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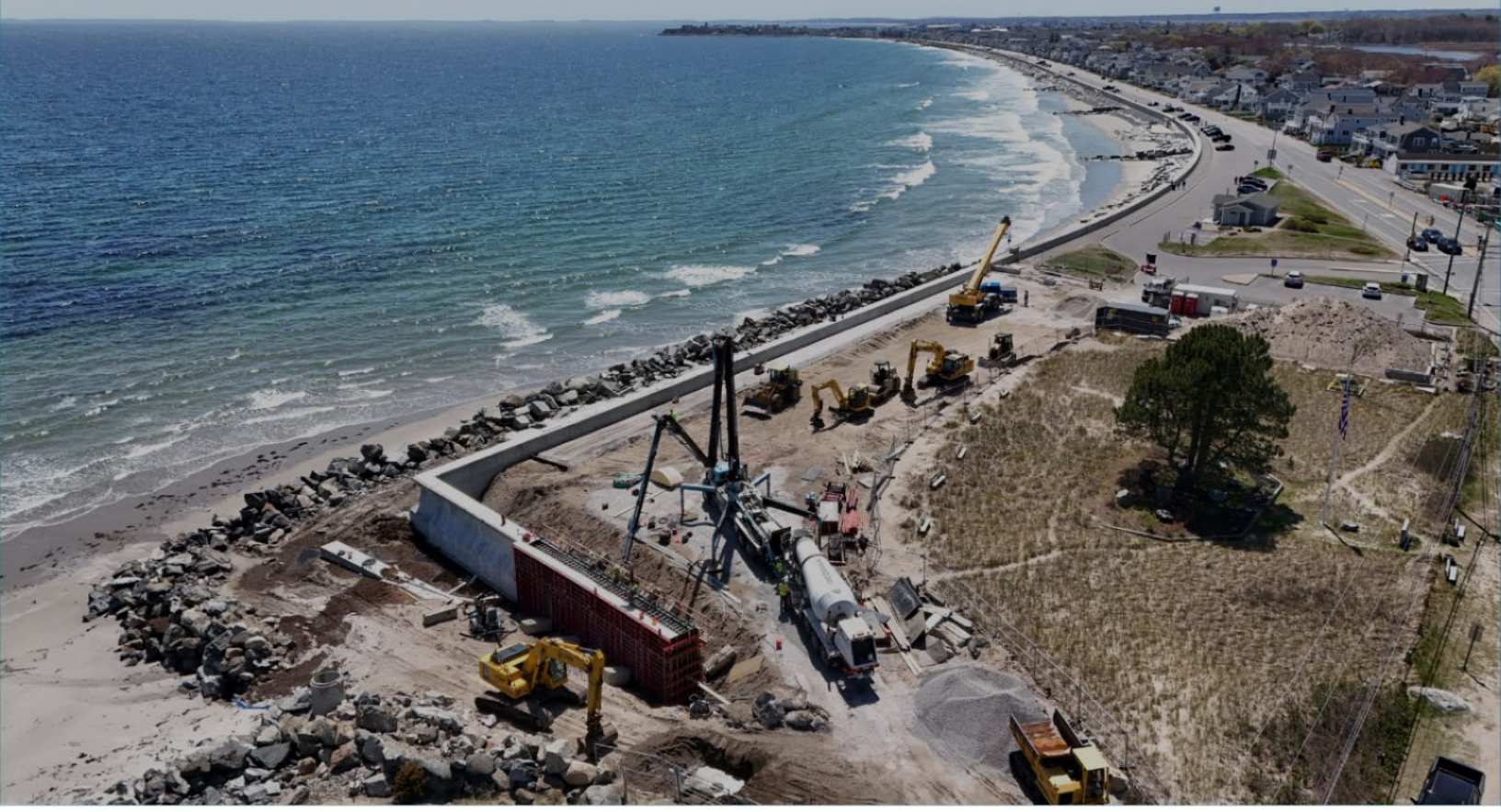
NEW HAMPSHIRE SECTION



2026

REPORT CARD FOR NEW HAMPSHIRE'S INFRASTRUCTURE

2026 REPORT CARD
FOR NEW HAMPSHIRE'S INFRASTRUCTURE

Executive Summary

The 2026 Report Card for New Hampshire's Infrastructure, prepared by the New Hampshire Section of the American Society of Civil Engineers (ASCE-NH), evaluates twelve infrastructure categories. Category grades range from a high of B- for aviation to a low of D+ for stormwater and wastewater. Since 2017 though, solid waste slipped from C+ to C, aviation, ports, rail, and roads improved, and **the overall grade rose from a C- to a C.**

Aging assets are a recurring theme across all of New Hampshire's infrastructure systems. New Hampshire's dams average more than 100 years old, and of its bridges, 8.4% are on the "Red List." Many drinking water systems are exceeding their intended service life, and much of the wastewater collection infrastructure, with some systems dating to the 1870s, is in poor or failing condition. Only about 35% of the rail network can handle industry-standard 286,000-pound carloads. However, targeted investments are paying off: 86% of the state highway system is in good or fair condition, an 18% improvement over the past decade, and recent projects have strengthened the ports, which contribute approximately $1.9 billion annually to the state's economy.

Future funding, though, is uncertain. Much of the recent progress has leaned on one-time federal funding, including the Infrastructure Investment and Jobs Act and the American Rescue Plan Act . The state gas tax is not indexed to inflation, and about $23 million per year that once supported roads and bridges now repays a federal loan. New Hampshire's Dam Bureau annually receives roughly 1% of the estimated $408 million needed for the state's share of hazardous dam rehabilitation. Stormwater needs have reached $1.3 billion, and New Hampshire is one of only six states without a municipal stormwater utility. Wastewater needs are estimated at $2.2 billion through 2042, and a current statewide estimate of the drinking water funding gap has not been identified.

Public safety and resilience concerns are growing as well. More than 80,000 residents are within potential inundation zones downstream of significant and high hazard dams. Heavier storms are straining bridges, dams, stormwater, sewer, and drinking water systems, and sea levels are predicted to rise between two and four feet by 2070, threatening the state's ports and coastal roads. Roadway fatalities rose 30% from 2019 to 2025. In solid waste, in-state disposal capacity is estimated to last only about 10 years. Additionally, emerging contaminants such as PFAS have added cost and complexity to biosolids disposal, site cleanup, and drinking water treatment, and cybersecurity has emerged as a risk for drinking water systems.

Innovation is not yet widespread, but is progressing, from new pavement materials and all-electronic tolling to regional water interconnections, dam removals, and the state's first utility-scale battery storage project. However, workforce shortages limit progress: NHDOT has reported a vacancy rate of 20–25% for several years, and the water sector estimates a need of 40 to 50 new certified drinking water operators each year through 2030.

The 2026 Report Card calls for stable, long-term funding to replace reliance on one-time federal infusions; utility rates that reflect the true cost of service; stronger asset management, staffing, and technical assistance, particularly for municipalities and small systems; and investment in resilience against extreme weather and coastal flooding. With sustained investment, proactive planning, and collaboration among state, local, and private partners, New Hampshire can move its infrastructure from mediocre but serviceable to resilient and ready for the future.

2026 REPORT CARD FOR NEW HAMPSHIRE'S INFRASTRUCTURE

Solutions to Raise the Grade

1. **Secure dedicated, long-term funding to replace one-time federal infusions.**

   Much of New Hampshire's recent progress has relied on recent federal funds through the Infrastructure Investment and Jobs Act and American Rescue Plan Act which are uncertain to continue, while state revenue sources such as the gas tax have lost purchasing power and the 2014 road toll increase will sunset. Dedicated, predictable funding is needed for bridges, roads, dams, ports, rail, and aviation, and existing dedicated funds, including the Renewable Energy Fund and the state's hazardous waste, petroleum, and drinking water funds, should be protected from diversion to unrelated purposes.

2. **Set NH rates and fees for proactiveness rather than reactiveness.**

   Sewer rates, which averaged $1,100 per household in 2025, are inadequate for most utilities to sustain their assets, and drinking water rates should likewise cover operations, debt service, and planned capital replacement. New Hampshire is one of only six states without a municipal stormwater utility. The gas tax is not indexed to inflation, and the federal Passenger Facility Charge cap has been fixed at $4.50 since 2000. Aligning rates and fees with the actual cost of service, supported by public education on those costs, will allow owners to plan for replacement rather than react to failure.

3. **Expand asset management and preventive maintenance.**

   Knowing what assets exist, what condition they are in, and what they will cost to replace allows owners to prioritize limited dollars. Statewide support is needed for asset inventories, condition assessments, and planning across drinking water, wastewater, stormwater, and airport systems. Preservation work on bridges met only 32% of the need in 2024, and low-cost actions such as bridge washing and drainage cleaning meaningfully slow deterioration.

4. **Build resilience into planning, design, and funding decisions.**

   Heavier storms, drought, and rising seas are already affecting New Hampshire's infrastructure. Ninety percent of the poor condition ratings on the state's dams relate to overtopping during extreme runoff, sea levels are predicted to rise between two and four feet by 2070, and the state's rail network has low resiliency due to a lack of route redundancy. Resilience should be integrated into capital plans, including coastal protection at harbors, system interconnections, backup power, redundant supply, and storage and transmission improvements for the electric grid.

5. **Improve the built environment for safer, healthier communities.**

   More than 80,000 residents live within potential inundation zones downstream of significant and high hazard dams, roadway fatalities reached 132 in 2025, and PFAS and other emerging contaminants are adding cost and complexity to drinking water, wastewater biosolids, and site cleanup. New Hampshire should fund positions to develop and manage dam Emergency Action Plans, fully fund and expand roadway safety programs, invest in treatment and source evaluation for emerging contaminants, and strengthen cybersecurity at water systems.

Solutions to Raise the Grade

6. Invest in the infrastructure workforce.

Staffing gaps are limiting what the state and its partners can deliver. NHDOT has reported a vacancy rate of 20–25% for several years, the water sector estimates a need for 40 to 50 new certified drinking water operators each year through 2030, and shortages affect aviation technical roles, bridge design, maintenance, and inspection, wastewater operations, and environmental cleanup oversight. Expanded training, certification, and career pathways, along with retention of experienced staff, are essential.

7. Strengthen partnerships, technical assistance, and regional coordination.

Many of New Hampshire's infrastructure owners lack the staff, engineering capacity, or eligibility to access available funding. State support should include technical assistance for municipal bridges and grant administration, measures that allow small water systems to interconnect or merge, funding programs open to non-state dam owners, help for communities developing dedicated stormwater funding, and public-private and regional partnerships, including with neighboring states, for rail.

2026 REPORT CARD FOR NEW HAMPSHIRE'S INFRASTRUCTURE

About the Report Card

Using a simple A to F school report card format, the Report Card examines current infrastructure conditions and needs, assigning grades and making recommendations to raise them. The ASCE-NH Committee on New Hampshire's Infrastructure is made up of civil engineers and infrastructure professionals from across the state, with decades of expertise in all categories, who volunteer their time to work with ASCE Infrastructure Initiatives staff to prepare the Report Card.

GRADING DESCRIPTIONS

The following grade descriptions have been defined as part of ASCE's Report Card methodology.

A → EXCEPTIONAL: FIT FOR THE FUTURE

The infrastructure in the system or network is generally in excellent condition, typically new or recently rehabilitated, and meets capacity needs for the future. A few elements show signs of general deterioration that require attention. Facilities meet modern standards for functionality and resilient to withstand most disasters and severe weather events.

B → GOOD: ADEQUATE FOR NOW

The infrastructure in the system or network is in good to excellent condition; some elements show signs of general deterioration that require attention. A few elements exhibit significant deficiencies. Safe and reliable with minimal capacity issues and minimal risk.

C → MEDIOCRE: REQUIRES ATTENTION

The infrastructure in the system or network is in fair to good condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies in conditions and functionality, with increasing vulnerability to risk.

D → POOR: AT RISK

The infrastructure is in poor to fair condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration. Condition and capacity are of significant concern with strong risk of failure.

F → FAILING/CRITICAL: UNFIT FOR PURPOSE

The infrastructure in the system is in unacceptable condition with widespread advanced signs

2026 REPORT CARD FOR NEW HAMPSHIRE'S INFRASTRUCTURE

Methodology

To develop a Chapter's Report Card grade, a quantitative and qualitative approach to each of the eight fundamental criteria is used. Each author reviews and assesses all relevant data and reports, consults with technical and industry experts, and assigns grades according to the following eight criteria:

CAPACITY

Does the infrastructure's capacity meet current and future demands?

CONDITION

What is the infrastructure's existing and near-future physical condition?

FUNDING

What is the current level of funding from all levels of government for the infrastructure category as compared to the estimated funding need?

FUTURE NEED

What is the cost to improve the infrastructure? Will future funding prospects address the need?

OPERATION AND MAINTENANCE

What is the owners' ability to operate and maintain the infrastructure properly? Is the infrastructure in compliance with government regulations?

PUBLIC SAFETY

To what extent is the public's safety jeopardized by the condition of the infrastructure and what could be the consequences of failure?

RESILIENCE

What is the infrastructure system's capability to prevent or protect against significant multi-hazard threats and incidents? How able is it to quickly recover and reconstitute critical services with minimum consequences to public safety and health, the economy, and national security?

INNOVATION

What new and innovative techniques, materials, technologies, and delivery methods are being implemented to improve the infrastructure?

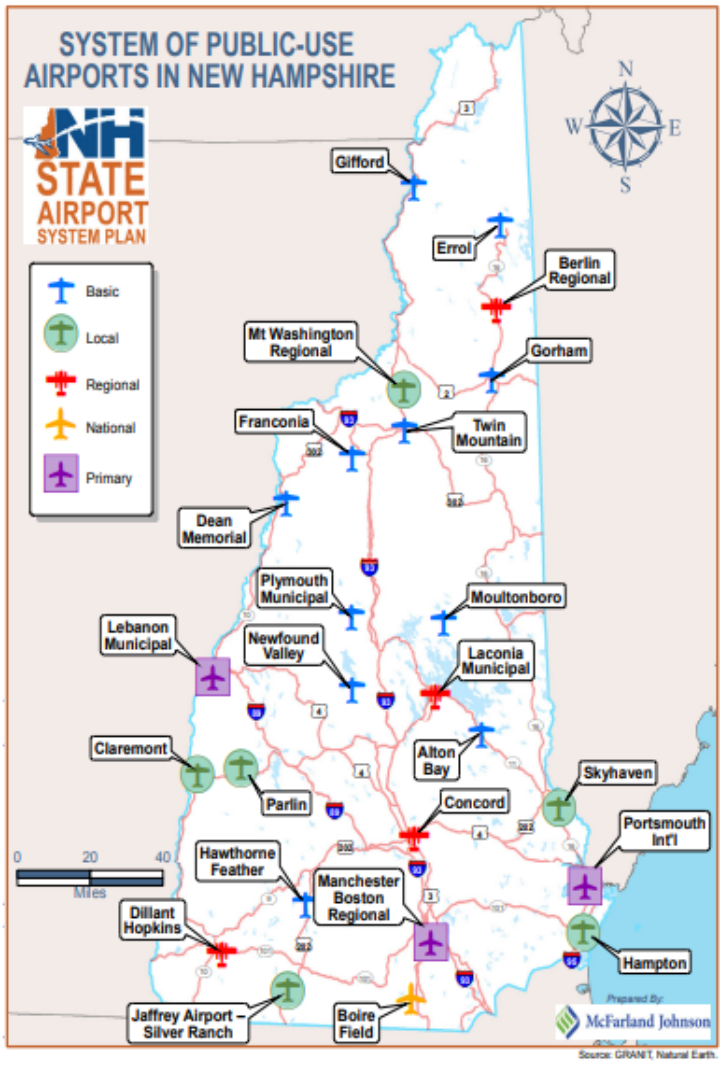
AVIATION

2026

B-

EXECUTIVE SUMMARY

New Hampshire's aviation system includes 25 public-use airports, 105 private-use airports, and three commercial service airports, supporting more than 1,500 registered aircraft and contributing approximately 6,600 jobs and $643 million in payroll. Total annual economic output from aviation exceeds $1.7 billion, with an additional $1 billion generated and 3600 additional jobs through aviation manufacturing.



While aircraft operations have remained relatively stable through the COVID-19 pandemic, commercial passenger activity remains approximately 15% below pre-pandemic levels. Over the past two decades, New Hampshire's airport planning and investment priorities have increasingly emphasized safety improvements, pavement rehabilitation, navigational upgrades, and preservation of existing facilities, while capacity expansion has generally been pursued selectively where supported by operational demand or economic need. Workforce shortages in technical aviation roles continue to constrain system performance. Federal and state funding programs provide critical support, but administrative and resource limitations may prevent some airports from fully utilizing available funds. To sustain and improve system performance, New Hampshire must modernize planning efforts, strengthen workforce pipelines, and ensure consistent access to funding programs.

2017 NH COMPARISON: C+

2025 NATIONAL COMPARISON: D+

BACKGROUND

The New Hampshire Department of Transportation (NHDOT), particularly its Bureau of Aeronautics, oversees aviation planning, safety, and infrastructure development across the state. The Bureau coordinates with federal agencies and supports airports through funding, policy development, and long-term aviation system planning. Three commercial service airports, Manchester-Boston Regional Airport (MHT), Portsmouth International Airport (PSM), and Lebanon Municipal Airport (LEB).

New Hampshire's aviation system plays a critical role in regional mobility, economic development, emergency response, and cargo distribution. In addition to commercial service, general aviation airports support business travel, pilot training, and recreational aviation across the state.

CAPACITY

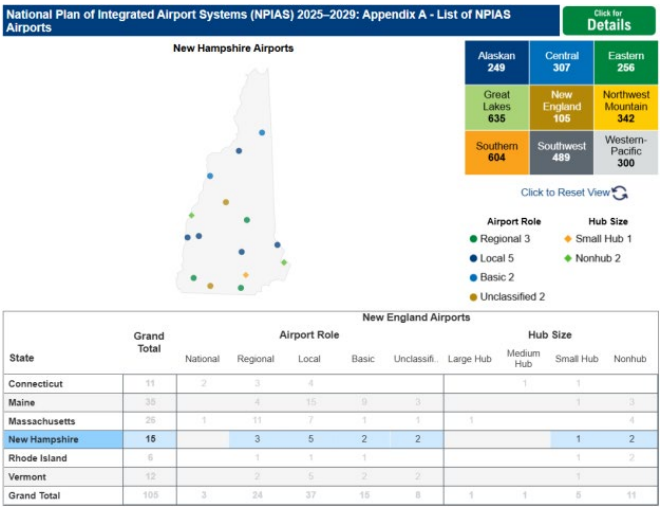
The FAA Terminal Area Forecasts indicates a steady increase in both air carrier and commuter enplanements between 2021 and 2026. However, these levels remain approximately 15% below-pre-COVID pandemic peaks observed in 2017.

New Hampshire Airport Enplanements History (2018–2025)

Year	Manchester-Boston Regional (MHT)	Portsmouth International (PSM)	Lebanon Municipal (LEB)	Total Statewide
2025	685,594	90,771	9,304	785,669
2024	633,257	100,298	10,934	744,489
2023	645,158	57,448	10,863	713,469
2022	643,641	64,314	9,855	717,810
2021	478,143	66,972	7,597	552,712
2020	305,958	41,737	3,707	351,402
2019	852,321	116,903	10,364	979,588
2018	911,225	92,836	10,360	1,014,421

https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger

Despite reduced passenger volumes, total civil and military aircraft operations at the 21 National Plan of Integrated Airport Systems (NPIAS) airports have remained relatively steady through the pandemic period. New Hampshire's aviation system collectively provides adequate capacity to meet current demand. Nashua's Boire Field serves as a designated reliever airport for Boston Logan International Airport, helping to reduce congestion in the regional airspace system. In addition to its 25 public-use airports, New Hampshire is home to 105 private-use airports, heliports, and seaplane bases that support personal, recreational, agricultural, business, and specialized aviation activities. Although these facilities are generally not open to the public, they contribute to the state's overall aviation capacity and help provide access to rural and remote areas.



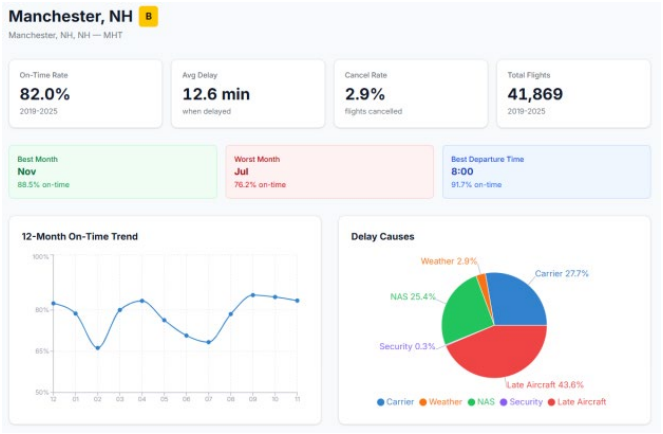
State	Grand Total	Airport Role					Hub Size			
		National	Regional	Local	Basic	Unclassifi..	Large Hub	Medium Hub	Small Hub	Nonhub
Connecticut	11	2	3	4				1	1	
Maine	35		4	15	9	3			1	3
Massachusetts	26	1	11	7	1	1	1			4
New Hampshire	15		3	5	2	2			1	2
Rhode Island	6		1	1	1				1	2
Vermont	12		2	5	2	2			1	
Grand Total	105	3	24	37	15	8	1	1	5	11

https://www.faa.gov/airports/planning_capacity/npias/current

There are three commercial service airports in New Hampshire to include MHT, PSM, and LEB. New Hampshire's largest runways are located at MHT and PSM. MHT features its main Runway 17/35 at about 9,250 feet, while PSM's primary runway, 16/34, extends to roughly 11,321 feet, allowing it to accommodate larger aircraft and cargo operations. Despite PSM's longer runway, the bulk of the state's scheduled commercial passenger traffic transits through MHT, which serves as New Hampshire's primary commercial hub with regular airline service, boasting an on time rate of 82% between 2019 and 2025. Together, these airports provide the essential infrastructure for commercial aviation in the state, balancing passenger demand and operational capacity.

Although statewide passenger demand has largely recovered from the pandemic, commercial air service in New Hampshire remains sensitive to airline network planning decisions. Over the past several years, carriers have adjusted routes, modified schedules, entered new markets, and withdrawn from others, contributing to fluctuations in passenger volumes and destination availability. These trends demonstrate that future growth is likely to be influenced as much by airline service decisions and route competitiveness as by the state's underlying demand for air travel.

Airline On Time Performance - MHT

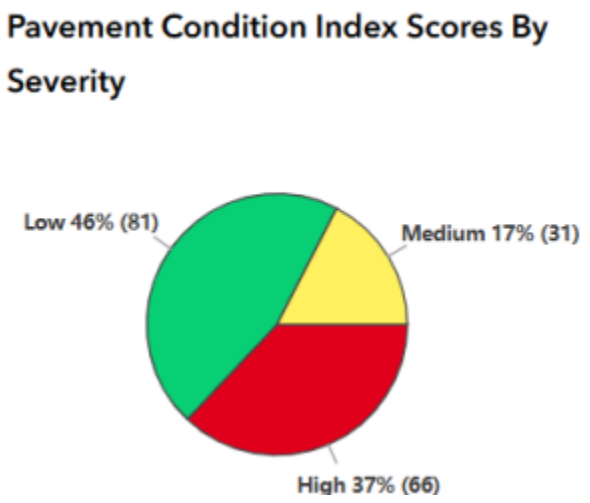


https://www.airdelay.org/airports/mht

Cargo activity in New Hampshire is concentrated at MHT and PSM. MHT serves as the state's primary commercial cargo hub, processing more than 238 million pounds of freight through express carriers such as Amazon Air, FedEx, and UPS in 2025. PSM provides additional cargo capacity through its long-haul airfield infrastructure, customs services, Foreign Trade Zone designation, and joint civil-military operations. While publicly available statistics primarily capture commercial freight activity, New Hampshire's airports also support military logistics, emergency response, and specialized airlift functions that contribute to the state's overall transportation resilience.

CONDITION

NHDOT Pavement Condition Index (PCI) reports provide a snapshot of runway, taxiway, and apron conditions and their trends are often indicative of the state's willingness to invest in public airports. The 2021 PCI Reports indicate that overall airfield pavement conditions have remained relatively stable compared to 2012 baseline assessments. However, average PCI values can obscure localized deficiencies across airport facilities. A snapshot of the PCI published by the New Hampshire Department of Transportation states that 37% of airport pavement conditions throughout New Hampshire are at high risk, 17% are at medium risk, and 46% are at low risk (Airport Pavement Condition Index). For the most up to date PCI evaluations, as broken down by airport, see the NHDOT's Aviation ArcGIS portal.



Apron pavement conditions generally lag behind runway and taxiway conditions at several airports, suggesting that apron rehabilitation needs may warrant additional consideration in future capital planning efforts.

Unlike airfield pavements, which are periodically assessed through statewide PCI studies, New Hampshire does not currently maintain a comparable statewide condition assessment for landside airport assets such as terminals, hangars, parking facilities, and support buildings. As a result, landside facility needs are generally identified through airport master plans, capital improvement planning efforts, and airport-specific development studies. MHT is expected to publish a master airport plan in 2027 and, outside of their taxiway and apron rehabilitation, they are expected to focus recommendations on improving their existing terminal and expanding their maintenance facilities. PSM is also in the midst of a master airport plan update and while they have just finished renovating their terminal and tower, they are also expected to discuss an increasing need for additional hangar space. Finally, LEB last published their Airport Master Plan in 2017, and most of the landside facilities did not require massive renovations, their roadways were under scrutiny. Concord has not had a master plan published since 2006, which is when the existing terminal building was recommended to be replaced, however, the funding has just now come through to replace the building in 2024.

OPERATION AND MAINTENANCE

New Hampshire airports rely on a structured capital planning process to maintain and improve aging infrastructure. Through annual Airport Capital Improvement Program (ACIP) coordination between airport sponsors, consultants, NHDOT Bureau of Aviation, and the FAA, future projects are identified, prioritized, and aligned with available funding sources. This process helps ensure that limited federal and state resources are directed to the highest-priority needs, including runway, taxiway, apron, lighting, and safety improvements. Because many large-scale rehabilitation projects exceed the funding available through annual entitlement programs, airports often depend on discretionary and supplemental federal funding to address significant infrastructure needs while maintaining safe and reliable operations.

As airports shift to sustainability focused upgrades, regular maintenance costs have airports looking towards unique solutions to rising energy expenses. Municipalities are motivated to offset rising electricity costs, take advantage of expiring federal tax credits, and make investments in large solar projects now that the FAA has defined clearer guidelines. While adoption varies by airport size and governance structure, solar has become a mainstream consideration in airport planning nationwide. Outside of the solar array panels established in 2012 at MHT, Keene is in the beginning stages of constructing a solar array system to provide power to their entire municipality and it is estimated that it will save the city of Keene $20M over the next 40 years.

Asset management extends beyond pavements and facilities to include specialized operational equipment that is essential to airport safety and reliability. In New Hampshire, airports must maintain fleets of snow-removal equipment, airfield maintenance vehicles, and aircraft rescue and firefighting (ARFF) apparatus to support year-round operations and regulatory compliance. These assets require substantial capital investment, routine maintenance, specialized operator training, and long-term replacement planning. For commercial service airports, ARFF vehicles represent critical life-safety infrastructure, while snow and ice control equipment is particularly important in Northern New England, where winter weather can significantly affect airport operations. Effective management of these assets is essential to maintaining safe, reliable, and resilient airport operations.

FUNDING AND FUTURE NEED

New Hampshire airports rely on a combination of federal, state, and local funding sources to support planning, maintenance, and capital improvement needs. The primary federal resource remains the FAA Airport Improvement Program (AIP), which provides entitlement and discretionary funding for eligible projects. While MHT, PSM, and LEB work with the FAA directly to receive AIP funding, NHDOT administers AIP funding for non-primary airports.

Primary Airport	Enplanements	FAA AIP Entitlements
PSM	100,298	$1,301,550
MHT	633,257	$3,553,234
LEB	10,934	$1,300,000

FY2026 FAA AIP Entitlements

Additional federal funding is available through the Infrastructure Investment and Jobs Act of 2021 (IIJA), which provides supplemental funding for airport infrastructure, including Airport Infrastructure Grants and the Airport Terminal Program.

These programs support airfield improvements, terminal upgrades, and sustainability initiatives. As of January 2025, the IIJA had provided approximately $50 million in aviation funding for New Hampshire. Since 2022, MHT has received approximately $15 million for airfield lighting and infrastructure upgrades, PSM has received approximately $12 million for terminal expansion, and LEB has received approximately $3.5 million. Additional funding has been distributed through IIJA across other NPIAS airports, including Nashua, Concord, Keene, Laconia, Claremont, and Skyhaven. Unfortunately, this funding source is scheduled to sunset in 2026 and is not anticipated to be an ongoing source for investment in the future.

At the state level, the New Hampshire Airport Improvement and Maintenance (AIM) Program provides fuel-tax-supported funding for maintenance and smaller capital projects. All public-use airports in NH regardless of ownership may apply for AIM. Historically, this program generates approximately $189K and $337K per year.

Airports may also supplement public funding through Passenger Facility Charges (PFCs), airport self funding, locally generated airport revenues, municipal contributions, and other federal economic or transportation grants. Despite the availability of multiple funding sources, some airports may face administrative or staffing constraints that limit their ability to fully access and manage these potentially complicated grant requirements and timelines. The smaller the airports, the less staff there is to focus on grant applications.

The Airport and Airway Trust Fund (AATF) is the primary funding source for federal aviation programs, supporting operations & maintenance (O&M), the Airport Improvement Program, and facilities and equipment (F&E). The COVID-19 pandemic significantly reduced aviation-related revenues, particularly the amount of PFCs collected. The PFC remains an important source

of local airport funding; however, the federal PFC cap has remained fixed at $4.50 per passenger since 2000. Despite the recovery in air travel following the COVID-19 pandemic, the purchasing power of the PFC has declined significantly relative to inflation and increasing construction costs. PSM does not currently collect a PFC, reducing passenger fees while limiting a potential source of locally generated capital funding.

