

WYOMING GRADES SUMMARY

GPA



ABOUT THE GRADES

Infrastructure is graded based on eight criteria: capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation. ASCE grades on the following scale and defines these grades as:

- 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

TO RAISE THE GRADE

- 1 INCREASE RATES AND FEES, CHARGE FOR USAGE, AND MONITOR EQUITY IMPACTS**
 Wyoming's drinking water and wastewater systems currently spend more on essential costs than they collect in revenue from users in all systems. That must change to provide safe water infrastructure. Increased asset management tracking and capital project planning would highlight even more significant needs. To ensure consistent service, Wyoming needs to increase elected Boards and Councils awareness and education of utility management tying infrastructure projects to board/council training. Wyoming needs to increase water rates, install and charge for usage rates, and proactively support residents or businesses for whom higher rates create unreasonable burdens. In addition, Wyoming systems must address water usage and look to future technology and equipment to reduce energy costs and water usage.
- 2 CALCULATE FUTURE NEEDS INCORPORATING HARSH ENVIRONMENTS AND TOPOGRAPHY**
 Corrosive soil conditions are degrading water pipes and make frequent replacements necessary. Drought conditions persisting for decades and high plains with unforgiving remoteness call for more resilient systems like extra water storage and stormwater collection for recharge.
- 3 CAPITALIZE ON RECENT FEDERAL INFRASTRUCTURE INVESTMENTS**
 Infrastructure owners should capitalize on the historic, short-lived opportunities for extra help from the 2021 Bipartisan Infrastructure Law.

ABOUT ASCE: WYOMING

The Wyoming Society of Civil Engineers is a professional society dating back to 1938. We are the local branch of the American Society of Civil Engineers. Members are civil engineers working in many different capacities, including designers, contractors, facility managers, town and state engineers, and in many different disciplines, including structural, geotechnical, hydraulic, environmental, survey engineering. We all share a common passion for designing, building and maintaining the structures and systems that allow our society to function. The WY Section board (comprising of four officers) meets monthly to coordinate the state's activities/annual conference as well as support the state's student ASCE chapter at the University of Wyoming.



GRAND TETONS, JACKSON, WY

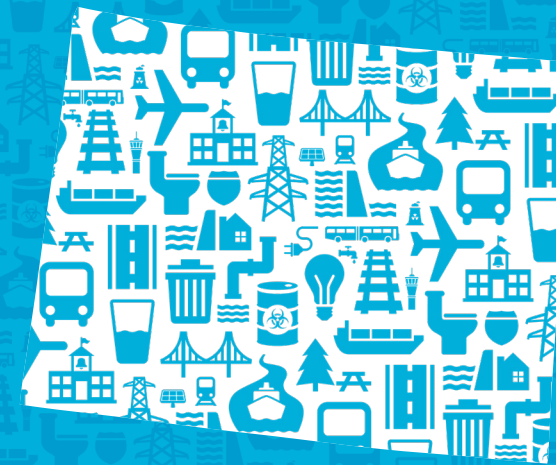
INFRASTRUCTURE MATTERS

Wyoming's 580,000 residents are spread across almost 100 million square miles of often harsh terrain. Population growth is slow, and the state relies on federal funding for almost 60% of their annual revenue. The 2021 Bipartisan Infrastructure Law will send significant additional funds to Wyoming for transportation and water systems but will only temporarily close structural funding gaps – not proportionate with identified needs. Even with federal support from formula and competitive money, many Wyoming communities struggle collecting funds needed to match.

Wyoming's infrastructure systems are struggling to support core operations on already-low fees that lose purchasing power as high inflation rates persist following the COVID-19 pandemic. A quarter of drinking water systems spend more than they bring in from ratepayers, a third of those systems don't charge by usage; and Wyoming's median wastewater treatment system bills only half the national average. The \$0.10 increase of state motor fuel taxes from 2013 has also lost significant ground from increasing vehicle efficiencies.

Wyoming can be a tough place to keep infrastructure high functioning. Corrosive soil throughout the state is shortening the lifespan of metal pipes delivering fresh water for resident consumption. The Equality State has experienced moderate to severe drought conditions every year since 1999 and is allocated only six million acre-feet of surface water per year of the 15 million acre-feet of surface water originating within the state. Drivers pay the gas tax on fill-ups within Wyoming, but the state loses out on registration and other fee revenue from the over 85% of commercial trucks neither beginning or ending their routes in the state. For the supply chain in the American West, Wyoming is a "bridge state" maintaining critical links from the Pacific Coast to the Midwest.

