

International Symposium



"Evaluation Methods of CO2 Emission
Reduction with ITS Applications"

October 22, 2010, Japan

U.S. Perspectives on ITS Contributions to Sustainable Transportation

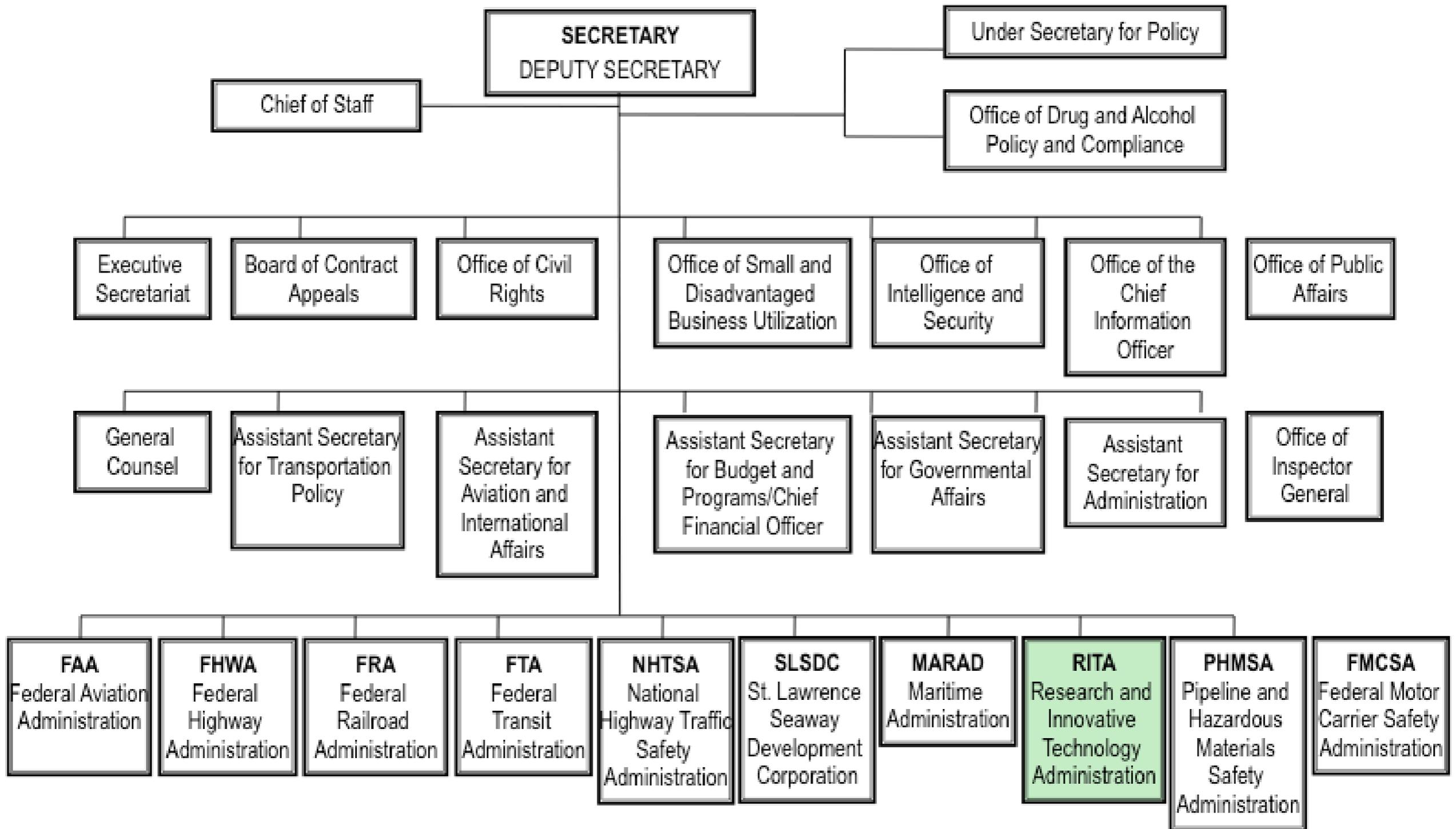


U.S. Department of Transportation
Research and Innovative Technology Administration

