gas (PSE&G), Elizabethtown Gas Company (ETG), New Jersey Natural Gas Company (NJNG), and South Jersey Gas Company (SJG). Like New Jersey's electric utilities, the State's four LDCs have defined service territories that are geographically distinct from one another (Figure 9), and as public utilities, are subject to State regulation by NJBPU. Combined, the four LDCs provide natural gas service to 2.9 million customers in New Jersey.[43]

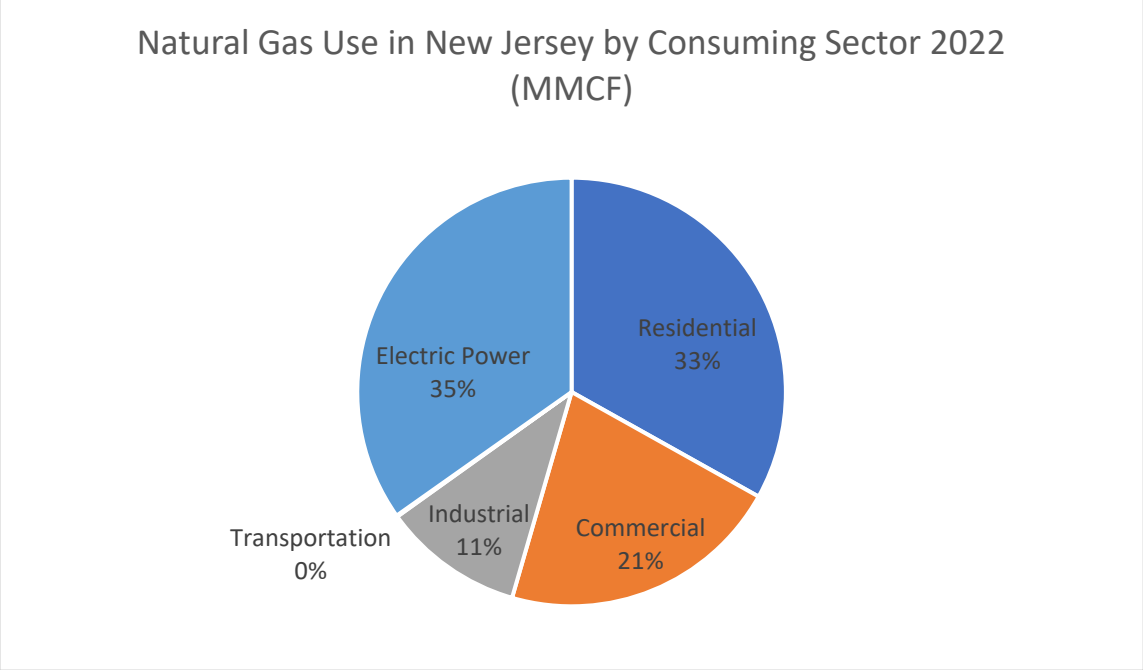
Figure 9: NJ LDC Service

[43] U.S. Energy Information Administration. *Number of Natural Gas Consumers.* https://www.eia.gov/dnav/ng/ng_cons_num_a_EPG0_VN3_Count_a.htm

Natural Gas Demand: Natural Gas User Demographics

Approximately 73% of the natural gas consumed in New Jersey is for winter heating purposes.[44] Customer demand for natural gas in New Jersey is divided into four consuming sectors: residential, commercial, industrial, and electric power generation. The electric power sector consumes the largest amount of natural gas at 35% followed by the residential sector at 33%, the commercial sector at 21% and the industrial sector at 11%.[45]

Figure 10: Natural Gas Use in New Jersey by Consuming Sector 2022 (MMCF)



Source: US Department of Energy, Energy Information Administration

New Jersey's Petroleum Profile

Refining Capacity

As a major energy-consuming State, New Jersey is at the center of one of the largest petroleum products hubs in the northeast. Located along the Arthur Kill in the northern part of the State, and along the Delaware River near Philadelphia, is a complex system of refineries, pipelines, storage terminals, and waterway ports that serve as a major gateway for refining crude oil and distributing petroleum products throughout the northeast.

[44] U.S. Energy Information Administration. *State Profile and Energy Estimates.* https://www.eia.gov/state/?sid=NJ

[45] U.S. Energy Information Administration. *Natural Gas Consumption by End Use.* https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SNJ_a.htm

New Jersey has no crude oil reserves or production, but the state has two operating oil refineries[46]. Those two refineries have a combined capacity of almost 359,000 barrels per calendar day and produce a wide range of refined petroleum products, including motor gasoline, distillate fuel oil, aviation jet fuel, and petrochemical feedstocks.[47]

New Jersey is the 13th largest petroleum-consuming state, but the 10th smallest in per capita petroleum use.[48] The transportation sector accounts for about 80% of the petroleum consumed in the state, most of it as gasoline.[49] The industrial sector uses about 15% of the petroleum consumed in the state. The residential sector accounts for slightly more than 3%, and about 1 in 10 New Jersey households use petroleum products, mostly heating oil, as their primary source for home heating. The commercial sector makes up slightly less than 3% of the state's petroleum consumption.[50] One of the three storage sites for the 1-million-barrel federal Northeast Home Heating Oil Reserve is in New Jersey. The reserve was established in 2000 to avert heating oil shortages in the region during extreme winter weather.

Petroleum Bulk Terminal Storage and Supply

Petroleum bulk terminals include facilities engaged in the wholesale distribution of liquid petroleum products. Products handled by these facilities include gasoline, diesel, fuel oil, kerosene, crude oil, naphtha, and lubricating oils. Bulk terminal facilities receive their supply from several sources including direct pipeline connection to in-state refineries, and out-of-state supply via pipeline, rail, or waterway ports. At the terminal facilities, refined products are stored in above-ground storage tanks operated by major oil companies like Hess, Sunoco, and Exxon. Petroleum products are often shipped from the major terminals through pipelines to smaller supply terminals throughout the State. Terminal facilities are equipped with specialized loading stations “racks” that load refined products into tanker trucks for distribution to retail gasoline stations or individual homes in the case of home heating oil. In the case of gasoline, any required oxygenates or special additives used to differentiate one brand from another are often blended into the gasoline in the tank of the delivery truck itself. Other additives are placed into heating oil in the same manner.

Liquid Pipelines: Interstate Supply and Intrastate Transportation

Pipelines are the primary method for transporting petroleum products in and out of the State moving crude oil from land-based or offshore oil fields to refineries and then carrying refined petroleum to downstream storage terminals. There are about 560 miles of petroleum pipelines.[51] in New Jersey, ranging in size from four inches in diameter to 30 inches in diameter. The rate at which pipelines move product varies

[46] U.S. EIA, Crude Oil Proved Reserves, Reserves Changes, and Production, Proved Reserves as of 12/31 and Estimated Production, 2015-20.
[47] U.S. EIA, Number and Capacity of Petroleum Refineries, Total Number of Operable Refineries, and Atmospheric Crude Oil Distillation Operable Capacity, Annual as of January 1, 2017-22.
[48] U.S. EIA, Table C15, Petroleum Consumption, Total and per Capita, Ranked by State, 2020.
[49] U.S. EIA, Table F16, Total Petroleum Consumption Estimates, 2020.U.S. EIA, Table C8, Transportation Sector Energy Consumption Estimates, 2020.
[50] U.S. EIA, Table F16, Total Petroleum Consumption Estimates, 2020.U.S. Census Bureau, House Heating Fuel, New Jersey, Table B25040, 2021 American Community Survey 1-Year Estimates.
[51] National Conference of State Legislatures. State Gas Pipelines - Breaking It Down: Understanding the Terminology. https://www.ncsl.org/energy/state-gas-pipelines

depending on several factors including the size of the pipe, the terrain, and the type of product being transported.

Pipeline transportation of petroleum in and out of New Jersey is provided primarily by large-diameter interstate pipelines. Colonial Pipeline is the largest of the interstate pipelines and operates more than 5,500 miles of pipeline stretching from Houston, Texas to Linden, NJ, and leases storage tanks at major distribution points along the pipeline route. Colonial Pipeline also has direct connections to other interstate and intrastate pipelines, and a network of smaller pipelines that branch out from the end of the mainline in Linden to several locations throughout New Jersey/New York Harbor. This Intra Harbor Transport Service connects directly to terminals on the Hudson River owned by companies such as Motiva, BP, and Hess. Like Colonial, these pipelines serve many terminals in northern New Jersey and the greater New York Harbor area.

Petroleum Distributors and Retailers

According to data from 2022, New Jersey has 288 licensed distributors and 3,183 licensed gasoline retailers. The method by which gasoline is distributed from the rack terminals to retail outlets depends on the contractual relationship between refineries and the retail outlets. Retail stations can either be owned directly by the refiner marketer or by an independent dealer. If the station is owned by the refiner-marketer, the gasoline is distributed directly to the retail station by the refiner. If the station is owned by a dealer, the gasoline may be distributed directly to the station by the refiner or by an intermediate distributor called a jobber. The distribution and ownership relationship between the refiner and the retailer influences how wholesale and retail prices are set.

Petroleum Demand: Petroleum User Demographics

As previously noted, petroleum products account for 38% of the State's total energy consumption in 2021.[52] Petroleum's primary use is in the transportation sector, where gasoline, diesel, and jet fuel account for 73% of total petroleum consumed in the State.[53] Petroleum is also used to a lesser extent in other sectors such as for heating oil in the residential and commercial sectors and residual fuel oil in the commercial, industrial, and electric power sectors. Bunker fuel (a marine fuel used by ocean-going vessels) has also played a significant role in supplying the fuel needs of ships in the New Jersey/New York harbor but is gradually being phased out and replaced with cleaner ultra-low sulfur diesel fuel.

As a winter heating fuel, home heating oil is used by approximately 9% of New Jersey's households.[54] Since the mid-1980s, the number of households using heating oil has been declining as more homeowners convert to natural gas as a winter heating fuel.

The Northeast Home Heating Oil Reserve (NEHHOR) was established in 2000 following the heating oil shortage in the northeast during the winter of 2000. The reserve was designed to give northeast consumers a 10-day supply in the event of a shortage. Ten days was the time required for ships to carry heating oil from the Gulf of Mexico to the New York Harbor. The reserve was last tapped in 2012 to provide fuel to

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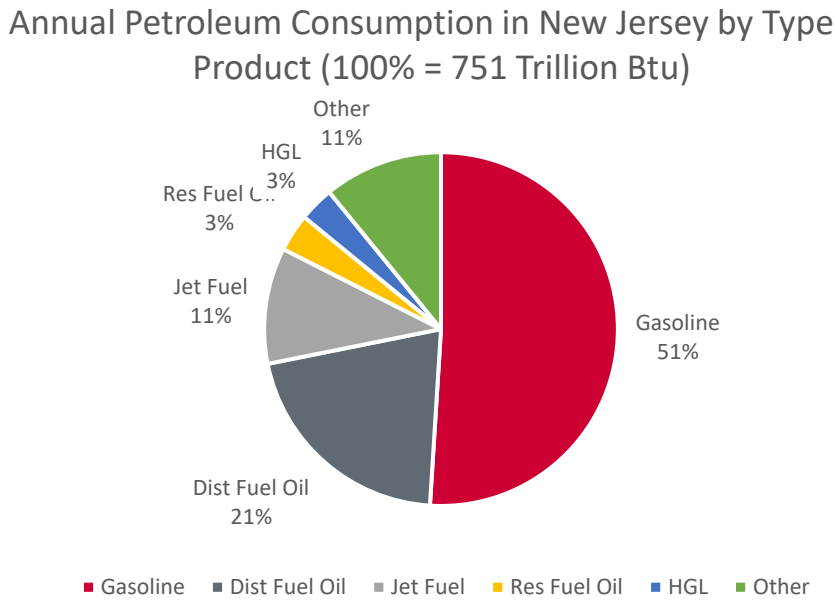
[52] U.S. Energy Information Administration. Primary energy consumption estimates, 2022. https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/sum_btu_totcb.html

[53] Ibid.

[54] U.S. Energy Information Administration. New Jersey State Energy Profile. https://www.eia.gov/state/print.php?sid=NJ

emergency responders in the aftermath of Hurricane Sandy. In 2025, the USDOE proposed terminating the reserve, citing the abundant commercial supply that exists in the area as well as the nearby refineries and a major pipeline that could quickly supply the area with heating oil to meet winter demand.[55] Figure 11 provides a breakdown of the annual petroleum use by type of petroleum product consumed or distributed in New Jersey in 2021.[56]

Figure 11: Annual Petroleum Consumption in New Jersey by Product Type 2021



New Jersey's Energy Efficiency Profile

The Energy Efficiency programs in New Jersey are administered by both the New Jersey Clean Energy program and the various utilities in the State. The New Jersey Clean Energy Program is funded through the Societal Benefits charge, while the utility programs are funded through rates. In FY23, State Energy Efficiency programs were budgeted about $950 Million and reached almost 6 million residential and commercial participants – saving the State over 1.4 million MWh of electricity and avoiding 198,000 kW of demand.[57] The programs also saved almost 3 million MMBTus of natural gas. From 2021-2024, it is estimated that New Jersey's utility-run Triennium 1 (T1) programs disbursed $1.25 billion in financial incentives to ratepayers statewide and reduced customers' utility bills by $600 million; reduced annual electricity usage by 3 million MWh, equivalent to the use of approximately 330,000 households per year; and reduced annual natural gas usage by 8.5 million MMBtu. T1 resulted in 1.4 million metric tons of annual greenhouse gas emission reductions, which is equivalent to approximately 300,000 cars removed from the road per year.

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[55] Reuters. (2025, June 2). *Trump budget proposes closing Northeast heating oil reserve | BOE Report*. https://boereport.com/2025/06/02/trump-budget-proposes-closing-northeast-heating-oil-reserve/

[56] U.S. Energy Information Administration. Primary energy consumption estimates, 2022. https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/sum_btu_totcb.html

[57] All FY22 Energy Efficiency program data was taken from the FY23 Statewide Compilation Report: https://www.njcleanenergy.com/files/file/UTILITY%20REPORTING/4Q%20FY23/4Q%20FY23%20Statewide%20Report%20-%20PUBLIC.xlsx

New Jersey's Energy Storage Profile

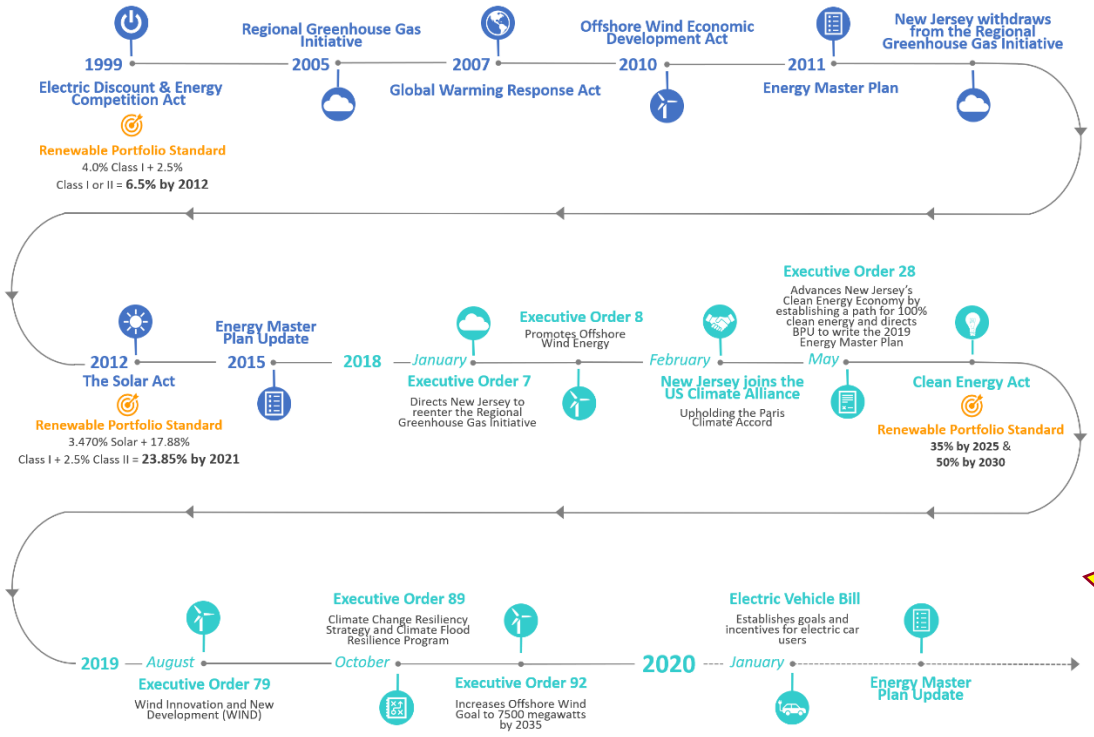
New Jersey has an ambitious statutory energy storage target of 2,000 MW of installed energy storage by 2030. Energy storage resources are critical to increasing the resilience of New Jersey's electric grid, reducing carbon emissions, and enabling New Jersey's transition to 100% clean energy. The NJ Energy Storage Incentive Program (SIP) has been designed to build a critical foundation for a long-term energy storage effort in the State. As of the most recent data available in 2019, there was 1000 kW of energy storage installed and an additional 650 kW in the pipeline.

New Jersey's Planning Context

Within the federal and regional planning context described above, energy investment decisions in New Jersey are made by the New Jersey Board of Public Utilities, as informed by NJ legislative and administrative policies. Below, we describe state statutes, plans, policies, and regulations that dictate or influence energy policy plans in NJ. Figure 12 summarizes key policy initiatives since 1999 when the electricity industry in NJ was deregulated, and the NJ Clean Energy Program was established.

NJCEP Established

Figure 12: New Jersey Regulatory History



EO 315: 100% clean energy by 2035

*Funded through a "Societal Benefits Charge", which is an approximately 3% adder to customer energy bills for energy efficiency, renewable energy and low-income programs

Emissions Regulations and General Clean Energy Goals

2019 Energy Master Plan

Directed by Executive Order No. 28 (2018), the 2019 EMP provides a comprehensive blueprint to achieve 100% clean energy by 2050. It outlines seven key strategies: reducing transportation emissions, accelerating renewable energy adoption, maximizing energy efficiency, reducing building emissions, modernizing the energy system, supporting community energy planning, and expanding clean energy innovation.

Executive Orders

- **Executive Order No. 274 (2021):** Sets a greenhouse gas reduction target of 50% below 2006 levels by 2030.
- **Executive Order No. 316 (2023):** Aims to install zero-carbon emission heating and cooling systems in 400,000 homes and 20,000 commercial properties. It also targets making 10% of low-to-moderate income (LMI) properties electrification-ready by 2030.
- **Executive Order No. 315 (2023):** Accelerates the target for achieving 100% clean energy from 2050 to 2035, mandating that all electricity sold in New Jersey comes from clean sources by that year.

Energy Efficiency

Electric Discount and Energy Competition Act (EDECA)

On February 9, 1999, EDECA[58] created the societal benefits charge to fund programs for the advancement of energy efficiency and Class I renewable energy technologies and markets in New Jersey. EDECA also charged the New Jersey Board of Public Utilities with initiating proceedings and undertaking a comprehensive energy efficiency and renewable energy resource analysis (Comprehensive Resource Analysis or CRA) in New Jersey. The Comprehensive Resource Analysis would be used to determine the level of funding for energy efficiency and Class I renewable energy programs statewide.

Clean Energy Act

On May 23, 2018, Governor Murphy signed the Clean Energy Act, L. 2018, c. 17[59], which takes several critical steps to improve and expand New Jersey's renewable energy programs and establishes ambitious energy reduction targets. The CEA requires 21% of the electricity sold in the State to be from Class I renewable energy sources by 2020, 35% by 2025, and 50% by 2030. Additionally, the CEA provides a platform to reform the State's solar program by making near-term structural changes to ensure that the program is sustainable over the long term and establishes a community solar energy program to allow.

Importantly, the CEA also established new energy savings targets of at least 2% annually for electric distribution companies and at least 0.75% for gas distribution companies, to be achieved in the prior three years within five years of implementation of their programs.

[58] Electric Discount and Energy Competition Act. https://www.njcleanenergy.com/files/file/23_.pdf. Accessed on October 16, 2023.
[59] https://pub.njleg.gov/bills/2018/PL18/17_.PDF. Accessed October 16, 2023.

2019 Energy Master Plan

On May 23, 2018, Governor Murphy signed Executive Order No. 28[60], directing NJBPU to spearhead the committee to develop and deliver the new EMP. The committee was tasked with developing a blueprint for the conversion of the State's energy production profile to 100% clean energy by January 1, 2050, with specific proposals to be implemented over the next 10 years. On January 27, 2020, following months of research, review, and stakeholder input, the 2019 EMP was unveiled.[61] The 2019 EMP outlines seven key strategies to achieve 100% clean energy by 2050: reduce energy consumption and emissions from the transportation sector; accelerate deployment of renewable energy and distributed energy resources; maximize energy efficiency and conservation and reduce peak demand; reduce energy consumption and emissions from the building sector; decarbonize and modernize New Jersey's energy system; support community energy planning and action in underserved communities; and expand the clean energy innovation economy.

Offshore Wind

Offshore Wind Economic Development Act (OWEDA)

On August 19, 2010, OWEDA was signed into law[62], amending and supplementing the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 et seq. Among other things, OWEDA established OSW as a Class I Resource under the Renewable Energy Portfolio Standards and directed the Board to establish an OSW renewable energy credit (OREC) program requiring a percentage of the State's electric load to be supplied by OSW from qualified OSW projects. A qualified OSW project is a " ... wind turbine electric generation facility in the Atlantic Ocean and connected to the electric transmission system in this State and includes the associated transmission-related interconnection facilities and equipment, and approved by the Board under section 3 of P.L. 1999, c. 23 (N.J.S.A. 48:3-51)". OWEDA defines an OREC as representing the environmental attributes of one MWh of electric generation from an OSW project. For each MWh delivered to the transmission grid, an OSW project will be credited with one OREC. OWEDA also established the application requirements for OSW projects to be considered eligible to receive ORECs. OWEDA also alludes to key factors the Board should consider in addition to the OREC Price, including the economic impacts of projects, environmental benefits including greenhouse gas reductions and mitigation of environmental impacts, ratepayer impacts, economic guarantees, and factors contributing to the likelihood of success of the project. Ultimately, OWEDA mandates that all qualified OSW projects deliver a net economic and environmental benefit to the State of New Jersey. A cost-benefit analysis of the proposed project must demonstrate that this threshold is met based on both economic and environmental benefits.

Executive Order No. 8

On January 21, 2018, Gov Phil Murphy signed Executive Order No. 8 which set a goal of 3,500 MW of OSW capacity by 2030 and directed the Board and other implementing State Agencies to "take all necessary action" to fully implement OWEDA.[63] Executive Order No. 8 set an aggressive OSW energy production goal

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[60] Executive Order No. 28. https://nj.gov/infobank/eo/056murphy/pdf/EO-28.pdf. Accessed October 16, 2023.
[61] *2019 New Jersey Energy Master Plan*. Accessed October 16, 2023.
[62] Offshore Wind Economic Development Act. https://pub.njleg.gov/bills/2010/S2500/2036_R2.HTM. Accessed October 16, 2023.
[63] Executive Order No. 28. https://nj.gov/infobank/eo/056murphy/pdf/EO-28.pdf. Accessed October 16, 2023.

recognizing that "portions of the OSW supply chain being in New Jersey, including manufacturing, assembly and construction of the component parts of the OSW turbines, will contribute to a stronger New Jersey economy." The Order specifically directed the Board to begin the rulemaking process to establish the OREC Funding Mechanism to provide the necessary regulations to determine how suppliers will meet their RPS obligations and how OSW developers will receive payments for ORECs. Executive Order No. 8 also directed the Board to proceed with a solicitation of 1,100 MW of OSW capacity as a first step in meeting the 3,500 MW goal.

Clean Energy Act

On May 23, 2018, Governor Murphy signed P.L. 2018 c. 17 into law (the Clean Energy Act or CEA). Amongst other things, it amended N.J.S.A. 48:3-87 to increase OWEDA's initial 1,100 MW requirement to 3,500 MW of generation from OSW projects.

Subsequent Orders

On November 19, 2019, Governor Murphy signed Executive Order No. 92 (EO92), which increased the goals for offshore wind energy generation to 7,500 MW by 2035.[64] In September 2022, Executive Order 307 further increased the OSW goal to 11,000 MW by 2040.

Solar

Successor Solar Incentive Program

The SuSI Program is divided into the Administratively Determined Incentive (ADI) and Competitive Solar Incentive (CSI) Programs. The ADI Program opened to new registrants on August 28, 2021, offers a fixed incentive in the form of New Jersey Solar Renewable Energy Credit II (SREC-II) for net-metered residential projects, net-metered non-residential solar projects of five MW or less, and all community solar programs. Incentive values are set administratively, following comprehensive modeling of costs and multiple rounds of stakeholder involvement. Incentive values vary by market segment; in some cases, they vary according to project size and siting.

On December 7, 2022, the Board approved the establishment of the CSI Program. The CSI Program covers all grid supply solar projects (i.e., those selling into the wholesale markets) and net metered non-residential projects above five MW in size. This program will award SREC-IIs through a competitive solicitation, with separate solicitations for several selected market tranches: basic grid supply, the built environment, contaminated lands, net metered over five MW, and solar plus storage. Additionally, on December 7, 2022, the Board approved for publication in the New Jersey Register one rule proposal codifying the CSI Program and a second implementing siting criteria required by the Solar Act. The CSI Program is structured into four (4) market segments or tranches: basic grid supply; grid supply projects located on the built environment; grid supply projects on contaminated sites and landfills; and net metered non-residential projects greater than five (5) MW. An additional fifth tranche allows for storage in combination with a grid supply solar award. The total procurement for the first solicitation was 300MW.

Legacy SREC Registration Program

Prior to its close on April 30, 2020, the Legacy SREC Registration Program (SRP) was the solar program used to register solar installations in New Jersey. Projects currently registered in the SRP may keep their SREC

[64] Executive Order No. 28. https://nj.gov/infobank/eo/056murphy/pdf/EO-28.pdf. Accessed October 16, 2023.

eligibility for the duration of the project's Qualification Life. The value of the SRECs available through the SRP is determined by the market established by the NJ Renewable Portfolio Standard rules at N.J.A.C. 14:8-2. A solar electric system earns one SREC for each 1,000 kWh (1MWh) of electricity the system generates.

To conform with the Clean Energy Act, NJBPU adopted rules to close the SRP to new registrants once 5.1% of the kilowatt-hours sold in the State were generated by solar electric power connected to the distribution system. By Order dated April 6, 2020, NJBPU determined the 5.1% Milestone would be attained on April 30, 2020, at which time the SRP was closed to new registrations. On May 1, 2020, the TI Program opened to new applications.

Energy Storage

The New Jersey Energy Storage Incentive Program (NJ SIP)

It aims to support the state's statutory mandate to achieve 2,000 MW of installed energy storage by 2030. To this end, NJ SIP proposes two distinct energy storage incentive programs:

- Front-of-Meter (FTM) Incentives: Designed for large-scale energy storage projects that connect directly to the grid. These projects help enhance grid reliability and integrate renewable energy sources more effectively.
- Behind-the-Meter (BTM) Incentives: Targeted at smaller-scale energy storage systems installed on the customer side of the meter. These systems can provide backup power, reduce energy costs, and support grid resilience.

Incentives under NJ SIP apply exclusively to energy storage projects placed into service after the program's effective date, ensuring that only new installations benefit from the program. To refine the program and gather comprehensive feedback, stakeholder meetings were held in late 2022, focusing on the implementation details and practical considerations for the incentive structure. This initiative underscores New Jersey's commitment to advancing clean energy technologies and improving the reliability and sustainability of its energy infrastructure.

Electric Vehicles and Charging

New Jersey Electric Vehicle Law (2020)

The EV Law, enacted in 2020, establishes ambitious goals and incentives to promote the adoption of EVs within the state. This legislative framework aims to significantly reduce emissions and foster a sustainable transportation ecosystem through strategic milestones and infrastructure developments.

Geothermal

NJ Senate Bill S224

Reintroduced in 2024, the bill would direct NJBPU to study the feasibility and benefits of large-scale geothermal heat pump systems in the state. The study would address challenges, consult with experts and other states, and consider financial incentives for development. A report with findings and recommendations is to be submitted to the Governor and Legislature within one year of the bill's enactment.