Workforce demand is particularly concentrated in non-pilot roles such as aircraft maintenance, avionics, airport operations, engineering, UAS, and aviation management. Persistent national shortages of aviation maintenance technicians, tower controllers, and other technical professionals, driven by retirements and fleet complexity, directly impact New Hampshire's general aviation and commercial airports. Programs such as Aviation Career Education (ACE) Camps, supported by the Granite State Airport Management Association (GSAMA), aim to address these challenges by introducing middle- and high-school students to aviation careers and building long-term workforce pipelines. Although the long-term outcomes of these programs can be difficult to quantify, they play an important role in increasing awareness of aviation careers that are often underrepresented in traditional educational curricula. By exposing students to the breadth of opportunities available across the aviation industry, these initiatives help reduce perceived barriers to entry and support the development of a future workforce capable of sustaining and advancing New Hampshire's aviation system.

PUBLIC SAFETY & RESILIENCE

Aviation safety extends beyond runways and air traffic control to include wildlife hazard management, emergency planning, and airfield safety programs. Wildlife strikes remain one of the most common operational risks facing airports nationwide. Between 2021 and 2025, MHT recorded 132 wildlife strikes, equivalent to 678.5 strikes per 100,000 covered departures, compared to 131.4 strikes per 100,000 covered departures at Boston Logan International Airport. While strike rates are influenced by airport geography, habitat, traffic levels, and reporting practices, the data highlight the importance of continued investment in wildlife hazard mitigation measures such as habitat management, vegetation control, fencing, and routine airfield inspections.

New Hampshire's aviation system is an important component of the state's emergency

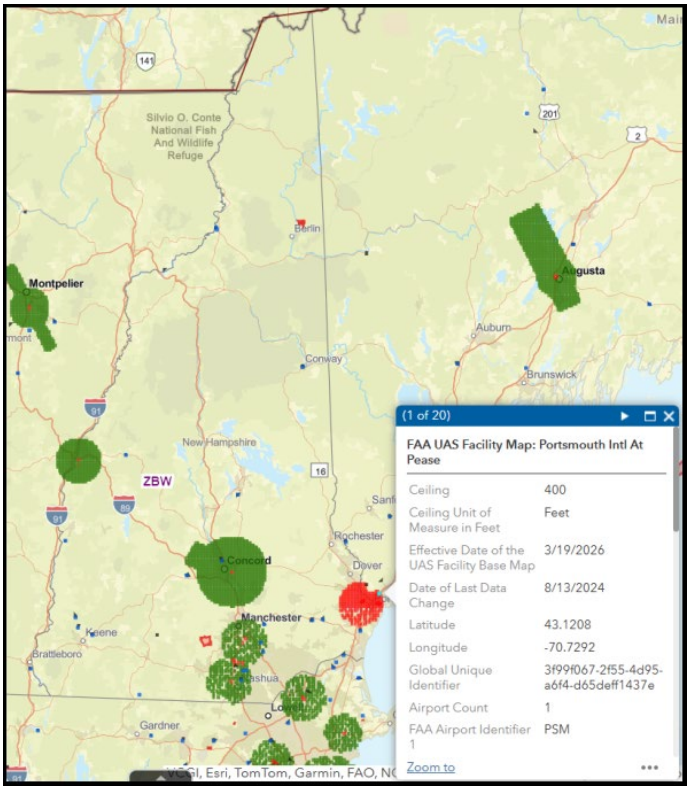
preparedness and resilience framework. Airports support emergency medical transport, search-and-rescue missions, military operations, and the movement of personnel and supplies during natural disasters and other emergencies. Given the state's mountainous terrain, rural communities, and exposure to severe winter weather and flooding, aviation provides a critical transportation link when other transportation modes may be disrupted.

The New Hampshire National Guard relies on aviation assets for search-and-rescue, medical transport, aerial reconnaissance, and emergency response missions, particularly in remote areas where terrain, weather, or limited roadway access can delay ground-based response efforts. PSM, home to the 157th Air Refueling Wing and its KC-46A Pegasus aircraft, serves as a strategic hub for military operations and emergency response. Its military infrastructure, customs facilities, airfield capacity, and recurring emergency preparedness exercises strengthen both state and national resilience.

Resilience is further supported by investments in winter operations and a geographically distributed airport system. Airports maintain specialized snow-removal equipment and winter operations capabilities to sustain airfield access during severe weather. In addition, the federal Essential Air Service (EAS) program at LEB provides reliable year-round commercial air service in western New Hampshire, reducing reliance on southern New Hampshire and Boston-area airports while strengthening statewide connectivity and emergency access.

INNOVATION

Unmanned aircraft system (UAS) operations near airports present aviation safety challenges that are addressed through FAA airspace regulations and operational controls. These include Low Altitude Authorization and Capability Authorization (LAANC) requirements, UAS Facility Maps, and the FAA's Remote ID mandates implemented in 2024. Future growth in UAS or advanced air mobility operations near airports will require additional coordination, risk assessment, and FAA approval due to the complex and safety-critical nature of airport airspace.



Localizer Performance with Vertical Guidance (LPV) approaches has become more commonplace among New Hampshire airports, allowing commercial and general aviation pilots to approach an airport to lower minimums. An LPV approach is a GPS-based instrument approach enabled by the FAA's Wide Area Augmentation System (WAAS) that provides pilots with both lateral and vertical guidance comparable to a Category I Instrument Landing System (ILS), but without requiring ground-based navigation equipment. LPV approaches significantly improve safety and reliability, particularly at airports that could not support the installation or maintenance of an ILS. The FAA funds and publishes LPV procedures as part of its national navigation infrastructure, making LPV a cost-effective way to expand instrument access at New Hampshire airports beyond Portsmouth and Manchester and out to smaller airports such as those at Skyhaven, Lebanon, Berlin, Claremont, and Whitefield.

While New Hampshire has not yet made significant statewide investments to fully realize its role in the future of aviation, its proximity to Boston places it within a region actively advancing Advanced Air Mobility (AAM) planning and implementation efforts. Massachusetts, through MassDOT, Massport, and regional partners such as BETA Technologies, has been selected by NASA to participate in Advanced Air Mobility community planning initiatives and continues to position itself as an early adopter of eVTOL aircraft and integrated airspace concepts. Innovation in aviation is increasingly occurring at the regional level, and states that actively participate in demonstration projects, infrastructure planning, workforce development, and regulatory coordination are likely to be better positioned to capture future economic and mobility benefits. Without similar engagement, New Hampshire may be limited to reacting to changes occurring elsewhere rather than helping shape them.

RECOMMENDATIONS TO RAISE THE GRADE

- **Update the New Hampshire State Airport System Plan**, which was last completed in 2015, to reflect current aviation activity, infrastructure conditions, emerging technologies, and evolving funding opportunities.
- **Preserve and extend supplemental airport infrastructure funding** beyond IIJA (set to expire in FY2026) to help airports address aging infrastructure, rising construction costs, and capital improvement needs.
- **Modernize the PFC program** by increasing or indexing the $4.50 cap to inflation, providing airports with greater flexibility to fund infrastructure improvements.
- **Improve project readiness to maximize available federal funding**. Expand technical assistance, planning support, and grant administration resources to help airport sponsors advance eligible projects and fully utilize available federal aviation funding.

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BRIDGES

2026

C-

EXECUTIVE SUMMARY

Over the last ten years, the State Red List decreased by 42 bridges (27.3%) and 339,805 square feet of deck area (38.0%), while the municipal Red List decreased by 126 bridges (37.3%) and 209,076 square feet of deck area (45.9%). At the same time, the State Yellow List increased by 160 bridges (19.5%) and 724,118 square feet of deck area (20.1%), showing that deterioration is shifting a larger share of the inventory into the middle condition category.

Over the last decade as well, the state has made measurable progress in reducing the number of Red List bridges, with significant declines in both state and municipal inventories. However, this progress is offset by an aging bridge network, increasing construction costs, and growing maintenance demands. Many bridges are approaching or exceeding their intended service life, placing additional strain on limited funding resources. Sustained investment and proactive asset management will be essential to maintain system reliability and prevent further deterioration.

2017 NH COMPARISON: C-

2025 NATIONAL COMPARISON: C

BACKGROUND

The New Hampshire Department of Transportation (NHDOT) classifies bridges by the lowest National Bridge Inspection Standards condition rating assigned to a major structural component. The Red List includes bridges rated 4 (Poor) or lower; the Yellow List includes bridges rated 5 (Fair) or 6 (Satisfactory); the Green List includes bridges rated 7 (Good) or higher; and the Black/Closed List identifies bridges closed to traffic. A Poor rating does not, by itself, mean that a bridge is unsafe, but it does indicate deterioration that requires closer oversight, timely maintenance, rehabilitation, replacement, or load posting as appropriate. New Hampshire's public bridge inventory includes 3,860 bridges (10 ft. or greater), consisting of 2,161 State/Turnpike bridges and 1,699 Municipal/Other bridges. As of December 2024, 324 bridges (8.4%) are in "Poor" condition and on the "Red List", representing approximately 801,000 square feet (6.0%) of bridge deck area. Bridges included in the "Red List" have at least one major structural element rated in poor condition but are still considered safe for use, in accordance with posted weight restrictions.

CAPACITY

Of the 3,860 public bridges in the statewide inventory, 2,161 (56.0%) are State or Turnpike bridges and 1,699 (44.0%) are municipal or other non-state bridges. The inventory therefore distributes ownership and long-term maintenance responsibility across both NHDOT and local owners. The available statewide annual report does not separately identify a complete federally owned bridge category, so federal ownership is not presented as a separate percentage here.

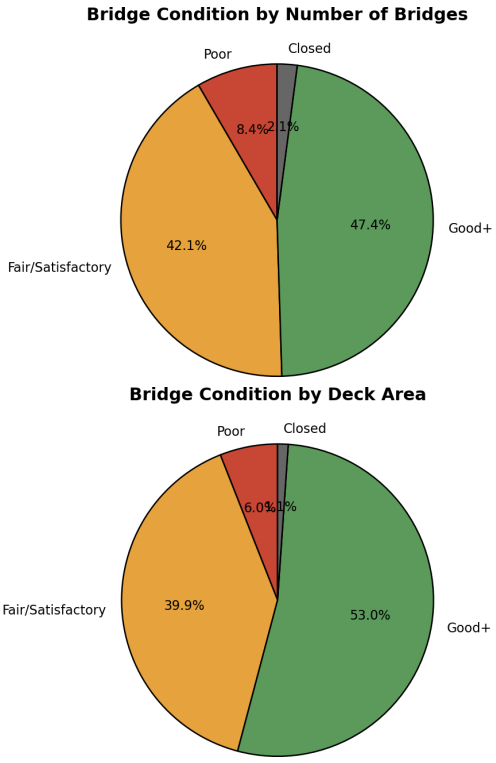
Bridges are a critical element of New Hampshire's transportation network, providing essential connections for residents, businesses, and emergency services. Since 2017 the number of bridges statewide has increased slightly from 3,848 to 3,860, reflecting modest system growth. Each additional structure brings with it long-term responsibilities for inspection, maintenance, and eventual rehabilitation or replacement.

As the bridge inventory expands and ages, funding for maintenance, preservation, rehabilitation, and replacement is being stretched further than ever. The combination of increased demand, rising construction costs, and limited resources underscores the importance of strategic investment and proactive asset management to ensure the reliability and safety of New Hampshire's transportation network for decades to come.

CONDITION

The average age of State non-Turnpike bridges is 65.4 years, and municipally owned bridges average 56.0 years. Both averages exceed the approximately 50-year design-life assumption commonly associated with many bridges built during the major mid-twentieth-century expansion of the network. The 2024 report does not publish a defensible statewide projection of how many bridges will exceed design life by 2050, so this chapter uses current average age and measured condition trends rather than extrapolating an unsupported count.

By bridge count, 8.4% of New Hampshire's inventory is in Poor condition, above the national average of 6.8%. New Hampshire also has 42.1% of bridges in Fair or Satisfactory condition and 47.4% in Good condition or better. NHDOT does not publish a single statewide total of daily vehicle crossings over all Poor bridges in the source material reviewed; traffic exposure should therefore be characterized bridge-by-bridge using National Bridge Inventory traffic data rather than stated a statewide total.



The following tables summarize the conditions of New Hampshire's state-owned and municipal bridges as of December 31, 2024:

Summary of Bridge Condition by Number of Bridges			
Bridge Condition	**State-Owned Bridges**	**Non State-Owned Bridges**	**Totals**
Red List (Poor)	112 (5.2%)	212 (12.5%)	324 (8.4%)
Yellow List (Fair/Satisfactory)	980 (45.3%)	645 (38.0%)	1,625 (42.1%)
Green List (Good+)	1,046 (48.4%)	785 (46.2%)	1,831 (47.4%)
Black/Closed	23 (1.1%)	57 (3.4%)	80 (2.1%)
Totals	2,161	1,699	3,860

Summary of Bridge Condition by Bridge Deck Area (SF)			
Bridge Condition	**State-Owned Bridges**	**Non State-Owned Bridges**	**Totals**
Red List (Poor)	554,872 (5.2%)	246,117 (9.3%)	800,989 (6.0%)
Yellow List (Fair/Satisfactory)	4,194,277 (39.0%)	1,148,757 (43.4%)	5,343,034 (39.9%)
Green List (Good+)	5,926,711 (55.2%)	1,174,750 (44.3%)	7,101,461 (53.0%)
Black/Closed	66,502 (0.6%)	80,148 (3.0%)	146,650 (1.1%)
Totals	10,742,362	2,649,772	13,392,134

Over the past decade, the number of Red List bridges has declined for both state and municipal systems. State Red List bridges decreased by 42 (27.3%), while municipal Red List bridges decreased by 126 (37.3%). Corresponding reductions in deck area were also measurable.

Despite these improvements, the overall system continues to age. Many bridges are transitioning from Good to Fair condition, increasing the risk that they will require more significant rehabilitation or replacement in the near future.

OPERATION AND MAINTENANCE

NHDOT's bridge inspection program is responsible for inspection of bridges on public ways, including state-owned and non-state-owned bridges, with owners responsible for acting on inspection findings and maintaining their structures. All public bridges are inspected at least once every 24 months; State Red List bridges are inspected every six months and non-state Red List bridges annually. In FFY 2024, NHDOT completed more than 400 bridge repairs and advanced 23 preservation projects, but completed preservation represented only about 32% of the identified annual deck-area need.

Routine practices that extend service life include washing decks and structural components to remove deicing salts, cleaning scuppers and drainage systems, sealing joints and cracks, maintaining protective coatings, repairing localized concrete and steel deterioration, and addressing scour and channel concerns. Winter operations prioritize keeping approach roadways and bridge decks passable, but bridges can freeze before adjacent pavement and may require targeted treatment. The reviewed statewide reports do not provide a bridge-specific annual count of snow- or ice-related closures, so no unsupported closure total is presented.

Workforce capacity remains a constraint. NHDOT's 2024 Bridge Design update identified 134 projects in the bureau workload, including 74 active projects and 21 in construction, with an average of approximately 16 projects per engineer. Staffing pressure affects design reviews, project delivery, inspection follow-up, maintenance planning, and the ability to expand preservation work. Consultant support can supplement internal capacity, but it also requires stable funding and effective NHDOT oversight. Federal performance measures require states to track bridge condition using deck area metrics for bridges on the National Highway System. These measures remain a key component of national transportation performance requirements and influence funding and planning decisions.

FUNDING

State-owned bridge work is funded through a combination of federal-aid highway formula funds, state highway funds, Turnpike revenues where applicable, and project-specific discretionary awards. The Infrastructure Investment and Jobs Act (IIJA) increased federal bridge resources available to New Hampshire; NHDOT's 2024 Bridge Design update identified approximately $156 million in additional State bridge investment associated with IIJA funding within the 2025-2034 Ten-Year Plan. Municipal bridge needs are supported through the State-Aid Bridge, Municipal Off-System Rehabilitation and Replacement, and Municipally Owned Bridge Bipartisan Infrastructure Law programs.

The 2025-2034 Ten-Year Plan identified approximately $1.13 billion for bridges across all funding types. Even with these resources, funding must cover preservation, rehabilitation, replacement, emergency work, inspection, design, and construction administration across an aging statewide inventory. Formula funding provides a predictable base, while discretionary grant programs are especially important for unusually large or high-cost structures that would otherwise consume a disproportionate share of annual program capacity.

NHDOT administers a state-funded State-Aid Bridge (SAB) program and two federally funded programs - the Municipal Off-System Rehabilitation and Replacement (MOBRR) and the Municipally Owned Bridge Bipartisan Infrastructure Law (MOBIL) - to assist municipalities with addressing non-state-owned deficient, i.e., “Red Listed” bridges. The cost sharing for the SAB and MOBRR programs is 80% state and/or federal, and 20% municipal and 100% federal for MOBIL program.

In Federal Fiscal Year (FFY) 2024, the SAB Program provided $18.23 million in state funds and an additional $4.56 million in other funds, while the MOBRR Program provided $1.23 million in federal funds and $0.31 million in other funds to support municipal bridge projects.

With this funding, municipalities continue to make progress each year. In 2024, 20 municipal bridges were removed from the Red List, while 19 new bridges were added, resulting in a slight net improvement. Despite this minimal progress, municipal needs remain significant. As of December 31, 2024, 212 municipal bridges remain on the “Red List”, and each has at least one major structural component in “Poor” condition.

The total cost to rehabilitate or replace all municipally-owned "Red List" bridges has not been updated with a new statewide estimate in the 2024 report; however, given increased inflation rates and the much higher 2024 construction costs seen across preservation, rehabilitation, and replacement projects, the true cost today would be significantly higher than the 2015 estimate of $280 million referenced in earlier reports. For example, in 2024, municipal bridge replacement projects averaged $840 per square foot, reflecting far higher unit costs than in prior years.

Although New Hampshire has continued to make investment in both state and municipal bridge infrastructure since the last Report Card, the 2024 NHDOT Annual Bridge Report makes clear that, regarding bridges, significant and improved funding increases are required to ensure an adequate statewide transportation system. The state's primary statutory revenue enhancement - the July 1, 2014 increase in the road toll (SB 367) - generates approximately $33 million per year, but this revenue remains committed first to bond debt service for major projects, then to municipal highway block grants, with the balance allocated to state betterment projects and the State-Aid Bridge (SAB) program.

However, the funding provided through SB 367 was never intended to be a long-term solution and it sunsets either when the relevant bonds are retired or after twenty years, whichever occurs first, meaning the state faces a significant pending reduction in available transportation funds. Further, the SAB program's municipal bridge-aid component ($18.23 million in state funds plus $4.56 million in additional sources in FFY 2024) did not represent a meaningful net increase because prior funding sources were reduced in parallel, leaving the actual program capacity effectively stagnant

FUTURE NEED

The clearest quantified backlog is the 324-bridge Red List, consisting of 112 State and 212 municipal bridges, plus 1,625 bridges in Fair or Satisfactory condition that will require timely preservation to avoid further deterioration. The 2024 report does not publish a current statewide dollar estimate for eliminating the entire backlog. The older municipal estimate of $280 million is retained only as historical context and should not be treated as a current program cost.

Unit costs illustrate the scale of the challenge: FFY 2024 work averaged approximately $105 per square foot for preservation, $762 per square foot for rehabilitation, and $827 per square foot for replacement; municipal bridge replacements averaged approximately $840 per square foot. Because bridge size, site access, environmental constraints, traffic control, utilities, and structural type vary widely, multiplying these statewide averages by total deck area would not produce a reliable project-level needs estimate. These costs far exceed the assumptions used in earlier planning assumptions and reduce the number of project that can be completed with existing funding.

As of December 31, 2024, New Hampshire had 324 Red List bridges (112 State and 212 Municipal) with major structural components in "Poor" condition. Despite progress, the age of the bridge inventory, inflationary construction costs,

and staffing shortages have all compounded the funding shortfall.

Political resistance to increased taxes and fees continues to limit revenue options, and without new, sustainable funding sources (state or federal) New Hampshire's transportation funding levels will remain essentially flat. This means infrastructure needs will continue to outpace available resources, delaying necessary work and increasing long-term costs for both the state and municipalities.

PUBLIC SAFETY

Load postings are a bridge-management tool used when load-rating capacity is below legal vehicle loads. A posted bridge may remain open to lighter vehicles while restricting heavier trucks, buses, snowplows, fire apparatus, or other emergency and service vehicles. According to the Federal Highway Administration's 2025 National Bridge Inventory, New Hampshire has 105 bridges posted for load restrictions, including 11 bridges in Good condition, 63 bridges in Fair condition, and 31 bridges in Poor condition. These posted bridges represent approximately 17,501 square meters (188,379 square feet) of bridge deck area statewide. Load postings help maintain public safety by limiting vehicle weights on structures with reduced load-carrying capacity while allowing continued service until rehabilitation or replacement can occur. However, these restrictions can require detours, lengthen response or delivery routes, and affect municipal operations. The statewide source reviewed does not provide a current consolidated assessment of first-responder detour impacts; therefore, this report does not quantify those impacts without bridge-level verification.

NH Senate Bill 38, which took effect on July 1, 2017, revised the RSA 234:25a definition of a "Red List Bridge" to include only those bridges in "Poor" condition. As a result, bridges previously listed solely due to weight restriction postings - despite being in "Fair" or better condition - were removed from the "Red List". As of the 2024 calendar year, the State "Red List" contains 112 bridges, with 7 added and 10 removed, while the Municipal "Red List" includes 212 bridges, with 19 added and 20 removed. Altogether, 324 bridges statewide (8.4%) currently have at least one major structural component (deck, superstructure, substructure, or culvert) rated in "Poor" condition.

RESILIENCE AND INNOVATION

NOAA's 2022 New Hampshire State Climate Summary reports that annual precipitation since 2005 has averaged 6.8 inches more than the 1895-2004 average and that the highest number of extreme precipitation events occurred during 2005-2014. The same summary notes that winter warming is expected to affect snowfall and snow cover. For bridges, these trends increase the importance of updated hydrology and hydraulics, scour evaluation, drainage capacity, erosion protection, debris management, and resilient detailing.

Many of New Hampshire's older bridges are increasingly vulnerable to extreme weather events and more frequent flooding, which can lead to overtopping, scour, foundation instability, and other storm-related damage. Heavier rainfall, spring flooding, and changing hydrologic patterns place added stress on bridge decks, substructures, culverts, and drainage systems—particularly for older bridges designed under past assumptions.

The central challenge moving forward is to ensure that New Hampshire's existing bridge inventory can continue to provide decades of safe and reliable service despite a greater frequency of extreme weather events, evolving environmental conditions, and increasing design and load demands.

As bridges are rehabilitated or replaced in New Hampshire, engineers are increasingly incorporating updated design standards, advanced materials, and modern construction techniques to improve durability, safety, and resilience. These improvements include the use of high performance steel, ultra high performance concrete, and enhanced protective coatings, all intended to extend service life and reduce long-term maintenance needs. Examples of current bridge innovation include high-performance structural steel for improved toughness and corrosion performance; ultra-high-performance concrete for durable closure pours, joints, and connections; accelerated bridge construction methods that reduce traffic disruption; improved coating systems and weathering-steel detailing; stainless or corrosion-resistant reinforcement in severe exposure zones; and enhanced scour countermeasures. These practices should be selected based on life-cycle cost, site exposure, constructability, owner maintenance capability, and demonstrated performance rather than applied uniformly. Such approaches allow bridges to better withstand heavier traffic loads, harsh winter conditions, flooding, and other environmental stresses while minimizing disruptions to traffic during construction and over the life of the structure.

RECOMMENDATIONS TO RAISE THE GRADE

- Increase and establish long-term, **stable funding for bridge programs**
- **Expand annual preservation work** to meet or exceed statewide deck-area goals, since only 32% of the need was met in FFY 2024
- **Strengthen staffing capacity** in NHDOT Bridge Design, Bridge Maintenance, and Bridge Inspection units to address delays caused by workforce shortages
- **Fully implement the Recommended Investment Strategy (RIS)** to prevent Yellow List bridges from slipping into "Poor" condition
- **Expand low-cost maintenance actions**, especially bridge washing and drainage cleaning which meaningfully slow deterioration
- Further **pursue federal discretionary grants** to address high-cost "Red List" structures
- **Increase support for municipal bridge programs** (SAB, MOBRR, MOBIL) to further address the 212 Municipal "Red List" bridges
- **Improve technical assistance for municipalities**, many of which lack professional engineering capacity and rely heavily on state guidance

SOURCES

New Hampshire Department of Transportation, "2024 Annual Bridge Report," 2025.

New Hampshire Department of Transportation, "Annual Report, Fiscal Year 2024," 2024.

New Hampshire Department of Transportation, "Ten Year Transportation Improvement Plan 2027-2036," 2026.

New Hampshire Department of Transportation, Bureau of Bridge Design, "2024 Update," 2024.

Federal Highway Administration, "National Bridge Inventory and Bridge Condition Performance Measures," current federal program guidance.

NOAA National Centers for Environmental Information, "New Hampshire State Climate Summary 2022," 2022.

American Society of Civil Engineers, "2025 Report Card for America's Infrastructure: Bridges," 2025.

DAMS

2026

C-

EXECUTIVE SUMMARY

New Hampshire has approximately 2,600 state-regulated dams, the average age of which is over 100 years old. Consequently, many of the state's hazardous dams are in poor condition when evaluated using modern design criteria and performance standards.

Downstream development has further elevated risk, resulting in the reclassification of many dams into higher hazard categories where failure could result in loss of life. In addition to the new risk, dam owners are faced with costly rehabilitation projects to address things like discharge capacity and structural deficits, emergency action planning needs, and other requirements associated with upgraded classifications.

While recent federal investment has supported improvements at nearly 60 dams, these one-time infusions of funding are not expected to continue to support infrastructure needs. Most dam owners, particularly private owners, are rarely eligible for the limited funding opportunities that are made available for such projects.

2017 NH COMPARISON: C-

2025 NATIONAL COMPARISON: D+

BACKGROUND

New Hampshire's definition of a jurisdictional dam includes any structure with a height of six feet or more. In addition, some structures of lesser height are included because of the type of contents they impound or because they are located on water bodies where the state holds a public trust interest. All jurisdictional dams are subject to permitting by the New Hampshire Department of Environmental Services'(NHDES) Dam Bureau when originally constructed or when rehabilitation or repairs meeting the definition of "reconstruction" are proposed.

New Hampshire's dams serve a wide range of functions, including drinking water supply, hydropower generation, flood control, stormwater management, recreation, agriculture, and fire protection. Many dams provide multiple benefits, supporting both human and ecological systems. Along with those benefits, however, comes a risk to property, infrastructure and those living downstream which can be elevated if dams are mismanaged or not properly maintained.

New Hampshire's Dam Safety Program assigns the state's dams to one of four hazard classifications:

- **Non-menace (or non-hazard)**: Failure or misoperation will not result in the loss of human life or damage to property or infrastructure.
- **Low hazard:** Failure or misoperation of the dam will not result in the loss of human life but is likely to result in low economic loss to roads and property. Dams that are both 6 feet high or greater and store a maximum of 50 acre-feet or more are automatically assigned, at a minimum, a Low hazard rating.
- **Significant Hazard**: Failure or misoperation of the dam will probably not result in the loss of human life, but is likely to cause significant damage and economic loss to property, major utilities, or lifelines.
- **High Hazard:** Failure or misoperation is likely to result in the loss of human life.

CAPACITY AND CONDITION

The 814 hazardous dams in New Hampshire serve many functions and support many uses, typically several each. The table below provides a summary of the primary uses for these dams.

Primary Use	Number
Recreation	465
Hydroelectric Generation	101
Municipal/Industrial Waste Lagoons	61
Conservation/Agriculture	55
Flood Control	48
Drinking Water Supply	40
Stormwater Detention	25
Fire Protection	14
Manufacturing	5

These dams are inspected at the frequencies shown below. This equates to the need to perform a total of approximately 200 inspections per year. These inspections are comprehensive visual assessments, often attended by the dam owners. They are also used to assign or reassign condition assessment ratings.

Hazard Classification	Number	Inspection Frequency (years)	Inspections/Year
Low	505	6	85
Significant	131	4	33
High	178	2	89

Condition assessment criteria for New Hampshire's dams are based very closely on the guidelines recommended by the National Dam Safety Review Board not long after the passage of the Dam Safety Act of 2006 and are described below.

Condition Assessment Rating	Description
Satisfactory	Minor maintenance or repair needs are few in number and dam meets design storm capacity with required one (1) minimum freeboard
Fair	Maintenance and repair needs are more numerous/significant and/or dam is unable to pass design storm with one (1) foot of freeboard
Poor	Deficiencies are severe/could impact safe operation or dam is unable to pass design storm without dam overtopping
Unsatisfactory	Deficiencies have been deemed to pose a critical threat, and dam requires immediate emergency measures, including reservoir restrictions or immediate lowering

Approximately 26% of the state's hazardous dams are in poor condition. The primary driver of poor condition ratings is inadequate discharge capacity, with more than 90% of these dams unable to safely pass their design storms without overtopping. Design storm assignments for dams vary depending upon the hazard classification of the dam and whether the dam is considered "existing" or "new". Existing dams are those that were constructed prior to February 19, 1981. Further, for some dams the design event is a specific inflow design flood, which is less than the design storm prescribed by hazard classification and based on the flood flow above which a failure of the dam is not expected to produce additional downstream threats.

Although most dams are considered safe under normal operating conditions, deficiencies identified during inspections frequently require maintenance, repair, or rehabilitation. Nearly 80% of inspections result in maintenance recommendations, while over 20% require more formal corrective action. This is a good indication that a majority of New Hampshire's dams do not exhibit major flaws that jeopardize operational safety under normal operating conditions and that regulatory practices are effective at monitoring and responding to the health of the state's hazardous dam inventory. Further, interactions with owners at the time of inspection, along with follow up communications with them and their engineering consultants and contractors, fosters awareness and compliance.