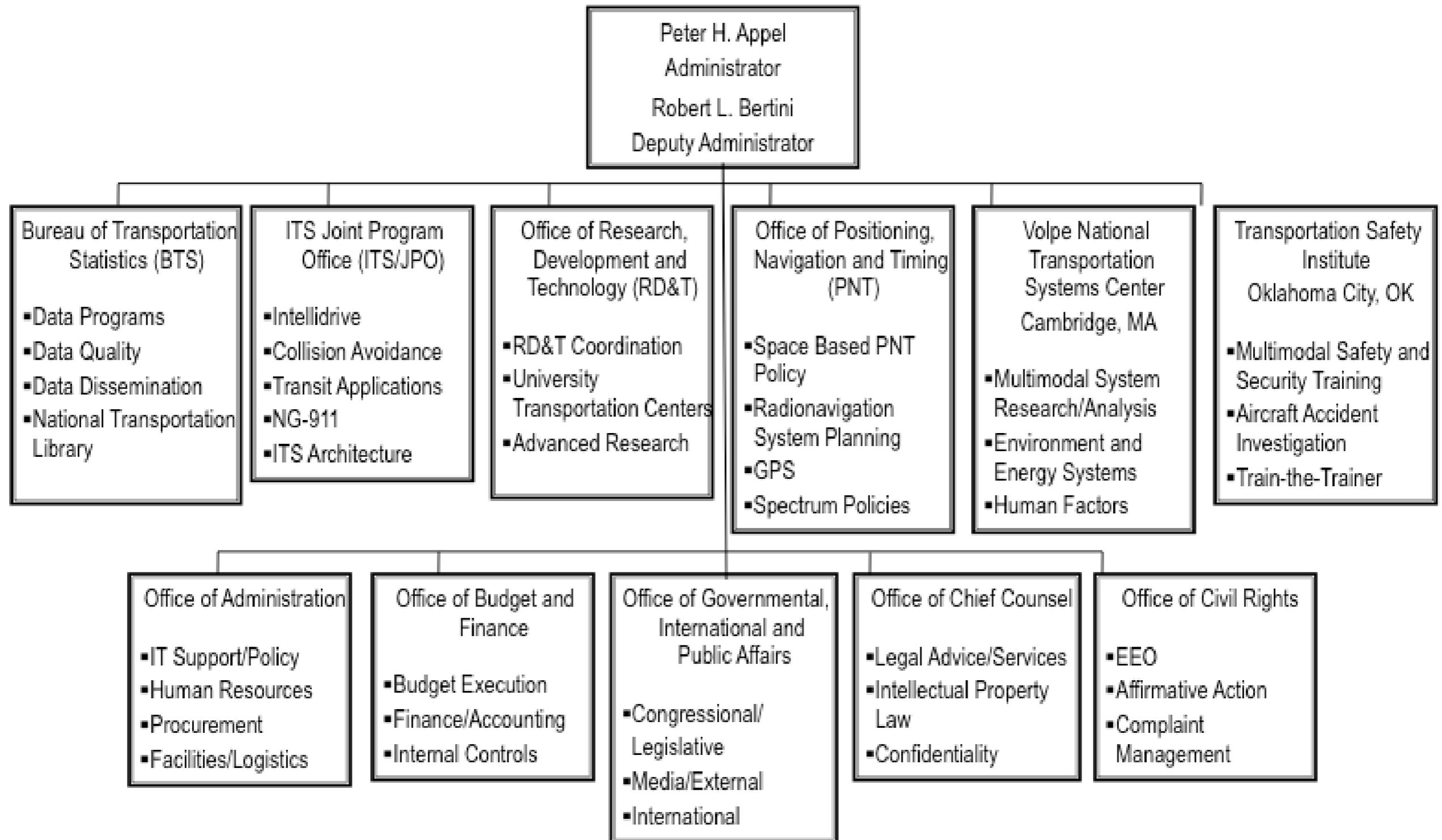


Dr. Robert L. Bertini, P.E.,
Deputy Administrator and
Acting Director, ITS Joint
Program Office

