Day 1:
Site Concepts and the Federal Team
USDOT Introduction

Kate Hartman, ITS JPO, CV Pilots Program Manager
WHY WE ARE HERE: EVERY SITE A SUCCESS IN PHASE 1

- SUCCESS = A CONVINCING CASE YOUR SITE IS READY FOR PHASE 2-3

- USDOT has high expectations for the CV Pilot Deployment Program

- Successful deployment begins with successful Concept Development

- Phase 1 comprises the key tasks required to be successful
  - To mitigate technical, institutional, and financial risk
  - To design and deploy on schedule and within budget
  - To routinely assess safety, mobility and environmental impacts
  - To create long-term technical and financial sustainability
USDOT STANDS READY TO HELP

- Deploying CV technologies and applications can be challenging

- The USDOT CV Pilots Team has put in place significant resources to assist sites during Concept Development (Phase 1)
  - The 13 task process is a framework for conducting concept development that improves the likelihood of later success
  - USDOT technical support resources are organized to assist sites in the successful completion of each of these tasks
  - We have identified a range of potential support activities that may be helpful, but participation in these activities are optional

- USDOT resources to assist sites determined by feedback from the sites
  - Site-identified technical, institutional or financial issues

- In order to succeed the sites must know how to engage USDOT to get the help that is most critically needed
  - This kickoff event begins that conversation
DEPLOYMENT SITES ARE NOT IN COMPETITION

- The USDOT is not the only resource for CV Pilot Sites in Phase 1
  - All CV Pilot sites should be prepared to collaborate with each other

- Sites selected for CV Pilot Deployments are not in competition
  - Funding decisions for later Phases are dependent on the strength of the Concept Development effort in each individual site
  - There is no downselect process after the award for Concept Development

- Collaboration among sites can be a powerful force in making all sites successful
  - This kickoff event begins that conversation among the sites

- Collaboration extends to other agencies considering the deployment of CV pilot technologies
  - Sites to report out progress in concept development (3 webinars)
  - Select USDOT tech. assistance events may be open to a broader audience
  - Intent to share all Concept Development deliverables (508 compliance)
**GOALS OF THE TWO-DAY KICKOFF EVENT**

- **Session 1: Site Concepts and the Federal Team**
  - Introduce the federal and site teams
  - Provide an overview of the CV Pilot Deployment Program structure and the structure of the federal CV Pilot Deployment team
  - Learn about each of the site concepts and expected impacts from deployment of CV technologies

- **Session 2: Overcoming Challenges in Concept Development**
  - Walk through each of the 13 Concept Development Tasks
  - Provide clarification in a set of key issues, summarize federal guidance in each area
    - By topic, USDOT has prepared materials summarizing background information, critical challenges, reference materials, and potential opportunities for technical assistance
    - Identify key issues that need to be resolved
  - Only enough time to surface issues and concern to align USDOT support
    - Not an opportunity for lengthy detailed technical discussions (although these can be scheduled for a later date)
**Keeping On Track**

- **Our two-day agenda is packed, we cannot permit long digressions**
  - This is our first of two scheduled face-to-face meeting
    (next time will be for presentation of Deployment Readiness)
  - Clarifications are OK
  - More complex issues will be surfaced and noted to be dealt with off-line

- **Everyone should consider this kickoff as an informal working meeting**
  - Breaks are limited
  - Lunches are not provided, please get lunch and bring it back
  - Participants should come and go as they need to do so

- **Moderators will ensure that we stay on schedule in our agenda**
  - This may mean that some slides will not be briefed (but you have them)

- **The key take-away from these two days may be knowing WHO to ask for help on a key issue, not HOW to resolve the issue**
Overview of the CV Pilots Program and the USDOT Team

Brian Cronin, ITS JPO, Team Lead - Research and Demonstration
The Connected Vehicle (CV) Pilot Deployment Program
- Keystone effort in connected vehicle area
- Also plays a key role in other strategic areas, including accelerating deployment, promoting interoperability, and enterprise data

CV Pilot Deployments offer a unique opportunity related to getting CV technology to the field and making a difference in many areas, including:
- Needs-driven planning and investment
- Integrated performance measurement
- Lowering barriers to deployment

