

## Transportation Routing Analysis Geographic Information System (TRAGIS)

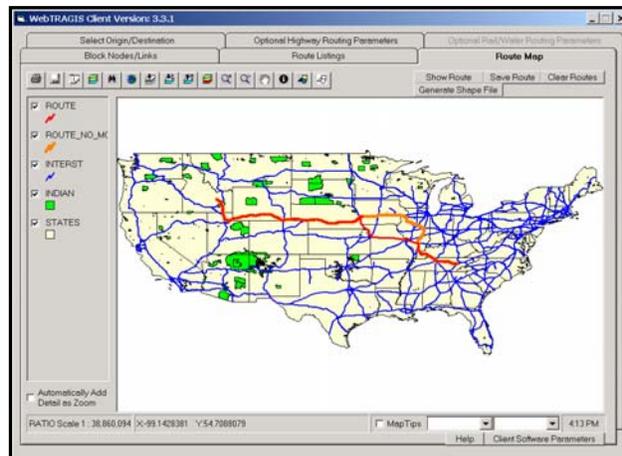
### Model and Network Databases

The Transportation Routing Analysis Geographic Information System (TRAGIS) model is a geographic information system tool for modeling transportation routing. TRAGIS offers numerous options for route calculation utilizing uniquely value added network databases for highway, rail, and waterway infrastructures in the continental United States. The model also provides population density data for all transportation segments using LandScan USA Interim, a high resolution (approximately 450m) population distribution data modeled from the 2000 Census. The TRAGIS model is deployed as a client-server application, where the map data files and user interface software reside on the user's PC and the routing engine is located on the server.

The TRAGIS highway network is a 1:100,000-scale database representing over 235,000 miles of all Interstate highways, most U.S. highways, and major state highways. Included in the highway network are nodes representing all commercial nuclear power plants, U.S. Department of Energy (DOE) sites, and major commercial and military airports. The rail network is also a 1:100,000-scale database representing over 150,000 miles of rail lines in the continental United States. Rail spurs are included in the network for coal-fired and nuclear power plants, DOE sites, and military bases with rail access. The rail network is unique in that it includes interchange locations between railroad companies. The waterway network consists of both the inland waterways, based on a 1:2,000,000-scale database, and the interconnected deep-water ports.

TRAGIS features include the ability to:

- Select an origin and destination from a list of city names;
- Automatically calculate alternative transportation routes;
- Modify transportation networks by temporarily blocking nodes, links, railroad companies, or states;
- Calculate highway routes that meet U.S. Department of Transportation regulations for radioactive materials; and identify Indian reservation lands along highway and rail routes.



#### Point of Contact:

Paul E. Johnson  
Oak Ridge National Laboratory  
P.O. Box 2008, Oak Ridge, TN 37831-6472  
865-574-7450  
johnsonpe@ornl.gov  
Web Address: <http://apps.ntp.doe.gov/tragis/tragis.htm>