ALASKA GRADES

Aviation **C-**

Bridges **B+**

Dams **C+**

Drinking Water **D+**

Energy **D+**

Marine Highways **D**

Ports **C-**

Public Parks **C-**

Rail **C**

Roads **C**

Solid Waste **C**

Transit **C**

Wastewater **D**

GPA C

About the Grades

The 2025 Report Card for Alaska's Infrastructure was written by a committee of more than 50 civil engineers across Alaska who volunteered their time to collect and analyze data, prepare and review their findings and present their conclusions. The committee worked with staff from ASCE National and ASCE's Committee on America's Infrastructure to provide a snapshot of our state's infrastructure, as it relates to us locally and on a national level. The Report Card Sections are graded based on the following eight criteria: capacity, condition, funding, future need, operation and maintenance, public safety, resilience and innovation. ASCE defines these grades as follows:

- **A** – Exceptional, Fit for the Future
- **B** – Good, Adequate for Now
- **C** – Mediocre, Requires Attention
- **D** – Poor, At Risk
- **F** – Failing/ Critical, Unfit for Purpose

SOLUTIONS TO RAISE THE GRADE

1. **DEDICATED AND SUSTAINABLE FUNDING**
To address Alaska's infrastructure maintenance and improvement needs, establish better dedicated funding sources. With a gas tax that hasn't been raised since 1970 and reliance on federal funding, Alaska needs a sustainable model to ensure critical infrastructure projects aren't delayed due to insufficient funding.

2. **REGULATION FOR LONG-TERM PLANNING**
Implement long-term planning regulations for asset management across all infrastructure categories. Expanding Asset Management Plans to include non-federal assets would improve the prioritization and efficiency of infrastructure investments.

3. **ENHANCING RESILIENCE**
Incorporate resilience and risk management into project planning, maintenance, and operations to safeguard infrastructure against Alaska's unique climate challenges, such as extreme weather and seismic activity. This includes prioritizing resilience planning for transportation systems that provide critical access in emergencies.

4. **STRENGTHEN INTERAGENCY COORDINATION**
Strengthen leadership and interagency coordination at the state and local levels to align federal, state, and local resources effectively. This is essential for ensuring funding and timely delivery of multi-jurisdictional projects.

5. **WORKFORCE DEVELOPMENT AND PUBLIC INCLUSION**
Investing in hiring, retention, and training programs for operations and technical roles, and prioritizing community engagement can help address workforce shortages, ensuring that infrastructure projects are adequately staffed and aligned with local needs for successful execution and maintenance.

About ASCE-ALASKA

The Alaska Section encompasses Branches in Anchorage, Fairbanks, Juneau, Ketchikan and Mat-Su. There are also two Student Chapters, UAA and UAF, as well as a YMF group in Anchorage.

Currently, we have more than 800 members statewide.

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2025 REPORT CARD FOR ALASKA'S INFRASTRUCTURE

INFRASTRUCTURE MATTERS

Alaska's infrastructure faces unique challenges due to its vast geography, harsh conditions, and reliance on federal funding. Spanning 663,000 square miles with a population of 741,147, the state must address the needs of dispersed communities through specialized solutions. Transportation networks are fragmented, with limited connectivity and seasonal route shifts due to weather. Bridges and roads often face maintenance backlogs, while ports and harbors, vital for goods transport and industries like fisheries and tourism, struggle with aging infrastructure and inconsistent funding. Many rural areas still struggle with reliable water and wastewater systems, and even urban centers face challenges in managing waste under subarctic conditions. These complexities highlight the need for tailored strategies and investments. This report examines Alaska's infrastructure, showcasing accomplishments, challenges, and the investments necessary to build a more resilient future for the state.