Grid Modernization

2019 Energy Master Plan

Strategy 5 – "Decarbonize and Modernize New Jersey's Energy System" – outlines specific strategies to modernize the state's grid including requiring utilities to establish Integrated Distribution Plans and to modernize interconnection standards. Necessary updates to the state's interconnection rules include but are not limited to updates to the interconnection process; modernization of utility processes for studying interconnection requests; updates to technical interconnection study standards; updates necessary to coordinate interconnection requests with the regional transmission system; incorporation of updated Institute of Electrical and Electronics Engineers (IEEE) 1547-2018 - *IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces*.

Performance Measures and Targets by Mode

As discussed earlier in this report, New Jersey has had a long history of clean energy goals that have been established both legislatively and through Executive orders. Currently, the performance of the State to meet these performance goals has been tracked in a variety of ways. Energy Efficiency savings, both by the State and the utilities, are tracked in quarterly and annual reports submitted to NJBPU. New Jersey tracks the progress towards its Renewable goals (particularly Class I, Class II, and solar) in its annual RPS report. Other goals related to equity and jobs are more difficult to track but are part of the Quantitative Performance Indicator calculation for the utilities and will be reported in annual reports going forward. The table below shows the various goals that NJ is trying to achieve, determined from a mixture of legislation and Executive orders in the past few years.

Table 12: New Jersey Performance Measures and Targets

	Goal
Energy Efficiency	
Electricity Sales Reduction	2% reduction of the average annual usage for utilities by FY27
Natural Gas Sales Reduction	0.75% reduction of the average annual usage for utilities by FY27
Clean Energy and Energy Storage	
Renewable Portfolio Standards	50% by 2030 100% by 2050
Offshore Wind Generation	7,500 MW by 2035 11,000 MW by 2040
Solar Generation	17,000 MW by 2035 (from 2019 EMP)
Community Solar Generation	150 MW per year for the full program
Energy Storage Capacity	2,000 MW by 2030 2,500 MW by 2035
Equity	The targets applicable to LMI and OBC lifetime energy savings (QPI #4) should be approximately proportional to the contributions to retail sales by LMI customers and residential customers residing in OBCs
Other	
Light-duty Electric Vehicles	330,000 by 2025
FTE Offshore Wind Jobs	25,000

Literature Review of INA Methodology

Energy infrastructure needs assessment studies employ comprehensive methodologies to estimate future energy demand and necessary investments. These methodologies include historical data analysis, future demand projections, investment needs assessment, policy and regulatory analysis, and environmental and social impact assessments.

Analyzing historical data helps understand past trends in energy consumption and infrastructure performance. Data sources for this analysis include utility reports, regulatory filings, and market data[65]. Evaluating the current state of energy infrastructure involves assessing capacity and efficiency using infrastructure inventories and maintenance records.[66]

Future demand projections are made using scenario analysis and modeling techniques. These scenarios consider variables such as economic growth, population growth, technological advancements, and policy

[65] California Energy Commission. (2020). Integrated Energy Policy Report. Retrieved from https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report-iepr
[66] Texas State Energy Conservation Office. (2020). State Energy Plan. Retrieved from https://comptroller.texas.gov/programs/seco/

changes. Tools such as energy demand forecasting models and grid simulation software are employed to simulate future energy demand and infrastructure performance under varying conditions.[67]

Estimating the financial investment required for infrastructure development involves detailed cost estimation and benefit-cost analysis. Cost components include capital costs, operational costs, maintenance costs, and technology costs. Benefit-cost analysis evaluates the economic feasibility and benefits of proposed investments by comparing costs with projected benefits over the infrastructure's lifecycle, such as cost savings, efficiency gains, reliability improvements, and environmental benefits.[68]

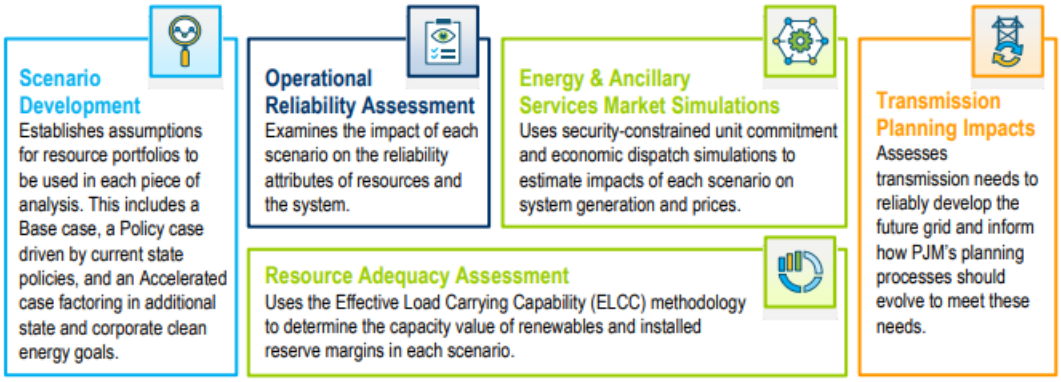
Policy and regulatory analysis ensure that proposed energy projects comply with state and federal energy policies and regulations. This involves reviewing legislative documents, regulatory filings, and policy frameworks to identify their impact on infrastructure needs and investments.[47] Additionally, stakeholder engagement is crucial in incorporating inputs from various parties, including utilities, regulatory bodies, industry experts, and the public. Methods for stakeholder engagement include public consultations, workshops, surveys, and expert interviews.

Assessing the potential environmental and social impacts of proposed energy projects is essential. Environmental impact assessments (EIA) and sustainability analysis evaluate emissions reduction, land use, water use, and ecological impacts.[69] Social impact assessments (SIA) consider community health, job creation, energy access, and social equity. These assessments ensure that the proposed projects do not adversely affect the environment and the communities they.

The figure below, adapted from PJM, shows the steps for one such Infrastructure Needs Assessment in the energy sector. The first part of the analysis is to develop scenarios that will serve as reference points for studying the impacts of an evolving resource mix in NJ. Next, an assessment of the reliability value of each variable renewable resource and the system as a whole needs to be conducted, to determine the amount and characteristics of the resources needed to provide sufficient reserves. The next step is modeling showing the impacts of increased renewable generation in the wholesale electricity markets under various renewable penetration scenarios. Then, it is important to assess the reliability impacts of proposed clean-energy programs and state initiatives. The final step is to develop additional scenarios to incorporate impacts with future transmission upgrades that are likely needed to integrate future renewable generation.

[67] Massachusetts Clean Energy Center. (2020). Massachusetts Clean Energy and Climate Plan. Retrieved from https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2025-and-2030
[68] Michigan Public Service Commission. (2021). Michigan Integrated Resource Plan. Retrieved from https://www.michigan.gov/mpsc
[69] Illinois Commerce Commission. (2020). Illinois Power Agency Annual Report. Retrieved from https://www2.illinois.gov/sites/ipa/Pages/default.aspx

Figure 13: Energy Transition in PJM: Framework for Analysis



Source: Energy Transition in PJM: Frameworks for Analysis – Dec. 15, 2021

Our methodology for assessing energy infrastructure needs draws on comprehensive literature and established frameworks to ensure robust and informed decision-making. By categorizing costs into Generation, Transmission & Distribution, Energy Efficiency, and EV Infrastructure, we align our analysis with proven approaches that encompass historical data analysis, future demand projections, and investment needs assessments. We incorporate scenario analysis and modeling techniques to anticipate future demands and infrastructure requirements, ensuring our methodology is grounded in realistic and adaptable projections. This holistic approach, derived from a thorough literature review, allows us to provide a detailed and strategic assessment of energy infrastructure needs, facilitating informed planning and investment decisions.

Scenario Development

New Jersey's energy landscape is undergoing significant changes driven by evolving policy targets, technological advancements, and environmental concerns. In light of these dynamics, it is imperative to assess the infrastructure needs of the energy sector to ensure a sustainable, reliable, and resilient energy system for the future. The Assessment has been conducted to evaluate the future requirements and potential scenarios for the state's energy infrastructure. The analysis involves three distinct scenarios namely Steady-State, Moderate-Progress, and Aspirational scenario each representing varying aspirations, policy targets, and cost estimates. These scenarios are crucial for informing decision-making processes and strategic planning in the energy sector.

1. **Aspirational Scenario 2035:** The Aspirational Scenario 2035 advances the transition to 100% clean energy by 2035, aligning with the 2035 targets in the 2019 EMP. This scenario reflects the highest level of ambition in terms of clean energy adoption and emission reduction.
2. **Steady-State Scenario:** This scenario projects the continuation of current energy trends, maintaining existing funding levels up to 2040. It serves as a baseline for comparison against more ambitious scenarios.
3. **Moderate-Progress Scenario:** Positioned between the Aspirational and Steady-State scenarios, the Moderate-Progress Scenario represents a balanced approach, striving for meaningful progress while considering realistic constraints.

Aspirational Scenario 2035

In response to the evolving landscape of energy policies, technological innovations, and environmental imperatives, New Jersey stands at a pivotal moment in its energy transition journey. In alignment with the 2019 Accelerated EMP - 2035 and guided by the principles of sustainability and resilience, Governor Phil Murphy has initiated an ambitious project by signing Executive Order 315. This directive sets a bold trajectory, accelerating the state's previous target of achieving 100% clean energy by 2050 to a more aggressive timeline of 2035. The adoption of an executive order (No. 315) commits to achieving 100% clean energy by 2035. This signifies that all electricity sold in the state will originate from clean energy sources by January 1, 2035, facilitated by clean energy market mechanisms, complemented by the endorsement of a Clean Energy Standard for New Jersey. The following are the targets of the 2019 Accelerated EMP-203570:

- **Offshore Wind:** 7,500 MW by 2035 and 11 GW by 2040[71]
- **Solar:** 17,000 MW by 2035
- Energy Storage: 2,000 MW by 2030
- **EV infrastructure:** Infrastructure needed for 2 million EVs by 2035 and no ICE Vehicle Sales from 2035
- **Energy Efficiency Savings:** 2% per annum in Electricity and 0.75% per annum in Natural Gas
- **Nuclear and Natural Gas**: The scenario assumes no increase in the capacity of Nuclear or Natural Gas-based power generation
- **Clean Energy and RPS Targets**: 100% Clean Energy by 2035 and 50% RPS by 2030

Steady-State (Baseline) Scenario

The Steady-State Scenario offers a pragmatic perspective on New Jersey's energy future, rooted in the continuation of existing investment and technology trends. This scenario provides a valuable comparison point for the potential trajectory of the state's energy landscape. It extends recent three-year trends into future projections, with a focus on maintaining stability while considering moderate advancements in energy efficiency, EV adoption, and grid investments. The Scenario adopts an approach that extends recent trends in investment and technology, offering a conservative outlook on the evolution of New Jersey's energy sector. It forecasts a slower year-on-year increase in energy efficiency improvements, a more moderate rate of EV adoption, and grid investments compared to more ambitious scenarios. By benchmarking existing energy strategies against the targets of the 2019 Accelerated EMP-2035, this scenario assesses the implications of maintaining the status quo on energy mix stability and cost-efficiency. Generation costs have been calculated based on the assumptions and targets modeled for the scenario which are given below:

[70] EMP 2019 NJ https://www.nj.gov/emp/
[71] Executive Order #307 https://nj.gov/infobank/eo/056murphy/pdf/EO-307.pdf

- **Solar**: The Steady-State Scenario projects a year-on-year growth of 331 MW for Net Metered Solar and 83 MW for Grid-scale Solar. This aligns with the average growth observed over the past three years, reflecting the state's ongoing commitment to solar energy expansion.[72]
- **Offshore Wind**: Building on existing initiatives, New Jersey has already taken steps to develop 3.7 GW of Offshore Wind (OSW) capacity by 2030 through the first Solicitation. This commitment to offshore wind deployment remains unchanged in the Steady-State Scenario.[73]
- **Energy Storage**: Unlike more ambitious scenarios, the Steady-State Scenario does not incorporate specific targets for energy storage.
- **Energy Efficiency**: Current State and Utility investments to continue until 2040 without any savings targets.
- **EV Infrastructure**: Anticipating infrastructure needs based on recent trends observed over the past three years, extrapolated to accommodate projected EV adoption until 2040.
- **Nuclear and Natural Gas**: The scenario assumes no increase in the capacity of Nuclear or Natural Gas-based power generation. This maintains the status quo and does not introduce additional capacity beyond existing levels.
- **Clean Energy and RPS Targets**: The Steady-State Scenario does not have any clean energy or Renewable Portfolio Standard (RPS) targets.

The Steady-State Scenario while offering stability, highlights the need for strategic decision-making to balance short-term considerations with long-term clean energy goals. By leveraging existing momentum and incremental progress, New Jersey can navigate towards a resilient, sustainable energy future.

Moderate-Progress Scenario

The Moderate-Progress Scenario represents a balanced approach to New Jersey's energy transition, positioned as a midpoint between the conservative Steady-State Scenario and the progressive Aspirational Scenario. By incorporating incremental advancements while maintaining stability, this scenario aims to strike a balance between economic feasibility and environmental sustainability.

- **Offshore Wind:** Target 7.4 GW of Offshore Wind (OSW) capacity by 2035, based on progress achieved through Solicitations 1, 2, and 3, reflecting a moderate but significant increase in offshore wind deployment.
- **Solar:** 13,250 MW by 2035
- Energy Storage: 1,000 MW by 2030
- **EV infrastructure:** Average spending of the aspirational 2035 and steady-state scenario.
- **Energy Savings:** Average spending of the aspirational 2035 and steady-state scenario.
- **Nuclear and Natural Gas**: The scenario assumes no increase in the capacity of Nuclear or Natural Gas-based power generation.

[72] Solar Activity Reports – NJ Clean Energy Program https://njcleanenergy.com/renewable-energy/project-activity-reports/project-activity-reports
[73] Solicitation Schedule – Offshore Wind NJ https://bpuoffshorewind.nj.gov/

- **Clean Energy and RPS Targets**: 75% Clean Energy by 2035 and 50% RPS by 2030

It serves as a roadmap for navigating New Jersey's energy transition journey, embodying a pragmatic yet forward-thinking approach. By striking a balance between stability and ambition, the state can achieve sustainable energy outcomes while ensuring economic prosperity and resilience. Below is a table comparing the assumptions for the three scenarios:

Table 13: Energy Scenario Assumptions

	Aspirational 2035	Moderate-Progress	Steady-State
Clean and Renewable Energy Targets			
Renewable Portfolio Standard	50% by 2030	50% by 2030	None
Clean Energy Targets	100% by 2035		None
Transportation			
Light Duty Vehicles	Internal Combustion Engine sales decrease to 0 in 2035; 2 million registered light-duty EVs, and 100% state-owned, non-emergency light-duty vehicles must be EVs by 2035.		12% year-on-year increase in EVs
Medium Duty Vehicles	75% Electric in 2050		12% year-on-year increase in EVs
Heavy-Duty Vehicles	50% EV by 2050		12% year-on-year increase in EVs
Electricity			
Energy Efficiency	Extrapolated energy efficiency projections to 2040, based on utility filings over three-year cycles, adjusted with the GDP Price Index.		Projected energy efficiency to 2040 using the New Jersey Clean Energy Program's 2023 budget, refined with the GDP Price Index.
Nuclear	Included in clean energy and would not go beyond the current capacity of 3.5 GW	Included in clean energy and would not go beyond current capacity of 3.5 GW	Included in clean energy and would not go beyond current capacity of 3.5 GW
Natural Gas Electricity Generation	Will be phased out as early as possible to meet RPS and Clean Energy Targets	Will be phased out as early as possible to meet RPS and Clean Energy Targets	No additional Capacity Installation
Solar PV	17 GW by 2035 (Capacity of Grid-scale will be capped at 2/3rd capacity of net metered solar)	13.25 GW by 2035 (Capacity of Grid-scale will be capped at 2/3rd capacity of net metered solar)	9.5 GW by 2035 (331MW and 83 MW increase on year-on-year basis for Net-metered and Grid-scale solar respectively)
Storage	2 GW by 2030	1 GW by 2030	None
Offshore Wind	7.5 GW by 2035, 11 GW by 2040	7.4 GW by 2035 (Solicitation 1,2&3)	3.7 GW by 2030 (Solicitation 1&2)

Methodology

In this analysis, we have categorized the diverse costs within the energy sector into four primary segments: Generation Costs, Transmission & Distribution Costs, Energy Efficiency Costs, and EV Infrastructure Costs. These categories encompass a wide range of financial commitments from capital investments in infrastructure to operational expenditures and governmental incentives aimed at promoting energy conservation and supporting the expanding EV market. Understanding these cost components is essential for strategic planning and decision-making processes to ensure the efficient allocation of resources and the achievement of long-term sustainability goals. A more elaborate explanation of the costs considered and how they were estimated is mentioned below:

Generation Costs

Generation costs, pivotal to our financial framework for energy production, are subdivided into capital expenditures and operational expenses. Capital expenditures, identified as the upfront costs required for the construction of energy facilities, are significant as they encompass land acquisition, facility construction, and the installation of necessary technologies, setting the foundation for any energy-producing initiative. Operational expenses are categorized into fixed and variable costs; Fixed Operations and Maintenance (O&M) costs, which include salaries, routine maintenance, and insurance, remain constant regardless of energy production levels, while Variable O&M costs fluctuate with production volume and include items such as fuel costs and significant maintenance operations. These costs apply across various energy technologies, including:

- Hydroelectric Power
- Natural Gas
- Nuclear
- Petroleum
- Biomass
- Solar (both rooftop and grid-scale)
- Wind (both onshore and offshore)
- Energy Storage Systems

Generation Expansion Planning (GEP) Model

The Generation Expansion Planning (GEP) Model is a linear optimization tool used to guide decision-makers in the energy sector in developing cost-effective investment strategies for electricity generation infrastructure. Its primary function is to optimize the expansion of generation capacity over a long-term planning horizon to meet projected demand at the lowest possible cost while considering operational, investment, and policy constraints. Below are the major components of the model:

Inputs and Preliminary Considerations

The model takes various inputs into account, which include:

- **Cost Estimates:** Both operational and investment costs for various generation technologies are factored in. Operational costs cover ongoing expenses such as fuel and maintenance, while investment costs relate to the capital required for new infrastructure. The EIA Annual Energy Outlook Costs estimates have been used for this analysis which takes into account technology adoption rates for various technologies and project costs until 2040.[74]
- **Requirements:** Resource limitations, legislative mandates (such as renewable portfolio standards), and reserve margins are all key inputs. These establish the framework within which the GEP model must operate, ensuring that plans are financially viable, and resources are adequately utilized.
- **Load Forecasts:** The model uses future estimations of load forecasts, to predict future demand and needs taking into account the likely increase in demand due to EV adoption. The impact of Energy Efficiency programs has also been taken into account by offsetting the demand projections using energy savings estimates from the New Jersey Energy Efficiency Market Potential Study.[75] This forward-looking perspective is crucial to planning for a future where energy demands, and supply resources may significantly differ from today's landscape.

Model Operation

The GEP model operates with the primary objective of minimizing costs, which includes both capital and O&M costs. This objective is subject to several constraints:

- **Energy Balance:** The model ensures an energy balance where yearly generation matches yearly demand, guaranteeing that supply can meet the projected needs.
- **Technology-wise Generation Limits:** It enforces generation limits for each technology to prevent over-reliance on a single source and to ensure a diverse energy mix.
- **Capacity Targets:** The model sets technology-wise capacity targets in MW, ensuring that each technology contributes appropriately to the total generation capacity.
- **Compliance with Standards:** It ensures compliance with Energy Mix/Renewable Portfolio Standards (RPS) requirements, promoting sustainable and renewable energy sources in line with legislative mandates that have been mentioned in the requirements above.

Outputs

The main outputs of the GEP model are:

- **Annual Capacity Investment per Technology:** This indicates the amount of new capacity (in MW) that should be added for each technology annually.

[74] EIA Annual Energy Outlook https://www.eia.gov/outlooks/aeo/
[75] NJ Energy Efficiency Potential Study https://s3.amazonaws.com/CandI/NJ+EE+Potential+Report+-+FINAL+with+App+A-H+-+5.24.19.pdf

- **Annual Generation per Type of Technology:** This represents the total energy generated in MWh by each technology type annually, which informs how much each technology will contribute to the overall energy mix.

Optimization Process

The GEP model uses a mathematical optimization framework, which is a linear programming model, to solve for the inputs that will minimize costs (Capital and O&M Expenditures) while satisfying all constraints. It does this by considering all potential combinations of generation expansion and selecting the plan that meets the forecasted demand at the lowest overall cost. This involves a detailed analysis of the costs of building new plants, the costs of operating them, the potential revenues from selling electricity, and the penalties for failing to meet demand or policy goals.

- General Assumptions for All Scenarios
- **Load Forecasts**: Utilize PJM's load forecasts for New Jersey as of 2023 as the foundation for energy demand projections across all scenarios.
- **Energy Efficiency Adjustments**: Adjust load forecasts to account for anticipated energy efficiency gains, based on the Energy Efficiency Market Assessment Study by Cadmus.[76]
- **Reserve Margin**: Incorporate a strategic reserve margin of 20% above projected demand to ensure system reliability and accommodate unexpected demand increases.
- **Energy Storage as Generation**: Model energy storage as a generation source within the GEP, with stored energy replenished using excess capacity from the reserve margin.
- **Renewable Generation Caps**: Cap the maximum potential for offshore wind and biomass at 132 MW and 250 MW, respectively, based on regional market and technical potential assessments.[77]

Capacity Baseline: Base current generation capacity on figures from the Energy Information Administration's Annual Energy Outlook (EIA AEO) for 2023.[78]

Exclusion of Decommissioning Costs: Focus the model on operational and future development costs, excluding decommissioning costs for power plants.

Transmission and Distribution Costs

The transmission and distribution systems will also require numerous investments, driven by the need to upgrade and expand infrastructure to support new energy sources and increased demand. Significant investments are being made to upgrade transmission systems to integrate Distributed Energy Resources (DERs) and offshore wind energy. These upgrades are crucial for incorporating these variable energy sources efficiently and reliably into the grid. To accommodate growing demand and connect new service areas, infrastructure expansion is necessary, which includes the construction of new transmission lines and

[76] NJ Energy Efficiency Potential Study https://s3.amazonaws.com/CandI/NJ+EE+Potential+Report+-+FINAL+with+App+A-H+-+5.24.19.pdf
[77] Market Assessment Services to Characterize the Opportunities for Renewable Energy – Final Report https://njcleanenergy.com/files/file/Library/NJ%20Renewable%20Energy%20Market%20Assessment%20-%20Final%20-%20Public%20Version.pdf
[78] EIA Annual Energy Outlook 2023 https://www.eia.gov/outlooks/aeo/

substations. Additionally, funds are allocated for enhancing grid resiliency and modernization to cope with environmental and operational challenges, including routine maintenance to ensure optimal performance and safety of the transmission and distribution networks.

Methodology for Cost Estimation

Steady-State Scenario

The average of "base" yearly investments (for which additional filings are not required) from utility filings over the past five years have been utilized for estimating costs under the Steady-State Scenario. This average represents the investment required for the ongoing maintenance of the transmission and distribution infrastructure. To project the total investment needed through 2040, this average is adjusted according to the GDP Chain Price Index estimates from the EIA [79] Annual Energy Outlook 2023 This ensures that the projected investments are in line with expected inflation and economic growth, resulting in a conservative yet realistic financial plan that reflects gradual increases in demand and technology shifts.

Aspirational Scenario 2035

For the Aspirational Scenario, cost estimation builds on the foundation established in the Steady-State Scenario but introduces additional investments for infrastructure improvements (IIPs) planned by utilities. This methodology incorporates the average Infrastructure Improvement Program (IIP) costs for various utilities, representing additional year-on-year investments on top of the base spending. These IIP costs are then scaled up using the GDP Chain Price Index to forecast future investments required to meet the scenario's targets. This approach accommodates the scenario's higher expectations for rapid technology adoption and the integration of a larger share of renewable energy sources.

Energy Efficiency Costs

Energy efficiency initiatives are supported through government-funded subsidies and incentives aimed at reducing energy usage through technological upgrades and shifts in consumer behavior. These programs are fundamental in promoting environmental sustainability and reducing economic expenditures on energy.

Steady-State Scenario Projections

In the Steady-State Scenario, projections began with the actual energy efficiency investment data for FY24. This data was sourced from two primary documents: the FY24 Comprehensive Energy Efficiency & Renewable Energy Resource Analysis and the FY24 Utility Quarterly reports.[80] These reports provided the current investment figures for the New Jersey Clean Energy Program (NJCEP) and individual utilities, including Atlantic City Electric (ACE), Elizabethtown Gas (ETG), Jersey Central Power & Light (JCPL), New Jersey Natural Gas (NJNG), Public Service Electric & Gas (PSE&G), Rockland Electric Company (RECO), and South Jersey Gas (SJG).

From FY25 onwards, the investments were projected using the Energy Information Administration's 2023 Annual Energy Outlook GDP Chain-type Price Index. This index adjusts for expected inflation and economic

[79] EIA Annual Energy Outlook https://www.eia.gov/outlooks/aeo/
[80] NJ CEP Budget https://njcleanenergy.com/files/file/BPU/FY24/Budget%20Documents/Comprehensive%20Resource%20Analysis.pdf

growth, ensuring that the projected investments are in line with real future costs and economic conditions. Each subsequent year's investment was calculated by applying the index to the previous year's investment, resulting in a gradual increase that reflects the anticipated rise in costs associated with energy efficiency initiatives.

Aspirational Scenario 2035 Projections

For the Aspirational Scenario 2035, the initial years (FY25 to FY27) were based on the NJCEP energy efficiency investments described above under the Steady-State Scenario and the utility energy efficiency investments as reported in the Triennium 2 filings.[81] These future filings reflect a more aggressive commitment to energy efficiency in the future years compared to the Steady-State Scenario. Starting in FY28 through to FY35, the investment projections were made using the same GDP Chain-type Price Index as the Steady-State Scenario.

EV Infrastructure Costs

With the rapid growth in EV adoption, the development of infrastructure for EVs is becoming a significant area of expenditure. This includes building new charging stations and upgrading existing electrical systems to accommodate the increased load from EV chargers. The installation of EV charging stations in diverse locations is being facilitated to improve accessibility for EV users and encourage a shift to EVs.

Steady-State Scenario Projection Methodology

For the Steady-State Scenario, recognizing the fluctuating nature of the early EV market, a stable growth rate was used. The selected annual increase rate of 12% reflects the observed growth in 2022, deemed a reliable indicator due to its occurrence post the initial irregular market conditions caused by factors such as policy changes and the COVID-19 pandemic.

Using this growth rate, EV sales from 2024 to 2035 are estimated to total 826,926 vehicles. To ascertain the infrastructure required for these vehicles, the DOE Electric Vehicle Infrastructure Projection Tool was employed. The tool's output by charger type, combined with the charger port cost data from the 2023 NREL report[82], resulted in a detailed estimate of the total cost for the necessary EV charging infrastructure.[83]

Aspirational Scenario 2035 Projection Methodology

The Aspirational Scenario 2035 takes a more ambitious approach. Projected infrastructure needs were based on NJDEP sales forecasts based on Electrification goals[84], with an assumption that all Light Vehicle sales from 2035 would be EVs. This scenario assumes that advancements in technology, along with policy incentives, will accelerate EV adoption rates beyond the steady growth rate used in the Steady-State Scenario.

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[81] NJ CEP Financial Reports https://njcleanenergy.com/main/public-reports-and-library/financial-reports/clean-energy-program-financial-reports

[82] NREL, "2030 National Charging Network: Estimating U.S. Light-Duty Demand for Electric Vehicle Charging Infra", 2023.

[83] EV Pro-lite Calculator https://afdc.energy.gov/evi-pro-lite

[84] https://dep.nj.gov/drivegreen/mhdv-progress/

Results

Projected financial investments across different energy are categorized under three scenarios: Aspirational, Moderate-Progress, and Steady-State. These projections incorporate various energy technologies, including hydroelectric, natural gas, nuclear, biomass, petroleum, solar, wind, and energy storage, as well as transmission and distribution, energy efficiency, and EV infrastructure. Key insights from the projected costs highlight significant differences in investment needs between the scenarios, driven by differing assumptions about policy implementation, technology advancements, and market dynamics:

- The Aspirational scenario 2035, which assumes the fastest rate of technological adoption and the highest commitment to renewable resources, requires investments totaling $194 billion.
- The Moderate Progress scenario requires $146 billion in funding.
- The Steady-State scenario, which presumes a continuation of current trends and minimal shifts in policy or technology, projects costs totaling $91 billion.

