

A New Type of Vehicle Proving Ground Finding Creative Ways to Leverage Concrete Pipe Products (Mark Chaput - American Center for Mobility)

Mark will share the journey of taking a Brownfield Site from an old General Motors Transmission Plant to creating the nation's largest, most comprehensive purpose built Connected and Automated Technology Proving Ground.

He will outline the mission of ACM and how they are building a unique real-world transportation infrastructure facility to serve the testing needs in the revolutionary ecosystem of Connected and Automated Vehicles and Mobility.

Mark will also share some of the unique challenges of building on a 75-year-old heavy industrial site with significant environmental contamination and how Concrete Pipe products have provided ACM a variety of solutions to real world challenges of managing stormwater.

Value of DOT and Industry Partnership – Relationships (Jeff Benefield, P.E. - ALDOT)

In this class the speaker will walk us through an interactive discussion of the ways that ALDOT and Industry groups work together and partner on issues. The class will discuss the value of partnering on developing and delivering training, specification and standards reviews and updates, and working together to solve specific job design options. Jeff will share his suggestions in approach and techniques on how industry can and should work with their local DOT.

Austin Stormwater Asset Management (Meagan Norris, P.E., MBA, LEED AP - City of Austin)

Asset management is the strategic and systematic process of operating, maintaining, and improving physical assets with a focus on engineering and economic analysis based upon quality information. Asset management helps to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practical cost. Mr. Byars will share the City of Austin's Stormwater Asset and Data Management Plan, which provides attendees with a tool for making infrastructure investments and sound resource utilization decisions.

Bridge/Culvert Replacement Strategies (Craig Stevens, P.E. - DeIDOT)

This course will define what constitutes a "bridge" as far as DeIDOT is concerned and show the impact that the failing corrugated metal pipes (CMPs) have on our bridge inventory. The course will then illustrate and define the different types of failure we have seen with regards to our CMP inventory. After discussing the issue, this course will demonstrate how DeIDOT tackled the issues with the hundreds of failing CMPs. The course will show how we changed policies in our Bridge Design Manual and our Bridge Inspection Manual such that the issue will not occur again in the future. Lastly, it will outline the different contracting methods and construction methods we employed to replace the failing CMPs.

Pipe Installation (Walt Catlett, P.E. - American Concrete Pipe Association)

A properly installed pipe should remain in service for 50 to 100 years with little or no repair. ACPA has documented installation practices for both flexible and rigid pipe at the local and state level. The focus of this class remains on promoting a solid understanding of installation, specifications, design requirements and material differences for pipe systems. Empower your

staff with the ability to properly inspect, design, install and accept both flexible and rigid pipe systems.

TxDOT Response to Harvey (Michael Lee, P.E. - TxDOT)

The Texas Department of Transportation plans for hurricanes. TxDOT has individual plans for each district and multiple contingencies depending on the severity of the storm. TxDOTs' has a lot of experience responding to severe weather, from ice storms to flooding. But each storm is different, and Harvey tested the agency in ways we've not seen. All 25 of our districts were eventually called upon to provide support as the storm stalled over the state and continued to drop rain. Areas flooded that had never flooded before. More than 4,500 TxDOT employees responded to the storm either directly or indirectly for a total of over 560,000 man hours. Thousands of pieces of equipment were on the ground monitoring, clearing and repairing more than 500 on-system roads that were affected.

Flooded Backfill: Lower cost, higher quality (Wes Musgrove, P.E. - Iowa DOT)

When backfilling and compaction by flooding is required, backfill may be placed in lifts up to 2 feet thick. Place backfill simultaneously on both sides of culvert. Determine if pipe culverts need to be restrained and take appropriate actions to prevent floating of culverts during backfilling, flooding, and compaction. This session will cover Iowa DOT's path to the use of flooded backfill. From recognizing pavement degradation issues at culvert crossings, to evaluation of the cause, to the results of the solution. Flooded backfill has provided benefits surpassing the expectation for Iowa DOT.

Fish Passage Projects (Luke Assink, P.E. - WSDOT)

The Washington State Department of Transportation (WSDOT) has long recognized the importance of minimizing the environmental impacts of Washington's transportation system. As a part of that commitment to the environment, in 1991, with legislative support, WSDOT created a dedicated program to correct barriers that restrict or completely block salmon and trout access to historic spawning and rearing Habitat.

Fish passage projects involve complex construction conditions with severe time constraints. Learn how WSDOT and Precast Concrete Producers have worked together to incorporate innovative planning, design, materials, and construction methods to meet these stringent requirements.

At the conclusion of this session, participants will be better able to:

- Recognize the legislative and design challenges facing WSDOT's fish passage program.
- Identify critical design and construction components of precast concrete culverts used for fish passages
- Make informed decisions on accelerated construction using precast options.

