

Moving From Research to Implementation AASHTO Perspective

AASHTO Deployment Coalition

September 26th, 2012

American Association of State Highway and
Transportation Officials



Agenda

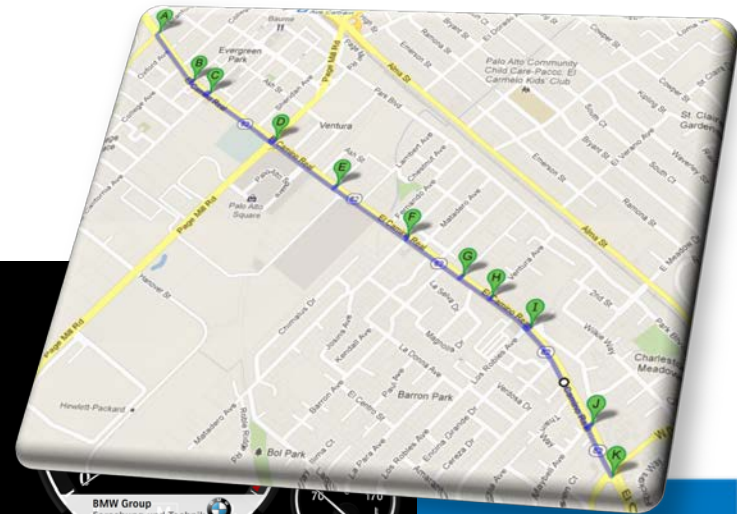
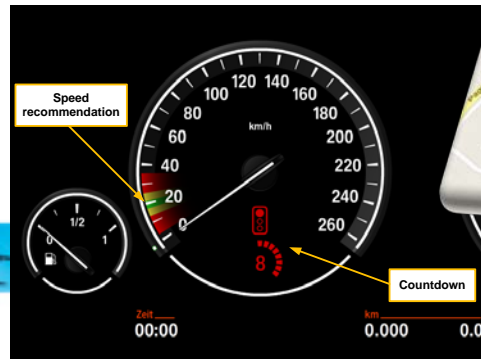
- State Pooled Fund Implementation Activities
- AASHTO Outreach Activities
- National Connected Vehicle Field Infrastructure Analysis
- Summary



Vehicle to Infrastructure

Pooled Fund

- Partnership with FHWA and the DMA program
 - Multi-Modal Intelligent Traffic Signal System
 - Intelligent Traffic Signal System
 - Transit Signal Priority
 - Mobile Accessible Pedestrian Signal System
 - Emergency Vehicle Preemption
 - Freight Signal Priority
 - Arizona and California Sites



NCHRP 03-101

- Costs and benefits of Connected Vehicle infrastructure deployment by state and local agencies
- Emphasis on direct benefits (cost savings) to agencies, rather than broader societal benefits
- Focus on case study-based analyses in several representative states
 - Virginia case study underway
- Results due early 2013
 - Initial findings presented at Nov 19th ELT Meeting
- DSRC State Guidance
 - Provide state of readiness and licensing strategies



Outreach Activities

- Administration Committee
 - NHTSA legal & State legal
- Traffic Engineering Committee Taskforce
 - Establish awareness of the C.V. world
 - Resolution to support implementation
- Communications Committee
 - State DOT communications directors
 - Establish awareness
 - Solicit their resources to spread the word
- Operations Committee (SSOM)
 - Connected Vehicle an emphasis area
 - Colorado DOT Director spearheading
- ITS World Congress
 - 7 state DOT directors; President, Vice President, past presidents, large states CA, FL, MI



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 and local agency decision makers in a deployment discussion.

National Connected Vehicle Field Infrastructure Footprint Analysis

- Preliminary concept for field infrastructure deployed by state & local agencies
 - Could be used by private consortia to design, build, operate, finance
- Compelling justification of agency value
- Provide tools for engaging state agencies
- Bring into focus applications that are of the greatest value to agencies



National Connected Vehicle Field Infrastructure Footprint Analysis

- Set of design concepts with high-level engineering detail
- Define set of deployment scenarios and
 - How, where and when they can be deployed..
 - How they might be paid for..
 - Extrapolated to a national footprint...
 - Phased deployment plan...
 - Define national support needed...



Task 3 - Technical Memo for State and Local Participants

- Level of understanding varies dramatically across the nation's state and local DOTs; consequently, we want to send them an alert:
 - Why infrastructure deployment is beneficial
 - What will deployment look like and when does it need to be accomplished
 - A successful transportation future will require a commitment to deployment
 - Describe the concept in compelling terms and what they should be doing to prepare



Task 4 - Applications Analysis

- Effective deployment plan relies on understanding capital, operations, maintenance needs for each application or bundle (i.e. safety/mobility)
- Applications have different set of requirements for processing, data, communications, security, power and installation requirements
- The data needs of each application will be described and gaps addressed
- Table prepared with applications inventory, data requirements, communication options and infrastructure needs → Task 5



Task 5 - Design Concepts and Security & Architecture Gaps

- Use Task 4 output to create real-world design concepts with high-level engineering detail
- Location types – urban, rural, speed zones, intermodal, border crossings, more.....
- Readiness tiers – technical vs. institutional



Task 6 - Preliminary National Infrastructure Footprint and Phased Deployment Plan

- One of the most significant challenges is lack of a clear description and extent of field infrastructure - impediment to action
- Development of set of ***deployment scenarios***
 - Design concepts
 - Funding strategies
 - Challenges
 - Timeline



Task 6 contd.

