

NCHRP 20-68 – “US Domestic Scan Program”

Domestic Scan 23-02 “Recent Experiences in Advancing and Deploying of Automated Vehicle Technologies”

Current technology advances and deployments of automated vehicle technologies using Automated Driving Systems (ADS) have the promise of significant system safety and operational improvements as well as equity and mobility opportunities to address current, unmet needs. However, these rapidly available solutions and applications also pose challenges for Infrastructure Owners and Operators (IOOs) who seek guidance as the learning curve is steep, risk tolerance is low, and they must deal with constrained resources. Many transportation organizations are currently exploring the testing and deployment of automated and connected technologies and, specifically, Automated Driving Systems (ADS). According to the National Highway Traffic Safety Administration (NHTSA) AV Transparency and Engagement for Safe Testing (TEST) Initiative, there are approximately over 80 ADS pilots under way across the US. Each of these pilots represents a significant opportunity for State DOTs as IOOs and other transportation organizations to learn and capture successful practices as well as lessons learned that are timely and critically needed for the safe, effective, and efficient deployment of these automated transportation solutions.

The organizational capacity and readiness for AV and ADS deployments varies greatly between state DOT's. This scan will enable state DOTs and IOOs to gain critical and much needed knowledge to better understand the methods, barriers and opportunities associated with automated technology testing and pilots that are needed now. The scan team will be tasked to review the experience of DOTs or other agencies by examining a representative sample of ADS tests, pilots, and deployments that have been notably successful to explore the institutional and management changes credited for the success and to extract lessons that can inform other agencies' development. Potential agencies and programs that might be considered include automated trucking initiatives by Texas DOT, Pennsylvania DOT and Florida DOT; Ohio DOT's Drive Ohio, Truck Automation Corridor; Michigan DOT's cross border, Smart Belt Coalition. States with Automated Fixed Route Transit and Automated On-Demand Microtransit (low speed shuttle) programs that may be of interest include California DOT (San Francisco GoMentum Station), initiatives by Pennsylvania DOT, Florida DOT's initiatives in Orlando and Tampa, Minnesota DOT's Med City Mover and Ohio DOT's Drive Ohio, (Columbia Shuttle).

The scan is envisioned to be conducted as a Type 2 Scan (Reverse Scan). The scan will allow for the exchange of information between states in a focused and candid setting with the goal to crystalize and provide critical best practice information and decision support needed by many states. This will enhance IOOs' understanding of how to approach planning, financing, programming, policy development, risk management, safety management, equity analysis, infrastructure readiness and system operation in ADS deployments and applications. The results of this scan will be of particular interest to all DOTs leadership but specifically to the AASHTO Committee on Transportation System Operations, AV Task Force Community of Practice (COP) and the CAV Inter-committee Working Group.

Original Scan Proposal Title: 23-05 Best practices for testing, piloting, and monitoring of automated transportation solutions