

**International Harmonization of Cooperative  
Systems Standards  
US Department of Transportation Perspective**

**Shelley Row  
Director, ITS Joint Programs Office**

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Sophia Antipolis, France

# Overview

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- Overview of RITA
- IntelliDrive<sup>SM</sup> Vision
- ITS-JPO's Standards Role
- EC-US Harmonization Agreement

# Research and Innovative Technology Administration

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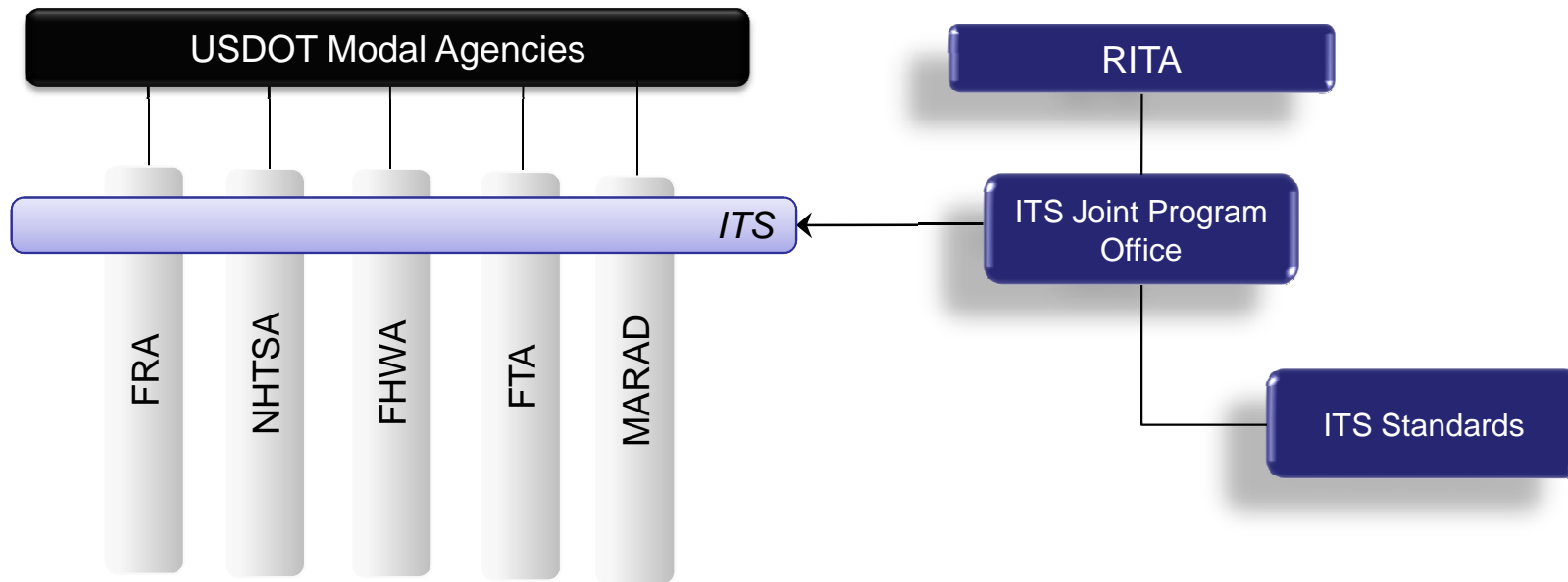


*“The Research and Innovative Technology Administration (RITA) coordinates the U.S. Department of Transportation's (DOT) research programs and is charged with advancing the deployment of cross-cutting technologies to improve our Nation's transportation system”*

RITA Administrator	Mr. Peter Appel
ITS Joint Program Office Director	Ms. Shelley Row
ITS Standards Program Manager	Mr. Steve Sill

