CENTER *for* CLIMATE CHANGE
and ENVIRONMENTAL FORECASTING

DOT Center for Climate Change and Environmental Forecasting

Presented by Diane Turchetta
U.S. DOT- FHWA

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Overview

- Introduction to the Center
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  - Goals and Strategies
  - Organization
- Center Activities
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- Other DOT Programs
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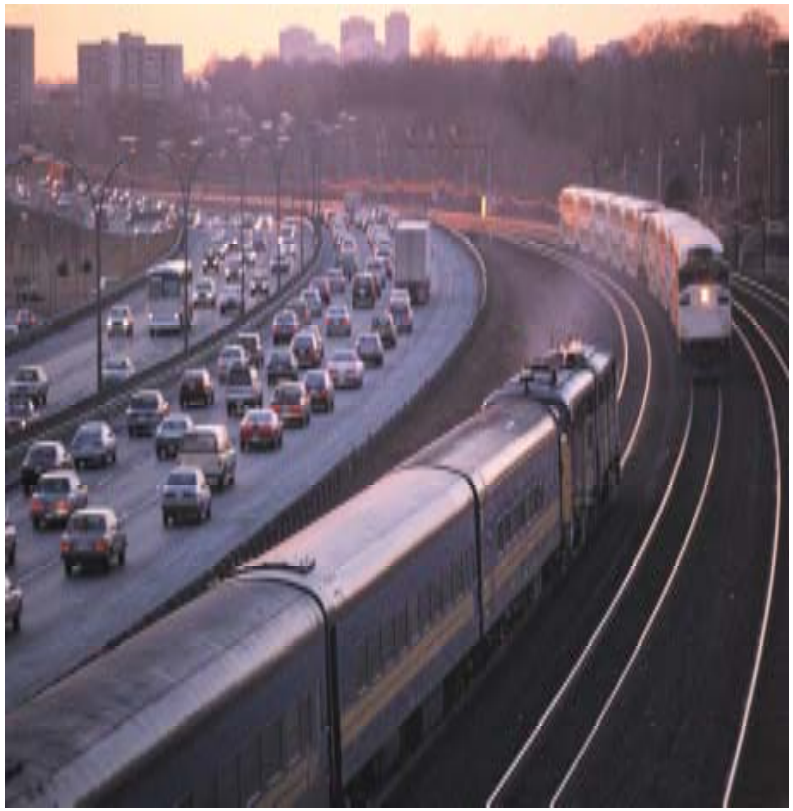
- Questions



History

- Began informally in 1997
- Initial focus on raising awareness within DOT
- First formal meeting in 1999, expanded focus beyond DOT
- First funding in FY 2000

Goals

GOAL 1: Unified DOT voice

GOAL 2: Improve DOT's capacity

GOAL 3: Meet the nation's mobility needs while contributing to goals/commitments for reductions in GHG emissions

GOAL 4: Prepare the transportation system to address the potential long-range effects of global climate change.

