



*UNITED STATES*  
**DEPARTMENT OF TRANSPORTATION**

# **ITS Program Update**

## **Moving Towards Implementation of Wireless Connectivity in Surface Transportation**

TRB ITS Session  
January 26, 2011  
Washington, DC

# ITS Strategic Research Plan 2010-2014

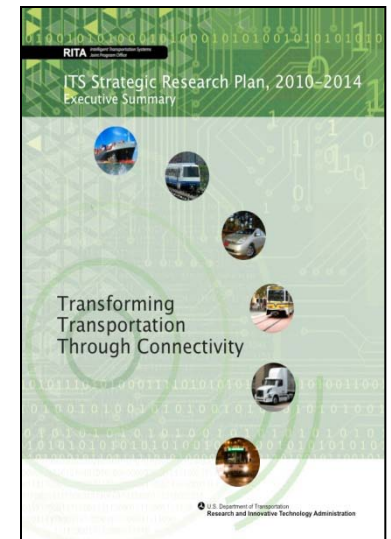
## A Truly Multimodal and Connected Effort

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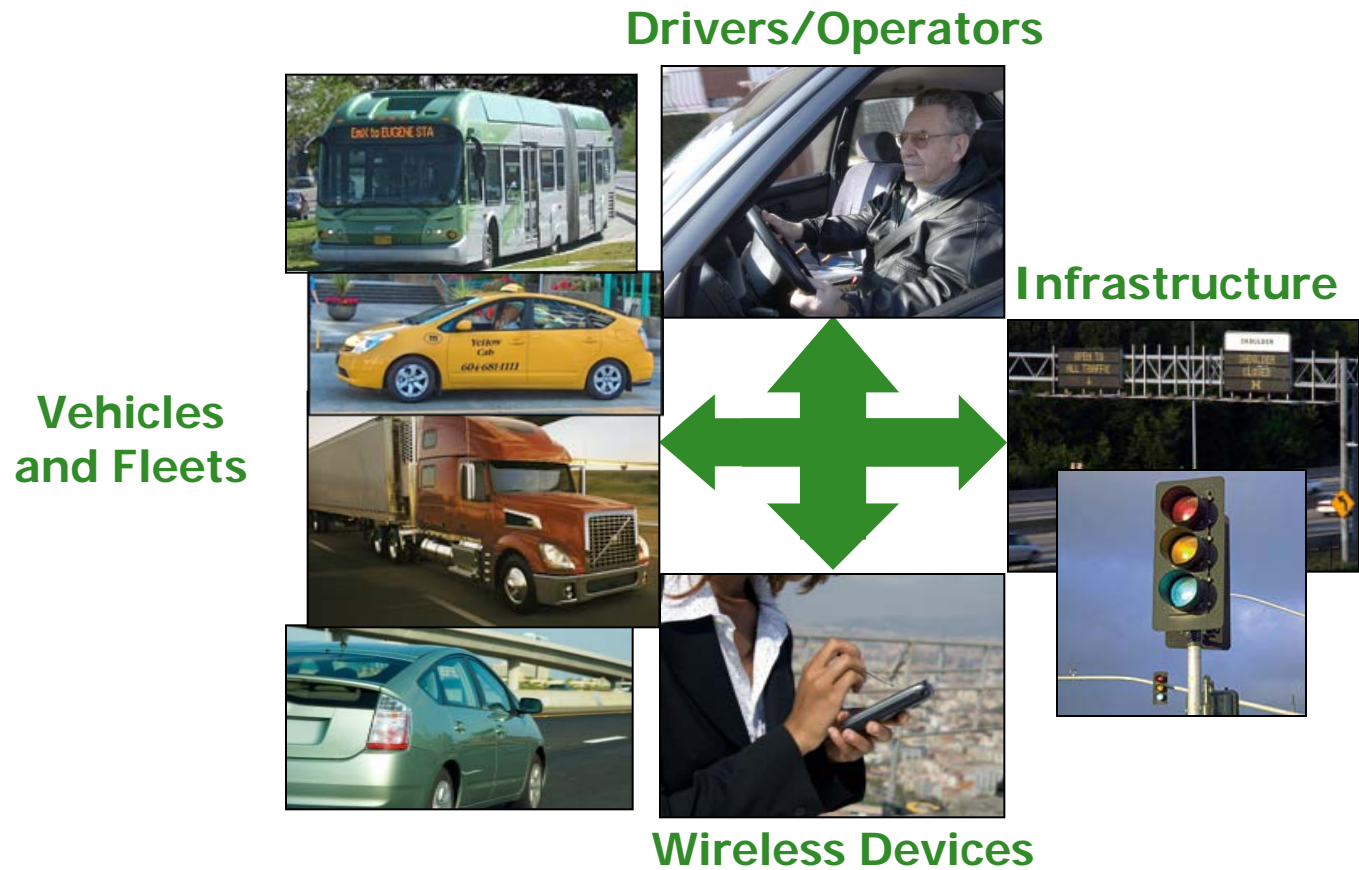
### Vision