ITS Strategic Plan, pg. 14

PROGRAM GOALS

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

1. Wirelessly Connected Vehicles
   - Safety
   - Mobility
   - Environment
   - Financial

2. Mobile Devices
3. Infrastructure

Technical
Institutional
ORGANIZING PRINCIPLES

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

- Deployment concepts are **needs-driven**
  - Each site has different needs, focus and applications
    - That is, each pilot deployment must address critical problem(s)
    - The needs of each site must drive the deployment process

- Pilot deployments are expected to be both *large-scale with multiple applications*
  - *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
**PILOT DEPLOYMENT REQUIREMENTS**

- Multiple connected vehicle applications must be deployed together

- Pilot deployments should leverage USDOT-sponsored research

- Pilot deployments include the capture of data from multiple sources
  - Integrated or carry-in devices for connected vehicles capable of generating an SAE J2735 Basic Safety Message (BSM)
  - Share pilot deployment data while protecting privacy and intellectual property

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

- Well-defined, focused, quantitative performance measures
  - Support an independent evaluation effort

- Security and credentialing management system
**CV PILOT DEPLOYMENT PROGRAM SCHEDULE: WAVE 1 (PHASES 1-3)**

- **Phase 1: Concept Development**
  - Creates the foundational plan to enable further design and deployment
  - **Progress Gate: is the concept ready for deployment?**
- **Phase 2: Design/Deploy/Test**
  - Detailed design and deployment followed by testing to ensure deployment functions as intended (both technically and institutionally)
  - Progress Gate: does the system function as planned?
- **Phase 3: Maintain/Operate**
  - Focus is on assessing the performance of the deployed system
  - Post Pilot Operations (CV tech integrated into operational practice)
# Connected Vehicle Pilot Deployment Program: High-Level Roadmap

## Program Activity Area

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<th>Pre-Deployment Phase 1</th>
<th>Develop and Deploy Phase 2</th>
<th>Operate and Evaluate Phase 3</th>
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### Stakeholder Engagement and Outreach

- **Pre-Pilot Deployment Stakeholder Engagement**
- **Post-Pilot, Deployment-Focused Stakeholder Engagement**

### Security Management and Certification

- **ITS JPO Precursor SCMS**
- **NHTSA SCMS**
- **Building & Testing SCMS**
- **SCMS Design Complete**
- **Operational SCMS**

### Application Development and Open Source

- **CV Application Prototyping and Demonstration**
- **All CV Prototype Applications Ready for Pilot Deployment**

### Pilot Deployments

- **Wave 1 Pilot Deployments**
  - Wave 1 Procurement Planning
  - Concept Dev.
  - Design/Deploy/Test
  - Maintain and Operate Pilot
  - Post-Pilot Ops*

- **Wave 2 Pilot Deployments**
  - Wave 2 Planning
  - Concept Dev.
  - Design/Deploy/Test
  - Maintain and Operate Pilot

### Impact Assessment and Cost-Benefit Analyses

- **CV Application Impact Assessments**
- **Wave 1 Pilot Deployment Site Impact Assessments**
- **Wave 2 Pilot Deployment Site Impact Assessments**

### Open Data

- **Share Pre-Pilot Prototyping and Impact Assessment Data**
- **Share CV Pilot Data**

### Notes

- **Applications included in routine operational practice at each site (not CV Pilot funded)**
- **Coordinated CV R&D from DMA, AERIS, RWMP, V2I Safety, DCM (not CV Pilot funded)**

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

**CV Pilots High-Level Roadmap v1.3 (6/23/2014)**
THE USDOT CV PILOT DEPLOYMENT TEAM

- The USDOT CV Pilot Deployment Team has two main components:
  - Site Leads and Task Coordinators
  - Evaluation Team

- Site Leads and Task Coordinators
  - USDOT Site Leads guide Wave 1 sites to be successful in Phase 1
  - Key Content Review Team Members are federal staff who review deliverables in support of the Site Leads
  - Task Coordinators work with Site Leads to coordinate across sites regarding key topics of interest, e.g.,
    - Privacy, Security, and other topics

- Evaluation Team
  - Articulates USDOT evaluation needs in Phase 1
  - Organizes and directs independent evaluation efforts in Phases 2-3
THE PROGRAM LEAD directs the program in all its activities.

