The greater Houston region is home to approximately 11% of the bridges in Texas, but only 67.5% of these bridges are rated at Good or Better according to statewide rating criteria, which is the lowest percentage in the state. Funding levels have decreased significantly in the last few years due to the overall economy and internal funding distribution changes, jeopardizing replacement of aging infrastructure and increasing the likelihood of bridge closures.

The City of Houston has enough water rights permitted to meet projected demand in the area beyond year 2060. However, infrastructure has not been maintained or replaced on schedule and the systems are gradually deteriorating. Current local funding will not be enough to sustain regional drinking water infrastructure and the area will be challenged to develop a funding mechanism for future improvements.

The need to upgrade and rebuild regional flood control and drainage infrastructure is growing due to years of limited improvements and maintenance and the growing regional population. Regional infrastructure vulnerabilities were exposed in recent historical storms including Tropical Storm Allison in 2001, Hurricane Rita in 2005, and Hurricane Ike in 2008. Development in flood plains can be expected to increase as the region grows, potentially widening the gap between needed improvements and available funding.

There is sufficient landfill volume capacity for current and future disposal of solid waste in the greater Houston region. However, the region generates more than 20% more solid waste per capita than the national average, which combined with a lack of capability to monitor and enforce penalties for littering and an apparent deficiency in the efforts for public education/awareness and proper ordinances to implement separation for recycling costs, is costing the region millions of dollars annually for disposal at landfill sites and unnecessarily consumes valuable landfill space.

Current transit ridership ranges of 50 to 70 percent are generally not adequate to cover operation and maintenance costs. Incomplete connectivity between regional providers is a major contributor to lower capacity utilization, which has a direct bearing on the functionality of the system. As population within the area increases, a variety of additional facilities will need to be added to the current system to connect passengers across urban, suburban, and rural areas. The impact on our region’s ability to grow, attract new business, and maintain existing industry through the movement of goods has a direct correlation to the condition of its roads. The future does not appear bright due to the collapse of long-term funding in large part because current legislation is leaving the major funding source for roads and highways – the outdated fuel tax – unchanged. Also, as roadway capacities reach maximum capacities during peak periods and cost for acquiring additional right-of-way becomes economically unfeasible, alternative modes to move people and goods will become increasingly crucial. In order to provide these facilities, local, state, and federal funds alone will not supply adequate capital. Other financing tools will need to be sought to construct and maintain future facilities.

Municipalities in the greater Houston area are ensuring that funding for wastewater facilities meets current and future needs. The implementation of utility districts to construct and fund infrastructure in newly developing areas is also a factor. However, improvements are needed in operations and maintenance to ensure continuing environmental permit compliance.
The Houston Branch of the American Society of Civil Engineers has developed the first ever comprehensive Houston Area Infrastructure Report Card. Our goal is to highlight the importance of local infrastructure and identify areas of improvement. The focus of our study includes the Counties of Harris, Galveston, Brazoria, Fort Bend, Waller, Montgomery, Liberty, and Chambers as well as the Municipalities, Districts, Associations, Councils, and Partnerships within this geographical area. This local report card provides an unbiased assessment of the subject infrastructure topics and should be used as a tool to help members of the community and local leaders put the grades from the national report into perspective, facilitate dialogue, and foster solutions for the citizens of the greater Houston region.

Infrastructure has a direct impact on the personal and economic health of our region. This report card is a useful and powerful tool intended to engage citizens and elected officials to do what they can personally do to change the trend and improve the grade where infrastructure is not performing satisfactorily in order to address regional infrastructure and assure the future prosperity of the greater Houston region.

CRITERIA

In the development of this report card, seven fundamental criteria were considered.

- **Capacity** - Evaluate the infrastructure’s capacity to meet current and future demands based on master plans, funding plans, and capital improvement programs.
- **Condition** - Assess the infrastructure’s existing physical condition considering near future projects which would improve the conditions if either funded or in design.
- **Funding** - Identify the current level of funding and predicted current and future investment in the system relative to the estimated need.
- **Future Need** - Evaluate the cost to improve infrastructure to meet expected needs compared to projected funding levels.
- **Operation and Maintenance** - Evaluate the ability to operate and maintain the infrastructure properly to preserve the system, considering infrastructure failures contributing to non-compliance with regulatory requirements.
- **Public Safety** - Evaluate to what extent the public’s safety is jeopardized by the condition of the infrastructure, what the consequences of failure may be, and likelihood of a major failure.
- **Resilience** - Consider the capability to prevent or protect against significant multi-hazard threats and incidents and the ability to expeditiously recover and reconstitute critical services with minimum damage to public safety and health, the economy, and national security taking into account cross sector interdependencies.