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.

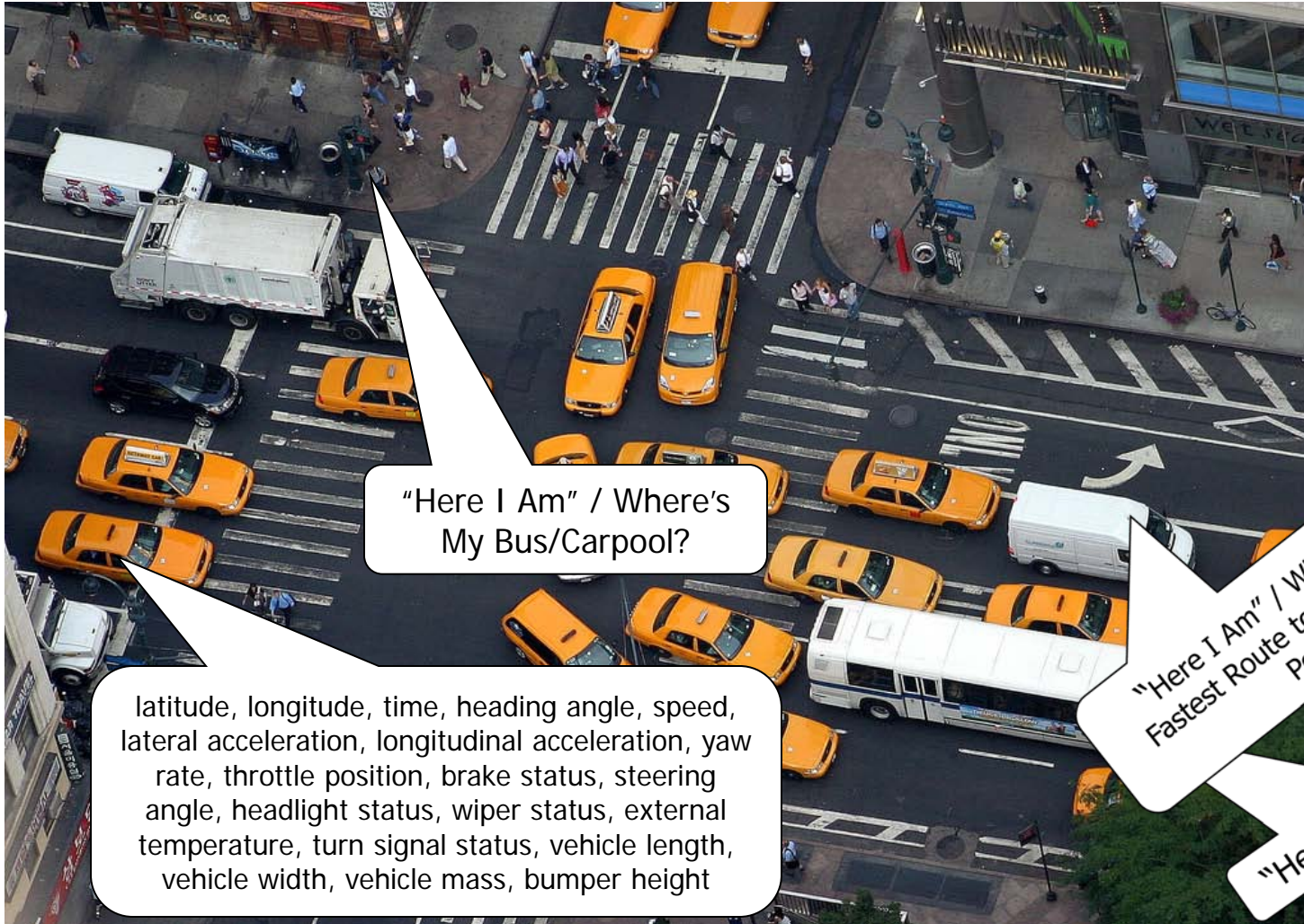
Plan developed with full participation by all surface transportation modal administrations as well as with significant interaction with multi-modal stakeholders.