SITE LEADS guide Wave 1 sites to be successful in Phase 1.

TASK COORDINATORS work with Site Leads to coordinate across sites regarding key topics of interest.
CV Pilot Deployment Program

**Federal Team Organization**

**Evaluation Team**

**THE PROGRAM**
LEAD directs the program in all its activities.

**The EVALUATION**
LEAD directs all evaluation-related activity.

**MEP** = Mobility, Environmental and Public Agency Efficiency

**CV Pilot Deployment Program**
- Lead: Kate Hartman

**CV Pilot Deployment Evaluation**
- Lead: Walter During

**Safety Evaluation Design & Assessment**
- Lead: TBD

**Survey Instrument Design**
- Lead: TBD

**MEP Evaluation Design**
- Lead: TBD

**Site Evaluations**

- **ICF/Wyoming Site Evaluation**
  - Lead: TBD, USDOT Site Evaluation Lead

- **New York City Site Evaluation**
  - Lead: TBD, USDOT Site Evaluation Lead

- **Tampa (THEA) Site Evaluation**
  - Lead: TBD, USDOT Site Evaluation Lead

**Cross-Cutting Evaluation Efforts**

- **National-Level Impacts Assessment**
  - Lead: TBD

- **CV Pilots Program Evaluation**
  - Lead: TBD
OTHER ORGANIZATIONS SUPPORTING USDOT

Site Leads/COR will coordinate interactions with the following organizations:

- **Volpe Center** will support in the area of evaluation
  - Safety Evaluation Design
  - Survey Instrument Design

- **Technical Support Services Contractor (TSSC)** will provide support to the program in multiple areas
  - Technical Support to Site Leads and Task Coordinators
  - Evaluation Planning
  - Webinar Support

- In Phases 2-3, the CV Pilots program will engage **Independent Evaluator(s)**
  - Walter During will provide more detail tomorrow in his briefing regarding Evaluation Support activity (Task 5)
GETTING HELP

- **Scope of Technical Assistance**
  - Varies by area, summarized tomorrow as we walk through the tasks

- **How to Request Help**
  - *Please contact your COR/USDOT Site Lead*
  - They will engage task coordinators and other supporting organizations as needed

- **Opportunities to engage the USDOT Team**
  - Where there are common questions USDOT will plan events for all the sites
  - Where issues are site-specific, USDOT will provide site-specific support
Our Proposed Process
- Track key issues as they arise (as in this kickoff meeting)
- Create topic-specific tiger teams with federal and site staff
- Utilize bi-weekly teleconferences to track issues, create topic area teams

Bi-weekly teleconferences with all three sites together, 1 hour
- USDOT: CVP Program Lead/COR(s) and Site Leads
- CV Teams: Three key personnel (CDL, PML, SEL)
- These meetings may spin-off other meetings/tiger teams
  (a successful concept in the Safety Pilot Model Deployment)

CV Pilots Phase 1 Meeting and Opportunity Summary
- The USDOT CV Pilot team has identified a range of potential events and activities to provide efficient and targeted technical assistance
- By topic/task, we will walk through these opportunities on Day 2
QUESTIONS FROM THE SITES

- Are there questions from the sites regarding:
  - CV Pilot Program goals and organizing principles?
  - Program Structure (Phases 1-3) and Progress Gates?
  - Structure of the USDOT CV Pilots team?
  - Proposed communications approach?
  - Other questions?
Next: Get Lunch, Then We Hear From Each Site

- Afternoon session begins with the sites talking about their concepts
  - 45 minute presentation, 15 minutes Q&A
  - Overview of site geography, transportation-related issues, performance measures, proposed applications, synergy among applications, team organization, and key identified risks/challenges.
  - Q&A held to the end for all sites, so please jot down and save your questions

- New York City 12:30-1:30 PM
- Tampa (THEA) 1:30-2:30 PM
- ICF/Wyoming 2:30-3:30 PM
- Two-Way General Q&A 3:30-4:00 PM

See you back here at 12:30 PM, we will begin punctually!