



Florida Department of Transportation Research

Development of an Interface between FDOT's Crash Analysis Reporting System and the Safety Analyst
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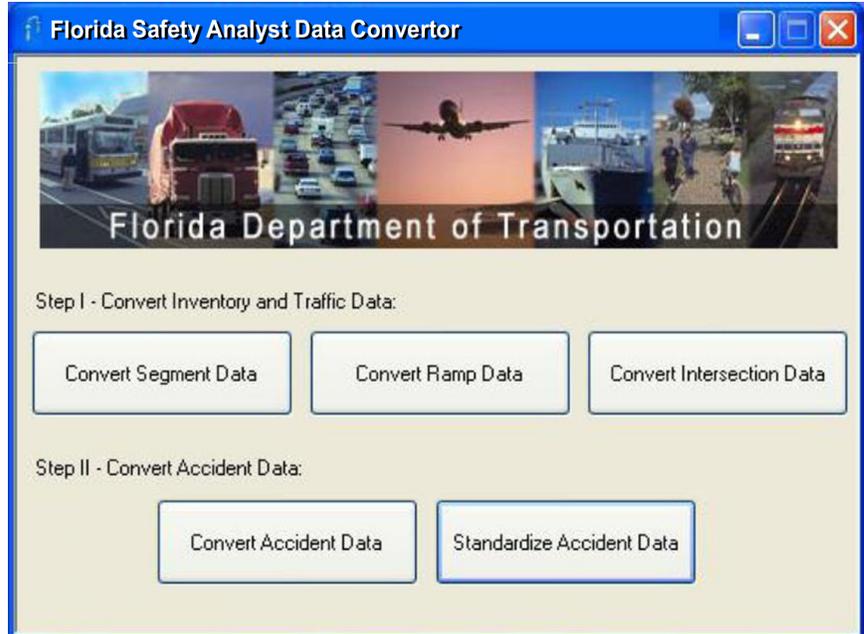
Safety Analyst (SA) is a set of software tools that can be used by state and local highway agencies for highway safety management. It was developed cooperatively between the Federal Highway Administration (FHWA) and twenty-seven state highway agencies, including FDOT. The finished software is now licensed through AASHTO. SA includes tools that assist practitioners in making planning, design, and operations decisions based on safety, a set of procedures that appear in Highway Safety Manual. SA can automate procedures that were previously performed manually by highway agencies.

Although SA is a standardized set of tools, the information it uses resides in databases that have their own structures and data definitions. So, before SA can be useful, interfaces must be designed for each database upon which it will draw. Researchers from the University of South Florida undertook this challenge in this project.

Work began with a large crash database maintained by FDOT called the Crash Analysis Reporting (CAR) system. The researchers from the University of South Florida developed a method to convert all information being stored in CAR to a format that can be used by SA. The program interface transfers CAR variables and code automatically. They then worked with other Florida databases, such as the Road Characteristics Inventory, until the completed interface, the Safety Analyst Data Convertor (SADC), was able to convert data from all needed databases into the SA data format automatically.

Researchers tested the program interface rigorously for validity, reliability, and stability.

FDOT Contact: Joseph Santos, FDOT Safety Office
Principal Investigator: Jian John Lu, University of South Florida
For more information, visit <http://www.dot.state.fl.us/research-center>



Dashboard for the Safety Analyst Data Convertor, which automatically converts data from several Florida transportation databases into the correct format for the Safety Analyst software.

Also, several crash examples were analyzed using SA, based on data converted from CAR and other databases.

With full access to Florida data through the SADC, Safety Analyst will incorporate state-of-the-art safety management approaches into computerized analytical tools to guide decision making to identify safety improvement needs and develop a system-wide program of site-specific improvement projects. Safety Analyst provides tools for a series of activities: 1) identify sites with potential for safety improvements; 2) diagnose the nature of safety problems at specific sites; 3) assist selection of countermeasures at specific sites; 4) perform economic analysis of a specific countermeasure or alternatives for a specific site; 5) rank sites and improvement projects based on benefit/cost estimates; and 6) conduct evaluations of safety improvement projects before and after implementation.