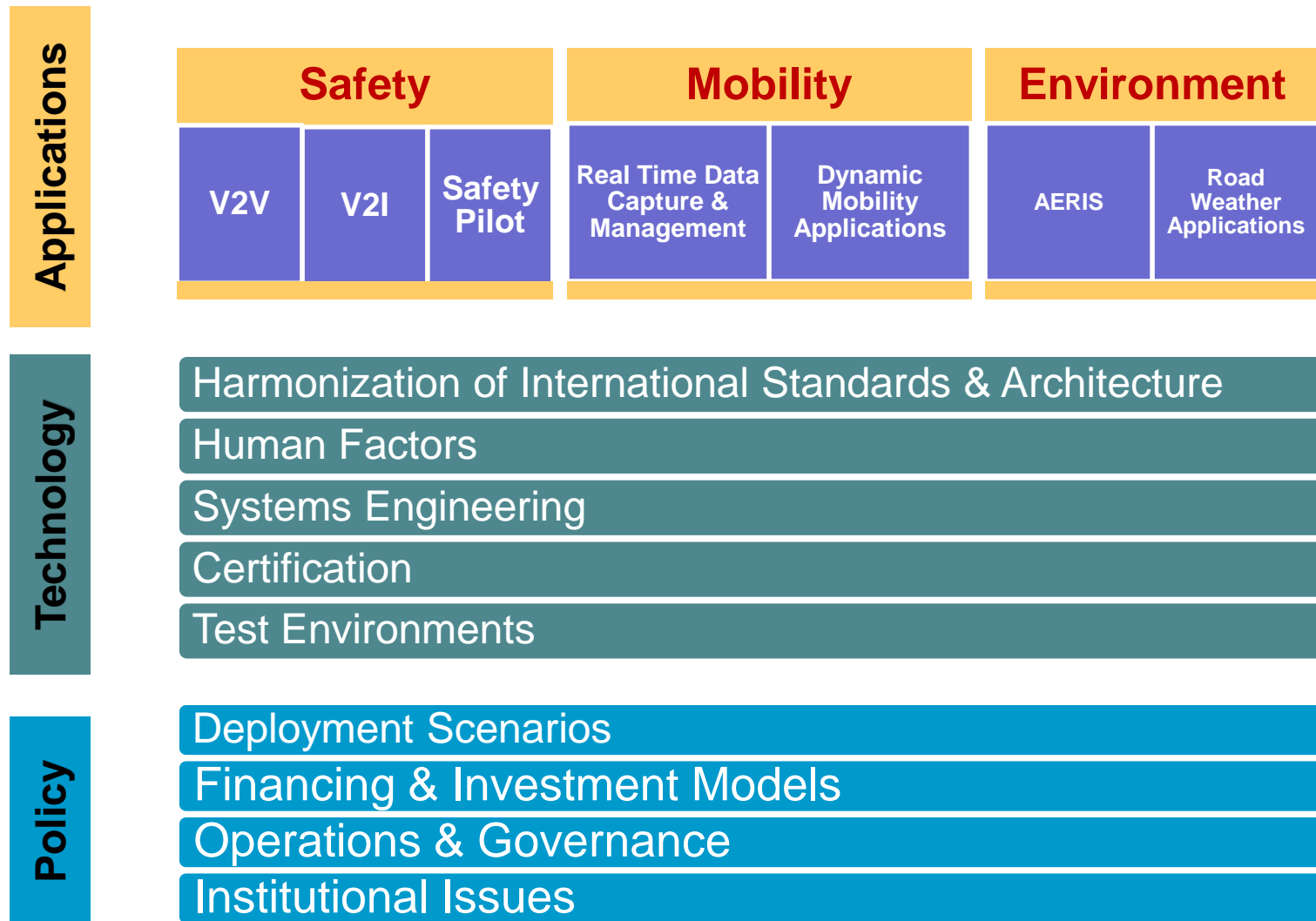
# ITS Research = Multimodal and Connected