U.S. DOT



RITA Overview

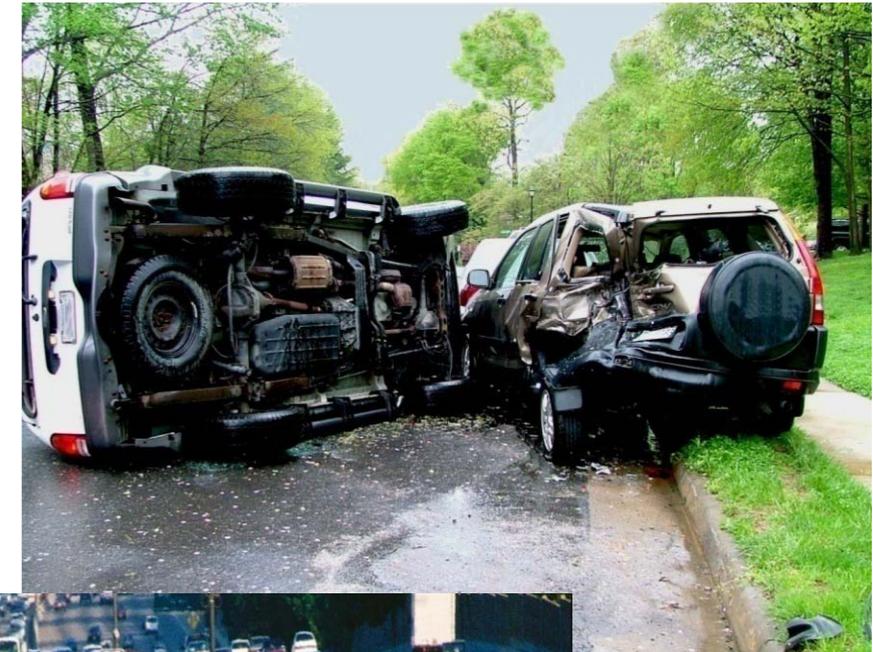


U.S. and Global Problems



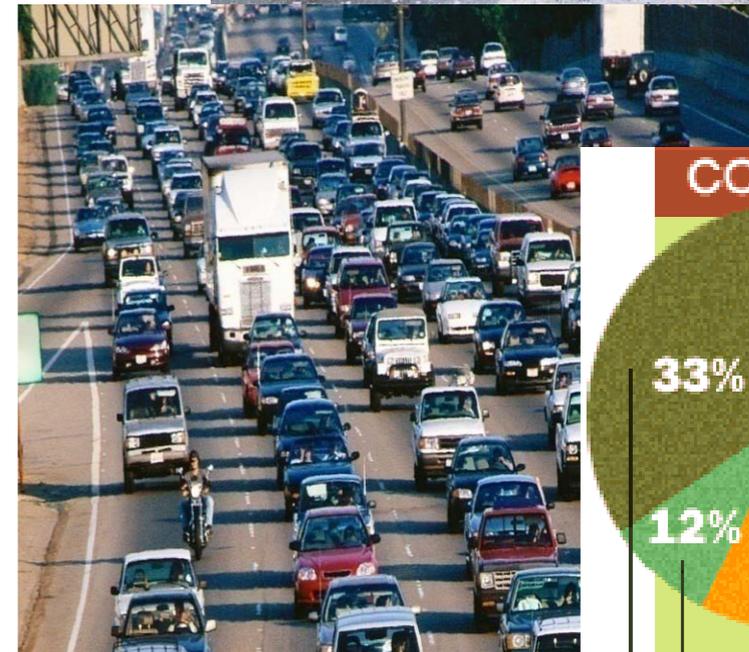
Safety (2009)

- 33,808 fatalities/year
- 2.22 million injuries/year
- 5.51 million crashes/year
- **Leading cause of death for ages 4 to 34**