- Development of ***preliminary footprint***
 - Work with states within AASHTO Deployment Coalition ~ case study approach
 - Develop extrapolation process to reach a national footprint
- Development ***coordinated phase deployment plan***
 - Establish approach for nationwide roll-out
 - Processes, stakeholders, policies, institutional issues



Task 6 contd.

- Develop estimates of ***capital investment requirements and ongoing operational costs***
 - Design
 - Procurements
 - Communications and backhaul
 - Installation
 - Operations and maintenance
 - Staff development

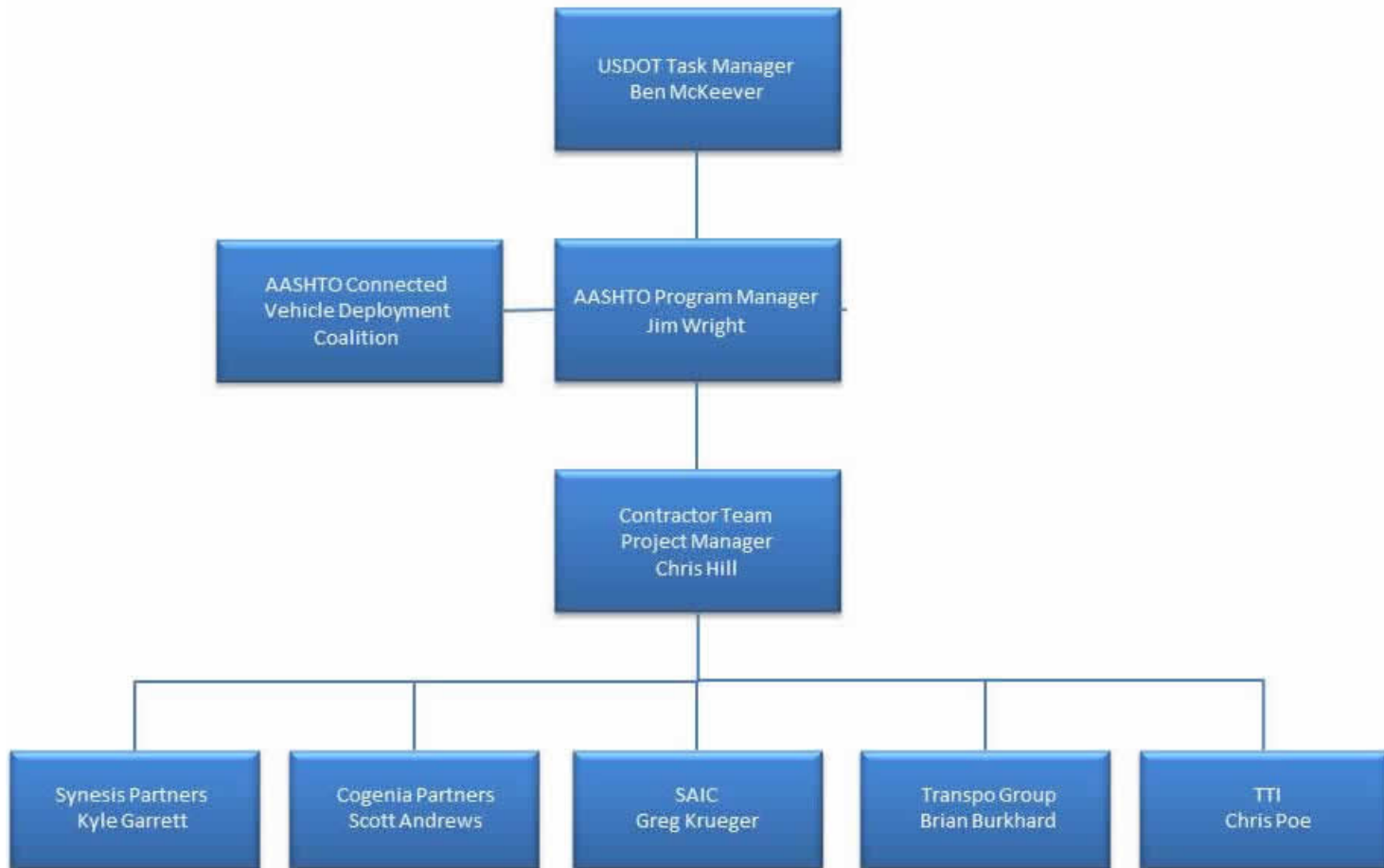


Task 7 – Final Report

- Final report incorporating the findings from Task 3 – 6 and presenting a ***national connected vehicle field infrastructure footprint and coordinated phased deployment plan***



The Team



Schedule

- Task 3 delivery - 80 days after Notice to Proceed (NTP)
- Task 4 delivery – input into Task 5
- Task 5 delivery – draft 120 days after NTP
- Task 6 delivery – draft 190 days after NTP
- Task 7 delivery – draft final report 330 days after NTP



Summary

- AASHTO working to keep pace with NHTSA Decision!
- Nov 19th ELT Meeting at AASHTO's Annual meeting
 - NCHRP 03-101
 - Infrastructure Analysis outline
 - Others from USDOT, VIIC
- Continued outreach with AASHTO Committees
- National Infrastructure Analysis
- Sense we are at a tipping point!

