

## The 2004 Texas Infrastructure Report Card

Martha F. Juch, P.E., CFM<sup>1</sup>

On September 4, 2003, the American Society of Civil Engineers (ASCE) released the *2003 Progress Report for America's Infrastructure*, which continued the Society's mission to bring the declining state of America's infrastructure to the attention of the public and the nation's leaders. The Progress Report updated the previous release of the *2001 Report Card for America's Infrastructure* in which the nation's infrastructure received a cumulative grade of "D+" for twelve infrastructure areas. The Progress Report concluded that "the condition of our nation's roads, bridges, drinking water systems and other public works have shown little improvement since they were graded an overall D+ in 2001, with some areas sliding toward failing grades."<sup>2</sup> The Report Card prepared by ASCE has been endorsed by numerous professional and technical societies and has served an important role in raising public awareness and providing elected officials the necessary tools to support infrastructure funding. In 2004, the Texas Section has responded to the success of the national report card by developing the *2004 Texas Infrastructure Report Card*.

The original ASCE *Report Card for America's Infrastructure* was issued in 1998; however, the idea of grading the nation's infrastructure did not originate with ASCE. ASCE's Executive Director, Patrick Nagle, enlightened media representatives, ASCE members, and legislative staffs at a Washington, D.C. Press Conference in 2003:

"...The first infrastructure report card was issued in 1988 by a presidential commission created to study and report on the state of our infrastructure. They assigned an overall grade of C, and the title of their report "Fragile Foundations: A Report on America's Infrastructure" hinted at the shaky state of our infrastructure... In 1998, on the tenth anniversary of that first report card, ASCE issued its own Report Card for America's Infrastructure. Our premise was simple: as the experts entrusted with the responsibility of designing, building and maintaining America's infrastructure, we felt an obligation to inform the American public and our nation's leaders about the condition of our roads, bridges, water systems and other public works."<sup>3</sup>

In the five years following the first report card, the two updates (2001 and 2003) continued to "get the word out" and each received widespread media attention. By seizing on the opportunity to issue a state report card prior to the 2005 Texas legislative session, the Texas Section hopes to expand ASCE's unique tradition by informing the public and the state's leaders about the condition of Texas' infrastructure.

---

<sup>1</sup> Member of the Texas Section 2004 Report Card Planning Committee, President of the ASCE Texas Section 1998-1999, and member of the original ASCE "1998 Report Card on America's Infrastructure" Advisory Committee. *President, Martha Ferrero Juch, P.E., Inc., 1706 Walsh Dr., Round Rock, Texas, 7868, mfjuch@austin.rr.com.*

<sup>2</sup> ASCE News Release, September 4, 2003, [www.asce.org](http://www.asce.org).

<sup>3</sup> Patrick J. Natale, P.E., M.ASCE, C.A.E., Executive Director, ASCE, Press Conference, September 4, 2003, [www.asce.org](http://www.asce.org).

The ASCE Texas Section prepared the *2004 Texas Infrastructure Report Card* in order:

- To assess the State's public works systems,
- To increase public awareness about existing problems, and
- To encourage long-term investment in ageing infrastructure from the State Legislature.

A five-member Planning Committee reviewed the previous work by national ASCE and other Sections, and discussed the potential structure of the Texas Report Card with engineers across the state. A Steering Committee was formed which contained twelve Texas Section members from around the state, including the members of the Planning Committee. The general classifications of infrastructure which best represented key infrastructure systems in Texas were identified and defined. The thirteen general classifications of infrastructure selected for the Texas Report Card differ slightly from the two national and include: Roads and Highways, Bridges, Transit, Aviation (both general and commercial), Schools, Drinking Water, Wastewater, Dams, Solid Waste, Hazardous Waste, Navigable Waterways, Flood Control, and Energy.

The Planning Committee then solicited input from ASCE members and other infrastructure "experts" practicing in each of the thirteen categories. Approximately thirty contributors from across the state participated in the process to gather data on each topic. The status of each infrastructure category was examined in terms of:

- conditions and performance,
- capacity versus need, and
- funding versus need.

Contributors were given written instructions and a template for a fact sheet to use as a guide, and were asked to use readily available information to summarize conditions of the infrastructure category.

