# Florida Department of Transportation Research

Preparing Florida for Deployment of SafetyAnalyst for All Roads
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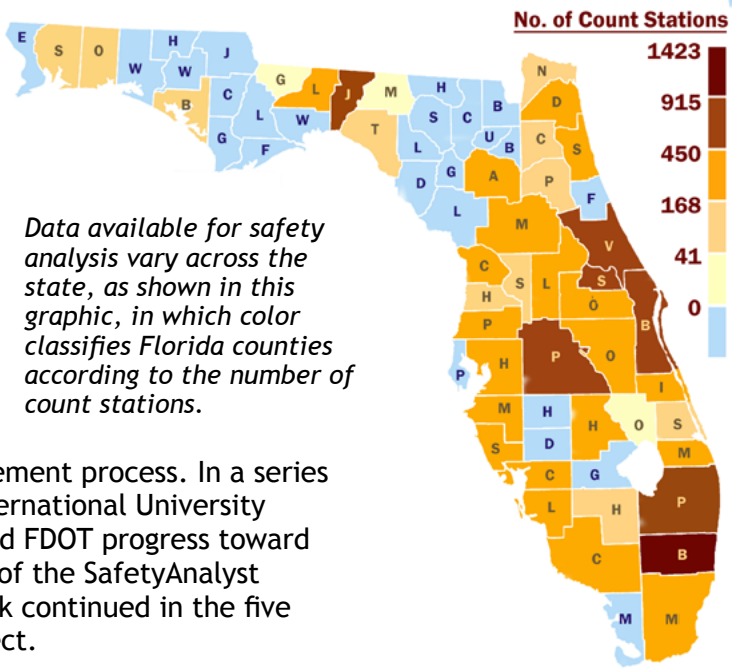
Safety on Florida's roads is a top priority for the Florida Department of Transportation (FDOT). Identifying and prioritizing locations with high potential for safety improvement is the critical step in roadway safety management. New technologies help achieve this goal through better data collection and analysis, examining traffic data and revealing patterns that focus planners and designers on specific road configurations.

Developed cooperatively by the Federal Highway Administration and participating state and local agencies, SafetyAnalyst is a state-of-the-art tool for making system-wide safety-based design decisions, incorporating all the steps in the roadway safety management process. In a series of projects, Florida International University researchers have helped FDOT progress toward statewide deployment of the SafetyAnalyst software, and that work continued in the five objectives of this project.




*Data available for safety analysis vary across the state, as shown in this graphic, in which color classifies Florida counties according to the number of count stations.*

SafetyAnalyst depends in part on data that describe the relationship among traffic volume, roadway geometry, and crash frequency. Florida data of this type are used with statistical models called Safety Performance Functions (SPF) to produce Florida-specific SPFs. The researchers developed these functions for seventeen predefined roadway subtypes, for example, rural two-lane roads, urban multilane arterials, and freeways. Other parts of the roadway system, such as ramps, were also divided into subtypes. In the case of ramps, a classification system had to be developed specifically for Florida.

The researchers also sought average annual daily traffic (AADT) data, which is often not available for local roads that connect to highways. Project personnel contacted local officials in all Florida counties in an effort to acquire this data. Most counties supplied data, though the depth of data available varied widely, with many counties providing traffic data and few providing AADT. In some cases, AADT estimations were used to complement field data.

In addition work on fundamental operation of SafetyAnalyst, the researchers developed tools to facilitate its use. On the input side, the researchers developed a converter program that can assist analysts with inputting data, which arrives from a many sources in a variety of formats. On the output side, the researchers developed a geographic information system (GIS) tool as a means of visualizing SafetyAnalyst output in a familiar map format to assist planners and local decision makers.

Finally, the researchers demonstrated the effectiveness of SafetyAnalyst by indentifying a number of high-crash-rate locations (HCL) in Florida. In this worked example, each step in the process was described, complete with extensive tables which demonstrated the comprehensiveness and potential of SafetyAnalyst.

Once SafetyAnalyst is deployed, continuing use, increasing experience, and better data can lead to a safer roadway system and reductions in loss of life and property.

Project Manager: Joe Santos, FDOT Safety Office
Principal Investigator: Albert Gan, Florida International University
For more information, visit http://www.dot.state.fl.us/research-center