Federal programs like the Infrastructure Investment and Jobs Act have been instrumental in funding Alaska's infrastructure projects. The state also leads in innovations such as cold-weather design, seismic resilience, and drone inspections. Despite these advances, securing long-term funding, especially for non-federal routes and smaller communities, remains a critical need. Ports and harbors are one such example of critical infrastructure for Alaska's economy, enabling the transportation of essential goods and supporting industries like commercial fisheries and tourism. Significant projects, such as the $2 billion modernization of the Don Young Port and the Arctic deep-water port in Nome, demonstrate the impact of federal investments.

Labor shortages and inflation are significantly impacting the operation and maintenance of Alaska's infrastructure. A reduced workforce in key industries, combined with rising costs for materials and services, has created challenges in maintaining existing assets. These factors strain limited budgets, especially in rural areas where logistical complexities amplify costs. Addressing workforce shortages through training programs and incentives, while finding cost-effective solutions to inflationary pressures, will be critical to ensuring the sustainability and efficiency of Alaska's infrastructure systems. To ensure progress, Alaska must prioritize increased funding for maintenance and upgrades, expand asset management practices to include all infrastructure, and enhance safety measures for critical assets. Continued adoption of sustainable practices and resilience planning is vital to addressing future challenges. Strengthening local and state funding mechanisms will complement federal investments and provide a stable foundation for ongoing improvements.

By addressing these priorities, Alaska can build a more resilient and inclusive infrastructure network, supporting its communities and industries for generations to come.

How You Can Get Involved

1. **Get the full story behind this Report Card at www.infrastructurereportcard.org/Alaska.**

2. **Ask your elected leaders what they're doing to keep up with your neighborhood's infrastructure. Use your zip code to get your list of elected officials' at www.infrastructurereportcard.orgtake-action.**

2025 REPORT CARD FOR ALASKA'S INFRASTRUCTURE

The 2025 Report Card on Alaska's Infrastructure gave the state an overall G.P.A. of C. Alaska's civil engineers studied thirteen infrastructure categories. Of those fourteen, one infrastructure categoy is in good condition, eight are in mediocre condition, and four categories are in poor condition.

The good news is there are solutions to all these challenges, and we can raise the grades of Alaska's infrastructure. By learning more today about the conditions of the infrastructure you use every day, you too can help raise the grade.

AVIATION — C-

Approximately 82% of Alaska's communities are not connected to the road system and are separated by large distances, making the aviation network the only means of year-round transportation for people, goods, mail, and services for most communities throughout the state. Therefore, Alaska's aviation system has the largest number of airports in North America and consists of more than 760 registered airports, consisting of 370 private landing facilities, and 390 public-use airports. However, there are thousands of other private landing facilities and lakes (for float planes) that have not been registered with the FAA. Additionally, aviation is the sixth largest economic sector in Alaska, generating nearly $3.8 billion annually, boarding over 5 million passengers per year, and supporting more than 35,000 jobs.

BRIDGES — B+

Alaska has 1,685 bridges, the majority of which are less than 50 years old, making them newer than bridges in most other states. While less than 7% of Alaska's state and local bridges are rated in poor condition, the critical and economical time to maintain this key infrastructure is before problems arise. Alaska is at the forefront of seismic bridge design research and implementation and is a national leader when it comes to innovative bridge inspection techniques.

DAMS — C+

Alaska has fewer dams than other states, 183 in total, however 12% of Alaska's dams are rated as high hazard potential, well below the national average of 17%. Only one of Alaska's 40 high hazard potential dams does not have an Emergency Action Plan. Historically, Alaskan dams have performed well, exhibiting minimal damage or failures during significant geohazard events including both earthquakes and record-level rainfall and flooding. This high level of performance demonstrates the overall resiliency of Alaska's dam infrastructure. However, there have been few recent efforts to maintain that resilience, as funding needs for Alaska's dams have increased in recent years. No state funding source exists specifically to assist dam owners with maintenance and repair costs, which often places a large financial burden on small rural Alaskan communities. The federal high hazard potential dam grant program is available, but does not typically get used in Alaska, as the amount of funding is limited and many of the dams in need of funding are not considered high hazard.

