Connected Vehicle Applications and User Needs AASHTO Perspective

Jim Wright

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American Association of State Highway and Transportation Officials

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Agenda

- Applications of Interest
- Application Development Considerations
- View from 2011 AASHTO Infrastructure Analysis (Scenarios)
- Next Steps – "General Concept for Deployment/National Infrastructure Footprint"
- Summary

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Applications

- Safety
  - Intersection - violations, turn movements, gap advisory
  - Speed advisories (curves, work zones, road conditions, etc)
- Agency Operations
  - Traffic Control, including emergency vehicles
  - Commercial vehicle transactions
  - Agency Fleets, Transit
  - Pavement & weather conditions
- Mobility
  - Travel information ~ public package
  - Travel information ~ private package
  - In-vehicle signing, payment systems, etc

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State Application Development

- NY - Commercial Vehicle Emphasis
- MN – Payments, in-vehicle signing
- AZ/CA – Intelligent Traffic Signal System
- VA – Test Bed Development
- MI – Lot on how to use data from vehicles
- FL – integrated RSE into TMC

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Application Development Considerations

- Market Driven – business leads?
  - Safety, travel information
  - Commercially Developed?
- Agency Specific Applications – states lead?
  - Traffic control, signing, commercial vehicle, etc
  - Pooled Fund, AASHTOWare, developed?
  - FHWA-DMA efforts?
- Government Sponsored Frameworks – USDOT leads?
  - Standard interfaces, Interoperability requirements
  - FHWA, JPO, NHTSA developed?

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Scenarios 2012 to 2025

- Begin deployment with emphasis on agency benefits - **2011**
- Develop a "National DSRC Footprint Analysis" - **2012**
- AASHTO - **2013**
  - Definitive plan for infrastructure
  - Policy and Funding statements
  - Peer Deplorers' Forum
- Light vehicles equipped with DSRC start to appear in fleet **- 2019**
  - AASHTO begins to shift from commercial vehicle and agency emphasis to light vehicle emphasis for RSE deployments
- Model year zero for DSRC Vehicle Introduction - **2020**
  - ❖In four years 30% of vehicles equipped with DSRC safety
- **2025** - Widespread 4G (& newly available 5G) services increasingly widespread along with a large national DSRC infrastructure

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What is the states position on infrastructure?

- July 2011 Safety Meeting discussion with NHTSA on infrastructure in Chicago
- September 2011 USDOT/AASHTO meeting on security infrastructure at AASHTO Office
- October 2011 ELT meeting
  - State's are in a difficult financial situation
  - Most states don't know what CV is about and informed states don't understand the performance and operational requirements
- February 2012 ELT meeting
  - States recognized the importance of getting clear on the opportunities and obligations regarding infrastructure
  - Presented deployment analysis concept

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Where is AASHTO today?

- Our future vehicle world – we can begin to see it now; consequently we:
  - Need clarification of the opportunities and obligations there are for the states
  - Need to start engaging more of the state agency decision makers in a deployment discussion.

"General Concept for Deployment and the National Applications and Communications Footprint Analysis"

- To create a practical deployment picture with sufficient engineering and cost detail to clearly understand how the CV system will benefit agency operations, will contribute to a national CV network and improve the safety and mobility of our transportation system.

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Answer the following questions

- Why is field infrastructure needed
- What form should it take
- Where will it be needed
- When should it be in place
- What are the deployment & operational costs and operational requirements of field infrastructure

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The Approach

- Prepare set of design concepts
  - Applications and communications infrastructure
  - Sufficient engineering & cost details to move past planning phase
- Pilot design concepts (paper study or Pooled Fund?)
  - Selected locations
  - Reality check
- Create deployment priority approach
  - Investments decision tool
- Extrapolate to National Footprint

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Summary

- There is a raised sense of Urgency!
- May 18th CEO discussion at Spring meeting
- Begin "General Concept for Deployment Analysis"
- Layout broad AASHTO community outreach program 2012/2013
- Domestic Scan proposal 2013/2014?

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First Breakout Session: 1:15-2:45 PM

Red Group	**Topic:** Business Model Framework Considerations **Room:** Federal A **Facilitator:** Dominie Garcia **Note Taker:** Richard Walsh
Green Group	**Topic:** Business Model Framework Considerations **Room:** California **Facilitator:** Chris Hill, Blake Sheppard (backup) **Note Taker:** Suzanne Sloan
Blue Group	**Topic:** Operational and Implementation Considerations **Room:** Federal B **Facilitator:** Jim Misener **Note Taker:** Alex Lord
Yellow Group	**Topic:** Operational and Implementation Considerations **Room:** Ohio **Facilitator:** John Collins, Andrea Waite (backup) **Note Taker:** Ben Provil

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Second Breakout Session: 3:00-4:30 PM

Red Group	**Topic:** Operational and Implementation Considerations **Room:** Federal A **Facilitator:** Jim Misener **Note Taker:** Alex Lord
Green Group	**Topic:** Operational and Implementation Considerations **Room:** California **Facilitator:** John Collins, Andrea Waite (backup) **Note Taker:** Ben Provil
Blue Group	**Topic:** Business Model Framework Considerations **Room:** Federal B **Facilitator:** Dominie Garcia **Note Taker:** Richard Walsh
Yellow Group	**Topic:** Business Model Framework Considerations **Room:** Ohio **Facilitator:** Chris Hill, Blake Sheppard (backup) **Note Taker:** Suzanne Sloan

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