



SEMINAR

Jointly organized with
Department of Civil and Structural Engineering, The Hong Kong Polytechnic University
The Hong Kong Institution of Engineers – Civil Division

AN INTEGRATED, DYNAMIC, MULTI-MODAL EMERGENCY EVACUATION SYSTEM
FOR THE CITY OF BALTIMORE

by Prof. Gang-Len Chang

Professor and Director of Transportation program, Department of Civil and Environmental Engineering, University of Maryland;
Manager of the Applied Technology for Traffic Operations and Safety Program between
Maryland State Highway Administration and University of Maryland

Abstract:

Efficient evacuation of populations to pre-designated safety destinations within the allowable time window during emergency has emerged as not only a priority research but also operational issue for many US major metropolises in recent years. Given the real-world constraints on the network monitoring and system control, the primary challenge during emergency evacuation lies in how to best direct evacuees from the incident impact zones to target transportation modes and to the assigned evacuation routes. Hence, in developing an effective plan for such applications, one shall take into account a variety of complex operational issues, including the inevitable conflicts between massive pedestrian and vehicular flows within the impacted zones, dynamic guidance of pedestrian flows to subway or bus stations, identification of optimal locations for buses to pick up evacuees, optimal supply of transit vehicles in response to the distribution of evacuation patterns, and responsive control of signals as well as ramps to direct traffic flows out of the direct and secondary incident impact zones. This seminar will illustrate an integrated multimodal emergency evacuation system for the City of Baltimore. The proposed system has been developed to address all those complex operational issues during emergency evacuation. The model framework, key module formulations, and demonstration of system applications will all be included in the presentation.

Biography:

Prof. Gang-Len Chang is a Professor and the Director of Transportation program at the Department of Civil and Environmental Engineering, University of Maryland, U.S.A. and Manager of the Applied Technology for Traffic Operations and Safety Program between Maryland State Highway Administration and University of Maryland. He also serves as the Director of the Laboratory for Traffic Safety and Operations, and the Executive Committee Member of the Tier-I University Transportation Center by USDOT. Prof. Chang's primary research areas have been on traffic network analysis, intelligent transportation systems control and operations, and regional network planning and development. Over the past 10 years, Prof. Chang has been the principal investigator for more than 50 transportation projects and research funding of over 8 million dollars sponsored by both federal and state agencies. He has received the research excellence and support award from Maryland State Highway Administration, and Martin Marietta University Research Award for Intelligent Transportation Systems Development. He has served as editorial members for major transportation research journals such as Journals of Transportation Research Part B and Part A, Journal of Transportation Engineering. He is a member of several TRB technical committees, and is currently the Chief Editor for Journal of Urban Planning and Development (ASCE), the Associate Editor for Journal of Transportmetrica, and an Editor Board Member for Journal of Urban Technologies. Prof. Chang is also one of the publications committee members for Transportation and Development Institute of ASCE. He has worked as a technical advisor for many ITS programs in developing and developed countries including United Nations Developing Country program, World Bank, Taiwan Ministry of Communications and Transportation, The Korea Transport Institute, Intelligent Transportation Systems of Martin Marietta, Transportation Systems Division of Loral AeroSys, Maryland Toll Authority, and D.C. Capital Region for Emergency Evacuation.

Date: 24 February 2010, Wednesday
Time: 5:30 pm – 7:30 pm (5:30 - 6:00 reception)
Venue: Room HJ303, The Hong Kong Polytechnic University

*** ALL INTERESTED ARE WELCOME ***

An attendance certificate will be issued to each registered participant.
For further information call Prof. William H.K. Lam at Tel.: 2766-6045
FREE Admission. Please reserve your seat by sending the following reply slip to
Ms. Connie Lam at Tel.: 2766-6070, Fax: 2334-6389 or Email: cecfvlam@polyu.edu.hk

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Reply Slip (Seminar on 24 February 2010: An Integrated, Dynamic, Multi-Modal Emergency Evacuation System For The City Of Baltimore)

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