NEVADA GRADE 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 defi nes these grades as:

EXCEPTIONAL: FIT FOR THE FUTURE



MEDIOCRE: **REQUIRES ATTENTION**

POOR: AT RISK

FAILING/CRITICAL: UNFIT FOR PURPOSE

ABOUT ASCE - NEVADA

The Nevada Section of ASCE was formed over 55 years ago and is comprised of three branches: Southern Nevada Branch, Truckee Meadows Branch and Capital Branch. The Nevada Section has over 1300 active members who participate in over 50 different committees throughout both Southern and Northern Nevada. The Nevada Section board members represent both ends of the state and help provide technical resources, continuing education and community outreach opportunities to both our membership base, as well as the general public.

STEPS WE CAN TAKE

Index the State Fuel Tax to Inflation - While Washoe and Clark Counties are raising new revenue through fuel tax indexing, the remaining counties should follow suit. Adequate investment in in our roads and bridges is critical to ensuring that our residents are easily connected to vital services, freight can move through the state seamlessly and we can access our vast recreational lands.

Fund the Nevada State Infrastructure **Bank** – S.B. 517 created the Nevada State Infrastructure Bank but did not fund it. A fully funded State Infrastructure Bank provides loans and grants to local jurisdictions looking for financial support in order to qualify for federal funds. Local funding has grown more critical as the amount of funds provided through federal programs has steadily decreased during the past decade.

Increase Operations and Maintenance Budgets – Providing proper maintenance to our infrastructure, regardless of age, will prevent costly repairs and replacements in the future and extend the life of our infrastructure. A lack of maintenance can result in early replacement at a cost 2-3 times greater than the original facility.

Lead the way in Emerging Technologies and Innovation - Nevada is leading the way in infrastructure and mobility innovation, including in renewable energies, autonomous vehicles, drone technology and transit systems. Nevada can foster new technologies by offering students scholarships who are focused on infrastructure and mobility innovation and provide seed money for graduates to start new emerging technology companies in Nevada.

HOW YOU CAN GET **INVOLVED**

Get the full story behind this Report Card at www.infrastructurereportcard.org/nevada.

Find our the condition of the infrastructure near you on the Save America's Infrastructure app available on Itunes and GooglePlay.

Ask your elected officials what they're doing to make sure your infrastructure is reliable for the future. Take action at www. infrastructurereportcard.org/get-involved/tellyour-legislators.

NEVADA 2018 INFRASTRUCTURE REPORT CARD



Nevada Section of the American Society of Civil Engineers INFRASTRUCTUREREPORTCARD.ORG/NEVADA

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NEVADA 2018 INFRASTUCTURE REPORT CARD

As Nevada's economy relies heavily on tourism, efficiently functioning airports are essential to keep the state thriving. Our state's regional airports are important in binding our communities together and making our rural areas accessible. Today, over 50 million passengers utilize Nevada's largest airports - the Reno-Tahoe International and McCarren International Airports placing a heavy strain on existing facilities and requiring constant maintenance. To accommodate current and future passenger volumes, McCarran has begun a \$30 million modernization project. Reno-Tahoe recently completed work on renovating their two terminals and have plans to begin a major \$1.6 billion expansion in 2019. Meanwhile, Nevada's general aviation airports are typically eligible for Federal Aviation Administration (FAA) grants and can also receive state apportionment and discretionary funding from the FAA. However, the airport sponsors are sometimes challenged to provide the required local matching funds to make necessary projects a reality.

BRIDGES

With only 1.5% of Nevada's 1,944 bridges rated as structurally deficient, the state's bridge network is one of the best in the country. However, 26% of the bridges in the state are over 50 years old and another 12% will reach their 50-year design life by 2030. Older bridges are often costlier to maintain and will eventually require replacement. Meanwhile, available funding is insufficient to address future needs. Nevada spends approximately \$17 million per biennium on bridge preservation with revenue from a combination of federal funds, fuel taxes and registration fees. Nevada's current backlog of bridge preservation is approximately \$133 million for corrective maintenance, rehabilitation and replacement.

