



UNITED STATES
DEPARTMENT OF TRANSPORTATION

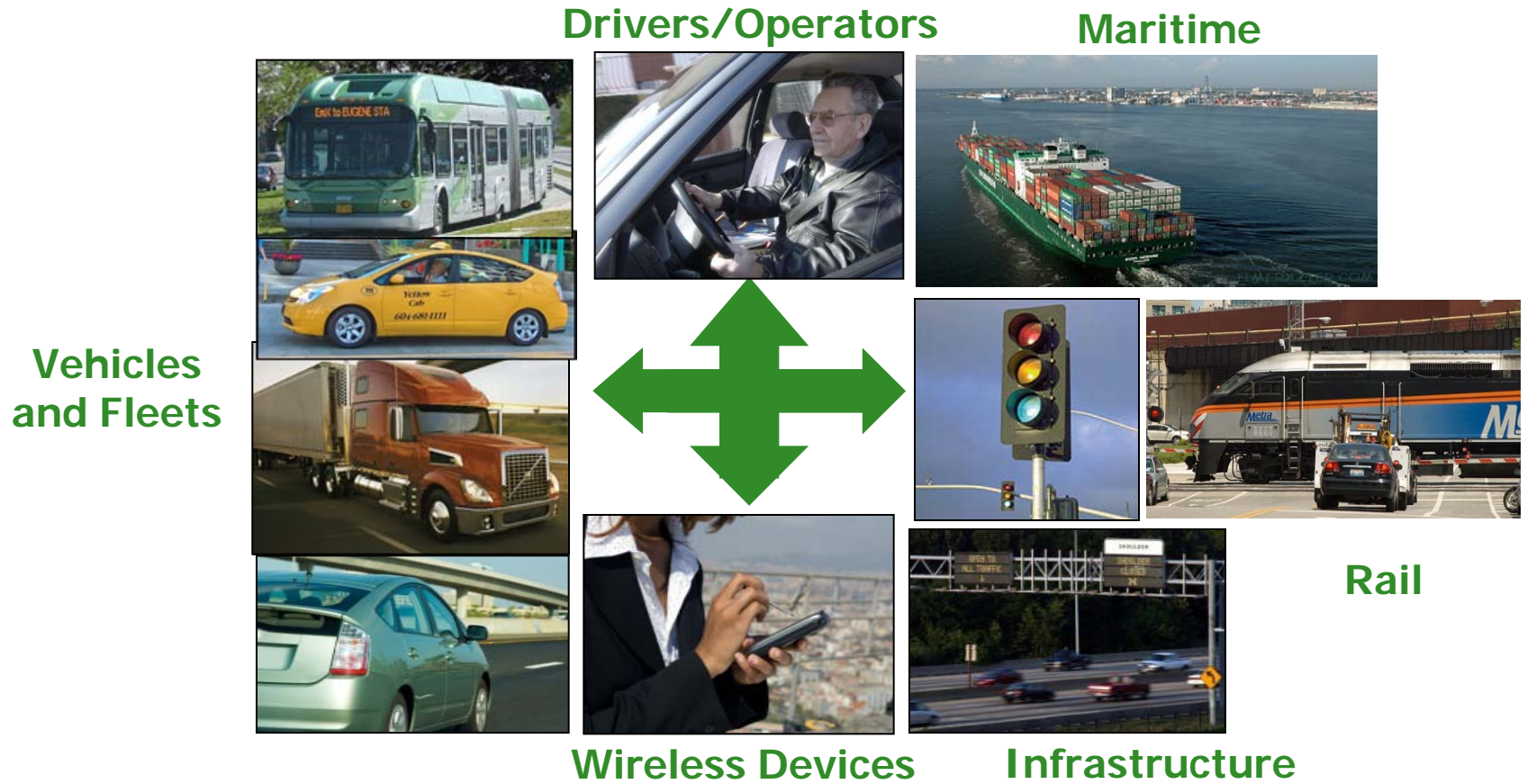
Transforming Transportation through Technology

