Welcome

Presenters –

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Topics –

- The role of Aftermarket Parts
  - Overview of our view of Connected Vehicles
  - Experience with building a large fleet
  - What it takes to build aftermarket devices
ROLE OF AFTERMARKET PARTS

- Aftermarket parts will be an important part of *accelerating the deployment* of connected vehicles
- Vehicle components are a part of a larger system
- All devices need to work well in the automotive environment
  - Appropriate for the environment
  - Meet *performance* requirements
  - Good human interface
POLICY DECISIONS TIMELINE: CONNECTED VEHICLES

- 2011: Defined V2V Apps
- 2012: Defined Safety (V2I), Mobility (V2V and V2I), AERIS and Weather Apps
- 2013: Application Development
- 2014: NHTSA Decision Heavy Vehicles
- 2015: FHWA Deployment Guidelines
- 2016: NPRM Connected Vehicle Pilot Deployment Standards
- 2017: Security Credential Management System Prototypes
- 2018: Wave 2: Connected Vehicle Pilot Deployments
- FHWA Guidance

U.S. Department of Transportation
Uniform Implementations

The Internet of Something Big
- Reference architecture
- Consensus definitions
- Opportunity for a common experience, ability to do more
Examples of Something Big
A VARIETY OF COMMUNICATION MEDIA, DATA NEEDS

Resources: wired and wireless, the Internet
- 3,000 miles, 3,000 meters, 300 meters, 3 meters.

Requirements: Two types of data distribution:
- To all, To one.
Focus on Key Interfaces

Promote Interoperability by forcing -

- All BSM’s **meet performance requirements** (Vehicle Situation Data)
- All MAP’s and SPaT’s **created using the same interpretation** (Field Situation Data)
- All Traveler Situation Data **distributed using the USDOT Warehouse** (Travel Situation Data)
Common Understanding

As data moves toward the center of the system –

- It is assumed that every object that is part of, or is utilizing the services of the Unified Implementation of the Reference Architecture, has a **common understanding of time**, based on Coordinated Universal Time (UTC) as defined by the “International Telecommunications Union Recommendation TF.460-6”, to within 1 millisecond absolute to UTC.

- It is also assumed that every object that is part of, or is utilizing the services of the Unified Implementation of the Reference Architecture, has a **common understanding of location**, using the DE_Longitude, DE_Latitude and DE_Elevation units as specified in the “SAE J2735 - Dedicated Short Range Communications (DSRC) Message Set Dictionary”.

**Familiar units are reconstructed at the edges**
Testbeds

  - Exchanging information
  - Sharing of deployment lessons learned
  - Developing a common technical platform
Pilots