

American Society of Civil Engineers

SUBJECT	GRADE EXPLANATION*	SUBJECT	GRADE EXPLANATION*
AIRPORTS	D+ Aviation is a vital part of North Carolina's infrastructure, adding an estimated \$11.3 billion per year to the state's economy. The state's General Aviation Plan for 2007–2011 estimates an investment need of \$588 million to bring all airports in the program to good or excellent ratings in all categories. At present funding levels, only critical issues where pavements are either failing or in very poor condition can be addressed.	ROADS	D The condition of North Carolina's roads is crucial to the health of the state's economy and the safety of its drivers, but poor road conditions cost motorists approximately \$1.7 billion a year in repairs and operating costs. A funding gap of \$29 billion exists over the next 25 years and is expected to broaden as funding provided under the newly signed transportation authorization legislation decreases.
BRIDGES	C- Thirty-two percent of North Carolina's 17,803 highway bridges are considered structurally deficient or functionally obsolete, causing traffic congestion and placing local communities at risk by forcing ambulances, fire trucks and school buses to take lengthy detours because of weight limitations. The cost to replace these deficient structures is estimated at approximately \$8 billion.	SCHOOLS	C- The physical condition of public school buildings is critical to the success of North Carolina's students. However, more than 46 percent of schools will require some form of renovation in the next five years—one-third of those needed in less than two years. Also, more than 190 schools will be considered obsolete in five years or less, and 13 percent of all public school students are in mobile classrooms.
DAMS	D Twenty-two percent of North Carolina's 5,250 dams are classified as high hazard. Also, only 20 percent of the state's high hazard dams have an Emergency Action Plan on record, none of which meet federal guidelines. The estimated cost to rehabilitate the most critical deficient dams in North Carolina is approximately \$400 million.	STORM WATER	C- Polluted runoff from urban watersheds and non-point sources is the number one cause of water pollution in the state, and more than 75 percent of North Carolina's towns reported their storm water system was in fair or poor condition. Inadequate storm water systems can result in flooding and erosion—jeopardizing public health, safety and welfare. However, most towns have no dedicated source of storm water funding.
DRINKING WATER	C+ North Carolina's public water systems serve more than 5.5 million people. However, to replace aging facilities, comply with Safe Drinking Water Act regulations and boost economic development, the state must invest more than \$2.5 billion in its water infrastructure over the next five years, with an additional \$4.5 billion needed through 2030. If these needs are not met, the state risks reversing the improved public health and economic gains realized over the past 30 years.	WASTEWATER	C- North Carolina's public wastewater systems serve more than 4.4 million people. However, to replace aging facilities, comply with Clean Water Act regulations and boost economic development, the state must invest more than \$3.4 billion in its water infrastructure over the next five years, with an additional \$4 billion needed through 2030. If these needs are not met, the state risks reversing the improved public health and economic gains realized over the past 30 years.
RAIL	B- In 2004, with approximately 3,200 miles, North Carolina ranked nineteenth in the nation for total rail miles. Increasing railroad capacity, through track and signal improvements, is critical in the efficient movement of passengers and goods, but over the next 25 years the state's freight rail investment needs total \$545 million and passenger rail modernization needs currently top \$2.9 billion.	NC GPA	C-

A CRUMBLING INFRASTRUCTURE CANNOT SUPPORT A HEALTHY ECONOMY

From the mountains to the ocean, North Carolina's beauty continues to entice new residents. Within the next few years, that population increase will make the state the eighth largest in the country. And, as North Carolina continues to grow, so will the demand on the public infrastructure needed to support these new citizens. Maintaining, and in some cases improving, the quality of life provided by our infrastructure systems, while at the same time supporting the state's economy and protecting the natural environment that makes North Carolina so attractive, are major challenges we now must face.

This first North Carolina Infrastructure Report Card was published by the North Carolina Section of the American Society of Civil Engineers to raise public awareness of the impact crumbling infrastructure is having on our daily lives, and the many issues and decisions that face our state as we strive to maintain and improve our infrastructure. We believe discussion of the issues detailed in this report will lead to a greater understanding of the current and future needs of our state, prompting decision-makers in our communities and in the legislature to formulate policies and provide the necessary funding to address North Carolina's infrastructure needs.

Grades were assigned on the basis of condition and capacity, and funding versus need—generally following a traditional grading scale (e.g., if only 77 percent of roads were found to be in good condition or better, a grade of C was assigned). In some cases, category grades were adjusted if the expectations for a particular performance criterion did not meet the traditional grading scale, or if the data was incomplete. In other cases, due to the many factors that can impact infrastructure's overall performance, individual grades were given in multiple areas of assessment, then averaged to create the overall category grade. In addition to this numeric data, qualitative information was used to make modifications to the grades. Also, for several infrastructure categories, hard data was not readily available in all areas, which required more subjective assessments to be made.

The following grading scale was used for the overall category assessments: A = Exceptional; B = Good; C = Fair; D = Poor; and F = Inadequate.



* Grades are determined based on general condition, performance, and the ability to meet funding and service needs.

