ARIZONA STATE UNIVERSITY

TRANSPORTATION SEMINAR

Arizona DOT Extreme Weather and Climate Change Resilience Program – Blending Risk/Science/Technology/Engineering

Friday, October 14, 2016
3:00pm to 4:30pm

College Ave Commons
Room 425

Steven Olmsted

Environmental Planning & Infrastructure Delivery
Arizona Department of Transportation

The Arizona Department of Transportation (ADOT) manages 30,000 maintenance lane miles, 4,700 bridges, and one international border, all spread over 114,000 square miles. The agency and its assets need to function from sea level to 6,000 feet and withstand temperatures from below 0°F to over 120°F. ADOT's mission to provide a safe, efficient, cost effective transportation system can be compromised from the effects of heat extremes, dust storms, wildfires, flooding, landslides, rockfall incidents, and slope failures. In order to cope with the ever-growing cost of these threats, ADOT set out to develop an extreme weather and climate change resilience program that could incorporate existing planning, design, construction, operations, and maintenance criteria, identify a strategic and systematic framework, take advantage of available technologies, tools, and partnerships, build upon their 2014 Preliminary Study of Climate Adaptation for the Statewide Transportation System in Arizona and the 2015 Extreme Weather Vulnerability Assessment Final Report, and contribute to the national conversation surrounding these topics.

Since ADOT has had a long history considering the balance between predictable asset deterioration curves and the unknown, erratic, and abrupt incidents of flood, overtopping, system hotspots, hydraulic-related failure, and extreme weather impacts, these topics were identified to make up the core of the resilience program. This presentation will have a particular focus on - Advancing Hydrological Modeling and Hydraulic Engineering Design through Framework Identification, Partnerships, use of LiDAR and UAS, and implementation of the Federal Highway Administration's Collaborative Hydraulics: Advancing to the Next Generation of Engineering (CHANGE) program.

Steven Olmsted develops Infrastructure Health & Sustainability initiatives at the Arizona Department of Transportation. He assists in delivering ADOT's annual $1 billion construction program and additionally administers project teams for resilience - extreme weather and climate adaptation, ADOT's Sustainable Transportation Program, and ADOT's USGS Partnerships to develop risk-based assessment mechanisms especially as they relate to asset management, hydrologic modeling, and hydraulic engineering design. In addition, he has held several accounting, finance and budget positions at ADOT.

http://goo.gl/A9e8aq

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