

# Uptane Industry Workshop

## 22 May 2020

**Government Notifications/Updates for Road Vehicles  
for Emergencies, Road Work, Traffic Conditions, etc.**

# Government Notifications/Updates for Road Vehicles

## – Reasons and Sources

- Reasons for Government notifications and/or updates
  - Emergency or Disaster Routing (e.g., scope of city, region, side of river)
  - Scheduled Road Work (e.g., closed lanes, alternate routes)
  - Traffic Conditions (e.g., traffic jams, closed exits, failed stoplights)
- Sources for Government notifications and/or updates
  - National Intelligent Transportation System (ITS) (e.g., US SCMS prototype)
  - National or State level Department of Transportation (e.g., US DoT, NHTSA)
  - Regional or City level Traffic Authority (e.g., New York City DoT)
  - National Security Agency (e.g., US DHS, US NSA)
  - National or State level Health or Emergency Agency (e.g., US HHS, US FEMA)

# Government Notifications/Updates for Road Vehicles

## – Format and Content

- Format of Government notifications
  - Text messages
  - Voice messages
  - Video messages
  - Multi-part messages
- Content of Government updates
  - Regulations (e.g., National or State or City traffic regulations)
  - Maps (e.g, traffic jams and alternate routes)
  - Firmware (e.g., scripts for ITS Base Stations in vehicles)

# Government Notifications/Updates for Road Vehicles

## – Distribution Modes and Distribution Services

- Distribution Modes for Government notifications and/or updates
  - Mobile Phone alert (e.g., Emergency notices)
  - Vehicle Head Unit alert (e.g., Traffic Jam notices)
  - Vehicle Telematics alert (e.g., ITS Safety notices)
  - Vehicle Software Update package (e.g., Road Work maps)
- Distribution Services for Government updates
  - Government Transportation/Traffic Authority (e.g., US DoT, US ITS)
  - National Intelligent Transportation System (ITS) (e.g., Road Side Units)
  - National or State level Health Emergency Agency (e.g., US FEMA)
  - National or State level Health Agency (e.g., US HHS)

# Government Updates for Road Vehicles

## – Uptane Considerations and Next Steps

- Uptane Considerations
  - Multiple Root CAs and Registration Authorities (OEM, Government Agencies)
  - Multiple Directors (OEM, Government Agencies)
  - Multiple Image Repositories (OEM, Tier-1, Aftermarkets, Govt Agencies)
  - Multiple Key Management Systems (X.509, IEEE 1609, Symmetric, etc.)
  - Uptane Primary and ITS Station in same ECU? (security versus safety)
  - Authorization of Uptane Primary to access to all vehicle subnets
  - Orchestration of Uptane installation of diverse update packages
- Uptane Next Steps
  - Engage w/ IEEE 1609, ETSI ITS, ISO TC 204 (Architecture and Protocols)
  - Engage w/ Government Agencies (Regulatory Requirements)