The American Society of Civil Engineers’ (ASCE) 2016 Report Card for Tennessee’s Infrastructure gives Tennessee’s infrastructure an overall grade of “C” – the same grade the state received in 2009. Considerable investments have been made across the state to improve our infrastructure. Funds from the 2009 American Recovery and Reinvestment Act initiated numerous projects. The Tennessee Department of Transportation’s (TDOT) Better Bridges Program replaced, repaired, or rehabilitated 193 state-owned structurally deficient bridges. The Tennessee Department of Environment and Conservation (TDEC) received funding to upgrade facilities at two of the state’s premier parks. However, these investments won’t stop our existing infrastructure from aging, nor stop the need for infrastructure to keep up with dramatic population growth.

We rarely consider the impact infrastructure has on our daily lives, from the water we drink and the roads we drive on, to the power we use to light our homes and the food we put on our tables. Volunteers from the Tennessee Section of ASCE developed this Report Card for Tennessee’s infrastructure to help all Tennesseans understand the condition of our infrastructure so we can work together to earn our next “Best of…” award: Tennessee – Home of America’s Best Infrastructure.

We want to continue to lead the country we need to begin leading in these areas of infrastructure as well. With this in mind, ASCE members throughout the state graded each infrastructure category to provide an informed assessment of the infrastructure critical to Tennessee’s economy and communities.

Infrastructure is graded based on eight criteria: capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation. ASCE grades on the following scale and defines these grades as:

- **A**: Exceptional
- **B**: Good
- **C**: Mediocre
- **D**: Poor
- **F**: Deteriorating
B. **Tennessee’s Aviation Infrastructure**

Serves both commercial and general aviation needs.

The network consists of 69 Public Use Airports, including 2 medium-sized commercial hub airports, 3 primary commercial non-hub airports, 1 non-commercial primary facility, and 64 general aviation facilities. According to the most recent data available from the Federal Aviation Administration (FAA), Tennessee was host to over 8.6 million enplanements in 2014, with Nashville ranking 3rd nationally among medium-sized hubs. Tennessee’s aviation infrastructure has seen slight improvements in recent years due to implementation of a pavement management program, and recent projects that were completed, including the replacement of at least one general aviation airport (Hardwick field) with a new facility (Cleveland jetport) that increased capacity and safety. Memphis ranked #1 overall in 2014 for amount of tons landed at U.S. airports. A 2014 study of runway, taxiway, and aircraft parking apron pavements at Tennessee General Aviation airports indicates satisfactory condition. However, pavement constantly deteriorates with time and wear. In 2015, the Tennessee Department of Transportation (TDOT) Aeronautics Division developed a state-wide pavement management program to assess pavement conditions and analyze needs for pavement restoration and maintenance.

Tennessee utilizes an aviation fuel tax as its primary funding source for aviation infrastructure. Recently, legislation was enacted to cap the amount of aviation fuel tax that can be collected from general aviation. It’s important to note that unless a new funding source is located to replace the revenue lost by the Tax Cap, the ability to meet future infrastructure needs is greatly decreased.

C. **The State of Tennessee is located at the Heart of the Nation’s Inland Waterway System.**

The state’s three major navigable arteries, the Cumberland, the South, and Tennessee Rivers and their tributaries, connect the state’s four public river ports and over 170 private river terminals to river ports in 21 states and ocean ports along the Gulf Intracoastal Waterway. Barge traffic is often delayed at Tennessee’s locks due to abundant and unscheduled repairs, which can take months to completely resolve. Delays also occur due to low water, which results in light-loading barges and increased shipment costs.

While delays are generally perceived as an inability to effectively meet current demands. Budget cuts and depleted funds in the federal Inland Waterways Trust Fund threaten to set back Tennessee’s water transportation infrastructure, including the new Chickamauga Lock, Tennessee’s biggest water infrastructure project.

D. **Like most states, Tennessee suffers from aging wastewater infrastructure.**

Tennessee has 242 municipal sewage treatment and collection systems regulated by National Pollutant Discharge Elimination System (NPDES) permits, and they serve about two-thirds of the state’s population. About 45% of the annual sewage flow treated in wastewater facilities originates from groundwater or rainwater leaking through deteriorated sewage pipes, joints, or manholes. Reports submitted by 55 systems show that they experienced peak-day flows that exceeded facility capacity more than 60 days in a year. Combining the estimate of $1.1 billion (to cut Infiltration/Inflow leakage in half) with additional data in the US-EPA Clean Water Needs Survey (CWSN) shows an overall need of $2.6 billion for Tennessee.

**2016 REPORT CARD FOR TENNESSEE’S INFRASTRUCTURE**

The 2016 Report Card for Tennessee’s Infrastructure gave the state’s infrastructure an overall grade of ‘C.’ Civil engineers from across the state evaluated 10 infrastructure categories using the 8 key criteria. Of those 10, 2 infrastructure categories are in good condition (Aviation, Bridges), while 8 categories range from mediocre to poor condition.

The good news is there are solutions to all of the challenges identified. By learning more about the conditions of the infrastructure you use every day, you can help Tennessee raise its infrastructure grades.