Fatality and Injury Reporting System Tool (FIRST)

NHTSA's Modernized Crash Data Query Tool

Overview and Quick Start User Guide (Version 2)

What is FIRST?

The Fatality and Injury Reporting System Tool (FIRST) is a web-based tool that allows users to query the motor vehicle crash data collected in NHTSA's Fatality Analysis and Reporting System (FARS) and General Estimates System (NASS-GES)/Crash Report Sampling System (CRSS). This tool has replaced the previous query tool.

What are the key improvements under FIRST?

- Addition of injury and property damage crash data from CRSS and NASS: GES presents opportunities for broader analysis to fully take advantage of the full scope of NCSA crash datasets.
- Ability to perform analysis across multiple years (trend analysis) or to compare nonconsecutive years
- Upgraded GIS crash location maps
- Multiple ways to report data: Table, Univariate and Panel Charts
- Upgraded export functions to pdf, rtf (MS Word) and csv (excel) will benefit end users who will be able to seamlessly export their custom query results to presentations or other analytic tools.
- Download crash records (case listings) for single year FARS queries
- Flexible IT architecture and the power of modern web and BI servers will enable NHTSA to expand the tool's capabilities over time and be more responsive to changing user needs.

Which data is available in FIRST?

The Fatality Analysis Reporting System (FARS)

- FARS contains data on the most severe traffic crashes, those in which someone was killed.
- Query Years available: 2004-2018
- Fatality Analysis Reporting System (FARS)

The General Estimates System (NASS-GES) and Crash Report Sampling System (CRSS)

- Contains data from a nationally representative sample of police-reported crashes of all severities, including those that result in death, injury, or property damage.
- Crash Report Sampling System (CRSS), is the redesigned nationally representative sample of police-reported traffic crashes that replaced NASS GES in 2016.
- Query Years available: 2004-2018
- Note: Data elements available in GES/CRSS data are a subset of FARS availability.
- General Estimates System (GES) / Crash Report Sampling System (CRSS)

Both systems were designed and developed by NHTSA's National Center for Statistics and Analysis (NCSA) to provide an overall measure of highway safety, to help identify traffic safety problems, to

suggest solutions, and to help provide an objective basis on which to evaluate the effectiveness of motor vehicle safety standards and highway initiatives.

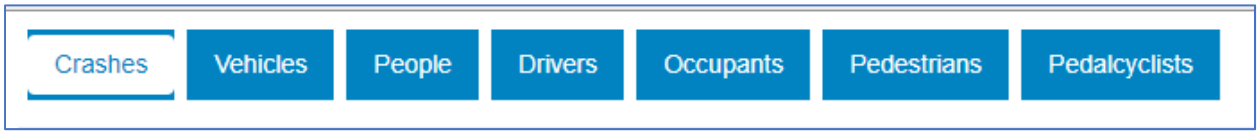
Which data classifications are used by FIRST?

These classifications are primarily, but not solely, based on standards established for production of NCSA's Traffic Safety Facts publications and other data products. It is important to note that these classifications are only meant as references and may be deviated from as a project or requester dictates. However, unless otherwise directed, one should adhere to these classifications so that NCSA can maintain consistency in data reporting. Furthermore, not all classifications span the history of the respective data systems. Data years of inclusion are based upon the availability of the data element as well as the characteristics of its attributes.

Overview of Query Web Application (as of 2/18/2019)

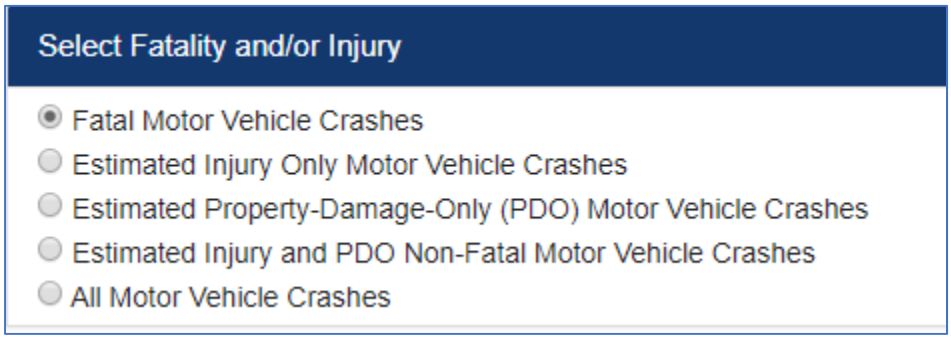
Below you will see the left side of the application homepage. Please note the tabs across the top: These tabs represent the topic of interest within the data (what do you want to count?). Do you want to count the number of 'Crashes' or the number of 'Vehicles' involved or the number of 'People' involved? The 'Drivers', 'Occupants', 'Pedestrians' and 'Pedalcyclists' tabs provide one click access to subsets of the 'People' tab and allows access to additional data elements that are only applicable to each of those subset tabs.

