

# Transit Operations and Policy Panel Discussion



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**PATH @ 20 Symposium  
October 27, 2006**

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U.S. Department of Transportation**



## Discussion Agenda:

- **U.S. DOT Research and Innovative Technology Administration (RITA) Overview**
- **Perspectives on Transit Operations and Policy in the context of:**
  - **Surface Transportation Conditions and Trends**
  - **DOT Strategic Plan and Performance Measures**
  - **DOT Research Plan Goals and Priorities**
- **Future Outlook**

## Research & Innovative Technology Administration

- Reflects DOT commitment to transportation system research and innovation
- Coordinates DOT R&D programs and activities
- Advises Secretary of Transportation on scientific and technological matters
- Conducts transportation statistics research, analysis, and reporting through BTS
- Coordinates cross-departmental research programs (ITS, SBIR and UTC)

## Surface Transportation Conditions and Trends

- Over 40,000 motor vehicle related fatalities per year
- Aging infrastructure with limited expansion potential
- Growing population, particularly elderly over age 65
- Transit usage is low overall, yet critically important
- VMT forecasted to increase by 60% from 2030-2050
- Congestion results in 3.7 billion hours of delay and 2.3 billion gallons of excess fuel consumption / year
- Transportation share of GHG emissions is projected to increase from 28% currently to 36% by 2020
- Growing security, preparedness and response challenges

## DOT Strategic Plan Goals

- ❖ **SAFETY: work toward eliminating transportation deaths and injuries**
- ❖ **CONGESTION: pursue the National Strategy to Reduce Congestion**
  - **GLOBAL CONNECTIVITY: facilitate international trade growth and development**
- ❖ **ENVIRONMENTAL STEWARDSHIP: promote solutions that enhance communities and protect the environment**
- ❖ **SECURITY, PREPAREDNESS AND RESPONSE: balance security with safety, mobility and economic needs**

## DOT Strategic Plan – Transit Safety

- 168 transit-caused fatalities in 2004 (NSC report); riding a bus is 47 times safer than traveling by car
- Performance Goal: 0.448 transit fatalities / 100M passenger miles by 2011
- Research Strategies:
  - Causal factors, risks and consequence mitigation
  - Data / information sharing, best practices, training
  - Assess safety impacts of new technologies, vehicles, fuels and innovative operational concepts
  - Update fire / life safety guidelines

## DOT Strategic Plan – Transit and Congestion

- Implement National Strategy to Reduce Congestion
  - Urban Partnership Agreements
    - Variable pricing programs / demand management strategies
    - More efficient and responsive transit; more express service
    - Flexible work schedules and telecommuting policies
  - Private investment opportunities
  - ITS technologies for travel and traffic management
- Performance Goals:
  - 2% increase per year increase in transit usage at top 150 transit agencies
  - 95% of U.S population covered by “511” traveler information by 2011
  - Nationwide, reduce congested travel to 31% or less of all travel by 2011

## DOT Strategic Plan – Transit and Congestion

- Research Strategies
  - Conduct and sponsor research to relieve congestion in urban, metropolitan and suburban areas
  - Improve planning, operation, maintenance and management of transportation assets and services
  - Develop valid and reliable data concerning all aspects of congestion
  - Advance transportation research capabilities through grants, fellowships, and cooperative research agreements
  - Explore public-private partnership, non-traditional revenue sources, and related innovative finance mechanisms.

## DOT Strategic Plan – Congestion Relief for All

- Performance Goals:
  - 100% of transit bus fleets ADA compliant by 2011
  - 100% of key rail stations ADA compliant by 2011
  - Increase in the number of sites served by Job Access and Reverse Commute transportation services
- Research Strategies:
  - Advance use of next generation technologies for moving people
  - Ensure accessibility extends across all modes to allow for effective use

