SW Ag Center

# Agriculture vehicle, logging truck, and ATV Fatal Crash Dashboard

The AgFF fatality dashboard provides descriptive data on traffic-related fatalities involving farm vehicles, logging trucks, and all terrain vehicles (ATVs) in the United States from 2010 to 2021. Data are from the national Fatality Analysis Reporting System (FARS), which is considered to be a complete census of fatal traffic-related events. The dashboard can be used to describe general characteristics of AgFF related fatal crashes and resulting fatalities while also examining trends over time by state. To be included in the dashboard, the crash had to involve at least one or more AgFF vehicles (i.e., farm vehicle, logging truck, and all-terrain vehicle (ATV). The dashboard provides variables describing the overall crash characteristics (e.g., collision type), environment (e.g., time of day and year), vehicle characteristics, and people characteristics (e.g., demographics for both occupants of the AgFF and other vehicles).

Location: <https://cts.tti.tamu.edu/ag-dashboard/>

Years: 2010 to 2021

For questions contact: Eva Shipp, PhD (e-shipp@tti.tamu.edu)

Data Source:

* Fatality Analysis Reporting System, a publicly available, national census of fatal crashes occurring on public roadways that is maintained by the National Highway Traffic Safety Administration. State crash and other records are used to populate the FARS database.
* Information is collected about fatal injuries and any nonfatal injuries that occurred during the fatal crashes.
* FARS data and documentation downloadable at: https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars

Dashboard Structure:

* The dashboard includes 4 pages listed below. Select a page by clicking on the forward and backward arrows at the bottom of the dashboard.



* 1. Crash Factors
	2. AgFF Persons
	3. Time/Environmental
	4. Non-AgFF Persons (who are involved in AgFF crashes)
* Center graphs consist of the entire list of variables in their respective category, so mouse scrolling may be required to see more than what is initially presented. As the search is narrowed, the dashboard will not show variables if selected data does not have any values. For example, if you click on a single data point and the ages of persons involved in crash are 20 and 36, it will omit showing “0%” for all other ages.

Turning variables or categories on/off:

* There are various ways to turn variables on / off or select specific variable categories. These include:
	+ Select a check box from one of the drop-down menus on the left side of the dashboard. To unselect, click the box a second time.
	+ Click a button for a high-risk behavior at the top of the dashboard. To unselect, click the button a second time.
	+ Click on a category within one of the graphs or visualizations. To unselect, click the category a second time.
	+ Ctrl+ mouse click shortcut will allow you to select or deselect multiple variables within or across categories.

Full screen mode:

* Click the small bidirectional arrow  at the bottom right of the dashboard. Press ESC to exit full screen mode.

Expand or contract a variable list:

* Click the down arrow to the right of the list to expand the list. It will change to an up arrow when expanded. Click the up arrow to contract it again.
* Alternatively hovering the mouse curser over variables will show the entire name selection and the proportion of the data it represents if applicable.

Points to keep in mind:

* Typically for crashes, information is collected at the following levels:
	+ Driver and occupant (also called person)
	+ Vehicle (also called unit)
	+ Crash including roadway (e.g., type of road, intersection relationship, etc) and other characteristics pertaining to the environment (e.g., time of day, day of week, month, lighting conditions, etc.)
* To be included in this dashboard, a crash had to have involved one or more agricultural vehicles, logging trucks or ATV and to have resulted in at least one fatality.
* The classification of a fatal crash as AgFF (involving an agricultural vehicle, logging truck, or ATV) is based on vehicle type. Therefore, the driver or occupants may not have been working in agriculture or logging at the time of the crash.

Examples of how to obtain different counts:

When no variables are selected, the dashboard should display that there were 5,604 crashes involving an agricultural vehicle, a logging truck, and/or an ATV that resulted in at least one fatality in the United States from 2010-2021. The 5,604 fatal crashes involved 7,371 people in agricultural vehicles, logging trucks, or ATVs. Not all vehicle occupants died in these crashes. For example on page 1, the chart on the bottom right shows that 494 AgFF people sustained a suspected serious injury. The fatality also could have occurred in the non-AgFF vehicle. For example, the same chart on page 4 shows that 1,470 people sustained a fatal injury that were not in an AgFF vehicle.