Several dams inspected each year are reclassified due to downstream development and updated breach modeling. Dam reclassification results in owners facing increased pressure to comply with more rigorous regulations. Inspections also reveal a growing trend in building/structure and other encroachment, both from owners and abutters, impacting both hazard classification and the ability to properly inspect and maintain these structures. In addition, transient use and trespass appear to be on the rise as abutters and recreational users vie for water access.

Ownership is diverse and includes private individuals, municipalities, utilities, and other entities. Most dams are privately owned and do not generate revenue, limiting the ability of owners to fund maintenance and capital improvements.

Ownership of the state's inventory of all jurisdictional dams versus only hazardous dams is compared below:

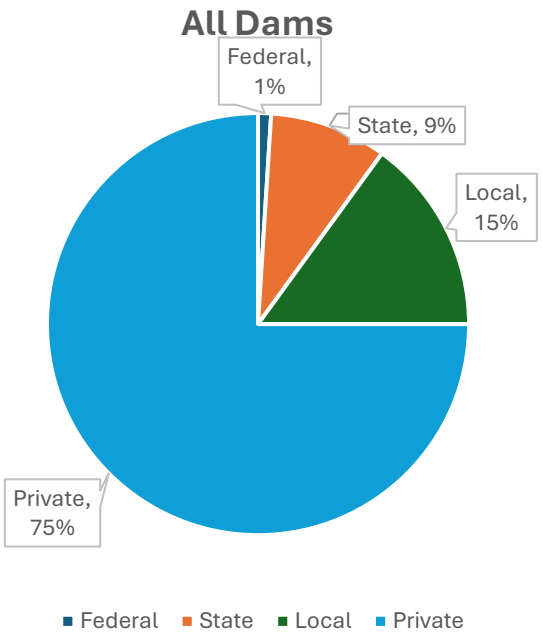


Figure 1:
Ownership - All Jurisdictional Dams

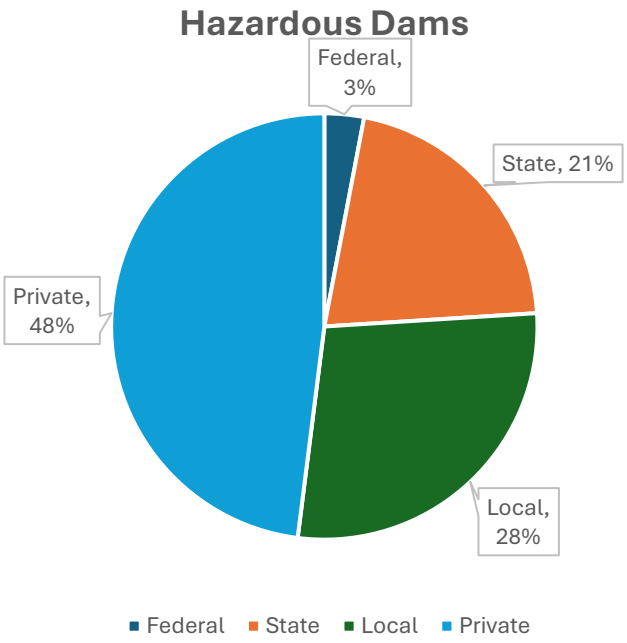


Figure 2:
Ownership – Low, Significant and High Hazard Dams

Source: State Dam Inventory

OPERATION AND MAINTENANCE

Most dam owners in New Hampshire face significant challenges in maintaining compliance with state regulations. Because most dams do not generate revenue, owners must rely entirely on self- funding solutions to cover routine maintenance, inspections, and repairs. Of the 26% of the state's dams classified in "poor" condition, 90% of those ratings are related to overtopping under extreme runoff events. Obtaining compliance with dam safety regulations to address this deficiency includes the need for engineering assessment/design and construction, two of the most complex and costly aspects of dam ownership. Though the percentage of these dams is certainly higher than desired and does reflect that many dams need updated hydrologic, hydraulic and structural assessment, most are considered safe under normal or reasonable expected loading conditions.

While NHDES provides guidance and flexibility in addressing deficiencies, compliance often requires engaging engineering consultants and contractors, which can be cost-prohibitive. As a result, maintenance is frequently deferred, contributing to declining condition ratings over time. Communication between private dam owners and regulators continues to be one of the most effective ways to prioritize improvements that most effectively reduce risk and improve compliance outcomes, but limited resources remain a primary constraint.

FUNDING

Federal partners such as the Federal Emergency Management Agency (FEMA) and the Natural Resources Conservation Service (NRCS) continue to provide funding assistance through the High Hazard Potential Dam Program (HHPD) and the Watershed Rehabilitation Program, respectively. However, these programs are highly competitive and not guaranteed year to year. Other agencies can and do provide the state's dam owners with planning, design and implementation assistance.

Since 2019, FEMA's HHPD program (65% grant/35% match) has helped New Hampshire leverage approximately $8.9 million in funding to rehabilitate or remove 12 high hazard dams. Additional funding from federal and non-governmental partners has supported dam removal and ecosystem restoration projects, with nearly $4 million awarded in recent years and additional funding pending.

Over the past decade, New Hampshire has seen an increase in assistance for dam-related rehabilitation or removal projects from a number of federal agencies that have not typically or consistently been involved in such projects in the past. These include such agencies as the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, the US Fish & Wildlife Service, the National Fish and Wildlife Foundation and the Department of Energy. This more active role in supporting rehabilitation, removals and restoration is helping to achieve not only a reduction in dam risk, but improved fisheries and aquatic habitat, remediation of contaminated sites and flood reduction. These and other outcomes related to dam removal forward the mission of a broader range of partners.

In 2021, the Infrastructure Investment and Jobs Act (IIJA) and American Rescue Plan Act (ARPA) provided a temporary increase in funding to many federal agencies. The ARPA funds alone enabled improvements at nearly 60 state and municipally-owned dams, with the latter category funded through the Dam Rehabilitation/Removal Grant Program for Municipally Owner High Hazard Dams. Most of these efforts were aimed at general asset management tasks and assessment and design studies but nearly 25% of these fully or partially funded were full rehabilitation projects. Of these, the state-owned Goose Pond Dam (nearly $7M) and five other municipally-owned high hazard dams ($4.5M) that were previously rated as being in poor condition are now fully compliant with state dam safety regulations. Unfortunately, these investments were one-time allocations and do not address long-term funding needs.

Privately owned dams, which make up the largest ownership group, are often ineligible for many funding programs, further exacerbating the funding gap.

FUTURE NEED

As noted above, the infusion of IIJA and ARPA funds has made a positive impact in reducing the number of deficient dams, however, there are still 43 high hazard dams that currently meet the eligibility criteria for funding under FEMA's High Hazard Potential Dam Program, and 25 (or 58%)

are state-owned. In 2024, the Association of State Dam Safety Officials (ASDSO) estimated that more than $165 billion was needed to rehabilitate the non-federal dams nationwide, with the nation's 15,400+ high hazard dams alone accounting for $37.5 billion.

Based on recent project costs seen locally, New Hampshire currently estimates that approximately $408M is needed to address its share (178) of the state's 814 hazardous dams. Absent federal funds, which are not reliably available, the Dam Bureau receives an average of $4 million/year, or 1% of the need in current dollars. Assuming level funding and not considering inflation, a hundred years would be needed to address our own dam rehabilitation needs. Though woefully inadequate, even this small amount of funding allows the state to prioritize and steadily complete projects. The present day estimate for need related to the other 636 hazardous dams is nearly $1.4B, and history continues to show that most dam owners simply do not have access to sufficient funds to address significant dam-related projects.

In addition to rehabilitation needs, ongoing downstream development and updated hydrologic/hydraulic modeling continue to result in upgrading hazard classifications that imposed more stringent and costlier design standards. Climate effects, including increasingly severe and frequent storm events, are expected to further increase structural loading, risk and cost of compliance.

Even with the continued support of federal, state and non-government organizations, resources are still insufficient to meet current statewide rehabilitation and removal needs. Without sustained investment, the condition of the state's dam infrastructure is expected to decline, and the backlog of needed improvements will continue to grow.

PUBLIC SAFETY

There are over 300 significant and high hazard dams spread across New Hampshire, which has a population of just over 1.4 million inhabitants. For these dams, current estimates indicate that approximately 27,000 homes and businesses with more than 80,000 residents are within potential inundation zones across the state, while nearly 600 state routes and 2,700 municipal roads are at risk. Of the 300 dams, 88 have been identified as being in poor condition, and though the corresponding data for this subset of dams (29%) has not been tallied, it would not be unreasonable to assume that nearly a third of the lives and roads threatened are downstream of these dams.

Recent advancements in breach and inundation modeling have improved the accuracy of predicting dam failure consequences. As a result, areas previously believed to be outside of inundation zones are now recognized as vulnerable, including homes and infrastructure once considered safe. This improved precision underscores the importance of regularly updating Emergency Action Plans (EAPs) and communicating revised risk information to affected communities. Currently, 72% of significant hazard dams and 95% of high hazard dams have EAPs.

It should be noted that the need to create an EAP is codified in state law, while the specific

requirements related to the development of such plans are detailed in NHDES's dam safety regulations. At present, New Hampshire does not have a requirement that dam breach modeling be redone on a set schedule, however, rules do specify that such modeling be updated as part of any reconstruction activities that alter dam height, impoundment storage, structural configuration or the dam's discharge hydrograph.

RESILIENCE AND INNOVATION

The resilience of New Hampshire's dam infrastructure varies, but is generally lacking as a large percentage have inadequate capacity to pass the design storm events assigned to them based on the threats to downstream development and human life. The state's annual precipitation has increased by approximately 12% in the last century, and precipitation patterns have shifted toward heavier and more concentrated events, which highlight operational shortcomings. A primary focus of the state's regulatory program is working with owners and their agents to enhance resilience through increased discharge capacity. Another area in which New Hampshire's dams lack resilience is adapting to and withstanding threats related to vandalism and terrorism. Though such incidents are extremely rare, most of the state's population of dams is easily accessible to the public, making them susceptible to such acts. While some owners, particularly in more heavily regulated sectors such as hydropower and water supply, have implemented limited security measures and monitoring instrumentation, most dams lack comprehensive systems to address these threats.

Dam failures and incidents that jeopardize continued safe operation or result in operational disruptions can have long recovery times due to the need for local restoration, engineering assessment, permitting, and construction. Recovery is further complicated by funding limitations and the availability of materials and labor. The restoration of dams and the critical services and benefits that many provide is recognized through accelerated review and approval processes, which minimizes down time and longer-term impacts.

Advancements in engineering practice, materials, assessment and monitoring tools and dam design and construction methods are ongoing and continue to provide dam owners with additional options to increase resilience. Enhanced hydrologic and hydraulic modeling, improved topographic data, and better integration of risk assessment tools also enhance decision-making for planning improvements aimed at increased resilience. Instrumentation and monitoring technologies are being implemented at some facilities to track dam performance in real time, although adoption remains limited due to complexity and cost. Also, a simple and low-cost method to maintain and improve resilience relates to planning – both in terms of capital improvements and emergency response. Regular visual assessments of dams and the areas downstream that could be inundated by a failure can act to inform the need for infrastructure improvements and emergency action plan updates.

Dam removal has emerged as an increasingly accepted strategy to reduce risk, eliminate maintenance liabilities, and restore natural river

systems. At present, New Hampshire has approximately seven removals actively underway, with another six in the planning or design stages. Approximately $17M in federal funds from at least eight federal agencies/programs has been secured for these projects. Two notable examples include the Upper Goffstown Reservoir Dam in Goffstown, NH, a high hazard dam deemed to be in poor condition that was removed using both HHPD and ARPA funds, and the Oyster River Dam in Durham, NH, a head of tide dam funded with assistance from NOAA, ARPA, EPA and USFWS and whose removal could lead to significant environmental restoration opportunities.

RECOMMENDATIONS TO RAISE THE GRADE

- **Enact legislation that supports one or more sustainable methods**, including such things as state revolving loan and grant programs for non-state owned dams, and increased biennial appropriations for state-owned dams, to fund the maintenance, operation, repair, rehabilitation and removal of all hazardous dams.
- Evaluate cost impacts and **prioritize risk-based, cost-effective compliance measures** as part of the state's dam safety regulation review, with the goal of reducing regulations that do not provide value in risk reduction.
- **Initiate a national dialogue** to establish dam rehabilitation priorities and the means to fund those considered critical.
- **Establish one or more state-funded positions** for the purpose of developing and managing EAPs and assisting owners with performing EAP related exercises, and aiding owners in meeting other needs associated with dam safety compliance.
- **Identify dams that no longer provide meaningful benefit** and to pursue dam removal to address dam safety-related deficiencies and to reduce risk to downstream populations and properties.

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DRINKING WATER

2026

C-

EXECUTIVE SUMMARY

New Hampshire's drinking water infrastructure is aging, with many treatment facilities and distribution systems exceeding intended service life. The state has approximately 2,500 public water systems, and about 750,000 residents receive water from public systems; many others rely on private wells. Growth and deferred maintenance add pressure, even as larger systems continue to provide reliable service.

New Hampshire relies on customer rates and state and federal funding, including the Drinking Water State Revolving Fund (DWSRF) and the Drinking Water and Groundwater Trust Fund. The New Hampshire Department of Environmental Services (NHDES) has provided approximately $306 million in DWSRF financing, and the state is projected to receive more than $400 million for drinking water and clean water infrastructure in fiscal years 2022–2026. These resources are time-limited. PFAS and other contaminants, climate risks, and cybersecurity threats reinforce the need for sustained investment and proactive asset management to protect reliability, public health, and future growth.

2017 NH COMPARISON: C-

2025 NATIONAL COMPARISON: C-

BACKGROUND

Drinking water infrastructure in New Hampshire consists of source water supplies, treatment facilities, storage tanks, and extensive transmission and distribution networks serving residential, commercial, and industrial users. Many systems were constructed decades to over a century ago, and portions of some community distribution networks exceed their intended service life.

New Hampshire relies on sustained, proactive investment to maintain and upgrade drinking water infrastructure and ensure safe and reliable drinking water service statewide

CONDITION & CAPACITY

Large municipal systems, such as those serving Manchester, Nashua, Concord, and Rochester, continue to provide reliable service, but they depend on treatment facilities and distribution networks that require ongoing maintenance and capital investment.

Recent indicators point to continued growth in demand alongside a highly fragmented system inventory. New Hampshire's population increased 4.6% from 2010 to 2020 and a further 2.3% from 2020 to 2024. Meanwhile, the state's active public water system inventory declined from 2,515 in 2019 to 2,442 in 2022. The 2022 inventory included 707 community water systems serving an estimated 891,277 people. These figures illustrate the scale and uneven distribution of the state's service responsibilities: population is growing, but many systems remain small and may lack the economies of scale and technical capacity available to larger utilities. Because these sources cover different years and measures, statewide population growth should not be interpreted as a direct measure of the change in the number of residents connected to public water systems.

At the same time, New Hampshire has approximately 2,500 public water systems regulated under the federal Safe Drinking Water Act (SDWA). About 54% of the state's population receives drinking water from public systems, while the remainder primarily rely on private wells. NHDES identifies very small systems as a particular capacity challenge because they face the same regulatory requirements as larger systems with smaller rate bases, limited reserves, and fewer technical and operational resources.

An example of improving system capacity is the Southern NH Phase 1 and 2 Infrastructure Improvements. This project is designed to deliver safe potable drinking water to the south end of New Hampshire, where per- and polyfluoroalkyl substances (PFAS) contamination has affected multiple communities. Phase 1 will extend water supplied by Manchester Water Works to communities that need assistance. The project has received state legislative support and funding.

Capacity across the state is uneven. Large systems generally have sufficient capacity to meet current demand but rely on aging infrastructure requiring continued investment. Smaller and rural systems often face constraints due to limited financial resources, technical expertise, and economies of scale. NHDES has specifically prioritized assistance for small systems through the DWSRF, including a minimum share of assistance for systems serving fewer than 10,000 people. Private residential wells, which are not regulated under the Safe Drinking Water Act, are vulnerable to naturally occurring contaminants such as arsenic and radon. A major example is the Southern New Hampshire Regional Water Project, in which Manchester Water Works and the Town of Derry provide supplemental water to Windham, Salem, Plaistow, and the Hampstead Area Water Company serving Hampstead and Atkinson. The project was developed in response to stressed local drinking water resources, including groundwater affected by methyl tertiary-butyl ether (MtBE) contamination, as well as regional growth, and is designed to provide up to 3.13 million gallons per day. Phase 2 is intended to increase supply by more than 2 million gallons per day to communities also affected by PFAS contamination and growing demand.

OPERATION AND MAINTENANCE

Operation and maintenance of drinking water infrastructure in New Hampshire is governed by a regulatory framework administered by NHDES, including oversight of system operation, water-quality monitoring, and operator certification. NHDES also supports proactive asset management through its Drinking Water Asset Management Program, technical guidance, workshops, and grant opportunities. NHDES guidance also provides for improving existing programs, not just creating new ones.

Utilities are addressing operation and maintenance objectives through both formal planning and targeted capital projects. Concord's 2022–2031 Capital Improvement Program included a $90,000 project in 2025 to implement a water-system asset-management strategy and acquire equipment and software. Manchester Water Works has developed asset-management mapping for assets including water mains, meters, hydrants, valves, and service connections. NHDES also requires maintenance-and-renewal planning for certain grant-funded improvements; for example, Manchester Water Works' ARPA-funded supply-capacity work includes a requirement to develop and follow an asset maintenance and renewal plan for the funded improvements. These examples demonstrate that asset management is an ongoing utility responsibility, although the sources reviewed do not establish that every New Hampshire system maintains a current, comprehensive plan.

Workforce development and employee retention remain significant challenges. NHWWA's strategic plan estimates that New Hampshire will need approximately 40 to 50 new certified drinking-water operators each year through 2030, in addition to advancing current operators into leadership roles, to help replace anticipated retirements. In its Spring 2026 Journal, NHWWA reported delivering 4,913 contact hours of training to water-works operators during FY2025. The same issue listed 92 operators who were newly certified or upgraded in New Hampshire in 2025. These are useful indicators of training activity and certification progress, but contact hours are not a count of unique trainees, and the certification list does not establish how many people completed a course without earning or upgrading a credential. NHWWA and NHDES offer entry-level and advanced exam-preparation courses, continuing education, and leadership development, including the Water Managers School, scheduled to be offered again in 2027. A verified statewide count of current trainees or projected graduates for the next several years was not identified in the sources reviewed.

Despite these efforts, many infrastructure systems in New Hampshire are operating beyond their intended service life, increasing maintenance demands and operational costs. NHDES's Drinking Water Asset Management Program emphasizes asset inventories, condition assessments, life-cycle planning, and budgeting and rate-setting based on the true cost of service. Maintaining these plans as living documents—updating asset condition, failure history, replacement costs, and priorities as new information becomes available—is essential if utilities are to move from reactive repairs to defensible, long-term investment decisions.

Rochester provides a local example of how asset-management priorities translate into capital

investment. The City's FY2026–2031 Capital Improvements Plan (CIP) lists approximately $31.8 million in Water Department projects over six years, including about $10.5 million in FY2026. Individual projects include $900,000 over six years for water distribution system upgrades—principally replacement of deteriorated pipes and valves and looping of dead ends—and $2,300,000 over six years for dam repairs at drinking-water reservoirs and $8,000,000 in reservoir expansion . The CIP explains that distribution upgrades can improve water quality and available fire flow, while deferring them can increase emergency repair costs and threaten operational integrity. The dam-repair allocation addresses safety improvements identified through state dam inspections and helps maintain compliance with New Hampshire dam-safety standards.

CIP amounts are planned appropriations across the listed years, not necessarily completed expenditures. A particularly important example is the Water Treatment Plant Hydraulic Capacity Analysis project. The FY2026–2031 CIP allocates $1.0 million in FY2026 for short-term hydraulic improvements and contingency or continued design work. The City's project description notes that, although the plant's design flow is 5 million gallons per day, actual operation has struggled to reach 3.5 million gallons per day because of hydraulic restrictions. Prioritized improvements include raw-water pumping upgrades, larger clearwell inlet piping, clearwell outlet and finished-water pumping upgrades, filter-backwash recycle improvements, and storage-tank control-valve improvements. The City reports that $4.49 million in grant and State Revolving Fund assistance had been approved in 2024 for this work; the additional FY2026 CIP request is intended to cover potential bid overruns and/or longer-term design needed to meet projected growth and demand. The City warns that, without improvements, it could struggle to meet drinking-water demand within about a decade, potentially requiring water-use restrictions.

FUNDING

New Hampshire's drinking water infrastructure is funded through a combination of customer rates, local financing, state and federal programs, and, for investor-owned utilities, private capital. The DWSRF, administered by NHDES, provides low-interest loans and limited principal forgiveness for eligible drinking water projects, including distribution pipe replacement, treatment upgrades, new wells, interconnections, and storage facilities. Since its inception, NHDES has provided approximately $306 million in DWSRF financing for drinking water infrastructure projects statewide. Additional state support comes from the Drinking Water and Groundwater Trust Fund (DWGTF), which offers grants and loans for construction, source-water protection, and system-viability improvements.

Federal funding levels should be distinguished between recurring annual appropriations and temporary supplemental funding. The approximately $70 million spent per year for the previous five years reflects an unusually high, temporary period of federal investment, rather than a dependable annual baseline. The Infrastructure Investment and Jobs Act (IIJA) provided substantial funding through the DWSRF, including dedicated funding for lead service line

replacement and emerging contaminants. For example, in 2023, EPA announced $62.3 million for New Hampshire drinking water infrastructure through the DWSRF. New Hampshire also received water-sector assistance through the supplemental American Rescue Plan Act (ARPA). Available statewide summaries do not provide a consistent year-by-year accounting of precise funding streams across IIJA, ARPA, regular federal appropriations, and other programs. However, given the expiration of IIJA and ARPA programs, unless funding levels are replaced by new appropriations or other programs, New Hampshire should expect less federal assistance going forward.

The Value of Water Campaign's latest economic-impact report provides state-level estimates of water infrastructure needs and the economic consequences of underinvestment. Its New Hampshire fact sheet should be used alongside older state estimates, rather than treating historical figures as current: the 2012 New Hampshire Water Sustainability Commission report estimated a 10-year need of $857 million for drinking-water supply alone, based on earlier engineering work. NHDES's 2011 infrastructure study estimated approximately $1.7 billion in drinking-water capital needs over 20 years for community systems, using a different scope and methodology. These dated estimates are not directly comparable, but they demonstrate the scale of long-term replacement needs and the importance of updating the statewide funding-gap estimate. Manchester Water Works' regional supply and interconnection projects are useful examples of major utility investments supporting capacity, resilience, and service to growing areas, but should not be described as utility-specific economic-impact studies.

FUTURE NEED

Despite recent funding increases, future drinking water infrastructure needs remain significant. Aging assets, deferred maintenance, and increasing regulatory requirements continue to drive investment needs. Many drinking water systems are approaching or exceeding their intended service life, requiring large-scale reinvestment to maintain reliability and water quality. Capital investments for treatment facilities and distribution networks often require decades-long planning horizons and can cost tens of millions of dollars.

Future funding needs are expected to increase as systems address emerging contaminants such as PFAS, replace aging distribution infrastructure, expand capacity to support housing growth, improve system resilience, and address growing cybersecurity risks. The 2017 statewide estimate of $857 million over ten years provides a useful historical benchmark, but a current statewide funding-gap estimate was not identified in the reviewed NHDES and New Hampshire Water Works Association (NHWWA) materials. NHWWA continues to identify the Value of Water campaign and the New Hampshire Water Sustainability Commission's SB60 work as important resources for explaining the economic value of reliable water service and the need for sustainable infrastructure investment. NHWWA also cautions that the cost estimates in the 2012 and 2013 state water sustainability work have likely increased since publication. Because those estimates are dated, this report uses the $857 million figure as

a historical benchmark rather than presenting it as a current statewide need.

PUBLIC SAFETY

Public safety and protecting public health are core functions of New Hampshire's drinking water infrastructure, and public safety considerations are closely tied to water quality protection, reliable system operation, and emergency preparedness.

Public safety risks in New Hampshire are heightened by the presence of naturally occurring and emerging contaminants, including arsenic, radon, manganese, and PFAS. PFAS contamination has affected public water systems and private wells across the state. Portsmouth provides a prominent example: PFAS was discovered in the Pease water system in 2014, and the city has continued quarterly monitoring and treatment while planning additional treatment for the Greenland well. These efforts illustrate the continuing operational and capital demands associated with protecting drinking water quality.

Surface-water quality presents another public-health concern. NHDES reported in February 2025 that New Hampshire experienced a particularly active year for cyanobacteria blooms in 2024, including a highly publicized bloom in Lake Winnipesaukee. NHDES continues to maintain cyanobacteria warnings and advisories and has reported increased monitoring of cyanobacteria in surface-water sources used for drinking water. These events illustrate the need for source-water monitoring and contingency planning where surface water is part of a drinking water system.

Emergency preparedness and coordination are supported through training, technical assistance, and mutual aid programs that allow utilities to share personnel and resources during emergencies. NHDES drinking water requirements also provide procedures for responding to contamination or loss of pressure, including boil advisories when conditions warrant, and for verifying that water is safe before an advisory is lifted. Following a pressure loss or other event that compromises water quality, the utility and NHDES determine the appropriate advisory and corrective actions before normal service is restored; the process can include isolation and repair, flushing and disinfection, and water-quality verification as appropriate to the event.

Recent New Hampshire boil-water events also demonstrate how quickly a routine operational problem can become a public-health and communications issue. WMUR reported that a boil-water order in Walpole in July 2026 followed the detection of E. coli and was later rescinded after corrective action. In July 2025, WMUR reported that a boil order affecting portions of Keene and North Swanzey continued while free water was distributed to residents. NHDES maintains a statewide drinking water advisory system that records boil-water orders and other drinking water advisories.

RESILIENCE

New Hampshire's drinking water infrastructure faces increasing risks from climate change and hydrologic variability, including drought, intense rainfall, riverine and coastal flooding, and power interruptions. NHDES's Drinking Water Climate Change Resilience Plan identifies water availability, source-water quality, and damage to infrastructure as key concerns and recommends that utilities integrate climate risk into emergency planning, vulnerability assessments, and capital improvement programs.

Statewide evidence shows that these are operational risks, not just future projections. In NHDES's 2010 Flood Impact Survey, 43% of responding community water systems reported increased storm impacts over the preceding five years, and 11% reported impacts specifically from flooding. Nearly half of responding surface-water systems reported increased algal blooms and turbidity associated with runoff and warmer conditions. Flooding can compromise wellheads, electrical and control equipment, chemical storage, access roads, and treatment processes, while high-turbidity runoff can overwhelm source-water treatment. NHDES's resilience guidance recommends raising wellheads where needed to prevent floodwater contamination, maintaining system redundancy, monitoring groundwater and climate projections, and considering closer isolation-valve spacing in floodplains or erosion-prone areas.

The state's hazard mitigation plan also documents water-supply shortages during the 2016–2017 and 2020–2022 droughts; during the 2016 drought, approximately 160 community water systems implemented water restrictions or bans. Drought has also affected private wells: during the 2016–2017 drought, hundreds of wells reportedly dried up, and in 2020–2022 state assistance supported replacement of 135 private wells.

In September 2025, Dover reported that extreme drought conditions covered nearly 23% of New Hampshire, while neighboring communities implemented restrictions. In August 2026, after a prolonged regional drought, Dover urged voluntary water conservation to help maintain supplies for all customers, including firefighting. This is an example of a graduated demand-management policy: public outreach and voluntary reductions are used before mandatory restrictions become necessary.

Many municipalities are evaluating climate risks and adopting resilience measures. In 2026, NHDES awarded Dover the statewide Source Water Sustainability Award in recognition of the city's resilience efforts, which have included an Aquifer Storage and Recovery system at the Pudding Hill Aquifer, reactivation of the Willand Pond well to help manage high pond levels during flooding and intense rainfall, and more than 15 years of active leak detection and repair. Dover's Eye On Water customer portal also provides usage tracking and leak alerts, giving customers a practical tool to find leaks and reduce demand. These actions combine redundancy, flood management, operational data, and customer participation.

Portsmouth has evaluated climate risks to its water and wastewater utilities using EPA's Climate Resilience Evaluation and Awareness Tool, considering options such as raising or protecting pump stations, developing flood-risk plans, diversifying groundwater sources, and establishing drought-response triggers. The City

of Keene conducted an assessment to consider additional standby-generator capacity, improved raw-water quality models, watershed management, treatment upgrades for high turbidity and total organic carbon, and alternative groundwater sources if its reservoir became unusable. Long-term planning efforts emphasize diversified water sources, improved system redundancy, and incorporating climate projections into capital planning and asset management. These municipal assessments show how climate-risk analysis can direct capital priorities before an emergency occurs.

INNOVATION

Innovation is increasingly centered on the adoption of data-driven asset management programs to help water systems transition from reactive maintenance to proactive management. Asset management can improve understanding of system conditions, prioritize capital investments, and support long-term financial planning. New Hampshire utilities are already applying these technologies. For example, the Town of Lisbon completed a water-meter replacement program in 2025 that added remote-reading capability and an online customer portal with leak alerts and usage trends. Concord has also used SCADA instrumentation to collect operating information from its water plant, remote pumping stations, and tanks, supporting centralized monitoring and equipment control.

The Seacoast Emergency Interconnection initiative is a complementary resilience project involving Portsmouth, Dover, and Rochester. The proposed connection is intended to provide an emergency supply link between systems and improve regional response options during source, treatment, transmission, or other service disruptions. The original concept incorporated a water main crossing on the General Sullivan pedestrian bridge, with design funding of up to $223,000 from the Drinking Water and Groundwater Trust Fund. After the bridge project encountered cost and procurement challenges, the cities explored an alternative connection along the Route 4 corridor via the Madbury water transmission main. A 2024 state-authorized study examined existing and potential interconnections, water demand and sources, water quality and quantity, and system compatibility; the study contract was extended in 2026. The connection is intended to benefit a broader Seacoast area, including communities north and south of the General Sullivan Bridge and illustrates how utilities can invest in shared infrastructure and coordinated planning to improve redundancy without requiring every community to independently develop duplicate sources.

