



DELAWARE CENTER FOR TRANSPORTATION

PRESENTS

Applications of Archived ITS Data at TransGuide

**Dr. Khaled Hamad
Texas Transportation Institute**

- When:** Friday, May 4, 2007
- Time:** 1:30 – 2:30 pm
- Where:** 115 Gore Hall
- Parking:** Trabant Parking Garage, Main Street
- Registration & Fee:** None

Transportation management centers (TMCs) generate and archive enormous amounts of transportation data. Archived intelligent transportation system (ITS) data applications today tend to focus on ITS data as a resource for transportation planning, mainly for the generation of aggregated system performance measures such as corridor travel times, speeds, and delays. As ITS data applications increase, interest is also growing in using archived ITS data to help optimize TMC operations. One area of considerable interest is incident management. The presentation focuses on freeway ITS features and data. It describes a prototype geographically referenced framework for ITS data and summarizes spatial and temporal patterns in the distribution of incidents along instrumented freeways in San Antonio, Texas. This analysis could be useful to help optimize freeway incident management practices. Other archived data-application examples will also be presented. The prototype uses architecture information and archived sensor and incident data from the San Antonio TMC (TransGuide). The presentation will conclude with a brief overview of the Texas Transportation Institute, as well as the research process at the Texas Department of Transportation.

Dr. Khaled Hamad
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Dr. Khaled Hamad is an Assistant Research Scientist in the Transportation Operations Group of the Texas Transportation Institute (TTI). His educational background includes a Ph.D. and M.S. in Civil Engineering from the University of Delaware and an undergraduate degree in Civil Engineering from An-Najah National University in the West Bank. His professional affiliations include the American Society of Civil Engineers (ASCE), the Institute of Transportation Engineers (ITE), and the Transportation Research Board (TRB). Dr. Hamad's primary research and professional interests are in the areas of intelligent transportation systems, traffic operations and control, and infrastructure management systems. His work has been published in several peer-reviewed technical journals and conference proceedings.

Since joining TTI in the summer of 2004, Dr. Hamad has been involved with many research projects related to transportation informatics and geovisualization of transportation assets, including need assessment, management, and modeling of data generated from transportation operations, design, urban planning, and inventory of utilities in the highway right of way. His most recent work involves playing a principal role in research projects looking at the use of archived ITS data for various types of analyses. He is also participating in the development of an Internet-based GIS-based application to automate the utility permitting process located in state-owned roads in Texas.

Prior to joining TTI, Dr. Hamad worked for Delaware Center for Transportation at the University of Delaware, where he was actively involved in research projects in the areas of ITS, GIS and GPS. His doctoral dissertation involved developing an innovative methodology to predict travel times in the short-term, i.e., several minutes in the near future, for I-66 in Fairfax County, Virginia. During his tenure in Delaware, he led students in a project to use GPS to collect travel time and delay data from all the major roads in Delaware. He worked in developing a decision-support system that is a user-friendly GIS-based interface for the Delaware Solid Waste Authority to design their recycling routes. He also has few years of consulting experience in the Middle East.