



## *Florida Department of Transportation*

RON DESANTIS  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

KEVIN J. THIBAUT, P.E.  
SECRETARY

### **Highway Safety Matrix**

Purpose: The county and city matrices were designed to provide traffic safety planners an objective data-driven tool to rank traffic safety projects. Both counties and cities are divided into three population groups. The numbers in each matrix represent where each county or city ranks within their population group in a particular program area, with “1” representing the highest fatality and serious injury volume, as described below. For example, a “1” next to Broward county would indicate that they are ranked 1<sup>st</sup> in Aging Road Users serious injuries and fatalities among the counties in Group I. The top 25% are highlighted in each population group by program area.

Note that despite the increase in serious injury and fatal crashes occurring over the past several years, the range of numbers appearing in the matrix does not change. This is because counties and cities are being compared to each other on a relative basis and the number shown is a ranking and not an actual count.

Measures used: The rankings within the population groups in the county and city matrices are based on relative volume of serious injuries plus fatalities over a five-year period. The city and county groupings are determined by population according to the latest census data and the project population growth according to the Bureau of Economic and Business Research (BEBR). Inmate populations are excluded from the population counts. County and City injury totals used for ranking are the total actual counts.

Specific measures for each column in the matrix are as follows. These definitions also appear in the March 2021 Florida Strategic Highway Safety Plan on pages 48 and 49.

#### **Road Users**

- **Aging Road Users (Drivers 65+)** – At least one of the drivers involved is reported as age 65 or over at the time of the crash. All of the fatalities and serious injuries in the crash are counted.
- **Motorcyclists** – Drivers or passengers of a vehicle coded with a Vehicle Body Type of “Motorcycle” or “Moped.” Only riders or passengers on motorcycle, scooter or moped are counted.
- **Pedestrian or Bicyclist** – Non-Motorist Description of “Pedestrian” or “Other Pedestrian (wheelchair, person in a building, skater, pedestrian conveyance, etc.)” or “Bicyclist” or “Other Cyclist” or “Occupant of a Non-Motor Vehicle Transportation Device.” Only bicyclist or pedestrian involved in the crash are counted.

- **Teen Drivers** – At least one of the drivers involved is reported as age 15 to 19 at the time of the crash. All of the fatalities and serious injuries in the crash are counted.

### User Behavior

- **Distracted Driving** – At least one of the drivers involved in the crash coded as anything other than “Not Distracted” or “Unknown” in the Driver Distracted By field. All of the fatalities and serious injuries in the crash are counted.
- **Impaired Driving** – At least one of the drivers involved is possibly impaired. The “possibly impaired” criteria are: reporting officer indicates (1) alcohol use “suspected” or (2) refused to test for alcohol or (3) has a blood alcohol content result greater than zero, or (4) drug use “suspected” or (5) refused to test for drugs or (6) has a drug test result of “positive.” All of the fatalities and serious injuries in the crash are counted.
- **Occupant Protection** – Any driver or passenger who meets the following criteria: Occupant of a vehicle with Vehicle Body Type anything other than “Motorcycle,” “Moped” or “All Terrain Vehicle (ATV).” With a Restraint Systems code of “None Used – Motor Vehicle Occupant.” Only unrestrained drivers and passengers are counted.
- **Speed or Aggressive Driving** – Any driver involved in the crash has any two of four possible Drivers Actions at Time of Crash codes in any of the categories of aggressive driving behavior, per section 316.1923, F.S. OR has any one of three possible Drivers Actions code as “Drove too Fast for Conditions,” “Exceeded Posted Speed,” or “Operated MV in Erratic, Reckless or Aggressive Manner.” All of the fatalities and serious injuries in the crash are counted.

### Evolving Emphasis Areas

- **Work Zones** – The Work Zone Related field = “yes” or any of the Contributing Circumstances: Road codes is “Work Zone (construction/ maintenance/utility).” All of the fatalities and serious injuries in the crash are counted.

Distracted driving, potentially impaired driving, speeding and aggressive driving, younger or older drivers, and work zones are treated as potential causal factors, so that all individual serious injuries and fatalities involved in a single crash are counted. On the other hand, bicyclists, motorcyclists, pedestrians and individuals not using a restraint system (safety belts and child seats) are only counted once in the appropriate area.

Data sources: The Florida Department of Transportation’s (FDOT) Crash Analysis Reporting (CAR) database was used as the data source in the county and city matrices for serious injuries and fatalities. The University of Florida, Bureau of Economic and Business Research (BEBR), was used as the source for population estimates to group counties and cities.

Subjectivity of crash data used: It is important to realize that some of the measures cited above are more subjective than others. Serious Injuries and Fatalities, Aging Road Users (Drivers 65+), Motorcycle Related, Pedestrian or Bicyclist Related, and Teen Drivers categories are relatively objective, as they are only based on simple vehicle or person characteristics. The other areas are all dependent on how thorough investigating officers are in documenting crash circumstances. It is quite likely there could be differences among jurisdictions in this regard.

Other data limitations: County rankings are based on crashes occurring both inside and outside cities and municipalities and may involve different investigating agencies, including the Florida Highway Patrol, which does much of the enforcement in rural areas.

City crashes are much more subject to errors involving location. In some instances, crash investigators either are unaware of their exact location or write down the wrong Florida Department of Highway Safety and Motor Vehicles city code. The FDOT State Safety Office's Crash Records Section identifies many of the location errors made on state roads. These corrections are reflected in crashes in the CAR database, but some errors can remain.