1. **<u>Select a topic (what do you want to count?):</u>**



2. **Open the menu 'Select Fatality and/or Injury':**

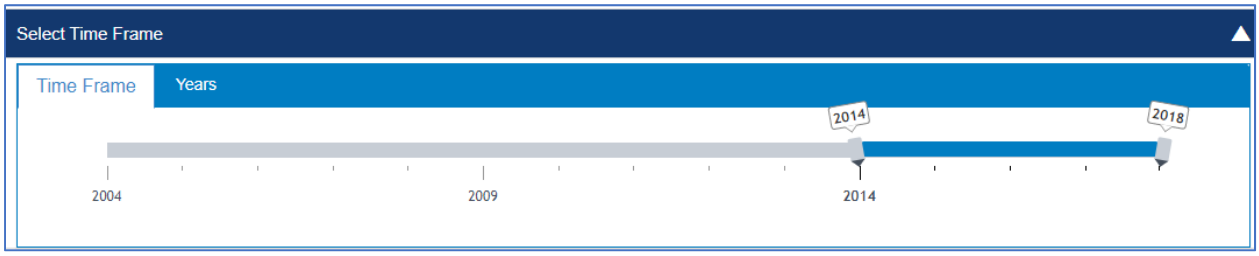
   These choices allow you to select the scope (or crash type) of data that you are interested in: Fatal motor vehicle crashes (FARS), Injury only crashes (GES/CRSS) or property-damage-only crashes (GES/CRSS) or all three together. **Note: FARS has a larger set of available data elements than GES/CRSS. Therefore, when generating a combined FARS and GES/CRSS report the available data elements will be reduced.**



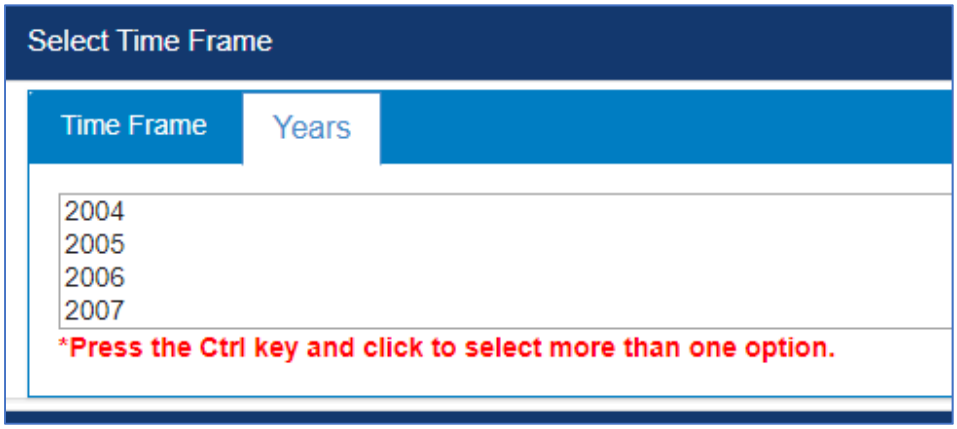
3. **Open the menu 'Select Time Frame':**

   Select your years of interest (currently 2004-2018). You can select a range of years for trend analysis or you can select a single year or a collection of multiple years (nonconsecutive).