Professional Engineering Procurement Services (Martin Rodin, P.E. - TxDOT)

TxDOT's Professional Engineering Procurement Services (PEPS) Division is responsible for procuring engineering, architectural and surveying services for transportation projects through professional services contracts. The division also manages the agency's consultant budget, identifying transportation projects that require additional resources. The division serves as TxDOT's liaison to the American Council of Engineering Companies (ACEC).

QA/QC (Paul Krauss - Wiss, Janney, Elstner Associates, Inc.)

A comprehensive and established Quality Assurance/Quality Control Audit Program is essential to a successful final outcome. A good QA/QC program begins in the early phases from pre-planning to delivery of the final product. While plant managers are viewed as the key to a good quality product, all personnel involved in the all phases of the production of precast concrete products are expected to provide quality work. This class highlights recommended procedures that State Highway Agency (SHA) or their representative can follow when shadowing the American Concrete Pipe Association (ACPA) QCast Program plant audits. It is understood that each DOT may have special local requirements based on their unique situation and resources. This guide is intended to form a baseline review that can be applied nationally. The ACPA certifies pipe and precast facilities through a quality program that requires the plants to conform to the industry standard ACPA QCast Plant Certification Manual. Plants are subject to annual third-party audits as part of this certification program.

Trenches Technology (RCP/RCB) (Derek Light, P. Eng. - Rinker Materials)

A growing segment of pipe installation includes trenchless applications. They are less disruptive to traffic, communities, utilities and businesses. Trenchless installation saves time, saves money and improves roadway safety. It is important to know this competitive option. As our nation's infrastructure approaches its service life, the jacking pipe procedure is a beneficial option worth researching.

Essentials of Engineering Excellence (Lindsey Ivy Burden and Beth O'Donnell - University of Virginia – Center for Transportation Studies)

Nicknamed "E3," Essentials of Engineering Excellence is tailored for the employees who design, construct and maintain the state's roadways and bridges. Garrett Moore, chief VDOT engineer since 2012, originated the program, which is a technical training and development program for VDOT's engineers. E3 is a flexible but rigorous curriculum that allows participants to advance their personal career goals while meeting their training needs for VDOT. Crucially, employees can opt to use E3 as a pathway to a master's degree in engineering from the Department of Engineering Systems and Environment, UVA's home for civil, systems and environmental engineering. The training model is based on one that the center uses for the Virginia LTAP and the Tribal Technical Assistance Program, a similar federal program serving Native American communities throughout the country. E3 instructors come from the field with extensive on-the-job experience and from academia, including UVA Engineering faculty.

DOT Drones - (Tracy Larkin Thomason, MBA, PE, PTOE, CPM - NDOT)

The Nevada DOT along with many Dept. of Transportations (DOTs) across the nation has integrated Unmanned Aerial Vehicle (UAV) technology (aka drones) into a variety of departmental workflows. This includes the development of topographic maps for our design engineers, photo and video documentation of construction projects, 3D models for site visualization, and several other cutting-edge products. Through the use of drones, DOTs have been able to reduce the time spent in hazardous work areas and bridge the data collection gap that exists between traditional survey teams and our manned aircraft. UAV technology allows us to quickly assess road damage during flooding events and provides nearly instantaneous feedback to emergency personnel.

Come hear how NDOT's UAV team continues to push the boundaries of this technology to

create new efficiencies for our system along with a glimpse of how states are piloting the mapping of “air highways” for drone deliveries.

Specification Review/Development Process (Steve Boggs, P.E. - WV DOH)

Mr. Steve Boggs is the Specifications Engineer for the West Virginia Division of Highways. This presentation will outline the procedure that have been accepted by the WVDOH for preparing and processing proposed specifications and revisions to existing specifications. It will include the role of the Specification Committee, how it is organized and operates. The presentation will review recent changes to the Pipe Culverts specifications and its approval process.

Proven Asset Coordination Practices within the Right of Way, David Wresinski (Michigan DOT – Retired)

The Michigan Infrastructure Commission (MIC) was formed through legislation and charged with, improving coordination between asset owners in the road right-of-way, improving asset management practices among these asset owners, and improving the collection of sub-surface asset data. This presentation will focus on the opportunities and challenges of advancing these objectives, with a focus on the challenges of locating and obtaining culvert data after a series of natural catastrophes involving culverts around the state.

Precast Concrete Slabs or LADOTD Research (Phillip Sturdivan, P.E. - LADOTD)

In May of 2018 the Louisiana Department of Transportation and Development began work on a pilot project using precast concrete panels. The project’s intention was to replace the on-ramp onto I-20 EB from LA 169 with precast concrete panels to evaluate their potential use on other larger scale projects in our state. This presentation will show the project construction sequencing and the steps involved in undertaking such a project. It will also discuss some of the lessons learned through this pilot project and how they plan to be further implemented in future projects.