Table 14 Funding Needs for Energy Infrastructure by Scenario

Scenario	Funding Needs
Aspirational	$194 billion
Moderate Progress	$146 billion
Steady-State	$91 billion

Limitations

Our calculations do not account for the substantial expenses associated with:

- Demand-side equipment like EVs and upgrading existing equipment (HVACs) in buildings for energy efficiency.
- Petroleum and natural gas infrastructure costs
- Geothermal Energy Potential
- Energy imports from out-of-state.
- The EIA technology-wise cost estimates are for PJM East region which might be underestimating the costs for New Jersey due to higher labor costs.
- Government subsidies, incentives, and tax credits, which represent important financial considerations.

TELECOMMUNICATIONS

Existing Conditions

Federal & State Planning Context

The United States Department of Commerce's National Telecommunications and Information Administration (NTIA) is spearheading critical efforts to modernize broadband infrastructure and bridge the digital divide. The principal adviser on telecommunications policies for U.S. economic and technological advancement, NTIA is allocating **$263.7 million** to New Jersey. This investment is designed to enhance access to high-speed, reliable, and affordable internet service in unserved and underserved communities across the state.

The initiative builds on a solid foundation of historic data and ongoing assessments:

- **Broadband Availability Map:** Originating from the American Recovery and Reinvestment Act of 2009, this tool provides an evolving, nationwide perspective on broadband access and is updated biannually through the FCC.
- **Broadband Access Study Commission:** This commission developed recommendations to help the State achieve affordable and equitable broadband access for all residents and businesses, integrating legislative, community, and industry insights. It also actively encourages residents to participate via surveys hosted on the New Jersey Broadband Assessment website.

By leveraging both existing data and real-time stakeholder feedback, the program will refine its evaluation of eligible locations, ensuring transparency and accountability while addressing challenges in connectivity.

Asset Inventory

A comprehensive asset inventory underpins the program strategy, emphasizing an understanding of how the Internet is accessed across different technologies:

Table 15 Asset Inventory

Type of Asset	Definition	Population coverage
Digital Subscriber Lines (DSL)	Transmit data over traditional copper telephone lines	5%
Cable Modems	Utilize coaxial cables, enabling simultaneous audio-visual and data services	98%
Fiber-optic Cables	Offer significantly faster speeds by transmitting data via light signals	63%
Wireless Technologies	Include fixed wireless, mobile wireless, and satellite services—each critical for reaching diverse geographic and demographic areas	Inconsistent reporting

These varied access technologies will be evaluated against FCC standards, which define basic broadband service as having speeds of at least **25 Mbps download and 3 Mbps upload**. Enhanced definitions for unserved versus underserved areas (with underserved areas requiring speeds up to 100 Mbps downstream and 20 Mbps upstream) further ensure that funding targets locations with the most acute needs.

Scenario Assumptions – Targets

Goal 1: Ensure all New Jersey residents have access to affordable, high-capacity broadband

- Objective 1.1 Develop broadband investment and deployment strategies for unserved and underserved areas, including, as a required part of BEAD, development of a low-cost service option and middle-class affordability plan
- Performance Measures:
    - Achieve 25 Mbps downstream and 3 Mbps upstream speeds for 50% of unserved locations no later than 2031, prioritizing fiber-optic cables
    - Achieve 100 Mbps downstream and 20 Mbps upstream speeds for 50% of underserved locations no later than 2031, prioritizing fiber-optic cables

Goal 2: Increase access to affordable broadband for all New Jersey residents

- Objective 2.1: Maximize enrollment in existing low-cost programs for eligible residents
- Performance Measures:
    - Close gap in ACP uptake relative to other states. New Jersey's Affordable Connectivity Program (ACP) uptake is currently at 23% and national ACP uptake is currently 37%. Specific target will be set as part of the state Digital Equity Plan
    - Monitor enrollment in the Affordable Connectivity Program by New Jersey residents on a quarterly basis, identifying trends or areas of concern
    - Meet quarterly with 100% of FCC Affordable Connectivity Program grantees and other organizations that are explicitly conducting ACP outreach to identify best and emerging practices as well as bottlenecks that the Office of Broadband Connectivity can help overcome
    - Identify by Q1 2024 if any geographic or demographic groups are not served by current Affordable Connectivity Program outreach efforts
    - Explore prioritizing any additional affordability programs as part of the State Digital Equity Capacity Grant Program Notice of Funding Opportunity response

Goal 3: Increase access to affordable devices for all New Jersey residents

- Objective 3.1: Maximize use of existing affordable device programs for eligible residents

- Performance Measures:
    - Building on the Five-Year Action Plan's initial inventory, complete a comprehensive asset inventory of existing programs that provide affordable device access (e.g., 1-1 laptop programs, device loans, discounted purchasing programs) (est. Dec 2023)
    - Identify communities or populations that are currently unserved by organizations within the asset inventory as part of the state's application to the State Digital Equity Capacity Grant Program (est. Q1-Q2 2024)

Goal 4: Support New Jersey residents in obtaining the digital skills they need to thrive

- Objective 4.1 Maximize enrollment in existing digital skills programs for eligible residents
- Performance Measures:
- Building on the Five-Year Action Plan's initial inventory, complete a comprehensive asset inventory of vocational schools, libraries, hospitals, community-based organizations, and other organizations offering training within New Jersey (est. Dec 2023)
- Identify communities or populations that are currently unserved by organizations within the asset inventory as part of the state's application to the State Digital Equity Capacity Grant Program (est. Q1-Q2 2024)
- Objective 4.2: Explore the feasibility of a uniform digital literacy credentialing system so learners can move seamlessly between organizations,
- Performance Measures:
- In coordination with submitting OBC's application to the State Digital Equity Capacity Grant Program (est. Q1-Q2 2024):
- Develop a plan to review current literacy assessments from programs already widely used by New Jersey organizations (e.g., NorthStar) as well as standardized approaches to create a uniform credentialing program offered by community organizations in New Jersey
- Identify key Points of Contact and coordinate relevant activities with the New Jersey Department of Education Information Literacy Committee and Standards, to be created from New Jersey Legislation S-588

Goal 5: Build Office of Broadband Connectivity's capacity to successfully deploy over $315M in federal broadband investments

- Objective 5.1: Develop and strengthen partnerships with other state agencies, local governments, and local stakeholders to identify opportunities for coordination
- Related Performance Measures:
- Meet with 100% of partner state agencies least every six months

- Conduct outreach to local governments (directly or through umbrella organizations such as the New Jersey League of Municipalities) as part of all initiatives (e.g., challenge process, initial proposal, subgrantee selection, digital equity planning and implementation)
- Conduct outreach to local stakeholders that have opted-in to OBC's mailing lists as part of all initiatives (e.g., challenge process, initial proposal, subgrantee selection, digital equity planning and implementation)
- Objective 5.2: Recruit, hire and retain an exceptional team.
- Related Performance Measure:
- Hire 100% of proposed staff by Q3 2024 or develop alternate plans to meet OBC's program capacity needs (e.g., interagency agreements)

FARMLAND RETENTION

Existing Conditions

The New Jersey Farmland Preservation Program (FPP), established through the Agriculture Retention and Development Act of 1983 (ARDA), stands as a pivotal initiative for safeguarding the state's agricultural industry, preserving critical natural resources, and enhancing the overall quality of life for its residents. Administered primarily by the State Agriculture Development Committee (SADC) in close collaboration with County Agriculture Development Boards (CADBs), municipalities, and non-profit organizations, the program aims to permanently protect productive farmland from non-agricultural development.

The FPP has achieved significant milestones, notably surpassing 250,000 acres of farmland preserved through Fiscal Year 2024 (FY2024), representing over one-third of New Jersey's remaining agricultural land. This accomplishment underscores the program's success in protecting productive farmland across 2,875 farms since its inception. This milestone is also the halfway point of the FPP's goal of achieving 500,000 acres of preserved farmland in the next decade.

The program employs diverse mechanisms, including the sale and donation of development easements, fee simple purchases, and term preservation agreements, all designed to ensure land remains in agricultural use in perpetuity. These efforts yield multifaceted benefits, encompassing economic viability for farm families through financial incentives and support for the agricultural sector; environmental protection through the limitation of urban sprawl, preservation of water quality, and conservation of soil; and significant social advantages, including the maintenance of rural character, local food production, and the preservation of New Jersey's rich farming heritage.

Despite its successes, the FPP continues to confront escalating development pressures, particularly from housing and large-scale industrial warehousing, which pose an urgent threat to agricultural land. In response, the program is undergoing strategic evolution. Current initiatives include the new Statewide Farmland Preservation Formula to enhance valuation competitiveness, the Next Generation Farmer Program to ensure generational continuity and farm viability, and continued efforts to streamline processes and support existing farmers. These adaptations demonstrate the FPP's dynamic nature, designed to remain relevant and competitive in a continually evolving land-use and economic environment.

Stakeholders

The administration of the New Jersey Farmland Preservation Program is spearheaded by the State Agriculture Development Committee (SADC), which operates in-but-not-of the New Jersey Department of Agriculture. The SADC is responsible for overarching statewide coordination, policy development, and the approval of applications.

The SADC works in close partnership with County Agriculture Development Boards (CADBs), which were also established by the ARDA. CADBs play a vital role at the local level, administering county-specific programs, identifying suitable land for preservation, reviewing and approving most applications, and facilitating coordination among State, county, and municipal entities.

This decentralized yet coordinated model is crucial because agricultural land use, development pressures, and community priorities vary significantly across New Jersey's diverse counties. Empowering local boards as the initial point of contact for landowners fosters local engagement and allows for tailored

implementation strategies that are responsive to specific regional contexts, thereby enhancing overall program uptake and efficacy.

Funding

Farmland preservation in New Jersey is supported by a robust and diversified funding structure, involving a combination of federal, State, county, and municipal government contributions. Non-profit organizations also play a significant role, occasionally contributing to these efforts. A critical State-level funding mechanism is the Garden State Trust Fund, which provides a stable and dedicated source of funding for open space and farmland preservation programs statewide.

At the county level, various mechanisms are employed to provide the local funding match. For example, Mercer County leverages its Open Space Trust Fund for farmland preservation, while Ocean County utilizes its Natural Lands Trust Fund for this purpose. The program further incentivizes local efforts by rewarding counties that efficiently complete preservation transactions with the potential for additional state funding. The reliance on a multi-tiered funding structure is a deliberate strategy for financial resilience. This diversification reduces the program's vulnerability to fluctuations in political priorities or economic downturns at any single governmental level, thereby enabling sustained and robust preservation efforts over time.

Table 16: Summary of New Jersey Farmland Preservation Mechanisms.

Mechanism Type	Permanence	Payment/Compensation	Land Ownership Post-Preservation	Key Benefits for Landowner
Sale of Development Easements (PDR)	Permanent	Direct Cash Payment (based on development rights value)	Retained by Landowner	Capital for operations/debt, Estate/retirement planning, Retains ownership, Can sell farm for agricultural use
Donation of Development Easements	Permanent	Significant Income & Estate Tax Benefits	Retained by Landowner	Tax deductions, Same program benefits/protections as PDR
Sale of Entire Property (Fee Simple)	Permanent	Direct Cash Payment (fair-market value of entire property)	Transferred to SADC/County, then resold to private owner with agricultural restrictions	Full exit from farming, Opportunity for new farmers to acquire land at agricultural value
Term Farmland Preservation (8/16 Year)	Temporary (8 or 16 years)	No Direct Payment	Retained by Landowner	Eligibility for cost-share grants (soil/water conservation), Limited protection from eminent domain/nuisances/emergency restrictions

Future Needs

Reaching the 500,000-acre preservation target means protecting roughly 250,000 additional acres in the coming years. Given land values in New Jersey, this represents a multi-billion-dollar undertaking:

- **Cost per acre:** Farmland preservation in NJ is expensive due to development pressure. At a rough historic average of ~$7,500–$12,000 per acre for easements, preserving another 250,000 acres could

require on the order of $2–3 billion in total funding. The state's share of that (historically about 60–65% of each deal) would likely exceed $1 billion spread over the next decade or two.

- **Annual funding needs:** The program's current primary funding source is a portion of New Jersey's Corporate Business Tax (CBT) revenue that is constitutionally dedicated to preservation. In FY2024, for example, about $128 million in CBT-derived funds was appropriated to the State Agriculture Development Committee (SADC) for farmland preservation purposes. With additional county and federal matching dollars, annual resources for farmland preservation are typically in the $150–$170 million range.
- **Timeline to goal:** At the current pace of about 5,000–6,000 acres preserved per year; it would take on the order of 45–50 years to preserve the next 250k acres. Reaching a target of about 12,000 acres per year would likely require on the order of $250+ million in total funding annually, given today's land values.
- **New initiatives and inflation**: Projected budget needs must also account for new program components that are emerging. Steady or increased funding will be needed just to maintain current progress, and significantly higher funding would be required to speed up preservation enough to meet acreage goals within the next 10–20 years.
    - **Rising land values outpacing funding growth:** Even if the absolute dollars dedicated to farmland preservation remain steady, land costs have escalated, meaning those dollars don't stretch as far. Over the last 20 years, NJ farmland prices rose approximately 2% annually on average, reaching about $18,100 per acre by 2019. Without periodic adjustments, the buying power of the preservation fund erodes.

Future Policies

Statewide Farmland Preservation Formula

This formula, which became effective on April 7, 2025, introduces an alternative method for valuing farmland, going beyond traditional appraisals, including soil quality, farm size, proximity to already preserved land, natural resource value, the rate of inflation, and the risk of conversion to non-agricultural use. This intervention is designed to level the playing field against developers, aiming to make preservation a more economically attractive and competitive option for landowners, thereby accelerating progress towards the 500,000-acre goal.

Next Generation Farmer Program

Its core mission is to support new and beginning farmers by addressing critical challenges such as access to land, securing capital, gaining essential education and training, and navigating profitable markets. The program emphasizes collaboration with existing agricultural service provider organizations, aiming to support current efforts, fill identified programming gaps, and explore innovative solutions. Its first report was released at the end of March 2025, which highlights the urgency of finding solutions to address the challenges faced by the New Jersey farming industry:

- Address demographic shifts (average farmer age: 58.7; 66% are 55+)
- Support both new entrants and succession planning for established farms
- Build a coordinated system of training, resources, and support

Enhanced Wildlife Fencing Program

This enhancement significantly increased the grant cap from $20,000 to $50,000 and broadened eligibility to include various types of wildlife fencing. Crucially, eligibility was extended to farm operators and lessees, not just landowners, making the program more accessible.

Easement Monitoring

To ensure the long-term integrity and compliance of preserved lands, the SADC, along with its County and Nonprofit partners, conducts annual monitoring visits to preserved farms. These visits serve to discuss landowner concerns, questions, and farm business plans, and to proactively prevent conflicts with preservation easement terms. Given that easements are permanent and run with the land, regular oversight is critical to ensure that deed restrictions are upheld across changes in ownership and management.

Right to Farm Program Updates

The SADC published rule amendments to update agricultural management practices for commercial fruit tree production, commercial vegetable production, on-farm composting, and fencing installation for wildlife control. The SADC also continues to provide presentations to various entities to educate them about the Right to Farm Act and its formal conflict resolution process. As development encroaches, conflicts between agricultural practices and non-farm neighbors can arise. By updating management practices and providing conflict resolution mechanisms, the SADC actively protects farmers from nuisance complaints, ensuring they can operate without undue burden. This is a vital supportive policy that allows farmers to fully utilize their preserved land for agricultural purposes, reinforcing the program's goal of strengthening the agricultural industry. As of the date of publication, this legislation is currently pending.

Agricultural Mediation Program Expansion

The program continues to offer voluntary, confidential, and free mediation for various agricultural issues. This expansion is a proactive measure to address disputes within the agricultural community or between farms and their neighbors. By offering accessible mediation services, the SADC aims to resolve conflicts efficiently and amicably, preventing them from escalating into costly legal battles that could threaten farm viability. This demonstrates a commitment to supporting a positive agricultural business environment and maintaining community harmony, which is crucial for the long-term success of preserved farms.

Special Occasion Events (SOEs) on Preserved Farms

Following the enactment of P.L. 2023, c. 9 on February 3, 2023, and amended by P.L. 2025, c. 83 on July 1, 2025, preserved commercial farms are now permitted to host SOEs, defined as weddings, lifetime milestone events, or other cultural/social events. Qualifying farms can host a maximum of 26 SOEs annually, subject to application and approval by the easement holder. This initiative acknowledges that traditional agricultural income alone may not always be sufficient to ensure farm viability in a high-cost state like New Jersey. By permitting non-agricultural, yet complementary activities, the program supports farmers' financial resilience through economic diversification. Crucially, this initiative also serves a social purpose by increasing public interaction with and appreciation for preserved farmland, potentially fostering a broader constituency for preservation and strengthening the connection between citizens and their agricultural heritage.

Rural Microenterprise Program

The SADC continues to support on-farm entrepreneurship by allowing special permits for small-scale businesses on qualifying preserved farms, as defined by P.L. 2015, c. 275. These businesses must be fully compatible with and incidental to the agricultural use of the premises and are encouraged to promote the preservation of historic agricultural structures. By supporting these small, compatible businesses, the program helps farmers generate additional income streams, making their operations more resilient and sustainable without compromising the primary agricultural purpose of the preserved land.

Fee Simple Farm Management

The goal for these properties is to return the land to private ownership as permanently preserved farmland. In the interim, these farms are leased and remain in agricultural production. The SADC also employs innovative long-term leasing pilot projects, such as with the Case Farm, to promote farm viability and address conservation issues, with the possibility of re-leasing or selling the land as preserved in the future. By temporarily holding and leasing these farms, the SADC ensures continued agricultural production and addresses conservation issues, preventing land from lying fallow while awaiting resale. This also allows the SADC to strategically reintroduce preserved land into the market at agricultural values, supporting the entry of new farmers and maintaining a competitive land base for agriculture.

SHORE PROTECTION

Existing Conditions

Federal & State Planning Context

New Jersey's Shore Protection Program is focused on protection of life and property, preservation of coastal resources and maintenance of safe and navigable waterways along the state's 127-miles of Atlantic coastline and 83 miles of shoreline along the Raritan and Delaware Bays. More specifically, the goals of state shore protection efforts are to:

- Provide for the protection of life and property along the coast;
- Preserve the vital coastal resources of the state; and
- Maintain safe and navigable waterways.

Shore protection projects are designed to address storm damage and coastal erosion mitigation. Shore protection may involve retaining or rebuilding natural systems (cliffs, dunes, wetlands, and beaches) and protecting built infrastructure. With 76% of New Jersey's coastline developed and with New Jersey coastal counties contributing an estimated $400 billion in economic output and accounting for more than half of the state's total tourism dollars, protection of shore resources has become a critically important function in the state. The United States Army Corp of Engineers estimated that, after Hurricane Sandy, beach and dune restoration projects in New York and New Jersey saved $1.3 billion in avoided damages.

The state's shore protection program is administered by the NJDEP Resilience Engineering and Construction program with program responsibilities including administering beach nourishment, shore protection, coastal dredging, and aids to navigation. The program also operates the Keansburg Bayshore Floodgate and Pews Creek Pump Station, conducts post-storm beach erosion surveys, and performs emergency repairs from coastal storms.

Federal Authority

The United States Army Corps of Engineers (USACE) is the lead federal agency supporting shore protection. It operates under a set of legislative authorities that authorize the Corps to plan, design and implement projects without additional project-specific Congressional authorization. These authorities include Section 103 of the 1962 River and Harbor Act, and Section 14 of the 1946 Flood Control Act; both laws also detail cost share requirements from state and local agencies. Typical cost shares between the USACE and the non-federal sponsor typically range from 65% federal and 35% non-federal to 50/50, but vary depending on the project.

State Authority

State authority for shore protection program activities resides in N.J.S.A. 12:6a-1, originally enacted in 1940, which authorizes NJDEP to perform shore protection along the state's tidal waterways. The 1977 Beaches and Harbors Act (P.L. 1977, c. 208) authorized the sale of $30 million in bonds for the restoration, protection and maintenance of beaches and harbors including establishment of cost share requirements and allowing use of the funds for state matching cost share for federally sponsored U.S. Army Corps of Engineers projects. Passed in 1992, N.J.S.A. 13:19-6.1 established the Shore Protection Fund in the state Department of Treasury which is supported by revenues collected from the state's realty transfer fees. Funds may be used for shore protection projects associated with the protection, stabilization, restoration or maintenance of the

shore, including monitoring studies and land acquisition. Implementation of shore protection projects are required to adhere to permitting provisions of the Coastal Area Facility Review Act and Waterfront Development Law. For USACE projects, funds are used to support the state's contribution as cost share for federal dollars. NJDEP enters into State Aid Agreements as part of project funding. The agreements outline the local governments' responsibilities including operation and maintenance, cost share, acquisition of real estate, and project design. NJDEP also enters into State Aid Agreements with local governments to implement shore protection projects requested by local governments. Some of the possible projects include: feasibility studies, environmental restoration and storm damage projects; fully funded state projects for which municipalities are the local sponsor for storm damage reduction and shore protection projects for which typical cost shares are 75% state dollars and 25% local dollars; and professional and technical services, including an appropriation of 2% of monies annually deposited into the Shore Protection Fund to Stevens Institute of Technology for the purposes of funding Coastal Protection Technical Assistance Services.

Scenario Assumptions – Funding

Authorized annual funding for the Shore Protection Fund is $25 million per Statute and, recognizing a greater need, the New Jersey Legislature has increased annual appropriation to the Shore Protection Fund by an additional $25 million in state fiscal years 25 and 26, providing a total of $50 million annual Shore Protection funding in these fiscal years. Since 2018, the base $25 million appropriation, as well as the additional appropriated funding since fiscal year 22, to the Shore Protection Fund has almost entirely been allocated to the DEP's cost-share for USACE projects. In New Jersey, the non-federal cost share is typically being apportioned as 75% Shore Protection Fund and 25% local.

As part of the state's annual capital budget process, NJDEP provides the Department of Treasury with capital budget needs for the shore protection program for the upcoming state fiscal year as well as for longer-term projections. The Shore Protection request includes all budgeted funds including Shore Protection funding and anticipated federal and local funding. The most recent State Capital Improvement Plan is for seven years starting with state fiscal year 2026. For this Plan, the NJDEP requested a total of $1.15 billion in funding covering the financial years 2026-2032. $268.9 million of this is slated for FY26 projects. Of this full request, the state commission recommends allotting $50 million for shore protection efforts for the FY25 year. This gap between the NJDEP's request and the commission's recommendation leaves a balance of $218.9 million of unmet funding need for FY26 alone.

WATER SUPPLY

Existing Conditions

Federal & State Planning Context

The New Jersey Water Supply Plan aims for adequate and sustainable water for all uses. The implementation of the Federal and Safe Drinking Water Acts ensures safe drinking water. Drinking water infrastructure is varied across the state, with multiple types and sizes of systems. Regulation of drinking water infrastructure primarily focuses on public community water systems with more than 500 service connections, which make up approximately 300 of the primary water systems in New Jersey according to the 2017 Water Quality Accountability Act (N.J.S.A. 58:31-1 et seq.).

More recent investment has been funded from the New Jersey Water Infrastructure Investment Plan and facilitated through the 2021 Lead Service Line Replacement Law (P.L.2021, Ch.183). In FY2023. over $90 million in loans have been made towards new drinking water infrastructure investments[85]. This substantial investment has largely focused on expanding capacity, addressing polyfluoroalkyl substances, and lead pipe abatement, and was made possible due to a large influx of funding to the State Revolving Fund program through the Bipartisan Infrastructure Law and the 2021 American Rescue Plan.

Federal Authority

Federal authority regarding New Jersey's drinking water rests on the 1974 Safe Drinking Water Act (Pub. L. 93-523), as amended and supplemented. The Safe Drinking Water Act regulates the legally acceptable limits of microorganisms, disinfectants, disinfection byproducts, inorganic chemicals, organic chemicals, and radionuclides by defining the following items (40 CFR 141):

- Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.
- Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.
- Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.
- Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

[85] New Jersey Department of Environmental Protection. (2022). *State Fiscal Year 2023 Clean Water and Drinking Water Intended Use Plans: Frequently Asked Questions*. https://dep.nj.gov/wp-content/uploads/wiip/docs/cw_dw_proposed_iups_sfy23_faqs.pdf

State Authority

State level authority and needs originate in the following laws, state plans, and regulations:

The New Jersey Safe Drinking Water Act of 1977 (N.J.S.A. 58:12A-1 et seq) governs the construction, operation, and maintenance of New Jersey's public and nonpublic potable water systems. The act sets maximum contaminant levels for various pollutants as well as provisions regular testing for water quality. The act ensures that the state provides safe drinking water and institutes reporting and monitoring methods to ensure consistency with outlined standards.

The Water Supply Management Act (N.J.S.A. 58:1A) manages the state's waters as assets, sets forth requirements for permitting program to manage diversions as well as drought and requires the development and periodic update of a statewide water supply plan. Recently, the act was amended via the Water Quality Accountability Act (N.J.S.A. 58:31) which was signed into law in 2017 and further amended in 2021. The primary change being the setting of standards for asset management for public community water systems with 500 or more service connections, with a focus on the testing of valves and hydrants and mandating a cybersecurity program for protecting public water systems.

The Water Supply Management Act also requires that the statewide water supply plan provide for "recommendations for legislative and administrative actions to provide for the maintenance and protection of watershed areas."[86] The state's watersheds are a key part of New Jersey's water supply infrastructure. Although the watersheds could be considered natural rather than built infrastructure, their preservation and management is crucial to a clean and sufficient water supply. When considering funding needs, watershed preservation will be accounted for as part of water supply infrastructure investments.

The Water Quality Accountability Act was followed by the 2021 Lead Service Line Replacement Law (P.L.2021, Ch.183), which "*requires community water systems in NJ to identify all lead service lines, provide public notification regarding the presence of all lead service lines, and replace all lead service lines by 2031. Lead service line inventories must be posted on the websites of water systems by January 2022*."[87] The law includes a requirement for community water systems to notify residents who have lead service lines. In 2017 the New Jersey Safe Drinking Water Act was amended to institute new rules regarding acceptable levels of polyfluoroalkyl substances in public water. These MCLs were set at of 13 ng/L for PFNA, 14 ng/L for PFOA, and 13 ng/L for PFOS.

Present Needs

Methodology

In December 2022, the EPA completed the 7th Drinking Water Infrastructure Needs Survey and Assessment[88], which surveyed public water systems including large community water systems (CWS),

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[86] New Jersey Department of Environmental Protection. (2008). *Water Supply Management Act, N.J.S.A. 58:1A-1 et seq.* (P.L. 1981, c.262, as amended by P.L. 2007, c.246). https://www.nj.gov/dep/watersupply/pdf/njsa_58_1a_1.pdf

[87] New Jersey Department of Environmental Protection. (n.d.). Lead service line replacement. https://www.nj.gov/dep/lead/replacement.html

[88] U.S. Environmental Protection Agency. (2023, September). EPA's 7th Drinking Water Infrastructure Needs Survey and Assessment. U.S. Environmental Protection Agency. https://www.epa.gov/dwsrf/epas-7th-drinking-water-infrastructure-needs-survey-and-assessment

medium CWS, small CWS, not-for-profit non-community (NPNC), those serving American Indian (AI) and Alaska Native Villages (ANV) water systems and identified the number of lead service lines needed. The 6th Drinking Water Infrastructure Needs Survey and Assessment in 2015 showed that $8.583 billion is needed to maintain and improve New Jersey's drinking water infrastructure over the next 20 years (estimated 2015-2034) [89]. This estimate increased in the 7th Drinking Water Infrastructure Needs Survey and Assessment to $12.253 billion needed in total over the next 20 years (estimated 2022-2040)[90]; $5.941 billion is needed for large CWS, $4.741 billion for medium CWSs, $1.089 billion for small CWS and $481 million for NPNCWSs. That $12.253 billion is broken down into five categories of infrastructure needs.

- Distribution and transmission: $8.261 billion to replace or refurbish aging or deteriorating pipelines.
- Treatment: $2.230 billion to construct, expand or rehabilitate infrastructure to reduce contamination.
- Storage: $1.087 billion to construct, rehabilitate or cover water storage reservoirs.
- Source: $361.2 million to construct or rehabilitate intake structures, wells and spring collectors.
- Other: $312 million for other drinking water infrastructure needs.

