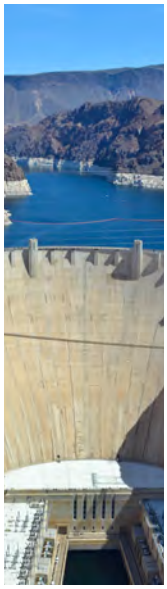

2014 NEVADA

Infrastructure Report Card

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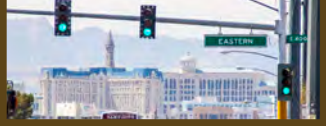


NEVADA 20 14 Infrastructure Report Card

Introduction

Nevada is the 7th largest state in the U.S. with infrastructure that supports the unique economic and physical characteristics of the state. Nearly 88% of Nevada's 2.8 million residents live within two metropolitan areas – Las Vegas (2 million) and Reno (433,000) – that make up less than 1% of Nevada's total area. Also, roughly 80% of Nevada lands are owned and managed by the U.S. government for military bases, wildlife refuges, national recreation lands, national forests and multi-use lands.

During the past twenty years Nevada experienced one of the largest growth surges in the country and then one of the worst downturns from late 2008 through 2013. This roller coaster economy decreased funding levels and preventive maintenance suffered leaving many infrastructure systems underfunded. Hardest hit may be school facilities in both rural communities and cities. Nevada's funding for maintaining schools stagnated and left a funding shortfall of over $5 billion during the next 5 to 10 years.

Many rural communities have small tax bases to generate sufficient revenue to fund their infrastructure needs. Numerous Nevada cities are now victims of legislation meant to protect residents during the high growth years. During the boom years, property values skyrocketed, but the state legislated a 3% per year cap on property taxes to protect residents from excessive tax increases. With the improving economy, the population of cities has returned to pre-recession levels and greater, but the tax cap has kept property tax revenue 40% to 50% below needed levels. To meet the transportation funding shortfalls, Nevada has embraced alternative funding and delivery methods such as Design-Build, Construction Management at Risk (CMAR) and Public Private Partnerships (PPP) to stretch funding.

However, since Nevada's gas tax has not been increased since 1992, both Clark and Washoe counties legislated approval to index the gas tax in their counties. Although these funds are providing much needed funding for transportation projects in those counties, the state and other counties still have funding gaps.

To shed light on Nevada's infrastructure challenges, the Nevada Section of the American Society of Civil Engineers (ASCE) has gathered experts to summarize the key data and needs of our infrastructure and report them in an easy to understand Report Card for Nevada's Infrastructure. Evaluations were based on the following criteria:

- **Capacity** – Do the current facilities have adequate capacity to serve the public and what are the future needs?
- **Condition** – What is the condition of existing facilities and funding needs to maintain them?
- **Operations and Maintenance** – Is there adequate funding for operations and maintenance now and in the future? Will facilities meet regulatory requirements?
- **Funding** – Is there adequate funding for capacity improvements, operations and maintenance?
- **Public Safety** – Without needed improvements will public safety be jeopardized? What are the consequences of a failure to act?
- **Resilience** – Are the current facilities adequate to protect against multiple hazards such as earthquakes or flooding? Can critical services be recovered quickly?

Finally, grades have been assigned to each category based on these descriptions:

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.

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.

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.

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.

Failing - Critical Unfit for Purpose
The infrastructure in the system is in unacceptable condition with widespread advanced signs of deterioration. Many of the components of the system exhibit signs of imminent failure.

Nevada's Overall Infrastructure GPA: 



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Water

C-

Nevada will need nearly $5.6 billion over the next 20 years to maintain its drinking water systems and conserve valuable water resources. The current drought in the Western U.S. has been affecting water supplies within Nevada for a decade. Reduced snowfall in both the Sierra Nevada and Rocky Mountains results in low water flows into Nevada, and consequently the large reservoirs such as Lake Mead and Lake Tahoe are at historically low levels. In fact, Lake Tahoe is so low that very little water is being released into the Truckee River.

Larger communities have implemented strategic conservation efforts including seasonal or daily watering and turf limitations, which have greatly reduced per person water usage. In Southern Nevada, these conservation efforts have reduced water usage per person by nearly 100 gallons per person per day since 2002. In the Truckee Meadows region, residents use 15% less water per person than 10 years ago. Nevada is also placing more emphasis on water reuse, accounting for 40% of the water used in Southern Nevada.