Nevada has a total of 656 state regulated dams, 154 of which are considered to have "high hazard" potential. A high hazard dam is defined as a dam whose failure would cause loss of life and significant property damage. In addition to the 656 state regulated dams, there are also 282 dams in Nevada that are either federally managed or below the jurisdictional threshold to be managed by the state. In a condition rating assessment published by the Association of State Dam Safety Officials for the state of Nevada, 95% of the state-regulated dams with a high hazard potential had a condition assessment rating in the National Inventory of Dams. Over 80% of these dams received a condition rating of either Satisfactory or Fair. Approximately 9% of these dams received a condition rating of either Poor or Unsatisfactory. Unfortunately, the dam safety budget for high hazard dams is only about half of the national average, when comparing services such as inspections, legislation, and EAPs. Additionally, the number of agency staff per high hazard dam is approximately half of the national average.

DRINKING WATER

Nearly three-quarters of the population of Nevada lives in the Mojave Desert, a region that receives less than six inches of rainfall annually. The remainder of the state is considered "semiarid" and can be subjected to intermittent periods of drought. These conditions require long-term planning to ensure that water resources remain renewable, reliable and sustainable. The 6th Drinking Water Infrastructure Needs Survey and Assessment issued by the EPA reported that Nevada will require \$5.316 billion for water system improvements over the next twenty years, three quarters of which will be needed for large capacity systems. Though much of Nevada's existing drinking water infrastructure is new in relation to the national average, the projected growth for the Las Vegas and Reno areas requires a level of investment that exceeds what has been the trend over the past decade. Nevada's rural areas have struggled to keep up with their water systems needs due to lack of resources and funding, which is an on-going theme in all aspects of infrastructure in the state.

🖗 ENERGY

Nevada's current energy needs are being met. NV Energy, the state's largest provider of electricity, generates, transmits and distributes about 83% of the state's electrical power, serving 1.3 million customers and over 40 million visitors annually. The public utility has been highly ranked among electric utilities nationwide for service reliability. Because Nevada's energy infrastructure is relatively young, operations and maintenance costs have been reasonable. The state considers itself to be a national leader in development, innovation and commercialization of renewable energy. Nevada has a Renewable Portfolio Standard which mandates that 50% of electricity sold to retail customers comes from renewables by 2030. Nevada has been ranked first nationally for installed geothermal per capita. The state's high solar insolation means relatively low costs for solar power generation. Looking ahead, Nevada can benefit ecologically and economically by building its in-state capacity to generate electricity using renewables and by further encouraging innovations in clean, renewable energy for electricity and transportation, and in energy efficiency.

PUBLIC PARKS

Nevada is the seventh largest state in the country by area. Approximately 85% of Nevada's land is owned by the federal government, open for public use, giving our state the title of having the highest percentage of public land in the contiguous United States. Additionally, with approximately 24 acres of land per resident and approximately 87% of the population living within the Reno or Las Vegas metro areas, Nevada is also one of the least densely populated states in the country. The state has mostly recovered from the Great Recession with revenue for parks increasing steadily over the past 10 years. However, funding for improvements to the state's recreation areas, in addition to funding new facilities for a growing population, will continue to be the main challenge for local, state, and federal agencies who operate recreation areas in Nevada.

ROADS

There is over 32,000 miles of roadways in Nevada. The average condition of these roads is fair. The state faces a \$450 million backlog of road and bridge repairs, mostly due to needed repairs in rural areas. Roads and bridges that are deficient, congested, or lack desirable safety features cost Nevada motorists a total of \$3.2 billion statewide annually. Higher vehicle operating costs, traffic crashes, and congestion-related delays can cost drivers \$1,744 per year in the Las Vegas urban area, while Reno-Tahoe motorists lose an average of \$1,192 per year. While the state's gas tax hasn't been changed since 1992, voters in the two largest urban counties in the state - Clark County and Washoe County - approved ballot measures raising funds for roads in recent years. Looking forward, the state needs to make robust, strategic investments in its roadways to accommodate the expected population growth.