DRINKING WATER — D+

Alaska's drinking water challenges are as diverse as its geography. Urban communities in Alaska have drinking water systems like those in any modern city across the U.S. For example, the Anchorage Water Utility maintains 1,600 miles of pipe. Services for rural communities throughout Alaska vary from piped water to no service at all. Residents in 32 rural communities do not have in-home piped water or a community watering point and must haul water. There is an estimated need for funding in excess of $4.5 billion between rural and urban infrastructure upgrades for drinking water infrastructure.

ENERGY — D+

Alaska's energy infrastructure faces significant geographical disparities in access to reliable, affordable energy. While populated areas benefit from stable energy, less populated regions rely on aging, inconsistent "islanded" power systems. Declining natural gas availability and outdated transmission lines further limit access to affordable energy, creating market uncertainty. Although some improvements have been funded, more is needed to build a flexible, resilient system. Facility conditions, especially for fuel storage, are deteriorating without adequate funding to address these issues. While the Infrastructure Investment and Jobs Act and the Inflation Reduction Act have provided additional funding, many improvements are still pending implementation.

MARINE HIGHWAYS — D

The Alaska Marine Highway System (AMHS) is the state's publicly owned ferry network, spanning 3,500 miles of coastline and connecting 35 communities from Bellingham, Washington to Dutch Harbor, Alaska. AMHS operates diverse vessels, from mainline ships traveling thousands of miles to day boats and shuttles linking remote, roadless areas. It's a vital connection to regional centers and the continental road system, providing essential access to goods, services, and cost-effective freight transport, including time-sensitive cargo like fresh produce, meat, and dairy. AMHS faces challenges due to budget cuts, reduced maintenance, and limited operational vessels, leading to service disruptions. Fluctuating state budgets have impacted operations, though recent shifts to 18-month budget cycles and increased funding since 2019 aim to improve stability. Despite having one of the lowest passenger costs among U.S. ferry systems, fare increases haven't matched inflation. However, a dynamic pricing ticket system and federal rural transit funds are helping boost revenue and support operations.

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PORTS — C-

Alaskan ports and harbors are critical for facilitating the movement of goods and contribute to the quality of life of all residents in this geographically large and diverse state. The $6 billion commercial fisheries industry requires safe and secure facilities for the 8,200 vessels engaged in this enterprise and efficient ports to bring the products to market in the continental U.S. and overseas. The Don Young Port of Alaska in Anchorage, which serves 90% of the state's population, is conducting a $2 billion modernization program to address resiliency, aging docks and related infrastructure, improve operational safety, efficiency and accommodate modern shipping operations. While initial phases are complete, future funding remains uncertain. The country's first Arctic deepwater port in Nome has completed design development, permitting, and local/federal agreements, with a construction award for the first phase expected not later than 2025. Municipal and private ports supporting the $2.2 billion Alaska cruise ship industry continue to invest in sustainable infrastructure to ensure that 1.7 million passengers annually are met with modern facilities. The Infrastructure Investment and Jobs Act has provided great assistance to the Port of Alaska and numerous small boat harbor projects thar would not have been realized without the federal funding.

PUBLIC PARKS — C-

Alaska is home to a combined 322 million acres of national parks, wildlife refuges, national forests, wild rivers, and state parks. These parks provide a wide range of recreational opportunities across the state's varied regions, with some areas offering well-developed infrastructure, such as the Chugach State Park in southcentral Alaska, and others remaining remote, like those in the Arctic and Southwest. Visitation and popularity of Alaska's parks continues to grow, especially after the COVID-19 pandemic with 3.3 million visitors per year. However, Alaska's parks face issues of overuse, high operational costs, limited funding, and a backlog of deferred maintenance. Environmental challenges, such as climate change and natural disasters also affect the resilience of park infrastructure. Innovations, like cellphone-based user data and the development of long trails are being explored. To address these challenges, Alaska must bridge funding gaps, enhance infrastructure planning, and utilize federal funding sources to ensure stable and sustainable outdoor recreation opportunities into the future.

