**Project #11402 – Contraflow Evacuation Planning for I-65 in Alabama**

http://utca.eng.ua.edu/research/projects/?id=11402
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The goal of this project is to assist the Alabama Department of Transportation (ALDOT) in the planning of contraflow operations for hurricane evacuation along I-65. The idea is to reverse one direction of the roadway to accommodate the substantially increased travel flow moving from the impact area. One problem faced by ALDOT is scheduling the contraflow process. The timing for the deployment of equipment and personnel and the initiation and termination of contraflow impact the effectiveness, safety, and cost of the operation. The researchers will investigate methodologies and develop a modeling framework to determine the onset and duration of contraflow. They will also create a set of look-up tables and a prototype computer tool to assist ALDOT in planning contraflow evacuation. Different from previous studies, this research will feature: (1) a well-established and reliable meso-scopic traffic flow simulation, the cell transmission model; (2) robust and stochastic optimization techniques to determine the onset and duration of contraflow; (3) incident identification and characterization using artificial-intelligence techniques; (4) a sensitivity analysis to account for inaccurate estimation of evacuee’s route-choice behaviors. The project team will work closely with ALDOT to ensure that the models, algorithms, and prototype computer tool are customized to their needs.

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