# A World With Connected Vehicles and Travelers



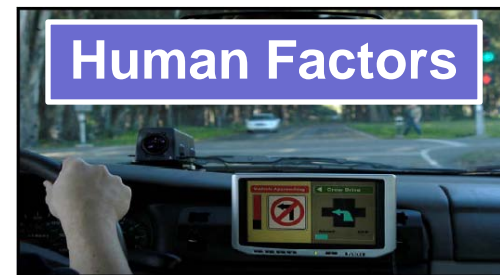
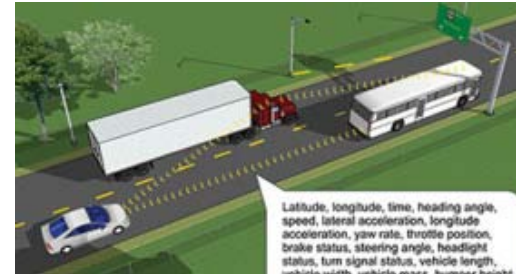
# ITS Research Program Components





# 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

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## 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

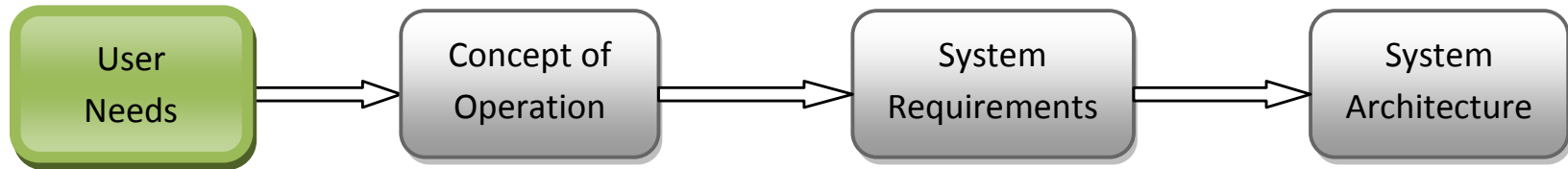
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- Goals
  - Support real world V2V and V2I applications with a data rich environment
  - Establish benefits data in support of NHTSA 2013 Agency Decision on V2V Communications with Real World Field Data
  - Create Public Awareness & Determine User Acceptance
- Outcomes
  - Benefits and user acceptance data for supporting future federal actions
  - 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