Scenario Assumptions – Funding

Federal

The Bipartisan Infrastructure Law has delivered the single-largest federal investment in U.S. water infrastructure with approximately $50 billion in federal funding. Over $20 billion of that allotment is destined for safe drinking water projects, with $15 billion dedicated to the replacement of lead pipes through the Drinking Water State Revolving Funds, where 49% of funds will be provided to communities as grants or principal forgiveness loans, and 51% of funds will be available to communities for low-interest loans, with no required state match. [91]

In April 2023, the EPA announced the availability of $6.5 billion for drinking water infrastructure through the Drinking Water State Revolving Fund.[92] These funds can be used for a number of projects, including improving drinking water treatment, fixing leaky or old pipes, improving source of water supply—including

[89] U.S. Environmental Protection Agency. (2018). EPA's 6th drinking water infrastructure needs survey and assessment (EPA 816-K-17-002). https://www.epa.gov/dwsrf/epas-6th-drinking-water-infrastructure-needs-survey-and-assessment

[90] U.S. Environmental Protection Agency. (2023, September). EPA's 7th Drinking Water Infrastructure Needs Survey and Assessment. U.S. Environmental Protection Agency. https://www.epa.gov/dwsrf/epas-7th-drinking-water-infrastructure-needs-survey-and-assessment

[91] U.S. Environmental Protection Agency. (2021). Bipartisan Infrastructure Law: A historic investment in water (EPA publication No. E-OW-BID). https://www.epa.gov/system/files/documents/2021-11/e-ow-bid-fact-sheet-final.508.pdf

[92] U.S. Environmental Protection Agency. (2025, May 30). Drinking Water State Revolving Fund (DWSRF). https://www.epa.gov/dwsrf

watershed protection measures—, replacing or constructing finished water storage tanks, and other infrastructure projects needed to protect public health.

State

State funding is available through the New Jersey Water Infrastructure Investment Plan and the New Jersey Water Bank, a joint operation between the DEP and the New Jersey Infrastructure Bank. The New Jersey Water Bank finances projects by utilizing two funding sources[93]. The Infrastructure Bank issues revenue bonds which are used in combination with zero-percent interest funds to provide very low interest loans for water infrastructure improvements. The NJDEP administers a combination of Federal State Revolving Fund capitalization grants, as well as the state's matching funds, loan repayments, state appropriations and interest earned on such funds. In 2025, over $71 million in loans across 19 projects were closed for drinking water infrastructure[94]. This substantial investment money has largely focused on expanding capacity and polyfluoroalkyl substances and lead pipe abatement. For a full list of project applications and loans in progress, see the NJDEP's Drinking water Intended Use Plan (IUP) for FY26[95]

[93] New Jersey Department of Environmental Protection. (n.d.). New Jersey Water Bank. https://www.nj.gov/dep/wiip/water-bank.html

[94] New Jersey Department of Environmental Protection. (n.d.). *Spending dashboard*. Retrieved December 4, 2025, from https://dep.nj.gov/wiip/spending-dashboard/

[95] New Jersey Department of Environmental Protection. (2025). *Final Drinking Water State Revolving Fund Intended Use Plan: FFY 2025 / SFY 2026*. Retrieved from https://dep.nj.gov/wp-content/uploads/wiip/ffy25-sfy26-final-dwsrf-iup.pdf

WASTEWATER INFRASTRUCTURE

Existing Conditions

Federal & State Planning Context

According to the 2021 Report Card for America's Infrastructure, approximately 2,400 of the nation's 16,000 wastewater treatment plants are operated either at or beyond capacity.[96] The EPA estimates that $271 billion will be necessary over the next 20 years just to meet the Clean Water Act's water quality objectives, including $197 billion for wastewater treatment and collection systems and $48 billion for combined sewer overflow corrections.[97]

Federal Authority

Federal authority regarding wastewater and combined sewer overflows is primarily governed by the 1974 Clean Water Act[98] and the EPA's National Pollutant Discharge Elimination System[99]. Title 2 of the Clean Water Act states a purpose to require and to assist the development and implementation of waste treatment management plans and practices. The EPA' National Clean Watersheds Needs Survey provides ongoing monitoring of states' compliance to the Clean Water Act's standards. The survey provides assessments of capital investments and focuses specifically on wastewater treatment as an infrastructure focus area. Data from the survey will be utilized later on in the needs assessment.

The primary federal policy regarding wastewater is the EPA's National Pollutant Discharge Elimination System which sets and maintains wastewater and combined sewer overflows regulations. Emanating from the discharge elimination system are the following regulations:

- Part 122: EPA-Administered Permit Programs: The National Pollutant Discharge Elimination System
- Part 123: State Program Requirements
- Part 124: Procedures for Decision making
- Part 125: Criteria and Standards for the National Pollutant Discharge Elimination System

State Authority

There are 191 active domestic wastewater treatment plants across the state of New Jersey. The New Jersey Pollutant Discharge Elimination System is the primary state regulation system for the treatment and disposal of wastewater (N.J.A.C. 7:14A). There are five categories of discharge:

- Surface Water Discharges
- Stormwater Discharges

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[96] American Society of Civil Engineers. (2021). *Wastewater infrastructure*. ASCE's Infrastructure Report Card. https://infrastructurereportcard.org/cat-item/wastewater-infrastructure/

[97] Ramseur, J. L. (2018). *Wastewater infrastructure: Overview, funding, and legislative developments* (CRS Report No. R44963). Congressional Research Service. https://www.congress.gov/crs-product/R44963

[98] U.S. Environmental Protection Agency. (2025). *Summary of the Clean Water Act.* https://www.epa.gov/laws-regulations/summary-clean-water-act

[99] U.S. Environmental Protection Agency. (n.d.). *NPDES regulations*. https://www.epa.gov/npdes/npdes-regulations

- Groundwater Discharges
- Wastewater Residuals Management
- Industrial Discharges to Sewer Plants

Present Needs

Methodology

As stated previously, approximately 2,400 of the nation's 16,000 wastewater treatment plants operate either at or beyond capacity. The EPA estimates in its Clean Watersheds Needs Survey that $345.5 billion will be necessary over the next 20 years (estimated for 2022-2041) just to meet the Clean Water Act's wastewater treatment objectives[100]. Within this national estimate, New Jersey's estimated need comes to $11.75 billion in wastewater infrastructure needs over the next 20 years.

While the EPA's Needs Survey gives a solid projection of wastewater infrastructure requirements in New Jersey over the next two decades, it does not highlight local issues that may affect infrastructure planning in New Jersey in the short- and long-terms. For instance, the passage of New Jersey's fourth round affordable housing obligations is sure to have an impact on sewage capacities as a minimum of 85,000 new housing units are planned across the state. Local data that can account for New Jersey specific infrastructure developments can be found in the NJDEP's FY2026 Clean Water Intended Use Plan (IUP). The IUP functions as the NJDEP's guidelines and strategy for allocating New Jersey Water Bank funding to various projects throughout the state. A list of all project applications is available on the NJDEP website[101] and the IUP itself lists which loans it intends to fund for FY2026.[102]

Further, a 2022 Rutgers Report on New Jersey Built Infrastructure Exposure indicated that nine plants will be exposed at two-feet of sea-level rise (SLR), while an additional 36 will be exposed at seven-feet of SLR[103].

Scenario Assumptions – Funding

Federal and state funding is available through the following sources:

- 2021 Bipartisan Infrastructure Law
- Water Infrastructure Protection Act (N.J.S.A. 58:30-1 et seq)
- New Jersey Water Infrastructure Investment Plan
- Water Infrastructure Finance and Innovation Act of 2014

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[100] U.S. Environmental Protection Agency. (2024, May). *2022 Clean Watersheds Needs Survey: Report to Congress*. https://www.epa.gov/system/files/documents/2024-05/2022-cwns-report-to-congress.pdf

[101] New Jersey Department of Environmental Protection. (2025). *Clean Water Intended Use Plan: Project Narratives Report*. Retrieved from https://dep.nj.gov/wp-content/uploads/wiip/cw-project-narratives-report.pdf

[102] New Jersey Department of Environmental Protection. (2025). *Final Clean Water State Revolving Fund Intended Use Plan: FFY 2025/SFY 2026*. https://dep.nj.gov/wp-content/uploads/wiip/ffy25-sfy26-final-cwsrf-iup.pdf

[103] Rutgers University. (2022). *Built infrastructure assets exposure snapshot: New Jersey*. Climate Snapshots. https://climatesnapshots.rutgers.edu/report/NJ/infrastructure

Federal

The Bipartisan Infrastructure Law allotted $11.7 billion for wastewater infrastructure needs through the Clean Water State Revolving Fund.[104] New Jersey utilizes this fund to finance projects through the New Jersey Water Bank.

Another source of federal funding is the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA). The act, among other provisions, authorizes EPA to provide credit assistance (e.g., secured/direct loans or loan guarantees) for a range of wastewater and drinking water projects. Project costs must be $20 million or larger to be eligible for credit assistance. In rural areas (populations of 25,000 or less), project costs must be $5 million or more. To fund the five-year pilot program, Congress appropriated a total of $1.75 billion from FY2015 through FY2019. The Water Infrastructure Finance and Innovation Reauthorization Act reauthorizes WIFIA for an additional five years (FY2020 to FY2024). The authorization of appropriations is doubled (from $45 million in FY2018 to $90 million in FY2019) and the annual incremental increase of authorized appropriations for the successive five years is also doubled (from $5 million to $10 million). As of the close of FY2024, New Jersey has received $771 million in loans from the WIFIA program[105].

State

State funding is available through the New Jersey Water Bank. In 2025, approximately $186 million in loans across 18 projects have been closed for new clean water infrastructure[106]. The most up-to-date projections on additional projects to be funded can be found in the NJDEP's SFY26 Intended Use Plan[107].

[104] U.S. Environmental Protection Agency. (2024, July 15). *Celebrating a year of historic water progress*.
[105] U.S. Environmental Protection Agency. (2025, April 2). *WIFIA closed loans*. https://www.epa.gov/wifia/wifia-closed-loans
[106] New Jersey Department of Environmental Protection. (n.d.). *Spending dashboard*. Retrieved December 4, 2025, from https://dep.nj.gov/wiip/spending-dashboard/

[107] New Jersey Department of Environmental Protection. (2025). *Final Clean Water State Revolving Fund Intended Use Plan: FFY 2025/SFY 2026*. https://dep.nj.gov/wp-content/uploads/wiip/ffy25-sfy26-final-cwsrf-iup.pdf

STORMWATER MANAGEMENT AND FLOOD PROTECTION

Existing Conditions

Federal & State Planning Context

The goal of stormwater management is to control the quantity and quality of runoff from rain and melting snow as it flows across the landscape and drains into nearby waterways, mitigating flooding and erosion, as well as reducing pollution picked up by runoff. This involves controlling the volume, pathway, and speed of runoff, as well as its quality.

In New Jersey, significant actions were taken by the NJDEP in 2022 that not only contribute to the management and control of stormwater but also offer significant contributions to statewide efforts to assess current and future needs associated with stormwater infrastructure. These 2022 actions include NJDEP's redesignation of all municipalities, with the exception of a few, as Tier A pursuant to N.J.A.C. 7:14A and, thus, requiring them to comply with the provision of the agency's 2022 updated municipal separate storm sewer systems (MS4) general permit standards that include compliance with the NJDEP stormwater management rules at N.J.A.C. 7:8.

Federal Authority

Federal authority for New Jersey's stormwater management program is via the National Pollution Discharge Elimination program created in 1972 by the federal Clean Water Act. Under the Clean Water Act, EPA is authorized to delegate implementation of the National Pollution Discharge Elimination program to any state, tribe or territorial government. New Jersey is one of 47 states to which the federal government has delegated regulation of stormwater.

State Authority

In 2004, New Jersey adopted amendments to its New Jersey Pollutant Discharge Elimination System regulations (N.J.A.C. 7:14) for the development and implementation of the Municipal Stormwater Regulation Program. This program, which authorizes the issuance of Municipal Separate Storm Sewers Systems (MS4) permits, was in response to federal requirements for municipalities to implement measures to reduce pollutants entering stormwater systems. NJDEP's initial 2004 adoption of regulations established a stormwater discharge permit program regulating stormwater discharges from Tier A and B municipalities, public complexes, such as colleges, prisons, and hospitals, and federal, state, county and intersect highway agencies that operate highways and other road systems. Tier A municipalities were those in highly populated parts of the state and municipalities discharging to saltwaters of Monmouth, Ocean, Atlantic and Cape May counties and Tier B municipalities were generally those that are smaller and less developed. In 2022, NJDEP re-designated all Tier B municipalities as Tier A with the result being that, with the exception of a few, all New Jersey municipalities are now required to comply with the Tier A standards of the MS4 standards.

Municipal compliance with the MS4 requirements is managed through an NJDEP general permit that was issued in accordance with N.J.A.C. 7:14A in December 2022. As part of compliance with the MS4 general permit, municipalities are required to develop, update, implement and enforce an MS4 stormwater program that is outlined in a written Stormwater Pollution Prevention Plan. The Stormwater Pollution Prevention Plan must document the permittee's MS4 stormwater program and describe the measures necessary for compliance with all permit conditions. The Tier A MS4 permit also requires the mapping of stormwater

infrastructure including outfalls, storm drain inlets, stormwater management measures, pump stations, and conveyances.

Implementation of the stormwater management rules is supported by the NJDEP's issuance of a Best Management Practices Manual that provides guidance to address post-construction stormwater regulatory standards at N.J.A.C. 7:8. The Best Management Practices manual, which was developed in consultation with state agencies, local governments, non-governmental organizations and private sector professionals, offers extensive and detailed guidance for meeting the standards of N.J.A.C. 7:8.

Along with built infrastructure, crucial to stormwater management is the upkeep of the state's watersheds. Watersheds are the land areas surrounding various bodies of water such as lakes, streams, and rivers. As part of the MS4 permitting process, permittees develop watershed improvement plans. These plans help permittees understand the current water quality and quantity issues in their subwatershed and help ensure that New Jersey is addressing pollutants and flooding across the state.

A key funding mechanism for protecting watersheds is the New Jersey Green Acres Program. This DEP program protects and preserves the state's natural resources and ensures that they remain open spaces. While Green Acres is used for a variety of land types, watershed preservation is a key target of Green Acres preservation.

Present Needs

Methodology

In partnership with states, EPA conducts the Clean Watersheds Needs Survey every four years as authorized by sections 205(a) and 516 of the Clean Water Act. The Clean Watersheds Needs Survey is a comprehensive assessment of the capital costs (or needs) to meet the water quality goals of the Clean Water Act and address water quality and water quality related public health concerns. Information is collected on:

- Publicly owned wastewater collection and treatment facilities
- Stormwater and combined sewer overflows control facilities
- Nonpoint source pollution control projects
- Decentralized wastewater management

NJDEP has submitted its data for the Clean Watersheds Needs Survey for 2022. In its updated report, NJDEP submitted a total of $2.9 billion in need for gray and green stormwater infrastructure, including the stormwater management (WIP, street sweeper, etc.) needs.

NJDEP asked all of the MSF permittees with populations of less than 50,000 to complete a survey to identify their anticipated resource needs for: development of their Watershed Improvement Plan, purchase of new street sweeper equipment, and installation of stormwater infrastructure (gray or green). NJDEP received a response rate of 27% from small (population < 10,000) municipalities, 29% from mid-population (10,000 to 24,999) municipalities, and 42% from large-population (25,000 to 49,999) municipalities. The responses were used to inform NJDEP's reported total of $2.9 billion needed in stormwater MS4-related needs.

Scenario Assumptions – Funding

The New Jersey Water Bank administers the state revolving fund which provides low-cost financing for design, construction and implementation of projects to protect, maintain and improve water quality. The priorities of the Bank are established through adoption of an Intended Use Plan which outlines projects that are eligible for financing including those related to wastewater treatment, stormwater management, drinking water systems, and land acquisition. The Intended Use Plan for state fiscal year 2025 prioritizes projects that support: financially distressed and/or overburdened communities; implementation of a long-term control plan for CSOs, the quantity of flow anticipated to be removed from a system or flood prone area, and the use of green infrastructure defined in the stormwater rules. Eligible stormwater projects include:

- Non-point Source Pollution/Stormwater management
- Major stormwater system rehabilitation
- Replacement of existing storm drains
- Rehabilitation of tide gates, Extension of outfall points
- Runoff control (stream bank stabilization/restoration)
- Purchasing land to use for stormwater management
- Stream/lake embankment restoration
- Salt dome construction

The State Fiscal Year 2026 Intended Use Plans identify that approximately $900 million of funding is available for Clean Water projects and approximately $790 million is available for Drinking Water projects.

In the latest state seven-year capital improvement plan, New Jersey earmarked $472 million in funding requests for the Green Acres program from FY2026-FY2032. While not all of this funding will go to watersheds, a large portion likely will. Further, the Green Acres funding addresses other infrastructure sectors such as open space preservation which is also covered in this assessment.

PUBLIC RECREATION AND OPEN SPACE LANDS

Existing Conditions

Federal & State Planning Context

Although recent changes in federal support have introduced some uncertainty around future funding for open space and public recreation, national and state initiatives continue to provide a strong framework for infrastructure investments. Specifically related to public lands, open space, and recreation is the Land and Water Conservation Fund (LWCF), which the Green Acres State Land Acquisition Program (Green Acres) is responsible for maintaining and distributing within the State.

Green Acres acquires property for state parks, forests, natural areas, preserves, historic sites, and wildlife management areas and directs funds from state bonds and dedicated taxes to accomplish its mission of open space preservation and recreational development. or management purposes, Green Acres then assigns the acquired properties to the NJDEP programs of State Parks, Forests & Historic Sites or NJ Fish & Wildlife. Additionally, Green Acres provides funding assistance to local governments and nonprofits for land acquisition, park development, and planning, and it administers the Recreational Trails Program and Tax Exemption Program.

In addition, Open Space Trust Funds raise revenues from property taxes (typically 1-5 cents per $100 of assessed value) to be used for the preservation of open space. While governing bodies determine the specific uses of the OSTF in their jurisdictions, permissible uses typically include: the acquisition of lands for recreation and conservation purposes, the development and maintenance of those lands, the acquisition of farmland for preservation purposes, and historic preservation activities. Table 17 lists county-level OSTFs in New Jersey, along with descriptions of how they are funded and how they can be used. Additionally, 258 municipalities in New Jersey follow a similar model of allocating municipal-level OSTF funds for trails, with many maintaining excellent active transportation programs.

Table 17 List of County Open Space Trust Funds

County	Date	Description	Purpose
Atlantic County	11/6/1990	2 cents per $100 property tax increase for the establishment of an open space preservation trust fund	Open space, parks, recreation
Bergen County	11/4/2003	County Public Question, 1 cent per $100 property tax for open space, recreation, farmland and historic preservation	open space, recreation, farmland
Burlington County	11/7/2006	18 to 25-year extension of 4 cents per $100 property tax for land preservation program	Open space, parks, trails
Camden County	11/8/2005	1 cent per $100 property tax increase for open space preservation	Open space
Cape May County	11/7/1989	1-cent per $100 property tax to preserve open space and agricultural lands	Open space, farmland
Cumberland County	11/8/1994	1 cent per $100 of assessed valuation for farmland and open space preservation	Open space, farmland

Essex County	11/6/2007	.5 cent per $100 property tax increase for recreation and open space trust fund	Open space, recreation, farmland
Gloucester County	11/2/2004	20-year, 2 cents per $100 property tax increase for the purchase of development rights on farmland and open space acquisition for parks and recreation	Open space, farmland, recreation
Hudson County	11/4/2003	Public Question #4, 1 cent per $100 property tax increase for open space, recreation, historic preservation	open space, recreation
Hunterdon County	11/4/2008	3 cents per $100 property tax extension for the preservation of open space, parks, and farmland	Open space, parks, farmland
Mercer County	11/2/2004	1 cent per $100 property tax increase for open space	Open space
Middlesex County	11/6/2001	2 cent property tax increase for land conservation, recreation, farmland or historic preservation	recreation, farmland
Monmouth County	11/7/2017	1.25 cent per $100 property tax increase for the county open space trust fund	Open space, parks, recreation, watershed protection, farmland
Morris County	11/6/2001	County Proposition; 2 cent property tax increase for open space, recreation, and farmland preservation	open space, recreation, farmland
Ocean County	11/4/1997	Ocean County Natural Lands Trust Fund, 1.2 cents per $100 property tax increase	Open space, watershed protection, farmland
Passaic County	11/5/1996	2 cents per $100 property tax increase for creation of Open Space and Farmland Preservation Trust Fund for open space and farmland preservation	Open space, farmland
Salem County	11/5/2002	2 cents per $100 property tax increase for the preservation of open space and farmland	Open space, farmland
Somerset County	11/4/1997	Increase property by 1.5 cents for the Open Space Preservation Trust Fund	Open space, farmland
Sussex County	11/3/2015	10-year, half-cent to 1.5 cent property tax renewal for farmland, recreation and open space trust fund	Open space, recreation, farmland
Union County	11/8/2016	1.5 cents per $100 extension of property tax for open space trust fund	Open space, recreation
Warren County	11/5/2002	2¢ per $100 property tax increase for open space	Open space

Asset Inventory

In its long-range plan, “Outside, Together!” NJDEP provides figures of the current lay of the land in New Jersey. It distinguishes between developed land, based on 2015 Land Use/Land Cover data, and preserved acres of State-owned open space and parkland, as well as other preserved county, municipal, and nonprofit lands of similar use. Preserved farmland is not included in its count.

Table 18. Preserved and Developed Acreages by County

COUNTY	TOTAL ACREAGE	PRESERVED ACRES	DEVELOPED ACRES
Atlantic	390,815	119,262	67,845
Bergen	153,477	20,758	111,713
Burlington	525,003	224,090	110,321
Camden	145,651	31,149	76,445
Cape May	183,127	78,451	34,395
Cumberland	321,150	106,133	45,164
Essex	83,035	12,045	64,082
Gloucester	215,167	19,720	76,590
Hudson	32,982	3,836	23,797
Hunterdon	279,885	44,148	70,627
Mercer	146,432	27,217	72,216
Middlesex	202,860	24,625	117,880
Monmouth	310,834	50,231	146,301
Morris	308,084	84,731	121,381
Ocean	485,078	175,902	112,981
Passaic	126,921	50,295	47,411
Salem	222,159	33,186	28,148
Somerset	195,127	31,896	90,020
Sussex	342,589	130,433	54,839
Union	67,439	7,341	55,772
Warren	232,061	51,377	41,001
TOTAL	**4,969,876**	**1,326,826**	**1,568,929**

* Preserved Acres includes State-owned open space/parkland and Green Acres funded and/or encumbered county, municipal, and nonprofit lands (fee and easement). It also includes federal open space and land preserved through the Highlands Development Credit and Pinelands Development Credit programs. It does not include preserved farmland.

* Sources for Preserved Acres: DEP Green Acres Program GIS Open Space Data December 21, 2022. Federal open space acres reported by U.S. Fish and Wildlife Service and National Park Service. HDC credit information provided by the Highlands Council. PDC credit information provided by the Pinelands Commission.

* Source for Developed Acres: DEP 2015 Land Use/Land Cover Updated (Urban Land Use Classification).

Present Needs

NJDEP's vision for public recreation is broad, intentional, and community-focused. At its core, the department seeks to:

- **Expand Access and High-Quality Opportunities:** Expand Access and High-Quality Opportunities: In addition to preserving open space, NJDEP aims to identify new opportunities to support and expand outdoor recreation and interpretation of the State's natural and historic resources. NJDEP will work to increase public access to recreation and natural resources, through greater proximity and connection with public transportation —especially in underserved or overburdened communities.
- **Enhance the Overall User Experience:** This involves not only better physical amenities but also educational initiatives so that residents understand the benefits, importance, and availability of outdoor recreation. The goal is to cultivate a deep, community-wide appreciation for the natural environment.
- **Promote Environmental Stewardship and Sustainability:** Public recreation is not just about leisure; it's also about conserving natural resources. By integrating sustainable practices and fostering biodiversity, NJDEP is aligning recreation with environmental protection and climate resilience.
- **Advance Equity, Health, and Economic Benefits:** The strategic plan underscores the role of outdoor recreation in boosting physical and mental health, stimulating local economies through ecotourism, and addressing social inequalities. This holistic approach reinforces that every New Jerseyan—irrespective of background—should enjoy clean, safe, and inspiring spaces for recreation.
- **Leverage Technology and Partnerships:** Part of the strategy is to harness innovative technologies and form robust partnerships (including with the National Park Service and local advisory committees) to ensure these recreational initiatives are effective, forward-thinking, and well-funded.

Scenario Assumptions – Funding

NJDEP's funding framework is designed to support a wide range of environmental and public service initiatives—from public recreation and water quality to climate resilience and sustainable community development. Here's an overview of the main funding sources that power NJDEP's work:

State Appropriations: At the core, NJDEP receives a significant portion of its budget through state legislative appropriations. This steady funding stream ensures that the department can maintain essential services, enforce environmental regulations, and invest in long-term projects that protect and enhance New Jersey's natural resources.

Federal Grants and Loan Programs: NJDEP leverages federal funding to complement state resources. Key federal sources include funds from initiatives like the Land and Water Conservation Fund, various EPA grants, and other federal programs dedicated to environmental improvements. These funds often target specific projects such as water quality restoration, ecosystem management, and climate resiliency measures. This collaborative funding model helps ensure that NJDEP's projects are both comprehensive and aligned with national environmental priorities.

NJDEP-Administered Grants and Loans: In addition to passing federal dollars, NJDEP manages a robust portfolio of competitive grant and loan programs. These programs support local governments, nonprofits, and community initiatives across a broad spectrum of areas, including sustainable development, water infrastructure improvements, green community projects, public recreation, and open space preservation. Resources like the NJDEP Sustainability Funding & Incentive Guide and the Climate Resilience Funding

Directory clearly outline these opportunities, acting as key pathways for communities to access specialized project funding.

Public–Private Partnerships: To further broaden its funding base, NJDEP often collaborates with local governments, nonprofits, and the private sector. These partnerships draw on additional financial resources and expertise, strengthening statewide initiatives and enhancing public recreational spaces.

Scenario Assumptions – Targets

In addition to expanding the state inventory of open space, NJDEP is embracing innovative technologies to enhance public recreation across New Jersey. Some key advancements include:

- 30x30 Initiative: New Jersey has committed to protect at least 30% of its land by 2030. Currently, the state has already protected over 1.6 million acres—roughly 31% of its total land area—which forms the basis for future enhancements and further expansion projects.
- Smart Park Infrastructure: Parks are integrating real-time monitoring systems to track visitor flow, environmental conditions, and maintenance needs, ensuring a seamless experience.
- Interactive Digital Maps & Apps: Mobile applications provide trail guides, accessibility information, and safety alerts, making outdoor spaces more user-friendly.
- Augmented Reality (AR) & Virtual Tours: AR features allow visitors to explore historical sites and ecological landmarks in an immersive way, enriching their understanding of the environment.
- Automated Conservation Tools: AI-powered wildlife monitoring and habitat restoration technologies help maintain biodiversity while ensuring recreational areas remain sustainable.
- Eco-Friendly Smart Lighting & Energy Solutions: Parks are adopting solar-powered lighting and energy-efficient facilities to reduce environmental impact while improving safety.

Table 19. Remote Acreage Outside of the Existing Open Space System. From NJDEP's "Outside, Together!"

COUNTY	BACK COUNTRY	MID COUNTRY	FRONT COUNTRY	TOTAL REMOTE ACRES
Atlantic	**4,654**	**3,802**	**31,753**	**40,209**
Bergen	**0**	**13**	**197**	**210**
Burlington	**5,748**	**10,696**	**36,469**	**52,912**
Camden	**0**	**14**	**1,915**	**1,929**
Cape May	**36**	**2,119**	**14,093**	**16,248**
Cumberland	**919**	**4,466**	**27,070**	**32,455**
Essex	**0**	**0**	**112**	**112**
Gloucester	**0**	**737**	**11,406**	**12,142**
Hudson	**0**	**0**	**5**	**5**
Hunterdon	**0**	**34**	**7,703**	**7,736**
Mercer	**0**	**0**	**2,260**	**2,260**
Middlesex	**0**	**284**	**5,033**	**5,316**
Monmouth	**0**	**1**	**3,704**	**3,705**
Morris	**0**	**630**	**10,210**	**10,840**
Ocean	**9,295**	**11,362**	**28,096**	**48,754**
Passaic	**639**	**1,912**	**4,999**	**7,550**
Salem	**1,802**	**3,348**	**20,606**	**25,756**
Somerset	**0**	**306**	**3,666**	**3,971**
Sussex	**89**	**3,162**	**30,111**	**33,361**
Union	**0**	**0**	**27**	**27**
Warren	**26**	**1,292**	**16,676**	**17,995**
TOTAL	**23,208**	**44,178**	**256,111**	**323,493**

PUBLIC HEALTHCARE

Existing Conditions

Federal & State Planning Context

Recent shifts in federal priorities have introduced significant uncertainty around long-term investments in public health infrastructure. Many COVID-era grant programs, including those supporting local capacity and modernization, have been scaled back or sunset, raising concerns about sustainable funding for preparedness and equity-focused initiatives. While earlier reforms—such as Medicaid expansion and health IT adoption under the Affordable Care Act and HITECH—spurred modernization across healthcare systems, the continuation of federal support remains unclear.