Shelley Row

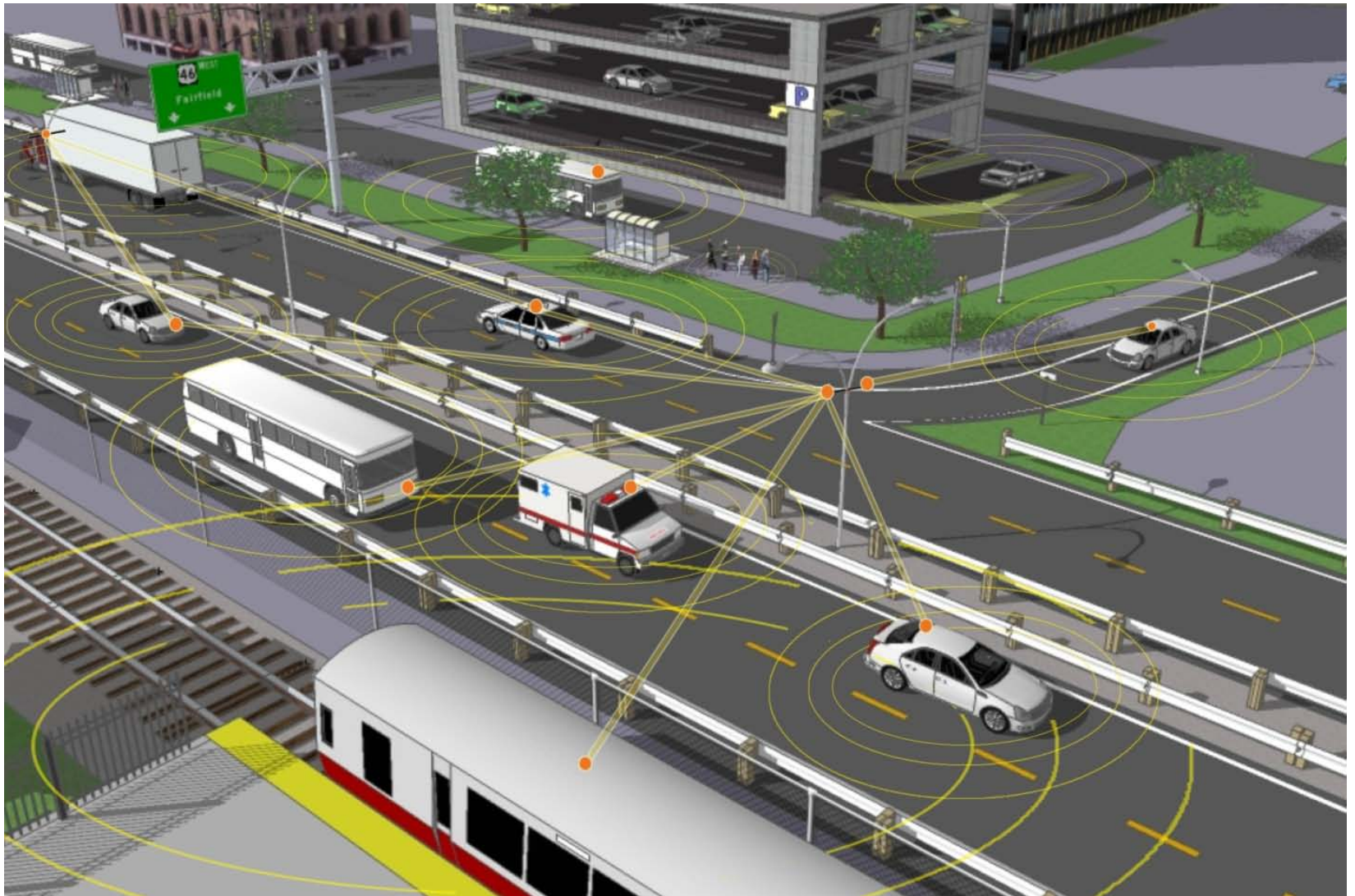
Director

Intelligent Transportation Systems Joint Program Office
Research and Innovative Technology Administration, USDOT

