



Renewing Texas Infrastructure

2012 Texas Infrastructure Report Card

Texas Section – American Society of Civil Engineers



Solid Waste Fact Sheet

Key Infrastructure Facts: Existing Condition and Performance

- The implementation of Subtitle D Landfill Regulations, which began in 1993, changed the criteria for the location, operation, and monitoring of landfills, and increased closure/post closure responsibilities.
- Over the past few years, landfill capacity in Texas has increased due to increases in permitted capacity at landfill facilities as well as improvements in landfill technology (increased compaction, etc.).
 - 1993: 1.2 billion cubic yards or 21 years (at disposal rates in 1993) of capacity.
 - 2010: 2.5 billion cubic yards or 60 years (at disposal rates in 2010) of capacity.
- While the trend of overall capacity in Texas may be increasing, the number of landfills has been decreasing. In 1988, there were 750 active (taking waste) facilities, while in 2010 there were only 190 active facilities. This is the result of the closure of many relatively small, community based landfills and the development of more regional based landfills.
- In 2010, of the 190 active landfills:
 - 66 percent were publicly owned (40 percent of state capacity)
 - 34 percent were privately owned (60 percent of state capacity).
- Most recycling facilities in Texas are authorized by notification and are not required to report so it is difficult to obtain an accurate state-wide recycling rate. Permitted and registered facilities reported a total of 1.6 million tons of materials that were diverted from landfills for recycling or reuse in 2010.

Anticipated Growth and Other Future Needs

- While permitted capacity and state population have increased, it appears that there has not been a significant increase in the amount of waste disposal. Per capita per day waste disposal rate was approximately 6.5 pounds in 1993 and 6.2 pounds in 2010.
- Because landfill capacity is not equally distributed across all regions in the state and new landfills are becoming more difficult to develop, there has been an increased use of Transfer Stations. These facilities are used to efficiently move waste by providing a relatively close facility that can accept refuse from individual collection vehicles and load that refuse onto transfer trailers for disposal at a distant landfill.
- In addition to improvements in the operation of landfills, the size and service areas of landfills continue to grow. In 1986 the state-wide average landfill size was 50 acres with an average depth of 6.5 ft and an average height of 13 ft. In 2010 the state-wide average landfill size was 639 acres with an average depth of 36 ft and an average height of over 100 ft.
- Research and development of Bioreactor Technology continues nationwide, with program discussions ongoing in Texas. This technology is changing the way in which disposed solid waste is managed, initiating a shift from a dry entombment concept to controlled introduction of liquids into the refuse to increase the rate of waste degradation and methane gas production.

This increased degradation results in quicker stabilization of the refuse as well as increased volumetric capacity during the operating life of a landfill.

- The use of methane gas that is produced as a by-product of the decomposition of the refuse at a landfill facility as an energy source has increased over the past few years. Due to the increased need for sources of “green” power as well as increases in fossil fuel prices, these trends would be expected to continue.
- There are 24 Regional Planning Commissions, also known as Council of Governments (COGs), in Texas designated as the regional municipal solid waste planning authority. These COGs are currently responsible for developing municipal solid waste management plans to encourage regional approaches to provide services and reduce MSW generation and disposal. Once a regional or local solid waste management plan is adopted by the Texas Commission on Environmental Quality (TCEQ), public and private solid waste management activities and state regulatory activities must conform to the plan.

Adequacy of Current Funding and Need for Expanded Funding

- Funding for the disposal of solid waste is typically provided through “tipping fees” for waste disposal at landfills. Each facility is authorized to set their fee rates. The tipping fees are used for the maintenance and operation of each individual facility. The provision of solid waste management services in Texas is primarily the activity of private companies and local governmental entities. The State does not directly provide the services of solid waste management.
- The Texas Commission on Environmental Quality (TCEQ) is responsible for ensuring that the generation and management of MSW are conducted in a manner protective of human health and the environment. TCEQ provides this oversight through permitting and monitoring of solid waste management activities. TCEQ oversight activities are funded by fees set by the Legislature and based upon the amount of waste received for disposal at a facility.
- Individual landfill operators typically fund technology improvements at landfill facilities to improve the economic viability of the facility.

Sources

- *Municipal Solid Waste in Texas – A Year in Review, 2010*, TCEQ, AS-187/11, October 2011. (www.tceq.state.tx.us)
- Additional various contributions, comments and reviews by persons familiar with the permitting and operation of MSW facilities in Texas.
- Input from the Solid Waste Division, Texas Commission on Environmental Quality, March 2012.