

**Biomass Research and Development  
Technical Advisory Committee**

**Department of Transportation**

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# Introduction

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**Alternative Fuel and Life Cycle**  
**DOT's Alternative Fuels Program**

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# Overview

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- Transportation's Organization
- Transportation's Strategic Goal
- Transportation's Legislation
- Transportation's View on Biofuel/Alternative Fuels
- Transportation's role in the biofuel industry

# Who We Are

## The U.S. Department of Transportation's Mission:

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*Serve the United States by ensuring a **SAFE**, fast, **Efficient**, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future.*

The US DOT consists of the Office of the Secretary and ten administrations responsible for funding transportation infrastructure, promoting transportation safety, and regulating certain economic matters.

# DEPARTMENT OF TRANSPORTATION

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**OFFICE OF THE  
SECRETARY**

**FAA**

**FHWA**

**FMCSA**

**FRA**

**FTA**

**MARAD**

**PHMSA**

**NHTSA**

**RITA**

**SLSDC**



# DOT's Strategic Goals

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# Transportation Legislation and Standards

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## **Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21)**

- Expanded our research authority at the Secretary discretion.

## **Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for User (SAFETEA- LU)**

- Hydrogen Initiative Power and Storage Research
- Biobased Transportation Research
- Advanced Vehicle Technology Program
- Alternative Fuel & Life Cycle Analysis

## **Corporate Average Fuel Economy (CAFE)**

- NHTSA and EPA have issued joint regulations to increase fuel efficiency and reduce GHG emissions of passenger, medium and heavy duty vehicles
- Average fleet-wide fuel economy of 54.5 miles per gallon by 2025
- 1 million plug-in electric vehicles on the road by 2015

# Other Legislation and Standards

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## **Energy Independence and Security Act (EISA) of 2007**

- Collaboration with the Department of Energy (DOE) on reporting requirements on alternative fuel distribution
- Emphasizes the decrease reliance on petroleum fuels

## **Renewable Fuel Standard (Part of EISA)**

- Provides annual and long-term guidance for the amount of alternative fuels being blended into petroleum