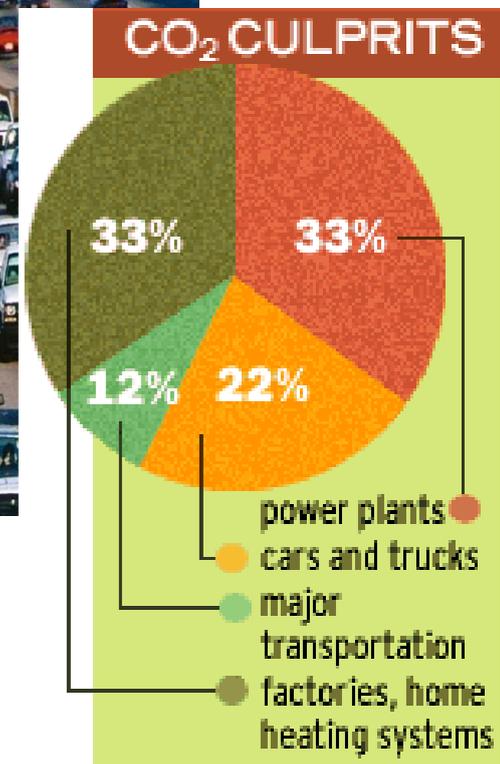
Accessibility and Mobility

- 4.2 billion hours of travel delay
- \$78 billion cost of urban congestion



Environment

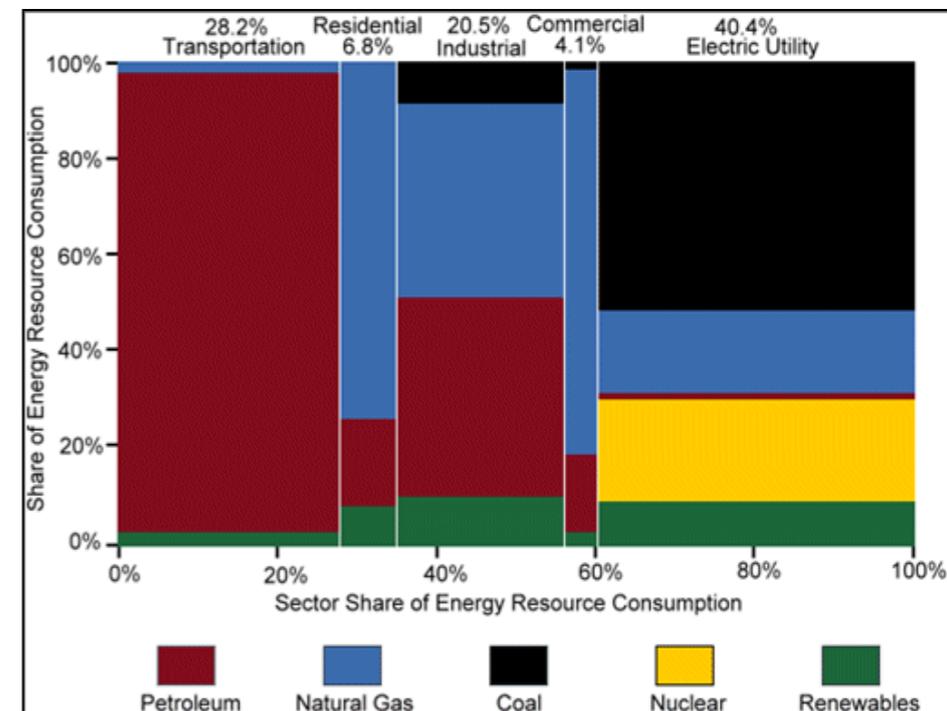
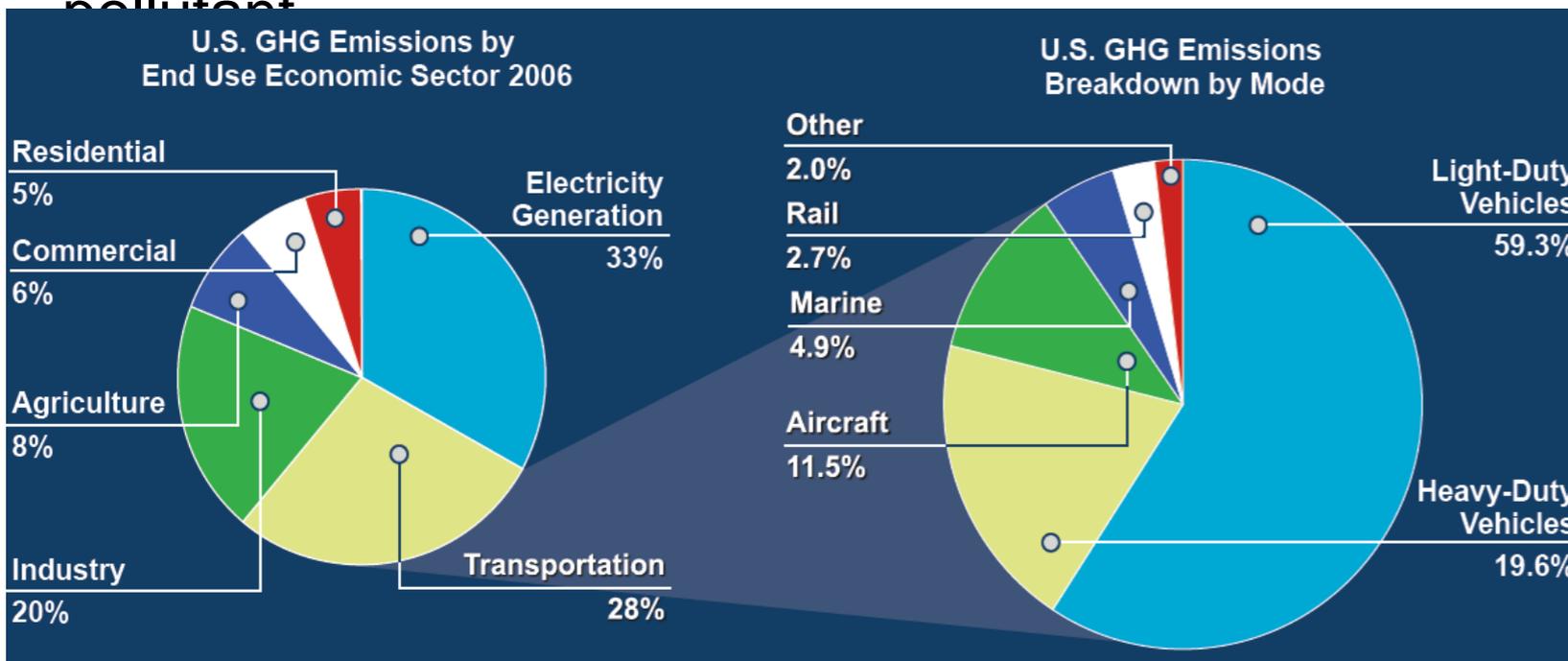
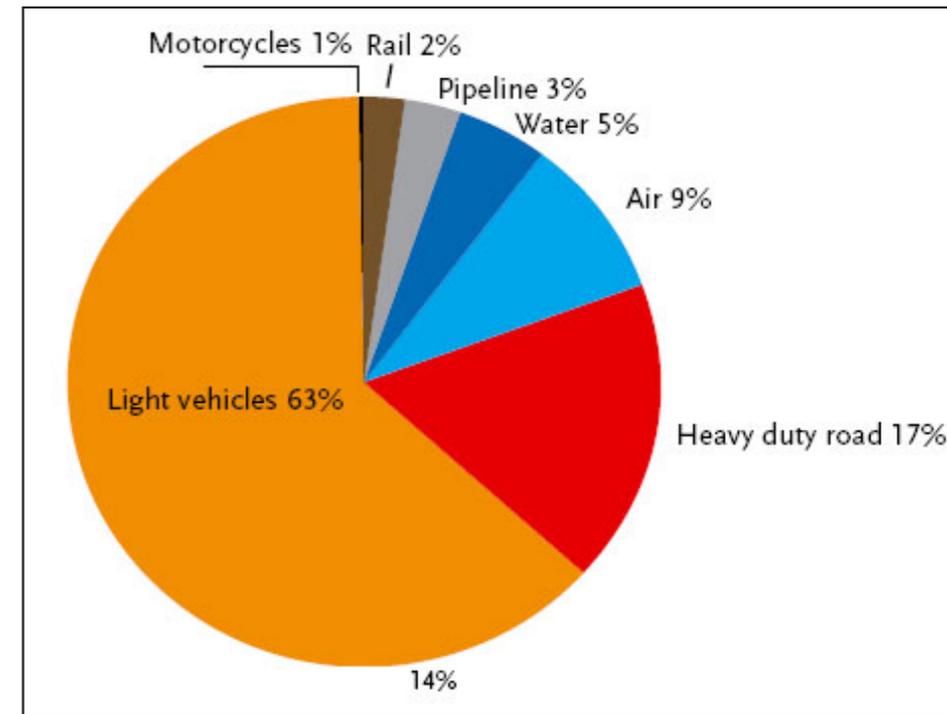
- 2.9 billion gallons of wasted fuel