Wyoming has been described as a small town with a very long main street, reflecting the willingness of citizens to drive longer distances for community, work, recreation, and shopping. This is reflected in Wyoming's more than 14,000 vehicle miles traveled per capita in 2018, the highest in the nation. Engineering in the state is the most effective way to ensure the safety of motorists dying in crashes by greater numbers than any other state, 25.4 per 100,000 residents.



2023

REPORT CARD FOR WYOMING'S INFRASTRUCTURE

2023 REPORT CARD FOR WYOMING'S INFRASTRUCTURE

The 2023 Report Card for Wyoming's Infrastructure was written by a committee of 10 engineers from Wyoming who volunteered their time to collect and analyze data, prepare and review their findings. The committee worked with staff from ASCE National and ASCE's Committee on America's Infrastructure to provide a snapshot of our infrastructure, as it relates to us in Wyoming and on a national basis.



Wyoming relies on a network of 33 publicly owned airports to deliver transportation across nearly 98,000 square miles for emergency medical services, resident movement, the supply chain, and tourism. Aviation infrastructure supports an estimated \$2 billion in overall annual economic output. Wyoming Department of Transportation's (WYDOT) Aeronautics Division has focused on pavement management and maintenance: 90 percent of runways at general and commercial airports in the state are in acceptable condition. Available capital improvement funding is hampered by inflation on project inputs and labor. Beyond available funds, an additional \$45 million annually is needed to meet future needs in aeronautic investment. Status quo funding would reduce the average pavement condition from 81 in 2020 to 69 in 2025, on a scale of 100.



There are 3,114 vehicular bridges in Wyoming. Of these bridges, 230 – or 7.4% – are in poor condition, an improvement from the 291 bridges that were in poor condition in 2017. The Wyoming Department of Transportation instituted an effective asset management system which decreased the percentage of bridge decks in poor condition from a high of 14.8% in 2013 to 8.6% in 2021. As bridges age, degrade, or get struck by other objects, they can lose some of their capacity to safely carry designed legal loads. Wyoming is better than the national average, with 5.9% of all bridges in Wyoming being posted to some restriction, versus 9.2% nationally. Nearly one-half of Wyoming bridges are more than 50 years old and may pose greater maintenance challenges past their intended life.



There are 772 public water systems in Wyoming. Nearly 90% of its residents are served by 321 community water systems operating year-round. The remaining 451 water systems include campgrounds, restaurants, hotels, and schools served by a private well or surface water source. The state has experienced moderate to severe drought conditions yearly since 1999 and is allocated only six million acre-feet of surface water per year of the 15 million acre-feet of surface water originating within the state. Corrosive soil materials cause metal pipes to degrade faster than anticipated, necessitating quicker replacements. A 2018 survey of Wyoming public water systems reported 23% are not sustaining themselves on user and service fees with 32% of respondents reporting that they do not bill their customers based on usage metering. The installation of usage meters and reevaluating rate structures to ensure solvency and financial stability could be high impact investments into these systems.



I-90 NORTH SHERIDAN INTERCHANGE, SHERIDAN, WY



Wyoming's 580,000 residents are spread across almost 100 million square miles of often harsh terrain, making safe, resilient roadway connections necessary for essential services, movement of goods, and recreation. 55% of non-interstate highways and 46% of interstates within the national highway system in Wyoming have pavement in good condition, with negligible in poor condition. By contrast, an estimated 39% of state-owned local pavement – and 68% of that county owned – is in poor condition. Not including bridges, a WYDOT-commissioned study found a \$169.2 million annual shortfall for state surface transportation, before accounting for the significant needs at the city and county levels. Significant engineering interventions are needed to reduce traffic deaths in Wyoming, which are sixth worst in the country as a rate of miles traveled and absolute worst as a rate of population: 25.4 per 100,000 compared to 11.0 nationally.

Wyoming's wastewater treatment facilities include publicly owned mechanical wastewater treatment plants (serving 46% of the population), publicly owned lagoons (serving 23% of the population), and private onsite treatment systems (serving 31% of the population). A 2012 study indicated that most of the 96 publicly owned treatment works in the state are under capacity for existing wastewater flows, but notable exceptions in areas expected to grow population are at or over capacity: The Cokeville Wastewater Treatment Plant and Lagoons in Afton, Manville, Sundance, and Wheatland. Almost half of the systems identified in the 2022 Intended Use Plan listed the need to replace undersized sewer mains, pump stations, or other equipment. The 2021 Bipartisan Infrastructure Law will add almost \$10 million to Wyoming's 5-year, \$450 million wastewater spending plan. Local funds may be more difficult to amass with statewide median sewer rates about half of the national average and the failure of a 2020 constitutional amendment to raise the cap on municipally incurred debt.

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