Regional interconnection is another important innovation in New Hampshire's drinking-water sector: it allows utilities to share supply and strengthen reliability rather than relying solely on individual sources and treatment facilities. The Southern New Hampshire Regional Water Project interconnects Manchester, Derry, Salem, Windham, Atkinson, and Plaistow to address source losses and groundwater contamination, including methyl tertiary-butyl ether (MtBE). Its phased design was planned to provide up to 1 million gallons per day initially and up to 3.1 million gallons per day at full buildout. The project uses shared agreements that define each partner's construction and maintenance

responsibilities, water rates, and the amount of supply available to recipient systems. Phase 2 is intended to add more than 2 million gallons per day to address PFAS impacts and growing demand, supported by additional state investment. This is a practical example of regionalization improving access to safe supply, adding redundancy, and distributing the cost and operational responsibility of major infrastructure across multiple communities.

The City of Rochester has extended municipal water to neighborhoods where private and small-system wells faced contamination and supply limitations, including the Route 202A area, where the $13.5 million water-main and storage-tank project brought public water to more than 100 additional homes and was designed to connect as many as 160 households. The project addressed elevated manganese and iron, prior MTBE detections in part of the area, and vulnerability to seasonal drought. Rochester has also pursued interconnections for small neighborhood systems affected by contaminants and decommissioning of the affected wells. These examples show how consolidation or connection can remove the burden of treating a compromised local source and provide a more sustainable service arrangement. They also illustrate the importance of funding support: Rochester's Route 202A project received grants and low-interest financing, with more than 64% of the project cost covered by grants.

Cybersecurity has emerged as a critical and evolving risk for New Hampshire's drinking water infrastructure, particularly as water systems increasingly rely on digital control systems, remote monitoring, and networked operational technology. Cybersecurity should be treated as a public-safety issue because disruption of these systems can affect the ability to monitor, treat, or distribute safe drinking water.

As reliance on digital systems grows, cybersecurity has become an important component of modernization efforts. Water systems should incorporate baseline cybersecurity practices into emergency preparedness and operational planning, including secure remote access, multi-factor authentication where appropriate, network segmentation, routine patching, incident response planning, and staff training consistent with CISA guidance. NHDES has also been supporting cybersecurity assessments of community water systems, giving utilities a practical way to identify vulnerabilities and prioritize corrective actions rather than treating cybersecurity as solely an information-technology issue.

Recent reporting illustrates why this risk warrants attention even where no New Hampshire drinking water system has been identified as having suffered a comparable attack. In August 2026, WMUR reported on coordinated cyberattacks against water systems in several states and noted that New Hampshire officials considered cybersecurity essential, while reporting no indication that New Hampshire systems had been similarly attacked. Earlier, in March 2024, WMUR reported that New Hampshire had awarded more than $2 million in grants to drinking water and wastewater sectors to address cybersecurity concerns.

Smaller and rural systems often face challenges in adopting these technologies due to limited technical and financial resources, increasing the importance of regional collaboration, shared services, and technical assistance.

RECOMMENDATIONS TO RAISE THE GRADE

- **Develop measures that allow small utilities to merge where appropriate**
  New Hampshire should continue developing practical measures that make it easier for compatible small systems to interconnect, or share operational and administrative resources, strengthening the financial and technical capacity available to operate and maintain their systems.

- **Charge rates that reflect the cost of operations and capital needs of a water utility**
  Water utilities should establish rates and reserve policies that adequately recover routine operations, maintenance, debt service, and planned capital replacement. State and federal assistance should supplement, rather than substitute for, sustainable local revenues.

- **Advance Asset Management Programs**
  Continue adoption of comprehensive asset management practices to better understand system condition, prioritize investments, and transition from reactive to proactive maintenance. Best practices include maintaining asset inventories, condition assessments, and lifecycle cost analysis to guide capital planning.

- **Strengthen Cybersecurity Posture**
  Implement baseline cybersecurity measures consistent with CISA, including multi-factor authentication, network segmentation, routine patching, and incident response planning. Regular cybersecurity assessments and staff training are critical, particularly for smaller systems with limited technical capacity.

- I**nvest in Workforce Development**
  Address workforce shortages to expand operator training, certification programs, and career pathways. Strengthening partnerships with supporting organizations can assist recruitment, retention, and long-term sustainability of a workforce capable of managing increasingly complex systems.

- **Address Emerging Contaminants**
  Invest in treatment technologies to address PFAS and other emerging contaminants. Key practices include proactive sampling, source evaluation, and participation in available funding programs to support compliance with evolving standards.

- **Enhance System Resilience and Redundancy**
  Integrate resilience planning into capital improvement programs, including system interconnections, backup power, redundant supply sources, and infrastructure hardening to prepare for drought, flooding, and extreme weather events.

- **Expand Regional Collaboration**
  Regionalization and interconnection of water systems can improve efficiency, reliability, and emergency response capabilities. Support efforts to develop shared services, mutual aid

agreements, and consolidated systems where feasible. The Seacoast region is also pursuing greater interconnectivity. NHDES supported a Portsmouth-Dover emergency interconnection intended to connect eight communities south of the General Sullivan Bridge with four communities to the north and provide a regional emergency water-supply connection. In 2024, the State authorized a study of interconnections among Seacoast public drinking water systems, and in 2026 the study contract was extended to allow the work to continue. The study is intended to examine existing and needed connections, water demand and sources, water quality and quantity, and system compatibility.

- **Maximize Use of State and Federal Funding**
  Increase funding available through the Drinking Water State Revolving Fund (DWSRF) and Drinking Water and Groundwater Trust Fund (DWGTF) programs. Long-term financial planning is necessary to sustain investments beyond current funding cycles.

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Energy

2026

C+

EXECUTIVE SUMMARY

NH is part of a regional power system, regulated by ISO-NE that forecasts sufficient supply through 2033. However, investments in clean energy, storage, and transmission can mitigate the risk and cost of imported gas supply and unexpected demand increases.

Investments in the transmission and distribution system have reinforced the existing system against weather events and improved communication to reduce outage times. Additional investments are needed to address constraints that limit imports and distributed generation interconnection.

NH has less than 25% of the EV chargers needed to meet 2030 projected demand. Available funds should be distributed and NHDOE should explore other funding mechanisms or subsidies.

2017 NH COMPARISON: C+

2025 NATIONAL COMPARISON: D+

BACKGROUND

Energy consumption in New Hampshire includes electricity, heating, and transportation. Electricity infrastructure refers to utility scale generation, transmission lines, substations that step the voltage down to distribution, and distribution lines that deliver electricity to customers. Heating infrastructure is limited to natural gas transmission and distribution pipelines. New Hampshire imports all other fossil fuels via rail and roads. Transportation infrastructure refers to EV charging stations.

CAPACITY

Electricity

Approximately 55% of NH's energy generation is supplied by nuclear power, 25% by natural gas power plants, and the remainder is provided by renewables including hydropower, biomass, wind and solar.

Table 1: Top 5 NH Electric Generators Ranked by Capacity (source: GridInfo US Summary: New Hampshire)

Generator	Type	Capacity	Year of Initial Generation
Seabrook	Nuclear	10.5 TWh	1990
Granite Ridge	Natural Gas	3.0 TWh	2003
Newington Energy Center	Natural Gas	1.5 TWh	2002
Comerford	Hydro	400.5 GWh	1930
Merrimack	Coal	363.6 GWh	1960

In New Hampshire, Public Service Company of New Hampshire dba Eversource Energy (Eversource) is the largest investor-owned electric utility serving 206 of NH's 234 municipalities. National Grid owns the remaining transmission infrastructure in the state with NH Electric Cooperative, Unitil and Liberty owning the remaining distribution infrastructure. The company owns and operates most of the electric transmission infrastructure in the state. This includes 1,055 miles of transmission right-of-way (ROW) containing approximately 12,000 transmission structures, 145 transmission and distribution substations, and approximately 42,000 distribution structures.

Heating

NH is served by four natural gas transmission lines including the Tennessee Gas Pipeline (TGP) supplying gas from the southeastern US, Portland Natural Gas Transmission System (PNGTS) pipeline and the Maritimes and Northeast (M&N) pipeline supplying natural gas from Canada and the Granite State Gas Transmission (GSGT) pipeline supplying gas from Massachusetts hubs. There are 232 miles of interstate transmission pipelines in NH as of 2020.

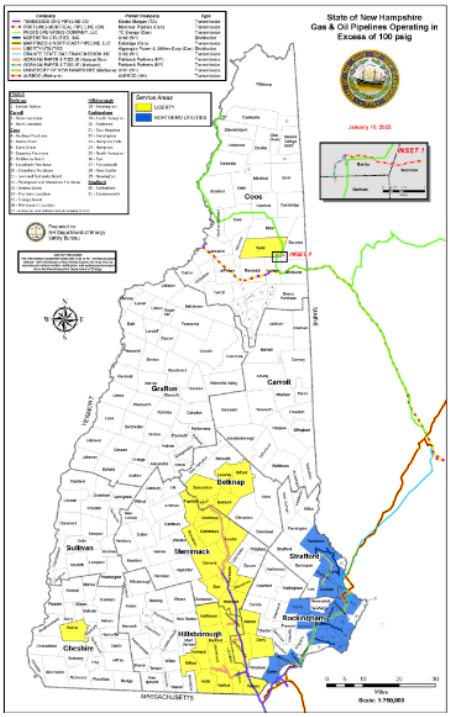

Figure 1: Municipalities with Natural Gas
Source: NHDES

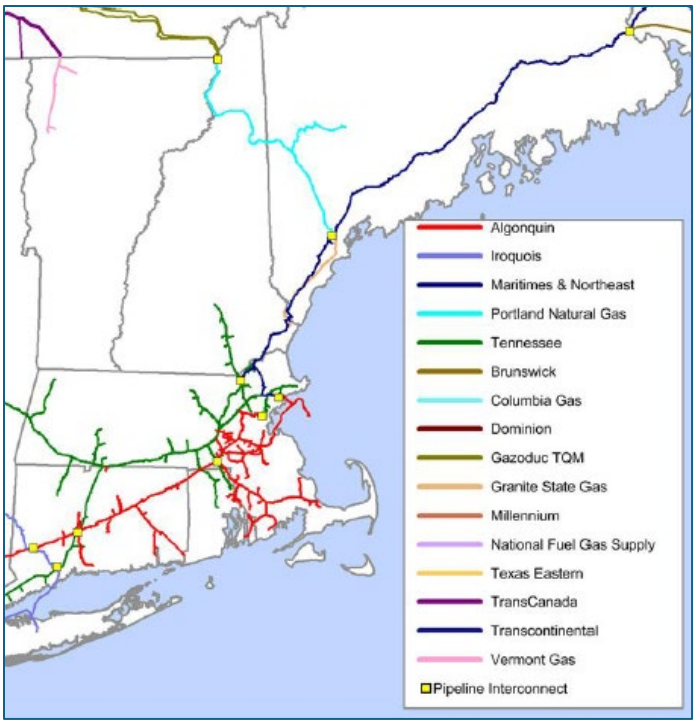

Figure 2:Natural Gas Transmission Lines
Source: ISC ISO-NE

Transportation

In NH in January 2026, there were 282 public EV charging stations providing 768 charging ports according to The Drive Electric NH Coalition. This coalition of state agencies, utilities, non-governmental organizations, and industry representatives work together to support the adoption of EVs and increased charging infrastructure.

CONDITION

Electricity

Hydropower facilities are the oldest form of electric generation in NH coming online in the early decades of the 1900's while onshore wind turbines comprise the most recent additions of electric generation in the 2010's. NH's largest electricity generator is the nuclear Seabrook Station that has been operating since 1990. A 20-year license extension application has been filed to allow the plant to operate from 2030 to 2050. Natural gas-fired power plants were commissioned in the early 2000's supplied by interstate pipelines and have outcompeted the older coal and oil power plants in the market.

NH's two coal-fired plants at Schiller Station in Portsmouth and Merrimack Station in Bow set firm dates to cease operations in December 2025 and June 2028, respectively. Owner, Granite Shore Power, has proposed solar and battery storage projects at both facilities to provide dispatchable energy to the grid during periods of peak demand equaling approximately one quarter of the power in Bow and an equal amount

of battery storage at Schiller Station. Granite Shore Power also owns and operates eight hydropower facilities in NH.

NH is part of a regional electric transmission grid operated by ISO New England (ISO-NE), an independent, nonprofit company. Prior to the creation of ISO-NE in 1997 there was little investment in transmission infrastructure. Since 2002, utilities have implemented over 870 projects to reinforce the NE grid.

In NH over the last 5 years, Eversource has replaced approximately 5,080 transmission wood structures with weathering steel structures covering approximately 450 miles of ROW. This represents nearly half of the transmission infrastructure in the state. Most of the structure replacements were required due to aging wood installed in the early to mid-1900s and laminated wood structures due to rot, woodpecker damage, and pole top damage identified during annual inspection cycles.

Figure 3: Transmission structure replacement.

Eversource has undertaken three major substation rebuild projects (one complete, two underway), installed three synchronous condensers and performed numerous breaker and relay replacement projects in substations across the state. Infrastructure upgrades are implemented to meet North American Electric Reliability Corporation (NERC) standards. Infrastructure improvements increase reliability and resilience of the NH grid by installing structures that can withstand more severe weather, and other upgrades that accommodate increased demand, improve efficiency, and decrease outages.

Figure 4: Photo of distribution pole replacement.

Relative to the electric distribution infrastructure, Eversource is improving analytics, automation practices, technology and vegetation management. Projects enhance resiliency, maintain reliability, restore service quicker after outages, and enable interconnection of distributed generation. In 2023 more than 40% of Eversource customers (~1.1 million) that lost power were restored within five minutes through the incorporation of smart switch technology.

Heating

In 1994, 353 miles, or 27% of New Hampshire's distribution pipelines contained cast iron or bare steel. Through enhanced recovery mechanisms authorized by the New Hampshire Public Utilities Commission, that inventory has been trimmed approximately by 87%, to less than 47 miles, with Unitil removing all remaining bare steel and cast iron in 2017 and Liberty Utilities committed to replace all cast iron and bare steel by 2025 and replacing them with polyethylene pipelines. Presently, worn pipelines and leak-prone pipelines represent only 2.3% of the distribution mains in NH.

Transportation

NH gas stations supplied gas to 1.19 million registered vehicles in 2024. The EV charging stations supplied public charging to 12,500 registered vehicles in the same year.

OPERATION AND MAINTENANCE; FUNDING

Electricity

Most funding for electric infrastructure comes directly from consumers. A customer's electric bill includes supply (electricity consumed) charges and delivery charges that cover the cost to operate, maintain, and invest in the infrastructure including energy efficiency and fuel assistance programs. Supply charges are based on the amount of electricity consumed at an approved rate (e.g. $.14/kWh).

Utility customers in NH pay higher prices relative to other areas of the country due to dependence on natural gas imports, limited capability to transmit electricity imports from Canada or New York Independent System Operator (NYISO), and decarbonization policies adopted in the region. Additionally, the distribution system is constrained which challenges interconnection of renewables and storage with required system improvement costs.

Infrastructure funding is soon to be available through the NH Department of Energy (NHDOE) Grid Resilience Grant Program that was awarded $9.1 million in 2024 by the US Department of Energy (USDOE). Electric utilities can submit proposals for infrastructure improvement projects that prevent or shorten outages. The Massachusetts Department of Energy Resources was awarded $389 million of federal funds and leveraged $499 million in state funds to support the Grid Innovation Program. Projects completed through that program will benefit the regional transmission grid.

Heating

Similar to electricity, most funding for natural gas infrastructure comes directly from gas consumers. The gas utilities provide both delivery and supply service to residential, commercial,

and industrial customers. Of the 130,000 natural gas customers in NH, 85% are residential, 12% are commercial/industrial, and 3% are transportation. A customer's natural gas bill includes commodity (supply) and delivery charges. The NH Public Utility Commission (NHPUC) approves the natural gas rate that consumers are charged to cover the costs to operate and maintain the distribution infrastructure. Under the law, a regulated gas utility can recover its costs to supply and deliver gas as well as a reasonable profit on infrastructure investments.

Supply charges include the cost of gas (commodity price), transmission pipeline costs set by the Federal Energy Regulatory Commission (FERC), and storage charges. The commodity price of natural gas is determined by the market, meaning when supply is low and demand is high, the cost of gas is high. In NH winter months when demand is high and supply is limited; customers pay higher gas bills. Storage charges are the costs of storing gas within or outside a utility's infrastructure to meet winter demand and mitigate price spikes.

The Pipeline Safety Program administered by the NHDOE Division of Enforcement is responsible for enforcing pipeline safety on the 3,431 miles of intrastate pipeline; 80% of the funding for programs comes from US Congressional appropriations and 20% is paid for by the regulated gas utilities.

Transportation

Electric charging stations do not have an established retail model as a standalone business and are typically ancillary components of existing retail businesses. That said private and public entities have made investments into EV charging infrastructure to meet consumer demand from NH residents and visitors.

One source of funding for EV charging stations is the Volkswagen (VW) settlement. NH was awarded $30.9 million to mitigate VW's violations of the US Clean Air Act. NH has pledged $4.6 million, the maximum allowable amount, to advance EV charging infrastructure.

A source of federal funding is through the US Department of Transportation's (DOT) Federal Highway Administration (FHWA) National Electric Vehicle Infrastructure (NEVI) Formula Program appropriated under the Bipartisan Infrastructure Law. NH was awarded $17.2 million from 2022-2026 to deploy EV charging stations along alternative fuel corridors. NH DOT conditionally awarded $2.8 million to develop four EV charging stations in 2024. Funding is available for up to 80% of eligible project costs.

However, independent retailers are challenged to turn a profit due to the cost of electricity compared to the revenue. One retailer is proposing to decommission 4 Tesla super-chargers in October 2026 after just five months of operation.

FUTURE NEED

Electricity

ISO-NE projects that the demand for electricity will continue to increase from 2025-2034. The demand for electricity at the summer and winter peaks are expected to increase from 24,803 MW to 26,897 MW and from 20,056 MW to 26,020 MW, respectively.

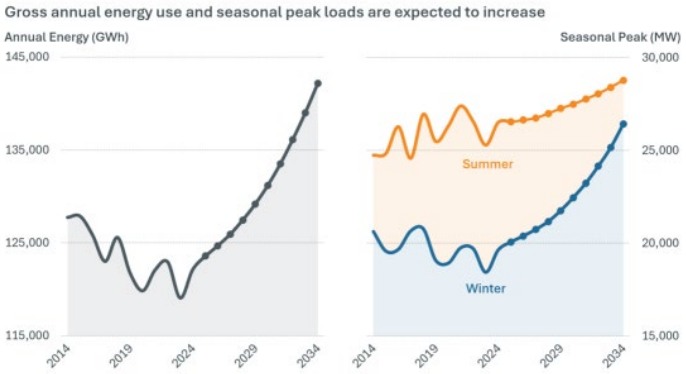

Figure 5: Projected Demand and Seasonal Peaks
Source: ISO-NE 2025 System Planning Report

Electrification of heating systems and transportation will contribute to the increases in winter demand. Table 2 illustrates a 24-fold increase in energy demand from the heating and transportation sectors over the 10-year forecast period.

Table 2: Increased electricity demand resulting from heating and transportation electrification.

	NH Forecasted Annual Energy (GWh) Demand from Electrification										
Category	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
Heating	21	61	109	168	244	338	452	588	743	917	
Transportation	38	67	99	134	176	225	280	340	405	479	
Total	59	128	208	302	420	563	732	928	1,148	1,396	

Source: 2025-2025 CELT Report

Despite the increase in electricity demand, ISO-NE forecasts that there will be sufficient supply to meet demand through 2033. Furthermore, ISO-NE has capacity commitments from power generators to meet projected demand through June, 2028. However, power plant retirements, lack of new generation entering the market, deficiency of fuel supply or infrastructure to power generation, or an unexpected increase in demand (e.g. AI data centers) could result in insufficient supply in the 2030s. ISO-NE's long-term projection is that the power system (generation, transmission and distribution) will need to be 3 times its current capacity by 2050 to maintain reliability while accommodating electrification and emissions reduction goals.

Dependence on natural gas for generation creates winter fuel reliability and cost implications for NH. Natural gas-fired power plants must switch fuels, pay higher prices for natural gas, or curtail operations when natural gas is prioritized for heating during extended cold periods. ISO-NE offered an interim program to compensate generators that secure alternative

fuels for the winters of ’23 and ’24 under the Inventoried Energy Program (IEP). IEP has been terminated with no similar program to address winter fuel reliability.

The ISO-NE 2050 Transmission Study identified possible transmission system deficiencies in delivering electricity under 2035, 2040, and 2050 scenarios. The study assumed significant retirement of fossil-fueled power generators, significant development of renewable energy resources; and large increases in demand resulting from electrification.

Heating

NH is at the terminus of the transmission pipeline system where there is not enough natural gas in the system during the winter months to supply natural gas-fired power plants and residential/commercial customers at the same time. There are no current proposals to expand transmission pipeline capacity. In the winter months, natural gas is imported via trucks to inject natural gas into the distribution pipeline infrastructure to meet demand.

A recent example of insufficient gas distribution capacity in NH was reported in December, 2024. In reference to proposed residential development in Tilton, Liberty reported that the utility had reached the limit of gas it could supply via the existing distribution infrastructure. The 6-inch distribution main that supplies the region was built in the 1960s. In the 2000s, Liberty began widening the main to a 12-inch line to address projected capacity deficiency but ~10 miles of the original 6-inch line remain. Considerable time and investment are required to upgrade the remaining section of distribution main. The NHPUC would have to consider whether such an investment is justified through a gas rate case before distributing that cost across all gas customers via delivery charges.

Transportation

ISO-NE forecasts that by 2033, EVs could account for 20% of the NH market share, or 200,000 vehicles. That is a 16-fold increase over the 7-year forecast period. NH market share is about 10% less than the projected NE market share of 30% which creates additional concern for NH tourism revenue. NH has 7% of the Level 2 charging network capacity and only 22% of the projected fast chargers needed to meet 2030 projected demand. NH may lose ~$1.4 billion in tourism revenue to Maine and Vermont which have invested heavily in EV charging infrastructure.

PUBLIC SAFETY

Public safety would be significantly jeopardized if energy infrastructure was unable to meet future demand. Lack of investment in generation, transmission and distribution infrastructure will decrease grid reliability resulting in the increased frequency and duration of power outages. Power outages pose significant risks to public health and commerce.

Winter fuel reliability continues to pose a threat to NH generation during extended periods of cold weather. ISO-NE relied on enhanced forecasts and operating tools to manage reliability during cold weather in the winter of '25 rather than securing alternative fuels by generators.

RESILIENCE AND INNOVATION

There are several programs and initiatives to address projected generation and transmission infrastructure capacity deficiencies. These include energy efficiency, clean energy generation investment, market solutions, and the incorporation of innovative technology.

Under the federal Infrastructure Investment and Jobs Act (IIJA), ~$831K was allocated to the NHDOE to establish grants and revolving loan funds for energy-efficiency audits, and energy efficiency upgrades and retrofits of residential buildings. As of January 2026, the Energy Efficiency Revolving Loan Fund Capitalization Grant Program is in development.

NHDOE also administers the State Energy Program (SEP) with federal funding from the USDOE's State sub-grants program. In addition to the transportation program previously discussed, funds are provided for energy conservation and energy efficiency in NH's building stock, energy education and technical assistance, and energy security.

The Renewable Energy Fund (REF) supports clean energy initiatives in the state. The REF is funded by power generators that need to make Alternative Compliance Payments (ACPs) into the REF to meet state renewable portfolio standards (RPS). The NHDOE distributes REF funds through renewable energy rebate programs or competitive grant solicitations for qualifying projects. In 2025, the NH legislature passed a state budget that removes ~$15 million from the REF over two years to cover deficits in the state's general fund. Only $2 million will remain in the REF over the same period. This represents an annual decrease of $1 million over previous annual NHDOE spending. However, NHDOE recent spending levels were already below the ~$4-5 million annual distribution that the REF was designed to distribute. NH currently lags other ISO-NE states in clean energy deployment and spending curtailment will worsen the situation.

ISO-NE has implemented two market solutions to address electric generation and transmission infrastructure. These include changes to the Forward Capacity Market (FCM) and Long-Term Transmission Planning (LTTP). The FCM reforms will swap annual auctions that secured energy supply three years in advance for more frequent auctions that can account for more current supply and demand conditions to be responsive to seasonal risks, including gas constraints during the winter months. ISO-NE has targeted 2026 for completion of the FCM reforms. In 2024, FERC accepted ISO-NE's proposal that allows the region to identify, fund, and implement transmission system upgrades based on longer-term transmission studies. In 2025, ISO-NE received proposals to address 2035 transmission needs.

Grid resilience can be an issue as non-dispatchable resources such as wind and solar are added to the power system. One solution is the incorporation of utility-scale battery storage that can dispatch energy to meet peak demand when generation is constrained. NH's first 14 MW utility scale battery storage project was constructed in 2023 in Coos county. An increase

in these assets through power purchase agreements or other financial incentives would accelerate the benefits of this technology.

The incorporation of new technology into energy infrastructure can also address capacity deficiencies. ISO-NE, regulated utilities, and consumers continue to integrate technologies that reduce energy use, increase efficiency, and add distributed generation and storage resources to the grid. Two examples are smart grid technology and meter collar technology (or meter socket adapters). Smart grid technology uses smart electric meters, smart switches and advanced analytics to enhance grid efficiency and reliability. Through real-time monitoring and automation, the grid can re-route supply to meet demand and allow consumers to manage energy use when electricity prices are high. Meter collars allow rooftop solar, battery storage, and EV chargers to connect directly to the utility meter that can eliminate electrical panel upgrades accelerating interconnection of distributed generation and storage.

RECOMMENDATIONS TO RAISE THE GRADE

Sustained Investment

- **Continue federal investment levels as enacted through the Infrastructure Investment and Jobs Act** (IIJA) that expires in 2026, and **fully fund authorized state programs** during the annual appropriations process.
- **Prohibit by law the reallocation of REF funds** to the general fund. In addition, the NHDOE should implement reforms to disburse funds at a level equal to the annual ACP payments to accelerate energy efficiency and renewable projects.
- **Set rates at ISO-NE and NHPUC that allow for the continued investment in energy infrastructure.** Stakeholders need to be educated on the actual costs and benefits of infrastructure investment so they can understand rates and make informed decisions to offset future costs.
- Disburse VW settlement funds, NEVI Program funds and explore other funding mechanisms through NHDOE to **increase investment in EV charging infrastructure.**

Advance Policy and Innovation

- Continue to **innovate policies** at the regional and state level to reduce energy use, improve efficiency, and integrate clean generation.
- **Leverage technologies** to make the best use of limited financial and personnel resources.
- **Support research and development** of materials, technologies, and processes to modernize and extend the life of infrastructure, expedite repairs, and reduce future costs.

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HAZARDOUS WASTE

2026

C

EXECUTIVE SUMMARY

New Hampshire, like many states in the Northeast, faces a wide range of environmental legacy concerns stemming from its industrial and manufacturing history. The state has approximately 2,200 active hazardous waste generators producing 12 million pounds of hazardous waste annually, an estimated 1,100 petroleum release and remediation sites, approximately 1,600 other hazardous waste sites under investigation or remediation, 21 federal Superfund sites, and more than 360 Brownfield properties.

Meaningful progress continues through federal and state programs, but funding has not kept pace with rising costs, increased regulatory demands, and long-term monitoring needs. Emerging contaminants, particularly per- and polyfluoroalkyl substances (PFAS), have added complexity and cost to environmental management efforts. NHDES implemented targeted fee increases in 2025, representing a step toward stabilizing funding. Continued evaluation of fee structures, funding mechanisms, and resource allocation will be necessary to ensure sustainable oversight and timely remediation while protecting drinking water resources.

2017 NH COMPARISON: C

2025 NATIONAL COMPARISON: C

BACKGROUND

New Hampshire's contaminated land cleanup framework is implemented through four primary programs: the federal Superfund and Department of Defense environmental restoration programs; the Brownfields program; and state hazardous waste and petroleum site programs.

Through these programs, the state manages:

- 21 active superfund sites
- Approximately 360 Brownfields Sites
- 16 active RCRA Corrective Action sites
- 1600+ Hazardous Waste sites
- 1,100+ petroleum release sites.
- 3,000+ underground storage tanks
- 5,000+ aboveground storage tanks

CAPACITY & CONDITION

Superfund and Department of Defense Sites

NHDES and the U.S. Environmental Protection Agency (EPA) collaboratively manage the investigation and cleanup activities at 21 Superfund sites in New Hampshire. One site, the Town Garage/Radio Beacon site in Londonderry, was delisted from the National Priorities List (NPL) in 2000. One site, the Mohawk Tannery site in Nashua, has been proposed to be added to the NPL but has never been listed. Of the 21 Superfund sites, seven sites are in remedial investigation phase, one site is in the remedial design phase, and six sites are in the remedial action phase. The remaining sites are remedial monitoring phase (post-construction monitoring of the effectiveness of the cleanup)

Most New Hampshire Superfund sites have progressed through investigation and are into remediation phases, with a significant number in long-term monitoring. However, the required oversight, even for ongoing monitoring, is substantial. PFAS contamination has introduced new challenges, requiring extensive investigation, treatment, and long-term monitoring. These emerging contaminants have increased both the complexity and duration of cleanup projects, placing additional pressure on existing programs.

NHDES also oversees the investigation and cleanup of US Department of Defense (DoD) sites in New Hampshire and provides support services to DoD through the Defense/State Memorandum of Agreement (DSMOA). These sites include the former Pease Air Force Base Station, Defense Fuel Support Point Newington, New Boston Space Force Station, and the US Army Cold Regions Research and Engineering Laboratory. Each of these sites are undergoing active investigation and/or remediation [MT4.1]funded by DoD.

