Preparing for an AV-Ready Iowa
94% Crashes – Driver Error/Choice

80% Potential Reduction in Crashes
Transportation System Management and Operations (TSMO)

- Traffic Management Center
- Intelligent Transportation Systems (ITS) & Communications
- Traveler Information
- Traffic Incident Management
- Emergency Management
- Work Zone Management
- Active Transportation and Demand Management
- Cooperative Automated Transportation
Becoming AV Ready
Preparing for an AV-Ready Iowa

Two-Prong Approach

Support Drivers Today

Support Advanced Driving Systems Tomorrow

AV-READY
AV Readiness in Iowa

1. Infrastructure Readiness
2. Organizational Readiness
3. State Level Readiness
4. National Level Readiness
Pavement Markings

Starting with new projects on Interstates
✓ 6” (Wider) Pavement Markings
✓ Long Life Marking Material
✓ Shadow stripe on the white skip line
✓ Wet Weather Markings
✓ Durable Legends, Arrows, ONLY’s, Stop Bars, Cross Walks
Work Zones

Can we provide a feed with every lane closed within our state every minute?
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Work Zones

Limited resources and time

Not another form!
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Work Zone Data

- Work Zone Data Exchange (WZDx)
- Smart Arrow Board Deployment
- Improved Work Zone Data Feed
- Iowa Work Zone Data Hub
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Work Zone Technology

Deployment of Connected Technology

I am: ID# 77
I am: Location (lat, lon)
I am: ON
National Connected Vehicle Signal Phasing and Timing (SPaT) Deployment Challenge
National Connected Vehicle Signal Phasing and Timing (SPaT) Deployment Challenge

Ames (6)
Dubuque (5)
West Des Moines (4)
Coralville (5)
Automated Traffic Signal Performance Measures (ATSPM)

• Method of monitoring traffic signal operation – can scale to entire system
• Provide situational awareness
• Based on high-resolution data collected by modern signal controllers
Organizational Readiness
Cooperative Automated Transportation (CAT) Service Layer Plan

- Overview

- Seven Tactical Areas

- 24 identified actions
  - CAT Pilots
  - CAT-Ready Data
  - Public Outreach & Education

- Available October 2019
Preparing for an AV-Ready Iowa
Project Goals:

- **Improve safety** on our Nation's roadways by beginning to lay the groundwork for the safe integration of ADS
- Work to **address disparities** in our Nation's roadway system by focusing demonstrations and ADS data gathering on rural roadways
- Demonstrate how ADS can be used to **enhance mobility** for transportation-challenged populations such as the aging populations in our rural communities
State Level Readiness
Recent Legislation

**House File 387**
An act relating to distance requirements for certain motor vehicles

**Senate File 302**
An act relating to motor vehicles operated by an automated driving system and making penalties applicable
Next Steps with SF302 Legislation

- Broad rulemaking authority
- Internal AV Legislation Working Group
  - Background
  - Recommendations to Iowa DOT executive management
  - Variety of topics being discussed
Iowa Advisory Council on Automated Transportation

- Informally the AT Council or ATC
- Began July 2018 by the Iowa DOT
- Vision
  - To create an AV-ready driving environment in Iowa for the safe movement of people and freight for a thriving Iowa economy
- Mission
  - Lead, coordinate, and enable the advancement of automated transportation systems in Iowa
How is the ATC supporting AV-readiness?

Communication, Outreach, & Education (crosscutting)

**Infrastructure Readiness**
- Digital
- Energy
- Electrification
- Planning
- Land Use
- Freight
- Security
- Institutional
- Workforce

**Policy & Legislation**
- Administrative
- Liability
- Insurance
- Finance
- Privacy
- Land Use Planning

**Economic Development**
- Workforce Development
- Employment
- Entrepreneurship
- Freight
- Commerce
- Efficiency
- Reliability
- Industry
- Manufacturing

**Public Safety & Enforcement**
- Regulations
- First Responder Safety
- Operator Responsibilities
- Safe Deployment
- Vulnerable Road Users

Research, Testing, & Development (crosscutting)
National Level Readiness
National AV-readiness

**THE “HOW”**
This first iteration ConOps will outline how AVs will operate on and interact with the physical and digital infrastructure of the nation’s roadways.

**FHWA National Highway Automation ConOps**

**THE “WHY, WHEN, AND WHERE”**
Outlines the national vision and phased strategic deployment of infrastructure readiness for AVs.

**National Strategy for Highway Automation**

**Roadway Automation Integration Research**

**THE “WHAT”**
Outlines the standards, consistency, and interoperability of physical & digital infrastructure, and institutions to support national roadway automation readiness.
THANK YOU!

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