The Connected Vehicle Pilot Deployment Program

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Background

- Multiple existing ITS and Connected Vehicle programs planning field tests
- Infeasible for all programs to conduct independent large-scale tests and deployments
- Cross-cutting needs have been broadly identified for many applications
- Clear opportunities for synergy among technologies, messages, and concepts
- Our assessment is that the current state of connected vehicle technology:
  - Clear opportunity to successfully deploy collections of complementary connected vehicle applications
  - Pilot deployments can have a cost-beneficial impact in the short-term
  - Potentially transformative impacts in the long-term

CV Pilot Program Vision

- The VISION of the Connected Vehicle Pilots program is
  - to conduct research,
  - promote technology transfer,
  - and facilitate the nationwide deployment of a Connected Vehicle environment

CV Pilot Program Goals

- The GOALS of the CV Pilots Program are to
  - **accelerate early deployment** of Connected Vehicle technology
  - **understand and estimate benefits** associated with deployment
  - **identify and solve key issues** related to technical and institutional barriers

The Connected Vehicle Environment

- A Connected Vehicle Environment is
  - a robust (resilient, secure, and operational) transportation environment
  - where vehicles, mobile devices, and fixed infrastructure communicate
  - agnostic to communications media selected based on function and cost
  - improving traveler safety and traveler & goods mobility while minimizing environmental impacts

Organizing Principles

- Pilots will be ***pilot deployments***, that is, real-world environment deployments
  - If successful, deployed technologies are expected to remain as permanent operational elements

- There will be ***multiple*** pilot sites over time
  - Each site will have different needs, focus and applications
    - That is, pilot deployments must address a critical problem
    - The needs of each site must drive the application selection process

- Pilot deployments are expected to be both ***large-scale and multi-modal***
  - ***Large-scale*** implies pilot deployments will have measureable impact, not a specific minimum geographic or vehicle fleet size
  - Sites will deploy ***multiple applications*** drawing on the products of USDOT and other connected vehicle research

Proposed Pilot Deployment Requirements

- Multiple connected vehicle applications must be deployed together
  - Cost-effectively leveraging captured CV and mobile device data
  - Address multi-modal problems

- Pilot deployments should leverage USDOT-sponsored research
  - Need not include all applications (in fact, this is unlikely to be practical)
  - May include new connected vehicle applications not considered by USDOT
  - All applications selected must work and have an impact

- Pilot deployments should include the capture of data from multiple sources
  - At a minimum, vehicles must represent one source of data used in the pilot deployment

- Multiple forms of communications technologies are desired
  - DSRC desired as one communication technology

Proposed Pilot Deployment Requirements (continued)

- Well-defined, focused, quantitative performance measures
  - Support an independent evaluation effort
- Share pilot deployment data and lessons learned
  - While protecting privacy and intellectual property
- Security and credentialing management system
- Integrated or carry-in devices for connected vehicles capable of generating an SAE J2735 Basic Safety Message (BSM)

Key Milestones for the CV Pilots Program

▪ Request for Information (RFI) Issued	March 2014
▪ CV Pilot Program Stakeholder Workshop	April 2014
▪ Regional Pre-Deployment Workshop/Webinar Series (TBD)	Summer-Fall 2014
▪ Solicitation for Wave 1 Pilot Deployment Concepts	Early 2015
▪ Wave 1 Pilot Deployments Award(s)	September 2015
▪ Solicitation for Wave 2 Pilot Deployment Concepts	Early 2016
▪ Wave 2 Pilot Deployments Award(s)	September 2016
▪ Pilot Deployments Complete	September 2020

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Connected Vehicle Pilot Deployment Program: High-Level Roadmap