Brownfields

Brownfield sites are properties that were previously developed for industrial or commercial use, where those past uses have resulted in contamination from hazardous substances. NHDES estimates there are currently 360 Brownfields sites identified across New Hampshire. While the EPA Brownfields program has always been an important part of addressing legacy contamination across the state and sparking revitalization in communities, previous funding program caps greatly limited the amount of cleanup that could be performed.

RCRA Corrective Action Program

The Resource Conservation and Recovery Act (RCRA) supports permitting, inspection and enforcement, program management, and corrective action to prevent pollution and facilitate cleanup of environmental problems caused by waste mismanagement. New Hampshire's RCRA Corrective Action Program is a federally authorized program funded by EPA and administered by NHDES. There are currently 16 active RCRA Corrective Action sites in New Hampshire. Responsible parties are required to conduct investigation and cleanup themselves or reimburse the State for cleanup costs incurred. The RCRA program did not receive supplemental funding through the IIJA.

State Hazardous Waste Sites

There are approximately 1,640 other known hazardous waste sites in New Hampshire. Of these, approximately 703 sites are currently subject to active oversight and management by NHDES. Oversight of these state-managed sites is supported through the Hazardous Waste Cleanup Fund (HWCF) and the State's General Fund. However, revenues from these funding sources have been declining, placing increasing strain on the state's ability to sustain long-term oversight and protectiveness.

Beginning in 2014, NHDES initiated efforts to evaluate and address the occurrence of PFAS contamination in drinking water supplies and contaminated sites throughout New Hampshire. Since the establishment of PFAS-specific funding sources in 2020, some financial burdens associated [JS5.1][AR5.2] with PFAS response have shifted away from traditional cleanup programs. However, NHDES and the HWCF continue to absorb a portion of these costs. PFAS investigations and remediation activities also require significant staff resources, limiting the Department's ability to address other contaminated sites and environmental priorities.

State Petroleum Release Sites

New Hampshire currently has over 1,100 known petroleum release/remediation sites that are under active remediation or other controls managed by NHDES Oil Remediation and Compliance Bureau (ORCB) or the MtBE Remediation Bureau. Approximately 550 are known MTBE sites, most commonly associated with releases from USTs and, to a lesser extent, gasoline handling activities from auto salvage operations. Each year on average NHDES encounters approximately 140 new petroleum-contaminated sites. [MT6.1]

Across the state there are:

- 1,250 facilities with 3,060 underground storage tanks (USTs) holding approximately 40.3 million gallons
- 1,187 facilities with 5,202 above ground storage tanks (ASTs) holding approximately 156.6 million gallons. [MT7.1][AR7.2]

NHDES developed an underground storage tank removal program that is designed to remove higher risk tanks and to expedite investigation of releases. As of the end of fiscal year 2024 (FY24), the program had

- Removed 367 tanks
- Completed remedial projects in 50 municipalities
- Removed and property disposed of approximately 21,750 tons of contaminated soil

FUNDING

The Hazardous Waste Cleanup Fund (HWCF) was established in 1981 to support the investigation, cleanup, regulation, and enforcement of hazardous waste sites in New Hampshire. The Fund supports:

- hazardous waste site investigation and remediation
- municipal household hazardous waste and used oil programs
- the NHDES Brownfields Program
- hazardous waste training and certification programs
- pollution prevention initiatives
- permitting, administration, and enforcement activities

The HWCF is funded through hazardous waste-related fees, cost recovery revenues, fines, penalties, Brownfields fees, groundwater management permit fees, and expedited review fees. In FY24, the HWCF generated approximately $2.2 million in revenue and ended the year with a balance of approximately $2.7 million.

Over several years, demands on the HWCF have increased without corresponding revenue growth. According to NHDES, additional long-term revenue will be necessary to ensure continued protection of public health and effective oversight of hazardous waste management and remediation activities.

The NHDES Superfund Program has received approximately $18.3 million over the past 5.5 years, including the required 10% state match. Additional funding would support more timely remediation efforts and improve opportunities for redevelopment and reuse of contaminated properties.

Brownfields funding has also fluctuated over time[JS9.1][AR9.2]. Between 2012 and 2016, the NHDES Brownfields Program received approximately $857,000 to $994,000 annually, with funding generally trending downward during that period. The Brownfields Revolving Loan Fund (RLF), which provides low-interest loans for cleanup projects, currently has a balance of less than $475,000, limiting the program's ability to support additional redevelopment projects.

Through the 2021 Infrastructure Investment and Jobs Act (IIJA) funding, caps were raised from $500,000 to $5 million per grant. Grantees a[JS10.1]cross New Hampshire have been fortunate to be the recipients of a number of these large grants directed at cleaning up sites, totaling about $9.2 million across seven sites. Notable cleanup projects include:

- $1.1 million awarded the nonprofit Bethlehem Reimagined, Inc., to remediate the former Sinclair Hotel property.
- $678,000 awarded to the City of Concord for the clean up the former Concord Stables.
- $2.0 million awarded to the Town of Jaffery to remediate the former W.W. Cross tack factory site in 2024.
- $1.2 million awarded to the Town of Winchester for the cleanup of the former A.C. Lawrence Tannery in 2023.

In addition to the cleanup grants, the NHDES Brownfields program also received a $2 million assessment grant and approximately $2.4 million in additional program-specific funding. The program-specific funding has been used to build program capacity to support additional work across the state, enhance outreach activities,

address environmental justice initiatives and support site specific cleanup projects.

The Oil Discharge and Disposal Cleanup Fund (ODDCF) provides financial assistance associated with petroleum contamination from aboveground and underground storage tanks, including gasoline, diesel fuel, heating oil, motor oil, and used motor oil. The Fund also supports corrective actions associated with MTBE contamination impacting groundwater and drinking water supplies.

The ODDCF is funded through a petroleum import fee, which generated approximately $16.1 million in FY25. The Fund balance was approximately $8.8 million as of June 2025.

Additional funding sources supporting contamination response across the state include:

- the MTBE Settlement Fund, originally funded at approximately $81.6 million for the investigation and cleanup of MTBE impacted sites. As of June 30, 2023, approximately $19.4 million remained in MTBE settlement funds.
- the Drinking Water and Groundwater Trust Fund (DWGTF), funded at approximately $276.5 million to provide for the protection, preservation and enhancement of the drinking water and groundwater resources. Since establishment of the DWGTF, the Advisory Commission has awarded approximately $211.3 million in grants and loans supporting drinking water infrastructure improvements, source water protection, and NHDES initiatives. On January 1, 2024, the Trust Fund balance was approximately $105.5 million.[MT11.1][TK11.2]

In response to increasing program demands, NHDES implemented targeted fee increases in 2025 and adopted enforcement-related fines intended to strengthen environmental cleanup and enforcement funding. While these actions improve short-term financial stability, continued evaluation of long-term funding mechanisms will be necessary to address increasing remediation costs, aging infrastructure, and emerging contaminants such as PFAS.

FUTURE NEED

New Hampshire's hazardous waste and petroleum remediation programs face increasing long-term demands associated with emerging contaminants, rising remediation costs, and expanding monitoring obligations. While the NHDES tracks individual grant applications and specific regional remediation projects, the agency does not maintain or provide a comprehensive, statewide assessments of total funding needs required to clean up all contaminated sites. Consequently, adequate and predictable investment will be necessary to protect public health, drinking water resources, and environmentally sensitive areas while maintaining progress on site cleanup and redevelopment.

Per- and polyfluoroalkyl substances (PFAS) contamination represents one of the most significant future challenges facing the State. PFAS investigations and remediation are substantially more complex and costly than many traditional contaminants, and evolving federal

standards are expected to increase the number of sites requiring investigation, treatment, and long-term monitoring.

Long-term operation and maintenance responsibilities will also continue to grow as more contaminated sites transition into decades-long monitoring and institutional control phases. Sustained funding and adequate staffing will be necessary to support ongoing oversight, maintain effective remediation programs, and address increasing technical and regulatory demands.

OPERATION AND MAINTENANCE

Long-term operation and maintenance activities are essential to ensuring the effectiveness and protectiveness of hazardous waste and petroleum remediation systems throughout New Hampshire. These activities include groundwater monitoring, operation of treatment systems, site inspections, corrective action oversight, and long-term institutional controls.

NHDES manages a substantial ongoing workload associated with contaminated site oversight. In a typical month, NHDES staff review and approve approximately:

- 90 work scopes and budgets
- 450 corrective action reports
- 180 reimbursement requests ranging from less than $1,000 to more than $400,000

NHDES also administers long-term remediation and monitoring activities associated with petroleum contamination, including methyl tertiary-butyl ether (MTBE) impacts to groundwater and drinking water supplies. Since 2014, nearly all expenditures from MTBE settlement funds have supported cleanup activities, water supply sampling and notification, infrastructure improvements, extension and replacement projects, and associated project management activities.

As contaminated sites progress from investigation into long-term monitoring phases, operation and maintenance obligations continue for decades. Emerging contaminants, particularly per- and polyfluoroalkyl substances (PFAS), have increased the complexity and duration of these responsibilities, requiring additional monitoring, treatment, technical expertise, and long-term oversight.

PUBLIC SAFETY

The NHDES Spill Response and Complaint Investigation Section (SRCIS) provides 24-hour emergency response to petroleum and hazardous material releases that may threaten public safety and the environment. The program responds to hundreds of incidents each year, including transportation accidents, heating oil releases, leaking storage tanks, vessel incidents, abandoned containers, and other releases affecting land and surface waters.

NHDES also works with federal, state, local, and industry partners to prepare for larger incidents, particularly along the Seacoast. Through the Portsmouth Oil Spill Workgroup, co-chaired with the Maine Department of Environmental Protection and U.S. Coast Guard, participating organizations coordinate response planning and training, including an annual full-scale oil spill exercise.

Recent tanker incidents demonstrate the importance of maintaining this emergency

response capability. In December 2019, a tanker accident on Route 101 in Epping released approximately 6,000 gallons of gasoline and required an extensive multi-agency response. In November 2023, a tanker rollover on Route 115 in Jefferson released an estimated 4,500 gallons of #2 fuel oil, resulting in oil recovery, contaminated soil removal, interceptor trenches, and other measures to protect Stag Hollow Brook. In January 2024, a tanker rollover in Londonderry released approximately 3,000 gallons of diesel and 6,000 gallons of gasoline into a highway drainage ditch; emergency berms were installed to intercept the release before it reached a downgradient stream.

RESILIENCE AND INNOVATION

NHDES has acknowledged that contaminated sites may be vulnerable to the impacts of climate change and extreme weather events. The 2022 *New Hampshire Climate Assessment* identifies key climatic trends affecting the state, including increased flooding associated with more frequent and intense precipitation events, warmer winters with reduced snowpack, and higher seasonal and annual average temperatures. NOAA's 2022 *State Climate Summary for New Hampshire* similarly documents declining snowfall, projected warming and increasing precipitation, and notes the vulnerability of New Hampshire's coastline to winter coastal storms and tropical cyclone events. The 2023 *New Hampshire State Hazard Mitigation Plan* further identifies risks to facilities from inland and coastal flooding, extreme temperatures, high winds, severe winter weather, and other climate-related hazards.

New Hampshire is responding to these changing conditions by increasingly incorporating resilience and innovation into contaminated-site management. NHDES considers climate-related vulnerabilities in its oversight of hazardous waste sites, petroleum release sites, Brownfields, and Superfund properties, including the potential effects of flooding, sea-level rise, extreme precipitation, and severe coastal storms on contaminated areas and remedial systems. Long-term monitoring and adaptive management provide mechanisms to evaluate remedy performance as conditions change and to modify remedial approaches where warranted.

Innovation is also reflected in the State's approach to emerging contaminants, environmental data management, and remediation. NHDES has expanded statewide PFAS monitoring and data-management capabilities, including publicly accessible environmental databases and mapping tools that improve the ability to track contamination and support remediation decisions. Remediation programs are also increasingly using in situ treatment technologies, monitored natural attenuation, and other sustainable remediation approaches that can maintain long-term remedy performance while reducing lifecycle costs and environmental impacts. Together, these efforts strengthen the resilience of contaminated-site remedies and demonstrate New Hampshire's evolving approach to managing environmental risks under changing climatic conditions.

RECOMMENDATIONS TO RAISE THE GRADE

- **Establish dependable, dedicated, long-term funding** to ensure the continued investigation and remediation of contaminated sites statewide.
- **Protect existing cleanup funds** by preventing legislative diversion of the Hazardous Waste Cleanup Fund (HWCF), Oil Discharge and Disposal Cleanup Fund (ODDCF), and Drinking Water and Groundwater Trust Fund (DWGTF) for unrelated State purposes.
- **Strengthen petroleum cleanup funding** by evaluating an increase to the petroleum import fee to ensure the long-term solvency of petroleum reimbursement programs.
- **Advance the use of regulatory tools** to require responsible parties to properly investigate and implement remedies at contaminated sites, ensuring responsible parties, not taxpayers, bear cleanup costs while preserving the State's resources.
- **Sustain Brownfields redevelopment** by supporting federal and state funding programs that enable assessment, cleanup, and productive reuse of contaminated properties.
- **Expand research, coordination, and staffing at complex sites** where long-term contaminant releases persist, including emerging contaminants such as PFAS.
- **Address workforce capacity gaps** by evaluating and filling staff shortages necessary to respond to evolving regulatory and technical demands.

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PORTS

2026

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EXECUTIVE SUMMARY

New Hampshire's coastal port system plays a critical role in the state's economy despite having only 13 miles of coastline. The state maintains a highly productive and economically vital maritime system, centered around Portsmouth Harbor, the state's only deep-draft harbor, which sits on the Piscataqua River. The system supports bulk cargo movement, commercial fishing, marine construction, marine research and education, and tourism. Additional facilities at Hampton-Seabrook Harbor and Rye Harbor provide essential access for commercial and recreational users.

Between 2018 and 2025, major investments improved infrastructure conditions, expanded navigational capacity, and extended the service life of key assets. Projects included rehabilitating the Market Street Marine Terminal, upgrading the Portsmouth Commercial Fish Pier, and expanding the Piscataqua River Turning Basin. Together, these investments increased capacity, revitalized port infrastructure, and fostered new opportunities.

While these improvements have strengthened system performance, challenges remain. Aging infrastructure, limited upland capacity, and increasing vulnerability to coastal flooding constrain future growth. Continued investment in resilience, maintenance, and modernization will be required to sustain economic benefits and adapt to evolving demands.

2017 NH COMPARISON: D+

2025 NATIONAL COMPARISON: B

BACKGROUND

Portsmouth Harbor is complemented by Hampton-Seabrook Harbor and Rye Harbor, which primarily serve small-craft commercial and recreational activities. Together, the three harbors support marine transportation, bulk material handling, commercial fishing, and coastal tourism. New Hampshire's coastal tourism includes dining and shopping; swimming, surfing, and other beach activities; art and music festivals; historic and cultural attractions; scenic driving, biking, and walking; and boat tours, fishing charters, and whale watching.

New Hampshire's port infrastructure includes five primary sites managed and operated by the Pease Development Authority's Division of Ports and Harbors (PDA-DPH). The PDA-PDH is a small state agency division that manages and develops

the state's coastal waterways, commercial marine terminals, and public marine facilities. The five primary sites are:

- the Market Street Marine Terminal (State Pier);
- the Portsmouth Harbor Commercial Fish Pier;
- the Hampton-Seabrook Harbor Marine Facility;
- the Rye Harbor Marine Facility;
- and the Barker Wharf & Burge Dock.

PDA-DPH also manages the Piscataqua River Turning Basin, which is a designated widened area at the inland end of the federal navigation channel. The Turning Basin is used to safely turn large commercial ships, such as petroleum and bulk cargo tankers. Although it is not a marine facility, the Turning Basin is a critical asset that must be maintained to ensure safe navigation for large vessels accessing the ports and terminals.

CONDITION AND CAPACITY

The Market Street Marine Terminal is the state's only deep-draft general cargo facility and has heavy-lift capabilities. Its primary activities include salt storage and distribution, petroleum logistics, undersea cable handling, marine construction laydown, and seasonal cruise operations. Since 2017, major improvements have addressed decades of structural deterioration. A rehabilitation and expansion project completed in 2024 restored capacity and extended the structure's service life. The project also refurbished the mooring and berthing systems and filled an existing basin, adding 14,000 square feet of usable deck space.

Navigation and terminal access also improved with completion of the Piscataqua River Turning Basin widening project in 2022. The project widened the basin from 800 feet to 1,200 feet while maintaining a 35-foot dredge-depth. More than 750,000 cubic yards of material was removed, allowing vessels up to 750 feet long to navigate the river safely. This improvement expands the range of vessels that can access the marine terminals, increasing usage rates and supporting economic competitiveness.

Despite these improvements, the terminal currently remains underutilized due to limited upland infrastructure, marginal storm and flood protection, aging ancillary docks, and sediment shoaling at the existing berths.

Built in 1976, Portsmouth Harbor Commercial Fish Pier provides essential working-waterfront access for the local fishing industry. It offers permanent and temporary berths, fuel, offloading equipment, ice, and cold storage. Major improvements include a new waterfront bulkhead, floating dock, and jib crane in 2019; broad pier repairs in 2024; and replacement of the 2,000-square-foot cold-storage and utility building in 2025.

The facility is currently fully utilized, including full occupancy of the long-term slips and berths. There are no immediate capital improvement needs at the site; however, cyclical maintenance and repairs will be required for the pier on a routine basis, given its age and exposure to the marine environment.

The Hampton-Seabrook Harbor and Rye Harbor Marine Facilities are major mixed-use harbors

supporting commercial lobstering, commercial and charter fishing, whale watching, waterfront businesses, and recreational boating.

The Hampton-Seabrook Harbor facility includes a solid-fill wharf, floating docks, jib cranes, a boat ramp, upland parking, vendor shacks, and marine fuel service. The newer facility is well maintained. The bulkhead was replaced in 2013, the harbor was dredged in 2019, and the floating dock system was replaced in 2022. Access is also being improved through the Route 1A Hampton-Seabrook Bridge Replacement Project, which is expected to be completed in 2028.

The Rye Harbor facility consists of a pile-supported pier, jib cranes, floating docks, boat ramp, upland boat storage, seawall, vendor shacks, and marine fuel service. The facility had major structure improvements last completed in 2011 and 2012, replacing the pier and boat ramp, respectively, and the harbor was dredged in 2020. However, the floating docks, seawall, and revetments are in poor condition and need major rehabilitation or replacement.

The upland areas of both Rye Harbor and Hampton-Seabrook Harbor, including the vendor shacks, are subject to coastal flooding during extreme tide events, with storm damage resulting on an almost-annual basis. Hampton-Seabrook Harbor also experiences accelerated siltation and requires more frequent dredging. Both Hampton-Seabrook Harbor and Rye Harbor are fully utilized, with vacancies quickly filled by new tenants.

The Barker Wharf and Burge Dock are a pair of small docking structures nestled at the northeast end of the Portsmouth waterfront district, adjacent to the Market Street Marine Terminal. The facility is used for commercial and passenger vessel operations, under lease agreements with the Shoals Marine Laboratory and the Isle of Shoals Steamship Company.

While the exact construction date is unknown, the Barker Wharf and Burge Dock are older structures exhibiting significant deterioration. Given the limited improvements made over the past decade the facilities need major rehabilitation or replacement. Both lessees conduct periodic seasonal services, leaving the space underutilized.

OPERATION AND MAINTENANCE

Routine operation and maintenance are essential to port performance. Exposure to harsh marine conditions accelerates deterioration and increases maintenance needs. Core activities include maintaining structures and utilities, managing asset inventories, coordinating navigation safety, and supporting commercial fishing, cargo handling, and public marine access.

Recent investments in port infrastructure have improved operational capabilities and extended asset life, including important landside improvements at the Portsmouth Harbor Commercial Fish Pier and the wharf rehabilitation and expansion at the Market Street Marine Terminal, as discussed in the prior sections. These investments demonstrate the value of proactive reinvestment in maintaining essential maritime assets.

PDA-DPH is statutorily charged with the planning, maintenance, and operation of NH's Port facilities and carries out these responsibilities through dedicated professional staff and centralized oversight by the PDA Board of Directors. The individual facilities have dedicated staff who handle day-to-day site operations, coordinate with tenants, perform routine maintenance, and report to the overarching PDA-DPH management.

Port facilities under PDA-DPH ownership are operated within an established framework of state and federal requirements, ensuring that infrastructure is managed responsibly and, in a manner, consistent with public safety and environmental stewardship expectations. PDA-DPH's organizational structure and long-standing operational role demonstrate the capable ownership necessary to properly maintain and manage New Hampshire's port infrastructure.

FUNDING & FUTURE NEED

New Hampshire's ports and harbors contribute approximately $1.9 billion annually to the state's economy, handling over $3.5 million tons of cargo per year. The Piscataqua River is also home to several energy terminals, bringing in over 80% of the state's heating oil, among other fuel products. However, the PDA-DPH is primarily self-funded with revenue generated at its facilities and receives no operational or routine maintenance funding from the state. Annual revenue for PDA-DPH is typically between $2 million and $3 million, with similar operating costs, leaving little for capital improvements. To fund larger projects, state or federal grants are required.

The Market Street Marine Terminal expansion completed in 2024 was funded by a $7.5 million Better Utilizing Investments to Leverage Development (BUILD) Grant and $5 million state match, and the $18.2 million Piscataqua River Turning Basin project was funded by the U.S. Army Corps of Engineers. The repairs and improvements at the Portsmouth Fish Pier were partially funded by a $1 million American Rescue Plan Act (ARPA) grant, with the remaining costs self-funded.

High-priority capital projects at the- Market Street Marine Terminal and Rye Harbor Facility are in the final planning and design stages. At the terminal, a "functional replacement" scheduled to begin in Fiscal Year 2027 will extend the wharf by 200 feet, increase berthing length and usable space, reconfigure the adjacent barge dock, and include dredging. The $40 million project is funded by the Federal Highway Administration and the New Hampshire Department of Transportation. At Rye Harbor, work scheduled to begin at the end of 2026 will replace the floating docks and rehabilitate the seawall and revetment. A $1 million ARPA grant will support the work, with PDA-DPH funding the balance.

Future needs for New Hampshire's port system include continued investment in infrastructure modernization, expansion of upland support areas, and maintenance of navigational channels. As demand for marine transportation, fishing, and tourism continues, infrastructure upgrades will be needed to maintain capacity and support economic growth.

PUBLIC SAFETY

Public safety is a priority at multi-purpose port facilities, where commercial cargo handling, fishing, vessel traffic, and public access overlap. Active management, routine inspections, and clear operating controls support safe use. PDA-DPH coordinates with local harbor masters, pilots, and marine law enforcement. It also enforces pier and harbor rules and manages lighting, signage, access restrictions, and load limits at state-owned facilities.

At port facilities along the Piscataqua River, which is known for exceptionally strong tidal currents and complex navigation, maintaining safe, navigable waterways is essential to reducing vessel accidents and allisions. Well-maintained marine structures, effective fendering systems, and a sufficiently wide turning basin are needed to allow vessels to safely berth and depart under the challenging tidal conditions.

New Hampshire has been proactive in its approach on safety, completing several necessary dredging projects and widening the turning basin. Additional dredging at the Market Street Marine Terminal is funded and planned for FY 2027. By maintaining structurally sound facilities and adequate navigational geometry, the PDA-DPH reduces the risk of accidents and allisions while supporting reliable, safe access for commercial, fishing, and public vessels operating at its ports.

RESILIENCE AND INNOVATION

New Hampshire's port infrastructure is increasingly vulnerable to climate-related impacts such as sea level rise, storm surge, and more frequent coastal flooding. The frequency of damaging storms has been increasing, including record coastal water levels experienced during a series of Nor'easter storms in 2024. Sea levels are predicted to rise between 2 feet and 4 feet by 2070, exacerbating the impacts of these storm events. Enhancing resilience will require targeted improvements, including strengthened coastal protection measures, elevation of critical infrastructure, and the incorporation of flood-resistant and adaptive design standards.

Several facilities still face flooding and resilience challenges. Although the Market Street Marine Terminal wharf has been improved, upgrades to upland infrastructure would improve efficiency, increase use, and better protect equipment, utilities, buildings, and access areas from flooding. Hampton-Seabrook Harbor and Rye Harbor also need shoreline stabilization, hardened or elevated utilities, better drainage, and other site modifications designed for storm surge and extreme weather. These measures would reduce disruptions, protect public and commercial uses, and limit storm damage.

Strategic innovation could further strengthen the port system. Modernized operations, better logistics coordination, and expanded passenger and tourism services could diversify revenue and support long-term sustainability. Redeveloping underused assets, such as Barker Wharf, could also promote economic diversification while adding resilient, future-ready infrastructure.

RECOMMENDATIONS TO RAISE THE GRADE

- **Conduct a feasibility study to rehabilitate or replace the Barker Wharf and Burge Dock** to improve safety, increase utilization, and support expanded passenger and tourism operations.
- **Expand upland infrastructure at Market Street Marine Terminal** to improve operational efficiency, increase utilization, and enhance flood protection.
- **Implement coastal resilience measures at Hampton-Seabrook Harbor and Rye Harbor**, including shoreline stabilization, site and utility improvements for flood mitigation, and storm resiliency.
- **Develop and implement a sediment management and dredging program** to address recurring siltation, particularly at Hampton-Seabrook Harbor.
- **Establish a sustainable funding strategy** to support long-term maintenance, capital improvements, and system modernization.

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2026

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EXECUTIVE SUMMARY

The 2026 New Hampshire State Rail Plan reports 461 miles of rail track, including publicly and privately owned within the State of New Hampshire. This total trackage, 461 miles, will be referred as “the state’s rail trackage or the state’s rail network”. While primarily used for transporting freight, the state’s rail also includes two Amtrak-operated passenger services supported by the States of Maine and Vermont on selected routes and three tourist excursion railroads on trackage not currently included in the national system. Approximately 195 miles of the state’s rail track is state-owned (42% of the in-state total). The New Hampshire Department of Transportation (NHDOT) has management responsibility and leases this trackage to private (tenant) railroad operators for freight and tourist excursion railroad operations. Approximately 266 miles are owned by private railroads, with one Class 1 railroad (CSX Transportation) operating 121 miles. Ridership on Amtrak’s Downeaster and Vermonter services have recovered and are returning to pre-Covid levels. Train safety incidents in New Hampshire remain low and not related to railroad operations. On both public and private operations railroad equipment and facilities are well maintained operated efficiently.

2017 NH COMPARISON: C-

2025 NATIONAL COMPARISON: B-

CONDITION AND CAPACITY

The physical condition of the New Hampshire rail track is adequate for the current freight rail traffic and passenger travel levels. Although, segments of state-owned track are limited to 263,000 pound carloadings. The North American freight rail industry standard loading capacity for standard (4-axle) freight cars is a maximum Gross Rail Load (GRL) of 286,000 pounds. Track that does not meet that GRL results in load limitation (263,000 pounds per car). As of 2021, only approximately 35% (161 miles) of the total state rail network could handle 286,000-pound carloads. Much of the state-owned track is light 75#, 85# and 90# per yard, non- controlled cooled rail in excess of 100 years old. This small, brittle, older rail contributes to carload weight and train speed restrictions. Double-stacked intermodal containers on flatcars are also a North American freight rail industry priority, with private railroads and other states more aggressively undertaking projects to address clearance restrictions. As of 2021, only 16% (76 miles) of New Hampshire's rail trackage had adequate double-stacked clearance, with the most common obstruction being overhead bridges that preclude double stacking and decrease operational efficiency.

Figure 1: NH Statewide Rail Network Map

Freight Traffic

In 2021, total rail volumes reached over 4.2 million tons, over 54,000 carloads, and $86 million in value. Approximately 23 percent of rail freight tonnage is associated with shipments either originating or terminating in New Hampshire, There are nine freight railroad operators currently operating in New Hampshire. Most of the freight carried on New Hampshire's railroad network is "bridge traffic," which refers to goods that originate on one railroad and pass through the state on a second railroad to reach their destination. The state's railroad operators are important facilitators of importing and exporting resources for local businesses, carrying approximately 393,414 tons of New Hampshire products and goods, mostly aggregate (95%), from the state in 2021. The state is a net receiver of rail freight from out-of-state, primarily petroleum, lumber, wood products, cement, and chemicals.

Over 50% of the state's rail track is Federal Railroad Administration (FRA) Class 1 track with maximum allowable speed of 10 miles per hour for freight. As of 2021, about 40% of the state's rail track was FRA Class 3, allowing speeds up to 60 miles per hour. Sections between Plaistow – Rollinsford and Walpole – Cornish are FRA Class 4, allowing speeds up to 80 miles per hour.

Table 1: New Hampshire Freight Railroad Trackage by Operator and FRA Track Class

Railroad	Miles Owned	Miles Operated	Miles Leased	Trackage Rights Mileage	Mileage be FRA Track
CSX	121	121	0	34	NH Main Line: Class 1; Freight Main Line -Amtrak: Class 4; Hillsboro: Excepted
Green Mountain	1	1	0	0	Excepted (Primarily Yard Trackage)
New England Southern	0	18	18	54	Class 1
New Hampshire Central	0	64	64	4	Class 1
New England Central	29	29	0	0	Class 3 or Class 4, Class 1 in West Lebanon
St. Lawrence & Atlantic	0	58	58	0	Class 3
Milford- Bennington	0	18.6	18.6	5.4	Excepted, Class 2 in Wilton
New Hampshire Northcoast	49	49	0	0	Class 2

The high percentage of low-speed Class 1 track is indicative of primary tonnage being moved carload commodities over those lines not requiring time-sensitive delivery. Time-sensitive commodities are being shipped on lines supporting bridge traffic justify the expense of maintaining Class 3and 4 ratings. In part because of the COVID-19 pandemic, freight tonnage has declined, although there are indications of potential traffic rebounds.

