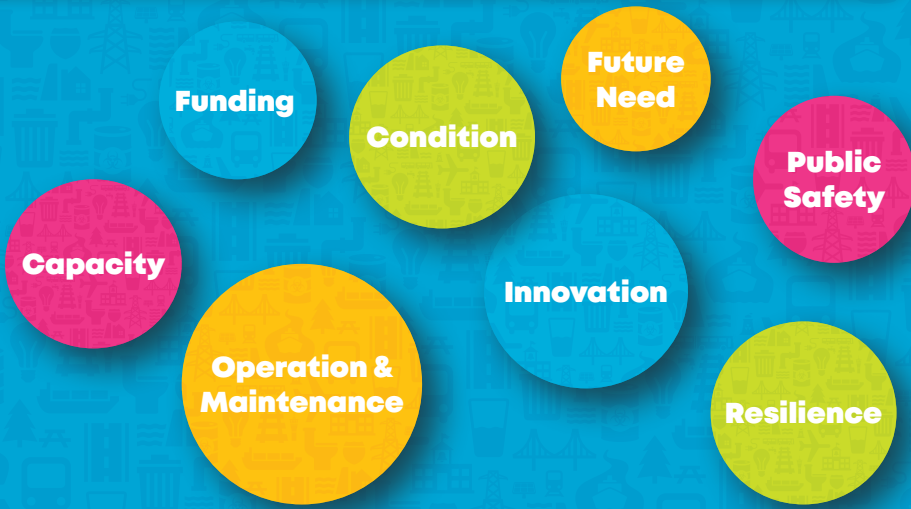


FLORIDA'S 2021 INFRASTRUCTURE GPA

What are our key criteria for grading?



Infrastructure Report Card Grading Scale

- 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

Questions?

Judy Nichols
Executive Director
ASCE Florida Section
judy@fla-asce.org
561-215-4311





Infrastructure is the backbone of Florida's economy and a necessary part of every Floridian's day. Poor infrastructure affects us all—businesses and people are simply less productive when the power goes off or when deliveries are delayed. In places like Miami and Orlando, commuters know the cost of congestion far too well because it now exceeds \$1,000 per driver each year. Only one failure of a necessary part of the infrastructure system initiates a cascade of increased costs, delays and energy expenditure.

An economic study prepared for ASCE called the Failure to Act Report calculated the cost of poor infrastructure to every American household, demonstrating that \$9 out of our of families' pockets are spent every day dealing with these inefficiencies and inconveniences. The good news is that investment to stem the backlog of mediocre infrastructure conditions can help turn the tide for Florida's economy and our workers. In this Report Card, several rising grades have resulted from focused investment in areas like coastal areas, energy and ports, or where Florida Department of Transportation, Florida Department of Environmental Protection, and other local agencies are pushing smart investment solutions in roadways and stormwater systems.

We have added new infrastructure chapters and evaluated the grades for dams, levees and solid waste to this Report Card. The grades range from B+ to D- and overall are higher than the National Report Card average. Florida's population has grown at a rate of about 1% per year, adding about 300,000 people, which is the equivalent of adding a city the size of Orlando every year. Investing in infrastructure must be Florida's top priority so we can continue to be the place people want to live, work, and visit from around the country and world.

RECOMMENDATIONS TO RAISE THE GRADE

- 1 Continue leadership and investment in critical transportation and freight sectors to strengthen the economy and public safety.
- 2 Improve routine data collection and assessment in Schools, Dams, and Levees sectors to expand the public's and lawmakers' access to information to inform safety and funding decisions.
- 3 Expand the application of new approaches, materials, and technologies across Florida's infrastructure sectors to improve its ability to withstand or quickly recover from natural or man-made hazards.

AVIATION

C+ The aviation industry contributes to over 43,000 jobs, up 40% from just 10 years ago, and its economic impact has grown to \$175 billion in 2019. From 2016 to 2019, the portion of Florida's overall airfield pavement in fair to good condition slipped from 93% to 81%. FDOT has identified \$2.2 billion in funding needs for airports. Aviation is critical to Florida's business and tourism travel, and improvements will boost the State's economy.

BRIDGES

B The condition of Florida's bridges has remained consistently and significantly above the national level. In 2020, nearly 65% of Florida bridges were in good condition compared to the national value of 45%, with only about 3% of Florida's bridges in Poor condition compared to more than 7% nationally. Leveraging improvements in material science, bridge design, and construction methods alongside an aggressive maintenance program, FDOT is extending the useful life of many of the state's bridges.

COASTAL AREAS

C- Florida's economy is heavily dependent upon tourism from its natural coastal environment. Aside from their significant economic impacts, beaches reduce storm damage to coastal infrastructure and communities. While local municipalities are making strides in coastal restoration, natural erosion and coastal development threaten Florida's coasts. Approximately 62% of Florida's 825 miles of sandy shoreline shows signs of erosion with 50% identified as critically eroded. Federal disaster funding has reduced the funding gap, but significant work remains.

