



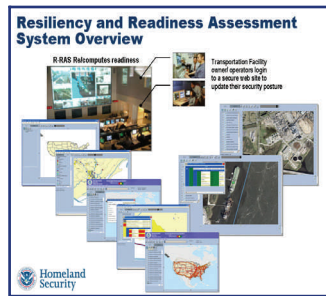
*Center for Transportation Analysis
Research Brief
Oak Ridge National Laboratory*

Center for Transportation Analysis

Center for Transportation Analysis (CTA) Research Areas

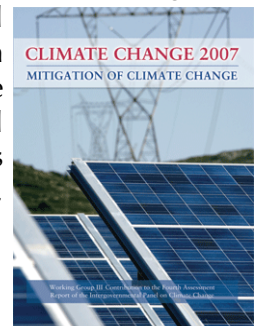
Aviation Safety
Air Traffic Management Analysis
Data, Statistical Analysis
Geo-Spatial Information Tools
Defense Transportation
Energy Policy Analysis
Environmental Policy Analysis
Highway Safety
Intelligent Transportation Systems
Logistics Management
Supply Chain Management
Modeling and Simulation
Transportation Operations
Planning and Systems Analysis
Transportation Security

The Center for Transportation Analysis (CTA) is part of the Oak Ridge National Laboratory (ORNL) Energy and Transportation Science Division (ETSD). CTA has developed a national reputation for its integrated approach to addressing issues of energy resilience, national security, safety and mobility with data-intensive discovery and predictive tools. CTA assists its sponsors, such as the Department of Energy, Department of Homeland Security, Department of Transportation, US Army Corp of Engineers as they deal with the unprecedented transportation and energy security challenges that face our nation. As part of the national laboratory, CTA provides continuous and interactive support to sponsors and are independent, apolitical, and neutral. CTA primarily develops integrated transportation solutions around four areas: congestion and delay; asset management and logistics; energy and environment; and, safety and security.



The CTA is located at the National Transportation Research Center where access to state-of-the-art visualization and decision engineering laboratories and heavy-duty truck test equipment to support work in the area of such large and critical issues such as global climate change, congestion pricing, transportation security and Intelligent Transportation Systems.

The CTA applies models; simulation and analysis tools; decision engineering; geographic information systems; visualization applications; technology integration; and testing and evaluation of engineering systems to key national energy and transportation issues. The CTA staff have shaped national transportation, climate change, and energy agendas through Congressional testimony, staff appointments to committees of the National Academy of Science, and offices in national organizations. An outstanding example is David Greene's membership on the Intergovernmental Panel on Climate Change, that was awarded the 2007 Award of the Nobel Peace Prize.



CTA Analysis Capabilities

- Transportation Network Routing
- Geographic Information Systems
- Decision Support Systems & Simulation Analysis
- Supply Chain Analysis
- Infrastructure Asset Management
- Program Performance Metrics & Statistical Analysis
- Transportation Data Management, Analysis, and Information Dissemination

Patricia S. Hu, Director
Center for Transportation Analysis
Oak Ridge National Laboratory
2360 Cherahala Boulevard
Knoxville, TN 37932
865.946.1349
(Fax) 865.946.1314
Website: cta.ornl.gov

Oak Ridge National Laboratory is managed
by UT-Battelle, LLC, for the U.S.
Department of Energy under Contract
number DE-AC05-00OR22725



RESEARCH BRIEFS

Energy

- A Rule-Based Gasohol Consumption Estimation Model
- Auto Lightweight Materials
- Auto System Cost Modeling
- Biofuel Supply Chain Infrastructure
- Biomass Energy Data Book
- Heavy Truck Duty Cycle Project
- Transferring National Travel Data
- Transportation Energy Data Book, Edition 27

Climate Change

- Transportation and Greenhouse Gas Emissions: Measurement, Causation and Mitigation

Safety

- Archived Data User Service Safety Application
- Aviation Visualization
- Commercial Motor Vehicle Brake Wear Test
- Commercial Motor Vehicle Roadside Testing Corridor
- Heavy Truck Safety Research Program
- Older Driver Mobility and Safety
- Truck Rollover Characterization for Class-8 Tractor-Trailers
- Vehicle Immobilization Technologies (VITs)
- Wireless Roadside Inspection Proof-of-Concept Test

Policy and Planning

- Freight Analysis on the Multimodal Transportation System at the Regional or State Level
- ITS Deployment Tracking
- Transferring National Travel Data
- Ohio River Navigation Investment Model (ORNIM): An Analysis Tool for the US Army Corps of Engineers
- Remote Sensing Applications for Environmental Analysis in Transportation Planning: Application to the Washington State I-405 Corridor

Security

- Enterprise Modeling and Analysis (EMA) Framework: Application in Countermeasures

- Deployment Planning and Analysis
- GeoSAT
- Oak Ridge Evacuation Modeling System (OREMS)
- RailReady
- Real-Time Traffic Information for Emergency Evacuation Operations
- Transportation in the DHS Regional Technology Integration (RTI) Initiative

Operations Management

- A Geographical Information System-Based Decision Support Tool: GeoFreight
- Consolidated Air Mobility Planning System (CAMPS)
- Freight Analysis on the Multimodal Transportation System at the Regional or State Level
- ITS Deployment Tracking
- Mobilization Movement Control (MOBCON) A Convoy Movement Planning and Scheduling System
- Oak Ridge Evacuation Modeling System (OREMS)
- Real-Time Traffic Information for Emergency Evacuation Operations
- Transferring National Travel Data

Geospatial Data and Visualization

- GeoCTA
- RailReady
- Remote Sensing and GIS-Based Characterization of Transportation Corridors



RESEARCH CAPABILITIES BRIEFS

- Asset Management of Critical Infrastructure
- Geographical Information Systems
- The Cost of Implementing Transportation Security Systems
- Hazardous Materials Transportation
- Pipeline Safety Program
- Program Performance Metrics
- Remote Sensing
- Simulation Analysis
- Statistical Data Analysis and Modeling
- Supply Chain Analysis
- Transportation Decision Support Systems
- Transportation Network Routing Models