Announcing the Final Examination of Nabil Muhaisen for the degree of Master of Science

Time & Location: April 9, 2015 at 9:30 AM in Engineering 2 211P

Title: Evaluating Travelers' Experience with Highway Advisory Radio (HAR) and Citizens' Band Radio Advisory System (CBRAS) on Florida's Turnpike Enterprise Toll Roadways and Florida's Interstate Highways

The goal of this thesis is to evaluate travelers' experience with Highway Advisory Radio (HAR) and Citizens' Band Radio Advisory System (CBRAS) technologies, on both Florida Turnpike Enterprise (FTE) toll roads and Florida Interstate Highways (FIH). To achieve this goal, two types of surveys were implemented, a telephonic survey and a field survey. The Computer-Assisted Telephone Interviewing (CATI) system was utilized to collect the phone HAR survey. In addition, two different field surveys (one for HAR and one for CBRAS) were designed and implemented to obtain travelers' feedback on these technologies. A sample size of 1000 was collected through the phone survey, while the field surveys totaled 1610 for the HAR and 613 for the CBRAS. The HAR messages were designed to alert travelers of any adverse traffic or weather conditions affecting the roadways. The CBRAS is limited to truck drivers with (pre-installed CB radio), but truck drivers who do not have CB radio in their trucks were also asked about their HAR usage. Basic statistical analysis, and a decision tree model using SAS Enterprise Miner, were performed. The statistical analysis results of HAR surveys indicate satisfaction of travelers with this technology. The decision tree model was applied using a combined sample from HAR phone and field surveys to predict and profile responses to questions that are common between the two surveys. HAR overall results were found to be consistent between the phone and the field surveys. Traffic congestion was the most desired HAR message, DMS followed by smartphone applications were used most for this purpose. Infrequent HAR users were most satisfied with the system. The CBRAS survey indicates heavy use by the small number of truck drivers who mainly relied on it for route divergence. Truck drivers were highly satisfied with their experience with HAR. Truck drivers mostly relied on GPS navigation, smartphone applications, and CB radio as their favorite sources of information. In order for HAR and CBRAS to improve their listenership in the digital communication world, significant change is needed. The need to integrate HAR and CBRAS services with smartphones is paramount for their sustainable survivability.

Major: Civil Engineering

Educational Career:
Bachelor's of Civil Engineering , BS, 1990, UCF
Bachelor's of Interdisciplinary Studies, BS, 1991, UCF

Committee in Charge:
Haitham Al—Deek, Chair, Civil, Environmental and Construction Engineering
Naveen Eluru, Associate Professor, CECE Department
Omer Tatari, Assistant Professor, CECE Department

Approved for distribution by Haitham Al-Deek, Committee Chair, on April 9, 2015.

The public is welcome to attend.