U.S. Emissions and Energy



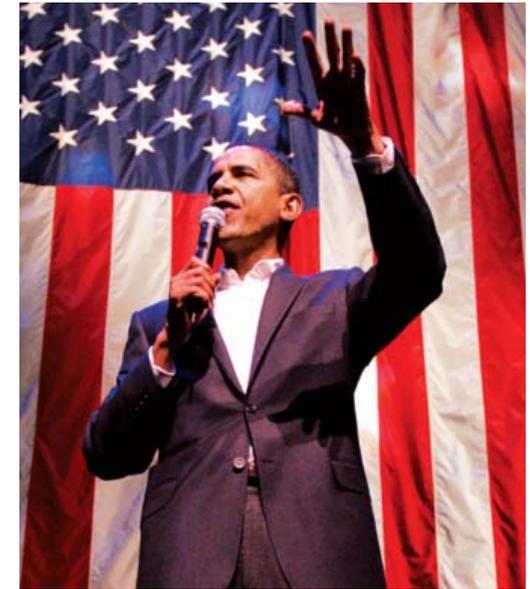
- Transportation accounts for 28% of U.S. GHG emissions and energy consumption
- Light vehicles account for 63% of transportation energy consumption
- Almost all of U.S. energy consumed for transportation is in the form of petroleum.
- In 2006 more than 60% of oil was imported
- Over 150 million Americans live in counties or regions that exceeded health-based national ambient air quality standards for at least one regulated air pollutant



Obama Administration



- New Energy for America plan with goal of reducing U.S. greenhouse gas emissions 80 percent below 1990 levels by 2050
- Implement market-based cap-and-trade system and invest \$150 billion over 10 years in advanced energy technologies
- National low carbon fuel standard
- National portfolio standard requiring 25% of electricity from renewable sources by 2025
- Double fuel economy standards in 18 years and get 1 million plug-in hybrid cars on road by 2015
- Require federal government to use renewable sources of electricity and by making federal buildings “zero-emission” by 2025
- Incentives to reward forest owners, farmers, and ranchers when they plant trees, restore grasslands, or undertake



farming practices that capture CO₂ from the atmosphere

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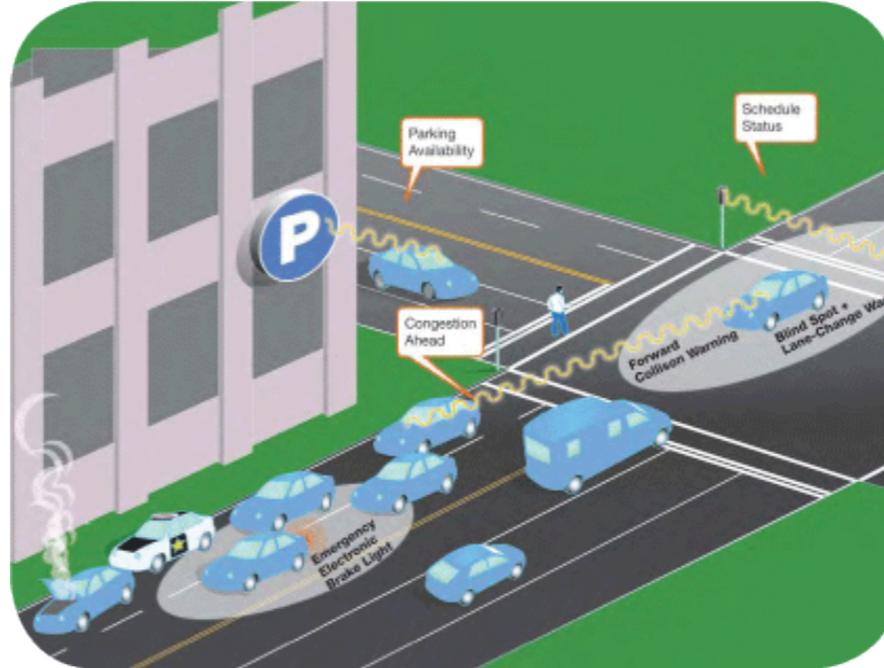
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Critical Issues



- Safety
- Distracted driving
- High-speed rail
- Alternative fuels
- Livability
- Sustainability
- Nanotechnology
- Land use planning
- Connected vehicles
- Next generation 9-1-1
- Traffic congestion
- Innovative financing
- Marine highways
- Climate change



