PROJECT NUMBER: 05307

PROJECT TITLE: An Alabama Transportation Cyber Security Framework

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OBJECTIVE:
This study’s objective is to develop expertise related to transportation security issues arising from the increased use of networked information technologies (IT) for transportation management. Because transportation cyber security is a large topic which cannot be exhaustively addressed in an initiation grant, this study will develop a framework for identifying transport cyber security issues. Such a framework can direct decisions and provide guidance for future research using a variety of approaches suitable for the problem to stakeholders in Alabama such as articles, white papers, presentations, and workshops.

ABSTRACT:
Transportation management is increasingly dependent upon networked information technologies. Yet, daily operational status or routing, loading, and payload data for trucks or cargo containers may be intercepted by inappropriate parties, putting the hauler, the public, and the infrastructure at risk. As threats to our data and networks are higher than ever, this study helps answer the question, “What does this increasing dependence on information and communication technologies mean for transportation security?” This research formulates a framework for transportation cyber security focused on Alabama’s multi-modal transportation environment. This framework will identify issues particularly salient for Alabama transportation, collect input from stakeholders, and share results through a workshop, presentations, and publications. It will provide guidance to both practitioners and researchers who make decisions and allocate resources to information security for Alabama transportation.

TASK DESCRIPTIONS
Task 1: Conduct literature review and establish recommended practices.
Task 2: Develop initial framework.
Task 3: Design and conduct a survey, analyze results and prepare final framework.
Task 4: Prepare final report and conduct outreach efforts.

PROJECT MILESTONES
Task 1: Jan 17 – Feb 22, 2004  
Task 2: Feb 7 – Feb 25  
Task 3: Feb 12 – Mar 15  
Task 4: Mar 10 – Apr 30, 2004  

YEARLY AND TOTAL BUDGET:  
One year project, UTCA share $9,917; matching $10,123; total budget $20,040.  

STUDENT INVOLVEMENT:  
Students will assist in the literature review and to help with survey conduct, data analysis, and support for the outreach activities.  

TECHNOLOGY TRANSFER ACTIVITIES:  
Technology transfer goals will be supported through the creation of a UAH Center for Management of Science and Technology white paper, an article for *Alabama Trucker* magazine, presentations to security organizations concerned with infrastructure security (e.g., Birmingham InfraGard), and a workshop. Several different outreach approaches will be refined based on feedback from the different stakeholders.  

POTENTIAL BENEFITS OF THE PROJECT:  
The proposed research directly supports the “management” aspect of the UTCA theme. This study will benefit people who are faced with allocating scarce resources (e.g., management time and attention, staff effort, hardware and software dollars) by helping them understand the nature of the security issues that arise from our networked, inter-connected, data-dependent transportation environment in Alabama.  

TRB KEYWORDS:  
Security, Information Systems, Data, Research, Multi-modal, Networks, Management