ITS Research = Multimodal and Connected



Imagine! Connected Transportation



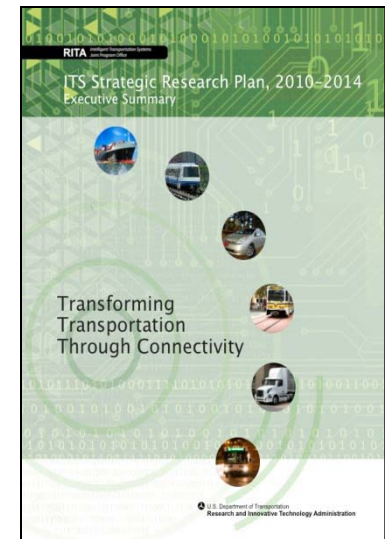
ITS Strategic Research Plan 2010-2014

Multimodal and Connected

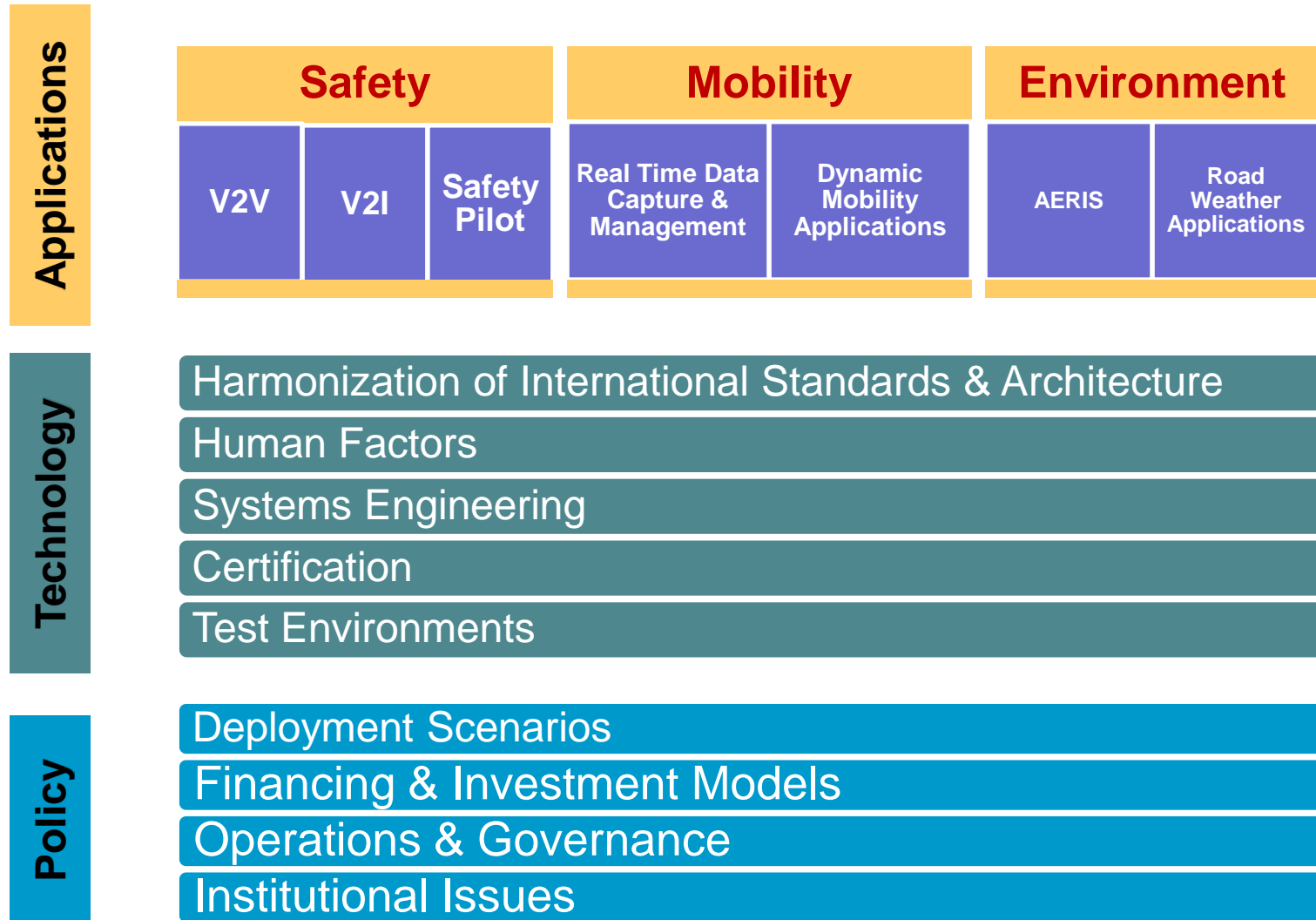
Vision

To research and facilitate a national, **multimodal surface transportation system** that features a connected transportation environment around **vehicles of all types**, the infrastructure, and portable devices to serve the public good by leveraging technology to maximize safety, mobility, and environmental performance.

Plan developed with full participation by all surface transportation modal administrations as well as with significant interaction with multi-modal stakeholders.

