

Frequently Asked Questions

How do I get crash statistics for Florida, or for my District/County?

First, we recommend you visit the Florida Department of Highway Safety and Motor Vehicles (FLHSMV). FLHSMV is the official custodian of crash data for the State of Florida. FLHSMV also publishes official crash statistics for the State of Florida. The FLHSMV website (www.flhsmv.gov) has a resources section. Through this section you can access crash reports and statistics. You can also use search features on the FLHSMV website to find crash statistics. Additionally, you can use the Florida Crash Dashboard (www.flhsmv.gov/traffic-crash-reports/crash-dashboard/).

Second, you may visit the National Highway Traffic Safety Administration (NHTSA). The NHTSA website (www.nhtsa.gov) has a research and data section. Using this section, you can access several sources of crash data and statistics. The Fatality Analysis and Reporting System (FARS) is one of them. You can also search for crash statistics on the NHTSA website.

Third, the Federal Highway Administration (FHWA) is another source for crash statistics. The FHWA website (www.fhwa.dot.gov or highways.dot.gov) has a section for their Safety Program and another for publications and statistics. As with other sites, you can search for crash statistics.

Finally, the Florida Department of Transportation (FDOT) is another source for crash statistics. You can search the FDOT website (www.fdot.gov) for crash statistics. You can also search for crash statistics in the FDOT Open Data Hub (gis-fdot.opendata.arcgis.com). Your District Safety Engineer (DSE) can also help you with crash statistics.

How do I get crash data for specific roads in Florida?

For engineering applications and analyses, we recommend using crash data from the Florida Department of Transportation (FDOT). FDOT adds verified locations to crash data on public roads. Verified location data is accessible through the FDOT Open Data Hub (gis-fdot.opendata.arcgis.com). You may also contact the District Safety Engineers (DSEs) in your area or the Safety Office (www.fdot.gov/safety).

Otherwise, you may use Signal 4 Analytics maintained by the University of Florida (UF) Geoplan Center. Access to Signal 4 is restricted to federal, state, and local government agencies.

What crash data does the Florida Department of Transportation collect?

The Florida Department of Highway Safety and Motor Vehicles (FLHSMV) is the official repository of traffic crash data for Florida. The Florida Department of Transportation (FDOT) receives a copy of all crash records from FLHSMV. Currently, FDOT crash analyses and crash datasets use long-form crash records. FDOT will expand analyses and datasets to include short-form crash records.

What does the Florida Department of Transportation do with collected crash data?

The Florida Department of Transportation (FDOT) stores crash records in the Crash Analysis and Reporting (CAR) database. FDOT adds geolocation coordinates to each crash record on a public road. Verified locations are not added to short-form crashes or crashes on private roads, forestry roads, parking lots, or private property. Using a linear-reference system (LRS), FDOT links roadway data from state-maintained roads to crash records. Afterwards, FDOT conducts crash analyses and research to help improve roadway safety.

What information is stored in crash records?

The Florida Department of Highway Safety and Motor Vehicles (FLHSMV) is the official custodian of Florida crash data. Information stored in crash records is defined by the Florida Traffic Crash Report (FTCR) form. The FLHSMV website (www.flhsmv.gov) has search features allowing users to search for information about the FTCR and the information collected with it.

What is the typical distribution of crashes across the State Highway System (SHS) road network and local roadways?

Based on the record counts in the Safety Office's GIS shapefiles for the 2008 crashes, we have 313,429 long-form crash records in the CAR database of which 151,941 (48.5%) have locations on the SHS and 105,370 (33.6%) have locations on local roadways. The remaining 56,118 crashes (17.9%) were excluded due to occurrence on private property, in parking lots, on forest roads, or on private roads. The figures for 2005, 2006, and 2007 are in approximately the same proportion.

How do I determine the critical rate/ratio for a location?

For several years now, the Safety Office has been using a different configuration of the Poisson equation for our rate analyses. We solve the equation for K, rather than plugging in a value. We use the actual crash rate at a site and the average crash rate (within District) for the category into which that intersection or segment falls. Using the value for K that we get from the equation, we look up the corresponding percent "confidence" for the calculated K value and report that percentage in our output. Detailed descriptions of the processes that we use for crash rate analysis are in the CAR user manual, Appendix H. Below is an excerpt that may be helpful in answering this question.

The program calculates the numeric confidence level for each of the analysis segments or intersections with a formula having these components:

- 1) *MVM (Million Vehicle Miles) for segments or MEV (Millions of Entering Vehicles) for intersections.*
 - a) *MVM is (Average-Daily-Traffic * Miles-of-Road * Number-of-Days) / 1,000,000*
 - b) *MEV is (Average-Daily-Traffic * Number-of-Days) / 1,000,000*
- 2) *AVERAGE (Average crash rate: the numeric result of the total number of crashes on roadways or intersections of the same category within the area of analysis during the time period of the analysis divided by the total traffic volume (length-weighted for segment analysis) on all roadways or at all intersections of the same category within the area of analysis during the time period of the analysis)*

- 3) *ACTUAL* (Actual crash rate: the numeric result of the total number of crashes on the roadway or at the intersection being analyzed during the time period of the analysis divided by the total traffic volume (times the total segment length for segment analysis) on the roadway or at the intersection during the time period of the analysis)
- 4) *CONLV* (Confidence Level: the numeric result of the equation that follows, compared to the table to determine the percent confidence for the analysis).

The programs calculate the confidence level using the following formula.

