



# Warrants, Design, and Safety of Road Ranger Service Patrols

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## Project Managers

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## Current Situation

The Road Ranger Service Patrol is a service provided by FDOT to patrol selected limited access and toll facilities around the state to assist with the safe, quick clearance of road incidents. Studies have shown the benefit of the Road Rangers in reducing secondary incidents and costly traffic delays, but it is not financially feasible to place them on every state road. Where to place Road Ranger patrols has historically been decided subjectively, with some consideration given to the number of incidents, traffic volumes, or congestion.

## Research Objectives

University of Florida researchers created a decision support system (DSS) to assist in deciding if a roadway warrants the addition of a safety service patrol (SSP).

## Project Activities

To gain insight into factors used in SSP deployment, researchers interviewed FDOT SSP managers. They also conducted a survey among points of contact for SSPs in other states.

Historical data from Florida were used with models that predict incidents and crashes on candidate roadways. Models were developed to represent four time-of-day periods: weekday day time, weekday night time, weekend day time, and weekend night time.

From the information gained in the interviews, survey, and computer modeling, qualitative and quantitative thresholds for critical factors, such as traffic volume and number of incidents, were used to set rules that, when evaluated, recommend actions for SSP decisions. The researchers evaluated the rules using an approach called decision tables that allows flexibility in the choice and number of factors that can be considered. The DSS also provides guidance on beat configuration and the number of trucks recommended.

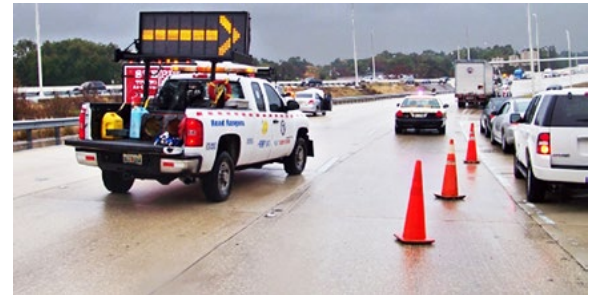
The researchers validated the DSS by considering actual Florida roadway segments. They determined the suitability of SSP for a roadway segment using the DSS and through meetings with stakeholders. In this case, the DSS and stakeholders agreed that SSP should be implemented.

In a second task of the project, the researchers evaluated the safety needs of SSP workers. Because highway incidents create an unexpected traffic environment, they can easily be the site of secondary incidents, and SSP workers may be struck as they work the scene, or their vehicle may be struck by inattentive drivers. The researchers reviewed available crash data and interviewed SSP workers to develop a series of recommendations for improving the safety of SSP workers.

## Project Benefits

The benefits of this project are two-fold. First, the DSS created offers the opportunity for the best use of limited funds for SSPs and improving safety on roadway segments that most need it. Second, the safety of SSP workers can be enhanced through the study's recommendations.

*For more information, please see [www.fdot.gov/research/](http://www.fdot.gov/research/).*



*A Road Ranger assists in managing a traffic incident.*