

BRIDGES **B+**

Utah has over 2,900 highway bridges with the majority maintained by UDOT and others by local jurisdictions. Most bridges are of moderate length spanning other roadways, constructed of either steel or concrete beams, with concrete decks, and often overlaid with materials to extend their service life. Almost one-third of Utah's bridges will reach their 50-year design life by the end of this decade. On average, UDOT currently builds 34 new structures and rehabilitates 8 existing structures per year, which leaves a projected shortfall of 10 to 20 new structures each year. Currently, only 2.9% of Utah's bridges are structurally deficient, which is better than the national average; however, there are still unmet needs with each decade bringing about 300 bridges to the end of their service lives.

CANALS **D+**

There are between 5,300 to 8,000 miles of canals in Utah, which exist with very limited regulatory programs. Most of these canals pre-date modern construction (over 100 years) and face continued pressure from urban encroachment, transitioning many of them into high risk assets, as portions of Utah transition from agrarian to urban centers. Canals are largely self-regulated by roughly 1,400 canal companies, which are often operated with diminishing funding and resources. The tragic result of the unassessed canals is demonstrated with a number of recent failures resulting in property damage and even loss of life. Canals face significant changes in management and ownership as urbanization causes them to evolve from water conveyance for canal districts to flood management conduits for municipalities. Recent legislation has recognized these risks with safety and emergency action planning becoming more common, but stops short in providing the funding and personnel to accomplish the new objectives of recent legislative action.

DAMS **B-**

The condition of Utah's more than 900 dams has improved in the last two decades with most being in satisfactory or fair condition. Impressively, 100% of the state regulated dams have emergency action plans in place. However, around 106 are not currently rated or are in need of rehabilitation to meet current standards. Utah also has 252 high-hazard dams, which pose risks to life and property if failure occurs. As dams approach the end of their design lives with downstream demand and development increasing, currently low risk dams are gradually becoming high risk dams through urban encroachment. At the same time, as the risks associated with dam failures increase, their necessity becomes even more critical in managing water resources. Utah also faces unique dam safety challenges in regards to dam ages, regional seismic risks near population centers, and a continuing trend of urban growth in the flood paths of potential dam failures/breaches.

DRINKING WATER & SUPPLY **C**

Historically, Utah's water distribution and water supply have been adequate as a result of extensive infrastructure investments, functioning to divert water for users and manage drought. With large mountain impoundments and equally large delivery pipelines, the municipal water supply infrastructure is at risk from

seismic threats and changing precipitation patterns. As reduced snowpack supply meets a growing population, aggressive water conservation alone may not be adequate, and new, significant infrastructure solutions must be considered. A detailed analysis of Utah's municipal water needs by Utah's major water supply agencies estimated costs through 2060 for repair and replacement of water infrastructure will be \$17.9 billion plus \$14.8 billion for new facilities. As Utah's population is projected to double, Utah's water needs are significant and growing.

HAZARDOUS WASTE **C+**

Hazardous waste management in Utah is monitored and permitted based on the materials and waste generators—large and small waste generating industries or households. There are 15 permitted hazardous waste facilities in Utah, and 13 superfund National Priorities List sites with known releases of hazardous substances or pollutants. The *Utah Generation and Management Report for 2011* states that waste generation in Utah is cyclical, often related to local and national economic cycles. 55% of Utah's waste is sent to landfill/impound facilities; 43% to incinerators and 2% to other facilities. In 2011-12, Utah solid and hazardous waste reported a decrease of about 18% of waste generated. Demand for management facilities is trending downward due to completion of historic waste sites, improvement in manufacturing, product substitution and an increase in recycling of waste products.

LEVEES **D-**

FEMA estimates that 72 miles of Utah's existing levees will require assessment in the immediate future. While there is an increased focus on levee evaluation nationally after recent costly failures, information regarding the condition of the majority of the levees across Utah is largely unknown. Risks associated with unassessed levees could lead to significant increases in flood protection requirements and insurance costs to home and property owners. The Army Corps of Engineers is currently tracking roughly 21 miles of levees within the state as part of the National Levee Database; of these, 19.5 miles are considered unacceptable and only 1.5 are considered minimally acceptable. If the remaining levees are in similar condition, this is highly concerning. As recently as 2011, the impact of serious flooding from inadequate levees was seen in Weber County, which highlights the potential risks of inadequate or poorly maintained levees that protect homes and businesses.

ROADS **B+**

Utah has a strong history of investment in roads, meeting ever increasing demands through innovative construction approaches and subscribing to a proven philosophy that "good roads cost less." Many of Utah's roads are over 50 years old, although most state-maintained pavement surfaces have had some kind of surface treatment in the past 10 years. However, as maintenance and construction costs have risen and roads have aged, data shows that less traveled roads and local roads are receiving less maintenance than needed. Since 1990, new lane miles in Utah have increased by only 6%, yet during that same time period, Utah's population has increased by 60% and travel miles increased by roughly 80%. Utah's double challenge is to maintain the vast inventory of existing roads while also meeting pressing

demands of growth. While Utah has done well, future demands will require even more attention to maintaining a growing road network and funding the vision outlined in Utah's Unified Transportation Plan.

