OVERVIEW

▪ Connected Vehicles Pilot Deployment Program Overview
  □ Program goals, pilot sites, deployment schedule

▪ Lessons Learned in the CV Pilots Concept Development Phase
  □ Deployment complexity, collaboration, and technical related

▪ Safety Pilot Lessons Learned Applied to CV Pilot Deployment Program
  □ Participant recruitment, device installation, data collection and outreach/showcase

▪ How to Stay Connected
CV Pilot Deployment Program Goals

- Spur Early CV Tech Deployment
- Measure Deployment Benefits
- Resolve Deployment Issues

Wirelessly Connected Vehicles
Mobile Devices
Infrastructure

Safety
Mobility
Environment

LIMIT 35

Technical
Institutional
Financial
PILOT SITES AND DEPLOYMENT SCHEDULE

- Pilot Sites

- Overall Deployment Schedule

- Phase 1 – Creates the foundational plan to enable further design and deployment
- Phase 2 – Detailed design and deployment followed by testing to ensure deployment functions as intended (both technically and institutionally)
- Phase 3 – Focus is on assessing the performance of the deployed system
- Post Pilot Operations (CV tech integrated into operational practice)
LESSONS LEARNED IN CV PILOTS
CONCEPT DEVELOPMENT PHASE
DEPLOYMENT COMPLEXITY

- Sites are eager to consume USDOT technical assistance
  - Deployments are complex, requiring a lot of diverse elements to come together in an integrated system (technical, security, privacy, performance measurement, institutional, financial, etc.)

- Concept development takes some time to conduct – prior to procuring/designing/installing equipment
  - Sites are willing to “do the hard work now” rather than later, which would be more challenging and expensive
    - E.g., participating in detailed SyRS walkthroughs, thinking through initial application development cost estimates
  - Early discussions and information sharing regarding the Phase 2 and 3 NOFO allows agencies to investigate options for coming up with the required cost share
Stakeholder interaction and partnership
- Stakeholder interaction early and often leads to better concepts and more buy-in
- CV primes did a good job of picking partners as subs to fill out the experience required for many different activities

Site-to-site coordination can be useful (since not set up as competitive)
- Cooperation on security, vendor interaction, stakeholder coordination (UPS in WY and NYC)
- Participation in virtual roundtables

The deliverables from the sites are creating examples for others to follow
- Meeting with folks who have already implemented CV technology was an enormously helpful and successful activity
  - E.g., Good lessons learned from SPMD on installation planning/training
Building in performance measurement to a deployed system requires some serious thinking in the concept development phase.

Using standards (intelligently) can help to advance sites systems engineering.

We didn’t forget a key area in Phase 1 (so far), e.g., training or safety management.

Existing DMA applications made a great starting point for teams to build their ConOps around, but some will need tweaking to be implemented for real.

Building agreements with equipment suppliers is a long and uncertain activity – best to start exploring many options as soon as possible.

Gaining an early understanding of Institutional Review Board (IRB) process and timeframes can help in planning and managing schedule risk.

- E.g., considering how frequently the IRB meets in planning the project schedule.
SAFETY PILOT LESSONS LEARNED APPLIED TO CV PILOTS
PARTICIPANT RECRUITMENT

- Light Vehicle Drivers
  - Understand what motivational factors are important to the community and utilize them in the recruitment process.
  - Recruit participants iteratively to align with the planned device deployment schedule.

- Transit Vehicle Drivers
  - Understand the number of drivers that a transit operator uses in their operations and plan for that when selecting a transit agency for deployment of applications for testing.
  - Understand the system that the transit operator uses for matching drivers to routes, and take that into account when choosing to deploy transit applications for testing.
DEVICE INSTALLATION

▪ In-Vehicle Device
  □ Develop an installation plan (including device mounting) for each vehicle type and evaluate designs for any potential common elements.
  □ Include “end of the line” performance testing as part of the final close-out installation tests to determine if the installation is operating as intended.

▪ Infrastructure-Level Device
  □ Establish strong partnerships with state and local agencies responsible for the operations and maintenance of roadways and related equipment.
  □ Consider deploying RSUs at sites that already have existing ITS installations to minimize costs. Having a robust fiber optic network is key to managing the volume of data collected by RSUs.
Assess the approach to data collection in the test in terms of volume and types of data that will be collected. Then develop a plan for collecting and storing the data, including the sizing of servers and any necessary data management processes.

Allow the opportunity for the evaluator to provide a more detailed data specification document to the data collection entities as a part of the process.

Developing a standard database structure is more cost effective to manage and analyze the data separately.
OUTREACH AND SHOWCASE

- Outreach
  - Determine in advance what role the USDOT and contractors will have when working with the media and incorporate language into the contracting agreements.
  - Develop a key message that is agreed upon by all parties at onset of project. Establish clear guidelines on what information can be shared and what cannot.

- Showcase
  - Ensure capabilities are in place early in the deployment for stakeholders to be able to experience the environment via demonstrations and showcases of the technology.
  - Be prepared to maintain momentum throughout the project by establishing a plan to use a variety of tools to support the interests and needs of various stakeholders and audiences. Start with a prominent launch event, then follow-up with other high visibility elements.
Join us for the *Getting Ready for Deployment Series*

- Discover more about the 2015 CV Pilot Sites
- Learn the Essential Steps to CV Deployment
- Engage in Technical Discussion

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