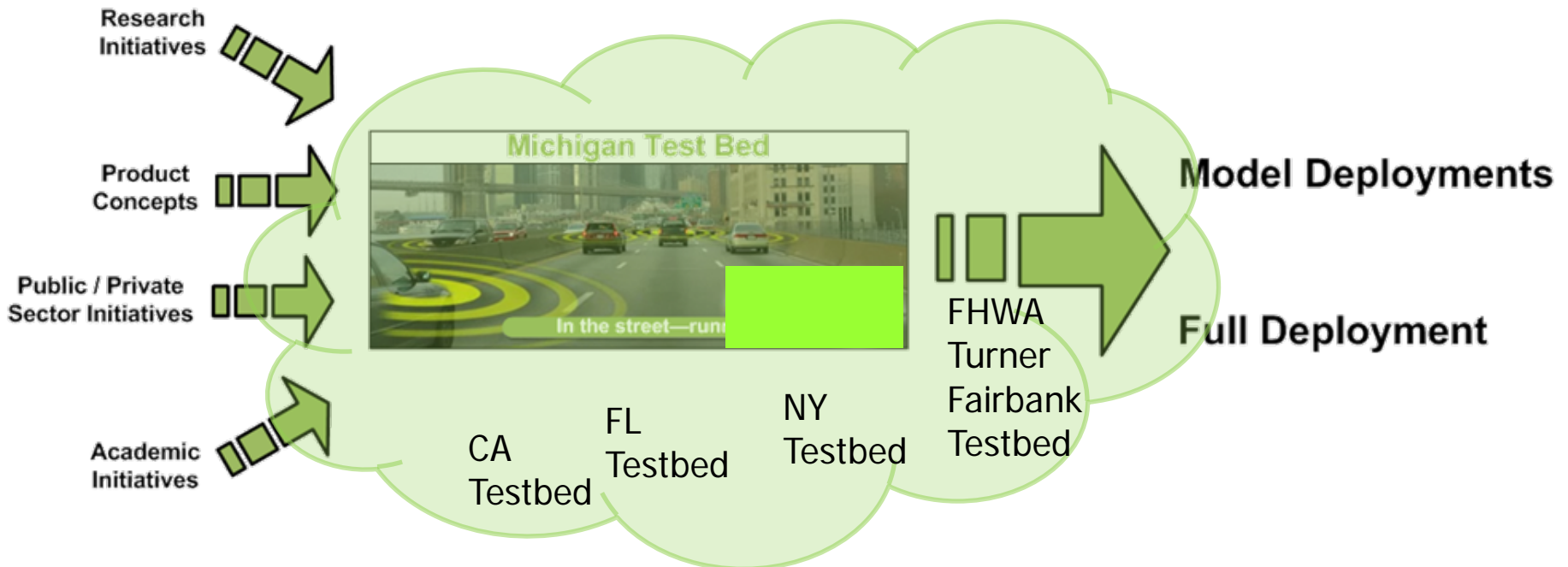




# Step Three – Define the System and Establish a Testing Environment



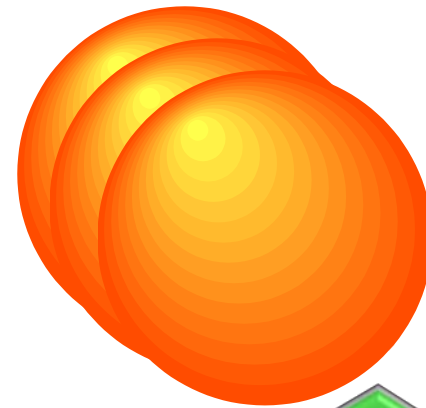
Aug./Sept. 2010    Oct. to Dec. 2010    Jan. to March 2011    Summer 2011