Building on the frameworks of the Healthy New Jersey 2020 (HNJ2020) and eventual 2030 plan expected to be released in 2025 (HNJ2030), the New Jersey Department of Health (NJDOH) has outlined a strategic vision for strengthening its public health infrastructure through system modernization, workforce development, and regional coordination.[108] While referencing other major plans like the 2019-2022 New Jersey Maternal Mortality and Morbidity Blueprint, HNJ2020 sets measurable targets, including expanding the number of nationally accredited local health departments and increasing county-level collaboration.[109]

With growing uncertainty in federal support, New Jersey has leaned more heavily on internal planning and long-term goal setting to sustain its public health capacity. Similarly, the New Jersey Department of Military and Veteran Affairs (DMAVA) provides health services for veterans, active duty, and National Guard members, overseeing three Veteran Memorial Homes in Menlo Park, Paramus, and Vineland. Institutions like the New Jersey Health Care Facilities Financing Authority (NJHCFFA) contribute to this effort by offering financing tools that support the capital improvement needs of public and private hospitals and healthcare providers statewide. Together, these efforts reflect a broader state-led approach to ensuring that public health systems are equipped to meet emerging challenges through 2030 and beyond.

Asset Inventory

An overview of public health care facilities and their ownership provides important context for evaluating infrastructure needs in the state. Table 20 presents an inventory of healthcare facilities and labs, capturing variations in ownership types and count, as of 2025. Table 21 provides a current display of historical budget requests from each relevant state agency, from 2010-2024.

[108] New Jersey Department of Health. (2025) Healthy New Jersey 2030: Workgroups, committees, and councils. https://www.nj.gov/health/healthynj/2030/about/workgroups/index.shtml#act
[109] New Jersey Department of Health. (2022). Nurture NJ. https://nurturenj.nj.gov/

Table 20 Public Health Care Facilities and Labs by Count and Ownership, 2025

Public Healthcare Facilities (#)	Federal	State Agency	State Authority	County	Municipal	Non-Profit	Total
General Acute Hospitals	---	1	---	3	---	1	5
Psychiatric Hospitals	---	4	---	---	---	---	4
Veteran Memorial Homes	---	3	---	---	---	---	3
Public Health & Environmental Labs (houses many labs within Ewing or Trenton site)	---	9	---	---	---	---	9
NJ DHS Developmental Centers	---	5	---	---	---	---	---
Total	---	22	---	3	---	1	21

Source: NJDOH and DMAVA Facilities List[110] [111]

[110] New Jersey Department of Health. (2025). Health Facilities. https://www.nj.gov/health/healthfacilities/
[111] New Jersey Department of Health. (2025). Public Health Laboratory Testing. https://www.nj.gov/health/phel/public-health-lab-testing/

Table 21. Total & Average Budget Requests for NJDOH & DMAVA vs. Commission Recommendation, 2010-2024. Source: NJ OMB – Archived Budget Publications

Fiscal Year	NJDOH Capital Request ($000s)	Commission Recommendation ($000s)	DMAVA Capital Request ($000s)	Commission Recommendation ($000s)
2010	$ 16,100	$ 7,300	$ 27,285	$ 175
2011	N/A	N/A	$ 27,911	-
2012	N/A	N/A	$ 25,400	-
2013	N/A	N/A	$ 24,964	-
2014	N/A	N/A	$ 8,892	-
2015	N/A	N/A	$ 10,332	-
2016	$ 260	-	$ 10,844	-
2017	N/A	N/A	$ 7,669	$ 3,466
2018	N/A	N/A	$ 7,307	$ 1,900
2019	$ 23,618	$ 3,331	$ 5,761	-
2020	$ 38,644	-	$ 9,029	$ 1,342
2021	$ 45,125	$ 2,281	$ 12,564	-
2022	$ 57,678	$ 22,784	$ 12,832	$ 2,000
2023	$ 89,242	$ 10,015	$ 10,818	$ 1,115
2024	$ 126,225	$ 2,130	$ 19, 191	$ 3,436

Present Needs

Methodology

The estimated present need, which covers the present until 2031, is based on the state's Fiscal Year 2025 Seven-Year Capital Improvement Plan (FY25 SCIP)[112]. Similar to Table 21, 2025-2031 budget requests by NJDOH and DMAVA were compiled to create a forecast. These requests are informed by anticipated costs, focusing only on those costs allocated for infrastructure and capacity-building on state-owned facilities, as

[112] New Jersey Office of Management and Budget (OMB). (2024). *Fiscal Year 2025 Seven Year Capital Improvement Plan*. https://www.nj.gov/treasury/omb/publications/25capital/FY25-SCIP.pdf

included in the budget. These relevant facilities include NJDOH's four psychiatric hospitals and DMAVA's three Veteran Memorial Homes.

New Jersey's public health care growth outlook is shaped by evolving state and federal priorities and funding considerations. To guide future planning, funding projections and target goals were assessed under three scenarios—Steady-State, Moderate Progress, and Aspirational—each reflecting different levels of ambition, investment, and policy alignment. The State Commission on Capital Budgeting and Planning's recommendations from 2025 to 2031 were modeled under each scenario to estimate the likelihood of capital construction and other funding needs. The Steady-State scenario maintains the Commission's current allocation, serving as a baseline value. The Moderate Progress scenario represents the Commission's recommendation meeting 50% of the budget request, while the Aspirational scenario projects meeting 100% of NJDOH & DMAVA's budget requests, all by 2031.

Scenario Assumptions – Funding

Table 22 illustrates the projected revenues versus the recommended funding from the Commission on Capital Budgeting and Planning. The largest portion of NJDOH and DMAVA's budget request timeline is upgrading and preserving depreciated HVAC systems and implementing an active threat alert system, respectively. Below Table 22 compares the financial and target-based assumptions for the three scenarios. The total recommendation values were divided by seven to provide estimated figures for each year. Figure 14 displays the same information, showing the exponential rise between funding scenarios.

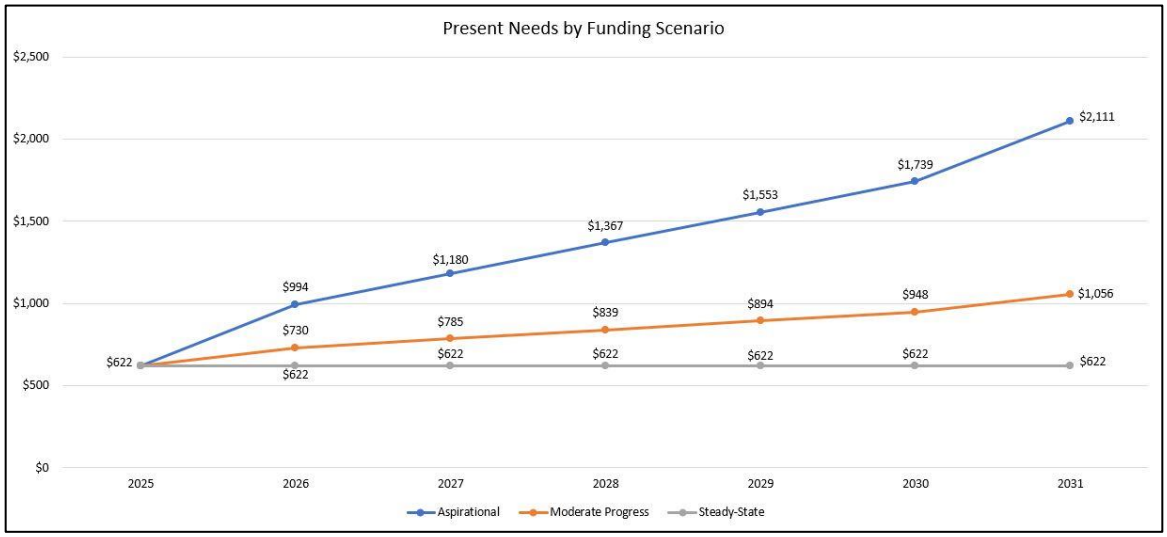
Table 22 Present Need Scenarios by Commission's Funding Recommendation, 2025-2031

	All values in thousands (000s)		
Year	**Aspirational**	**Moderate Progress**	**Steady-State**
2025	$622	$622	$622
2026	$994	$730	$622
2027	$1,180	$785	$622
2028	$1,367	$839	$622
2029	$1,553	$894	$622
2030	$1,739	$948	$622
2031	$2,111 (100% of Expected 2031 Funding Amount, based on Original Request*)	$1,056 (50% of Expected 2031 Funding Amount, based on Original Request*)	$622 (100% of Expected 2031 Funding Amount, based on Commission Recommendation)
Total Present Need	**$9,566**	**$5,874**	**$4,354**

Source: New Jersey FY25 Statewide Capital Improvement Plan

*Original Total Budget Request from NJDOH & DMAVA is $13,867, with the Commission Recommendation meeting 100% of DMAVA's request ($2,860)

Figure 14 Present Needs and Funding Scenarios, 2025-2031



Source: New Jersey FY25 Statewide Capital Improvement Plan

Scenario Assumptions – Targets

Table 23 presents the targets and goals drawn from the HNJ2020 Plan, as well as major DMAVA initiatives. Three scenarios outline varying levels of progress toward meeting objectives for public health infrastructure statewide. In the Steady-State scenario, expected funding levels, as recommended by the state's Commission, are assumed to result in partial progress or a failure to meet past benchmarks. The Moderate Progress scenario assumes additional funding, with improvements driven by conservative increases in the Commission's recommended allocations. Under the Aspirational scenario, significant new investments across capital and operating support, especially for patient groups with disabilities in underserved communities, would be required to fully meet all NJDOH and DMAVA goals.

In each assumption, there is an estimated "federal funding risk", which is used to help evaluate to what degree adverse federal actions will affect state goal outcomes. While state funding and priorities may continue to stay afloat under the Aspirational and Moderate Progress, much uncertainty lies in the outlook for Steady-State scenarios. With proposed cuts to the Centers for Disease Control (CDC), Center for Medicare & Medicaid Services (CMS), and the U.S. Department of Veterans Affairs (VA), the state will be at **moderate to high** risk of funding capital upgrades for current health facilities, continuing to reduce the veteran homelessness rate, and achieving other major equity goals as outlined in current plans.

Table 23 Present Need Scenarios by Target/Goal

	Funding Scenarios			
Target/Goal	**Aspirational**	**Moderate Progress**	**Steady-State**	**Federal Funding Risk**
Increasing public health accreditation, workforce development, and facility modernization	All 4 state psychiatric hospitals receive CMS accreditation, all phases of patient information counters (PICs) improvements are made, and pre-natal/maternal health services upgraded to strengthen capacity. All by 2031. Additional improvements include updated electronic medical records (EMRs), as well as requested capital upgrades from Greystone, Trenton, and Ancora psychiatric hospitals.	3 out of 4 state psychiatric hospitals remain federally accredited. Only Phase 1-2 of PICs are completed, and minimal upgrades to maternal health services. All by 2031.	3 out of 4 state psychiatric hospitals remain federally accredited, PIC implementation is on hold, and major capacity upgrades for maternal and child health services are stagnant. All by 2031.	High: Cuts to CMS grants may deeply hinder how state, nonprofit, and private health facilities expand services and assistance for patient groups. These also include assistance for Federally Qualified Health Centers (FQHCs), which receive Medicare and Medicaid reimbursements. Additional cuts to the CDC's Public-Health Infrastructure Grant program will further obstruct accreditation goals. NJHCFFA funding may help recover some costs.

Seek additional funding for community-based entities to address "contraceptive deserts" in the state, where women lack reasonable access to all forms of birth control[i]	Rate cut in half; 215,000 women now live in "contraceptive deserts" by 2031. Original goal of infant mortality rate of 3.7 per 1,000 live births is achieved & C-sections among low-risk women fall to 27.9% by 2031.	Rate cut by a quarter; 322,500 women now live in "contraceptive deserts" by 2031. Infant mortality rate is lowered to between 3.7-4.1 per 1,000 per 1,000 live births & C-sections among low-risk women fall to 28%, by 2031.	430,000 women will continue to live in "contraceptive deserts", by 2031. Infant mortality rate remains at 4.1 per 1,000 live births & C-sections among low-risk women remain at 29.7%, by 2031.	High: Most funding came from Title IX grants, which were cut in 2019, replenished in 2022, but may well be cut in the coming years.
Develop and grow the number of community-based providers in "childcare deserts"	The number of "childcare deserts" is cut in half, down to 23% of all state residents, by 2031.	Community-based providers may receive marginal NJEDA funding through the Child Care Facilities Improvement Grant Phase 2. This may result in less than 34% of state residents living in "childcare deserts", by 2031.	Underserved areas in the state, known as "childcare deserts", will continue to affect 46% of all state residents, by 2031.	High: NJDOH, in collaboration with NJ Department of Human Services (NJDHS), may rely on federal CDC funding to close the gap in maternal care facilities. Proposed cuts to the Medicaid program also jeopardize the state's goal in increasing accreditation for local service providers. NJ was also the only state to utilize COVID-era relief funds to support existing childcare centers.
Bringing Veterans Home (BHV) initiative & Active Threat Prevention	Achieve Functional Zero: Maintain fewer homeless veterans that can be housed within 30 days and reduce the housing shelter inflow/outflow ratio below 1. Active alert systems are fully put in place in all three Memorial Homes staff receiving proper training in the event of a lockdown, by 2031.	Reduce the backlog of veterans who may be housed within 30 days by 50% of 2025 levels. Housing inflow/outflow ratio is set at 1. Active threat alert system has begun implementation by 2031, in at least one Memorial Home.	Continue to work through current backlog of veterans in need of housing, while housing inflow overtakes outflow. Active threat alert system still in planning phase, with NJ Office of Homeland Security continuing to assess/monitor, by 2031.	High: Cuts to VA funding will affect the almost 307,000 veterans in NJ, with significant reduced capacity upgrades to Memorial Homes and housing providers contracted with DMAVA and NJDCA.

SOLID WASTE MANAGEMENT

Existing Conditions

Federal & State Planning Context

Federal and state initiatives continue to shape the landscape of recycling and solid waste management, though recent shifts in federal leadership have led to changes in tone and emphasis. Under current federal guidance, key programs initiated in prior years—such as the EPA's Solid Waste Infrastructure for Recycling (SWIFR) grants—remain active, albeit with a renewed focus on cost-efficiency, domestic manufacturing, and reduced regulatory burdens. While the Justice40 Initiative and Executive Order 14008 are no longer central guiding frameworks, existing investments made under those programs continue to influence infrastructure improvements in disadvantaged communities. The 2021 National Recycling Strategy (NRS), which set a 50% national recycling goal by 2030, remains a reference point, though states are now granted more flexibility in meeting targets[113].

In New Jersey, the Department of Environmental Protection (NJDEP) upholds state policies while catering to specific local needs. The 2006 Statewide Solid Waste Management Plan, and subsequent amendments, underscore goals to achieve high recycling rates, to integrate strategies for robust public communication and to perform targeted outreach. Additionally, the 2007 Electronic Waste Management Act, 2008 Recycling Enhancement Act and the 2017 Food Waste Reduction Act, inform the State's trajectory in meeting overall waste diversion and recycling goals. Additional legislation includes the 2022 Plastics Reduction Law (N.J.S.A. 13:1E-99.126), which prohibits single-use plastic carryout bags and polystyrene foam food service products, and restricts plastic straw distribution to customer request only; the Recycled Content Law (N.J.S.A. 13:1E-99.135), which mandates post-consumer recycled material in certain containers and packaging; and the Food Waste Recycling Law (N.J.S.A. 13:1E-99.122), requiring large food waste generators to source-separate and recycle food waste. Other relevant laws include the 2019 Dirty Dirt Law (P.L. 2019, c.297), expanding licensing requirements for soil and fill recyclers; the 2018 Recycled Asphalt Pavement (RAP) Law (P.L. 2017, c.325), which allows broader use of RAP without prior NJDEP approval; and the 2023 School Food Waste Recycling Law (P.L. 2023, c.193), permitting K–12 schools to use on-site in-vessel composting and anaerobic digestion systems.

Asset Inventory

Assessing the State's number of critical assets related to solid and hazardous waste management is key to determining infrastructure needs. Below in Table 24**,** a non-exhaustive inventory asset table was created to document both the quantity and ownership of an asset.[114] The inventory table outlines the diverse landscape of solid and hazardous waste management facilities across New Jersey, encompassing various classes and types of recycling and disposal sites. Other key facilities include Authorized Incinerators, Class C Recycling Centers (includes compost sites), Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDFs), and Landfills, all of which are mainly held by counties and municipalities. Table 25 displays the

[113] U.S. Environmental Protection Agency (EPA). (2021). *National Recycling Strategy: Part One of a Series on Building a Circular Economy for All*. https://www.epa.gov/system/files/documents/2021-11/final-national-recycling-strategy.pdf

[114] New Jersey Department of Environmental Education (NJDEP). (2024). *Recycling Center and Recycling Markets Directory.* https://www.nj.gov/dep/dshw/recycling/recymkts_directory.htm

change in solid waste generation, disposal, and recycling rates from 2001 to 2022[115]

[115] New Jersey Department of Environmental Education (NJDEP). (2025). *New Jersey Generation, Disposal and Recycling Statistics.* https://www.nj.gov/dep/dshw/recycling/stats.htm

Table 24 Solid and Hazardous Waste Facilities by Count and Ownership, 2024

Solid Waste Facilities (#)	Federal	State Agency	State Authority	County	Municipal	Private	Unknown	Total
Class A (as of October 2025)				7		81		**88**
Class B – 96 (as of October 2025)				2		93		**95**
Class C (as of October 2025)				2	4	5	1	**12**
Authorized Incinerator				1		3		**4**
Multi-Class Recycling Centers (B&C)			1	6	10	11		**28**
Class D (as of October 2025)						9	6	**15**
Treatment, Storage, and Disposal Facilities for Hazardous Waste (TSDFs) Facilities							16	**16**
Paper Mills (as of October 2025)						2		**2**
Grease Rendering/Recycling Facilities							8	**8**
Landfills				11		4		**15**
Transfer Stations				7	3	52		**62**
Total			2	87	17	260	31	**397**

Source: NJDEP

Table 25 Solid and Hazardous Waste Generation Rates, 2001-2022

Generation, Disposal, and Recycling Rates in New Jersey	2001	2022
Solid Waste Generated, Annual Total	18,865,389 tons	21,279,372 tons
Solid Waste Generated, Per Capita	12.28 pounds per day	12.55 pounds per day
Percent Recycled	54.2%	54.0%
Solid Waste Recycled Per Year	10,222,989 tons	11,427,849 tons
Municipal Solid Waste, Percent Recycled	36%	38%
Percent Incinerated, Landfilled, or Transported to Other States	45.8%	46%
Solid Waste Incinerated, Landfilled, or Transported to Other States	8,642,400 tons	9,851,523 tons

Source: NJDEP

Present Needs

Methodology

The estimated present need, which covers the present until 2031, is based on the State's Fiscal Year 2025 Seven-Year Capital Improvement Plan (FY25 SCIP)[116] . To create a forecast, 2025-2031 budget requests by NJDEP were compiled. These requests are informed by anticipated costs, including those specifically allocated for hazardous waste management. The analysis focuses exclusively on waste-related costs including cleanup and remediation efforts and does not account for total budget requests outside of this focus.

New Jersey's solid waste management outlook is shaped by evolving policy priorities, environmental goals, and funding considerations. To guide future planning, the State has assessed infrastructure needs under three scenarios—Steady-State, Moderate Progress, and Aspirational—each reflecting different levels of ambition, investment, and policy alignment. For waste management, the State Commission's recommendations from 2025 to 2031 were modeled under each scenario to estimate the likelihood of capital construction, waste, and recycling-related funding needs. The Steady-State scenario maintains the Commission's current allocation, serving as a baseline value. The Moderate Progress scenario represents the Commission's recommendation meeting 50% of NJDEP's budget request, while the Aspirational scenario projects meeting 100% of the total budget request.

[116] New Jersey Office of Management and Budget (OMB). (2024). *Fiscal Year 2025 Seven Year Capital Improvement Plan*. https://www.nj.gov/treasury/omb/publications/25capital/FY25-SCIP.pdf

Scenario Assumptions – Funding

The SCIP serves as a roadmap for navigating New Jersey's source reduction and waste diversion initiatives. The largest portion of NJDEP's budget request timeline is landfill remediation, a significant public cost identified in the 2001 INA.[117] Below Table 26 compares the financial and target-based assumptions for the three scenarios. The total recommendation values were divided by five to provide estimated figures for each year**.** Figure 15 displays the same information, showing the exponential rise between funding scenarios.

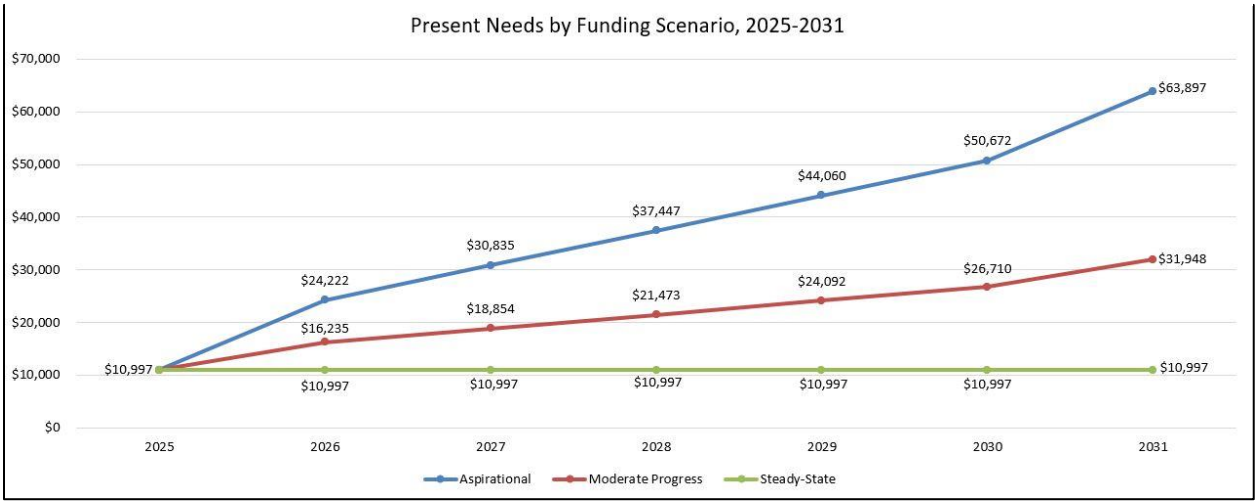
Table 26 Present Need Scenarios by Commission's Funding Recommendation, 2025-2031

	All values in thousands (000s)		
Year	**Aspirational**	**Moderate Progress**	**Steady-State**
2025	$10,997	$10,997	$10,997
2026	$24,222	$16,235	$10,997
2027	$30,835	$18,854	$10,997
2028	$37,447	$21,473	$10,997
2029	$44,060	$24,092	$10,997
2030	$50,672	$26,710	$10,997
2031	$63,897 (100% of Original Request* by 2031)	$31,948 (50% of Original Request* by 2031)	$10,997
Total Present Need	**$262,160**	**$150,309**	**$76,979**

***Original Budget Request from NJDEP is $447,280,000.**

[117] New Jersey Office of State Planning (OPA). (2001). *Infrastructure Needs Assessment: New Jersey State Development and Redevelopment Plan*. Retrieved from https://www.nj.gov/state/bac/planning/documents/154-infrastructure-needs-assessment-030101.pdf

Figure 15 Present Needs and Funding Scenarios, 2025-2031



Source: New Jersey FY25 Statewide Capital Improvement Plan

Scenario Assumptions – Targets

An additional scenario analysis is built on varying assumptions about recycling performance targets rather than funding alone. Table 27 includes a list of relevant performance indicators, according to the Governor's Performance Center. Each scenario reflects a different level of progress toward achieving statewide performance goals for total and municipal solid waste (MSW) streams. The Steady-State scenario assumes that, with expected funding, total recycling goals will remain unmet, but proximate to the goal. The State has only met this goal twice: 1995 and 2010. The Moderate Progress scenario anticipates that with increased funding, total recycling goals are met and MSW rates improve significantly, driven largely by dedicated and general revenues under the State's Recycling Enhancement Act and the State's Recycling Tax Fund. The Aspirational scenario assumes full achievement of both total and MSW recycling targets, requiring increased funding across both capital projects and tonnage grant.

In each assumption, there is an estimated "federal funding risk," which is used to help evaluate to what degree adverse federal actions will affect state goal outcomes. While state funding and priorities may continue to stay afloat under the Moderate Progress and Steady-State scenarios, the Aspirational scenario carries a slightly higher exposure to federal policy or funding variability. With proposed cuts to the EPA's Superfund Program, the State will be at **moderate** risk of project delays, including potentially losing the 90% matching funds formula for privately-owned landfill and other contaminated sites. These risks are partially supplanted by funding through the State's Spill Compensation Fund, Hazardous Discharge Site Remediation Fund (HDSRF), Corporate Business Tax (CBT), New Jersey Clean Communities Grant.

Table 27 Present Need Scenarios by Target/Goal

	Funding Scenarios			
Target/Goal	Aspirational	Moderate Progress	Steady-State	Federal Funding Risk
Total Solid Waste Recycling Target: 60%	60% or higher by 2031	55-60% by 2031	Goal is not met but remains near-target: 50-55%	Low-Moderate: Recycling rates are largely state-funded, but EPA's SWIFR program provides supplemental assistance[118] This program may face cuts. Additional potential cuts to EPA's Superfund Program.
MSW Recycling Target: 50%	50% by 2031	Goal is not met but remains near-target: 40-45% by 2031	Goal remains well below target: <40% by 2031	Low-Moderate: Recycling rates are largely state-funded, but EPA's SWIFR program provides supplemental assistance. This program may face cuts.
Annual E-Waste Recycling Target: 51.2M lbs	Annual average of 60mil lbs or higher by 2031*	Annual average of 52mil lbs by 2031	Annual average of 52mil lbs or less by 2031	Low-Moderate: IIJA grant funding, distributed to NJDEP, county governments, and private/nonprofit entities for e-waste recycling efforts, are at risk of being cut.
Food Waste Reduction Goal: 50% by 2030	50% by 2030-2031	25% by 2030-2031	6% increase in food waste by 2030-2031**	Moderate Risk: EPA's SWIFR program provides funding to help better track food waste data, as well as recycling equipment. This program may face cuts.

Source: 2006 New Jersey Solid Waste Management Plan; 2007 Electronic Waste Management Act amended through 2017; 2008 Recycling Enhancement Act; 2017 Food Waste Reduction Act; 2018 Recycled Asphalt Pavement Law; 2019 Dirty Dirt Law; 2021–2022 Plastics Reduction Law; 2022 Recycled Content Law; 2022 Food Waste Recycling and Food Waste to Energy Production Law; 2023 School Food Waste Recycling Law

*NJDEP began performance tracking for e-waste in 2011, with the original goal of 48.7 lbs recycled.

[118] U.S. Environmental Protection Agency (EPA). (2025). *Solid Waste Infrastructure for Recycling Grants for States and Territories*. https://www.epa.gov/infrastructure/solid-waste-infrastructure-recycling-grants-states-and-territories

PUBLIC EDUCATION

Existing Conditions

Federal & State Planning Context

The New Jersey state constitution declares that "the legislature shall provide for the maintenance and support of a thorough and efficient system of free public schools."[119] Thus, from its founding document New Jersey has committed to supporting public education. Like higher education, this is a job handled not only by the state but also at the federal and municipal level. Public education in New Jersey is directed by the following authorities:

- United States Department of Education
- New Jersey Department of Education
- New Jersey School Development Authority
- County Budget Offices
- Local Education Authorities

With public education, the spheres of investment key well to the levels of government: local government has the most say, then state, and lastly the federal government. This needs assessment will briefly speak about federal involvement before assessing state and local needs.

Federal investment in public education accounts for about 7.5% of overall public spending on public education as compared to the 44.8% of funding provided by state government and 47.7% provided by local governments[120]. Most pertinent for this needs assessment are federal investments in Title I schools. Title I schools are schools that serve a high percentage of socio-economically disadvantaged students. Title I funds are directed more toward student services rather than school infrastructure, but the program is still relevant for this assessment as the presence of these funds allows these schools to utilize their resources in different ways—such as infrastructure improvements—that would not be possible if these funds were unavailable. New Jersey received $372,998,000 in Title I funds in FY 2022[121] and funding went to 1,665 schools[122]. As changes to the U.S. Department of Education are underway, it will be important to keep track of Title I allocations for planning purposes.

