The objective of this project is to perform an operational and safety evaluation of three adaptive signal control deployments (Birmingham, Huntsville, and Montgomery) in Alabama. Specifically, the project will document changes in operational performance measures (delay, travel time, number of stops, etc.). The project will comprise detailed analyses of traffic operations at all signalized intersections along the study corridors and unsignalized intersections at major midblock traffic source/sinks (as agreed with ALDOT) for existing peak-hour traffic conditions and for similar peak-hour conditions after implementation of adaptive control. The analyses will be conducted using the VISSIM traffic-simulation software and travel time runs conducted along the three corridors. In addition, we will conduct a detailed review of the safety performance attributable to the implementation of adaptive signal control. We will compare three years of crash data from these corridors before implementation of adaptive signal control to three years of data we collect after implementation of adaptive signal control. If feasible, crash modification factors will be developed for future use, and the project will investigate the use of the Surrogate Safety Assessment Model to predict the safety impacts of adaptive control.

Start Date: 1/1/2012  End Date: 12/31/2015
Status: Active  Contract/Grant Number: 23761 (for the first year)
Secondary Number: UTCA Project #12402
Total Dollars: 585,648
Source Organization: University Transportation Center for Alabama
Date Added: 1/5/2012

Sponsor Organization
Alabama Department of Transportation
Bureau of Modal Programs
1409 Coliseum Boulevard
Montgomery, AL 36130

Performing Organization
University of Alabama, Tuscaloosa
Department of Civil, Construction, and Environmental Engineering
Box 870205
Tuscaloosa, AL 35487

University of Alabama, Birmingham
Department of Civil, Construction, Environmental Engineering
Hoehn 140
Birmingham, AL 35294

Project Manager
Jilla, Robert
Email: jillar@dot.state.al.us

Principal Investigator
Jones, Steven L.
Phone: (205) 348-3137
Fax: (205) 348-6862
Email: sjones@eng.ua.edu

Gurupackiam, Saravanan
Phone: (205) 348-6402
Fax: (205) 348-6862
Email: sgurupackiam@crimson.ua.edu

Sullivan, Andrew
Phone: (205) 934-8414
Fax: (256) 934-9855
Email: asullivan@uab.edu
Subjects
Operations and Traffic Management
Research
Safety and Human Factors