# **DOT's Language for Biofuels/Alternative Fuels**

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- **Safety**

- Public Safety
- First Responders
- Commercial Driver awareness

- **Emissions**

- Fuel Efficiency
- Alternative Choices – Public Transportation

- **Infrastructure**

- Volume/Congestion Mitigation
- Maintenance – aging infrastructure

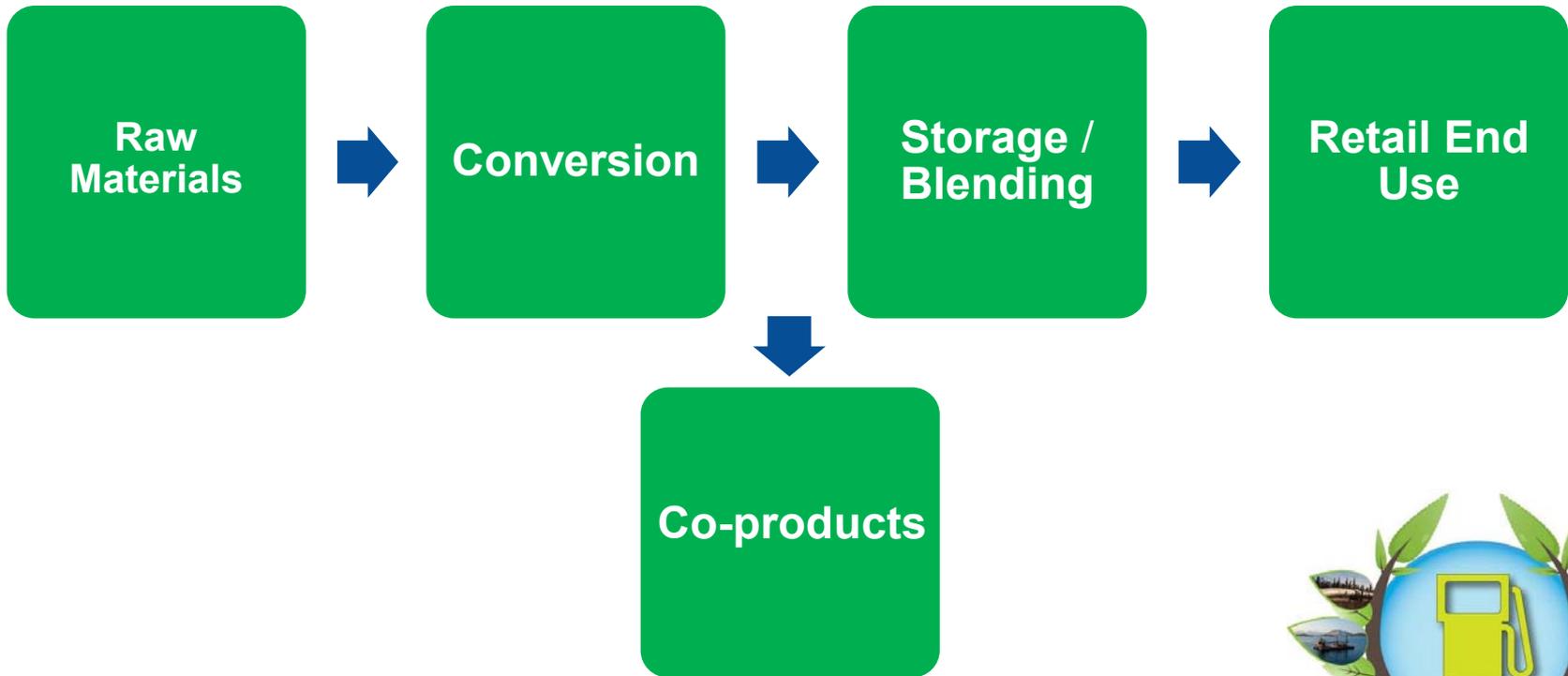
- **Compatibility**

- Rail and Tank Cars



# Transportation's Role in Biofuels Industry

There is a transportation component in each step of the supply chain!



# Current Activities

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## Biobased Transportation Research Grant Program

- Regional study of feedstock development and deployment. Collaborative effort with USDA and DOE
- Agricultural is not in our purview but it is imperative to understand the process
  - Sun Grant Initiative (Sun Grant Centers) – five land grant Universities
  - National Biodiesel Board

## University Transportation Centers Grant Program

- This program provides approximately \$80M annually to address a wide variety of transportation issues. This is a competitive program.

# Current Activities

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## Alternative Fuel Life Cycle Analysis Grant Program

- Completed a study on mid-level blends of biodiesel (B20) and ethanol (E85) with RIT transportation fleet.

## Renewable Energy deployment in transportation Right-of-Way (ROW)

- 5 million acres of highway ROW, 0.8 million acres of aviation grasslands
  - 2012 FHWA report investigates the implications of accommodating renewable energy technologies and alternative fuel facilities within the highway ROW.
  - FAA's Voluntary Airport Low Emissions Program (VALE). Program helps localities meet Clean Air Act attainment through activities that can include renewable energy deployment on aviation properties.

# Current Activities

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## Alternative Fuels Program

- It is an congressional appropriation to support fuel pathway research and training. This program allows RITA to fund various cross modal research throughout the Department as well as provide collaboration with other agencies, academic institutions, and industry.
  - Biodiesel and Ethanol studies on pipeline integrity
  - First Responder Material Safety training
  - Compressed Natural Gas Cylinder Safety research
  - Hydrogen pipeline research
  - Commercial Driver training for hazardous material

# Current Activities

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## Biomass Research and Development Board

- Interdepartmental Board that promotes the use of bio-based fuels, power, and high-value products.
  - RITA's RDT Associate Administrator is a member
  - **Transport and Distribution Infrastructure Working Group**
    - Case Study developing a questionnaire to target the transportation impact on integrated biorefineries
    - National Biofuel Action Plan
    - Congressional Reports – collaboration with DOE
      - Dedicated Ethanol Pipeline Feasibility Study
      - Adequacy of Railroads and other Modes of Transportation for Domestically Produced Renewable Fuel – *awaiting OMB approval*

# New Activities

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## Clean Transportation Initiative