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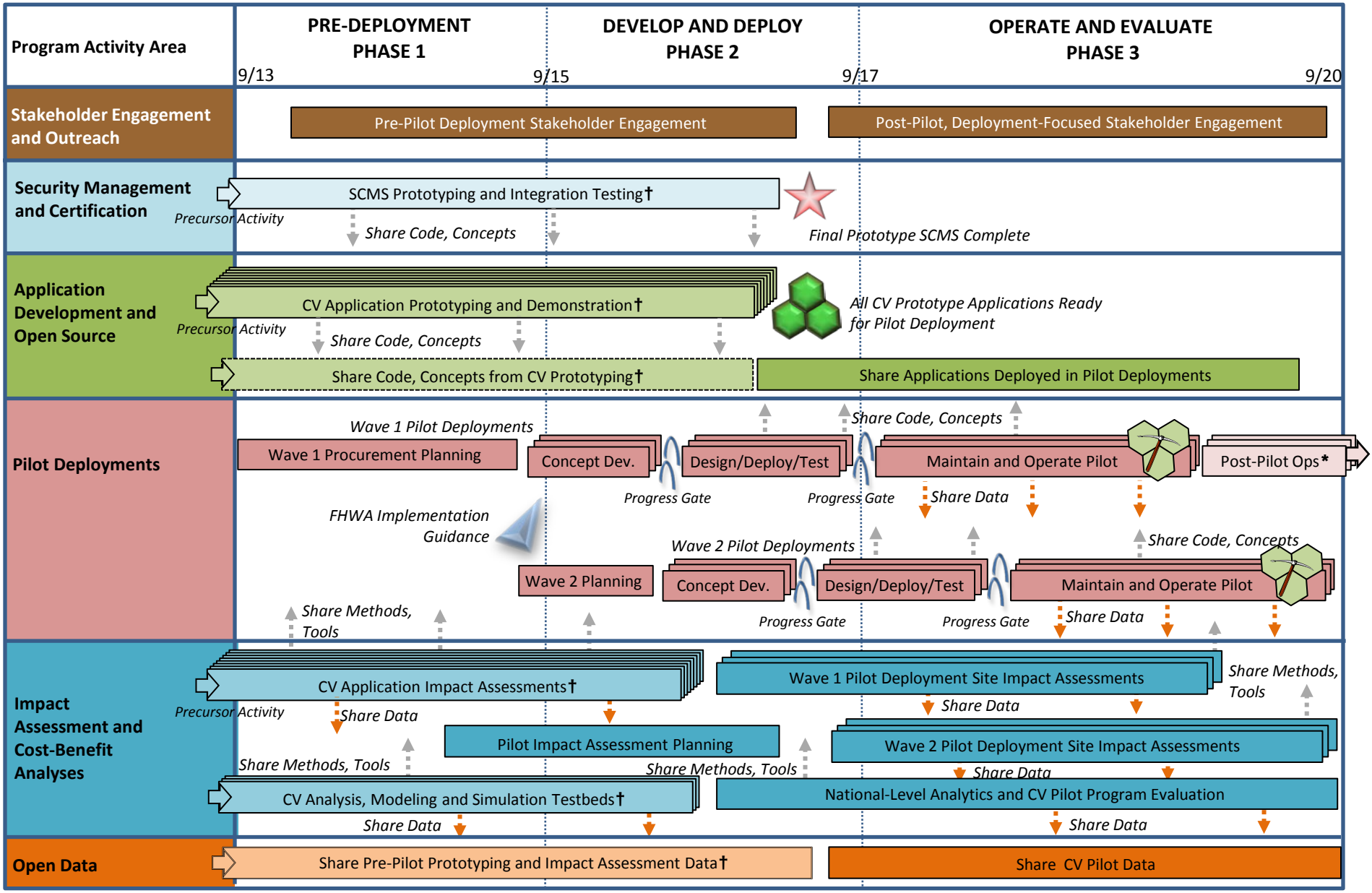

LEGEND:

- Code/Concept Feed
- Data Feed
- Prototype CV Applications
- Go/No-Go Progress Gate
- Deployed Pilot CV Applications
- Precursor Activity
- Post-Deployment Activity

† *Coordinated CV R&D from DMA, AERIS, RWMP, V2I Safety, DCM (not CV Pilot funded)*

* *Applications included in routine operational practice at each site (not CV Pilot funded)*

Getting Ready for Pilot Deployments

- Get familiar with USDOT connected vehicle research products
- Attend upcoming stakeholder events
  - We will cover these in our last session of the day
- Find like-minded partners from the public and private sectors to create a pilot deployment concept
  - Grounded in local needs, i.e., solving real transportation problems
  - Targeting specific and meaningful performance goals
  - Built around a cost-effective collection of connected vehicle applications that leverages common data capture and dissemination

Stakeholder Q&A