DAMS

D- Florida's nearly 1,000 dams are on average 50 years old, compared to 57 years nationally. There are 98 High Hazard Potential (HHP) dams, meaning if it failed, loss of life or economic damage would be expected. 41% of HHP dams have an Emergency Action Plan on record, compared with 81% nationally.

The state provides education and safety resources, but no loan or grant funding exists to assist dam owners with repairs, and a \$60 million funding gap remains to address the state's non-Federal HHP dams.

DRINKING WATER

C Florida's rural residents receive drinking water from small, privately-operated plants or wells, whereas urban areas are provided drinking water by public, franchised, or private utilities with larger facilities. Few utilities inspect more than 20% of their distribution pipelines annually for leaks. Florida is a national leader in the reuse of reclaimed water, making up 35% of all water supply projects. Drinking water infrastructure improvements are estimated at \$22 billion over the next 20 years.

ENERGY

C+ Utilities have been investing in resiliency, and Florida is among the five states nationally with the shortest outage duration, less than 90 minutes per outage. Major energy companies like Florida Power & Light Company, Duke Energy, and Tampa Electric Company plan to spend billions of dollars annually to install underground lines, harden existing infrastructure against major storms, and optimize their grids. Energy companies in Florida continue to invest in renewable energy sources, such as solar.

LEVEES

D+ Florida has more than 90 levee systems with over 1,053 miles of infrastructure that has reached an average age of 58-years-old. Just 40% of Florida's levees have been assessed for risk, although most of them are classified as low risk. 80% of the state's levees were federally constructed and are operated and maintained by state water management districts. These districts have introduced Ad Valorem Taxes to annually generate hundreds of millions of dollars for O&M, but capital rehabilitation and reconstruction costs are projected to cost billions of dollars. The remaining 20% of Florida's levees that were not federally constructed depend on a limited amount of local technical and financial resources.

PORTS

B Florida's 15 seaports generate nearly 900,000 jobs and \$117.6 billion in economic value. Over the last five years, Florida's seaports have invested significantly in capacity and operational improvements to accommodate larger post-Panamax vessels, improve cargo/intermodal transfer efficiency, and enhance the cruise experience for millions of passengers. During the period from FY 2011 to 2018, Florida invested more than \$1.19 billion in improvements across its 15 seaports, helping ensure the ports are ready for the future.

ROADS

C+ Florida demonstrates efficient programming of state resources, namely fuel taxes and state appropriations, which have increased between 2019 and 2021 from \$9.7 billion to more than \$10.3 billion. While Florida keeps pace with its growing needs, the state is also planning for the future with an increased focus on building resilience, attention to the evolving transportation needs of its growing elderly population, and a willingness to integrate innovations across the transportation system.

SCHOOLS

D+ Across Florida's 67 school districts, there are nearly 3,600 K-12 schools and about 180,000 permanent classrooms. As the average building age increases, currently at 31 years old, the need for repairs and rehabilitation grows. To address aging facilities and looming capacity needs, state funding from motor vehicles licensing and taxes has increased between 2016 and 2020 by a total of nearly \$40 million. However, available funding is not sufficient to meet the needs.

SOLID WASTE

B+ Increased populations of both permanent residents and visiting tourists are contributing to the amount of Municipal Solid Waste (MSW) generated, which is nearly triple the national per capita average of 4.51 pounds per day. The Florida Department of Environmental Protection (FDEP) has programs in

place to adequately protect Florida's natural resources, while permitting and monitoring MSW handling. In general, the solid waste infrastructure in Florida is good, with opportunities to improve recycling and reuse programs.

STORMWATER

C Florida's stormwater management infrastructure plays a significant role in maintaining suitable conditions through flood protection and water quality improvements. 35% of the state's local governing bodies reported having a stormwater program to fund and maintain the infrastructure. However, needs are significant, about \$14 million per stormwater entity by 2023. Senate Bill 1954 signed in May 2021 designates \$500 million to support the implementation of projects in the Statewide Flooding and Sea Level Rise Resilience Plan.

TRANSIT

C Florida's transit systems provide millions of people with automobile, bus, paratransit, rail, and ferry services. Florida's local funds and multi-regional expansions have tracked with the changing operational needs while state and federal funds have increased to fill some gaps and contribute to capital investments. Florida's transit system benefits from adaptive planning, such as first and last mile options, to counteract challenges like population growth, impacts from climate change, and increased dependence on digital systems.

WASTEWATER

C Florida is a national leader in reclaimed wastewater and climate adaptation frameworks thanks to partnerships among utilities, universities, and industry leaders. Smaller systems are increasingly overwhelmed by the frequent and extreme weather events. As Florida infrastructure ages, recent legislation has directed utilities to institutionalize asset management to improve efficient and effective resource use. However, as new technologies are integrated, the sector cannot become complacent due to the growing threat caused by vulnerable cyber security networks.