Treatment and distribution facilities in the most populous counties, Washoe County and Clark County, are in fair to good condition. Funding in the larger metropolitan areas is adequate for the next 5 years. Conversely, Nevada's rural areas face aging water infrastructure coupled with a lack of funding. Operation and maintenance plans may exist, but some are not able to be implemented due to monetary shortfalls and the difficulty with adjusting water rates.

Recommendation: Conservation efforts, including public education and sustainable infrastructure modernizations, and appropriate rates that reflect the true cost of water should continue to be pursued to allow the needs of current and future generations to be met. In rural communities, the availability of funding and resources will need to be addressed to stabilize systems and supplies across the state.

Wastewater

B

The collection and treatment of wastewater is an essential public service for Nevada's 2.7 million residents. Nevada's wastewater systems are managing their assets well due to increased use of asset management to prioritize projects and available funding to meet current needs. The Nevada Department of Environmental Protection (NDEP), which provides permits for wastewater treatment plants, requires dischargers to submit master plans when plants are at 75% of capacity. Due to the recent recession and lack of population growth in Nevada, most of the State's wastewater facilities have adequate capacity. However, Nevada will need nearly $2.9 billion over the next 20 years for its wastewater infrastructure. Approximately 26% of Nevada's wastewater pipelines are at least 20 years old.

Recommendation: Continue asset management efforts to provide adequate maintenance and replacement for existing facilities, including pipelines. In rural communities, the availability of funding and resources will need to be addressed to meet treatment standards and improve water reuse.

Flood Control

C-

Nevada's desert climate produces extreme weather conditions for Nevada residents, most of whom live within the Washoe and Clark County urban areas. In order to effectively manage unpredictable and potentially dangerous stormwater runoff, the Clark County Regional Flood Control District is responsible for operating a capital program and implementing a Regional Master Plan and has now funded over $1.8 billion in projects and has a projected 10-year construction program (2015-25) primarily funded by sales tax revenue and bonds that will provide an estimated $666 million. Similarly, the Truckee River Flood Management Project was created, in part, to plan and design projects that help reduce the impact of flooding in the Truckee Meadows. With a total estimated cost of up to $1.6 billion, the Flood Project would be the largest public works project ever undertaken in northern Nevada. But, funding is an issue with an expected $15 - $20 million shortfall during the next 5 years. Nevada's rural communities have their own capital improvement plans to maintain or improve their flood control systems. As an example, the town of Pahrump, initiated a $315 million program in 2008 to construct flood channels, detention basins and dams. Statewide, there continues to be projected funding shortfalls upwards of $400 million during the next 10 years.

Recommendation: With long-term projected budget shortfalls for flood control infrastructure, develop more secure revenue sources that can be used for bonding or to leverage federal funding.



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Dams

D+

Nevada has a total of 675 state regulated dams, 158 of which are considered to have "high hazard" potential. A high hazard dam is defined as a dam whose failure would cause a loss of life and significant property damage. Of the state's high hazard dams, only 18 are considered to be in "poor" condition. A dam with a poor condition rating is considered to have a safety deficiency for loading conditions that may occur. The current Nevada dam repair construction needs are estimated to be $44 million, and due to budget constraints, repair work is consistently needed with a backlog of maintenance requests and a shortfall in funding as repair urgencies and priorities are shifted. When comparing the quantity of Emergency Action Plans (EAP) for high hazard dams (which help prevent loss of life and minimize property damage) to the national average, Nevada has approximately 15% more than the national average with 85% of the state's high hazard dams having EAPs in place. Unfortunately, the dam safety budget for high hazard dams is almost 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.

Recommendation: With the state dam safety budget and staff per high hazard dam both being approximately half the national average, appropriate more funding to high hazard dam safety, along with additional staff.

Solid Waste

B-

Solid waste handling in Nevada has changed substantially in the past decade with a concerted effort on recycling. In 1992, the Nevada State Legislature set a goal that 25% of solid waste should be recycled, and Nevada exceeded this goal in 2011 and continues to increase recycling efforts. All of Nevada's counties are required to have a solid waste plan that includes drop-off points for common recyclables. Counties with populations over 100,000 are obligated to provide homeowners additional recycling opportunities. During 2012, some of the largest cities—North Las Vegas, Las Vegas, Henderson and Reno—all completed pilot programs for single-stream recycling where residents use one container for all recyclables. All of Nevada's largest cities have a sustainable purchasing policy or a buy recycled policy. In Clark County, the recycling facility will be double the current capacity by the end of 2015 and should allow the entire county to implement single-stream recycling. A significant challenge is making recycling opportunities available to the vast, sparsely populated areas of Nevada at a reasonable cost. Nevada's average waste per resident per day generation is nearly double the national average but may be swayed by the 35 million visitors per year.