Segments:

$$CONLV = (ACTUAL - AVERAGE + (1 \div (2 \times MVM))) \div \sqrt{(AVERAGE \div MVM)}$$

Intersections:

$$CONLV = (ACTUAL - AVERAGE + (1 \div (2 \times MEV))) \div \sqrt{(AVERAGE \div MEV)}$$

The confidence level translates to a percentage for the outputs. The corresponding percent values are in the table below.

K = computed confidence factor for print value lookup

Confidence Level Print Values Lookup Table	
Computed Confidence Level (K)	Print Value Assigned
$K < 0.6740$	50%
$0.6740 \leq K < 0.8416$	75%
$0.8416 \leq K < 1.0360$	80%
$1.0360 \leq K < 1.2816$	85%
$1.2816 \leq K < 1.6449$	90%
$1.6449 \leq K < 1.9600$	95%
$1.9600 \leq K < 2.3263$	97.5%
$2.3263 \leq K < 2.5758$	99%
$2.5758 \leq K < 2.8070$	99.5%
$2.8070 \leq K < 3.0902$	99.75%
$3.0902 \leq K < 3.2905$	99.9%
$3.2905 \leq K < 3.7190$	99.95%
$3.7190 \leq K$	99.99%

How does the FDOT rank the high-crash locations? Is there any documentation?

The Crash Data Reports User Manual for the Crash Analysis Reporting System, section (pp 275-284) defines the ranking number and gives information about how it functions. The manual is available to users inside the FDOT intranet at http://inonet.dot.state.fl.us/safetyoffice/Eng_rept_pubs.htm. In Appendix H,

subsection 14.3, starting at page 739, it describes in detail the processes by which we determine the rankings for the crash rate analyses for the State Highway System (SHS).

For the ranking of the 5% intersections and segments for the segments and intersections that we have included in the Highway Safety Improvement Program (HSIP) documentation, in the Transparency Report, the method that we use to arrive at the 5% grouping is not the same as the programmatic rankings for the SHS crash rate analyses. For the 2008 HSIP report (submitted August 2009), we used two different processes to reach the 5% groupings: one for the SHS and one for the Local Roads analyses.

For the SHS:

- 1) We started with the High Crash listings for each District, for the 3-year span from 2006-2008, from the CAR System.
- 2) We ordered the output, within each District, by number of crashes descending, then by number of fatalities plus the number of injuries descending within identical crash counts, then by
- 3) number of fatalities descending, then number of injuries descending, then number of property-damage-only crashes (PDO) descending.
- 4) With the output so ordered, we took the top 5% (numerically) from each District.
- 5) For the Segments, this was our final output.
- 6) For the Intersections, we mapped the 5% Segments and the 5% Intersections in ArcMap, buffered the Segments by 3 meters, and ran an intersect between the buffered segments and intersections. From the intersect, we produced a list of Intersections that touched or were overlapped by any of the 5% Segments.
- 7) We removed all of the Intersections on the list above (step (5)) from the 5% list produced in step (3) in order to get a final listing of Intersections for the SHS for each District.

For the Local Roads:

- 1) We started with the Reference listings (all results with 1 or more crashes) for each District, for the 3-year span from 2006-2008, from our SAFETEA-LU Crash Rate Analyses for Local Roads programs.
- 2) We ordered the output, within each District, by number of crashes descending, then by number of fatalities plus the number of injuries descending within identical crash counts, then by number of fatalities descending, then number of injuries descending, then number of property-damage-only crashes (PDO) descending.
- 3) With the output so ordered, we deleted all the results with less than 8 crashes for the three-year span of the analysis.
- 4) Next, we took the top 5% (numerically) from each District from the results remaining in the listing.
- 5) For the Segments, this was our final output.
- 6) For the Intersections, just as we did with the SHS Intersections, we mapped the 5% Segments and the 5% Intersections in ArcMap, buffered the Segments by 3 meters, and ran an intersect between the buffered segments and intersections. From the intersect, we produced a list of Intersections that touched or were overlapped by any of the 5% Segments.
- 7) We removed all of the Intersections on the list above (step (6)) from the 5% list produced in step (4) in order to get a final listing of Intersections for the Local Roads for each District.

Can I run a query based on comparing values from the crash report?

(E.g.: “We’re conducting a review of the crashes along a roadway segment to identify speed related crashes. We performed a query of the crashes using contributing causes 12 and 17 that relate to ‘EXCEEDED SAFE SPEED LIMIT’ and ‘EXCEEDED STATED SPEED LIMIT’, respectively, but we only found a few crashes with these contributing causes to categorize them as speed related crashes. Can we also use the information on page 1 of the police report for each driver involved in the crash where the estimated speed and posted speeds are listed?”)

The Crash Analysis Reporting System does not have any tools that allow us to screen crashes by comparing the variables in two fields. If you are looking at a specific corridor and you know the posted speed, you can enter that speed as a constant in the search criteria and screen for crashes on the corridor with a vehicle speed that is greater than the value that you enter. The other option is to have the Safety Office Central Office in Tallahassee run a special query to get the answers to your question. We can set up queries to run outside of the CAR System but against the CAR database, and this method allows us to screen crashes based on variable comparisons. If you need data for the entire state or county, rather than limited to a specific corridor or location, then DHSMV can run the same type of query.

Can I drill down in the data to identify the location of crashes for areas within a county other than the coded municipalities such as zip code?

The zip code in which a crash occurred is not collected on the Florida Traffic Crash Report (FTCR) form. However, you can combine crash data and zip codes in a GIS tool. The Florida Geographic Data Library (FGDL) contains a zip code dataset. You can search the FGDL website (www.fgdl.org) for GIS files with zip codes. Using a GIS tool, you can overlay crashes and zip codes to identify crash zip codes.