THE FUTURE OF THE INTERSTATE HIGHWAY SYSTEM:

Technology Trends and Their Impacts

December 19, 2016
AGENDA

- Technology Advancement
- Organizational Trends
- Impacts on Infrastructure Development
- Impacts on Infrastructure Management and Operations
  - Transportations Systems Management and Operations (TSMO)
TECHNOLOGY ADVANCEMENT

- Traditional
- Disruptive
- Societal Impacts
TRADITIONAL TECHNOLOGIES

➡ Communications
  ▪ Fiber
  ▪ Wireless

➡ Systems
  ▪ Traffic Management
  ▪ Traffic Incident Management
  ▪ Integrated Corridor Management
  ▪ Road Weather Systems
  ▪ Managed Freeways

➡ Decision Support Systems
DISRUPTIVE TECHNOLOGIES

→ Automated Vehicle
→ Connected Vehicle
→ Data analytics and sensing
→ Smart Cities
→ Pay models
SOCIETAL IMPACTS

- Mobility on Demand and TCNs
- Revised Vision of Urban Form
- Revised Vision of Transportation
  - Differs depending on geography/demographics
The technologies alone are not able to answer the societal impact questions.
ORGANIZATIONAL TRENDS

➔ Customer Focus
➔ Performance Focus
➔ TSMO Focus
➔ Organizational shifts
IMPACTS ON INFRASTRUCTURE DEVELOPMENT

→ Increased emphasis
  ▪ Operations
  ▪ Efficiency
  ▪ Evolving form
    – User focus
IMPACTS ON INFRASTRUCTURE MANAGEMENT AND OPERATIONS

- Evolution of Organizations and Structure
  - Capability Maturity Model
- Increased emphasis on technology
- Increased need for data/performance management and reporting
- Increased need for workforce development
- Increased need for integration
  - Technology
  - Organizational
  - Partnerships
- Transportation Systems Management and Operations
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