# RITA ITS Joint Program Office

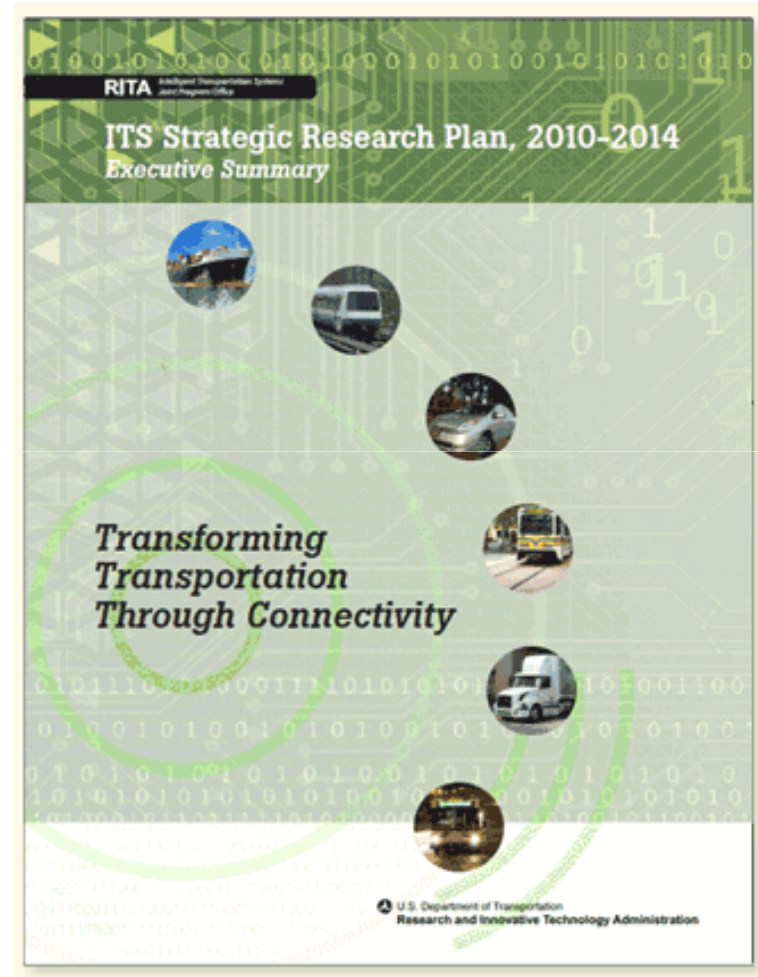
RITA ITS Joint Program Office cooperates with modal agencies within DOT to coordinate cross-cutting research, including standards



# ITS Strategic Research Plan

- ITS Strategic Research Plan available
  - Released January 2010
  - Five year forward looking plan (2010-2014)

[http://www.its.dot.gov/strat\\_plan/index.htm](http://www.its.dot.gov/strat_plan/index.htm)



# IntelliDrive<sup>SM</sup> Vision

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## Vision

“A national, multi-modal surface transportation system that features a connected transportation environment among vehicles, the infrastructure, and portable devices to serve the public good by leveraging technology to maximize safety, mobility and environmental performance”



Critical Success Factors	
Effective applications	Sustainable Approach
Interoperable Technology	Publicly Acceptable

*ITS standards are a part of the foundation for IntelliDrive<sup>SM</sup>*

# IntelliDrive<sup>SM</sup> Deployment: What is required?

**VISION**

Applications	Are applications available and benefits validated?
	What is the minimum infrastructure needed for the greatest benefit? How much, where, when and what type?
	What is the degree of market penetration required for effectiveness?
Technology	Is technology stable, reliable, secure, and interoperable?
	Are international standards available to ensure interoperability?
Policy	What policies/governance/funding are required for sustainability?
	Is there acceptability by the public for privacy and driver distraction?

**ALL MUST BE ANSWERED TO BE DEPLOYABLE**

# IntelliDrive<sup>SM</sup>– Vehicle to Vehicle (V2V) Communications for Safety

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- **Purpose**

- To accelerate the implementation of next generation of safety improvements through the widespread deployment of V2V - equipped vehicles of all types (truck, transit, auto & fleets)

- **Objectives**

- Reach NHTSA regulatory decision by 2013
- Accelerate in-vehicle technology to ensure value to the first V2V vehicles

- **Headlines**

- 76% Crash Scenarios
- DSRC 5.9GHz
- Vehicles have 360° awareness (“Here I Am”)

- **Research questions:**

- Are applications effective and are benefits validated?
- What infrastructure is needed? How much, where, when, and what type?
- Degree of market penetration and when required for effectiveness?
- What existing technologies can be leveraged to accelerate in-vehicle equipment?
- What are the special needs and applications for truck and transit vehicles?

