
Welcome

Orientation Session

Washington, DC

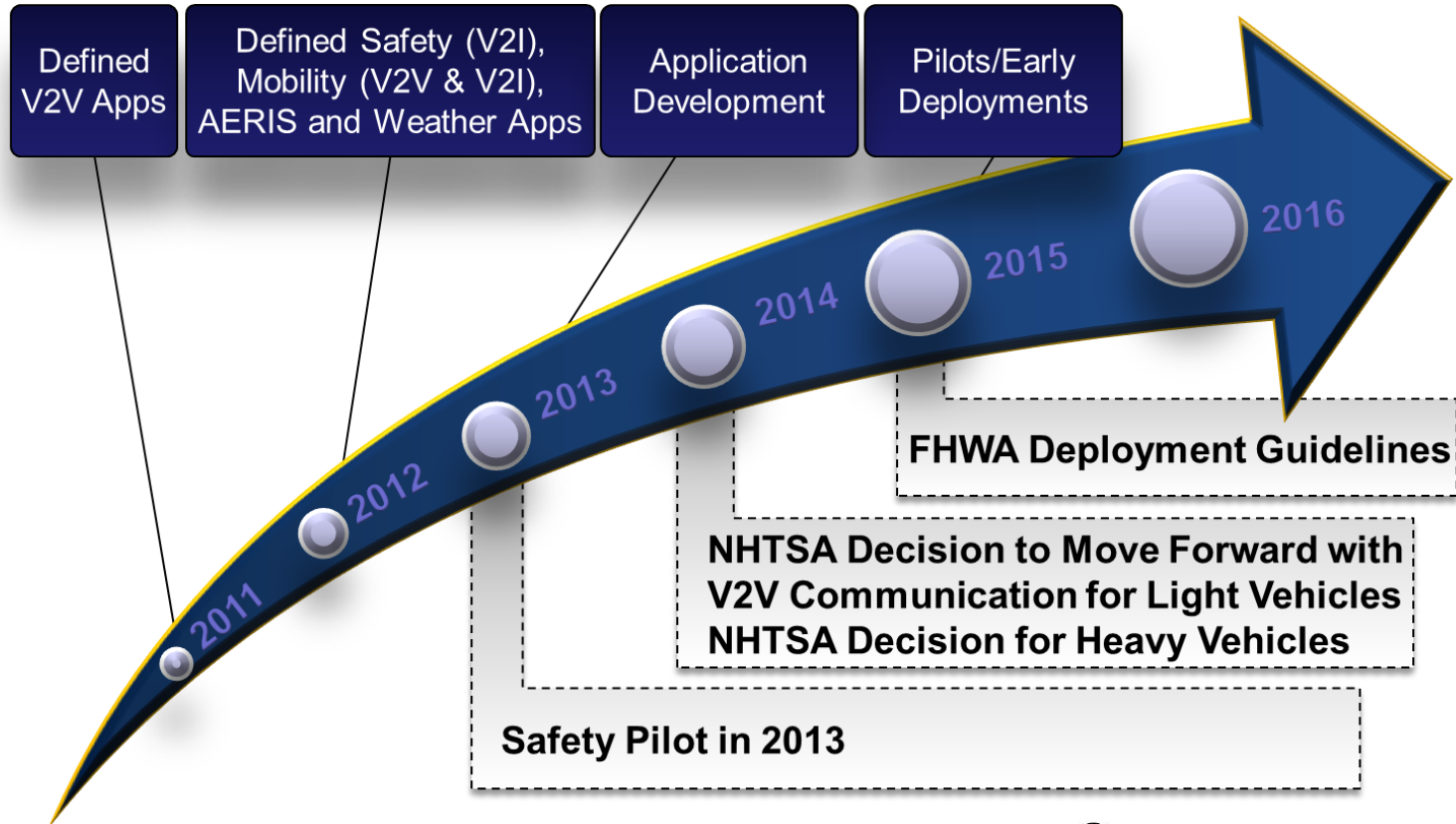
February, 2015

Welcome

- Presenter –
 - Walton Fehr
 - USDOT ITS Joint Program Office
 - walton.fehr@dot.gov
 - www.its.dot.gov

- Topics –
 - Overview
 - Communications and Data Movement
 - Complete System Architecture
 - Concept of Operation, Reference Implementation
 - Design Elements

Path to Deployment



Concept Overview

- **Communication security**
 - Common process for all information flows
 - Preserving “Privacy by Design”
- **Data flow and evolution**
 - Common processes, two types of data
 - Full round trip
- **Multiple communication media**
 - DSRC on all 7 channels
 - Other IP transport media
- **Tools**
 - *Consistent implementations*

“The opportunity
for a common
experience.”