The main area of focus for this assessment involves policymakers and funders for public education at the state and local levels in New Jersey. At the state level, there are two main sectors that separate the investments. These are the School Development Authority (SDA) Districts and the non-SDA districts. The SDA districts encompass the 31 "special-need" districts first established by the 1998 NJ Supreme Court ruling in

[119] New Jersey Legislature. (2020). New Jersey State Constitution (1947, updated through amendments adopted in November 2020). https://www.njleg.state.nj.us/constitution
[120] Education Data Initiative. (n.d.). Public education spending statistics. https://educationdata.org/public-education-spending-statistics
[121] National Center for Education Statistics. (2024). *Revenues and expenditures for public elementary and secondary education: FY 2022 (NCES 2024-302), Table 8*. U.S. Department of Education. https://nces.ed.gov/ccd/tables/NPEFS_FinanceTable8_FY22_1a.asp
[122] Statistic from compiling "schools with schoolwide program" and "schools with targeted assistance program" from table: https://nces.ed.gov/programs/digest/d23/tables/dt23_204.06.asp

Abbott v. Burke and reaffirmed by the New Jersey Educational Facilities Construction and Financing Act of 2000. The SDA funds 100% of the cost of school construction projects in these districts. The SDA is guided by a statewide strategic plan which is required by law to be updated every 5 years. The strategic plan uses different criteria to determine which projects represent the greatest need and to establish a hierarchy of which projects to fund.

Present Needs

Methodology

Needs Assessment for SDA Districts

Infrastructure needs for SDA districts are guided by the New Jersey Educational Facilities Construction and Financing Act of 2000. The Act outlined the criteria that would be considered when ranking different facilities projects in SDA districts. The main criteria that are factored in are enrollment, capacity, and square feet per student. Enrollment is utilized to help determine whether a school facility provides adequate space for proper functioning. If a school's projected enrollment is greater than its calculated capacity, then the difference is considered its population of "unhoused students." A school's unhoused population is one of the main factors considered when calculating school infrastructure needs. The third factor that contributes to a school's need is its square footage per student. The SDA has set up an acceptable standard of square footage provided for each student at the school—known as facilities efficiency standards (FES). When schools fall below this acceptable standard it is another cause to undertake construction improvements. Table 28 provides capacity data for the 31 SDA districts and Table 29 ranks the districts by outstanding capacity needs.

GSF= Gross Square Feet FES= Facilities Efficiency Standards

Table 28 SDA Districts Capacity Deficiencies

EFNA Deficiency Summary (based on 2018-1029 enrollments)

	Grades PK-5			Grades 6-8			Grades 9-12		
District	**3-Year Enroll. Trend**	**Capacity Def.**	**GSF < FES**	**3-Year Enroll. Trend**	**Capacity Def.**	**GSF < FES**	**3-Year Enroll. Trend**	**Capacity Def.**	**GSF < FES**
Asbury Park	↑	0	0	↓	0	0	↑	0	0
Bridgeton City	↓	0	19900	↑	422	61116	↑	29	32041
Burlington City	↓	0	0	↓	0	0	↔	0	0
Camden City	↓	0	0	↔	0	0	↑	0	0
City of Orange	↓	249	0	↔	227	6228	↑	0	0
East Orange	↓	0	0	↑	0	0	↓	0	0
Elizabeth City	↑	3355	317042	↑	1232	96225	↑	2422	27170
Garfield	↓	605	81931	↑	0	0	↑	225	217631
Gloucester City	↓	0	0	↑	0	0	↓	0	18277
Harrison	↓	0	0	↔	0	0	↑	0	0
Hoboken	↑	0	0	↓	0	0	↓	0	0
Irvington	↔	0	0	↑	0	0	↑	0	0
Jersey City	↓	1200	0	↑	0	0	↔	0	0
Keansburg	↓	0	0	↑	0	0	↔	0	0
Long Branch	↓	0	16662	↑	0	0	↑	0	0
Millville	↓	0	0	↓	0	0	↓	0	0
Neptune	↓	0	0	↓	0	0	↓	0	0
New Brunswick	↓	637	36419	↑	737	59480	↑	0	0
Newark	↓	0	0	↑	0	0	↑	0	0
Passaic City	↓	394	0	↑	0	0	↑	761	197024
Paterson City	↓	780	110796	↑	0	0	↑	1455	246573
Pemberton Township	↓	0	0	↓	0	0	↓	0	0
Perth Amboy	↓	522	49691	↓	0	0	↑	0	0
Phillipsburg	↓	0	0	↑	0	0	↑	0	0
Plainfield	↓	216	0	↑	0	0	↑	0	0
Pleasantville	↓	187	9119	↔	0	0	↔	0	0
Salem City	↓	0	0	↑	0	0	↑	0	0
Trenton City	↓	34	0	↑	0	0	↑	0	0
Union City	↓	973	202977	↑	154	0	↑	0	22546
Vineland	↓	0	0	↑	0	0	↓	0	0
West New York	↓	298	49649	↑	0	2066	↑	0	19540
Totals		9450	894186		2772	225115	0	4892	780802
No. of Districts		13	10		5	5		5	8

Source: NJDOE 2019 Educational Facilities Needs Assessment[123]

Table 29 Remaining Capacity Needs by District Ranked (2024 Update)

Rank	Rank (2019 Plan)	County	District	Capacity Needs	Percentage Overcrowding	Grade Levels Impacted
1	1	Union	Elizabeth	7,505	37.20%	PK - 12
2	2	Bergen	Garfield	785	18.50%	PK - 9, 12
3	7	Cumberland	Bridgeton	631	11.70%	12-Jun
4	4	Essex	City of Orange	503	10.40%	PK, 6 - 12
5	15	Mercer	Trenton	1,186	9.90%	K - 5, 9 - 12
6	5	Hudson	Union City	1,097	9.80%	PK - 8
7	8	Passaic	Passaic City	1,004	7.80%	PK, 9 - 12
8	6	Passaic	Paterson	1,713	7.40%	PK - 5, 9 - 12
9	11	Union	Plainfield	606	7.40%	K - 5
10	3	Middlesex	New Brunswick	504	5.50%	PK - 12
11	10	Middlesex	Perth Amboy	371	3.30%	K - 5
12	N/A	Hudson	Hoboken	74	2.50%	K - 5
13	N/A	Camden	Gloucester City	56	2.40%	6 - 8
14	N/A	Monmouth	Long Branch	137	2.30%	K - 5
15	13	Hudson	West New York	168	2.10%	PK, 6 - 8
16	9	Atlantic	Pleasantville	79	2.10%	K - 5
17	12	Hudson	Jersey City	475	1.70%	PK - 5
18	N/A	Cumberland	Vineland	154	1.50%	6 - 8
19	N/A	Essex	Newark	455	1.10%	6 - 8
20	N/A	Warren	Phillipsburg	32	0.70%	6 - 8
21	14	Essex	East Orange	45	0.40%	PK
	21 Districts			17,580	7.30%	

Source: NJSDA Strategic Plan Update 2024[124]

[123] New Jersey Department of Education. (2019). *Educational facilities needs assessment and prioritization of school facilities projects for SDA districts,* B:1. https://edlawcenter.org/assets/files/pdfs/facilities/EFNA_2019_DOE.pdf

[124] New Jersey Schools Development Authority. (2024). *2022 strategic plan update and capital plan: Revised December 2024*, 17. https://www.njsda.gov/Content/Projects/2022_Strategic_Plan_Update_and_Capital_Plan_Revised_December2024.pdf

Needs Assessment for Non-SDA Districts

In terms of non-SDA districts, the New Jersey administrative code outlines a robust methodology for assessing infrastructure that all New Jersey school districts follow[125]. The methodology includes a measurement of school facility functional capacity, estimates of building life expectancy, calculations of a schools' "unhoused" student populations, and other metrics that correspond to current need. The main measuring instrument is the Long-Range Facilities Plan. These plans are submitted every 5 years by each New Jersey school district. They outline current enrollment trends, property inventory, and any deficiencies in facilities' efficiency standards. Due to the substantial number of school districts, it is difficult to aggregate the needs of all the Long-Range Facilities Plans and this is recommended as a good next step for assessing need in non-SDA districts.

Scenario Assumptions – Funding

Federal

As most federal funding applies to student-based rather than construction-based services, changes to federal funding should only result in minor effects on school infrastructure.

State

SDA Districts

In terms of funding scenarios, the SDA districts' current capital needs portfolio is the best estimate of present needs. As Table 30**,** shows the SDA forecasts over $1 billion in need for its current project log from 2022.

[125] New Jersey Department of Education. *N.J. Admin. Code § 6A:26-2.2 – Completion of long-range facilities plans*. Legal Information Institute, Cornell Law School. https://www.law.cornell.edu/regulations/new-jersey/N-J-A-C-6A-26-2-2

Table 30 SDA 2022 Greatest Need Capital Projects Portfolio

SDA 2022 Greatest Need Capital Projects Portfolio (Costs updated December 2024)			
Project title	**Project type**	**District**	**Cost in $ Millions**
Bridgeton High School Renovation	Renovation	Bridgeton	$49.2
Camden New High School (Eastside HS replacement)	New School	Camden	$115.1
Union City New Grade 7 to 9 School	Building Acquisition	Union City	$4.0
Elizabeth New Elementary School (Battin replacement)	New Construction	Elizabeth	$96.2
Garfield New Elementary School	New Construction	Garfield	$87.6
Trenton New Elementary School	New Construction	Trenton	$83.8
Passaic City New High School	New Construction	Passaic City	$328.1
Paterson New High School	New Construction	Paterson	$160.3
West New York New Middle School	New Construction	West New York	$110.1
Pleasantville New Elementary School	New Construction	Pleasantville	$65.8
Newark New High School	New Construction	Newark	$129.2
Total			$1,229.4

Source: NJSDA Strategic Plan Update 2024[126]

Under current conditions, the SDA is on track financially to complete this portfolio of projects by FY2029 as the SDA has been allotted $1.9 billion in funding disbursed in $350 million increments from FY23 to FY29 by state appropriations in the governor's budget[127].

These 11 projects, however, are only a portion of the full list of over 60 recommended projects set out by the 2019 Educational Facilities Needs Assessment[128] With funding streams uncertain after FY29 and a full list of projects that still need to be addressed, it is clear that the SDA will need to seek out additional future funding options to address ongoing project work.

[126] New Jersey Schools Development Authority. (2024). 2022 strategic plan update and capital plan: Revised December 2024, 5.

[127] New Jersey Legislature, Office of Legislative Services. (2025). *Department of Education budget analysis: Fiscal year 2026* (p. 10). https://pub.njleg.state.nj.us/publications/budget/governors-budget/2026/doe_analysis_2026.pdf

[128] New Jersey Department of Education. (2019). *Educational facilities needs assessment and prioritization of school facilities projects for SDA districts,* B:2-4. https://edlawcenter.org/assets/files/pdfs/facilities/EFNA_2019_DOE.pdf

Non-SDA districts

Of the $1.9 billion allotted to the SDA until FY29, $350 million is set aside specifically for non-SDA districts. Without data from district Long Range Facilities Plans it is difficult to predict if this funding level is adequate. It is recommended that further research addresses non-SDA district infrastructure needs to better estimate funding efficacy.

HIGHER EDUCATION

Existing Conditions

Federal & State Planning Context

In the United States, higher education is guided at the federal level by the Higher Education Act of 1965. This act defines what qualifies as a higher education institution and, important for our efforts, is the main source of federal investment in the state's institutions of higher education. This needs assessment will briefly mention these federal investments but will address state and local funding in greater detail.

In New Jersey, the following authorities often guide higher education construction:

- Office of the Secretary of Higher Education (OSHE)
- New Jersey Educational Facilities Authority (NJEFA)
- College/University departments of Capital Planning
- County Budget Offices

Higher education infrastructure maintenance in New Jersey is best defined by the 29 institutions that are considered public institutions of higher education[129]. Although the terminology differs slightly, both the 2001 INA and current OSHE data categorize post-secondary public institutions as community colleges and senior public colleges/universities.

Federal investment in higher education largely comes in the form of financial aid to students rather than institutional investment. As a recent Bellwether report notes, institutional aid makes up only 0.4% of federal expenditures on higher education[130].

Present Needs

Methodology

The estimated present need, which covers the present until 2031, is based on the state's Fiscal Year 2025 Seven-Year Capital Improvement Plan (FY25 SCIP).[131] To create a forecast, 2025-2031 budget requests by each senior public college/university were compiled. Community college infrastructure needs are not covered by the FY25 SCIP, so data were drawn from 2025 county budgets instead or left blank when not mentioned in budgets. These county budgets are projected to 2030 and are a good approximation compared to the 2031 timeline of the SCIP. Not every county budget reports the same so times are added to indicate the duration of funding. Table 31 highlights current forecasted budget requests for community colleges and Table 32 details the senior public colleges/universities budget requests and planned infrastructure projects.

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[129] New Jersey Office of the Secretary of Higher Education. Institutional Profiles. Public College and University Institutional Profiles. https://www.nj.gov/highereducation/IP/index.shtml

[130] Bellwether Education Partners. (2024). Dollars and Degrees: How Do Federal Resources Support Higher Education Funding and Equity? Bellwether Education Partners. https://bellwether.org/wp-content/uploads/2024/04/DollarsAndDegrees_3_Bellwether_April2024.pdf

[131] New Jersey Office of Management and Budget (OMB). (2024). Fiscal Year 2025 Seven Year Capital Improvement Plan. https://www.nj.gov/treasury/omb/publications/25capital/FY25-SCIP.pdf

Table 31 Present Community College Infrastructure Needs Estimate FY2025-FY2030

School	Total Request ($ in Millions)	Time Horizon
Warren County Community College	$2.8	For 2025
Burlington County College (Rowan College at Burlington County)	$5.0	For 2025
Ocean County College	$6.21	For 2025
Raritan Valley Community College	$8.65	until 2030
Camden County College*	$3.11	For 2025
Union County College	$12.44	until 2030
Brookdale community College	$23.44	until 2030
Sussex County Community College	$13.5	until 2030
Essex County College	$3.9	until 2029
Bergen Community College	$39.87	until 2030
Passaic County Community College	$27.09	until 2030
Salem Community College	nav	Nav
County College of Morris	$4.46	until 2030
Hudson County Community College**	$182.8	until 2030
Middlesex County Community College	$86.7	until 2030
Atlantic Cape Community College	nav	Nav
Cumberland County College (Rowan College of South Jersey)	nav	Nav
Gloucester County College (Rowan College of South Jersey)	nav	Nav
Mercer County Community College	nav	Nav
Total	**$419.97 million**	

*County budget does not list college expenditures, so college 2025 capital budget used.
** Budget line includes funding for vocational schools as well.
nav = not available

Source: FY2025 County Budgets

Table 32 Senior College/University Budget Request and Infrastructure Project Type Needs Estimate FY2025-FY2031

Institution Name	Budget Request (2025-2031) $ in Millions	Preservation	Compliance	Environmental	Acquisition	Construction	Public Purpose	Total
Kean University	$105.00	6	1	0	0	12	2	21
Montclair State University	$362.70	14	0	0	4	23	5	46
New Jersey City University	$55.42	3	8	0	2	5	7	25
New Jersey Institute of Technology	$377.85	1				6		7
Ramapo College	$47.92	2	2	3	0	11	5	23
Rowan University	$451.15	1	0	0	1	9	3	14
Stockton University	$467.50	2	0	0	0	28	0	30
The College of New Jersey	$472.54	3	3	2	0	3	2	13
Thomas Edison State University	$4.85	0	0	0	0	0	6	6
William Paterson University	$346.03	4	1	1	5	1	1	13
University Hospital	$70.40	1	1	0	1	0	0	3
Rutgers University	$9,680.85	5	2	1	1	21	6	36
TOTAL	**$12,442.21**	**42**	**18**	**7**	**14**	**119**	**37**	**234**

Source: FY2025 Seven Year Capital Improvement Plan[132]

Enrollment as a Measure

In addition, enrollment can help inform future need. Table 33 and Table 34 show updated summaries of the last decade of undergraduate and graduate enrollment at the state's public institutions[133]. Higher education

[132] New Jersey Office of Management and Budget (OMB). (2024). *Fiscal Year 2025 Seven Year Capital Improvement Plan*. https://www.nj.gov/treasury/omb/publications/25capital/FY25-SCIP.pdf

[133] Tables created using data from New Jersey Office of Higher Education. (2025). 12-Month Enrollment Dashboard. https://www.nj.gov/highereducation/dashboard-12months.shtml

enrollment has largely seen a downturn over the last 8 years. Of course, the effects of the COVID-19 pandemic are inseparable from the conversation of enrollment trends. The 2022-2023 school year saw very modest increases in enrollment and the 2023-2024 school year continued this trend. Community colleges appear to be bouncing back a bit faster but also saw larger decreases than four-year public schools.

Table 33 Community College Enrollment Trends 2016-2024

Community Colleges		
School Year	**Total Enrollment**	**% Change from prev. year**
2016-2017	217,050	-
2017-2018	213,672	-1.56%
2018-2019	207,047	-3.10%
2019-2020	200,913	-2.96%
2020-2021	181,433	-9.70%
2021-2022	173,868	-4.17%
2022-2023	176,387	1.45%
2023-2024	183,718	4.16%
Total % Change (2016-2024)	**-15.36%**	

Source: New Jersey Office of Higher Education 12 Month Enrollment Dashboard[134]

Table 34 Community College Enrollment Trends 2016-2024

Senior Public College/University		
School Year	**Total Enrollment**	**% Change from prev. year**
2016-2017	218,591	
2017-2018	218,955	0.17%
2018-2019	222,650	1.69%
2019-2020	221,712	-0.42%
2020-2021	219,458	-1.02%
2021-2022	212,165	-3.32%
2022-2023	210,184	-0.93%
2023-2024	212,105	0.91%
Total % Change (2016-2024)	**-2.97%**	

Source: New Jersey Office of Higher Education 12 Month Enrollment Dashboard[135]

[134] New Jersey Office of Higher Education. (2025). *12-Month Enrollment Dashboard.* https://www.nj.gov/highereducation/dashboard-12months.shtml

[135] New Jersey Office of Higher Education. (2025). *12-Month Enrollment Dashboard.* https://www.nj.gov/highereducation/dashboard-12months.shtml

Although enrollment at both institution types has increased in recent years, neither has returned to pre-pandemic levels as Table 35 illustrates. These trends all affect capital planning and investments as schools need to consider the best use of available spaces while also keeping in mind the current positive trend in enrollments.

Table 35 Current vs. Pre-Pandemic Enrollments

Current vs. Pre-Pandemic Enrollments		
School Year	**Community Colleges**	**Senior Public College/University**
2018-2019	207,047	222,650
2023-2024	183,718	212,105
% Change	**-11.27%**	**-4.74%**

Source: New Jersey Office of Higher Education 12 Month Enrollment Dashboard[136]

Scenario Assumptions – Funding

In the seven-year state capital plan, the commission recommended $0 allocated to higher education infrastructure as compared to an over twelve-billion dollar total combined request for all schools over the next seven years. To expect the State to suddenly be able to meet these requests is not actionable. Rather, these scenario assumptions looked at possible scenarios for what it would take for the State to gradually meet these requests. As Table 36 shows, we forecast possible budget outlays for an Aspirational scenario in which the State can fully meet the budget requests of higher education institutions by 2031. We also consider a Moderate Progress scenario in which the State meets 50% of the request by 2031 and finally the "business as usual" Steady-State of not funding any requests. Since the SCIP covers seven years, we modeled each year of progress by adding an additional 14% of the budget request of 2031 met all the way up to 50% (14% of 50% funding added each year) of total for Moderate Progress and 100% (14% of 100% funding added each year) for Aspirational. Thus, by 2031 the State would actually fund the entire FY2031 budget request of the institutions or 50% in the Moderate Progress scenario.

[136] New Jersey Office of Higher Education. (2025). *12-Month Enrollment Dashboard.* https://www.nj.gov/highereducation/dashboard-12months.shtml

Table 36 Funding Scenarios for Higher Education Infrastructure

Year	Aspirational $ in Thousands	Moderate Progress $ in Thousands	Steady-State
2025	$597,450.90	$298,725.45	$0.00
2026	$605,495.31	$302,747.65	$0.00
2027	$885,144.61	$442,572.30	$0.00
2028	$582,051.13	$291,025.57	$0.00
2029	$727,563.92	$363,781.96	$0.00
2030	$873,076.70	$436,538.35	$0.00
2031	$1,018,285.00	$509,142.50	$0.00
Scenario	**(100% of Original Request by 2031)**	**(50% of Original Request by 2031)**	**Abide by Commission recommendation**

Source: FY2025 Seven Year Capital Improvement Plan[137]

Scenario Assumptions – Targets

We have also estimated infrastructure target scenarios for the various institutions tied to the funding scenarios. Since the budget requests were keyed specifically to infrastructure projects[138], we estimate in Table 36 that the aspirational scenario would allow for the institutions to complete about 40% of the projects and moderate progress would enable 20% project completion[139].

[137] New Jersey Office of Management and Budget (OMB). (2024). *Fiscal Year 2025 Seven Year Capital Improvement Plan*. https://www.nj.gov/treasury/omb/publications/25capital/FY25-SCIP.pdf

[138] See FY25 SCIP pages 277-388

[139] Sum of 7-year funding of aspirational scenario = $5,289,067.57 which is about 43% of total budget requests of $12,437,360. Sum of moderate progress scenario = $2,644,533.78 which is about 21% of total budget requests.

Table 37 Infrastructure Scenarios for Higher Education

Infrastructure Scenarios			
Institution	**Aspirational**	**Moderate Progress**	**Steady-State**
Kean University	8	4	0
Montclair State University	18	9	0
New Jersey City University	10	5	0
New Jersey Institute of Technology	3	2	0
Ramapo College	9	5	0
Rowan University	6	3	0
Stockton University	12	6	0
The College of New Jersey	5	3	0
Thomas Edison State University	2	1	0
William Paterson University	5	3	0
University Hospital	1	0	0
Rutgers University	14	7	0
Total	**93**	**48**	**0**

Source: FY2025 Seven Year Capital Improvement Plan[140]

[140] New Jersey Office of Management and Budget (OMB). (2024). *Fiscal Year 2025 Seven Year Capital Improvement Plan*. https://www.nj.gov/treasury/omb/publications/25capital/FY25-SCIP.pdf

PUBLIC LIBRARIES

Existing Conditions

Federal & State Planning Context

National and state initiatives continue to provide a strong framework for infrastructure investments. The Library Services and Technology Act (LSTA) remains the primary federal guide, administered by the Institute of Museum and Library Services (IMLS), requiring State Library Administrative Agencies (SLAAs) to develop Five-Year Plans focused on preserving knowledge, strengthening the national information infrastructure, and expanding services to diverse and underserved communities.[141] While LSTA funds cannot be used for construction, states are required to establish advisory councils to ensure broad community input. Digital infrastructure efforts are further supported by the FCC's 2017 Strategies for Promoting Digital Inclusion, maintaining a continued emphasis on expanding broadband access and improving digital literacy nationwide.[142]

New Jersey's public library planning is shaped by a complex governmental and funding landscape. The New Jersey State Library's (NJSL) 2023–2027 Five-Year Plan emphasizes investing in projects that would be cost-prohibitive for individual libraries and strengthening services for less well-resourced communities.[143] Although local support for public libraries in New Jersey is traditionally strong, significant disparities exist between wealthier and lower-resourced areas. Consortiums also play a major role in enhancing service delivery through shared resources and coordination. NJSL administers federal funds to support major statewide programs, including JerseyClicks, which offers access to 23 research databases; the Talking Book and Braille Center (TBBC), which serves New Jersey's print-disabled population; and JerseyConnect, which provides low-cost internet access, web hosting, and technology services to libraries across the state. Supporting broader infrastructure needs, a one-time Library Construction Bond Act of 2017 authorized $125 million for capital improvements to library facilities.[144] Municipalities also carry funding requirements, with public libraries entitled to a percentage of funding based on the local property tax base. General state funds are also appropriated annually to sustain library development and statewide initiatives, maintaining critical infrastructure and services across New Jersey's public libraries.

Asset Inventory

An overview of public library facilities and their ownership provides important context for evaluating infrastructure needs in the state. Table 38 presents an inventory of public libraries and museums, capturing

[141] New Jersey State Library. (2025). *LSTA – Library Services and Technology Act.* https://www.njstatelib.org/about/budget-and-finance/lsta/.
[142] Federal Communications Commission. (2017). *Strategies and Recommendations for Promoting Digital Inclusion.* https://docs.fcc.gov/public/attachments/DOC-342993A1.docx.
[143] New Jersey State Library. (2023). *2023-2027 Five Year Plan.* https://www.njstatelib.org/wp-content/uploads/2022/08/NJSL-LSTA-Strategic-Plan-2023-2027_062722.pdf.

[144] New Jersey State Library. (2017). *New Jersey Library Construction Bond Act of 2017.* https://www.njstatelib.org/services_for_libraries/resources/library_law/new-jersey-library-construction-bond-act-of-2017/.

variations in ownership types and count, as of 2025.[145][146] These facilities reflect a wide range of sizes, conditions, and service capacities based on local governance and funding structures. Table 39 provides a current display of total revenue from local, state, and federal sources, as well operating and capital budget expenditures for public libraries in 2023, grouped by county.[147]

Table 38 Public Libraries & Museums by Count and Ownership, 2025

Public Libraries and Museums* (#)	Federal	State Agency	State Authority	County	Municipal	School Media Centers	Private/Non-Profit	Unknown	Total
Public Libraries Entities in the NJSL System				14	233		42	5	**294**
Public Libraries					451	2,295			**2,746****
Public Museums ***								155	**155**
Total				**14**	**451**	**2,295**	**42**	**160**	**3,195**

***Libraries and Museums that are operated by institutions of Higher Ed were only included for inventory purposes, but not for funding projections, as those figures are covered by other sub-sector reports.**

****Total includes about 2,295 school libraries and media centers.**

*****Museums listed on state sources do not indicate which are public or private.**

Table 39 Total Revenues and Expenditures for Public Libraries by County, 2023

County	Total State Government Revenue	Total Local Revenue	Total Federal Government Revenue	Total Operating Expenditures	Capital Budget Expenditures - Local, Grants, and all Other Income
Atlantic	$ 503,279	$ 13,912,867	$ -	$ 13,532,740	$ 1,191,804

[145] Insider NJ. (2021). *Senate Endorses Bateman Bill Helping Public Libraries Save Money and Improve Services.* https://www.insidernj.com/press-release/senate-endorses-bateman-bill-helping-public-libraries-save-money-improve-services/.
[146] VisitNJ. (2024). *New Jersey Museums.* https://visitnj.org/nj/arts-culture/museums.
[147] New Jersey State Library. (2023). *Statistics.* https://www.njstatelib.org/services_for_libraries/resources/statistics/

County	Total State Government Revenue	Total Local Revenue	Total Federal Government Revenue	Total Operating Expenditures	Capital Budget Expenditures - Local, Grants, and all Other Income
Bergen	$ 562,719	$ 70,380,333	$ 85,000	$ 69,654,013	$ 6,698,220
Burlington	$ 243,576	$ 18,028,039	$ 58,399	$ 18,717,943	$ 164,434
Camden	$ 298,633	$ 19,380,250	$ 174,579	$ 18,160,404	$ 394,059
Cape May	$ 53,034	$ 25,840,277	$ -	$ 15,553,198	$ 2,206,868
Cumberland	$ 57,331	$ 4,043,374	$ 4,135	$ 4,243,538	$ 4,251,652
Essex	$ 511,172	$ 46,094,304	$ 56,523	$ 47,209,079	$ 1,894,282
Gloucester	$ 182,589	$ 12,692,147	$ 12,513	$ 13,216,697	$ 219,733
Hudson	$ 441,563	$ 36,452,212	$ 437,334	$ 27,833,695	$ 7,837,749
Hunterdon	$ 58,373	$ 9,230,586	$ -	$ 7,333,728	$ 287,177
Mercer	$ 234,460	$ 26,070,308	$ -	$ 27,684,952	$ 847,044
Middlesex	$ 540,572	$ 51,638,148	$ -	$ 46,714,434	$ 2,097,939
Monmouth	$ 215,574	$ 34,698,024	$ 35,380	$ 29,464,582	$ 458,921
Morris	$ 271,610	$ 40,146,221	$ 6,047	$ 39,093,190	$ 3,924,465
Ocean	$ 290,673	$ 39,899,468	$ 7,892	$ 43,154,949	$ -

County	Total State Government Revenue	Total Local Revenue	Total Federal Government Revenue	Total Operating Expenditures	Capital Budget Expenditures - Local, Grants, and all Other Income
Passaic	$ 188,328	$ 21,775,518	$ -	$ 19,342,177	$ 959,904
Salem	$ -	$ -	$ -	$ -	$ -
Somerset	$ 190,330	$ 28,284,704	$ -	$ 26,796,790	$ 270,336
Sussex	$ 77,227	$ 7,611,479	$ 17,493	$ 7,501,915	$ 574,367
Union	$ 303,544	$ 33,013,312	$ 302,348	$ 31,582,503	$ 5,323,136
Warren	$ 66,672	$ 6,634,083	$ -	$ 5,421,065	$ 3,966,779
Grand Total	**$ 5,291,259**	**$ 545,825,654**	**$ 1,197,643**	**$ 512,211,592**	**$ 43,568,868**

Source: 2023-2027 Five Year NJSL Plan

Present Needs

Methodology

The estimated present need, which covers the present until 2031, is based on the state's Fiscal Year 2025 Seven-Year Capital Improvement Plan (FY25 SCIP)[148]. To create a forecast, 2025-2031 budget requests by the NJSL were compiled. These requests are informed by anticipated costs, focusing only on those costs allocated for building improvements. Funding data and projections are limited to just the State Library at Thomas Edison University.