**Note:**

*One application to be researched collaboratively with the European Union (EU)*

**FY 2010 investment up to \$11, 500,000**



# IntelliDrive<sup>SM</sup>– Vehicle to Infrastructure (V2I) Communications for Safety

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- **Purpose**

- To accelerate the implementation of the next generation of safety improvements through deployment of a nationwide suite of V2I - equipped vehicles (truck, transit, auto & fleets) capable of communicating effectively with relevant infrastructure systems

- **Objectives**

- Infrastructure policy guidance / regulation
- Develop policy guidance/regulation for DSRC in signals
- Develop Signal Phase & Timing (SPaT) as initial capability

- **Headlines**

- 12% Crash Scenarios
- DSRC 5.9GHz for crash warning; various communication technologies for information advisories
- Signal warnings support active safety

- **Research questions:**

- Are applications are effective and are benefits validated?
- What minimum infrastructure is needed for maximum benefit? (Initial deployment)
- Degree of market penetration required for effectiveness?
- Are there unique applications for specialty vehicles (transit bus, light rail, etc)?

- **Note:**

- *One application to be researched collaboratively with the EU*
- *Leverages FMCSA Smart Park research*

**FY 2010 investment up to \$9,300,000**

# IntelliDrive<sup>SM</sup> – Technology Underpinning

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## ▪ IntelliDrive Test Environment

- Objective: Create a common resource for public and private sector multi-modal testing

## ▪ Harmonization of International Standards and Architecture

- Objective: Develop internationally harmonized standards, particularly around vehicle-based applications

## ▪ IntelliDrive Certification

- Objective: Establish a technology & application certification approach, particularly for active safety applications

## ▪ IntelliDrive Systems Engineering

- Objective: This revised baseline architecture and requirements will serve as the technical foundation for the next generation of IntelliDrive field tests, for initial and ongoing deployments of IntelliDrive, and for continued research as the core technologies and program evolve

## ▪ Data and Communications Security

- Objective: Develop and test a secure communications network that is scalable and ensures privacy
- Funding: Included in V2V research activities

# ITS-JPO's Standards Role and Activities

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## Why?

- Recognition that standards are essential to enable widespread deployment of interoperable ITS technologies

## How?

- Strategic Plans and Program Roadmaps to guide future work
- JPO supports SDOs who develop ITS standards and standards testing
- RITA/ITS-JPO however does not mandate standards usage

# Why ITS Standards Harmonization?

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USDOT is committed to cooperating with the EU on ITS research activities that are beneficial to all of us

- Cooperation between governments and technical experts can help improve technical content of standards
- Harmonization can help reduce overall costs
- Harmonization helps promote competition and innovation
- Harmonization expands interoperability across national architectures
- Harmonization can help advance deployment and promote market confidence



**Global Technologies**  
**Global Markets**  
**Global Standards**

# Harmonization Agreement between USDOT and EC

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- USDOT is pleased to be moving forward with the EC to seek opportunities for harmonization
- The Bilateral EC-US ITS Task Force has appointed a working group to establish a harmonization plan
  - Details and timing are being discussed between the government Co-Chairs
  - Steve Sill USDOT and Wolfgang Hoefs EC
- We welcome other governments to join in this initiative.



# The Agreement

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## EU-US Joint Declaration of Intent (13<sup>th</sup> November 2009)

Globally harmonized standards are essential to support and accelerate the deployment and adoption of Cooperative Systems. The parties strongly support development of global open standards which ensure interoperability through appropriate actions including, but not limited to, coordinating the activities of the standardization organizations. In particular, the parties intend to make efforts to preclude the development and adoption of redundant standards. The adoption of multiple standards within a given area of interest should be limited to those cases where there are demonstrated technical needs, such as differing frequency spectrum allocations, and legal requirements, such as privacy protection laws. The parties welcome the participation of other countries and regions, particularly those of the Asia Pacific region, in the development of global open, harmonized standards for Cooperative Systems.



# Moving Forward

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Where do we start?

- USDOT and the EC must first map the standards landscape to find where opportunities might exist (High Level Assessment)
- The Co-Chairs will then work with experts to get a more detailed look at the extent of harmonization (Detailed Level Assessment)
- USDOT and EC Leadership will then establish priorities for proposing harmonization efforts

SDOs will play a critical role in the process

- Achieving harmonization will depend on the efforts of regional SDOs working in coordination with their local governments
- SDOs have the technical expertise and the knowledge base needed to understand what it will take to achieve harmonization
- Government partners must commit resources to help SDOs do the work to modify standards should a commitment to harmonization be made

# For More Information...

Please visit the following websites:



[www.its.dot.gov](http://www.its.dot.gov)



[www.intelldriveusa.org](http://www.intelldriveusa.org)

Or follow us on:



[http://www.its.dot.gov/rss\\_feed.htm](http://www.its.dot.gov/rss_feed.htm)



<http://www.its.dot.gov/exit/twitter.htm>