



Center for Transportation Analysis Research Capabilities Brief Oak Ridge National Laboratory

Simulation Analysis

ORNL has a staff with extensive experience in simulation modeling for logistics, transportation, security and supply chain management.

Center for Transportation Analysis (CTA) Research Areas

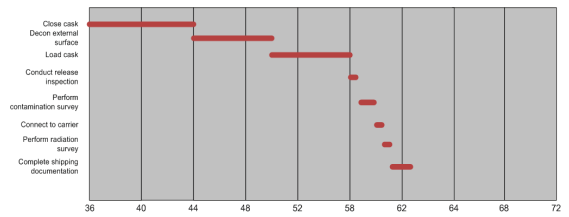
- Aviation Safety
- Air Traffic Management Analysis
- Data, Statistical Analysis
- Geo-Spatial Information Tools
- Defense Transportation
- Energy Policy Analysis
- Environmental Policy Analysis
- Highway Safety
- Intelligent Transportation Systems
- Logistics Management
- Supply Chain Management
- Modeling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

ORNL's Capabilities

- Modeling of complex logistics and transportation systems to determine
 - alternative configurations,
 - throughput,
 - resource use, and
 - cost for operations.
- Visualization of the simulation for quality control and demonstration purposes, and
- Integration of statistical analysis tools.

operation?

- What will be the impacts of changing the resource levels for an operation?
- What will be the throughput and delay



Simulation Output at

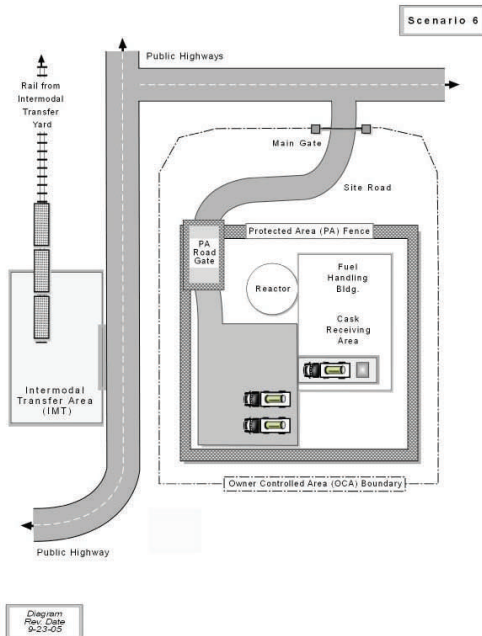
each step of a process?

ORNL's Comparative Advantage

- Experienced staff focused on solving the customer's problems.
- Use of state of the art simulation software and statistical techniques integrated with other software systems.
- Leverage our experience to provide increased value to the customer.
- Knowledgeable staff who provide unbiased analysis and recommendations.

Experience

ORNL has developed the Transportation Operations Model (TOM) software for the Department of Energy Office of Civilian Radioactive Waste Management. The TOM software is designed to assist policy makers in the planning for the loading of spent nuclear fuel at commercial utility reactors into transportation casks for shipment to a repository for permanent disposal. The logistics operations modeled at the reactor sites include rail car, truck, and heavy haul movements; cask opening, loading, and closing; storage pool operations; and crane transfer of casks. This information is transferred to a database that is used for optimization



Reactor Logistics Configuration

Questions ORNL Can Help Answer

- What will be the time, cost and resource requirements for an

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