RAIL — C

Railroads in Alaska have some of the oldest infrastructure in the state and do not have a direct, land-based connection with any other railroad on the North American network. The two active railroads, the Alaska Railroad Corporation (ARRC) and White Pass and Yukon Route Railway (WPYR), have been able to preserve rolling stock and repair and improve facilities to maintain safe operations. However, the replacement of aging infrastructure and modern safety upgrades are needed. Capital investments for both railroads are financed from internal or grant funding. Statewide, investment is needed to replace aging rail-ferry transfer facilities and rolling stock. ARRC is also focused on replacing or rehabilitating over 50 bridges to increase load capacity and maintain a state of good repair.

ROADS — C

Alaska, larger than California and Texas combined, has the fifth-lowest road mileage in the U.S., with 17,637 miles managed by federal, state, and local agencies. Of these, 14,578 miles are rural and 3,149 urban, with only 6,188 miles paved. In some villages, boardwalks and ATV trails serve as roadways. Since 2013, stagnant or declining metropolitan populations have led to flat or reduced traffic volumes on major roads. From 2018 to 2021, the percentage of non-interstate roads in poor condition dropped from 8.4% to 7.6%, thanks to efficient use of federal funds. The Alaska Department of Transportation & Public Facilities faces rising maintenance costs due to inflation and labor expenses. Compounding this is Alaska's gas tax—the lowest in the nation at eight cents per gallon—unchanged since 1970. Limited budgets and declining tax revenues have raised safety concerns, with some roads becoming impassable in winter. While IIJA funding helps, inflation continues to strain resources.

SOLID WASTE — C

Alaska faces unique challenges in solid waste management due to its vast size, severe weather, sparse population, and high costs. While nine Class I Landfills serve the larger communities, meeting the needs of over 80% of the state's population, additional funding could enable expanded recycling, innovation, and sustainable practices to prolong landfill life. However, remote communities relying on 13 Class II and 183 III landfills require improved permitting, training, and maintenance to address their specific waste management needs.

TRANSIT — C

Mass transit is available to 72% of Alaska's population in four of the state's most populated cities and boroughs: Anchorage, Juneau, Fairbanks, and Matanuska-Susitna (Mat-Su). Service is provided using various modes of transit, including fixed-route buses, paratransit, vanpools, and on-demand transportation for the elderly and disables, all services which are generally reliable. Alaska transit is funded in part by Alaska State General Funds, which are discretionary funds allocated by the Governor during the budget process. These funds, managed by the Alaska Community Transit office within the Department of Transportation and Public Facilities, are used to provide matching funds for public transit and human service projects supported by the Federal Transit Administration (FTA) and the Alaska Mental Health Trust (AMHT). Recent innovations include electric fleets and smartphone eTicketing. Identified needs include improvements to bus user and driver safety, as well as resiliency planning to maintain service during extreme weather events.

WASTEWATER — D

Alaska's wastewater infrastructure faces critical challenges, particularly in rural areas. Low population density and limited access to these communities hinders operations and maintenance. Nearly half of Alaska's 730,000 residents rely on municipal systems, while the remainder depend on private septic. Many of these systems both municipal and private, are past their useful life. Funding gaps persist, with an estimated $10 billion required for capital improvement. While capital improvement financing may be obtained through federal and state programs, O&M expenses are typically paid for through user fees. These fees in many communities however often significantly exceed the national average because of challenges associated with O&M in remote arctic locations. Given these issues, decision-makers must prioritize sustainable funding solutions, including reinstating the State Municipal Matching Grant program and securing increased federal support. The State Municipal Matching Grant program is vital for funding wastewater infrastructure in Alaska, as it matches local investments with state funds, allowing municipalities to undertake essential upgrades and improvements. Reinstating this program will enhance public health, protect the environment, and support economic growth by ensuring that sanitation systems meet modern standards.