SOLID WASTE **B-**

Waste management in Utah, is monitored and permitted based on the content and nature of the materials and by who generates the waste—industries or households. In 2012, Utah households generated about 2.34 million tons of solid waste, including 260,000 tons of recycling and compost (11%), lagging behind the national average of 37%. That's 4.57 lbs of waste per person, and only half of a pound per person is recycled. There are 107 permitted solid waste landfills, 22 compost facilities, 4 incinerators receiving municipal, industrial and medical waste, as well as 11 recycling facilities. Unfortunately, Utah's Division of Solid and Hazardous has not published a statewide plan since 2007, and should be updated to better understand the state's waste needs.

TRANSIT **B+**

With more than 100 miles of fixed guideway services and over 46 million annual riders, several transit providers have significantly improved their services over the past 30 years. The main provider is the Utah Transit Authority operating throughout the Wasatch Front where nearly 80% of Utah's population and transit demand are located. Using federal programs to build these systems over the last two decades, Utah's transit systems have been built with significant capacity, but challenges will include maintenance, operation, and modest upgrades of systems as they age as well as proper ticket pricing. While expected growth was dampened by economic sluggishness and the slow progress of land planning changes, Utah's youthful population, along with the addition of a growing senior cohort could grow transit use in the future by providing customers, attractive, affordable and cost effective service both now and into the future.

WASTEWATER & STORMWATER **C+**

Wastewater and stormwater infrastructure includes the system of pipes and pumps that collect used water from homes and streets, carry it to a treatment facility, and clean it before releasing it into the environment. Numerous treatment plants are approaching or have exceeded their expected 30-year useful and efficient operating life. In addition, there is significant deterioration of sewage collection systems that are 60-70 years old and beyond their expected useful life. Wastewater agencies have not been able to keep up with repair and replacement, let alone accounting for changing regulations and population growth. New capacity has recently been brought on-line in all the counties of the Wasatch Front. However, Salt Lake City, South Davis Sewer District, Provo City and Logan City together face between \$500 million to \$1 billion in combined capital costs to meet nutrient limits and to repair or replace their treatment plants. The cost of stormwater compliance with CWA regulations is difficult to determine but estimated to cost between \$3 to \$25 per person.

UTAH'S INFRASTRUCTURE REPORT CARD

BRIDGES **B+**

CANALS **D+**

DAMS **B-**

DRINKING WATER & SUPPLY **C**

HAZARDOUS WASTE **C+**

LEVEES **D-**

ROADS **B+**

SOLID WASTE **B-**

TRANSIT **B+**

WASTEWATER & STORMWATER **C+**

G.P.A. C+

Each category was evaluated on the basis of capacity, condition, funding, future need, operation and maintenance, public safety, innovation and resilience.



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2015 REPORT CARD

★★★★ for ★★★★★

UTAH'S INFRASTRUCTURE

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RAISE THE GRADES 5 KEY SOLUTIONS

- 1 DEVELOP AND FUND PLANS TO MAINTAIN AND ENHANCE UTAH'S INFRASTRUCTURE:** Infrastructure investment must be increased to meet Utah's growing needs, but it also should be prioritized and executed according to well-conceived plans that focus on the health and goals of the system and economy.
- 2 PLAN TO COORDINATE AND SAVE:** Continuing to proceed piecemeal in the development of infrastructure strategies and plans for our complex, urbanizing populace is not practical nor a responsible means for dealing with the future. State leaders should organize a comprehensive and coordinated infrastructure planning effort that could bring needed efficiencies, significant savings, investment, and, most importantly, added safety.
- 3 PLAN TO REBUILD TO REBOUND:** If something must be replaced, let's rebuild it to rebound when challenged. Our leaders should task experts to use current risk models and prepare forward-looking economic analyses that assesses the cost of inaction in the face of population growth and potential natural hazards, like an earthquake, and consider using a responsible portion of what will certainly be spent tomorrow strengthening our infrastructure today.
- 4 INCREASE LEADERSHIP IN INFRASTRUCTURE RENEWAL:** Utah's infrastructure is a responsibility of state and local leaders, and leadership is needed to maintain and renew the infrastructure the generations before us have built.
- 5 PROMOTE SUSTAINABILITY AND RESILIENCE:** Today's infrastructure must meet the community's ongoing needs, and at the same time, protect and improve environmental quality. Sustainability, resiliency, and ongoing maintenance must be an integral part of improving Utah's infrastructure.



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ABOUT UTAH'S INFRASTRUCTURE

Utah's public infrastructure systems are at a crossroads of historic growth. Significant changes are needed as population density increases and the state's infrastructure faces new demands. Utah is seeing a rapid shift towards urbanization but also a transition in infrastructure use from an agrarian to urban corridor.

Both old and new infrastructure will require Utah's attention. In this assessment, available funding and needs information was compiled, and it is estimated that **Utah's infrastructure needs over the next 20 years exceed \$60 billion to both maintain and provide infrastructure for growing areas.** As federal funding sources recede, the State of Utah will need to strive to be self-sufficient in the planning and funding of infrastructure.

The **2015 Report Card for Utah's Infrastructure** is an independent review of the current state of infrastructure needs, capability and funding in the State of Utah by the Utah Section of the American Society of Civil Engineers. It is a tool that shows every citizen the extent, condition, and importance of the state's infrastructure assets that support modern life.