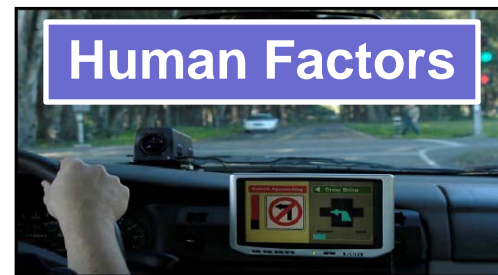


ITS Research Program Components



Step One – Accelerate V to V Safety

- Develop a Core Set of Applications
- Conduct Benefits Assessment
- Develop Driver Vehicle Interface Guidelines
- Define Globally Harmonized Standards
- Assess Security Issues
- Accelerate V to V DSRC Devices
 - Basic Safety Message Broadcast Devices (Here I am)
 - Aftermarket Safety Devices
- Prepare for 2013 NHTSA Agency Decision



Step Two - Demonstrate Safety

Safety Pilot

- Major road test and real world implementation taking place 2011 – 2013 involving:
 - Multiple vehicle types
 - Fully integrated systems and aftermarket devices
- Also to test
 - Prototype security mechanisms
 - Certification processes

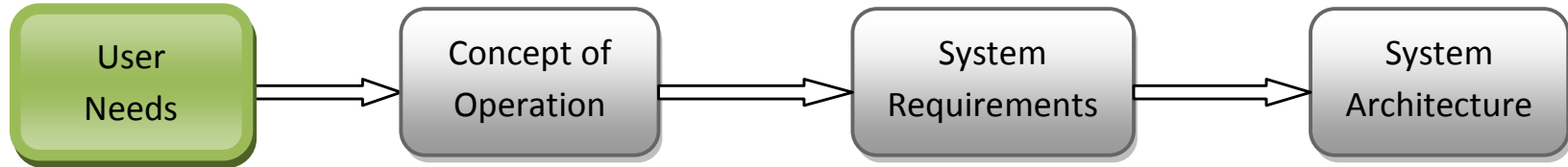


Safety Pilot continued

- Goals
 - Support V2V and V2I applications development and testing
 - Obtain benefits data to support NHTSA 2013 agency decision on V2V communications
 - Create public awareness & determine user acceptance
- Outcomes
 - Benefits and user acceptance data
 - Archived road network data for supporting mobility, environmental, and other industry research
 - Multiple supplier sources for devices and infrastructure (qualified product lists for “here I am”, roadside equipment and aftermarket safety)
 - Better understanding of the operational policy issues associated with the deployment of V2V and V2I