Select a trend of years:

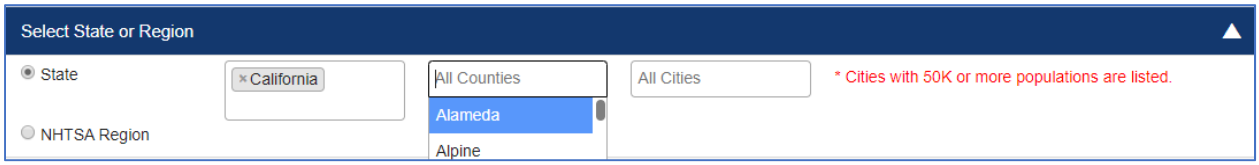


or select individual years:



4. **Open the menu 'Select State or Region':**

   If you desire you can filter for States (and Counties or Cities if desired) or NHTSA Administrative Regions (collection of States). Within any State you can also further select either Counties or Cities (with Census population above 50,000) but not both due to some overlapping areas/boundaries.



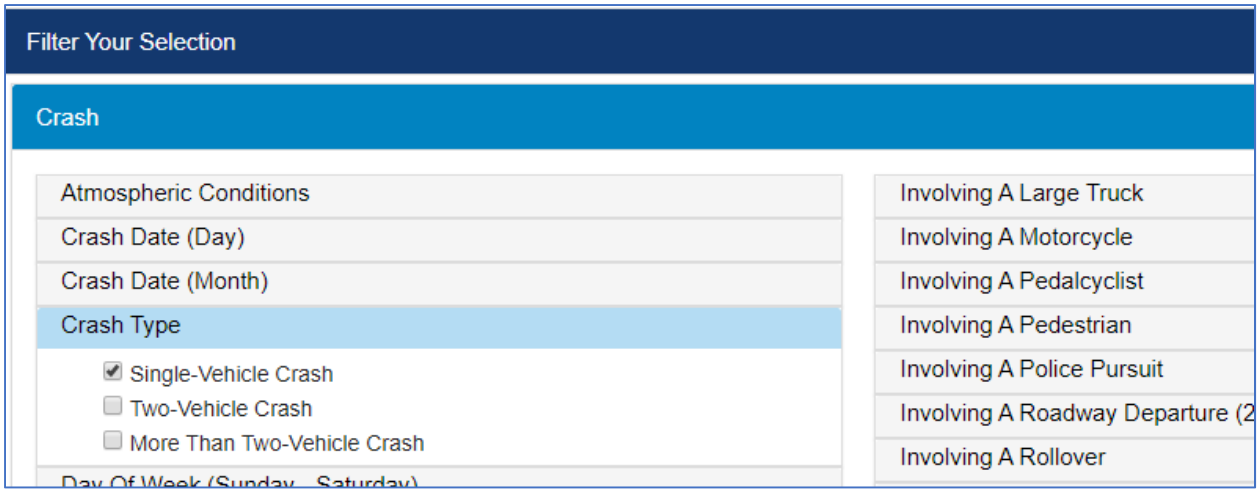
5. **Open the menu 'Filter Your selection':**

   You can now further filter the data by selecting the data element attributes that you want. The list of variables which you will be able to choose from will be dependent on which topic you have selected: For example, if you selected 'Crashes' you will only be able to filter data elements that apply to the entire crash. Vehicle and Person level data elements will not apply.

   Scope:

   - Crashes
     - Crash data elements
   - Vehicles
     - Crash data elements
     - Vehicle data elements
   - People
     - Crash data elements
     - Person data elements
   - Occupants (Drivers, Occupants)
     - Crash data elements
     - Vehicle data elements
     - Person data elements
       - Including data elements specific to drivers and occupants
   - Non-Occupants (Pedestrians, Pedalcyclists)
     - Crash data elements
     - Person data elements
       - Including data elements specific to drivers and occupants

   NHTSA is actively reviewing user feedback and adding new data elements where possible to meet user needs.