* Obtain the number fatal crashes that involved at least 1 agricultural vehicle.
	+ On page 1, for AgFF Type, you can select multiple of the three AgFF categories by holding ctrl+left mouse click for mixtures of the types. (FARM, FARM/ATV, FARM/LOG).
	+ Another way on page 1, for Vehicle Body select individual desired categories.
	+ For example, the frequency of Farm Equipment or AgFF type Farm is 1,057 crashes.
* Obtain the number AgFF drivers who were fatally injured.
	+ On page 1, for Vehicle Body, click the arrow to open the menu, then select farm equipment. For Person Type, toggle the select all button to clear the menu, then select Driver of a Motor Vehicle In-Transport. For Injury Severity, select fatal.
	+ The frequency is 462 drivers of agricultural vehicles were fatally injured in 462 crashes.
* Obtain the number of farm equipment drivers involved in a fatal crash but who were not fatally injured.
	+ On page 1, for Vehicle Body, select farm equipment. For Person Type, select Driver of a Motor Vehicle In-Transport. For Injury Severity, select suspected serious injury, suspected minor injury, possible injury, no apparent injury, injury severity unknown, or unknown/not reported.
	+ The frequency is 579 drivers of farm equipment were not themselves fatally injured.
* Obtain the average age of drivers of ATVs who were fatally injured in a crash.
	+ Go to page 2.
	+ For Vehicle Body, select ATV or alternatively, use AgFF type at top of dashboard. For Injury Severity, select fatal injury. For Person Type, select Driver of a Motor Vehicle In-Transport.
	+ The frequency is that the average age of the 3,213 ATV drivers who were fatally injured was 39 years.
	+ Vehicle body on page 2 is a little confusing having truck/tractor but all other farm equipment other than trucks (which I thought would include tractors) is a separate option. Tractors are technically a truck I just am unsure what still falls under farm equipment and what would fall under truck/tractor.
* Obtain the number of drivers of logging trucks who were involved in a fatal crash and distracted.
	+ Go to page 3. For Vehicle Group, select logging. For Person Type, select Driver of a Motor Vehicle In-Transport. For Vehicle Body, select Truck Tractor.
	+ At the top of dashboard selected “Distracted Driving YES”
	+ Frequency shows 93 persons involved in 84 crashes for all injury severity types.

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| **Variable** | **Description** | **Categories** |
| Year | The year that the crash occurred. | 2010 to 2021 |
| State | The state that the crash occurred. | State Defined |
| Area Type | Description of crash location. | Rural; Urban; Unknown |
| AgFF Type | Agricultural Vehicle Type involved in the crash. | ATV; Farm; Logging  |
| Vehicle Body | Agricultural Vehicle Type Involved in the crash broken down into distinct vehicle types.  | ATV (All-Terrain Vehicle); Farm Equipment Other Than Trucks; Single-Unit Straight Truck or Cab-Chassis (GVWR > 26,000 lbs); Truck/Tractor (Cab only, Or with Any Number of Trailing Units: Any Weight  |
| Manner of Collision | Describes the orientation of vehicles at point of impact. Striking vehicle to impacted vehicle. | Not a Collision with Motor Vehicle In-transport; Front-to-Rear; Front-to-Front; Angle; Sideswipe – Same Direction; Sideswipe – Opposite Direction; Rear-to-Side; Rear-to-Rear; Other; Not Reported; Reported as Unknown |
| Slow Moving Crash | Impacted vehicle going slower than striking vehicle; pertains only to rear end crashes. | Yes; No |
| Roadway Speed Limit | Posted speed limit on roadway in miles per hour (MPH). | --- |
| Intersection Relation | Type of Intersection crash occurred in.  | Driveway Related; Intersection Related; Non-Intersection; Other/Unknown |
| Person Type | Description of Vehicle Occupant. | Driver of a Motor Vehicle In-Transport; Occupant of Motor Vehicle Not In-Transport; Passenger of Motor Vehicle In-Transport; Unknown |
| Injury Severity | Description of the severity of injury to the person in crash. | Fatal; Suspected Serious Injury; Suspected Minor Injury; Possible Injury; No Apparent: Injury: Injury Severity Unknown/Not reported |
| Age | Age in whole years. | --- |
| Sex | Sex of the person involved in the crash. | Male; Female; Not Reported; Reported as Unknown |
| Ejection | Describe if a person involved in the crash was forcefully ejected from vehicle.  | Yes; No; N/A |
| Rollover | Vehicle in crash rolling onto side or roof. | Yes; No; N/A |
| Seat Belt Restraint/Helmet  | The presence or lack of restraining device or helmet if applicable, was identified as a factor contributing to the crash severity.  | Restraint Used; None Used/ Not Applicable; Other/Unknown |
| Alcohol Impaired | Alcohol was identified as a factor contributing to the crash.  | Yes; No |
| Drug Impaired | Drugs and controlled substances were identified as a factor contributing to the crash.  | Yes; No |
| Distracted Driving | Driver distraction was identified as a factor contributing to the crash.  | Yes; No |
| Speeding (Category slicer) | Binary variable slicer that indicates speeding was identified as a factor contributing to the crash.  | Yes; No |
| Month | Month of the year that the crash occurred. | --- |
| Crash Hour | Hour of the day that the crash occurred on 24-hour clock. | --- |
| Day of Week | Day of the week that the crash occurred. | --- |
| Lighting Condition | Description of the visible light at time of crash. | Day; Dark; Unknown |