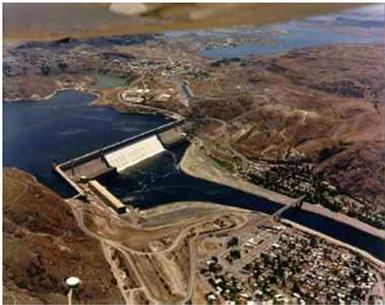


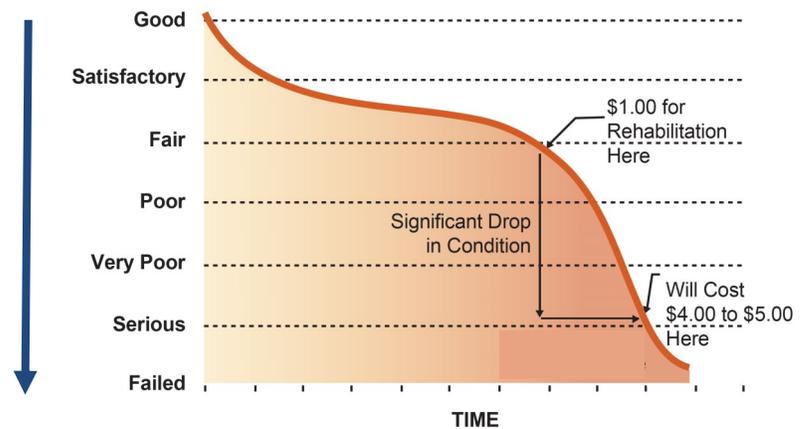
WATER, MARINE TRANSPORTATION AND RELATED INFRASTRUCTURE INVESTMENT



NATIONAL PRIORITY

- Our nation's economy, health, safety, and well-being depend upon federal water infrastructure built over the past century. These federal investments directly support major economic sectors such as navigation, water supply, hydropower and other energy production, farming, industrial and commercial manufacturing, commercial and recreational fisheries, trade, and the movement of goods that are critical to the national economy.
- Significant investments are needed to ensure water resources and marine transportation infrastructure continue to meet critical national needs.
- Investment in water resources and marine transportation systems creates jobs now and is an investment in the future prosperity and quality of life of this nation. Deferring water infrastructure construction and maintenance investments places the nation at risk and results in a much higher financial burden.

Deterioration of Infrastructure over time (Modified from Federal Highways Administration and Kahn and Levinson)



Source: Federal Aviation Administration (FAA) 2010.

CHALLENGES AND SOLUTIONS

- Funding water infrastructure in a time of declining discretionary government funding is a daunting challenge. Constrained federal funding delays project completion, defers public benefits, and increases risks and life cycle costs. Private sector investment, including public private partnerships (P3s) can serve as a tool to incentivize efficiency gains, resulting in lower lifecycle costs and earlier delivery of project benefits. However, significant impediments stymie the application of federally-led P3s towards enabling water and marine transportation infrastructure investment.
- There are 3 primary actions that are required to foster application of federal P3s and other alternative financing and delivery tools that will enable private sector financing and innovation for federal water infrastructure projects:
 - (1) Retention and reinvestment of available revenue streams to enable P3 projects;
 - (2) Development of federal availability payment mechanisms; and
 - (3) Adaptation of current budget scoring rules to the specific risks and rewards of water infrastructure investments.

NUMBERS AT A GLANCE

- Flood risk management prevents >\$8 in flood damages for every \$1 invested.
- Hydropower systems owned by the U.S. Army Corps of Engineers and Bureau of Reclamation produce 40% of the nation's hydropower.
- Recreation areas contribute approximately \$18B to local economies, host millions of visitors, and support thousands of jobs.
- Bureau of Reclamation's irrigation infrastructure serves 10M acres of farmland which produce 60% of the nation's vegetables and 25% of fruits and nuts. Crops irrigated with Bureau of Reclamation water produce \$14B of crop value, support more than 280,000 jobs and contribute \$32B to the nations' economic input.
- Our marine transportation systems connects people and markets around the globe. In 2015, water transportation added \$18.9B to the gross domestic product (GDP) playing a vital role in the American economy and society.
 - Inland waterways, the primary transportation corridor for U.S. grain and oilseeds, are vital to the agricultural sector. In 2015, the agriculture industry contributed \$17.5B in surplus to the U.S. Balance of Trade.
 - The U.S. energy industry relies on marine transportation systems to transport energy (natural gas, coal, crude).
 - Barges generate millions of dollars in cost savings when compared to transportation by semi-truck. Barges are also safer and more efficient, moving a ton of freight almost 600 miles per gallon of fuel.
 - Marine transportation enables U.S. military power to move around the world by ship, providing logistical support.



TODAY THIS INFRASTRUCTURE IS AT RISK

- The quadrennial infrastructure report card of the American Society of Civil Engineers assigned an overall grade of D+ to the condition of the nation's major infrastructure.
- The current "fix-as-fails" approach to legacy water infrastructure systems is both inefficient and costly, threatening our nation's economic foundation, quality of life and global competitiveness.
- Federal budgets fall significantly short of the National Research Council recommended investment level of 2 to 4% of Plant Replacement Value for maintenance annually. Current estimates are less than 0.5%.
- According to the World Economic Forum, the U.S. ranks 14th in quality of infrastructure among comparable advanced nations. Additionally, according to a 2015 U.S. Treasury Report, in 2012 the U.S. ranked 143rd in gross fixed investment as a percentage of gross domestic product.
- Infrastructure investment is a global challenge. The world economic forum estimates that by the year 2030, some \$60T in additional investment will be required internationally to maintain current levels of economic activity at current levels of quality of life. Similarly, U.S. infrastructure investment requirements are expected to be \$7T by 2030 (again, to maintain existing infrastructure, not to build new). It is estimated that about 50% of that investment bill will be serviced outside of typical public authorities as demands on public budgets far exceed available federal funds based on current budget choices.