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Fuel Economy Standards



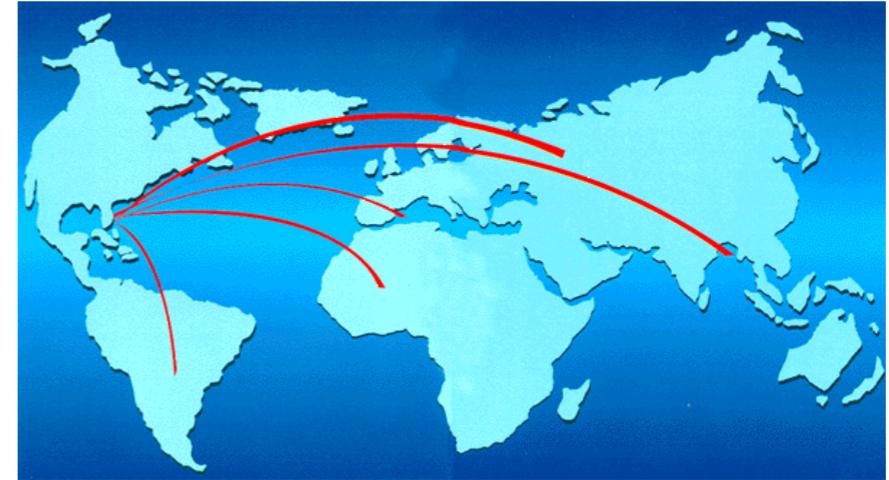
- March 27, 2009: Secretary LaHood announces new fuel economy standards for cars and light trucks for the 2011 model year
- Industry-wide combined average raised to 27.3 mpg
- 2.0 mpg increase over the 2010 model year average
- Saves about 887 million gallons of fuel
- Reduces CO2 emissions by 8.3 million metric tons.
- May 19, 2009: President Obama announces agreement between auto industry, State of California, United Auto Workers, EPA & DOT to issue a joint rule to address fuel economy and greenhouse gas reductions.
- 35.5 mpg standard by 2016
- 39 mpg for passenger cars
- 30 mpg for light trucks
- Exceeds Energy Independence and Security Act requirements of 35 mpg by 2020.



International Cooperation



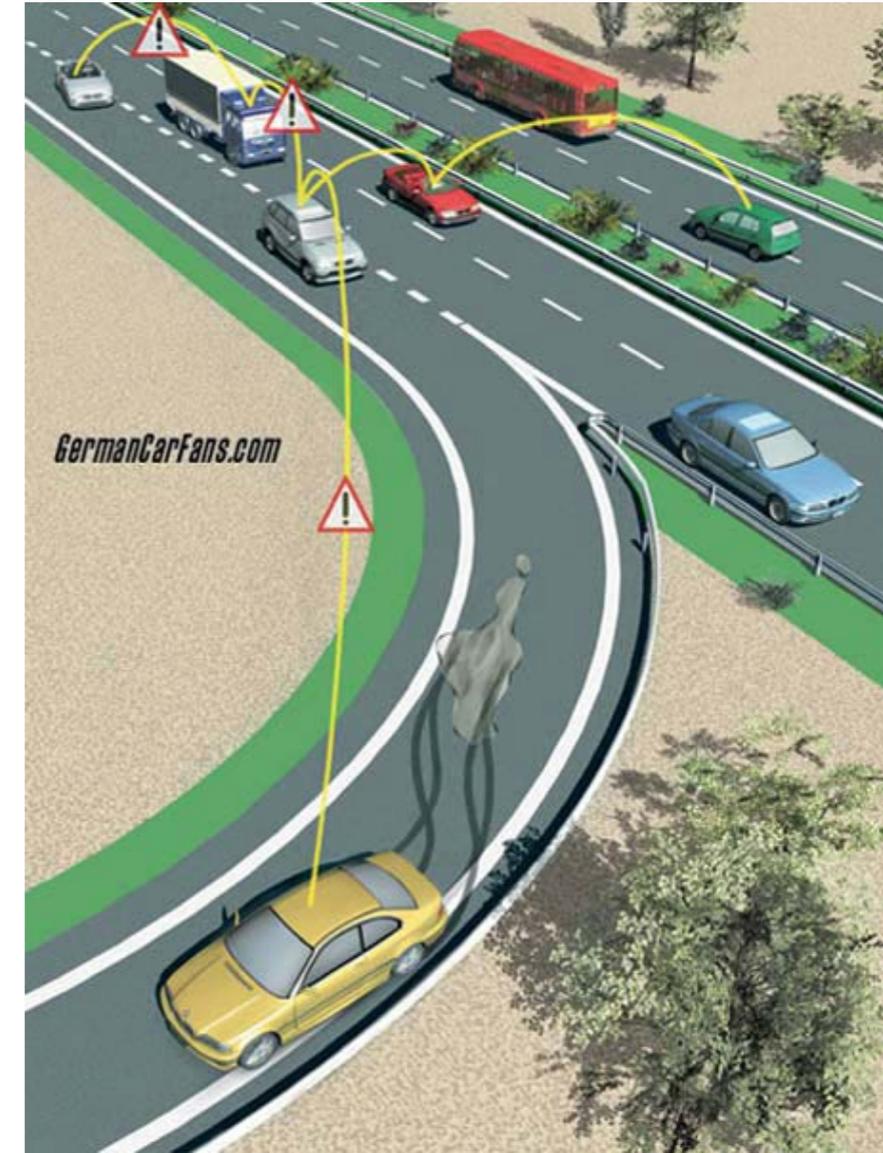
- U.S. DOT leadership recognizes that national transportation systems are bound together in a multinational community.
- Technological advances and interpersonal collaboration foster an interconnected environment.
- Transportation leaders must address ways to harness technology for common goals.
- This forum exemplifies opportunities for interaction / cooperation among leaders.
- U.S. DOT – starting at the top – believes that sound transportation research and data driven analysis will point the way to future successes in collaborative initiatives.