Strategies

Establish Leadership on Trans. and Climate Change Issues

Coordinate Departmental Activities on Climate Change

Research/Evaluate Strategies to Reduce GHG Emissions

Prepare for Potential Effects of Climate Change on the Transportation System

Participate in International Climate Change Policy Assessment

Ensure Ongoing Leadership, Staffing, and Resources

Organization

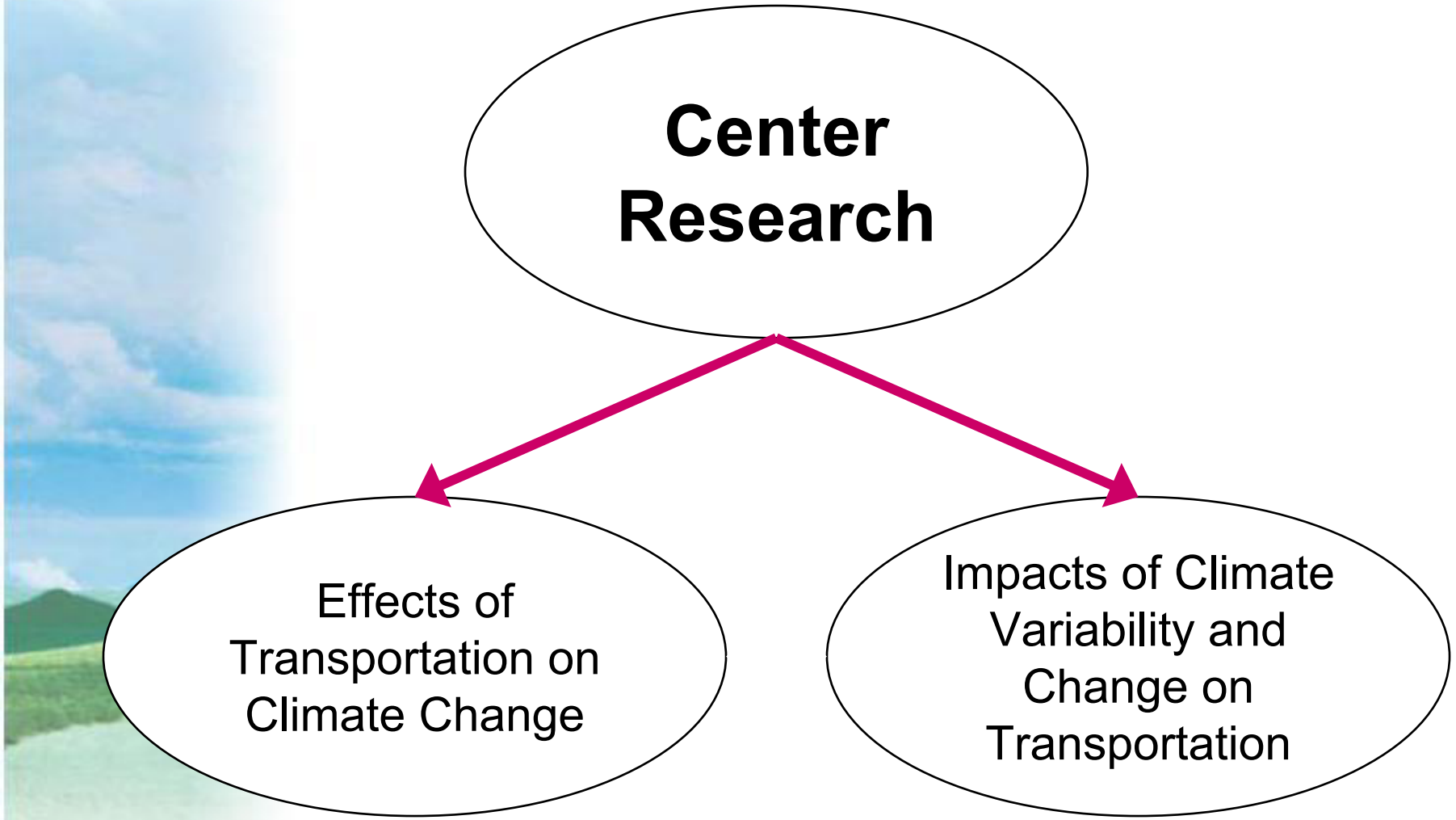
- Multimodal Core Staff to initiate and conduct research or other activities
- Administrative support from RITA
- Multi-modal Steering Committee oversees Center and Department-wide strategies
- Funding from voluntary modal contributions

Domestic Activities

- Full partner in Administration's Climate Change Science Program, with participation coordinated through the Center.
- Ongoing Impacts research is featured as one of 21 Synthesis and Assessment products in the President's Climate Change Research Initiative.

International Activities

- DOT representation at:
  - Subsidiary Bodies meetings in Oct 1999 and June 2000
  - COP-6 in Nov 2000
  - COP-9 in Oct 2003
  - COP-10 in Dec 2004
- Lead author for transportation chapter of 4th Assessment from the IPCC
- Staff will participate in the review of the 4th Assessment


Center Research
Effects of Transportation on Climate Change
Impacts of Climate Variability and Change on Transportation

Research

- Potential impacts of climate variability/change on transport infrastructure and services
- Increasing energy efficiency and reduction of greenhouse gases
- Improving transportation greenhouse gas data and modeling
- Institutional capacity issues that support the implementation of multimodal and intersectoral efficiency strategies