## DOT Strategic Plan – Transit and the Environment

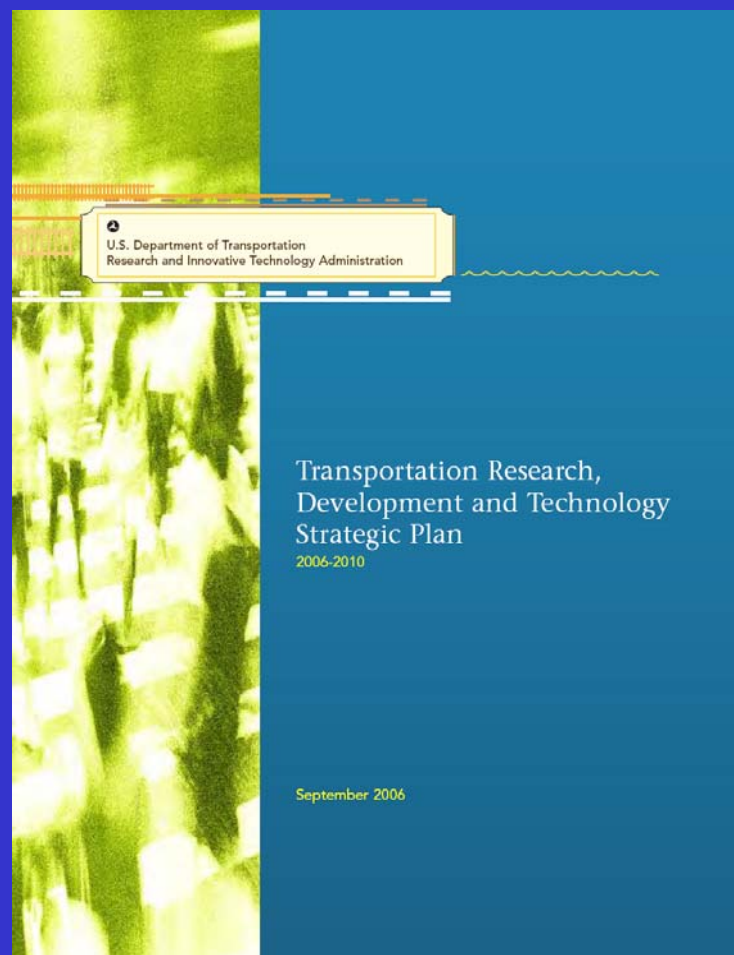
- DOT Center for Climate Change and Environmental Forecasting established in 1999 to:
  - Promote multimodal approaches to reducing GHG emissions
  - Prepare for the effects of climate change on transportation
- Performance Goal: 6 or fewer AQ non-conformity areas
- Research Strategies:
  - Hydrogen Initiative / clean fuels / diesel engine retrofit
  - Noise mitigation / reduction technologies
  - Planning methods for transportation AQ conformity analysis
  - Identify adverse effects on minority / low income populations
  - Non-motorized strategies to promote pedestrian and bicycle travel

## DOT Strategic Plan – Transit Security & Response

- Public transportation systems are:
  - Soft targets for terrorists and pandemic disease
  - Critical to mass evacuations from urban centers
  - In need of improved preparedness and response capabilities
- Performance Goal: 5,000 emergency response plans
- Research Strategies:
  - Reduce vulnerability and develop rapid recovery strategies
  - Identify and close security and preparedness gaps
  - Develop and validate emergency management / response plans
  - Develop and share information on impacts of incidents

