

4.3.3

The Transportation Routing Analysis Geographic Information System (TRAGIS)

Presenter

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The U.S. Department of Energy (DOE) has funded the development of a model called the Transportation Routing Analysis Geographic Information System (TRAGIS). TRAGIS is a client-server model that does highway, rail, and waterway routing. The client software is called WebTRAGIS and operates in a Microsoft Windows environment. WebTRAGIS consists of a graphical user interface that is used to establish routing constraints and display text and GIS results. The TRAGIS server hosts the routing engine and databases. One of TRAGIS' main features is the ability to calculate routes that meet U.S. Department of Transportation regulations for shipments of highway route controlled quantities of radioactive material. TRAGIS rail routing simulates actual rail routing practices and includes interchange locations between railroad systems. The model can automatically calculate alternative routes and provides the ability for the user to selectively block any node, link, and/or state in the routing networks. Population data, derived from Oak Ridge National Laboratory LandScan USA Interim data, is integrated with the transportation networks, so TRAGIS can provide route specific population density information for transportation risk assessment analysis. TRAGIS has over 240 registered users spread throughout the federal government, DOE national laboratories, other federal subcontractors, and state, regional, and tribal representatives. New developments with the model include adding intermodal capabilities and improved GIS features.