Progress - Step Three – Define the System and Establish a Testing Environment

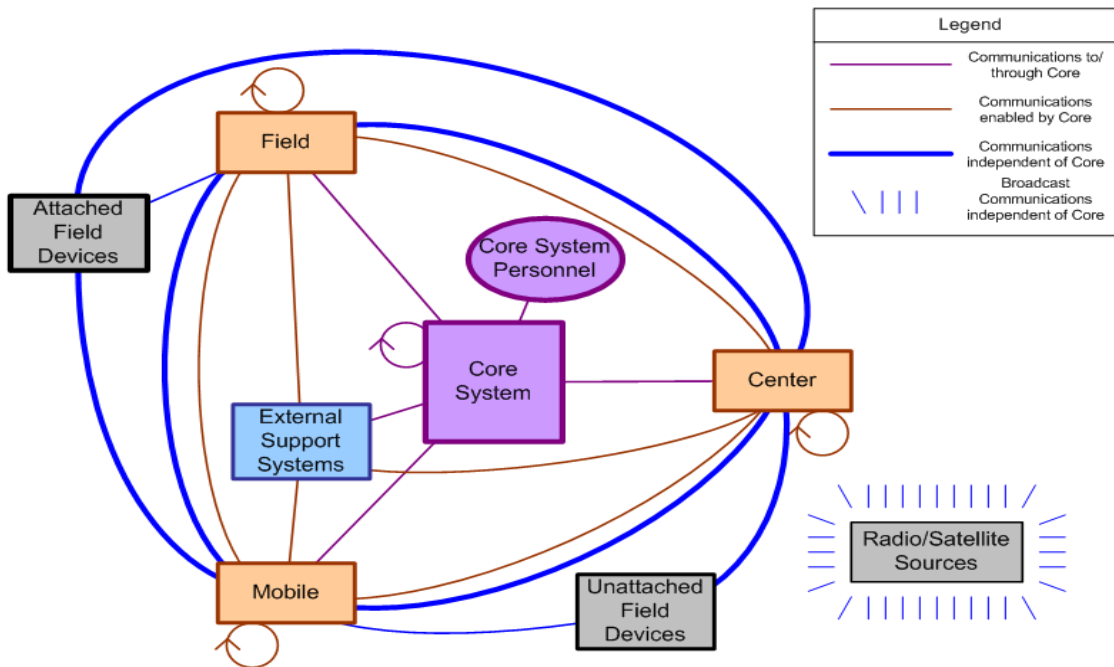


Aug./Sept. 2010

May 2011

September 2011

Oct 2011

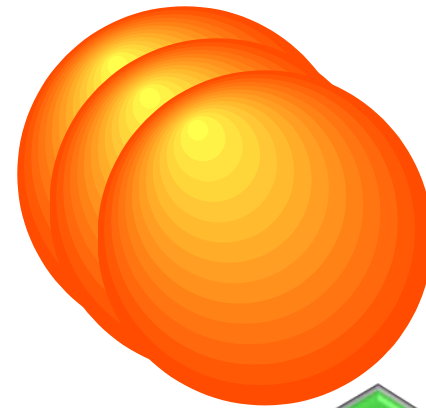


connected vehicle environment

Open Workshops
 June 2011 (DC)
 Sep (San Jose, CA)

Step Four - Build V to I Safety, Mobility, and AERIS Data Environments and Applications

- V to I for Safety – Accelerate Signal Phase and Timing (SPAT) Based Applications, Smart Roadside, and Transit
- Prototype the Data Environment of the Future – All Vehicles as Probes and Open Data
- Prototype, Field Test and Analyze Mobility Applications
 - Use Open Source Software Approach to accelerate deployment
- Define and Test AERIS Applications



Signal Systems
Transit Management
Freight
R.E.S.C.U.E.M.E
ATIS
Speed Harmonization