**“In the street – running Jan 2011”**

# 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



# Step Five – Build a Reference Implementation

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



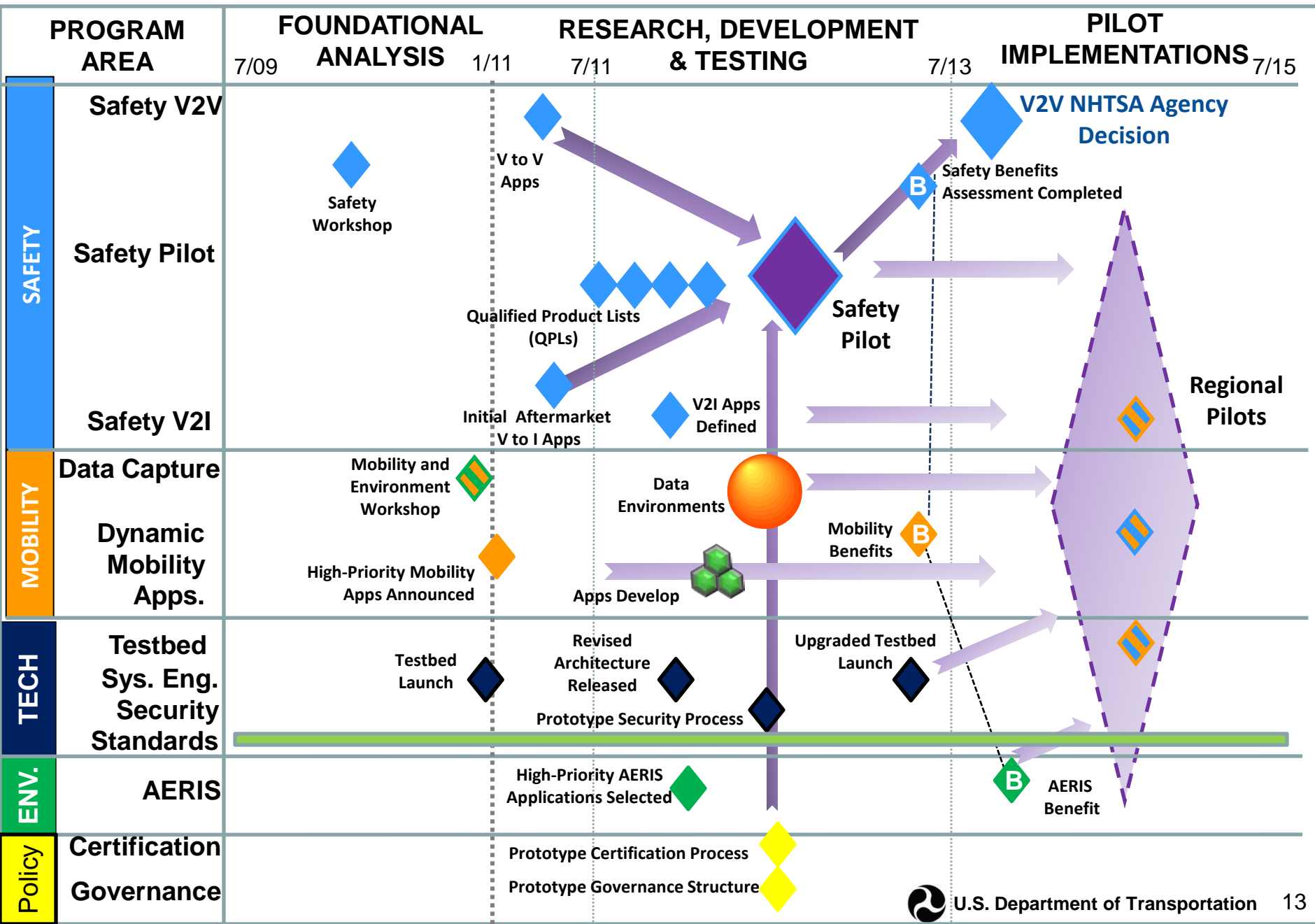
# Step Six - Conduct Regional Pilots

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- 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



# For More Information

**RITA** U.S. Department of Transportation  
Research and Innovative Technology Administration

Intelligent Transportation Systems  
Joint Program Office

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RITA Updated 11:08 AM EDT, December 20, 2010

Print

Imagine that . . .  
... transit and truck drivers receive regular updates, allowing them to stay on schedule -- and stay in business

Welcome  
Dr. Robert L. Bertini  
Deputy Administrator  
RITA  
Biography | Video

**Our Current Research**  
Applications | Mode-Specific | Cross-Cutting

- ▶ Vehicle-to-Vehicle
- ▶ Vehicle-to-Infrastructure
- ▶ Real-Time Data Capture
- ▶ Dynamic Mobility Applications
- ▶ AERIS
- ▶ Road Weather

More >>

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**What's New**

- ITS Strategic Research Plan (Executive Summary)
- 2010 Request for Information on ITS Costs
- Policy Roadmap for Safety: Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I), DRAFT 5/12/2010
- Secretary LaHood Excited About V2V Applications

Sec. Ray LaHood Remarks at ITS America Annual Meeting  
The ITS Cost Database provides both unit costs (Capital, O&M, and Lifetime) for individual ITS components. [Read more...](#)

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