Infrastructure is all of the systems built to make our lives better and our economy more efficient. Roads, water pipes, dams, railways and much more make up the modern infrastructure you use every day.

So, how is Arizona’s infrastructure doing overall and what needs to be done?

The Arizona Section of the American Society of Civil Engineers (ASCE) compiled a volunteer team of civil engineers from the public, private and non-profit sectors with wide-ranging infrastructure industry expertise to prepare a school-style Report Card for Arizona’s Infrastructure. Using a simple A to F grading system, the Report Card takes stock of information related to Arizona’s infrastructure for 9 specific infrastructure types and what should be done to raise the grades.

This Report Card builds upon the findings of ASCE’s National Report Card for America’s Infrastructure, most recently published in 2013. Evaluations were based on the following criteria:

- **Capacity** – Does Arizona’s infrastructure have adequate capacity to serve the public now and in the future?
- **Condition** – What is the condition of the existing infrastructure and how will it affect its reliability and safety?
- **Operations and Maintenance** – Is there adequate funding and planning for proper operations and maintenance now and in the future? Will facilities meet regulatory requirements?
- **Funding** – Is there adequate funding for capital and capacity improvements as well as operations and maintenance to extend the working life of infrastructure assets?
- **Public Safety** – Without needed improvements, will public safety be jeopardized? What are the consequences of a failure to maintain the state’s infrastructure?
- **Resilience** – Is the current infrastructure adequate to protect against natural hazards? Can critical services be recovered quickly in an emergency?
- **Innovation** – How innovative is the operation, financing, and maintenance of the infrastructure?

Each category was evaluated on the basis of capacity, condition, funding, future need, operation and maintenance, public safety, innovation and resilience.

**GPA = C**

*Raise the Grade*

5 Key Solutions

1. **We need infrastructure every day so we have to keep it working with good maintenance.**
   Maintenance is the every day work you just have to do to keep things moving, and Arizona’s infrastructure needs it. Sometimes it’s all about the basics, and maintenance is the basic first step to good infrastructure.

2. **Investing in infrastructure has allowed Arizona to grow, and investing in smart projects will keep it growing.**
   Arizona has seen exciting new infrastructure projects over the last decade become selling points for the state and bring in new residents and businesses. New investments in critical corridors and freight connections can lead to new opportunities. Let’s keep this going!

3. **Every community’s leaders should order an infrastructure health check-up.**
   Just like your body, infrastructure is a system. The water pipes and roads and railways are the arteries that keep the state moving so it’s worth asking – how is your area’s infrastructure doing? Just like a physical, infrastructure needs regular evaluations.

4. **Borrowing from infrastructure funds just means you’ll pay more tomorrow.**
   Arizona’s leaders have to make tough budget choices, but not using infrastructure dollars for needed projects today will lead to more expensive project costs down the road and infrastructure that hinders growth rather than supports it.

5. **Planning for Arizona’s future starts today with sustainable choices, innovative investments, and resilience.**
   Arizona’s projected growth is both an opportunity and a challenge. It will require continued focus by the state’s leaders to adopt sustainable practices and innovate to be competitive.

The Report Card for Arizona’s Infrastructure shows that some of our state’s infrastructure needs attention both for today and the future. Many of Arizona’s grades are low Cs and on the edge of slipping into Ds – especially as the state grows.
Arizona's 83 airports vary in size and function from large commercial service facilities to small rural airports. Arizona's largest airport, Phoenix Sky Harbor International Airport, is the ... reporting, and business and recreational travel.

Arizona has 8,035 bridges listed in the state bridge inventory encompassing 53 million square feet of bridge deck, 29th largest in national ranking. Arizona has 256 bridges listed as Structurally Deficient, and the estimated replacement cost for the 50 bridges alone is about $220 million, costing about $100 per square foot. Roughly 50% of Arizona’s bridge inventory is more than 40 years old and 80% more than 20 years old. Age is an important indicator for bridges, not only because of the passage of time, but also other factors relevant to their age, like evolving design standards as well as traffic and environmental “wear and tear.” Arizona’s bridges are generally in good condition due to the bridge inspection program; however, funding to maintain them and to support the State’s above average growth rate will be a major issue in the years ahead. Only 51% of fees like the Vehicle License Tax are actually used for transportation and federal funding has continued to be unreliable.

A levee is a man-made structure, usually an earthen embankment, designed to contain, control, or divert the flow of water to provide protection from temporary flooding. Levees have been a part of Arizona’s flood management system for over a century, yet public interest in the condition of levees has increased as disasters in other places have reminded us of the potential hazard that can result from under designed or poorly maintained levees. Arizona has approximately 1,293 miles of levees, and while there is a limited number of levees and dikes in Arizona, there are still significant impacts associated with failure of these facilities.

Rail infrastructure in Arizona serves both freight and passengers. Most of the Class 1 freight, short line, industrial, and tourist railroads within Arizona were originally commissioned between 1880 and 1920, with a few exceptions, these lines have kept up with routine maintenance and modern improvements. In 2011, the State Rail Plan reported the operational performance of freight railroads was good but in need of a long-term vision and that there is adequate market reach. However, some rail lines are limited by urban encroachment, unavailable land for yard expansions, limited connections to Mexico and constrained freight car feet markets. All of the railroads within Arizona are privately funded, and while investment has been high for two decades, future needs for capacity and improvement could require up to $850 million through 2035. Passenger rail operations and planning in Arizona consist of Amtrak intercity, interregional commuter rail, and regional commuter rail. Estimated needs for Arizona’s rail passenger services are between $6 to $12 billion to continue to serve urban corridor markets and to be a viable alternative to air and car travel for intercity markets.

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