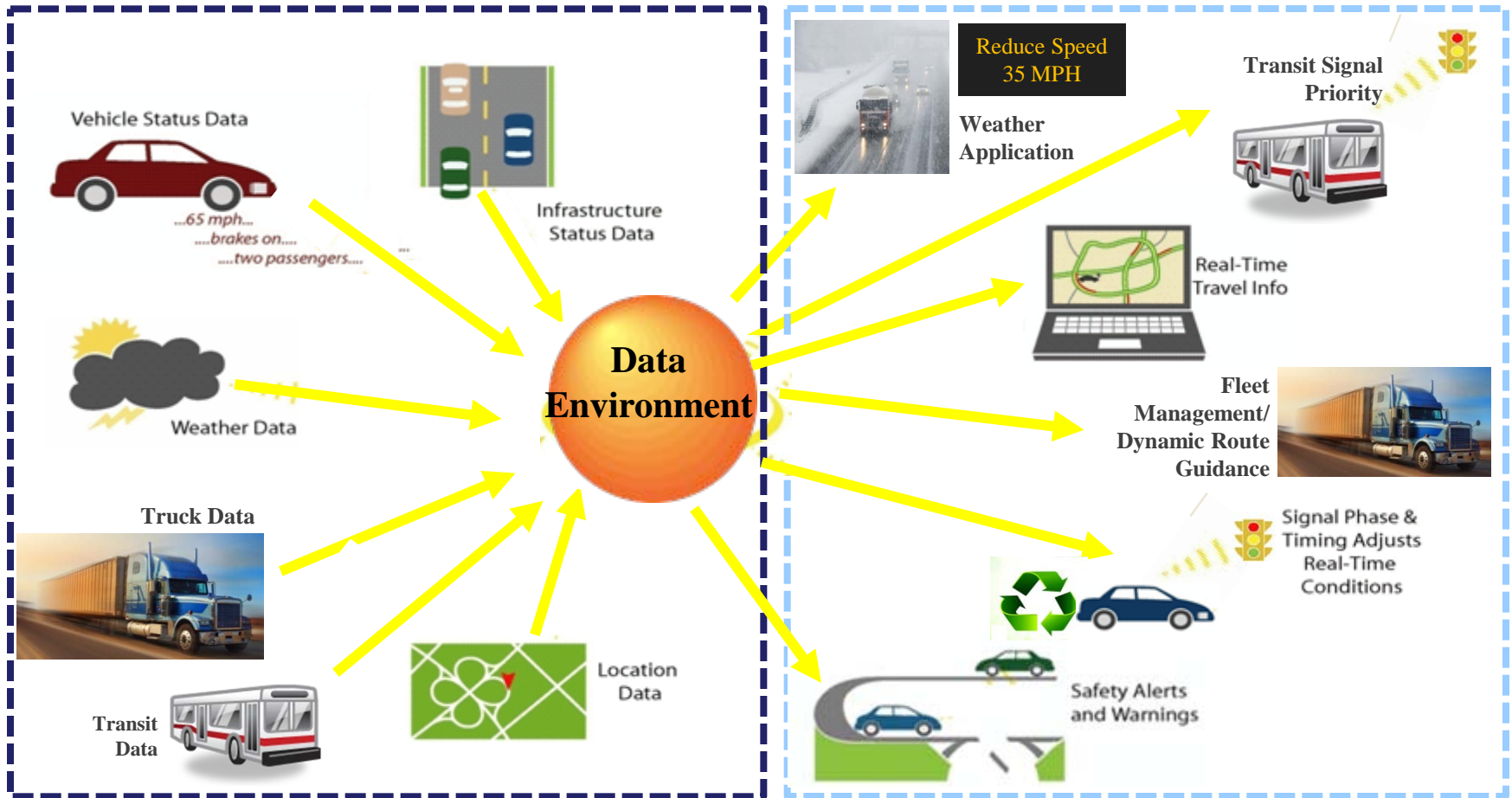
AERIS



Mobility Program

Real-time Data Capture and Management

Mobility Applications



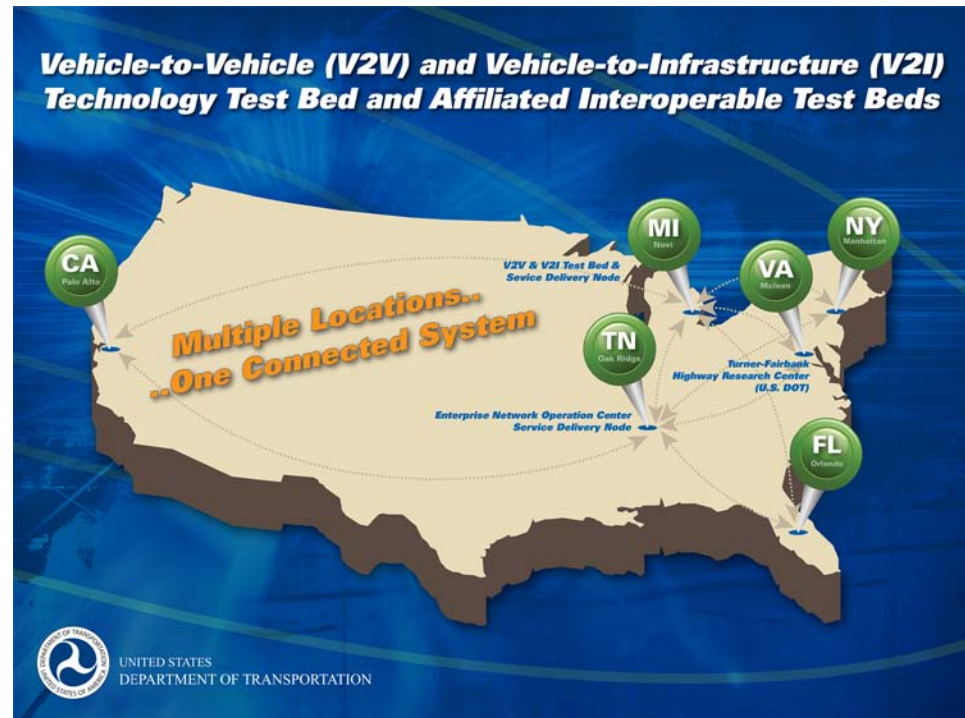
Progress Step Five – Build a Reference Implementation

2011

- Testbed is Up and Running. Interoperable equipment in California, Florida, New York, Michigan, Virginia, and Network Operations in Tennessee

2012 to 2013

- Reflect the System Architecture
- Utilize Harmonized International Standards
- Implement a Certification Process
- Implement a Governance Process
- Implement a Security Process