Vision for the Future



- National, multi-modal surface transportation system—with connectivity as its central core.
- Vehicles (cars, trucks, buses, fleets of all kinds), the infrastructure and mobile devices.
- Leveraging technology to maximize safety, mobility and the environment—enabled through wireless communications—in all modes.
- First priority is safety: crash and injury prevention.
- Foster technological advances across borders—for benefit of all international partners.
- Open platform for vehicle-to-vehicle (V2V) and vehicle-to-Infrastructure (V2I) communications is the major driving technology.



Secretary LaHood Priorities



- **Safety:** Improve public health and safety by reducing transportation-related fatalities and injuries.
- **State of Good Repair:** Ensure the U.S. proactively maintains its critical transportation infrastructure in a state of good repair.
- **Economic Competitiveness:** Promote transportation policies and investments that bring lasting and equitable economic benefits to the nation and its citizens
- **Livable Communities:** Foster livable communities through place-based policies and investments that increase transportation choices and access to transportation services
- **Environmental Sustainability:** Advance environmentally sustainable policies and investments that reduce carbon and other harmful



emissions from transportation sources

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Sustainability Priority



Outcome	Metric
Reduced carbon emissions, improved energy efficiency and reduced dependence on fossil fuels	<ul style="list-style-type: none"> • Aviation fuel efficiency • Transit vehicles using alternative fuels • GHG emissions from transportation • HSR funding • Investments in projects meeting outcome
Reduced transportation-related air, water and noise pollution and impacts on ecosystems	<ul style="list-style-type: none"> • Emissions of urban air pollutants • Hazardous liquid pipeline spills • People exposed to significant aircraft noise • Transit market share for top 50 urbanized areas • Energy use/GHG emissions for TIGGER projects • Localities reached through marine highway
Increased use of environmentally sustainable practices and materials in transportation sector	
Increased use of environmentally sustainable practices, reduction in pollution and adverse environmental effects from DOT owned or controlled transportation services and facilities	<ul style="list-style-type: none"> • DOT fleet petroleum use • DOT water efficiency • DOT recycling and waste diversion • DOT contracts with sustainability requirements

Dr. Robert LaBianca, Deputy Administrator

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ITS Breaking Down Silos



- More cross modal
- Now including rail and maritime
- Cars, trucks, buses, fleets, and vehicles of all kinds
- Commitment to dedicated short range communications (DSRC)
- Safety → Mobility → Environment
- Increased outreach and involvement of stakeholders
- Broadening of participation of public and private sectors and universities
- Distracted driving
- International cooperation and standards harmonization



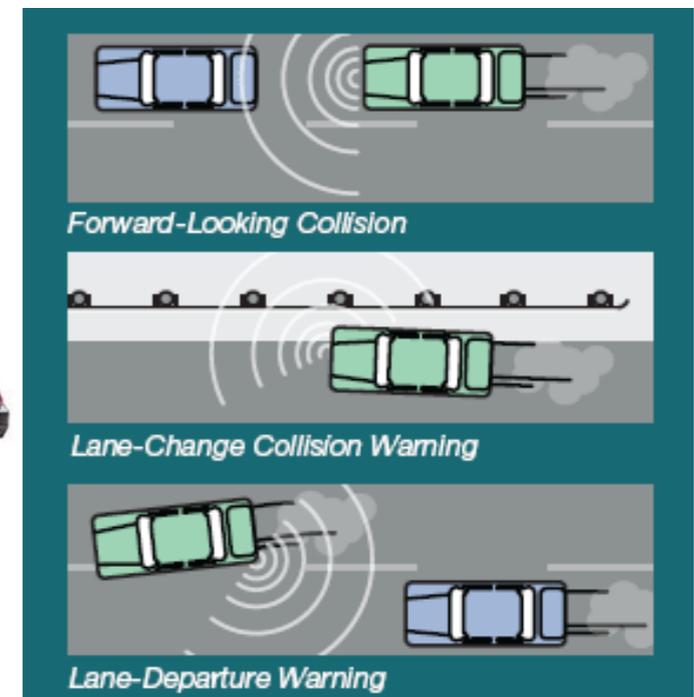
DSRC Commitment



“We’re fully committed to Dedicated Short Range Communications, which deliver real-time information and data to – and between – vehicles. We know that this technology will not only achieve new safety benefits, but also create a platform for innovations with countless commercial applications.”