Completed Research

✓**Estimating Transportation GHG Emissions/Energy Use in NY State**

Stock Modeling for Selected Transportation Equipment

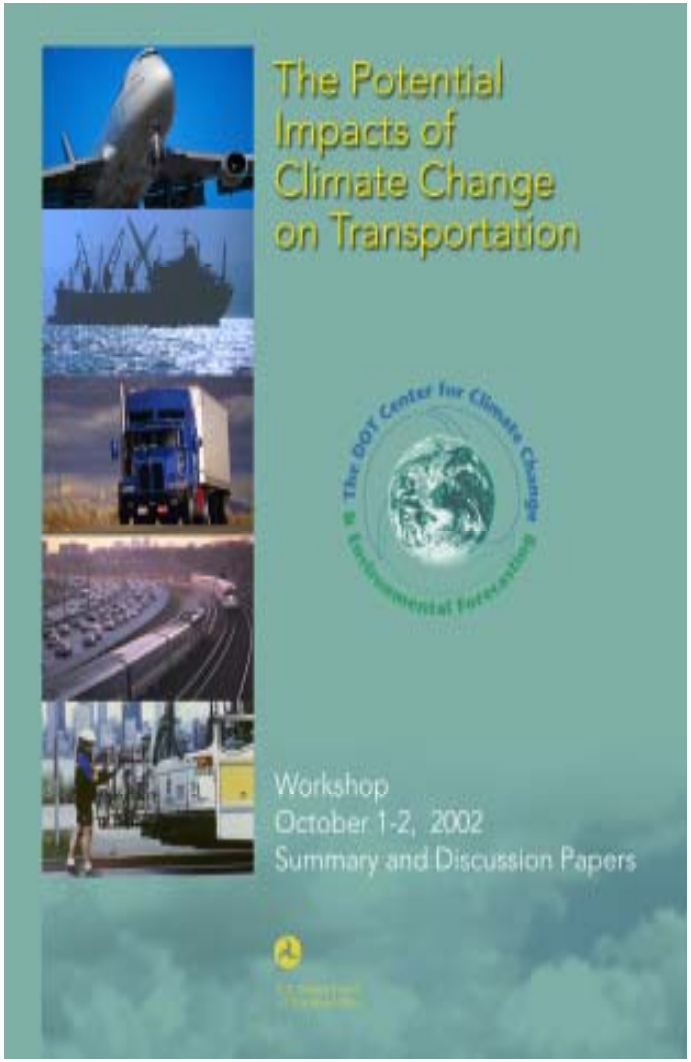
✓**Fuel Options for Reducing GHG Emissions from Motor Vehicles**

Modeling of Advanced Technology Vehicles

Passenger Ferries, Air Quality, and Greenhouse Gases

The Potential Impacts of Climate Change on Transportation: Workshop Summary/Proceedings

✓**GHG Reduction Through State and Local Transportation Planning**



Ongoing Research on…

- **Measuring Transportation's GHG Intensity**
- **Characterization of Marine Power Plant Emissions**
- **Fuel Quality/Consumption Rates of U.S. Waterborne Fleet**
- ✓ **Integrating Transportation Energy Efficiency and Greenhouse Gas Reduction Policies: A Guidebook for State/Local Governments**
- ✓ **Reducing the GHG/Air Quality Impacts of Freight**
- **Assessment of GHG Benefits of HD Natural Gas Vehicles**
- **Assessing State Long-Range Transportation Planning Initiatives in the NE for Energy Efficiency Benefits**
- **Total Fuel Cycle Emissions for Marine Transportation: Development of a "Well-to-Hull" Modeling Tool**
- **Feasibility of Utilizing NEMS as a Broad Integrating Framework for Transportation GHG Emissions Modeling**

Potential Impacts of Climate Change

2 major projects:

- NC State CTE study on hydraulics
- Gulf Coast Study

Other work through OST on potential impacts to shipping on the Middle Mississippi

Other DOT Programs

- Many of DOT's programs have ancillary climate benefits
- CAFE reduces energy consumption by increasing the fuel economy – saved 2.5 Billion gallons in the latest rulemaking
- FAA has ongoing operational initiatives to reduce GHGs produced by aviation
- DOT funds programs for:
  - congestion mitigation
  - hydrogen-powered transportation
  - air quality improvement
  - idle-reduction
  - transit development

Other Center Activities/Initiatives

- TRB's National Cooperative Highway Research Program (NCHRP) Project 25-25 Task 24 – Climate Change and U.S. Transportation
- Asilomar Conference – August 23-26, 2005 in Monterey, CA (hosted by ITS-Davis)
- SAFETEA Proposal

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DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

www.dot.gov/climate