A Variety of Communication Media, Data Needs

Resources: wired and wireless, the Internet

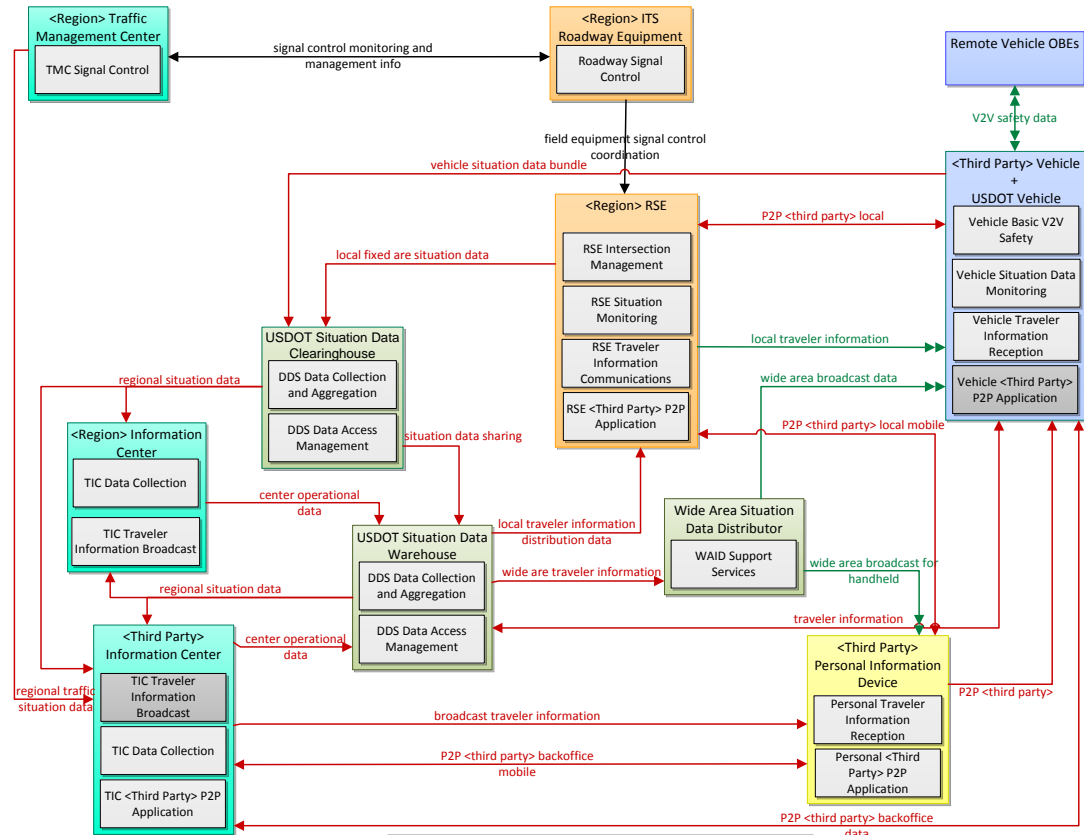
- 3,000 miles, 3,000 meters, 300 meters, 3 meters.



Requirements: Two types of data distribution:

- To all, To one.

Unified Implementation of the CVRIA All Data Flows



Connected Vehicle Reference Implementation Architecture

- Architecture site
<http://standards.its.dot.gov/DevelopmentActivities/CVReference>
- SET-IT tool site
 - Version 1.0
 - Sample project
<http://www.iteris.com/cvria/html/resources/tools.html>

1: Data Movements			
1	Physical View	Jan 23 2015	NAT

Upcoming Stakeholder Events

- Plug-Fests: <http://www.its.dot.gov/testbed/plugfests.htm#calendar>
 - Virtual: Ongoing, weekly at 11:00 EST
 - Data Movement Demonstrations: March, Austin, TX; April, Detroit, MI
- Regional CV Pilot Workshops (TBD)
 - <http://www.its.dot.gov/pilots/>
 - http://www.its.dot.gov/pilots/cv_pilot_faq.htm



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Website: <http://www.its.dot.gov>

Affiliation of Test Beds

The OST-R has entered into 62 Memorandums of Agreement (MOA) with public, private, and academic organizations involved in the Affiliation of Test Beds. They include:

- Arada Systems
- Southwest Research Institute
- Detroit DPW
- Security Innovation
- Cohda Wireless
- Siemens Industry Inc.
- Dering & Estrada
- University of Michigan/UMTRI
- University of Arizona
- TIEMAC CORPORATION
- Tampa Hillsborough Expressway Authority
- DENSO Corporation
- Marben Products
- NextEnergy
- CETECOM
- Pioneer Advanced Solutions
- La Trobe University (Melbourne)
- OminiAir
- ITRI
- Autotalks LTD
- Connected Vehicle Trade Assc.
- Battelle Memorial Institute
- Rohde & Schwarz USA, Inc.
- MET Laboratories
- 7Layers Inc.
- Green Driver Inc.\ On Time Systems
- Virginia Tech Transportation Institute
- Illinois Tollway
- The Road Commission for Oakland County
- Contra Costa Transportation Authority
- Traffic Technology Solutions
- Savari Inc.
- Global Mobile Alert
- Case Western Reserve University
- University of Wisconsin Madison
- Unex Technology Corporation
- Sirius XM Radio Inc.
- Go-Light
- Prava Networks
- The Regents of the University of California, Berkeley
- Renesas Electronics America, Inc.
- Vehicle Data Science Corporation
- UL, LLC
- Ericsson
- Commsignia LTD
- Aldis, Inc.
- eTrans2020
- Swiit Apps
- Azimuth Systems
- Paxgrid Telemetric Systems
- AutoTech Technology Development
- Danlaw
- Oakland County Connected Car Task Force
- ALPS Electric North America
- Alpine Electronics Research of America
- R Systems
- STA Group LLC
- iBiquity
- San Francisco Municipal Transportation Agency (SFMTA)
- Hyundai America Technical Center
- peiker acoustic, Inc

Latest

- Carnegie Mellon University

Connected Vehicle Pilots

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Research

- Safety
- Mobility
- Environment
- Road Weather
- Policy
- Connected Vehicle Technology
- ▾ CV Pilots Deployment Project
 - Pilots Deployment Project
- Automated Vehicle Research
- Short-Term, Intermodal Research
- Exploratory Research
- ITS Cross-Cutting Support
- Success Stories

Connected Vehicles CV Pilots Deployment Project

Latest News & Updates

- USDOT Releases Broad Agency Announcement for the Connected Vehicle Pilot Deployment Program
- The Connected Vehicle Reference Implementation Architecture (CVRIA) training course is now available 1/30/15
- CO-PILOT Webinar recording is now available - January 7, 2015 Webinar Series Part 6: CO-PILOT Cost Estimator 1/14/15
- The presentation material of the CO-PILOT Cost Estimator is available now 1/14/15
- U.S. Department of Transportation Releases Synopsis of Connected Vehicles Pilot Deployment Program

CV Pilots Portal

- [CV Pilots FAQs](#)
- [CV Applications](#)
- [Deployment Concepts](#)

Links:

ITS JPO Pilots Page

<http://www.its.dot.gov/pilots/>

FedBizOps

https://www.fbo.gov/index?s=opportunity&mode=form&id=4bb6693ac3021c178595d83fab3b5d73&tab=core&_cview=1

Contact Information

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U.S. Department of Transportation

Help Develop the Federal Highway Administration (FHWA) 2015 Guidance for Connected Vehicles. Add your comment.

Public Meetings. All ITS JPO meetings and webinars are free and open to the public. View meetings.

CONNECTED VEHICLE TECHNOLOGY

Connected Vehicle Test Beds

Procurement Opportunities

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Help Develop the Federal Highway Administration (FHWA) 2015 Guidance for Connected Vehicles. Read more...

Letter to Stakeholders from ITS JPO Director Ken Leonard 1/27/14

Kevin Dopart Joins the Intelligent Transportation Systems Joint Program Office (ITS JPO) Team 1/22/14

Second Public Meeting on the Connected Vehicle Reference Implementation Architecture 1/18/14

More News>>

Our Current Research

Applications Mode-specific Cross-Cutting

- Vehicle-to-Vehicle Safety
- Vehicle-to-Infrastructure Safety
- Real-Time Data Capture
- Dynamic Mobility Applications
- Enrollment
- Road Weather
- Connected Vehicle Policy

More >>

“Make no little plans. They have no magic to stir men’s blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever-growing insistency.”

- Daniel Burnham

“I have always believed in planning big, and I have always discovered after the fact that, if anything, we didn’t plan big enough.

- Alfred Sloan