Passenger Travel

Two intercity Amtrak passenger rail routes pass through New Hampshire. The Vermonter offers one daily round trip between St. Albans, Vt., and Washington, D.C. While primarily supported by the state of Vermont and has five stops that are proximate to New Hampshire residents, including one stop in Claremont. From 2019 to 2023 the combined annual ridership of these five New Hampshire- proximate stops, including Claremont, is over 35,000 riders. The track is FRA Class 4 track and segments see train speeds up to 80 miles per hour.

The Downeaster provides five daily round trips between Boston, Portland, Maine, and Brunswick, Maine. It has three stops in New Hampshire in Durham, Dover, and Exeter. In 2025, annual ridership at New Hampshire stations was 173,576 passengers. Although below previous highs, this figure represents a significant recovery from the low ridership because of and during the pandemic. The trackage is FRA Class 4 track and segments see train speeds up to 80 miles per hour.

OPERATION AND MAINTENANCE

Railroad operations are governed by FRA regulations. Private railroads maintain their own maintenance-of-way staff, equipment and budgets. State of New Hampshire railroad operating leases contain maintenance of way contribution minimum requirements of 20% of gross operating revenues for freight operations and 10% of gross operating revenues for passenger/tourist excursion operations. All Railroad Operators of the state-owned lines have met or exceeded this requirement.

State of New Hampshire railroad operating leases also require the tenant Railroad Operators to pay a portion of their gross operating revenue to the State in the form of a Railroad User Fee. Freight operations pay 5% of gross operating revenues and tourist operations pay 10% of gross operating revenues. In accordance with state law (NH RSA 228:69), 20% of Railroad User Fees are distributed annually to the cities and towns through which the active state-owned railroad lines pass. The remaining 80% of Railroad User Fees becomes restricted revenue (the Special Railroad Fund) that the Department can program and use for the purchase, operation, or maintenance of state-owned railroad lines and property. The Department continually works with its tenant Railroad Operators to program and expend the funds for eligible work and expenses, such as the acquisition of materials and services to support maintenance and repair of the state-owned railroad lines. The Special Railroad Fund includes projects such as tie replacements, minor bridge repairs, brush & vegetation control, tree removal, bridge inspections, crossing repairs and ballast. NHDOT staff meet annually with individual Railroad Operators to review specific maintenance-of-way plans and needs for the upcoming years to help inform the Department's programming and prioritization of these funds.

FUNDING AND FUTURE NEED

Although freight and passenger rail interests are known to present operating challenges freight rail through New Hampshire has benefited from trackage improved for the Amtrak operations on the Connecticut River Line and the CSX freight line to Portland Maine with enhanced train velocities. Both lines have continuous welded rail and recent tie replacement projects have allowed for increased speed limits for both freight and passenger services.

Freight Operations

There is limited state funding available to assist railroads in improving the state's rail network. However, there are some state-related funding options for railroads. The Special Railroad Fund, created in July 1, 1981, is a non-lapsing fund comprised of income derived primarily from operating agreements of tenant railroads as well as other income-generating approved uses (e.g., leases and crossings) of state-owned railroad lines. Funds are managed by NHDOT and are dedicated to the maintenance and repair of state-owned railroad lines. Approximately $880,000 is budgeted per state fiscal year through the Special Railroad Fund.

The Railroad Revolving Loan Fund, established by the State Treasurer in 1994, is available to

privately-owned (Class III railroad and Cog Railroad) railroad lines and their equipment. The loan offers financial assistance to these operators for projects such as track rehabilitation and purchasing equipment. Seven different railroad operators have utilized 19 loans through this program. Loans ranged from $29,000 to $1.8 Million for projects including the purchase and/or repair of locomotives, railroad cars and maintenance of way equipment. Other projects completed include track and bridge rehabilitation and upgrades. Two separate State appropriations totaling $4.0 Million dollars in 1994 and 1996 furnished the available funding for the program. All railroads participating have either repaid their loans or are current with the loan payments. There is only one loan currently open. There have been four reappropriations as principal repayments replenished the program, based on the $4.0 Million ceiling established by the State Legislature. The Department is currently in the planning phases for the next loan solicitation.

The state's Capital Budget, a biennial solicitation and budgeting process whereby both NHDOT and privately-owned railroads can request funds for railroad-related projects, is another source. NHDOT has traditionally received Capital Budget appropriations, of varying funding levels, for capital projects which are used to supplement the Special Railroad Fund. By way of more recent examples, the following State Capital Budget appropriations were made to the Department: Railroad Bridge Repairs & Replacements ($620K in 2023), Railroad Culvert Repairs & Replacements ($525K in 2023) and Railroad Tie & Rail Replacement Projects ($500K in 2023 and $826K in 2025). Privately-owned railroads separately submit Capital Budget project requests, usually agreeing to match state appropriations at a 1:1 ratio with private railroad funds. These railroad operators have been awarded funds for culvert, bridge, resurfacing, and crossing projects on their privately-owned lines and, if awarded, the funds flow through the Department via a contract with the private railroad. In 2023, NH Northcoast Railroad was appropriated $250K and St. Lawerence & Atlantic Railroad was appropriated $500K and in 2025, NH Northcoast Railroad was appropriated $450K.

The federal government also offers programs geared toward railroad infrastructure. NHDOT participates in the Federal Highway Administration's Section 130 Railway-Highway Crossings Program, which provides funding for the elimination of hazards at public railway-highway crossings. Crossing improvements can be made on privately-owned and state-owned railroad lines. New Hampshire's set- aside was $1.2 million in Fiscal Year (FY) 2026.

Privately-owned railroads have also sought, and in some cases secured, federal grants to make improvements to their lines in recent years. These investments included the TIGER Grant of $20 Million for Track and other improvements for the route of the Amtrak Vermonter including section of the New Hampshire Connecticut River Line operated by the New England Central Railroad. In 2014 TIGER Grant Transportation of $1.4 Million for New Hampshire Northcoast Rail Improvements, and $30 Million TIGER Grant for replacement of Portsmouth, New Hampshire – Kittery, Maine bridge including rail component. Housing and Urban Development grants of $475,000 and $800,000 for continuous welded rail installation on the St. Lawrence & Atlantic Railroad line in northern New Hampshire. CRISI Grant for completion of the continuous welded rail installation on the St. Lawrence & Atlantic

Railroad line in Vermont, Maine and 6+ miles of track in New Hampshire. Federal funds were also utilized to undertake track rehabilitation and improvements and Positive Train Control signaling and appurtenances for CSX's Plaistow to Rollinsford line, which is also the route of the Amtrak Downeaster. Privately-owned railroads have continued to invest their own funding into maintenance and improvement projects. Recent privately funded large-scale investments for replacing ties, surfacing and at-grade crossing rehabilitation have been made on the CSX freight-only lines in Hillsborough and Merrimack Counties, and rail replacement on the CSX line into Portsmouth and Newington, New Hampshire.

Passenger Rail Opportunities

Southern New Hampshire, including the two most populous cities of Manchester and Nashua, does not currently have any passenger rail service. Therefore, transportation within and through that region relies heavily on ground transportation and the highway network. Over the last several decades there have been several planning and phased project efforts related to passenger rail services, either commuter or intercity style, in Southern New Hampshire. These collective efforts and the corridor from Concord-Manchester-Nashua-Lowell (MA) are referred to as "the New Hampshire Capitol Corridor."

The two most recent of these NH Capitol Corridor efforts that NHDOT managed are: (1) the New Hampshire Capitol Corridor Rail & Transit Alternatives Analysis (December 2014), which evaluated the feasibility of potential rail and transit alternatives and investments in the New Hampshire Capitol Corridor and (2) the Nashua-Manchester Project Development Phase (Winter 2023) for the design, environmental review, and development of a financial plan for a commuter rail line extension from Lowell, MA to Nashua and Manchester, NH. In addition to addressing in-state issues including necessary improvements to the line, the significant highway congestion impacting New Hampshire commuters in Massachusetts and cost apportionment complicate future opportunities.

NHDOT has no planned next steps, including construction, for the New Hampshire Capitol Corridor. There are also currently no projects or funding related to the New Hampshire Capitol Corridor included in NHDOT's Ten-Year Transportation Improvement Plan or the State's Operating or Capital Budgets.

PUBLIC SAFETY

The safety of the New Hampshire transportation network, including the rail network, remains a paramount consideration and safety-related railroad investments and improvements should continue to be considered even though railroad safety incidents have not been prevalent in New Hampshire. There have been no recent major railroad incidents in the state, mostly occasional single wheel or individual car derailments. Between 2014 and 2024, total annual accidents and incidents were under ten for every year with the exception of 2019, indicating that such incidents are rare. Over this eleven-year period, injuries ranged from a low of two in 2018 and 2014, to a high of eight in 2019, corresponding to the year with the highest total number of

incidents. Over this period, there were six rail-related fatalities. The low number of rail incidents in New Hampshire is due in part to the low levels of traffic observed across the State, especially in comparison to other states.

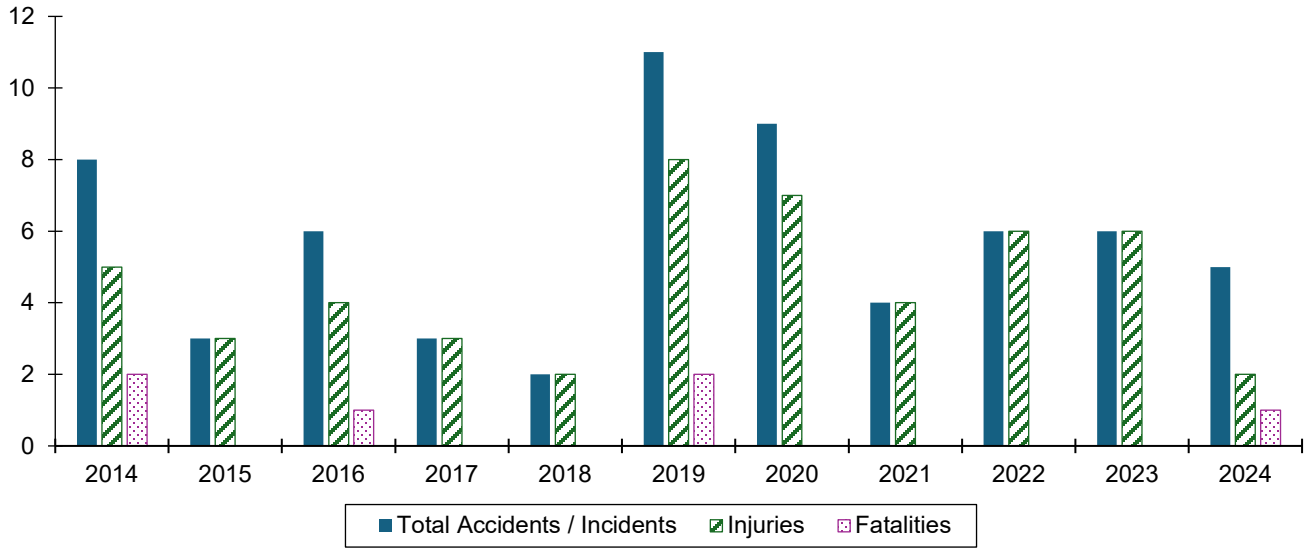

Figure 2: NH Rail Accidents/Incidents & Safety Metrics (2014-2024)

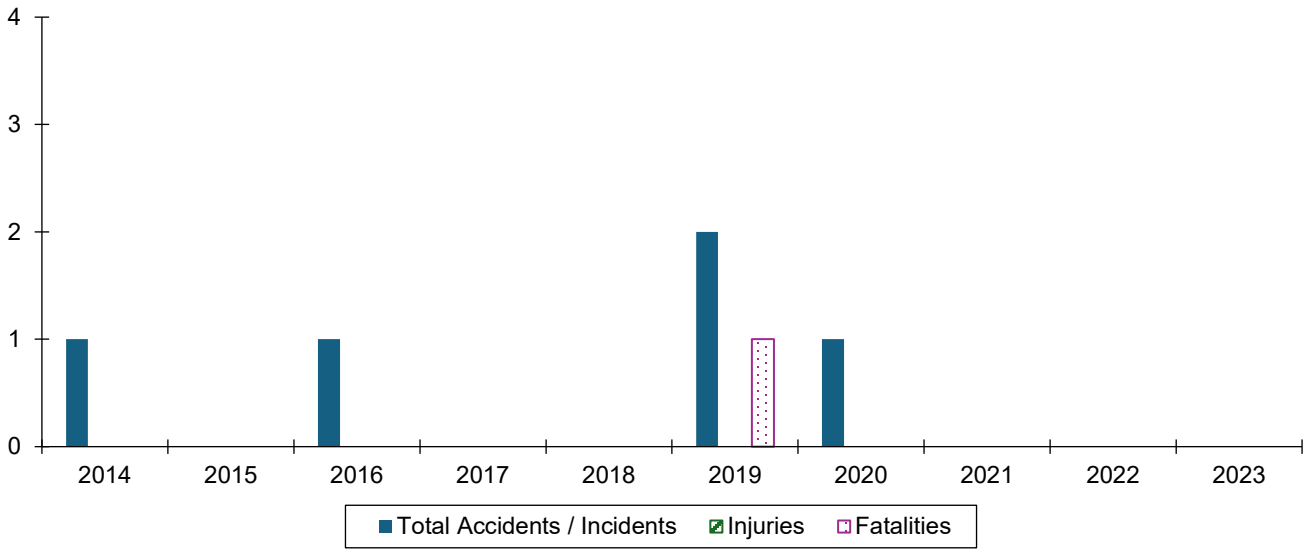

Figure 3: NH Crossing Crash Severity Metrics by Year (2014-2024)

Overall, safety incidents involving grade crossings in New Hampshire are rare. There was a total of five such incidents between 2014 and 2023. One of those incidents resulted in a fatality.

Railroad Operator conduct annual safety trainings for operating and maintenance of way personnel. Department of Transportation employees that work with the railroads and on highway-railroad related projects participate in these trainings to qualify for on-track access.

RESILIENCE AND INNOVATION

While the state rail network has low resiliency due to a lack of redundancy of routes, the railroads in New Hampshire generally operate and maintain their infrastructure adequately and in compliance with state and federal regulations.

New Hampshire rail lines have faced impacts from extreme weather and shared costs with the Railroad Operator and the Federal Emergency Management Agency to repair damage including replacing track and culverts. All damaged lines have been restored to pre-event conditions. The Department's Bureau of Rail & Transit has and intends to continue to partner with the Bureau of Aeronautics in the utilization of Unmanned Aircraft Systems to enhance track, bridge and structure inspections. The Department of Transportation has incorporated the state-owned rail lines in its inventory of drainage facilities and is utilizing the information gathered by the identification and inspection of the facilities to improve maintenance of them.

RECOMMENDATIONS TO RAISE THE GRADE

As New Hampshire considers the future of rail, several factors may be useful to keep on the planning horizon. These include:

- **Use the State Rail Plan and the State Freight Plan** as a guide to support improvement to the multimodal freight network, enhance safety, and provide capacity improvements
- **Support a financial and regulatory environment** that grows private rail investment and innovative funding options.
- **Enact public-private rail partnerships** to enhance both freight and passenger services for more efficient operations.
- **Encourage passenger rail infrastructure investment in high-population centers** particularly focused on the NH Capitol Corridor, which may relieve system stress on other modes of transportation.
- **Leverage long-term partnerships** with federal, state, and local agencies; freight railroads; passenger railroads; and neighboring States to facilitate resilience of the current and future rail network
- **Consider additional investments** because while the service levels (freight delivery schedules and frequency of passenger service) are generally adequate for today's shippers and passengers, future increases in either freight or passenger service will be limited without additional investments.

SOURCES

NHDOT Bureau of Rail & Transit. American Association of Railroads. "New Hampshire State Rail Plan" May 2026

Northern New England Passenger Rail Authority. June 2026

Statistics, observations, and comments provided by NHDOT Bureau of Rail & Transit. 2026

ROADS

2026

C+

EXECUTIVE SUMMARY

New Hampshire's roadway system is showing measurable improvement, with 86% of the state highway system in good or fair condition, an 18% improvement over the past decade. Sustained annual investment of $60 million to $100 million has enabled the New Hampshire Department of Transportation (NHDOT) to meet or exceed condition targets across all roadway types. Strategic pavement management and prioritization have improved overall system performance. Despite this progress, funding challenges remain. Revenue sources such as the gas tax are becoming less effective due to increased fuel efficiency and adoption of alternative-fuel vehicles, while upcoming shifts in debt service obligations will further constrain available funding. Although capacity is generally adequate, safety concerns persist, including elevated traffic fatality trends. NHDOT also faces ongoing staffing challenges, with an average vacancy rate of 20–25% for several years. Maintaining current conditions and advancing performance will require continued investment, improved revenue strategies, and a focus on workforce, safety, and resilience.

2017 NH COMPARISON: C-

2025 NATIONAL COMPARISON: D+

BACKGROUND

NHDOT manages two distinct roadway systems, the Highway System of statewide roads and the Turnpike System of tolled roads, which total 4,899 miles. These two systems are operated, funded, and managed differently but serve the same goal of providing safe, reliable, and efficient transportation for the residents of NH.

The Highway System comprises approximately 4,600 centerline miles of roadway and 1,989 bridges across a tiered system that prioritizes infrastructure based on traffic volume and system importance. The system tiers are as follows:

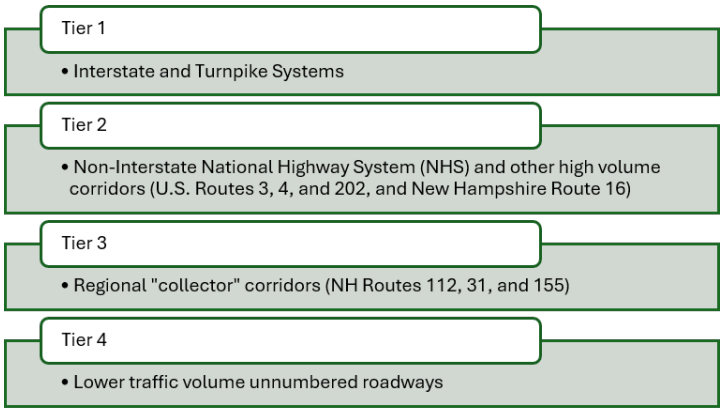

Figure 1: New Hampshire Highway System Tiers (source: https://www.dot.nh.gov/nhdot-resurfacing-program)

CAPACITY AND CONDITION

The New Hampshire Turnpike System comprises of 273 centerline miles, 172 bridges, and 49 interchanges. These miles are mostly Tier 1 roads, including Interstate 95, the Spaulding Turnpike, and the F. E. Everett Turnpike from the Massachusetts border to the junction of Interstates 93 and 393 in Concord. The Bureau of Turnpikes manages these assets effectively as a business unit within NHDOT.

New Hampshire relies heavily on the economic impacts of tourism, especially during the Summer and Fall seasons. The Department of Business and Economic Affairs (BEA), Division of Travel and Tourism (DTTD) expects the forecast for visitation and spending for New Hampshire's 2025 summer travel season to total just under 4.6 million, with visitor spending anticipated to come in slightly below $2.6 billion. To compare, New Hampshire's population is roughly 1.4 million. This large influx in visitors contributes significantly to road congestion and infrastructure strain. New Hampshire's roads carried nearly 13.9 billion vehicle miles of travel in 2024, up 15% since 2000.

Table 1: Congestion and Costs/Fuel Wasted (Source: TRIP, Keeping New Hampshire Mobile: Providing a Modern, Sustainable Transportation System in the Granite State, March 2026)

Location	Annual Hours Lost to Congestion Per Driver	Annual Cost Per Driver	Annual Gallons of Fuel Wasted Per Driver
Merrimack Valley	34	$561	7
Seacoast Region	30	$604	7

Most of the freight in New Hampshire relies on trucks for at least one portion of its supply chain. The majority of freight tonnage in New Hampshire is moved by truck: nearly 81% of total freight tonnage. In 2024 New Hampshire's freight system moved 81.2 million tons of freight, valued at $117 billion.

New Hampshire's two road systems, the Highway System and the Turnpike System, have different performance expectations. The Highway System is managed across a broader network and has more variability in condition based on available funding. The limited miles contained in the Turnpike System adhere to high condition standards with strict targets of greater than 90% in good condition. Data for local roads outside of the Highway and Turnpike Systems is not available.

Pavement conditions in New Hampshire are evaluated using the International Roughness Index (IRI), which classifies roads into good, fair, poor, and very poor ride quality categories.

In 2018, the NHDOT established condition targets for all four roadway tiers, which helped with prioritizing investments to achieve the targets. Currently all tiers are meeting or exceeding their targets. Data from 2024 shows that 86% of the state's Highway System is rated in good or fair condition, an 18% improvement over the last 10 years and a 7% improvement over the last five years. This improvement can be attributed to the increased use of pavement preservation

strategies and sustained, planned investments into the pavement asset.

Table 2: New Hampshire Highway Condition by Tier (source: NHDOT 2023 and 2024 Condition Data)

Tier	Good Condition (%)	Fair Condition (%)	Poor Condition (%)	Very Poor Condition (%)
1	96.1	3.9	0.0	0.0
2	73.7	20.9	5.3	0.1
3	48.4	39.8	11.5	0.3
4	21.3	43.7	31.0	4.0

Note: Highway road condition (including turnpikes) based on 2023 and 2024 data

The Turnpike System

Regarding condition targets, the Bureau of Turnpikes aims to have at least 90% of mileage in good condition, between 5-10% in fair condition, and no more than 5% in poor condition. Current Turnpike conditions meet these targets, with 99.7% of their roads in good or fair condition.

Table 3: New Hampshire Turnpike Condition (Source: NHDOT 2023 and 2024 Condition Data)

Tier	Good Condition (%)	Fair Condition (%)	Poor Condition (%)	Very Poor Condition (%)
1	95.3	4.4	0.3	0.0
Target	≥90	5-10	<5	0

New Hampshire continues to improve capacity with the addition of the Exit 4A interchange on I-93 in Londonderry, the widening of the F. E. Everett Turnpike in Nashua, Merrimack and Bedford, and upgrades to electronic tolling in Dover, Rochester, and Bedford. However, increasing inflation has played a major role in the number of projects able to be completed. The Federal Highway Administration's national highway construction cost index, which measures labor and materials cost, increased by 52% from the beginning of 2022 through the third quarter of 2025. This increase has contributed to the delay of major widening projects in critical areas such as I-93 Bow-Concord.

Roadway capacity is good compared to other regions of the country with future improvements focused on I-93 widening and upgrades to the Turnpike system. According to the Reason Foundation's 28th Annual Highway Report, New Hampshire ranks 19th in the nation in highway performance and cost-effectiveness.

OPERATION AND MAINTENANCE

Safety and mobility, especially in the winter months, are critical concerns to New Hampshire's transportation professionals. Working with the Governor's Office and the state's General Court through the budget process, NHDOT has developed a rigorous 24/7 winter maintenance policy which helps set the priority and frequency of plowing. Bureau employees strive to meet that policy and keep New Hampshire's roads open and safe.

Non-winter activities on or adjacent to the roadways that help keep New Hampshire moving include drainage cleaning and repair, mowing and tree cutting, debris clearing, pavement patching, and sweeping. Maintenance activities that occurred throughout 2025 include cleaning 19,000 drainage catch basins, washing of 1,113 bridges, and refreshing 67,200,000 feet of paint pavement markings. These maintenance activities are crucial in extending the longevity of NHDOT's assets. It is estimated that the replacement value of New Hampshire's transportation system would exceed $12 billion in roadways and $8 billion in bridges. The responsibility for operation and maintenance of New Hampshire's roads depends on the ownership of the road. NHDOT is responsible for the state highway system and municipalities are responsible for local roads.

Transportation officials in New Hampshire use a wide variety of pavement treatments depending on the condition of the roadway and the desired service life. These treatments are further categorized into the following strategies:

- Reconstruction (Building quality roads): Limited to NHDOT's Ten Year Plan capital improvement projects, such as the widening of I-93 Salem-Manchester.
- Rehabilitation (Restoring poor pavements): Mainly utilized on Tier 1 roadways, and cost-effectiveness is evaluated on a case-by-case basis.
- Preservation (Keeping good roads in good condition): Applies to constructed roadways that are in good condition to maintain them in good condition and reduce the need for more costly future rehabilitation treatments. The desired paving cycle for this strategy is 10 years.
- Light Capital Paving (LCP) (Keeping roads in working order): Applies to roads in reasonable condition, but not suitable for preservation. This is the most-used strategy and maintains the roads' serviceability. The desired paving cycle is seven years.
- Roughness (Keeping roads functional): The goal of this strategy is to restore very poor condition roads to fair condition. Then the LCP strategy can be applied to maintain it in acceptable condition.

Using the paving cycles described above, NHDOT maintains a three-year paving program, this means the Department is looking ahead at the next three years to determine what roads will become a priority for resurfacing. The three-year paving program is updated at the end of each construction season and currently contains approximately 1,500 miles of roadways to be resurfaced.

In recent years, NHDOT has experienced a 25% vacancy rate in across the Department. Many of these vacant positions play a pivotal role in ice control and snow removal on state highways and in repairing roadways in emergency events such as floods. Due to these vacancies, NHDOT also relies on contractor workforces to help keep roadways clear and safe for the public. In an effort to rebuild the State's workforce, NHDOT has put a focus on strengthening relationships with universities, developing training programs for early-career employees, and retaining current subject matter experts.

FUNDING AND FUTURE NEED

New Hampshire's roads rely on a variety of funding sources at the federal, state, and local level.

Primary funding sources are user-based revenue, including toll revenue, toll violation fees, gas tax, and registrations. The two different roads systems are funded by different sources. Turnpikes are bond-funded infrastructure that is backed by toll revenue. Therefore, toll revenue must go to debt services and cannot freely flow to the rest of the highway system. The main sources of state Highway System funding are the gas tax and vehicle registration fees. The Highway Fund, which is made up of revenue from gas tax and registrations, generates approximately $261 to $264 million annually. The Turnpike System Fund, which is made up of revenue from tolls, generates approximately $130 to $140 million annually.

In July 2014, New Hampshire enacted its first gas tax increase since 1991, increasing it to 23.8 cents per gallon, 22.2 cents of which contribute to the Highway Fund. The state gas tax rate is not indexed to inflations rates. The 2014 increase helped overall funding for roads and bridges, debt service, and municipal projects. Currently, New Hampshire ranks 41st in the country for State gas tax rates at 23.8 cents per gallon. The average state gas tax across the U.S. is approximately 34 cents per gallon. At 23.8 cents per gallon, New Hampshire falls below the average, limiting the state's ability to generate transportation revenue relative to peer states.

Several factors continue to erode the purchasing power of the gas tax, including political reluctance to increase the rate or index it to inflation, improved vehicle fuel efficiency, and the growing adoption of alternative fuel vehicles. To sustain infrastructure investment, New Hampshire should evaluate the gas tax to ensure it reflects a reasonable share of the price per gallon, while also exploring alternative revenue mechanisms to supplement or replace it.

Vehicle registration fees represent a significant and relatively stable source of transportation funding in New Hampshire. Over the past decade, total revenue from these fees has increased due to rising vehicle values and registration volumes. However, similar to the gas tax, the purchasing power of registration revenues has declined over time due to inflation and increasing construction costs. As vehicle technology evolves and fuel tax revenues decline, registration fees will continue to play an important role, though additional funding mechanisms may be necessary to sustain long-term infrastructure investment.

Federal funding sources also play an important role. New Hampshire benefited from a 26% increase in federal investment through the Infrastructure Investment and Jobs Act (IIJA) of 2021, which has supported roadway and bridge improvements through both formula funding and competitive grant programs. The IIJA provided New Hampshire with $1.1 billion in federal funds over five years for roads and bridges. While this funding has helped advance key projects and improve system conditions, it is set to expire in 2026 and does not support the state's long-term infrastructure funding needs.

One federal program New Hampshire has participated in is the Transportation Infrastructure Finance and Innovation Act (TIFIA) loan program. In the early 2010s, the state committed to a TIFIA pledge as part of the financing package for the I-93 Salem–Manchester

expansion project, dedicating a portion of state transportation revenues to repay the $200 million TIFIA loan. This pledge committed approximately $23 million annually to roads and bridges through Fiscal Year (FY) 2025. Starting in FY 2026, the revenue is now being used to pay the principal portion of the debt service for the loan. This means that NHDOT has $23 million less per year to pay for improvements to roads and bridges. Without funds available to fill this gap, pavement condition across the entire state will decline.

The Turnpike System depends on toll revenues, which must also be used to pay off debt service on bonds first, limiting the use of those funds for transportation projects. The Turnpike System is reported as an enterprise fund within the state and is funded mainly by toll revenue, with a small amount coming from fines and administrative fees paid for by toll violations. Toll rates for a passenger vehicle range from $0.50 to $2.00, depending on location, and were last increased in July 2009. The seven cash toll plazas were reduced to five with the implementation of All-Electronic Tolling in Dover and Rochester. Altogether, toll plazas generated $10.9 million in cash transactions in FY 2024.

In the latest update of the NHDOT Ten Year Plan (2025-2034), over $1 billion in road and bridge repairs were identified, primarily focused on maintenance and preservation projects along with a short list of larger capital projects. This is a shift from past years, which focused on expansion and major upgrades. Additionally, dozens of communities saw projects delayed, downsized, or excluded in this plan. Constrained revenues, rising construction costs, and the redirection of funds toward debt service limit the state's ability to advance new capacity projects.

PUBLIC SAFETY

New Hampshire had 0.99 traffic fatalities for every 100 million miles traveled in 2024, lower than the national average of 1.2. The fatality rate per 100 million miles of travel on New Hampshire's rural, non-Interstate roads in 2023 was significantly higher than all other roads in the state (1.3 vs. 0.80). From 2019 to 2023, 12% of those killed in New Hampshire traffic crashes were pedestrians or bicyclists.

Traffic fatalities decreased slightly from 2024 to 2025; however, the number has substantially risen in recent years. Vehicle crashes continue to be one of the leading causes of death in New Hampshire and in many cases are attributed to distracted driving, speeding, or driving while impaired.