New Jersey's public library growth outlook is shaped by evolving state and federal priorities and local and state funding considerations. To guide future planning, funding projections and target goals were assessed infrastructure needs under three scenarios—Steady-State, Moderate Progress, and Aspirational—each reflecting different levels of ambition, investment, and policy alignment. For the State Library seven-year budget request, the State Commission's recommendations from 2025 to 2031 were modeled under each scenario to estimate the likelihood of capital construction and other funding needs. The Steady-State scenario maintains the Commission's current allocation, serving as a baseline value. The Moderate Progress

[148] New Jersey Office of Management and Budget (OMB). (2024). Fiscal Year 2025 Seven Year Capital Improvement Plan. https://www.nj.gov/treasury/omb/publications/25capital/FY25-SCIP.pdf

scenario represents the Commission's recommendation meeting 50% of the budget request, while the Aspirational scenario projects meeting 100% of the Library's total budget request, all by 2031.

Scenario Assumptions – Funding

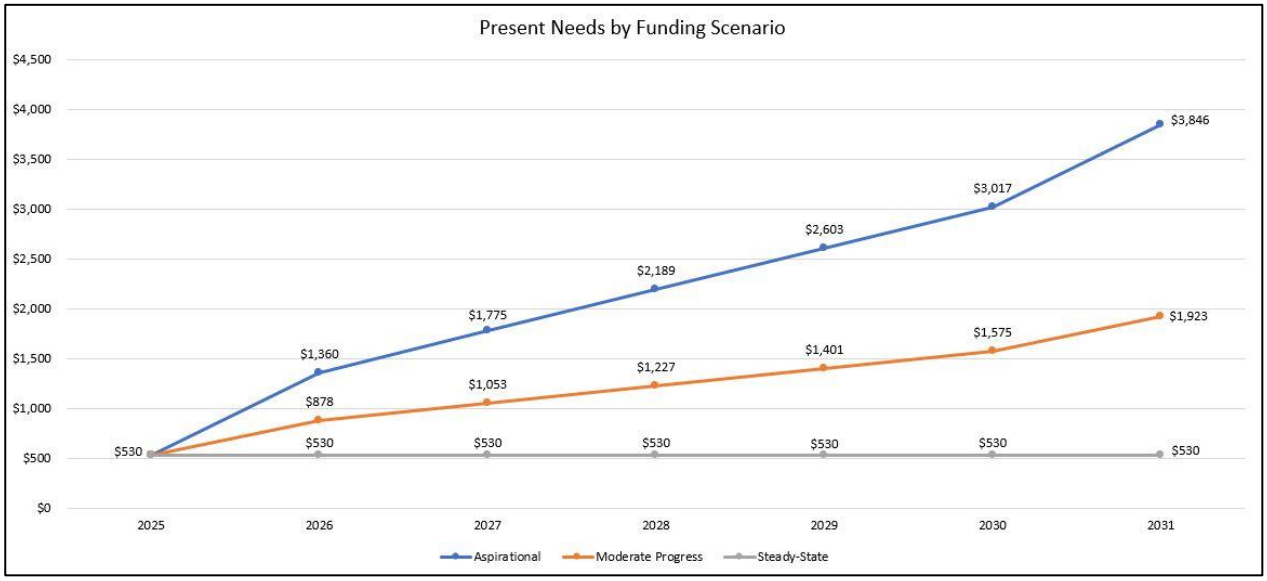
Table 40 illustrates the projected revenues versus the recommended funding from the Commission on Capital Budgeting and Planning, for capital construction and infrastructure-related costs from 2025 through 2031. The largest portion of the State Library's budget request timeline is upgrading depreciated HVAC systems, while the Commission's recommendation only provides funding for asbestos abatement. Below Table 40 compares the financial and target-based assumptions for the three scenarios. The total recommendation values were divided by five to provide estimated figures for each year. Note, as state and federal policies change over time, funding scenarios, performance targets, and other infrastructure-based estimates may vary.

Table 40 Present Need Scenarios by Commission's Funding Recommendation, 2025-2031

	All values in thousands (000s)		
Year	**Aspirational**	**Moderate Progress**	**Steady-State**
2025	$530	$530	$530
2026	$1,360	$878	$530
2027	$1,775	$1,053	$530
2028	$2,189	$1,227	$530
2029	$2,603	$1,401	$530
2030	$3,017	$1,575	$530
2031	$3,846 (100% of Expected 2025 Funding Amount, based on Original Request*)	$1,923 (50% of Expected 2025 Funding Amount, based on Original Request*)	$530 (100% of Expected 2025 Funding Amount, based on Commission Recommendation)
Total Present Need	**$15,320**	**$8,587**	**$3,710**

***Original Budget Request from NJSL is $26,290.**

Figure 16 Present Needs and Funding Scenarios, 2025-2031



Source: New Jersey FY25 Statewide Capital Improvement Plan

Scenario Assumptions – Targets

Table 41 presents three performance goals drawn from the 2023-2027 State Library Plan, supporting a scenario analysis based on outcomes tied to the likelihood of funding. Three scenarios outline varying levels of progress toward statewide public library operating targets. In the Steady-State scenario, expected funding levels, as recommended by the state's Commission, are assumed to result in partial progress or a failure to meet past benchmarks. The moderate progress scenario assumes additional funding, with improvements driven by conservative increases in the Commission's recommended allocations. Under the Aspirational scenario, significant new investments across capital and operating support, especially for library users with disabilities in underserved communities, would be required to fully meet all three State Library goals.

In each assumption, there is an estimated "federal funding risk," which is used to help evaluate to what degree adverse federal actions will affect state goal outcomes. While state funding and priorities may continue to stay afloat under the aspirational and moderate progress, much uncertainty lies in the outlook for steady-state scenarios. With proposed cuts to the federal funding agency overseeing New Jersey's State Library, the Institute of Museum and Library Services (IMLS), the state will be at **moderate to high** risk of: funding capital upgrades outlined in the state's seven-year capital plan, circulating updated digital resources and equipment, and achieving the broad equity goals outlined in the State Library's Five Year Plan. At the local level, the State Library estimates about $0.11 per capita of federal funding reaches local libraries, largely insulating them from changes in federal policies. While risks may be minimized, the State Library will encounter barriers to assisting statewide library facilities in short and long-range infrastructure needs.

Table 41 Present Need Scenarios by Target/Goal

	Funding Scenarios			
Target/Goal	**Aspirational**	**Moderate Progress**	**Steady-State**	**Federal Funding Risk**
Facilitate great end-to-end experiences with LSTA Programs (Jersey Cat, TBBC, digital resources)	50% increase in number of LEAP Technology Learning Centers, audiobook collections, and handheld braille readers, by 2031.	25% increase in number of LEAP Technology Learning Centers, audiobook collections, and handheld braille readers, by 2031.	0% increase or 10% decrease in number of LEAP Technology Learning Centers, audiobook collections, and handheld braille readers, by 2031.	Moderate: The TBBC is among the highest funded efforts under the LSTA, representing a significant risk if federal funding is cut. Alternatively, JerseyCat is set to phase out LSTA funding in 2024.
Provide key value-add resources & process support, focusing on JerseyConnect (low-cost internet access, web hosting, etc.)	100% of all libraries using at least one JerseyConnect service & 35 libraries utilizing all JerseyConnect services, by 2031.	90% of all libraries using at least one JerseyConnect service & 28 libraries utilizing all JerseyConnect services, by 2031.	80% of all libraries using at least one JerseyConnect service & 23 libraries utilizing all JerseyConnect services, by 2031.	High: Federal funds assist underserved libraries, within low-income communities. Potential cuts may prevent or significantly hinder the State Library's goals in supporting internal/external knowledge management and dissemination efforts, including community outreach.
Create opportunities to customize & innovate at the local level: Mini Grants, seed funding, and DEI audits	50% growth in the number of grant programs, including NJSL+ Partners Access Navigator, NJ Health @ Your Library, and NJSL + Partners Literacy Project, by 2031. Similar rise in DEI audits, positioned as a state and national model.	25% growth in the number of grant programs, including NJSL+ Partners Access Navigator, NJ Health @ Your Library, and NJSL + Partners Literacy Project, by 2031. Similar rise in DEI audits, on track to become a state and national model.	0% growth or 25% decrease in the number of grant programs, including NJSL+ Partners Access Navigator, NJ Health @ Your Library, and NJSL + Partners Literacy Project, by 2031. Similar stagnation or decline in DEI audits, hindering NJSL's goal of becoming a state and national model.	High: Current NJSL grants and DEI audits rely on temporary federal funding, such as the CARES Act. With potential federal funding cuts to DEI-focused programs, NJSL may face increased difficulty to replenish the funding needed to implement DEI initiatives, as well as award grant funding.

ARTS, CULTURE, AND HISTORIC RESOURCES

Existing Conditions

Federal & State Planning Context

New Jersey State Council on the Arts

The New Jersey State Council on the Arts was created in 1966 under Public Law Chapter 214 and operates as both a division of the New Jersey Department of State and a partner agency of the National Endowment for the Arts.[149] The Council consists of 17 members, all appointed by the Governor for terms of three years, and three ex-officio members. The Council fosters public interest in the arts, supports public and private resources devoted to the arts, promotes freedom of expression in the arts, and facilitates the inclusion of art in every public building in New Jersey.

State funding for the Arts Council is generated by New Jersey's Hotel/Motel Occupancy Fee, which was established in 2003 as a dedicated, renewable revenue source. By law, a percentage of the fees collected are allocated annually to the Arts Council. The Arts Council also receives an annual, competitive federal grant from the National Endowment for the Arts.[150] Through the Local Arts Program (LAP), the Arts Council collaborates with a network of 21 officially designated County Arts Agencies (CAAs) to regrant funds to community-based organizations that support local arts development programs, activities, planning, administration, and professional development.[151]

New Jersey Cultural Trust

The New Jersey Cultural Trust is an authority in but not of the New Jersey Department of State. It was created in 2000 as a public-private partnership to support the nonprofit cultural industry in New Jersey. The Trust provides grants that support institutional stability and capital improvements for arts, history, and humanities organizations in the state. Funding for the grants is derived from interest earned on the Cultural Trust Fund, which is a permanent investment fund.[152]

New Jersey Historic Trust

The New Jersey Historic Trust was created by law in 1967 to preserve New Jersey's historic resources across the state. The Trust is affiliated with the Department of Community Affairs and seeks to advance historic preservation through education, tourism, and financial investment.[153] The Trust offers funding through a variety of grants and loans. Currently, most of the Historic Trust's funding is derived from an NJ corporate business tax dedication that is allocated through the Preserve NJ Historic Preservation Constitutional Dedication. A statutory framework dedicates 7% of Preserve NJ funding for historic preservation. The remaining funds allocated to Preserve NJ are distributed to the Green Acres Fund and the Farmland Preservation fund.

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[149] New Jersey Department of State. (2025). *New Jersey State Council on the Arts.* https://nj.gov/state/njsca/
[150] New Jersey Department of State. (2025). *About the Arts Council.* https://nj.gov/state/njsca/dos_njsca_about.html
[151] New Jersey Department of State. (2025). *New Jersey State Council on the Arts Local Arts Program (LAP).* https://nj.gov/state/njsca/assets/pdf/local-arts-program-contact-information.pdf
[152] New Jersey Department of State. (2024). *New Jersey Cultural Trust Annual Report: Fiscal Year 2024.* https://www.nj.gov/state/culturaltrust/assets/pdf/ct-fy24-annual-report-final.pdf
[153] New Jersey Historic Trust. (2025). *About the Trust.* https://www.nj.gov/dca/njht/about/about-the-trust/

Present Needs

Methodology

There are currently no comprehensive capital improvement plans or other documents that outline estimated future needs for arts and historic resource funding in New Jersey. However, the New Jersey Legislature's Office of Legislative Services provides budget analyses based on the state's recommended budget for each fiscal year. Recommended appropriations for FY2026 from both the NJ Department of State and NJ Department of Community Affairs are outlined below. These recommendations provide a snapshot of current funding needs and priorities rather than future needs but represent the most detailed data available absent comprehensive capital plans addressing arts and historic resources.

Scenario Assumptions – Funding

The Governor's proposed FY2026 State Budget recommends decreases in funding for most programs related to arts and historic resources. Grants-In-Aid appropriations for both support of the arts and development of historical resources are recommended to decrease. These reductions reflect the elimination of Legislative initiatives included in the FY2025 Appropriations Act. Recommended funding for New Jersey State Council on the Arts cultural projects and New Jersey Historical Commission agency grants meets statutory minimums for these programs.

Arts

Table 42 Funding for the Arts in New Jersey (FY2023-FY2026)

	FY 2023 (expended)	FY 2024 (expended)	FY 2025 (adj. approp.)	FY 2026 (recommended)
General Fund, Grants-In-Aid - Legislative Initiatives	$6,050	$6,950	$6,775	$1,500
General Fund, Grants-In-Aid - Governor Initiatives	$2,425	$2,175	$1,425	$1,100
New Jersey State Council on the Arts – Cultural Projects	$31,900	$31,900	$31,900	$31,900
New Jersey Cultural Trust	$720	$2,189	$720	$720
TOTAL	$41,095	$43,214	$40,820	**$35,220**

(in thousands of dollars)

Sources: Analysis of the New Jersey Budget Fiscal Year 2025-2026: Department of State[154]; Analysis of the New Jersey Budget Fiscal Year 2025-2026: Department of Community Affairs[155]; New Jersey Cultural Trust[156]

[154] New Jersey Legislature Office of Legislative Services. (2025). *Analysis of the New Jersey Budget Fiscal Year 2025-2026: Department of State*. https://pub.njleg.state.nj.us/publications/budget/governors-budget/2026/dos_analysis_2026.pdf

[155] New Jersey Legislature Office of Legislative Services. (2025). *Analysis of the New Jersey Budget Fiscal Year 2025-2026: Department of Community Affairs*. https://pub.njleg.state.nj.us/publications/budget/governors-budget/2026/dca_analysis_2026.pdf

[156] New Jersey Department of State. (2025). New Jersey Cultural Trust. https://www.nj.gov/state/culturaltrust/ct-trust-information.shtml

Historic Resources

Table 43 Funding for Historic Resources in New Jersey (FY2023-FY2026)

	FY 2023 (expended)	FY 2024 (expended)	FY 2025 (adj. approp.)	FY 2026 (recommended)
General Fund, Direct State Services Special Purpose: COVID-19 Frontline Healthcare Worker Memorial Commission	$0	$0	$500	$0
General Fund, Grants-In-Aid - Governor Initiatives	$213	$213	$157	$50
General Fund, Grants-In-Aid - Legislative Initiatives	$7,450	$5,850	$1,460	$312
General Fund, Grants-In-Aid - Preserve NJ Historic Preservation Constitutional Dedication	$0*	$0*	$33,827*	$0*
New Jersey Historical Commission – Agency Grants	$5,500	$5,500	$5,500	$5,500
TOTAL	$13,163	$11,563	$41,444	**$5,862**

(in thousands of dollars)

*Traditionally, this line serves as a control account in the New Jersey state budget and does not show a recommended appropriation for the upcoming fiscal year. Funding for Preserve New Jersey Historic Preservation is provided in a mid-year supplemental appropriation in accordance with separate legislation. The $33.8 million allocated in FY2025 was a supplemental appropriation.

Federal Funding Risk

Since arts and historic resources initiatives are largely state funded, the risks associated with the potential loss of federal funding are relatively low. The New Jersey State Council on the Arts does receive funding from an annual, competitive grant from the National Endowment for the Arts, though this represented only 3.6% of the Council's FY2025 budget.[157]

[157] New Jersey Department of State. (2025). *New Jersey State Council on the Arts: FY25 Program and Operations Plan.* https://nj.gov/state/njsca/assets/pdf/fy25-program-and-operations-plan.pdf

PUBLIC SAFETY, JUSTICE, AND CORRECTIONS

Existing Conditions

Federal & State Planning Context

New Jersey's public safety, justice, and corrections infrastructure and performance systems are heavily shaped by broader federal laws. Recent changes to federal priorities may create additional funding challenges to meet the state's public safety infrastructure needs. The U.S. Department of Justice (DOJ)—through the Bureau of Justice Assistance (BJA), Office of Justice Programs (OJP), and National Institute of Justice (NIJ)—guides investments in corrections, law enforcement, juvenile justice, and reentry.[158] Grant programs and statutes like the Edward Byrne Memorial Justice Assistance Grant (JAG) and Second Chance Act fund facility upgrades and diversion services, while requiring states to comply with federal performance tracking standards and reporting.[159] The federal Prison Rape Elimination Act (PREA), Americans with Disabilities Act (ADA), and the Civil Rights of Institutionalized Persons Act (CRIPA) all help influence the structural and architectural layout of public safety facilities. [160]

New Jersey's Department of Law & Public Safety (NJDLPS), Youth Justice Commission (YJC) and Department of Corrections (NJDOC) base infrastructure planning on state-mandated performance tracking. NJDOC reports on prison population, capacity, and recidivism to guide facility investments, while JJC tracks youth detention, reentry, and diversion outcomes to shape juvenile justice infrastructure. Further, the New Jersey Chapter of the American Correctional Association (ACA) and PREA set design and safety benchmarks followed by NJDOC and JJC[161] [162] The Juvenile Detention Alternatives Initiative (JDAI), developed by the Casey Foundation, provides a statewide framework for reducing youth detention and tracking equity-focused outcomes.[163] Together, these state and national frameworks ensure New Jersey's public safety infrastructure aligns with broader performance standards.

Asset Inventory

An overview of facilities that handle public safety, juvenile, and correctional operations and their ownership provides important context for evaluating infrastructure needs in the state. Table 44 presents an inventory of these facilities, capturing variations in ownership types and count, as of 2025. Table 45 provides a current display of historical budget requests from the Juvenile Justice Commission and the Departments of Public

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[158] Bureau of Justice Assistance. (November 2024). *Second Chance Act Programs: Overview*. U.S. Department of Justice, Office of Justice Programs. https://bja.ojp.gov/program/sca-programs/overview

[159] Bureau of Justice Assistance. (December 2024). *Edward Byrne Memorial Justice Assistance Grant (JAG) Program: Overview*. U.S. Department of Justice, Office of Justice Programs. https://bja.ojp.gov/program/jag/overview

[160] U.S. Department of Justice, Civil Rights Division. (2025). Criminal Justice. ADA.gov. Retrieved May 21, 2025, from https://www.ada.gov/topics/criminal-justice/

[161] The Juvenile Justice Commission was renamed the Youth Justice Commission on March 17, 2025.

[162] New Jersey Chapter of the American Correctional Association. (2025). *About NJACA*. http://www.njaca.org/aboutnjaca.html

[163] New Jersey Youth Justice Commission. (2025). *Juvenile Detention Alternatives Initiative (JDAI)*. State of New Jersey. https://www.njoag.gov/about/divisions-and-offices/youth-justice-commission-home/juvenile-detention-alternatives-initiative-jdai/

Safety and Corrections, from 2010- 2024. Historically, while all three entities have increased their capital funding requests, the Commission has only maintained funding levels for NJDOC.

Table 44 Public Safety & Other Facilities by Count and Ownership, 2025

Public Safety & Other Facilities (#)	Federal	State Agency	State Authority	County	Municipal	Total
Fire Houses*					781	**781**
Police Training Centers		3		13		**16**
Juvenile Facilities & Homes		13				**13**
Correctional Facilities		9				**9**
Total		**25**		**13**	**781**	**819**

Source: NJOAG, NJDOC & NJDCA[164] [165] [166] [167]

*Data for Fire Houses were last updated in June 2021.

[164] New Jersey Department of Community Affairs, Division of Fire Safety. (June 2021). *Fire Code Enforcement Directory*. https://www.nj.gov/dca/divisions/dfs/pdf/fire_code_enforcement_directory.pdf
[165] New Jersey Department of Community Affairs, Division of Fire Safety. (June 2021). *Fire Code Enforcement Directory*. https://www.nj.gov/dca/divisions/dfs/pdf/fire_code_enforcement_directory.pdf
[166] New Jersey Department of Corrections. (2025). *About Us*. State of New Jersey. https://www.nj.gov/corrections/pages/aboutUs.html
[167] New Jersey Office of the Attorney General. (2025). *Police Training Commission: Academy Information*.

Table 45 Total & Average Budget Requests for NJDLPS, JJC & NJDOC vs. Commission Recommendation, 2010-2024

Fiscal Year	NJDLPS Capital Request ($000s)	Commission Recommendation ($000s)	JJC Capital Request ($000s)	Commission Recommendation ($000s)	NJDOC Capital Request ($000s)	Commission Recommendation ($000s)
2010	$13, 375	$5,230	$17,200	$5,200	$211,661	$16,775
2011	$11,059	-	$18,804	$1,000	$301,555	$5,312
2012	$10,049	-	$13,750	$1,500	$551,398	$10,549
2013	$6,530	$1,200	$7,300	$800	$86,170	$5,979
2014	$7,340	$2,200	$13,450	$1,550	$77,800	$5,910
2015	$3,935	$528	$14,100	$5,400	$85,717	$4,575
2016	$5,686	$2,000	$14,467	$550	$117,069	$9,556
2017	$4,800	$800	$20,079	$1,166	$209,714	$4,022
2018	$2,882	$1,100	$16,935	$1,928	$262,849	$6,971
2019	$7,980	$1770	$18,521	$1,262	$178,578	$2,100
2020	$4,859	$3,859	$22,691	-	$336,049	$3,832
2021	$9,070	$890	$19,013	$676	$428,140	$6,332
2022	$8,380	-	$20,283	$2,916	$436,606	$12,550
2023	$19,850	$8,825	$21,978	$3,226	$503,254	$16,142
2024	$33,210	$1,800	$18,296	$610	$513,443	$16,366

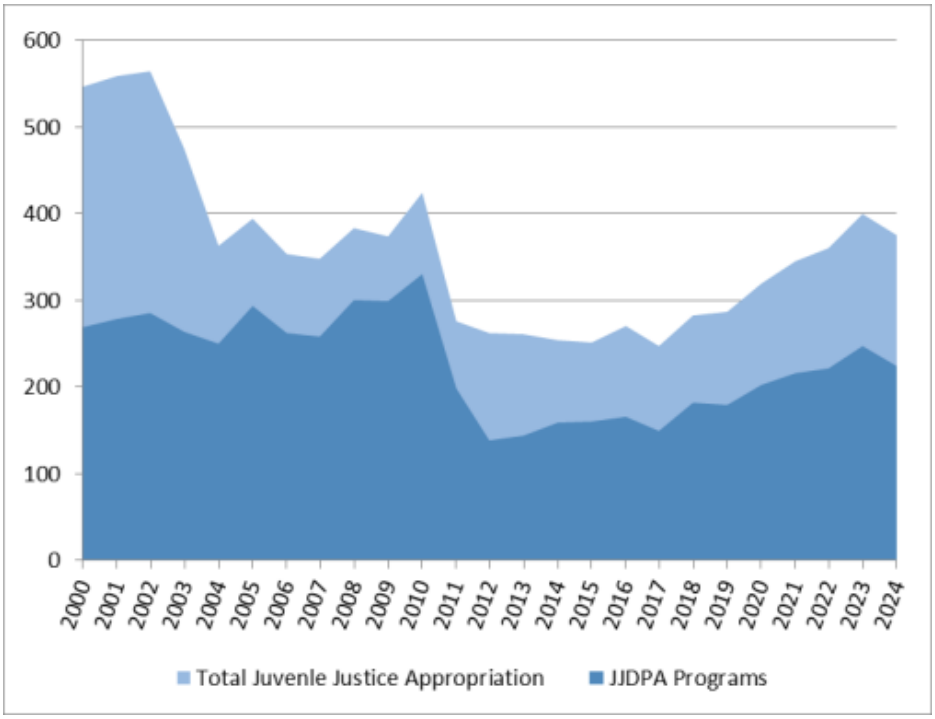
Source: NJ OMB – Archived Budget Publications[168]

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) (Figure 17) The state grants are distributed according to each state's respective population under 18 and includes specific Title V programs focused on delinquency prevention, children advocacy, and juvenile mentoring. The JJC receives state funding primarily through OJJDP's Title II, Title V grants, as well as the Juvenile Accountability Block Grant. JJC's Division of Criminal Justice also performs an annual needs assessment to direct funds received from JAG funding.[169]

[168] New Jersey Department of the Treasury, Office of Management and Budget. (2025). *Archived Budget Publications 2000–2019*. https://www.nj.gov/treasury/omb/archived-2000budgetpubs.shtml

[169] New Jersey Juvenile Justice Commission. (2025). *Juvenile Justice Commission Grants*. New Jersey Office of the Attorney General. https://www.nj.gov/lps/jjc/grants.htm

Figure 17 Total Juvenile Justice and JJPDA Appropriations ($millions), FY2000-2024



Source: Congress.gov

As of 2023, the state occupies the 46th highest incarceration rate in the nation, owing to its efforts in reducing incarceration. In result, NJDOC shut down four correctional facilities from 2020 to 2023, but the Department has noted bed space is an ongoing issue at all facilities, especially medium and maximum-security prisons. For FY2024, NJDOC maintained an inmate population of 13,000, with the annual average cost to confine individuals at $74,254 per inmate. During the COVID-19 Pandemic, NJDOC transferred many state-sentenced inmates to county jails, but is now gradually reverting those transfers back to state facilities.[170] Table 46 presents the number of inmates housed in county jails and NJDOC's projected payments to counties for housing those inmates.

[170] New Jersey Department of Corrections. (2024). *FY 2025 Budget Response*. State of New Jersey. https://pub.njleg.state.nj.us/publications/budget/governors-budget/2025/DOC_response_2025.pdf

Table 46 Snapshot estimate of State-sentenced inmates in County facilities, as of March 22, 2024

County	State-Sentenced Inmates Housed as 03/22/24	FY 2024 Projected Payments
Atlantic	12	$2,103,769
Bergen	29	$1,604,887
Burlington	5	$928,183
Camden	58	$2,192,854
Cape May	16	$646,690
Cumberland	13	$278,791
Essex	43	$3,148,042
Hudson	26	$2,318,046
Mercer	6	$1,423,221
Middlesex	15	$1,164,657
Monmouth	14	$1,084,776
Morris	6	$840,007
Ocean	5	$745,679
Salem	20	$686,211
Somerset	1	$387,358
Warren	4	$380,389
Total	**273**	**$19,933,559**

Source: NJ Legislature

Present Needs

Methodology

The estimated present need, which covers the present until 2031, is based on the state's Fiscal Year 2025 Seven-Year Capital Improvement Plan (FY25 SCIP)[171]. 2025-2031 budget requests by NJDLPS, JJC and NJDOC were compiled to create a forecast. These requests are informed by anticipated costs, focusing only on those costs allocated for infrastructure and capacity-building on state-owned facilities, as included in the budget.

New Jersey's public safety and correctional infrastructure is shaped by evolving state and federal priorities and funding considerations. To guide future planning, funding projections and target goals for infrastructure needs were assessed under three scenarios—Steady-State, Moderate Progress, and Aspirational—each reflecting different levels of ambition, investment, and policy alignment. The State Commission's recommendations from 2025 to 2031 were modeled under each scenario to estimate the likelihood of capital construction and other funding needs. The Steady-State scenario maintains the Commission's current allocation, serving as a baseline value. The Moderate Progress scenario represents the Commission's recommendation meeting 50% of the budget request, while the Aspirational scenario projects meeting 100% of NJDLPS, JJC, & NJDOC's budget requests, all by 2031.