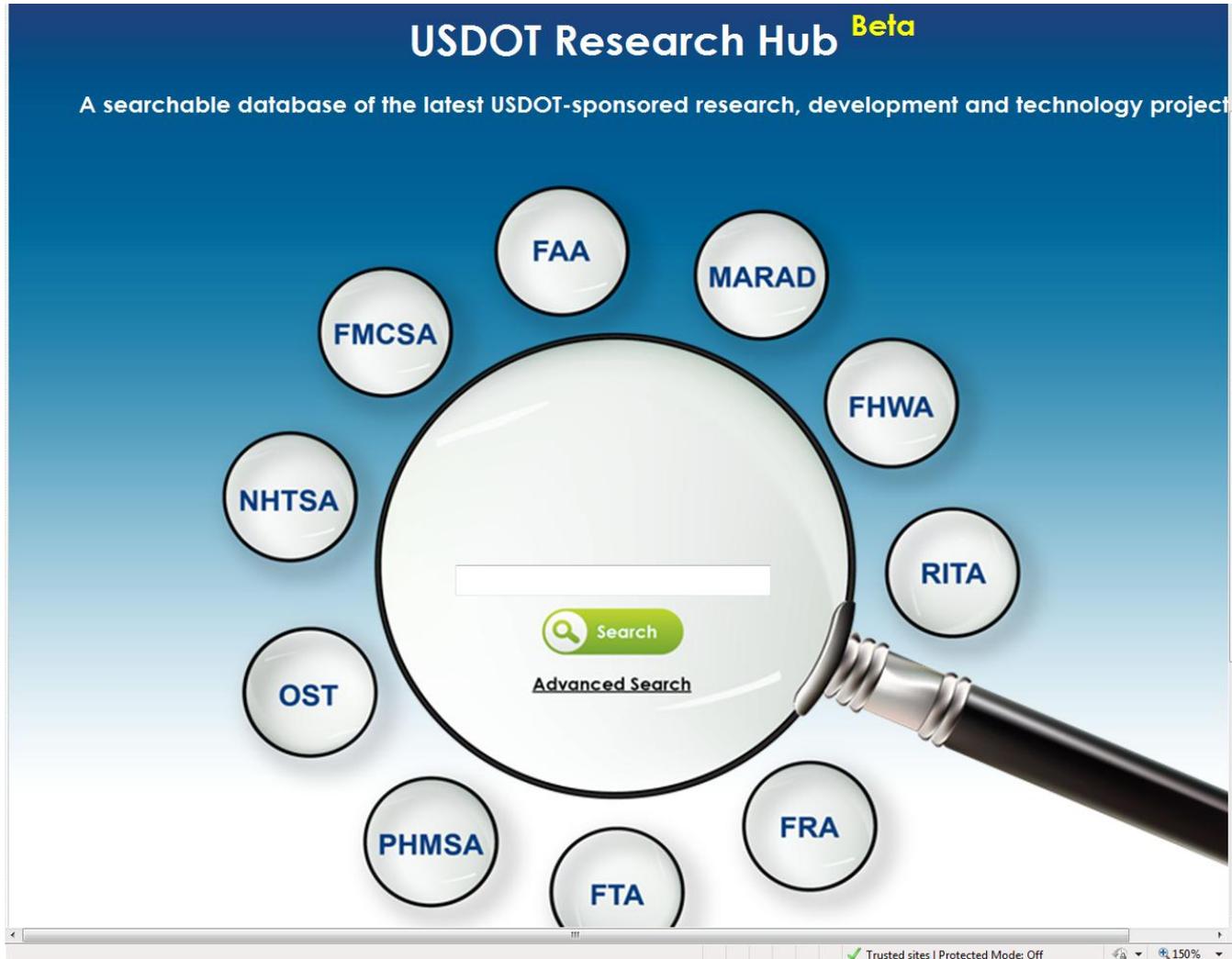
- Interagency Agreement with DOE/ NREL
- RITA is looking at the use of biofuels from the perspective that effective use of alternative fuels can play a critical role in the long-term transition of the surface transportation system to an electric vehicle or other zero-emission based system and its sustainment thereafter.

## Impacts of Feedstock Transportation beyond the gate

- Southeast Sun Grant – University of Tennessee
- Expand the Model of air quality impacts of feedstock transportation for Cellulosic biofuel production to the gate and beyond

# Research Hub

<http://www.rita.dot.gov/researchhub>



# Questions

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