Table 4: Roadway Fatalities in New Hampshire (Source: TRIP Addressing America's Traffic Safety Crisis Report, July 2025)

Year	2019	2020	2021	2022	2023	2024	2025
Fatalities	101	104	118	146	127	135	132
F/MVM*	0.73	0.87	0.90	1.10	0.96	0.99	0.96

** Fatalities/100 million Vehicle Miles Traveled*

NHDOT prioritizes public safety by performing network screening (an analysis of roadway factors, crash history, and traffic characteristics to identify high priority locations) and crash data analysis and conducting road safety audits in conjunction with local communities in support of the Highway Safety Improvement Program (HSIP). As a result, NHDOT has been able to identify several high-risk areas and implement elements to improve safety such as roundabouts (NH Route 127 and U.S. Route 202 intersection in Henniker) and all-way stops (Sheffield Rd and South Willow St intersection in Manchester). All-way stop improvements are favored by local communities due to their low cost, quick installation time, and effectiveness. Other measures used in New Hampshire to improve road safety include adding left-turn lanes at intersections, additional signalization/lighting at intersections, adding rumble strips, and including bike lanes and pedestrian crossing islands.

New Hampshire's Highway Safety and Active Transportation program was elevated from a section within the Division of Project Development's Bureau of Highway Design to a separate office reporting directly to the Assistant Commissioner/Chief Engineer in 2023. This organizational change acknowledges that highway crashes resulting in preventable fatalities and serious, life-changing injuries can no longer be tolerated and that NHDOT must have a role in driving the number of fatalities down to zero.

RESILIENCE AND INNOVATION

NHDOT continues to look for solutions that perform at a high level and are cost effective. As fiscal constraints and rising costs continue to be hurdles, extending the service life of pavements across the network remains a focus for NHDOT. Recent innovations include the increased use of polymer-modified binders. The introduction of stone matrix asphalt continues to be analyzed to determine its effectiveness with the first use taking place in 2024 on I-93 from Plymouth to Thornton. Both polymer-modified binders and stone matrix asphalt aim to improve a roadways resistance to rutting, cracking, and overall service life. NHDOT continues to convert existing cash toll plazas to overhead All-Electronic Tolling systems. This not only reduces congestion, but also increases efficiency and safety for motorists and provides environmental benefits by reducing emissions. Another innovation that has become more common throughout the state is the transition from in-ground signal detection loops to video detection cameras at signalized intersections to improve traffic flow and reduce idle time.

NHDOT also continues to evaluate and implement designs, both new construction and retrofits, that increase the roadway network's resilience. Coastal sea level rise and more frequent high-intensity rainfall events are among the most prominent threats to New Hampshire's infrastructure. In coastal New Hampshire, relative sea level has risen roughly seven inches since 1950 and is expected to rise an additional six to fifteen inches by 2050. NHDOT has developed a Resilience Improvement Plan (RIP) which establishes a statewide approach to assessing and managing risks to transportation assets from sea level rise, flooding, and storm surges. As a result of the plan, NHDOT has begun to implement resiliency measures including living

shorelines, the strategic placement of plants, stone, sand fill and other structural organic materials, to reduce erosion, improve wildlife habitat, and protect infrastructure. New Hampshire is also evaluating the use of permeable pavements as an interlayer to allow flood waters to pass through the roadway at a point below the driving surface. This would decrease or eliminate the depth of water accumulating on the surface, which would minimize the risk for hydroplaning and pavement deterioration.

RECOMMENDATIONS TO RAISE THE GRADE

- **Increase state and federal funding amounts to account for inflation** in order to continue to preserve roadway conditions at current levels.
- Determine path forward to **address decreased purchasing power** from gas taxes registration fees.
- Implement strategies to **address workforce challenges**, including workforce pipeline, retention of subject matter experts, and training for skilled maintenance positions.
- **Fully fund and expand safety programs**, both for roadway users and highway workers.
- Continue to **evaluate the use and effectiveness of resiliency measures** to ensure New Hampshire's infrastructure is protected from environmental threats.

SOURCES

"NH Department of Transportation Ten Year Transportation Improvement Plan, 2025 – 2034", 2025.

"NHDOT 2024 Annual Report", 2025

"NHDOT 2025 Annual Report", 2026 "TRIP Addressing America's Traffic Safety Crisis Report", 2025

"TRIP Key Facts About New Hampshire's Surface Transportation System Fact Sheet", 2025

"NHDOT 2024 Roads and Highways Facts & Figures", 2025

"NHDOT Announces 29% Vacancy Rate in Winter Maintenance Jobs, WMUR", 2024

"NH Tourism Officials Projecting 4.6 Million Travelers to Visit This Summer - NH Economy", 2025

"New Hampshire Statewide Freight Plan", 2025

"New Hampshire Population 2026", 2026

"TRIP: Keeping New Hampshire Mobile", 2026 "28th Annual Highway Report", 2026

SOLID WASTE

2026

C

EXECUTIVE SUMMARY

New Hampshire's solid waste industry has remained relatively stable for the last several years. The current infrastructure is considered satisfactory as the existing facilities are required to meet or exceed applicable federal, state, and/or local regulations. However, recent estimates suggest that the current in-state disposal capacity will only sustain New Hampshire's needs for approximately 10 years. To meet the state-wide solid waste diversion goals, improvements/upgrades to the waste diversion programs and in-state infrastructure are needed.

Despite a state waste management hierarchy that prioritizes diversion, New Hampshire continues to rely heavily on disposal. The estimated recycling rate (estimated to be 16.7% in 2024). The state waste disposal reduction goals, which were established by legislation (see RSA 149-M:2), are based on the quantity of municipal solid waste (MSW) and construction and demolition (C&D) debris disposed in 2018. The goals look for a 25% decrease by 2030 and 45% decrease by 2050, holding the per capita disposal of all other waste type quantities the same. At present, infrastructure for waste diversion, such as recycling and organics processing facilities, is limited. Legislative efforts, including food waste disposal restrictions, represent progress but have not yet significantly shifted system performance.

Projected long-term capacity shortfalls, combined with limited diversion infrastructure and policy uncertainty, highlight the need for investment, improved data collection, and stronger alignment between policy and waste reduction goals.

2017 NH COMPARISON: C+

2025 NATIONAL COMPARISON: C+

BACKGROUND

New Hampshire's solid waste system is structured around a combination of disposal, transfer, and limited diversion infrastructure. The system is regulated by the New Hampshire Department of Environmental Services (NHDES) and guided by the state's waste management hierarchy, which prioritizes waste reduction, reuse, and recycling over disposal methods such as incineration and landfilling. Despite this framework, disposal remains a primary component of the system.

NHDES permits six MSW landfills, one coal ash landfill, one waste-to-energy (WTE) facility, and one incinerator. The permitted incinerator is not currently operational and functions as a transfer station. Two of the MSW landfills, the coal ash landfill, and the WTE facility are privately-owned, one of the privately-owned MSW landfills is due to close in 2026. The remaining landfills have limited geographical service areas.

Supporting infrastructure includes 204 transfer stations, four C&D facilities, and two material recovery facilities (MRFs). Waste is managed through a combination of municipal collection programs, transfer stations, and private-sector operations, with both in-state and out-of-state waste contributing to total disposal volumes.

Figure 1 [see NHDES 2024 Waste Characterization Study] depicts the location of the various solid waste management facilities. As documented in Table 1 [see NHDES 2023-2024 Biennial Solid Waste Report], about 40% of waste disposed of in New Hampshire is from out-of-state sources.

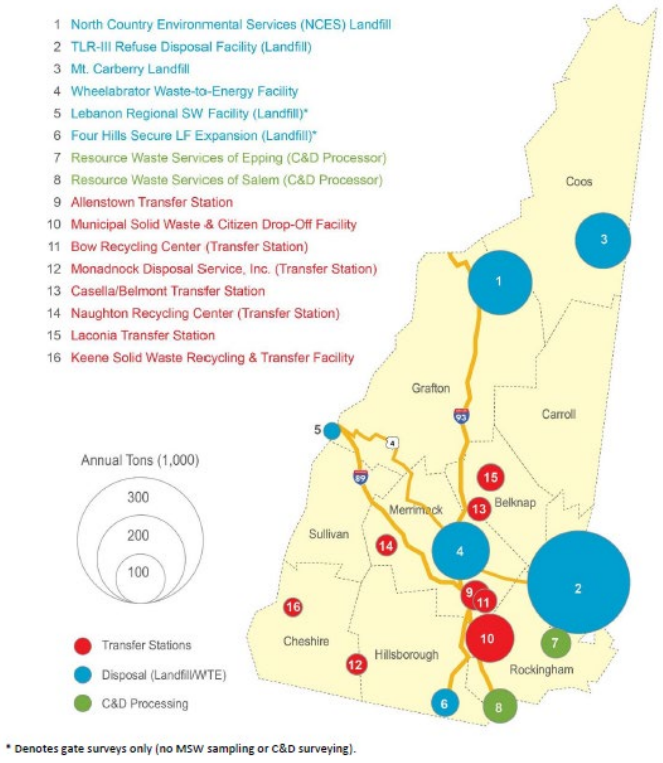

Figure 1. Host Facility Map
Source: Figure 1-1, NHDES 2024 Waste Characterization Study

Table 1. Solid Waste Disposed in New Hampshire 2022-2024
Source: Table 1.1, NHDES 2023-2024 Biennial Solid Waste Report

Year	Total Tons Disposed	Tons from In-State Sources	Tons from Out-of-State Sources	Percentage In-State Sources
2022	1,923,204	1,102,364	820,840	57%
2023	1,755,067	1,089,021	666,045	62%
2024	1,728,811	1,051,109	677,701	61%

As part of the New Hampshire 2026-2027 state budget, a solid waste disposal surcharge of $3.50 per ton was established. The surcharge is applied to customers who dispose of solid waste at a permitted New Hampshire solid waste disposal facility (i.e., landfill, waste-to-energy-facility, or incinerator). New Hampshire municipalities and solid waste districts (a cooperative of municipalities) that pay this surcharge can apply for reimbursement. The revenue collected by the surcharge will be used to fund the NHDES Solid Waste Bureau and grants for solid waste projects. (See RSA 149-R:4)

New Hampshire currently has sufficient in-state disposal capacity to meet approximately 10 years of disposal demand at its landfill facilities, with

longer durations available at certain limited-service public landfills. However, according to the NHDES 2023-2024 Biennial Solid Waste Report, and as noted in Table 2 long-term projections indicate a disposal capacity shortfall of approximately 1.2 million tons by 2045.

Table 2. Project Solid Waste Disposed Need and Capacity for in New Hampshire 2025-2045

(source: Table 6, NHDES 2023-2024 Biennial Solid Waste Report, please see report for full table notes)

Year	Projected Disposal Need (tons per year) *Assuming no change in current practices*	Disposal Need Per Disposal Goal (tons per year) *RSA 149-M:2*	Projected Disposal Capacity (tons per year) *Assuming no new capacity added*
2025	1,321,000	952,000	1,997,000
2030	1,351,000	853,000	1,747,000
2035	1,381,000	808,000	453,000
2040	1,411,000	762,000	453,000
2045	1,442,000	716,000	226,000

Expanding disposal capacity remains highly uncertain. New landfill development and expansions face significant regulatory requirements, public opposition, and legislative scrutiny. Multiple proposed projects have been appealed, and ongoing legislative activity has created uncertainty for future capacity planning. Specifically, passage of House Bill 707, which was signed into law on July 30, 2026, establishes a site evaluation committee for private, non-food waste solid waste facilities that handle more than 100,000 tons per year. While specifics as to the rules under which the committee will work have yet to be developed, the scope of this committee is broader than that established by the current solid waste rules. This additional regulatory hurdle for permitting new solid waste projects could hinder private development. This could impact municipalities, solid waste districts, and businesses to identify solid waste management solutions as in-state disposal options become limited.

The NHDES estimates that in 2024 approximately 136,000 tons of MSW were exported out of state for disposal. This value likely underestimates the total amount of exported waste as it does not include waste transported directly from a generator or residence to an out-of-state transfer or disposal facility.

CONDITION

New Hampshire's solid waste infrastructure is generally in satisfactory condition, as facilities are required to meet or exceed federal, state, and local regulatory standards. The NHDES maintains a compliance team that routinely inspects facilities and requires corrective action when needed. Facilities are required to document site conditions in quarterly reports as well as a comprehensive annual report. In 2024, the NHDES updated solid waste regulations to strengthen environmental protections by increasing design and operational standards to account for climate change, establishing stricter reporting requirements, and lowering reporting thresholds.

While infrastructure performance is stable, the system remains heavily dependent on disposal. This reliance indicates that, although facilities are functioning as intended, the system has not significantly transitioned toward higher-priority waste diversion practices such as reduction, recycling, and reuse.

Waste diversion (i.e., not sending waste to landfills) can be accomplished in several ways including: recycling, organics management, donations, disposal fees, and implementing sustainability programs. Effective diversion will preserve the disposal capacity of landfills, delaying the need for expansion and/or new developments. Waste diversion is critical to extending landfill life and avoiding future capacity shortfalls.

New Hampshire has established goals to reduce combined MSW and C&D disposal by 25% (weight based) by 2030 and 45% by 2050, relative to 2018 levels. As of 2024, disposal has decreased by 13.2% compared to 2018.

The recycling rate was approximately 16.7% (weight based) in 2024, which is below both historical levels (approximately 21%). These values may not fully capture diversion activity as reporting relies on municipal data and excludes some private-sector contributions and because the weight of recycled items has decreased.

New Hampshire has made progress to expand waste diversion through laws that ban items such as food waste from large generators (e.g., restaurants, institutions, etc.), Lithium-ion and Wet-Cell Batteries, electronic devices, leaf and yard waste, and mercury-added products. Also, thirty-nine (39) New Hampshire towns have *Pay As You Throw* (PAYT) programs where residents pay for the volume of waste they generate, rather than the typical flat rate. These programs have proven effective in decreasing solid waste collected and help manage the disposal costs for the municipality.

Despite these efforts, infrastructure gaps remain. There are only 10 facilities for food waste management (all composting facilities) and no facilities to process recycled materials in New Hampshire. Achieving the state's waste reduction goals will require investment in waste reduction education and additional infrastructure, including anaerobic digesters, recycling/transfer facilities, and on-site municipal composting facilities.

New Hampshire is largely focused on waste disposal. An emphasis should be put on source reduction to reduce the volume of waste generated prior to disposal. Source reduction can be through establishing food donation programs, redesigning the manufacturer's packaging of goods, setting standards for the recyclability of

materials (i.e., mattresses, paint, etc.), and addressing the true cost of waste by implementing deposits on bottles or bans on plastic bags.

Policy measures such as bottle bills, plastic bag bans, and extended producer responsibility (EPR) programs have been implemented in neighboring states and may influence future policy action in New Hampshire.

OPERATION AND MAINTENANCE

The active solid waste management facilities are owned, operated, and maintained by private waste management concerns, a municipality, or solid waste district. Closed solid waste facilities are maintained by the permittee. Each permitted facility is required to have a Closure Plan, which addresses facility closure and post-closure, as applicable (typically only for landfills). Financial assurance mechanisms are required by regulation to be established by the permittee for estimated facility closure and post-closure costs. The estimated costs and the financial assurance mechanism must be approved by the NHDES. Typically, funding for these costs are through the fees charged by the facility.

Each active solid waste management facility is required to have, and keep updated, a facility Operating Plan. By regulation the Operating Plan outlines the operating, maintenance, and reporting requirements of the facility. For landfills, the Operating Plan also addresses procedures related to decomposition gas management and disposal of leachate. Many facilities are also regulated by applicable stormwater management permits. Groundwater management permits are required for many facilities, especially landfills.

FUNDING

The funding mechanisms for the development, operation, and closure of solid waste facilities varies by facility ownership. Municipal facilities are funded through taxes, user fees (i.e., tipping fee), and some operate under an Enterprise Fund. Private facilities are funded by the corporation and user/tipping fees. Through the permitting process, the NHDES requires the applicant to demonstrate financial backing (through bonds, banks account, letter of credit, etc.). For facility closure and landfill post-closure, the estimated costs must be updated no less than every three years. In 2022, the New Hampshire legislature established a Solid Waste Management Fund, which received $1 million in the 2024-2025 state budget. Half of this funding is designated for grants to help reduce and divert food waste. The NHDES is currently in the rule making process for those grants and no grants have been awarded as of 2026.

As of January 1, 2026, waste accepted at the active solid waste disposal facilities is subject to a surcharge fee of $3.50 per ton. Based on historical volume estimates, the surcharge is expected to generate enough revenue to fund the

NHDES Solid Waste Bureau and a grant program. In 2024, approximately 1.8 million tons of MSW were accepted at the MSW landfills and the WTE with approximately 40% of the waste imported from out-of-state sources. (This does not account for MSW generated in New Hampshire and exported to facilities beyond New Hampshire's borders.)

Public and private facility operators continue to invest in infrastructure, including recycling/diversion, landfill gas-to-energy systems, and emerging technologies for per- and polyfluoroalkyl substances (PFAS) treatment. These investments are partially supported by state grant funding.

PUBLIC SAFETY, RESILIENCE, AND INNOVATION

Compliance with NHDES solid waste management rules is very strict, requiring deviations and other non-routine matters to be considered as a reportable incident. New Hampshire is fortunate in that there have no failures of significance at solid waste facilities other than some lithium battery fires at transfer stations. Because of this, some transfer facilities have installed sophisticated thermal detection and fire suppressant systems. NHDES is addressing PFAS in leachate through grant programs and some sites have taken advantage of these grants. Some landfill owners/operators establish their own additional restrictions on waste types accepted, but these are not statewide mandates.

The 2022 Solid Waste Management Plan issued by the NHDES consists of eight (8) goals for reducing and managing solid waste that is generated, reused, recycled, or disposed of in New Hampshire. These goals, which address public safety, system resilience, and innovation, include:

1. Reducing the quantity of solid waste generated;
2. Reducing the toxicity of the solid waste stream;
3. Maximizing the diversion of residential, commercial and industrial solid waste from disposal;
4. Ensuring adequate capacity for management of New Hampshire-generated waste;
5. Developing local markets for waste diversion;
6. Encouraging solid waste infrastructure and practices that support State and Federal climate change initiatives;
7. Ensuring that solid waste policies and regulations support State and Federal environmental justice initiatives; and
8. Ensuring sustainable funding source(s) to support solid waste management initiatives.

Consistent with federal guidelines, the NHDES waste management hierarchy prefers source diversion, such as recycling and composting above disposal methods such as incineration and landfilling. However, since the hierarchy was established, New Hampshire's waste management infrastructure has not significantly shifted from reliance on disposal.

The disposal diversion rate remains below target due to factors including reduced material weight, high program costs, limited processing infrastructure, and insufficient market demand for recycled materials.

New Hampshire recently completed a waste characterization study and retained a firm to perform a Food Waste Generator Study, which are intended to be used to help support the objectives and initiatives of the New Hampshire Solid Waste Management Plan.

Over the past few years, there have been numerous legislative efforts to promote waste diversion. While New Hampshire recently enacted a statuary ban on landfilling food from restaurants, institutions, and grocery stores within 20 miles of a facility that manages food waste, it is too early to report on the outcomes of this legislation. Revised statutes and regulations have made siting, design, operation, and closure of solid waste facilities technically, operationally, and economically more restrictive.

Improved alignment between New Hampshire's solid waste management goals and legislation would better position New Hampshire in achieving its goals. There should be legislative incentives to reduce materials designated for disposal at MSW landfills and provide end use opportunities for diverted materials. Well-crafted legislation along with increased public education about solid waste issues and incentives for waste diversion opportunities are needed. While there is still work to do, progress is moving in the right direction.

Waste diversion (i.e., not sending waste to landfills) can be accomplished in several ways including: recycling, organics management, donations, disposal fees, and implementing sustainability programs. Effective diversion will preserve the disposal capacity of MSW landfills, delaying the need for expansion and/or new developments. Waste diversion is critical to extending landfill life and avoiding future capacity shortfalls.

New Hampshire has established goals to reduce combined MSW and C&D disposal by 25% (weight based) by 2030 and 45% by 2050, relative to 2018 levels. As of 2024, disposal has decreased by 13.2% compared to 2018.

The recycling rate was approximately 16.7% (weight based) in 2024, below both historical levels (approximately 21%) and the statewide goal of 40%. These values may not fully capture diversion activity as reporting relies on municipal data and excludes some private-sector contributions and because the weight of recycled items has decreased.

New Hampshire has made progress to expand waste diversion through laws that ban items such as food waste from larger generators (e.g., restaurants, institutions, etc.), Lithium-ion and Wet-Cell Batteries, electronic devices, leaf and yard waste, and mercury-added products. Also, thirty-nine (39) NH towns have *Pay As You Throw* (PAYT) programs where residents pay for the volume of waste they generate, rather than the typical flat rate. These programs have proven effective in decreasing solid waste collected and help manage the disposal costs for the municipality.

Despite these efforts, infrastructure gaps remain. There are only 10 facilities for food waste management (all composting facilities) and no facilities to process recycled materials. Achieving the state's waste reduction goals will require investment in additional infrastructure, including anaerobic digesters, recycling facilities, and on-site municipal composting facilities.

NH is largely focused on waste recycling and disposal. An emphasis should be put on source reduction to reduce the volume of waste generated prior to disposal. Source reduction can

be through redesigning the manufacturer's packaging of goods, setting standards for the recyclability of materials (i.e., mattresses, paint, etc.), and addressing the true cost of waste by implementing deposits on bottles or bans on plastic bags.

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The NHDES Materials Management, Education and Planning Section provides training and education to solid waste facility operators and the public. The Program administers funds awarded from the Solid Waste Infrastructure for Recycling States & Territories grant program. In 2024, grant money was used to conduct the state's first ever waste characterization study. The study supported the implementation of the food waste disposal ban and the development of educational and outreach initiatives for recycling and waste reduction to New Hampshire citizens. This includes the Solid Waste Operator Training (SWOT) which hosts workshops, training and (re)certifications for solid waste operators. In 2024, SWOT and NH Recycles hosted a food waste diversion and composting workshop for solid waste organizations and facilities. SWOT also implements food waste diversion programs in communities, supported by outreach and

public participation.(See NHDES Waste Reduction and Diversion, and Solid Waste Disposal Surcharge documents)

NH Recycles (formerly the Northeast Resource Recovery Association), based in Epsom, New Hampshire, is the oldest and largest cooperative-model recycling nonprofit in the United States. NH Recycles partners with communities to improve recycling programs through economic and environmentally sound solutions. Both NH Recycles' and NHDES' websites offer educational and technical assistance to the public.

The state currently lacks specific data on risks to its solid waste infrastructure from natural disasters, as assessing these risks would require detailed studies of individual facilities. Nevertheless, the State Emergency Operations Plan and its associated Recovery Plan address natural disaster response, including disaster debris management. The Recovery Plan, now being updated through a multi-agency effort led by the New Hampshire Division of Homeland Security and Emergency Management designates the NHDOT as the lead agency for implementing the Debris Management Plan, with the NHDES providing regulatory guidance and information on waste management facilities.

Recent updates to New Hampshire solid waste rules have improved climate change resiliency for active and future landfills by increasing stormwater management requirements to larger storm events. However, without comprehensive risk data, the potential impact of a natural disaster on public health and safety remains uncertain. Compounding these challenges, the state is not currently driving new innovations, as proposed policies remain stalled in the legislature.

Materials that contain PFAS are disposed of in landfills resulting in PFAS-contaminated landfill leachate and landfill gas. New Hampshire landfills generate about 96 million gallons of leachate each year. Considering this, the NHDES has offered grants to solid waste facilities to research PFAS treatment and destruction technologies.

RECOMMENDATIONS TO RAISE THE GRADE

- **Revise facility reporting requirements** to obtain better data on which progress toward the state's goals can be measured.
- Encourage **legislative efforts** to:
    - Reconsider PFAS additives to consumer products;
    - Promote food waste diversion programs;
    - Promote the establishment of resource recovery facilities and technologies aimed at recycling, composting, and energy recovery (e.g., anaerobic digestion, waste to energy);
    - Develop/strengthen in-state markets for recycled materials by supporting companies involved in diversion technologies and material reprocessing;
    - Streamline the regulatory permit application review process to expediate project development;
    - Reconsider certain single use plastics (e.g., grocery bags, beverage container) and/or establish plastic collection facilities; and
    - Establish material disposal diversion programs for specific products such as paint, batteries, and mattresses.
- **Streamline the application and approval processes** for NHDES grants to improve/modernize existing solid waste management infrastructure.
- **Consolidate small transfer stations at a county or regional level** to improve efficiency, increase marketability of materials, expand diversion options, and lessen the financial burden on local economies.
- **Invest in PFAS research** aimed at analyzing, treating, and understanding the health effects.
- Assess the state's solid waste infrastructure from the **potential risk to natural disasters.**

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STORMWATER

2026

D+

EXECUTIVE SUMMARY

Stormwater infrastructure in New Hampshire is aging, underfunded, and increasingly strained by development pressures and more severe storm events. Many systems were constructed prior to 1970 and are approaching or exceeding their intended service life. Development expansion increases impervious surfaces which continues to increase runoff volumes and flooding risk.

Under the U.S. Environmental Protection Agency's (EPA) Municipal Separate Storm Sewer System (MS4) permit program, communities face expanding requirements related to reducing pollutants, improving infrastructure mapping, and maintaining existing systems. However, funding remains limited and is primarily supported through local property taxes. Unlike neighboring states, New Hampshire has no municipal stormwater utilities.

Increasing weather extremes are expected to further stress existing systems through more frequent and intense precipitation events. The 2022 Clean Watersheds Needs Survey, New Hampshire requires nearly $1.3 billion in stormwater infrastructure needs to improve capacity, reduce flooding, and protect water quality. Significant investment is needed to reduce costly flooding and protect water resources that support communities, ecosystems, recreation, and local economies.

2017 NH COMPARISON: D+

2025 NATIONAL COMPARISON: D

BACKGROUND

Stormwater runoff occurs when rainfall or snowmelt cannot infiltrate into the ground and instead flows across impervious surfaces such as roads, parking lots, sidewalks, and rooftops. In developed areas, stormwater is typically collected and conveyed through drainage infrastructure such as ditches, catch basins, manholes, and pipes before directly discharging into rivers, lakes, wetlands, and/or coastal waters.

As communities in New Hampshire steadily expand and impervious surfaces increase, larger runoff volumes are generated with higher velocities, becoming "express lane" couriers for all the pollutants collected from the urban landscape. Managing and maintaining properly functioning stormwater systems to accommodate the increase in runoff volume and runoff velocity is critical to reducing the risk of urban flooding, protect property and infrastructure, minimize erosion, and improve water quality in New Hampshire.

CAPACITY AND CONDITION

Stormwater quality requirements are primarily regulated through the EPA's MS4 permit program. Approximately 60 out of 234 municipalities in New Hampshire are regulated by this program, including most of the larger communities in southeastern New Hampshire and along the seacoast.

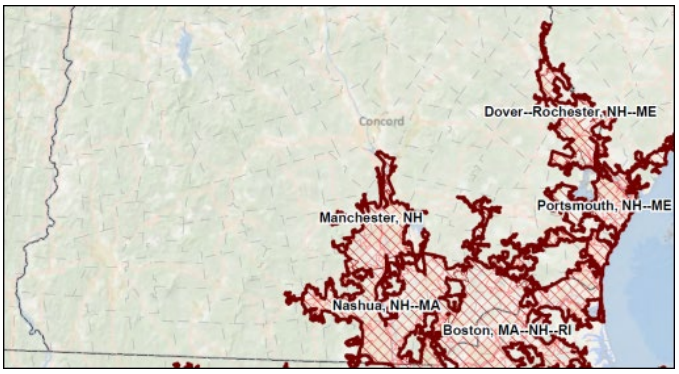

Figure 1: NPDES Phase II Regulated Areas in New Hampshire (Source: EPA)

The MS4 Permit establishes six minimum control measures that outline requirements for eligible communities. These requirements include mapping the stormwater system, sampling infrastructure during dry and wet conditions, establishing a comprehensive operation and maintenance plan, and implementing Stormwater Control Measures (SCMs) to treat stormwater and improve water quality. Permittees are also required to enact regulations to encourage implementation of Low Impact Design (LID) and Green Infrastructure (GI) practices in redevelopments or new developments. A seventh minimum control is applicable to any communities that contain and/or discharge to any water quality impaired waterbodies and those with Total Maximum Daily Loads (TMDLs).

New Hampshire has an abundance of water resources, including nearly 17,000 river miles, over 180,000 acres of lakes and ponds, and approximately 100 square miles of estuarine waters. The New Hampshire Department of Environmental Services (NHDES) is responsible for monitoring water quality conditions throughout the state and the most recent assessment performed in 2024 found that approximately 50.5% of the impaired waterbody segments are impaired due to stormwater influenced parameters. NHDES also develops and regulates TMDLs for impaired waterbodies, whereby limits are established for daily contributions of certain pollutants such as phosphorus and nitrogen.

The quality and condition of stormwater infrastructure in the state directly affects the quality and condition of New Hampshire's water resources. Stormwater infrastructure in New Hampshire has evolved over time as the state has grown. Systems built in some older communities during the late 1800s through the 1920s were often constructed as combined stormwater and wastewater systems, and some sections of combined sewer still remain in place to this day, though substantial efforts have been undertaken in many communities to separate storm and sanitary sewers. Brick or block structures, vitrified clay pipes, and even granite blocks were commonly used in older urban centers prior to the 1940s. The 1950s through the 1970s saw the introduction of corrugated metal and reinforced concrete pipes. Between 1980 and 2000, existing stormwater systems were expanded to meet the needs of the growing population. During this time, synthetic materials such as high-density polyethylene (HDPE) and PVC with much longer lifespans became more common, particularly for smaller diameter pipes.

Throughout the 2000s to present day, the Phase II MS4 Permit program has encouraged implementation of SCMs, including GI practices like infiltration basins and rain gardens designed to mimic natural stormwater processes to provide additional volume storage, remove or capture pollutants, promote groundwater recharge, and reduce flow rates in conventional "Gray Infrastructure" stormwater drainage systems.

