

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

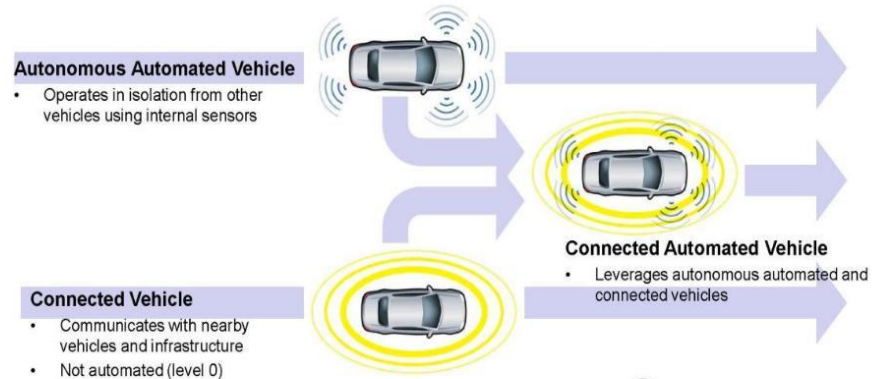
- Traffic Management
- Traffic Incident Management
- Integrated Corridor Management
- Road Weather Systems
- Managed Freeways

→ 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

Increased VMT?

Insurance Industry
Disruption?

Increased Urban
Sprawl?

Legal Liability?

Revenue Impacts?

Acceptance of
“Computer Driver”?

Auto Industry
Disruption?

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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