SCHOOLS

In Nevada, there are 17 school districts, each of which are coterminous with the 17 counties in the state. The two largest districts are Clark County (320,523 students and 369 campuses) and Washoe County (63,919 students and 104 campuses). Clark County has identified \$4.1 billion in available funding for capital projects to accommodate a quickly-growing population. However, a recent study has shown that the county's unfunded needs are in excess of \$8.3 billion, with over \$4.6 billion expected to be needed for modernization of existing facilities. In recent years, Clark County School District has twice gone to the voters for tax increases for school funding and has been voted down both times. Meanwhile, Washoe County voters approved a 0.54% sales tax that will fund a minimum of \$1 billion towards maintenance and new construction of 18 new schools. For rural schools, public private partnerships have been enacted in the past year which are being used to improve schools as well. Nevada has stated that it has a long-term goal of having modern facilities that can prepare students for high-tech jobs of the future.

SOLID WASTE

In Nevada, over 90% of all Municipal Solid Waste (MSW) goes to one of two major, privately owned landfills: Apex in the South and Lockwood in the North. In 2016, the estimated MSW per capita generation in Nevada was just short of 8 lbs. per person per day, nearly double the national average of 4.4 lbs per person per day. However, data suggests that per capita waste generation is heavily influenced by the tourism corridors, including Las Vegas. Encouragingly, projections show that the capacity of the two main landfills will be able to handle current MSW generation rates for 100 or more years. Unfortunately, in the rural parts of the state, resources are scarce and the choices for how to handle MSW are few and expensive. While the Reno and Las Vegas regions are meeting or exceeding their goals of recycling at least 25% of their MSW each year, rural regions are struggling to catch up. Nevada's statewide recycling percentage fell short of the 25% goal, reported to be 22.3% in 2016. To meet that goal, Nevada will need to recycle the equivalent of nearly 100 Olympic size swimming pools more worth of waste each year.



Nevada can experience severe flash flooding as a result of rapid snow melt or short duration, high-intensity thunderstorms, both of which can result in significant stormwater runoff problems for its residents. To effectively manage stormwater and associated infrastructure, southern and northern Nevada have established cross-jurisdictional facilitating organizations. The Clark County Regional Flood Control District (CCRFCD) and the Truckee River Flood Management Authority both have comprehensive plans to address flooding issues, regulate land use in flood hazard areas, and fund and coordinate the construction of flood control facilities. The CCRFCD has a \$868 million, 10-year construction program which is primarily funded by quarter-cent sales tax and bonds. In Northern Nevada, the \$400 million Truckee River Flood Project includes levees, floodwalls, terracing, bridge replacement, mitigation measures. However, statewide, there continues to be projected funding shortfalls upwards of \$400 million during the next 10 years for necessary flood mitigation projects.

🕞 TRANSIT

Meeting the needs of expected population growth in Nevada will require increased investment in public transportation systems to make them more accessible and reliable and ensure transit is a viable mobility choice for residents and visitors. Fortunately, the two major transit agencies in the state are very effective in the management of their systems and the services they provide. The Regional Transportation Commission of Southern Nevada (RTCSNV) serves the Las Vegas metro area and had over 64 million boardings on its bus system in 2017. RTCSNV is recognized nationally for its cost efficiency, having the lowest cost per boarding, lowest subsidy and nearly the highest farebox recovery of any other public bus system in the country. The RTC of Washoe County (RTCWC) continues to provide reliable service to the residents of the Reno-Sparks area. Looking ahead, the state should consider investment to expand and enhance the bus systems and add higher order transit - i.e. fixed guideway -to support additional residents and visitors.

WASTEWATER

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Approximately 6,775 miles of sewer pipeline in Nevada connect to 50 different wastewater treatment facilities. Many of Nevada's collection systems are relatively new compared to other states. While the majority of Nevada's population is concentrated in the Reno and Las Vegas metropolitan areas and served by a few facilities, the majority of wastewater treatment facilities in Nevada serve rural communities. The 2008 Great Recession had a large impact on the state's economy and rate of growth; new construction came to a halt and agencies prioritized rehabilitation of existing infrastructure. However, recent spending has ticked up. Federal grants and loans have leveraged state and local funds to upgrade facilities. The Environmental Protection Agency reported in 2012 that wastewater projects in Nevada required approximately \$3.08 billion, down from \$3.3 billion in 2008. Nevada is the driest state in the U.S. and supporting a growing population requires innovation and conservation.