Ray LaHood
U.S. Secretary of Transportation
May 5, 2010, Houston, Texas



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ITS Strategic Research



Vision: National, multi-modal surface transportation system that features a connected transportation environment among vehicles (cars, trucks, buses, fleets of all kinds), the infrastructure, and mobile devices to serve the public good by leveraging technology to maximize safety, mobility and environmental performance. Connectivity is achieved through dedicated short range

communications (DSRC).

Goal: Safety

Vehicle to Vehicle Communications for Safety
Vehicle to Infrastructure Communications for Safety

Goal: Mobility

Real-Time Data Capture and Management
Dynamic Mobility Applications including Weather

Goal: Environment

Applications for the Environment: Real-Time Information Synthesis (AERIS)

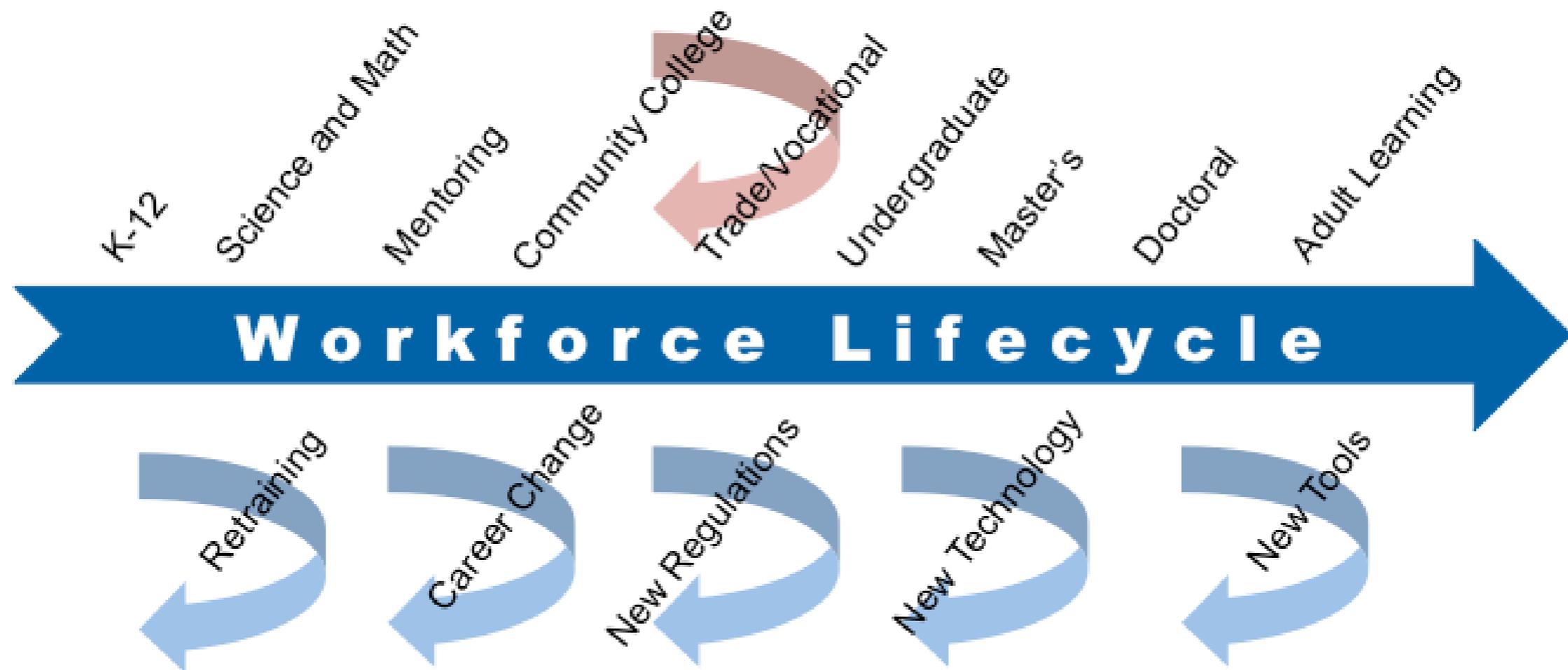
Real-time, environmental data from all sources will be integrated and available for use in multimodal transportation management and performance improvement and will contribute to better environmental practices.



Commitment to Workforce



- Not just technology or policy – the people are important
- We are serious about the need to attract, recruit, orient, retain, develop, and mentor a diverse, engaged, collaborative, and high performance workforce:
- In collaboration with stakeholders, launch a multimodal workforce development initiative that anticipates demographic shifts
- Increase the education and training level of the workforce



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Contact



RITA

U.S. Department of Transportation
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Dr. Robert L. Bertini

U.S. DOT Research and Innovative Technology
Administration

e-mail: robert.bertini@dot.gov

websites: www.rita.dot.gov □ www.its.dot.gov

twitter: [@DOTRITANEWS](https://twitter.com/DOTRITANEWS) □ [@ITSJPODDirector](https://twitter.com/ITSJPODDirector)

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