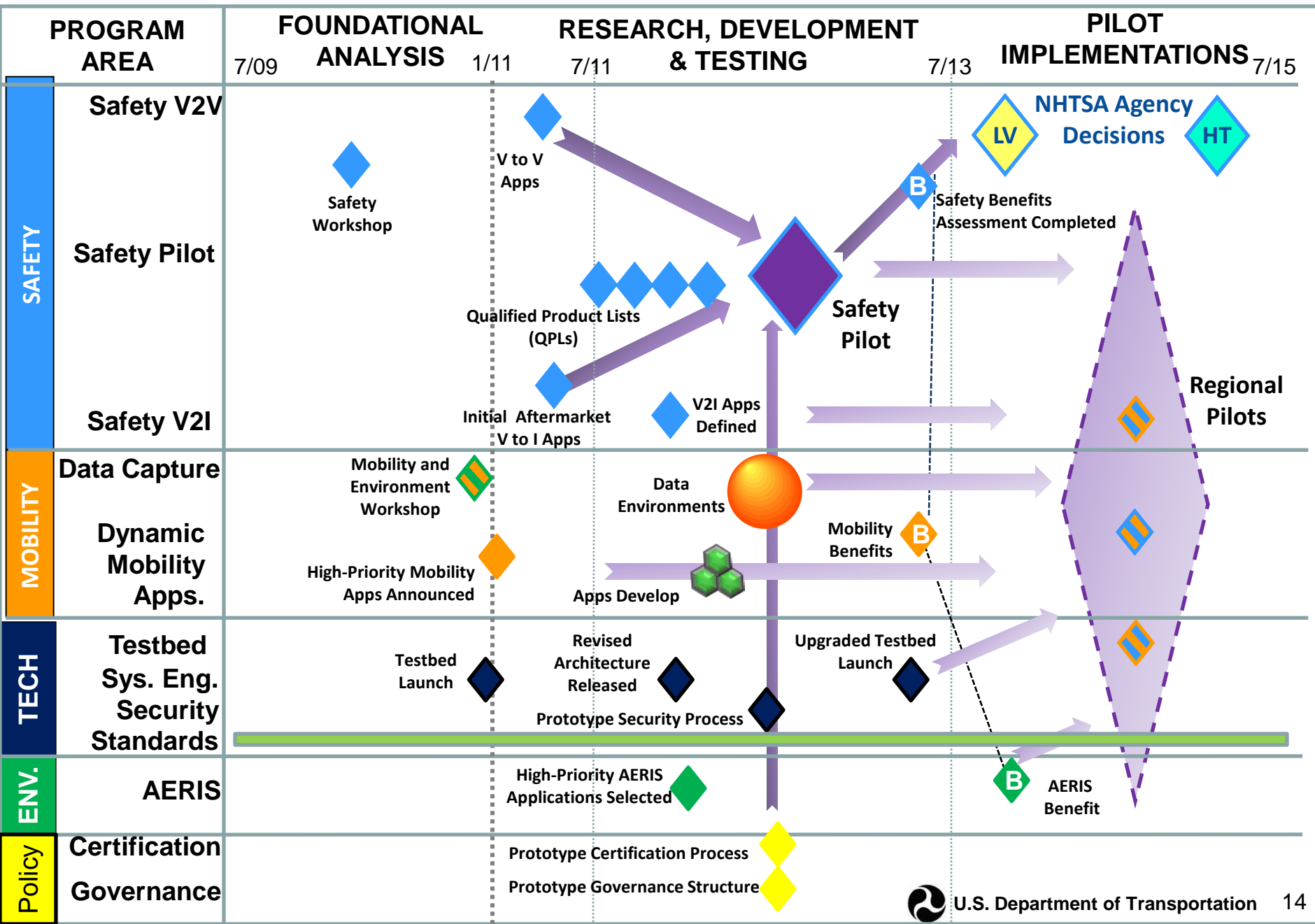
Progress Step Six - Conduct Regional Pilots

Started Planning and Discussing the Theme with Stakeholders

- Multiple Implementation Areas
- Opportunity to Pilot a variety of applications per area's need (Sites choose from a suite of field tested applications)
- Seeds Implementation
- Uses Lessons Learned from Safety Pilot
- Builds on a Stakeholder Defined Architecture
- Accelerates DSRC for Safety
- Leverages Available Wireless Communications for Mobility and Environment Applications
- Leverages Private Sector Investments Occurring Now

