



DCT/UTC Distinguished Lecture

Optimizing Facility Use Restrictions for the Movement of Hazardous Materials

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Abstract

The modeling tools that have been developed over the last 25 years for the identification of routes for hazmat shipments emphasize the tradeoffs between cost minimization to the shipper/carrier and controlling the "natural" consequences that would stem from an accident. As the terrorist threat has grown, it has become clear that a new perspective, which allows for the representation of the goals and activities of terrorists, must be incorporated into these routing models. Government agencies can determine which specific facilities to restrict for each class of material and for which times of the day and/or week. This talk focuses on a game-theoretic model of the interactions among government agencies, shippers/carriers and terrorists as a framework for the analysis. It also describes an effective solution procedure for this game. Finally, it illustrates the methodology on a realistic case Study.

Bio:

Professor Linda Nozick received a Ph.D. in Systems Engineering from University of Pennsylvania, Philadelphia, PA in 1992. Dr. Nozick's primary research interest is the development of mathematical models for use in the management of complex systems. She has particular interest in systems that can be represented mathematically as networks, including transportation and logistics systems, civil infrastructure networks and project networks.

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