# Research Technology & Development (RT&D) Plan

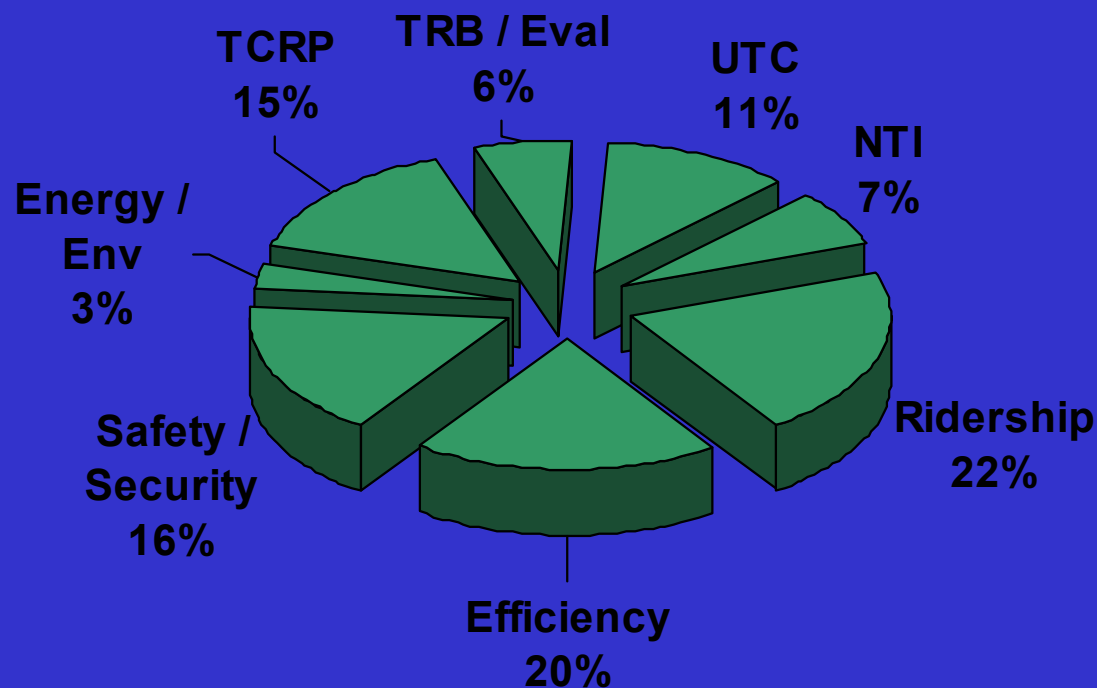
- Strategic: 2006-2010 horizon
- Multi-modal scope; common elements identified
- Performance goals / measures
- Stakeholder input via forums and workshops
- TRB expert review panel
- Program evaluation process (GRPA / PART)



## Transit RT&D Framework

- Growth in Ridership
- Capital and Operating Efficiency
- Safety, Security, Preparedness and Emergency Response
- Energy and Environment
- National Transit Institute
- Transit Cooperative Research Program
- University Transportation Centers
- TRB / Outreach
- Program Evaluation

# RT&D Budget Distribution



■ FTA ~\$60M FY07

■ Plus:

- RITA Hydrogen Initiative
- DOE Vehicle Technology
- OST Policy Research

## RT&D Focus: Growth in Ridership

- Promote good practices
- Flexible, tailored service
- Traveler information and trip planning assistance
- Integrated fare policies and payment methods / media
- Service reliability and security
- Human Service Transportation
- Rural and Small Communities
- Elderly and underserved populations

## RT&D Focus: Capital and Operating Efficiency

- Asset Management
- Increased productivity (Bus Rapid Transit)
- Automated systems and technologies
- Improved planning and analysis methods / tools
- Vehicle diagnostics / just-in-time maintenance
- Vehicle fuel economy and fueling technologies
- Workforce management and training

## RT&D Focus: Safety, Security and Response

- Crash avoidance technology / human factors
- On-board safety and security monitoring
- Rail grade crossing safety and light rail vehicle crashworthiness
- Emergency preparedness, response, and recovery
- Transit Safety and Security Statistics Reporting
- Web-based safety and security incident management
- Safety of hydrogen and other alternative fuels

## RT&D Focus: Energy and Environment

- Fuel cell propulsion
- Clean fuels
- Vehicle noise and exhaust emissions
- Environmental process streamlining
- Transportation AQ conformity planning and analysis
- Integration with non-motorized transportation

## RT&D Focus: Cooperation and Partnership

- University research
- Transit Cooperative Research Program
- Cooperative Research and Development Agreements
- National Transit Institute
- International exchanges
- Workshops and forums
  - Policy
  - Technical

## Wild-eyed Prognostications

- Multi-modal travel and trip planning information with mobile web connectivity
- Park and ride reservation
- Integrated payment media and innovative finance
- Expanded telecommuting; teleportation next century
- Expanded car sharing
- Ridesharing status quo; subscription possibilities
- Hybrid propulsion shifting to hydrogen fuel gradually
- Automated Dial-A-Ride
- Driver Performance Aids
- Autonomous Vehicles
- Incipient failure detection
- Video security monitoring with web-based incident detection and response
- Non-motorized integration