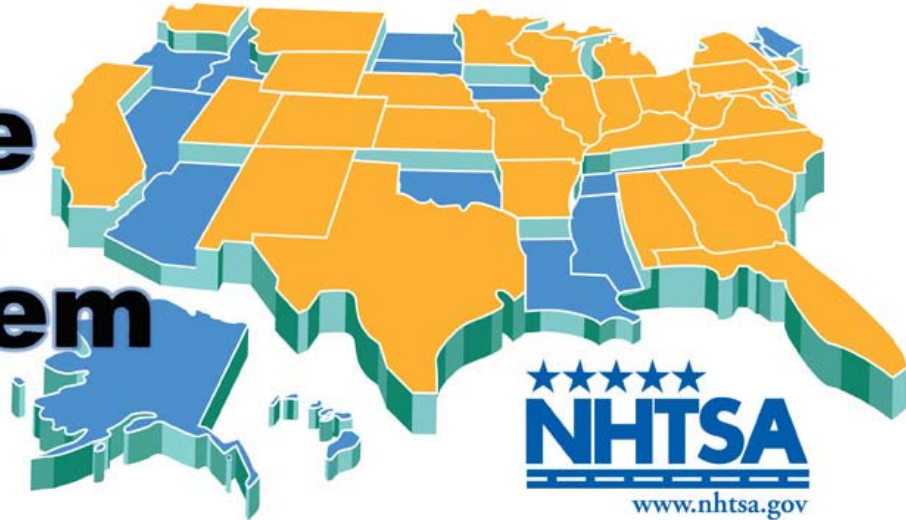


# State Data System



## How SDS Data Have Been Used

State Data System (SDS) data are essential to NHTSA crash research and traffic safety policy development. SDS provides data not available in any of NHTSA's other data systems. While the Fatality Analysis Reporting System (FARS) only has fatal crash data, SDS includes valuable data on injury and property-damage-only crashes as well. In contrast to the data in the National Automotive Sampling System General Estimates System (NASS-GES), the State Data System consists of census data taken directly from police accident reports. What follows is a partial list of published research and evaluations conducted in the last five years using SDS data.

### **Vehicle Aggressiveness in Real World Crashes** (in Proceedings 19<sup>th</sup> Technical Conference on the Enhanced Safety of Vehicles DOT HS 809 825), 6/05

Rory A. Austin; Office of Vehicle Safety Planning and Analysis

NHTSA identified vehicle compatibility as one of its five priorities. One important component of vehicle compatibility in head-on and side impact crashes is vehicle aggressiveness. Aggressiveness of a vehicle is defined as the fatality or injury risk for occupants of other vehicles with which it collides. More aggressive vehicles are more likely to produce serious injuries to occupants of the vehicles with which they collide than less aggressive vehicles. Vehicle aggressiveness was determined using five years of police reported crashes from seven states in NHTSA's State Data System (SDS). The results demonstrated the relationship between a vehicle's aggressiveness and its body style, mass, and other physical characteristics. For the most part, the results confirm the importance of physical characteristics for understanding vehicle aggressiveness measured from police reported crashes.

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-01/esv/esv19/05-0248-O.pdf>

**Preliminary Results Analyzing the Effectiveness of Electronic Stability Control (ESC) Systems (DOT HS 809 790), 9/04**

Jennifer N. Dang; Office of Planning, Evaluation, & Budget

NHTSA's State Data System was used to evaluate the effectiveness of Electronic Stability Control (ESC) systems in reducing single vehicle crashes in various domestic and imported cars and SUVs. SDS allowed examination of crash data from 1997 to 2002 using vehicle identification number information to compare specific make/models of passenger cars and SUVs with ESC versus earlier versions of the same make/models. The preliminary results showed statistically significant reductions in single vehicle crashes in certain passenger cars and SUVs equipped with an ESC system.

[http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/809790\\_files/809790.pdf](http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/809790_files/809790.pdf)

**Analysis of the Rollover Propensity of Fifteen-Passenger Vans (DOT HS 809 735), 5/04**

Rajesh Subramanian; NCSA

NHTSA's State Data System was used to assess the rollover propensity of 15-Passenger Vans with increasing occupancy. SDS allowed examination of propensity metrics of 15-passenger vans with other types of passenger vehicles such as cars, SUVs, Pickup Trucks and Minivans. The results showed that the disparity in the risk of rollover between full occupancy and nominal occupancy (driver only) was most pronounced for 15-Passenger Vans as compared to other passenger vehicles.

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2004/809735.pdf>

**Assessing the Influence of Child Safety Campaigns (DOT HS 809 698), 11/03**

John Kindelberger and Marc Starnes; NCSA

NHTSA's State Data System was used to examine the success of child safety campaigns designed to encourage drivers to seat children age 12 and under in the back seat. SDS enabled examination of child-positioning patterns over the years in airbag and non-airbag vehicles. The results showed children moving from the front seat to the back seat, particularly in airbag vehicles, over the years. This outcome was a validation of the influence of child safety campaigns instituted in the mid-nineties.

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2003/809-698.pdf>

**New Car Assessment Program; Rollover Resistance (RIN 2127-AI81), 10/03**

Patrick Boyd and Dr. Riley Garrott; NHTSA Office of Rulemaking

This document modified NHTSA's rollover resistance ratings in its New Car Assessment Program (NCAP) to include dynamic rollover tests after considering comments to NHTSA's previous document. The NCAP rollover resistance ratings in the 2004 model year were determined using the system established by this document, and that system was developed in part through analysis of SDS data.

<http://www.nhtsa.dot.gov/cars/rules/rulings/RollFinal/index.html>

**Vehicle Weight, Fatality Risk and Crash Compatibility of Model Year 1991-99 Passenger Cars and Light Trucks (DOT HS 809 662), 10/03**

Charles J. Kahane, Ph.D.; NHTSA Office of Planning, Evaluation & Budget

SDS data from eight states in combination with other data were used to analyze the crash compatibility of cars and light trucks/vans. This database enabled comparison of fatality rates per billion vehicle miles of light cars, heavy cars, pickup trucks, SUVs and vans.

<http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/pdf/809662.pdf>

**Evaluation of Rear Window Defrosting and Defogging Systems (DOT 809 724), 3/03**

Christina Morgan; NHTSA Office of Planning, Evaluation & Budget

SDS files were used to examine whether there were proportionately fewer backing-up and changing-lane crashes involving cars with rear-window defoggers than crashes involving cars without rear-window defoggers. The main analyses found that rear window defoggers have no effect on changing-lane and backing-up crashes in conditions when they are most likely used (when raining or snowing, during early morning, or during winter).

<http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/rearwindow-report/Index.htm>

All of this and more has been accomplished with fewer than half of the states participating in the State Data System. Expanding the State Data System by adding data from new states will serve to enlarge the pool of available data, increasing the value, scope and accuracy of traffic safety research.

This list is also likely to increase in the near future. Several draft reports using the State Data System include an update of the effectiveness of electronic stability control, a Congressionally mandated study of crashes involving passenger vehicles backing over pedestrians, and ongoing research regarding vehicle factors that predict rollover propensity.

**If you would like more information about how State Data System data has been used or have other questions about SDS, please contact Barbara Rhea, Chief, State Data Reporting Systems Division, or Rory Austin, Technical Manager.**

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