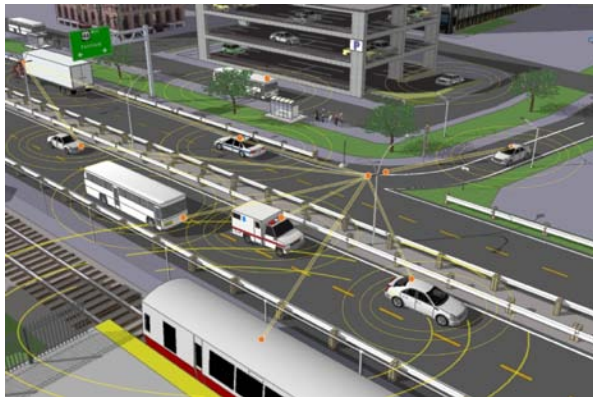


Major Milestones



Accelerating Deployment

Research



Technology
Transfer

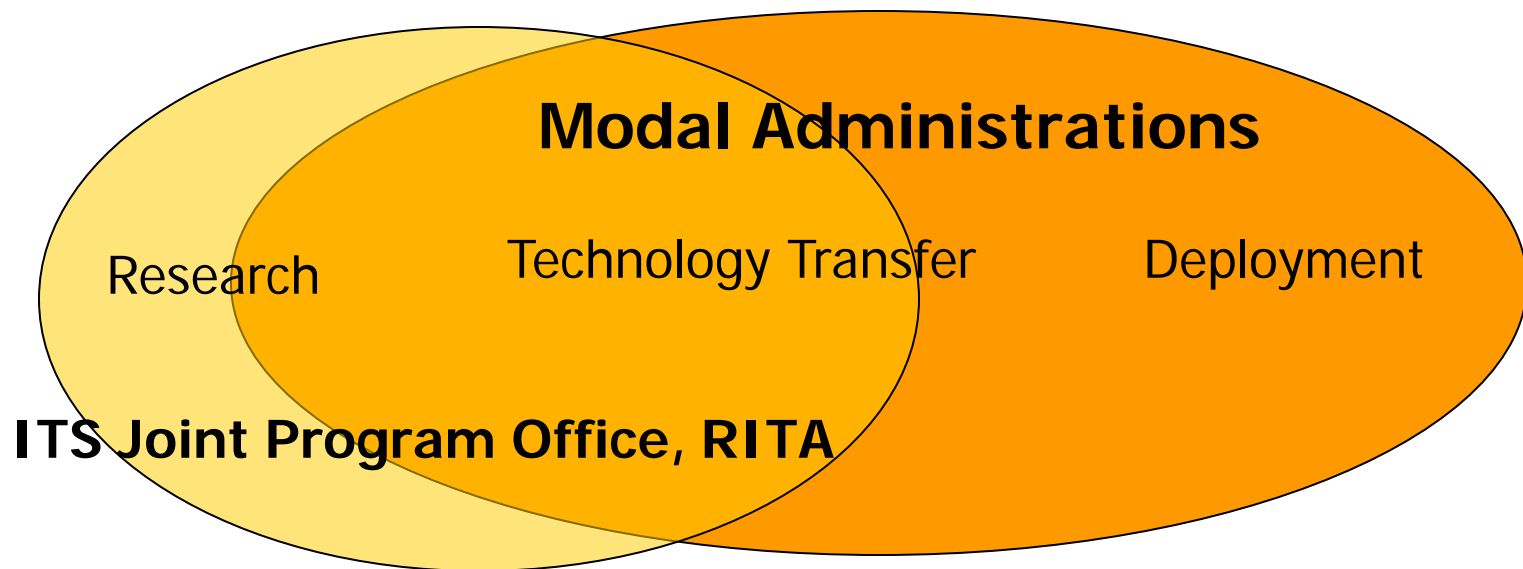


Deployment



Accelerating Deployment

Intelligent Transportation Systems



Accelerating Deployment

- Applied research
 - Integrated Corridor Management
 - Mobility Services for All Americans
 - Electronic Freight Management
- ITS Deployment Tracking
 - 2010 Survey Complete
- Nationwide 511
- ITS Standards for Highway & Transit
- Collaboration among transportation agencies and industry
- Modal leadership



ITS Professional Capacity Building

Reached 2,500 transportation professionals in 2010

- **Workforce Development a Priority for DOT**
- **PCB Strategic Plan Development**
 - <http://itspcbplan.ideascale.com/>
- **ITS Standards Training**
 - 18 Modules under development
- **Continuing Education**
 - T3s: Talking Transportation & Technology
 - Peer-to-Peer (P2P) Technical Assistance Program
 - Classroom based Training
 - Web based Training
- **Workshops and Presentations**
- **Embedding technology transfer in research process**



For More Information

www.ITS.DOT.GOV

The screenshot shows the RITA website header with the logo and navigation menu. The main content area features a large banner with the text "Imagine that . . . transit and truck drivers receive regular updates, allowing them to stay on schedule -- and stay in business." Below this are several news and research sections, including "Message to Stakeholders from RITA Administrator Peter Appel", "Our Current Research" with sub-categories like "Applications", "Mode-Specific", and "Cross-Cutting", "ITS Video Challenge", and "Stay Connected" with social media links for Facebook, Twitter, Email, and RSS.

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