Decreasing solid waste per person is extremely important to long-term sustainability despite some excess landfill capacity within the state. One of the largest municipal landfills in the U.S. – the Apex Landfill in Clark County – has a capacity of 865 million cubic yards which is enough to last the next 137 years. Solid waste disposal has decreased by up to 31% during the recession due to the lack of construction and demolition debris, but with an improved economy and more construction, this volume may begin to rise again.

Recommendation: Continue to develop recycling programs to rural communities and expand recycling facilities to increase the availability of single stream recycling. Develop programs to encourage the re-use of construction materials instead of disposing in landfills.

Aviation

C-

The commercial airports in Nevada (Las Vegas and Reno) receive adequate funding from the Federal Aviation Administration Airport Improvement Program (AIP), and along with passenger facility charges and other airport generated revenue have the ability to expand capacity and maintain their facilities to an acceptable level. During the past 3 years, both airports have completed significant expansions and renovations – a new Terminal 3 in Las Vegas ($2.4 billion) and a $27 million terminal renovation in Reno. Nevada's 26 General Aviation (GA) airports included in the National Plan of Integrated Airport Systems however, are typically inadequately funded for capacity improvements, operations staff, and maintenance functions because of their limited local funding sources. GA airports can serve as a lifeline to communities supporting fire-fighting, businesses, charities, medical organizations, law enforcement, farmers, and other crucial services. Recent estimates from a GA airfield pavement condition study show that the Nevada GA airports are in need of $56 million of pavement maintenance and repair over the next 5 years.

GA airports are typically each eligible for AIP entitlement funds of $150,000 annually and can also receive state apportionment and discretionary funding from the FAA. However, the airport sponsors are required to provide local matching funds in the amount of 6.25% in order to obtain the 93.75% in federal funding. In 2005, $500,000 was included in the state budget for the Nevada Aviation Trust Fund in order to facilitate the capture of $9.5 million in federal funds which resulted in significant airport improvements with an estimated economic impact of over $20 million. However, no additional budget has been allocated to the Trust Fund since 2005.

Recommendation: Increase the appropriations to the Nevada Aviation Trust Fund to leverage federal funding grants and allow GA airports in Nevada to provide more matching funds to add capacity or provide proper maintenance for their airports.

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Transportation

C-

The recession brought some stark realities to the condition of transportation infrastructure in Nevada. Prior to the recession, Nevada was a high growth state with increasing sales and property taxes to help fund transportation projects. Nevada was ranked one of the top five states with the best maintained roads. However, growth slowed dramatically, the population of Nevada decreased and tax revenues plummeted along with federal funding.

Another factor to consider is the state gas tax, which hasn't been increased since 1992. Due to inflation the current 17.65 cents per gallon tax has a purchasing power of only 7.13 cents today. Meanwhile, in the same period construction costs have increased 150% and more fuel efficient cars have reduced gasoline sales. The two largest urban areas in the state – Clark County and Washoe County – received legislative approval to index fuel taxes. Both of those tax programs are now generating increased revenues and hence greater bonding capacity on the order of $435 million in Washoe County and $700 million in Clark County. However, the ability to utilize index fuel taxes in Clark County only lasts for three years and the continuation of the fuel tax indexing will need the approval of voters during the 2016 election year.

The state highway system is a different story. The Nevada Department of Transportation maintains 5,300 miles of state highways, which includes many rural roadways within Nevada. Without an increase in the gas tax since 1992, the state funding levels have stagnated and Federal funding has remained at a similar level the past 5 years. Hence, the maintenance of the existing highway system has fallen behind and the state will need approximately $285 million annually for the next decade to catch up on the current backlog of highway maintenance. The current funding levels provide only 60% to 70% of the required funding to maintain the state highways. This has resulted in an increase in the number of lane miles requiring either an overlay or full rehabilitation from 28% two years ago to 38% currently.

Transit in Nevada primarily consists of bus service in many communities. Both Clark and Washoe counties have been implementing Bus Rapid Transit (BRT) systems during the past decade with much success and increased ridership. Nevada has applied for and received over $60 million from federally funded TIGER Grants in the last 5 years. Both areas have also been changing buses to alternative fuel sources such as electric or compressed natural gas (CNG) to reduce exhaust emissions. Clark County is estimated to need $1.6 billion during the next 20 years to maintain and expand its transit system.