Similarly to how the MS4 Permit program regulates stormwater infrastructure within municipalities, the NHDES' Alteration of Terrain (AoT) permitting program regulates land development by requiring developers to design projects with consideration for stormwater control and treatment. AoT regulations include requirements to minimize pollutant discharges, improve groundwater recharge, protect channels and water quality, and control peak runoff for large redevelopment or new development projects. The New Hampshire Stormwater Manual, developed in part by NHDES and UNH's Stormwater Center, provides developers and designers with guidance in the selection, design, and application of SCMs and GI practices.

Much of New Hampshire's stormwater infrastructure was constructed prior to 1970 and is approaching or exceeding its intended service life. Available statewide stormwater asset inventories remain limited, however, municipal systems collectively contain thousands of miles of storm drain pipe and tens of thousands of drainage structures. The City of Manchester alone maintains approximately 200 miles of drain pipe and roughly 9,000 catch basins, excluding combined sewer infrastructure.

The EPA and NHDES are working with New Hampshire communities including Berlin, Exeter, Manchester, Nashua, and Portsmouth, to eliminate or reduce flows from 30 total active CSOs within the state. Manchester alone is responsible for 15 of these connections and is currently implementing a 20+ year plan which is estimated to cost as much as $231 million to control and reduce the amount of overflow during storm events. The City of Lebanon's combined sewer system was responsible for discharging nearly 14 million gallons of combined wastewater and stormwater into the Connecticut River each year. Between 2009 and 2021, all seven CSO outfalls within the city were eliminated by investing over $70 million in infrastructure improvements and sewer separation projects.

Comprehensive condition assessment programs are still developing throughout New Hampshire. Many municipalities lack complete stormwater inventories, formal asset management programs, or long-term replacement planning. Anticipated updates to the MS4 permit are expected to require expanded asset management and inspection programs moving forward.

OPERATION AND MAINTENANCE

Like all infrastructure, stormwater infrastructure requires continuous monitoring and periodic maintenance to remain functional. Properly functioning stormwater systems are especially critical because they mitigate flood risk for other infrastructure systems. Typical maintenance activities include catch basin cleaning, jetting and cleaning of pipes, roadway sweeping, culvert maintenance, and inspection of stormwater quality treatment systems. Maintenance requirements vary considerably depending on land use, infrastructure age, sediment loading,

winter sanding operations, and system configurations. Water quality treatment systems and stormwater control measures often require more frequent maintenance to preserve pollutant removal efficiency and long-term performance.

MS4 communities are required to map their stormwater infrastructure, which encourages communities to proactively plan inspections and maintenance of their system. However, smaller non-regulated communities have no such requirements for mapping, and paired with a limited available workforce, are more likely to reactively maintain their stormwater infrastructure in response to issues or failures. Given the disparity in stormwater infrastructure records throughout the state, there is no way to determine exactly how many miles of storm drains there are in New Hampshire. NHDOT manages what is likely the largest portion of the state's stormwater infrastructure, including over 1,950 lane-miles, throughout which approximately 19,000 drainage structures are estimated to be in use.

Expected infrastructure lifespan varies widely depending on material type, environmental conditions, installation quality and maintenance practices.

Even well-maintained infrastructure will eventually require replacement, meaning communities should plan on replacing approximately 1% to 2% of their stormwater infrastructure on an annual basis based on an assumed 50 to 100-year lifespan. Given the extensive amount of stormwater infrastructure present within urbanized areas, even a medium sized community should plan on budgeting several million dollars annually on routine infrastructure replacement and upgrades of drainage infrastructure.

FUNDING

Maintenance and improvements of stormwater infrastructure in New Hampshire is primarily funded through property tax collection and annual local budget appropriations, unlike drinking water and wastewater systems which are typically funded through user-based fee mechanisms. Budget allocations for stormwater vary by community depending on population, land area, existing infrastructure, and whether the community is subject to requirements of the MS4 permit program. Due to the limited portion of local funds appropriated to stormwater improvement, any emergencies or unforeseen maintenance costs risk unbalancing the budget or could require the re-allocation of funds needed for other community services.

Although this funding mechanism is not uncommon historically throughout the U.S., many communities in other states have started introducing stormwater utilities, which generate funding through a fee based on the amount of impervious surface on each property. Public stormwater utilities provide communities with a dedicated funding source which can only be used for stormwater management, maintenance, repairs, and regulatory compliance. Stormwater utilities are generally perceived to promote fairness, as residential properties with limited impervious surface pay very little in comparison to properties that generate more runoff, like commercial properties with large buildings and large parking lots.

New Hampshire is one of only six states in the U.S. without a municipal stormwater utility. Although state legislation authorized stormwater utilities in 2008, no municipality has implemented a program to date. As of March 2026, several larger communities including Dover, Concord, Manchester, Nashua, and Portsmouth have explored the feasibility of implementing a stormwater utility but have yet to enact a program. The City of Dover got as far as developing an ordinance but was voted down in December 2023.

Neighboring states including Massachusetts, Vermont, and Maine have established stormwater utilities in multiple communities to provide dedicated funding for maintenance and capital improvements.

Table 1: Stormwater Utilities and Average Annual Fees in Neighboring States (2026) (source: WKU)

State	# of Communities with a Stormwaters Utility	Average Annual Residential Fee
Massachusetts	31	$ 102.04
Vermont	9	$ 56.26
Maine	8	$ 67.24

As of March 2026, several larger communities including Dover, Concord, Manchester, Nashua, and Portsmouth have explored the feasibility of implementing a stormwater utility but have yet to enact a program. The City of Dover got as far as developing an ordinance but was voted down in December 2023.

In 2021, additional one-time funding for stormwater improvements was made available at the federal level through both the American Rescue Plan Act (ARPA) and the Infrastructure Investment and Jobs Act (IIJA). While some stormwater projects benefited from these programs, much of the funding statewide was directed toward drinking water and wastewater infrastructure needs. Although this funding was useful in allowing for upgrades of some stormwater infrastructure, it was insufficient to meet the full needs of New Hampshire. Other funding sources include the Clean Water State Revolving Fund (CWSRF) stormwater asset management planning for smaller municipalities in the state, and pass-through grant funds from the EPA under Sections 604(b) and 319 of the Clean Water Act to assist local government subdivisions or nonprofit organizations with impaired waters restoration and watershed protection.

FUTURE NEED

Stormwater infrastructure investment needs continue to grow statewide. In 2010, the New Hampshire Stormwater Study Commission estimated an investment of approximately $182 million was necessary to meet the stormwater management needs of the state [approximately $280 million in 2026 dollars]. A more recent study, the EPA's 2022 Clean Watersheds Needs Survey, estimated approximately $1.1 billion [approximately $1.3 billion in 2026 dollars] in required stormwater investment statewide.

Table 2. New Hampshire State Stormwater Needs Survey Results (2022) (source: EPA)

Needs Category	CWNS Needs	Additional State Needs	Total State Needs
Stormwater Management	$ 767,624,637	$ 140,195,805	$ 907,838,442
Nonpoint Source Control: Hydromodification	$ 36,783,664	$ 135,651,293	$ 172,434,957
Total Needs	$ 804,426,301	$ 275,847,098	$ 1,080,273,399

There is currently no statewide Capital Improvement Plan (CIP) for stormwater, however CIPs for stormwater exist in varying degrees at the municipal/local level in New Hampshire. Many communities continue to address stormwater infrastructure reactively rather than strategically through long-term capital improvement planning. Larger MS4 communities typically have multi-year capital plans, while smaller municipalities often rely on emergency repairs or annual operating budgets.

The needs identified above show how inaction can lead to increased investment needs. Although the monetary cost to improve stormwater management in New Hampshire is high, the potential cost of inaction is even greater. Additional investment will be necessary to replace aging infrastructure, improve drainage capacity, enhance water quality treatment, and address increasingly severe storm events. Furthermore, anticipated updates to the MS4 permit program are likely to place additional responsibility on communities, likely requiring even greater investment from communities and taxpayers.

PUBLIC SAFETY

Stormwater infrastructure failures and insufficient drainage capacity directly affect public safety by generating urban floods which can lead to erosion, property damage, infrastructure disruption, and the discharge of contaminants and pollutants into waterbodies.

In 2006, a flooding event which came to be known as the "Mother's Day Flood" dropped as much as fifteen inches of rain over three days, leading to the worst flooding in New Hampshire since the Hurricane of 1938. The Merrimack River which runs through both the state capital (Concord) and largest city (Manchester) crested as much as ten feet above flood stage which led to closures of over 600 roadways as well as instances of inundated sewage systems due to flooding. In the 20 years since, FEMA has declared 21 major flood disasters in New Hampshire. Between 2011 and 2024, New Hampshire received approximately $63.2 million through FEMA and HUD for post-disaster funding for flooding related disasters. Over time the frequency of declared disasters has increased significantly, with eight of the last major flooding disasters occurring in the past five years alone.

However, not all floods in New Hampshire are declared disasters. Localized flooding from thunderstorms and similar events can cause just

as much damage as widespread floods. If the total cost of repairs or replacement doesn't meet the per-capita criteria for FEMA assistance, communities must either apply for competitive state grants which take time and may not be successful, or use their own local funds to foot the bill. Given the increasing trends of precipitation and storm intensity, New Hampshire communities must prepare for greater investment in their stormwater infrastructure to maintain public safety and infrastructure integrity.

Changing weather conditions are expected to lead to more frequent and extreme storm events, meaning that storms of a larger magnitude are likely to happen more often and cause even more flood damage in the coming years. In 2006, a flooding event which came to be known as the "Mother's Day Flood" dropped as much as fifteen inches of rain over three days, leading to the worst flooding in New Hampshire since the Hurricane of 1938. The Merrimack River crested as much as ten feet above flood stage which led to closures of over 600 roadways as well as instances of inundated sewage systems due to flooding. Changing weather conditions are expected to lead to more frequent and extreme storm events, meaning that storms of a larger magnitude are likely to happen more often and cause even more flood damage in the coming yearsFollowing the Mother's Day Flood, the state invested $1 million in federal grant funds to develop the New Hampshire Stream Crossing Initiative, where communities have been collecting and compiling drainage infrastructure data since. This dataset helps communities identify problematic areas that could cause public safety issues during flood conditions, leading to investment in critical infrastructure replacements and repairs that otherwise may have gone unattended.

Flooding due to stormwater infrastructure failure or insufficiency not only causes structural damage in communities but can also exacerbate the pollution of waterbodies in the state. Through the permits discussed in this report, communities in New Hampshire are working towards meeting TMDL goals to improve the condition of waterbodies and reduce the potential health risks to humans, pets, and wildlife. NHDES regularly monitors waterbodies and beaches to track harmful pollutants and algal blooms, and provides residents and visitors with data to help them make informed decisions about where to swim or fish.

RESILIENCE AND INNOVATION

Assessments and predictive modeling based on data from the National Oceanic and Atmospheric Administration (NOAA), American Meteorological Society (AMS), New Hampshire State Climate Office (NHSCO) and numerous other state and federal organizations predict upward trends in storm intensity and frequency in New Hampshire. Increases in annual precipitation, more intense rainfall events, and greater variability between drought and extreme precipitation conditions are expected to collectively increase stress on stormwater systems throughout the state.

Although it is difficult to define exactly how the precipitation changes will affect stormwater in the state, it can be confidently said that New Hampshire's current stormwater infrastructure is in many cases severely undersized to handle any degree of increased storm intensity and frequency.

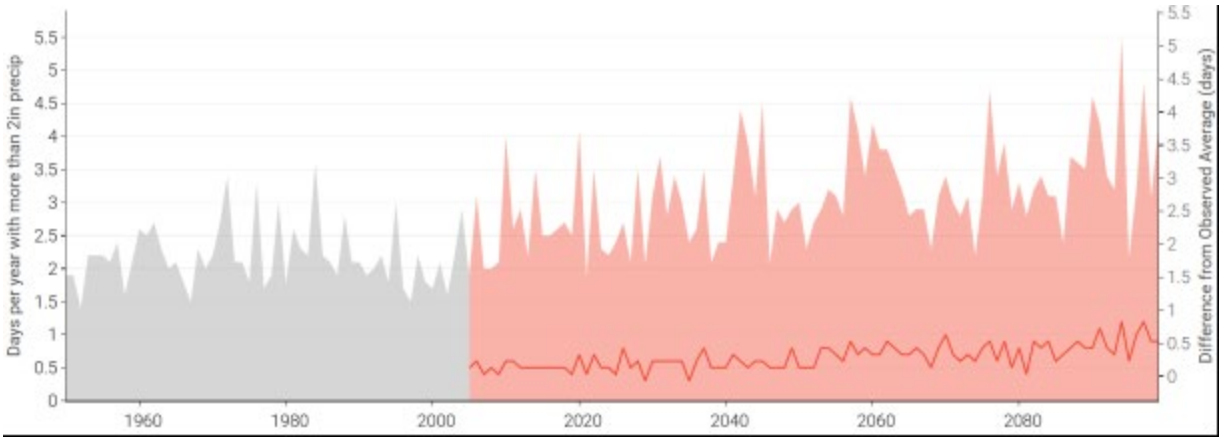

Figure 2: Anticipated days with over two inches of rain in Concord, NH if emissions continue to increase

(Source: National Environmental Modeling and Analysis Center)

According to NOAA and other federal and state assessments, New Hampshire's climate is expected to transition to a wetter, warmer climate with greater frequency and intensity of storms. Precipitation across New Hampshire increased 10-15% over the 20th century, a trend that is expected to increase, especially during winter and spring months. Given these projections, communities in New Hampshire can expect an increased need for stormwater infrastructure spending, whether that involves increasing existing capacity, extending infrastructure to new areas, or finding creative ways to combat the unpredictable changes to come.

Recognizing the modeled climate trends and the current condition of stormwater infrastructure in New Hampshire, state and federal regulations such as the MS4 and NHDES' Alteration of Terrain (AoT) permits have been revised to require municipalities and developers to in part consider severe storms during the design, construction, and maintenance of new or existing stormwater systems. These permits also require permittees to address some level of pollutant removal, for any new development, redevelopment, or subdivision project exceeding a specific footprint or located proximally to a vulnerable resource.

In addition to modifying regulations to promote resiliency in stormwater infrastructure, the New Hampshire Division of Homeland Security and Emergency Management assists communities throughout the state with identification of potential hazards, development of Hazard Mitigation Plans, and provide funding for local projects dedicated to breaking the cycle of damage, reconstruction, and repeated damage.

Innovation

New Hampshire's varying communities are increasingly exploring innovative stormwater management approaches focused on resiliency, water quality improvement, and distributed runoff reduction.

Traditional end-of-pipe stormwater treatment systems can be difficult and expensive to retrofit within densely developed urban areas. As a result, municipalities are increasingly evaluating the feasibility of implementing distributed stormwater management approaches including LID, GI, and Nature-Based Solutions (NBS). Many cities and larger towns in New Hampshire have begun installing alternative stormwater treatments including infiltration systems,

bioretention areas, permeable pavement, and green streets. Additionally, many municipalities in New Hampshire have modified local regulations so that projects which disturb one acre or more are required to incorporate green stormwater management methods in their designs as part of new and reconstruction projects, and integrate decentralized treatment systems into roadway reconstruction and redevelopment projects for cost-efficiency.

Figures 3-4: Two bioretention basins constructed for stormwater runoff treatment in Manchester, NH *(source: Comprehensive Environmental Inc.)*

Expanded use of GIS-based asset management systems and data-driven maintenance tracking also has the potential to improve prioritization of repairs, infrastructure replacement, and long-term capital planning. Additionally, the University of New Hampshire (UNH) Stormwater Center is continuously researching and developing more effective stormwater modeling and design methods that remove pollutants and reduce the degradation of waterbodies in the state. The UNH Stormwater Center offers technology demonstrations, specialized training, and field workshops to communities to promote effective and innovative stormwater management strategies.

Soak up the Rain New Hampshire

On the micro-level, residents throughout the state have become increasingly cognizant of the growing issues facing stormwater infrastructure in their communities. New Hampshire's voluntary Soak Up the Rain program helps conservation associations, institutions, businesses and residents with implementing simple stormwater solutions where the need otherwise might go unnoticed by those who don't live, work, or study in the area. As of 2026, the program has helps construct 27 green infrastructure projects in public areas or on private residences throughout the state.

Figures 5-6: Rain garden constructed by students and faculty *at Phillips Exeter Academy in Exeter, NH with help from the Soak Up the Rain New Hampshire program sponsored by NHDES (source: Soak Up the Rain New Hampshire)*

Expanded use of GIS-based asset management systems and data-driven maintenance tracking also has the potential to improve prioritization of repairs, infrastructure replacement, and long-term capital planning.

RECOMMENDATIONS TO RAISE THE GRADE

- **Increase dedicated federal and state funding** available to communities specifically for stormwater improvement projects.
- **Expand financial support and technical assistance** to help communities develop asset management, inventory, and tracking systems to prioritize upgrades and enhancement
- State assistance and guidance to **help communities develop municipal stormwater utilities** if desired.
- Promote the **use of innovative stormwater management and treatment practices** to treat stormwater and improve flood resiliency.
- Explore the feasibility of **establishing permitting "shortcuts"** to reduce the time and cost for implementing stormwater and similar flooding-related improvement projects

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WASTEWATER

2026

D+

EXECUTIVE SUMMARY

Well-functioning wastewater collection and treatment systems are critical to protecting public health and maintaining the quality of New Hampshire's rivers, lakes and coastal areas. Overall, New Hampshire's wastewater systems need significant upgrades to replace aging infrastructure and comply with more stringent regulatory requirements. Limited funding assistance, workforce availability, and lack of community engagement are significant barriers to maintaining and upgrading wastewater infrastructure.

2017 NH COMPARISON: D+

2025 NATIONAL COMPARISON: D+

BACKGROUND

Approximately 40% of New Hampshire's population is served by wastewater collection and treatment systems, with the majority of the population served by private on-site disposal systems consisting of a septic tank and leach field. These private on-site systems require regular pumping, recommended every 3 to 5 years based on use, to maintain proper operation and system longevity. The pumped liquid must be discharged at a municipal wastewater treatment plant (WWTP) for processing and treatment. There are 80 Publicly Owned Treatment Works (POTW) in the state, and 42 municipalities with collection systems only that discharge their collected wastewater either directly or indirectly to another community's POTW. A majority of POTWs discharge treated wastewater to surface waters, with the remaining discharging subsurface. Treatment systems vary in size. Many treat less than 1.0 million gallons per day with the state's largest plants treating more than 20 million gallons per day.

New Hampshire's wastewater collection systems date back to as far as the 1870s. The early collection systems were "combined" conveying both sanitary and stormwater flows via gravity discharging them to local waterways. The state's collection systems grew as communities developed and populations increased. Wastewater collection system materials, construction methods, and operations evolved as technology and regulations evolved. Over the industry's first 100 years, gravity pipe construction material evolved from brick, vitrified clay (VC), and tar/fiber to reinforced concrete, polyvinyl chloride (PVC), and high-density polyethylene (HDPE). Manholes evolved from brick to reinforced concrete.

The majority of the state's wastewater treatment infrastructure and pump stations were constructed after passage of the Clean Water Act (CWA) in 1972. The CWA established water quality standards and provided federal and state funding to achieve compliance. A significant CWA regulation was the requirement for secondary

treatment. To achieve compliance with this regulation most eligible New Hampshire communities upgraded existing wastewater treatment plants or constructed new ones. Mechanical pump stations were introduced in the 1950s to convey wastewater flows that could not be conveyed via gravity systems. The majority of the state's pump stations were constructed after the passage of the CWA as communities expanded their collection systems and consolidated treatment facilities.

CONDITION AND CAPACITY

New Hampshire's wastewater collection and treatment systems face many critical challenges. The first challenge is the age and condition of wastewater systems. While many communities have made strides in eliminating combined sewers and reducing sewer overflows, much of the state's wastewater collection infrastructure is in poor or failing condition. The need for replacement of wastewater infrastructure statewide has been documented most recently in the 2022 Clean Watersheds Needs Survey, which identified $2.23 billion of wastewater infrastructure in need of rehabilitation or replacement by 2042. Wastewater collection systems constructed in the late 1800s have reached the end of their useful life and require rehabilitation or replacement. Many communities have a better understanding of their wastewater systems as a result of availability of funding for asset management plans involving inventory and condition assessment of their wastewater systems. The majority of the mechanical equipment installed at the treatment facilities and pump stations constructed under the CWA in the mid-1970s to mid-1980s have reached the end of their useful life and require replacement. Some communities have instituted limits on additional sewer connections until the condition and capacity of their wastewater systems can be improved.

The second critical challenge facing the industry is increased regulatory requirements. As scientific detection methods have become more sophisticated, new regulations have been implemented. Many treatment plants now must treat for nutrients and metals, processes that they were not originally designed for in the 1970s and 1980s. Due to EPA's Total Maximum Daily Load regulatory requirements, seacoast treatment plants now have to treat for nitrogen, treatment plants along the Merrimack River now have to treat for phosphorus, and some plants have to treat for both. Major plant upgrades necessary to meet regulatory requirements are costly. Increased regulation on sludge disposal especially related to the presence of per- and polyfluoroalkyl substances (PFAS), has significantly increased the cost of sludge disposal. Lower permit limits present challenges for lagoon treatment facilities, of which there are many in small communities in New Hampshire. Stricter permit limits for nutrients and metals for these facilities may require upgrades to mechanical treatment facilities, at a cost of tens of millions of dollars. Also, removal of accumulated sludge in lagoons must be managed and properly disposed of to restore original treatment capacity or allow for proper closure of lagoons if major upgrades are needed.

The third critical challenge is a lack of sustainable funding. Through the CWA, communities depended on federal and state funding to construct new wastewater infrastructure. Because new facilities initially required little capital and operational investment from the community, many New Hampshire communities kept sewer rates below levels needed to fully support system costs. Over time, this practice has compounded, resulting in most wastewater utilities not generating sufficient revenues to fund operations, maintenance, and asset replacement. As a result, assets are not replaced at the end of their lifespan, increasing repair costs and the probability of failure. Communities attempting to upgrade these facilities now have to compete for limited funding.

The fourth critical challenge facing the state's wastewater industry is climate resiliency. The state's combined sewer infrastructure dating back 100 years was not designed for the current population, amount of impervious area, and increased storm intensities being experienced. The increased storm intensities may cause combined sewers and old collection systems with significant amounts of inflow and infiltration (I/I) to surcharge back into residents' basements, cause combined sewer overflows to the state's rivers, and increase the cost of treatment. Systems that lack resiliency may experience premature failure of assets or costly emergency repairs.

The fifth critical challenge is maintaining an experienced and knowledgeable workforce. Institutional knowledge and technical expertise are being lost faster than they can be replaced due to an aging workforce, a limited labor pool, and difficulties attracting new entrants to the industry. Negative public perceptions, limited awareness of career opportunities, increasing operational complexity, general decline in adequate staffing over time, and compensation that may not reflect the growing technical demands of wastewater treatment operations further hinder recruitment and retention. Without effective strategies to attract, develop, and retain qualified personnel and facilitate the transfer of institutional knowledge, these workforce challenges could compromise operational efficiency, regulatory compliance, and the long-term sustainability of wastewater infrastructure across the state.

OPERATION AND MAINTENANCE

Municipalities and utility operators are responsible for the routine operation, maintenance, and capital improvement of wastewater collection and treatment facilities. Routine maintenance typically involves regular inspection of pump stations and treatment plant processes; cleaning and inspection of sewer mains; emergency response to equipment failures, sewer overflows, and weather-related incidents; and updating and maintaining facility operation and maintenance manuals. If adequate personnel, equipment, and budget resources are available, needed repairs and replacements are completed by utility operators as a part of normal operations. Larger and more costly repairs are typically completed as a part of planned capital improvements. Historically, needed maintenance has been completed in a reactive manner. However, with the implementation of asset management programs

and NPDES requirements for Capacity, Management, Operations, and Maintenance (CMOM) plans, utilities are shifting toward proactive management of wastewater infrastructure. Smaller communities often operate with limited staffing and budgets, making it more difficult to perform comprehensive preventive maintenance while simultaneously responding to daily operational needs. Aging infrastructure further compounds these challenges by increasing maintenance demands. Asset management planning is increasingly viewed as a mechanism for prioritizing scarce resources and reducing long-term costs. Like many states, New Hampshire faces growing workforce challenges within the wastewater sector.

FUNDING AND FUTURE NEED

Funding the expense of maintaining and upgrading the state's wastewater assets is a significant challenge. New Hampshire's sewer bills in 2025 averaged $1,100 per household annually. For most utilities, these rates are inadequate to sustain their assets, meet new regulatory requirements, properly staff their facilities, and maintain adequate financial reserves for emergencies. Available funding programs include the State Aid Grant (SAG) program and the State Revolving Fund (SRF) program which provides low interest loans. The SAG program reimburses communities up to 30% of the eligible project cost. The SRF program provides low interest loans and subsidy in the form of principal forgiveness. Grants from the U.S. Department of Agriculture-Rural Development Agency and the U.S. Department of Housing and Urban Development are still available to small communities meeting specific program requirements. CWSRF loans are the only viable funding source for many wastewater infrastructure projects. In an economic climate where public safety, education, and roadways are in the forefront, the wastewater sector faces limited financial support and loans must be approved at a local level. The 2022 Clean Water Needs survey indicates that the cost of needed improvements to the state's wastewater infrastructure exceeds $2.2 billion (2022 dollars). The 2025 Clean Water SRF Loan program offered $65 million in loans and grants. This is only a fraction of our state's $2.2 billion need. The state's wastewater system did benefit from an influx of funding from the American Rescue Plan Act and Bipartisan Infrastructure Law. However, these funding sources are not ongoing and in order to provide more adequate funding to address the significant needs these programs should be continued. In summary, addressing the state's significant wastewater infrastructure needs will require sustained, coordinated investment from local, state, and federal sources to ensure communities can maintain reliable systems, meet evolving regulatory requirements, and protect public health and water quality for future generations.

PUBLIC SAFETY

Protection of public health and the environment is the primary objective of New Hampshire's wastewater regulatory framework. The New Hampshire Department of Environmental Services (NHDES) regulates wastewater treatment facilities through permitting, compliance inspections, operator certification, and oversight of discharges under the federal NPDES program. Wastewater treatment plants are required to meet effluent quality limits that protect rivers, lakes, estuaries, groundwater, and coastal waters from excessive nutrients, pathogens, suspended solids, and other pollutants. When collection systems or treatment facilities fail to adequately collect, convey, or treat wastewater, untreated or partially treated sewage can be discharged into the environment through sanitary sewer overflows (SSOs), combined sewer overflows (CSOs), treatment bypasses, or infrastructure failures. Such incidents can result in elevated bacteria levels, nutrient pollution, degraded aquatic habitat, shellfish bed closures, and restrictions on recreational use of surface waters. Communities along the Merrimack River and Seacoast have made significant progress in reducing combined sewer systems and reducing CSOs, but there are still sections of combined sewer that exist. New Hampshire does not typically experience large-scale, prolonged beach closures comparable to some heavily urbanized states. However, temporary advisories and closures occur each year due to elevated bacteria levels in recreational waters, particularly following heavy rainfall events due to stormwater runoff and impacts from failed or inadequate septic systems.

RESILIENCE AND INNOVATION

Severe weather is an increasing concern for wastewater infrastructure across New Hampshire. Facilities are vulnerable to inland and coastal flooding, extreme precipitation events, drought, extreme temperatures, high winds, and severe winter storms. These hazards can damage treatment plants, pump stations, electrical systems, and collection system infrastructure, potentially resulting in service disruptions or regulatory violations. NHDES has identified wastewater infrastructure resiliency as a statewide priority. To mitigate these risks, utilities and NHDES are pursuing several resilience strategies: Conducting climate vulnerability assessments for wastewater systems; incorporating climate adaptation measures into asset management plans and capital improvement programs; updating local hazard mitigation plans to address wastewater infrastructure vulnerabilities; evaluating flood protection measures, system redundancy, emergency power capabilities, and critical asset relocation where appropriate; and integrating resilience considerations into future infrastructure investment decisions.

Recent innovations in wastewater management include those related to disposing of biosolids. Historically, approximately 35% to 40% of wastewater sludge generated annually in New Hampshire was processed and beneficially reused through land application programs. However, recent changes to PFAS regulations and monitoring requirements have had a significant

impact on New Hampshire wastewater treatment plants, primarily in the areas of biosolids management, sampling and testing costs, disposal costs, industrial pretreatment programs, and long-term liability concerns. A major outcome of PFAS regulation has been a growing emphasis on source identification and source reduction. NHDES requires biosolids generators to describe measures taken to reduce PFAS concentrations, including sampling and identifying contributors within sewer service areas, public outreach and education efforts, coordination with state and federal agencies, and industrial pretreatment and discharge investigations. This represents a shift from treating PFAS as solely a wastewater problem to managing it as a watershed-wide and community-wide pollution prevention issue. Additionally, NHDES is working on implementing PFAS standards in biosolids for land application with recent legislation requiring rulemaking to being no later than June 30th, 2027.

RECOMMENDATIONS TO RAISE THE GRADE

Addressing the artificially low sewer rates remains critical for New Hampshire. Sewer rates should be based on the sustainability of the utilities' assets, the ability to meet new regulatory requirements, proper staffing of facilities to allow for proper operation and maintenance, and maintenance of adequate reserves to plan for large capital projects and pay for emergency work. To supplement communities until sustainable rates are achieved, NH-ASCE supports the establishment of a federal clean water trust fund to provide a reliable source of federal assistance for construction and repair of the wastewater infrastructure.

NH-ASCE supports the following recommendations:

- **Increase Federal funding for the State Revolving Loan fund (SRF) under Clean Water Act** and other existing funding such as USDA Rural Development
- **Identify new grant or loan programs** to fund wastewater improvements.
- **Adjust sewer rates to cover the total cost** of operating, maintaining and implementing capital improvements.
- Continue to **support funding for asset management and planning** to assist communities in prioritizing investment decisions.
- Continue efforts to educate citizens on the importance and true cost of wastewater treatment.

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