An editor then gathered the data, comments, and other information provided by the contributors and prepared draft Fact Sheets. These Fact Sheets were distributed to State and Federal agencies associated with constructing, operating or regulating particular infrastructure systems. Members of the Planning Committee met with, telephoned, or corresponded with several agency departments in order to solicit additional information or verify data supplied by the contributors. The following list shows the agencies contacted during the development of the Fact Sheets.

- Texas Department of Transportation
  - Deputy Executive Director
  - Aviation Division
  - Bridge Division
- Texas Commission on Environmental Quality
  - Solid Waste Division
  - Dam Safety Team
  - Remediation Division
  - National Flood Insurance Program Coordinator
- Texas Water Development Board

- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- Brazos River Authority
- Lower Colorado River Authority
- Dallas Area Rapid Transit
- Houston Metro

Upon completion of the final Fact Sheets, they were distributed to the Steering Committee for review. The Committee then met and discussed the facts related to each infrastructure category according to condition versus performance, capacity versus need, and funding versus need. Although critical infrastructure needs were identified at every level of government and varied widely across the state, the Steering Committee made each assessment based on the overall status or condition statewide. The Committee did not attempt to evaluate infrastructure wholly designed and/or funded by municipalities, such as residential streets and localized drainage systems, but instead focused on regional or statewide issues that require state and/or federal involvement and funding. Each category was the “graded”, with the grades assigned as follows:

- A=Exceptional
- B=Good
- C=Fair
- D=Poor
- F=Inadequate

The grades ranged from B+ for energy to D- for schools, dams and flood control. The final report card is displayed adjacent to this article.

The dismal cumulative grade of a “C-” for Texas indicates a below average condition in many infrastructure categories including roads and highways, bridges, drinking water systems, dams, flood control, navigable waterways, and schools in Texas. Although the state and other funding partners have made significant investments and improvements in areas such as transit, aviation, solid waste, hazardous waste, and energy, many other areas continue to need substantial investments for repairs, rehabilitation, and expansion in order to provide quality service to the growing state population. The largest statewide needs are in schools, drinking water, dams, navigable waterways, and flood control infrastructure, which received a poor “D or below” grade. Noticably, the infrastructure categories which are funded heavily by private investments and/or which generate some type of self-supporting revenue (such as solid waste and energy) are generally in better condition than those which are totally dependent upon local or federal funds and receive little or no state funding (such as dams and flood control).

In 2003, ASCE President Thomas L. Jackson made the following observation, which is as relevant to Texas as it is to the nation: "Time is working against our nation's infrastructure. Since we graded the infrastructure in 2001, our roads are more congested than ever, the number of unsafe and hazardous dams has increased, and our schools are

unable to accommodate the mandated reductions in class size."<sup>4</sup> National ASCE summarized the problem by recognizing that the state and local budget crises and federal programs either fall short of meeting the demands for infrastructure maintenance or will soon expire. With a federal deficit of \$450 billion, federal resources for infrastructure are growing scarce.<sup>5</sup> In Texas, state funding is insufficient or nonexistent in many infrastructure categories. As federal funding decreases in these areas, such as flood control and navigable waterways, local communities must either fund expansion and repair projects or allow inadequate infrastructure systems to further decline.

Many communities are unable to fund the studies, designs, and construction required to meet demands on local infrastructure without state or federal assistance. Concurrently, problems that contributed to the overburdened infrastructure remain, including population growth, voter opposition to infrastructure projects, and the continuing deterioration of an aging system. Texas' growing population continues to overburden transportation, water and energy systems that reached capacity long ago. By distributing the 2004 Texas Infrastructure Report Card to our state legislators and local elected officials, the Texas Section hopes to encourage support of infrastructure funding and legislation.

The Texas Section Vice President Professional, along with the President, Past President, Vice President Elect and the Governmental Affairs Committee, is developing a plan to "get the word out" across the state prior to the next legislative session. The Report Card and accompanying Fact Sheets will be made available on the section's web site, and members are encouraged to meet with their local representatives in person and discuss the issues. If you would like to become more involved in this effort, contact John Furlong, P.E., Texas Section Vice President Professional, at [jfurlong@halff.com](mailto:jfurlong@halff.com) or through the section website [www.texasce.org](http://www.texasce.org).

---

<sup>4</sup> Thomas L. Jackson, P.E., F. ASCE, President 2002-2003, ASCE News Release, September 4, 2003, [www.asce.org](http://www.asce.org).

<sup>5</sup> ASCE News Release, September 4, 2003, [www.asce.org](http://www.asce.org).