Recommendation: Allow an increase in the gas tax or indexing statewide, which will provide more revenue for bonding capacity and for local match requirements for federal funds. Continue to expand transit programs to increase mobility in the urban and rural areas, and develop options to fund such programs.

Schools

D

Nevada's 17 counties each maintain their own school district. The two largest districts are Clark County and Washoe County, and a recent inventory of each of these two districts has revealed that approximately 45% of these schools are over 30 years old. A similar situation lies within rural Nevada, and in some counties, there are schools in operation with campuses over 100 years old.

Studies have shown that for every dollar held back from operations and maintenance budgets, the increase in emergency repair budget escalates by 400%. In Clark County, the 2016 Future Capital Program is expected to be budgeted at $3.9 billion. However, a recent study has shown that unfunded needs are in excess of $6.5 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 have been voted down both times.

In Washoe County, there is a $511 million shortfall in their capital improvement program. A recent Assembly Bill, AB 46, passed by the Legislature in late 2013 and expected to generate $20 million annually, failed to garner support from the Washoe County Commission and has been sidelined indefinitely.

Another factor affecting Nevada in the long term is having modern facilities that can prepare students for high-tech jobs of the future. Recently business research found that Nevada currently lacks candidates for positions in software and hardware development. Modernizing our school facilities is another opportunity to improve the future job potential of the state.

Recommendation: School boards should assess their education facilities and present options for revenue to ensure Nevada's schools are fit for our children. Develop a strategic and comprehensive initiative to improve Nevada school facilities at all levels to compete globally in high-tech markets.



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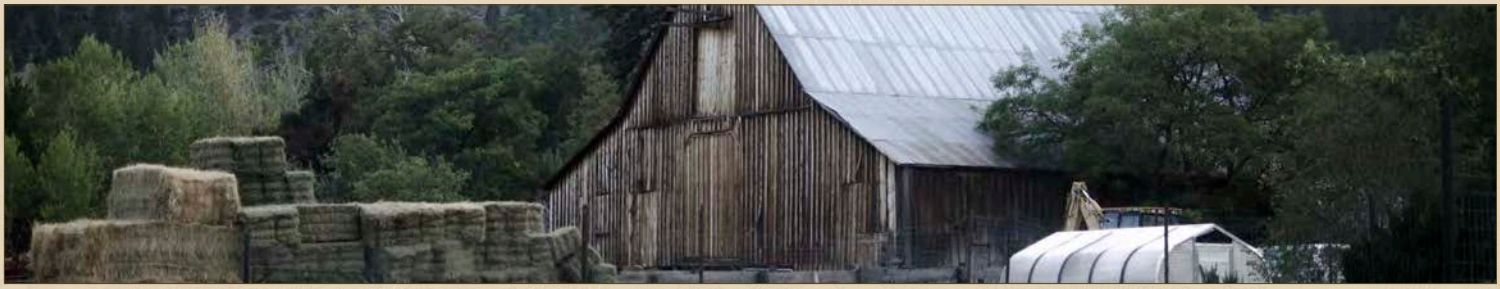

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School Links

http://www.doe.nv.gov/Topic/Nevada_Schools/Nevada_School_Districts/Nevada_Schools_and_District_Information/
http://www.washoeschools.net/Domain/216
http://www.nevadareportcard.com/di/

County Links

www.churchillcounty.org
www.carson.org
www.clarkcountynv.gov
www.douglascountynv.gov
www.elkocountynv.net
www.accessesmeralda.com
www.co.eureka.nv.us
www.hcnv.us
www.whitepinecounty.net
www.landercountynv.org
www.lincolncountynv.org
www.lyon-county.org
www.mineralcountynv.us
www.nyecounty.net
www.pershingcounty.net
www.storeycounty.org
www.washoecounty.us

Water Links

www.tmwa.com
www.snwa.com
http://water.nv.gov

Transportation

www.rtcsouthernnevada.com
www.nevadadot.com/documents
www.rtcwashoe.com

Aviation

http://www.nevadadot.com/About_NDOT/NDOT_Divisions/Planning/Aviation/Aviation.aspx

Wastewater

www.cleanwaterteam.com

Dams

www.water.nv.gov/Engineering/Dams

Solid Waste

http://ndep.nv.gov
http://www.southernnevadahealthdistrict.org

Flood Control

www.ccrfcd.org
www.truckeeflood.us