[171] New Jersey Office of Management and Budget (OMB). (2024). *Fiscal Year 2025 Seven Year Capital Improvement Plan*. https://www.nj.gov/treasury/omb/publications/25capital/FY25-SCIP.pdf

Scenario Assumptions – Funding

Table 47 illustrates the projected revenues under the aspirational and moderate progress scenarios versus the recommended steady-state funding scenario from the Commission on Capital Budgeting and Planning. The largest portion of NJDLPS, JJC, and NJDOC's budget request timeline is, respectively: creating an infrastructure plan of action for the Garden State Youth Correctional Facility, construction of a new Bridgeton Police Station for the New Jersey State Police, the demolition of the New Jersey Training School for Boys, HVAC systems, and implementing an active threat alert system, respectively. Below Table 47 compares the financial and target-based assumptions for the three scenarios. The total recommendation values were divided by seven to provide estimated figures for each year. Figure 18 displays the same information, showing the exponential rise between funding scenarios.

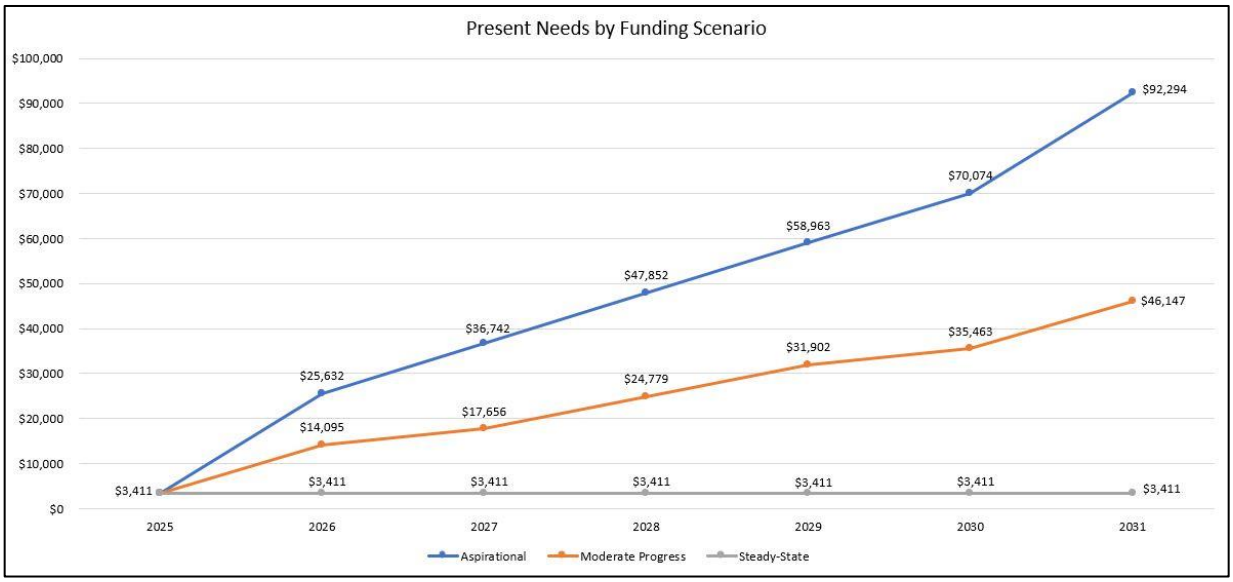
Table 47 Present Need Scenarios by Commission's Funding Recommendation, 2025-2031

	All values in thousands (000s)		
Year	**Aspirational**	**Moderate Progress**	**Steady-State**
2025	$3,411	$3,411	$3,411
2026	$25,632	$14,095	$3,411
2027	$36,742	$17,656	$3,411
2028	$47,852	$24,779	$3,411
2029	$58,963	$31,902	$3,411
2030	$70,074	$35,463	$3,411
2031	$92,294 (100% of Expected 2031 Funding Amount, based on Original Request*)	$46,147 (50% of Expected 2031 Funding Amount, based on Original Request*)	$3,411 (100% of Expected 2031 Funding Amount, based on Commission Recommendation)
Total Present Need	**$334,968**	**$173,453**	**$23,877**

Source: New Jersey FY25 Statewide Capital Improvement Plan

*Original Budget Request from NJDLPS, JJC, & NJDOC is $646,058, with the Commission Recommendation meeting none of NJDLPS's request ($37,561)

Figure 18 Present Needs and Funding Scenarios, 2025-2031



Source: New Jersey FY25 Statewide Capital Improvement Plan

Scenario Assumptions – Targets

Table 48 presents the targets and goals drawn from various NJDOC and NJDLPS, as well as major YJC initiatives. Three scenarios outline varying levels of progress toward meeting objectives for public safety infrastructure statewide. In the Steady-State scenario, expected funding levels, as recommended by the state's Commission, are assumed to result in partial progress or a failure to meet past benchmarks. The Moderate Progress scenario assumes additional funding, with improvements driven by modest increases in the Commission's recommended allocations. Under the Aspirational scenario, significant new investments across capital and operating support, especially for minority and female youth offenders, would be required to fully meet public safety goals.

Table 48 Present Need Scenarios by Target/Goal

	Funding Scenarios			
Target/Goal	Aspirational	Moderate Progress	Steady-State	Federal Funding Risk
Provide a continuum of care through a system of services dedicated to offender reentry.	NJLEAD will receive 50% more state funding, up to $10m per year, in grant funding for state service providers. 17 reentry organizations continue to operate statewide, with additional organizations applying for funding. The state now occupies an	NJLEAD will receive 25% more state funding, up to $8-9m per year, in grant funding for state service providers. 17 reentry organizations continue to operate statewide. The state's incarceration rate	NJLEAD will continue providing up to $7m per year in grant funding for state service providers. 17 reentry organizations continue to operate statewide. The state continues to hold the 4th lowest	Low to Moderate: - NJDOC's NJ LEAD (Locally Empowered, Accountable, and Determined) initiative is aimed at the successful reentry of formerly incarcerated

	even lower incarceration rate, falling into the bottom three in the nation.	remains at 4th lowest in the nation.	incarceration rate in the nation.	individuals.[172] The program primarily relies on state funding, rising annually since introduced in 2022. - Federal funding cuts for other related diversion programs, such as those administered under the Comprehensive Opioid Abuse Program, will have an indirect negative effect on NJDOC's partner agencies, and ultimately, NJLEAD goals. - Further, the Governor's Office FY2025 budget recommendations include shifting the entire program's appropriations to fund cannabis regulation and market modernization.
Reduce the Average Length of Stay, Increase Detention Alternatives, & Decrease Racial Gaps in Juvenile Detention	Lower the 2023 dismissal rate of youth offenders from detention alternative programs, by 25% to 3.2%. Growth in Average Length of Stay increases for only 13 out of 21 JDAI sites, 25% less than the Moderate Progress scenario. The overrepresentation rate of youth of color falls by 25% to settle at 8% below its 2004 level.	Maintain the 2023 4.1% dismissal rate of youth offenders from detention alternative programs. Growth in Average Length of Stay stays constant for 17 out of 21 JDAI sites. The overrepresentation rate of youth of color remains constant at 6% below its 2004 level.	The 2023 4.1% dismissal rate of youth offenders from detention alternative programs increases further. Growth in Average Length of Stay increases for more than 17 out of 21 JDAI sites. The overrepresentation rate of youth of color remains less than 6% below its 2004 level.	Moderate to High: - While the JJC receives a diverse set of local funding, including state appropriations under the Safe and Secure Communities and the State/Community Partnership Programs, it relies on federal grants as well. - Federal funds have been partially cut for the Byrne Justice Assistance Grant, and it is uncertain if Juvenile Assistance Block Grants will follow as well. - At the local level, County Youth Services

[172] New Jersey Department of Corrections. (May 2025). *FY25 NJLEAD Category A-NGO Final*.

				Commissions may receive substantially less funding than previous years. - Federal directives aimed at increasing detention centers may put pressure on state facilities to expand capacity, to help meet those efforts.
Reduce and Prevent Juvenile Recidivism	Juvenile count begins to fall below 10,000, with arrests rising in no counties. The rate of youth who complete detention alternative programs with no new delinquency charge after three years falls by one-third, settling at 67%. The adult recidivism begins to fall below 40%.	Juvenile count will remain constant at 10,000, with arrests rising in at least one-quarter of all counties. The rate of youth who complete detention alternative programs with no new delinquency charge after three years falls by one-fifth, settling at 76%. The adult recidivism rate remains at 40%.	Juvenile count will rise past 10,000, with arrests rising in at least half of all counties. The rate of youth who complete detention alternative programs with no new delinquency charge after three years falls by one-tenth, from 96% down to 86%. The adult recidivism rate rises past 40%.	Moderate to High: - Federal funding is crucial to providing county-level service providers with the resources to house, monitor, and reduce the likelihood of re-arrests for adult and juvenile offenders. - While state funding exists, initiatives like the Safe and Secure Communities Program currently only serve 160 municipalities, representing almost 30% of the state. The federal 2018 First Step Act, which expanded upon the 2007 Second Chance Act, may help provide marginal funding.[173]

Source: Various State and Federal Reports[174] [175]

In each assumption, there is an estimated "federal funding risk," which is used to help evaluate to what degree adverse federal actions will affect state goal outcomes. While state funding and priorities may continue to stay afloat under the Aspirational and Moderate Progress, much uncertainty lies in the outlook

[173] Federal Bureau of Prisons. (2025). *First Step Act Overview*. U.S. Department of Justice. https://www.bop.gov/inmates/fsa/overview.jsp

[174] New Jersey Judiciary, Administrative Office of the Courts. (2024). *2024 Probation Recidivism Annual Report*. https://www.njcourts.gov/sites/default/files/2024-recidivism-report.pdf

[175] New Jersey Juvenile Justice Commission. (March 2025). *2023 Juvenile Detention Alternatives Initiative (JDAI) Annual Data Report*. State of New Jersey. https://www.nj.gov/oag/jjc/pdf/2023_JDAI_Annual_Data_Report.pdf

for Steady-State scenarios. With proposed cuts to OJJDP programs, the state will be at **moderate to high** risk of funding capital and infrastructure upgrades for current correctional and juvenile detention facilities.

PUBLIC ADMINISTRATION AND HUMAN SERVICES

EXISTING CONDITIONS

As with the 2001 Infrastructure Needs Assessment (INA), the availability of statewide cost estimates for Present Needs or Prospective Needs for local government facilities is not available. The 2001 INA referenced a Statewide Facilities Master Plan for New Jersey from 1992, but there is no such document with recent figures.

Effective public administration depends on careful management of finite resources. This includes budgeting, strategic planning, and program evaluation. By assessing needs, officials are better positioned to prioritize investments, allocate funding appropriately, and foster sustainable development. Some governments are increasingly leveraging artificial intelligence (AI) and automation to enhance service delivery, streamline operations, and improve decision-making. AI-driven chatbots, predictive analytics, and automated workflows are helping agencies become more efficient and responsive, marking a shift toward anticipatory public services, where governments proactively address citizen needs using digital tools.

To facilitate regular administrative tasks, and to help for future INAs, state agencies should consider adopting centralized enterprise asset management software to maintain a database of all public assets that can be easy to integrate across departments. One example is IBM Maximo, which is designed to help manage assets across a broad range of sectors and is a helpful tool in recording details to assist in maintenance schedules, estimating costs, estimating life spans, and is integrated with tablets and other field tools to allow technicians and public works staff update systems in real time.

PUBLICLY SUBSIDIZED AFFORDABLE HOUSING

Existing Conditions

Federal & State Planning Context

As the 2001 State Infrastructure Needs Assessment outlines: "by the definition of infrastructure applied by the State Planning Commission, public capital investment in housing stock for low and moderate-income households and special needs populations is viewed as an investment in the state's infrastructure."[176] Although this definition provided by the 2001 INA was specifically applied to the term public housing, it reaches beyond the standard definition of public housing in New Jersey. Whereas public housing often refers to the units owned by local public housing authorities, this definition includes any public investment in housing for low and moderate-income residents. Thus, this section will focus not only on public housing in New Jersey, but also on any publicly subsidized affordable housing in the state.

As with other sectors, affordable housing in New Jersey is guided by multiple levels of governance and the relevant authorities are:

- United States Department of Housing and Urban Development (HUD)
- New Jersey Department of Community Affairs (DCA)
- New Jersey Housing and Mortgage Finance Agency (NJHMFA)
- 107 Local Public Housing Authorities (PHA)
- County & Municipal Governments

At the federal level, HUD provides housing funding in New Jersey through programs such as Section 8 Vouchers and Low-Income Housing Tax Credits. At the state level, DCA administers various state rental assistance programs to assist very low-income residents pay for housing. The NJHMFA also supports low-income housing development by administering the Low-Income Housing Tax Credit program as well as other affordability measures. The PHAs administer HUD-funded public housing as well as Housing Choice Vouchers in various New Jersey communities. Lastly, county and municipal governments also utilize federal and state funds to aid in affordable housing development.

Present Needs

Methodology

This assessment draws from the fourth-round municipal calculations of affordable housing obligations proposed by the DCA for the years 2025-2035 in accord with the Fair Housing Act[177]. DCA's methodology categorizes need as both present and prospective need. Present need focuses on existing deficient housing units. Deficiency is defined by a unit being over 50 years old, being overcrowded, and lacking sufficient

[176] New Jersey State Planning Commission. (2001). New Jersey State Development and Redevelopment Plan: *Infrastructure needs assessment,* 77. https://www.nj.gov/state/bac/planning/documents/154-infrastructure-needs-assessment-030101.pdf

[177] New Jersey Department of Community Affairs. (2024). Fourth round calculation methodology: Affordable housing obligations for 2025–2035. https://www.nj.gov/dca/dlps/pdf/FourthRoundCalculation_Methodology.pdf

plumbing and kitchen facilities. Table 49 shows the data on deficient housing units that DCA collected using this methodology.

Table 49 Present Housing Need by Number of Deficient Housing Units

Housing Region	Counties	Present Need
1	Bergen, Hudson, Passaic, and Sussex	23,741
2	Essex, Morris, Union, and Warren	18,547
3	Hunterdon, Middlesex, and Somerset	7,073
4	Mercer, Monmouth, and Ocean	6,721
5	Burlington, Camden, and Gloucester	5,927
6	Atlantic, Cape May, Cumberland, and Salem	3,401
Total		**65,410**

Source: NJDCA Affordable Housing Obligations for 2025-2035[178]

Further, the DCA also estimated prospective affordable housing needs in New Jersey up to 2035. In accord with the state's affordable housing law, DCA estimated housing change between the 2010 and 2020 censuses and divided the difference by 2.5 in order to come to an approximation of need over the next 10 years. Table 50 highlights the overall estimates by region of prospective housing needs up to 2035. The prospective need estimates how many new housing units are needed in order to meet demand over the next 10 years.

[178] New Jersey Department of Community Affairs. (2024). Fourth round calculation methodology: Affordable housing obligations for 2025–2035. https://www.nj.gov/dca/dlps/pdf/FourthRoundCalculation_Methodology.pdf

Table 50 Prospective housing need by number of new units needed

Housing Region	Counties	Regional Prospective Need	2010 Households Decennial Census	2020 Households Decennial Census	Change	Change Divided by 2.5 (Assumed Low- and Moderate-Income Household Growth)
1	Bergen, Hudson, Passaic, and Sussex	27,743	803,704	873,062	69,358	27,743
2	Essex, Morris, Union, and Warren	20,506	693,844	745,108	51,264	20,506
3	Hunterdon, Middlesex, and Somerset	11,604	446,114	475,123	29,009	11,604
4	Mercer, Monmouth, and Ocean	13,822	588,249	622,803	34,554	13,822
5	Burlington, Camden, and Gloucester	9,134	461,569	484,404	22,835	9,134
6	Atlantic, Cape May, Cumberland, and Salem	1,889	220,880	225,602	4,722	1,889
Total		**84,698**	**3,214,360**	**3,426,102**	**211,742**	**84,698**

Source: NJDCA Affordable Housing Obligations for 2025-2035[179]

Although some of this need will not be publicly subsidized, the fourth-round calculations provide the most up-to-date data on the landscape of affordable housing in New Jersey and thus, are a useful measure of need in this present assessment.

[179] New Jersey Department of Community Affairs. (2024). *Fourth round calculation methodology: Affordable housing obligations for 2025–2035*. https://www.nj.gov/dca/dlps/pdf/FourthRoundCalculation_Methodology.pdf

Scenario Assumptions – Funding

Federal and State funding for affordable housing in New Jersey comes through the following programs:

- Public Housing
- HOME Program
- Low-Income Housing Tax Credit (LIHTC) Program
- Section 8 Housing Choice Voucher Program
- Community Development Block Grants
- Continuum of Care Permanent Supportive Housing
- National Housing Trust Fund
- State Rental Assistance Program
- Supportive Housing Connection
- Neighborhood Revitalization Tax Credit Program
- Affordable Housing Trust Fund
- State Tax Credit Subsidy Program Auction

Federal

Public Housing

The HUD website defines public housing as "decent and safe rental housing for eligible low-income families, the elderly, and persons with disabilities. Public housing comes in all sizes and types, from scattered single-family houses to high rise apartments for elderly families."[180] Public housing units in New Jersey are administered by the 107 local Public Housing Authorities in the state. New Jersey currently has over 40,000 public housing units in the state serving 24,200 households.[181] Funding for the public housing program was cut from the FY2026 President's budget.[7]

HOME

The HOME Program is the largest federal block grant created to subsidize the production of affordable housing. The Program supports new construction, rehabilitation, and conversion of units to affordable housing stock. In New Jersey, HOME funds 28 distinct jurisdictions of which DCA is a recipient.[182] New Jersey

[180] U.S. Department of Housing and Urban Development. (n.d.). *Public Housing Program*. HUD.gov. https://www.hud.gov/helping-americans/public-housing

[181] Center on Budget and Policy Priorities. (2025, January 23). *Federal rental assistance fact sheets: New Jersey* [Fact sheet]. https://www.cbpp.org/research/housing/federal-rental-assistance-fact-sheets#NJ

[182] Full list of New Jersey jurisdictions: https://www.hudexchange.info/grantees/contacts/?params=%7B%22limit%22%3A20%2C%22sort%22%3A%22%22%2C%22order%22%3A%22%22%2C%22years%22%3A%5B%5D%2C%22searchTerm%22%3A%22%22%2C%22grantees%22%3A%5B%5D%2C%22state%22%3A%22NJ%22%2C%22programs%22%3A%5B7%5D%7D##granteeSearch

administers $34 million in HOME funds annually. However, funding for the continuation of the HOME program is uncertain as it was cut from the FY2026 President's budget.[183]

As of December 31, 2024, New Jersey has 157 HOME projects that are still active and have not yet been fully funded. Table 51 shows some of the latest data for active HOME projects in New Jersey.

Table 51 Selected New Jersey HOME Statistics as of December 2024

Number of Projects	157
Total Funds Requested for Active Projects	$36.6 million
Funding Not Yet Allocated	$12.2 million

Source: HUD Exchange HOME PJs Open Activities Report— New Jersey[184]

Low-Income Housing Tax Credit Program

The Low-Income Housing Tax Credit (LIHTC) Program is the federal government's main policy for subsidizing the creation of affordable rental housing. LIHTCs are created by the federal government and are allocated to the states via a population-based formula. The states' housing finance organizations—in New Jersey's case the NJHMFA—then draft allocation plans in which they develop criteria for awarding the tax credits to developers. If the developer agrees to reserve a certain percentage of units for low-income households for 30 years, they are awarded tax credits once the rental housing has been constructed. State allocations of tax credits are based on a state's population as well as carry-forward of any unused credits. Data on New Jersey's current LIHTC funding allocations were not publicly available at the time of drafting the current INA.

Table 52 shows current data on LIHTC funded units currently under construction in New Jersey.

Table 52 New Jersey LIHTC Selected Statistics as of October 2025

Current # of Properties in Development	139
Total # of Additional Units	11,200
% of Units Reserved as Affordable	86.2%

Source: NJHMFA LIHTC Dashboard[185]

Section 8

This HUD program provides rental assistance vouchers to low-income residents who meet certain county-specific income limits. Section 8 requires that recipients pay 30% of their income on the subsidized housing and the voucher covers the remaining rent. In some cases, where a household has no income, the voucher

[183] U.S. Department of Housing and Urban Development. (2025). *HOME Investment Partnerships Program: FY 2026 Congressional Justification*. https://www.hud.gov/sites/dfiles/CFO/documents/2026_CJ_Program_HOME.pdf

[184] U.S. Department of Housing and Urban Development. (n.d.). *HOME PJs open activities reports*. HUD Exchange. https://www.hudexchange.info/programs/home/home-pjs-open-activities-reports/

[185] New Jersey Housing and Mortgage Finance Agency. (n.d.). *Low-Income Housing Tax Credit (LIHTC) Dashboard*. State of New Jersey. https://www.nj.gov/dca/hmfa/resources/lihtc/

will pay 100% of the total cost. Table 53 summarizes the most recent data on Section 8 vouchers in New Jersey.

Table 53 New Jersey Section 8 Selected Statistics as of July 2025

Current # of Vouchers in Use	79,921
Average per Unit Cost	$1,176
2025 Total Housing Assistance Payments made by all PHAs & DCA	$94.1 million

Source: HUD Exchange Housing Choice Voucher Dashboard[186]

In terms of federal funding, New Jersey's Section 8 program accounts for over $1 billion annually. However, even this rate of funding does not meet the current need for section 8 vouchers in New Jersey. DCA currently operates a lottery system for section 8 vouchers to distribute the limited number of vouchers. DCA is unable to provide vouchers to all applicants as the program often receives anywhere from 100,000 to 200,000 applicants each round. DCA estimates that an additional $1.5 billion annually would be necessary to meet the voucher demand of all lottery applicants. Further, national estimates indicate that section 8 programs only reach 25% of eligible households. If all eligible section 8 households in New Jersey were to be served, the new funding estimate would equal an additional $3 billion in funding needed annually.

Community Development Block Grants

Community Development Block Grants (CDBG) are another funding vehicle provided by HUD to assist in community development activities in New Jersey. DCA administers the CDBG program and, although it is not solely restricted to affordable housing, the program is often utilized to provide grants for the creation, rehabilitation, or support of affordable housing in the state. New Jersey administers over $87 million in funding through the CDBG program via county, municipal, and state agencies.

National Housing Trust Fund

The National Housing Trust Fund (NHTF) is a federal housing resource that is used to build, preserve, rehabilitate, and operate affordable housing for people with extremely/very low incomes. In New Jersey, the funds are administered by DCA. In DCA's 2024-2025 annual action plan, the agency has identified that it will prioritize 100% of NHTF funding towards increasing the supply of available affordable housing.[187] The 2025 New Jersey NHTF allocation for DCA as well as municipalities and counties totaled $5,685,377.

Continuum of Care Permanent Supportive Housing

Continuum of Care Permanent Supportive Housing (PSH) is a HUD program administered by DCA with the purpose of providing permanent housing to individuals with disabilities. The program has a twofold benefit of providing both supportive services and long-term leasing/rental assistance. DCA administers over $47 million in PSH funds annually.

[186] U.S. Department of Housing and Urban Development. (n.d.). *Housing Choice Voucher (HCV) Data Dashboard*. HUD.gov. https://www.hud.gov/helping-americans/public-indian-housing-hcv-dashboard
[187] New Jersey Department of Community Affairs. (2024). *FY2024 annual action plan: Final draft*. https://www.nj.gov/dca/dhcr/announcements/pdf/FY2024_Action_Plan_final_draft.pdf

State

NJDCA Programs

DCA administers the State Rental Assistance Program (ARAP), the Supportive Housing Connection (SHC) Program, The Neighborhood Revitalization Tax Credit (NRTC) Program, and the Affordable Housing Trust Fund (AHTF). The SRAP is a lottery-based rental subsidy voucher program and applicants must meet certain county-specific income limits in order to apply. The SHC is a partnership between the New Jersey Department of Human Services and DCA. SHC seeks to provide access to affordable housing for low-income New Jersey residents with special needs. Rental subsidies are provided in three ways: directly to tenants, to specific housing units, and to support services providers. Between the SRAP and SHC, DCA administers over 20,000 rental subsidy vouchers and over $100 million in funding annually.

The NRTC is a state tax credit program that awards tax credits to non-profit organizations that are working to improve the conditions of New Jersey's distressed neighborhoods. 60% of the funds are reserved for activities related to the development of housing or economic development. To ensure that NRTC goes to housing developments that are affordable, projects must be based in neighborhoods in which 50% of the households are of low and moderate income and at least 25% of households are low-income. DCA allocates $15 million in NRTC tax credits annually and, although not all the funding goes to housing, it still marks a significant mechanism for creating publicly subsidized affordable housing.

The AHTF is another major DCA affordable housing program. The Trust Fund "is a dedicated, off-budget fund that provides municipalities, for-profit developers, and non-profit developers with financial assistance to spur the development of affordable housing across the State."[188] Over the past three years, the AHTF has funded an average of $107 million in financial assistance for affordable housing construction per year. State Tax Credit Subsidy Program Auction

State Tax Credit Subsidy Program Auction

The NJHMFA sponsors the State Tax Credit Subsidy Program Auction. Through this program, NJHMFA will auction $500 million in state tax credits over six years beginning in 2025 to businesses in New Jersey. Businesses will be able to apply the credits to either their corporate business tax obligations or their insurance premium taxes. NJHMFA will utilize the proceeds from the auction to support the production of affordable housing. Proceeds from the auction will be deposited in the State Tax Credit Subsidy Program Fund which will be utilized to produce new affordable housing developments in the state.

Summary of Federal & State Program Funding

Table 54 summarizes current affordable housing spending in New Jersey. The state spends close to $2 billion on housing on an annual basis and this does not include one-time initiatives or special programs. With possible cuts to federal funding and new fourth-round affordable housing obligations, however, the state may need to look for new funding mechanisms in the coming years.

[188] New Jersey Department of Community Affairs. (2025). *Department of Community Affairs response to OLS Questions proposal,* 1. https://pub.njleg.state.nj.us/publications/budget/governors-budget/2026/dca_response_2026.pdf

Table 54 Current Publicly Subsidized Affordable Housing Spending in NJ

Program Title	Annual Funding
Public Housing	N/A
HOME	$34,000
LIHTC	N/A
Section 8	$1,000,000
CDBG	$87,000
CoC PSH	$47,000
NHTF	$5,685
SRAP & SHC	$100,000
NRTC	$15,000
AHTF	$107,000
State Tax Credit Subsidy Program Auction	$500,000
Total	**$1,895,685**

(*in thousands of dollars*)

Source: New Jersey Department of Community Affairs, New Jersey Office of Legislative Services Analysis of FY2026 Governor's Budget[189]

[189] New Jersey Legislature. (2025). *Department of Community Affairs: FY 2026 budget analysis*. https://pub.njleg.state.nj.us/publications/budget/governors-budget/2026/dca_analysis_2026.pdf

RECOMMENDATIONS FOR FUTURE ASSESSMENTS

This Infrastructure Needs Assessment benefited greatly from the advances in technology and data collection practices that have occurred since the 2001 INA. However, gaps remain in data availability and reporting practices vary across sectors, hindering the ability to compile a comprehensive assessment of infrastructure needs in New Jersey. Addressing these concerns would strengthen future assessments and support better outcomes for state capital planning.

In many instances, long-range capital planning practices vary by state agency and sector. Available data differs in horizon years, geographic coding, demographic factors considered, and other elements. General summaries of infrastructure needs are therefore difficult to create, as needs estimates for specific time horizons may be available in one sector but not in another. Setting guidelines for capital data collection to be adopted by all state agencies would assist in long-term capital planning by standardizing how data and projected needs are reported.

Another area that future assessments can focus on is the aggregation of local data. There are certain local entities that create capital budget requests, such as public housing authorities and public schools, for which aggregated data are not readily available. These budget requests provide detailed reporting on infrastructure needs, but an individual analysis of all plans is not feasible when considering time constraints. Data dashboards could provide state-level summaries of local capital plans and contribute to a more accurate understanding of infrastructure needs.

Finally, this INA was limited in its ability to forecast future infrastructure needs due to a lack of available data from current plans. While some state agencies have long range plans, many others do not. Further, when these plans are available, they often include long-term goals but do not offer cost projections of future infrastructure needs. Incorporating long-range budget and infrastructure needs projections into state capital planning practices would benefit future assessments.

While addressing these concerns will require a high level of interagency coordination, the streamlining and standardization of data management and reporting practices would improve the INA development process, lending support to future comprehensive state planning efforts in New Jersey.