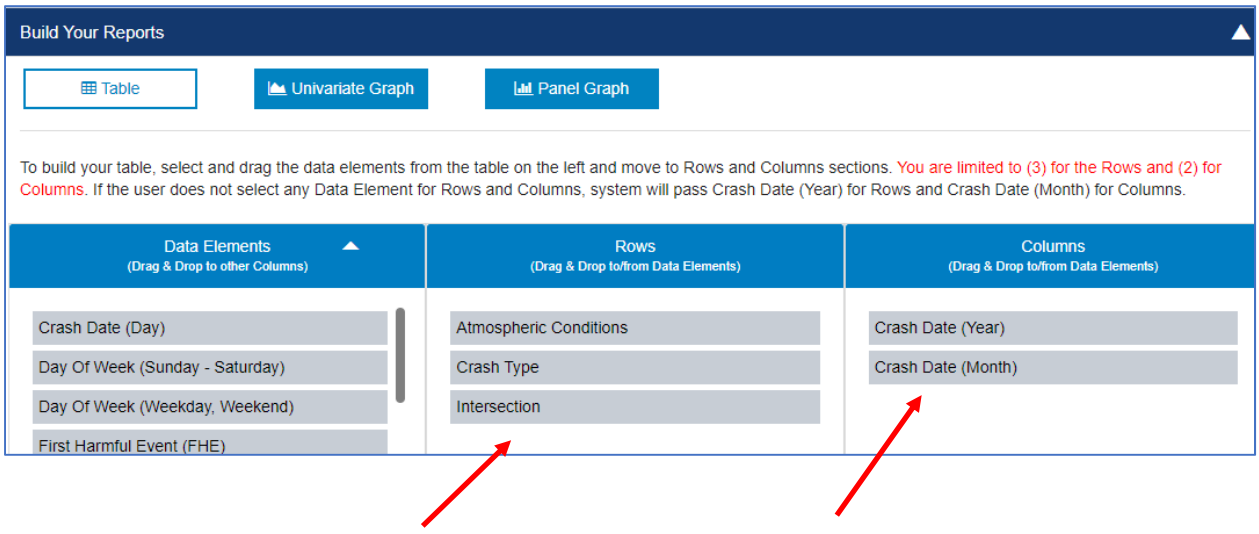


6. **<u>Open the menu 'Build Your Reports':</u>**

Here you can design a report to table or visualize your data query:

i. **<u>Table Report:</u>**

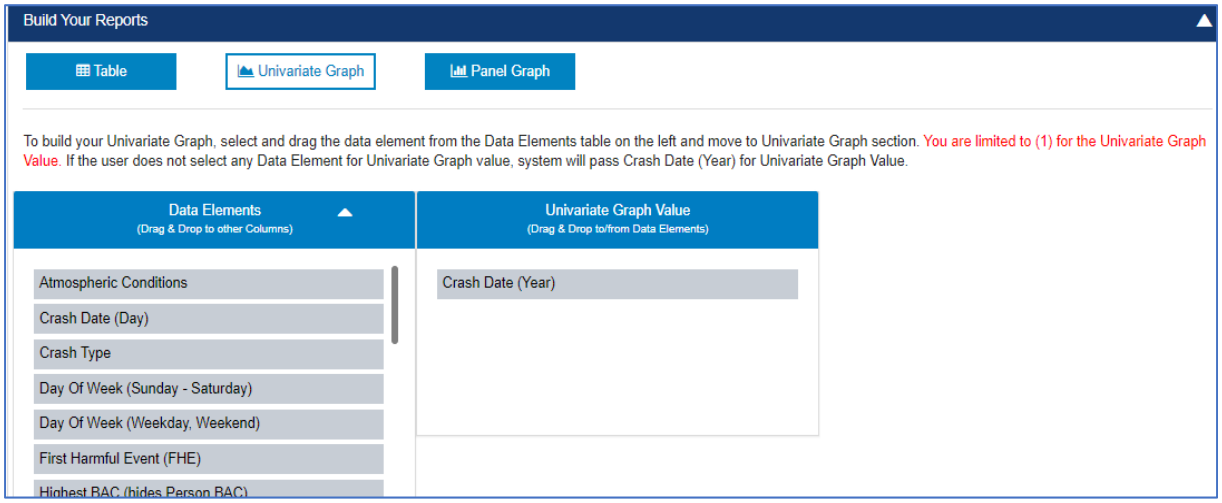
Select 'Table': You will see the layout below: On the left-hand side, you will see the 'Data Elements' list. You can drag and drop (in both directions) from this menu over to the 'Rows' and 'Columns' area to create the rows and columns of a table report. You can select up to three data elements for the rows and up to two data elements for the columns. This restriction is in place to control the potential for the generation of large sparse tables (thousands of cells) which are both time consuming to generate and can be hard to analyze.



The data element hierarchy in the output table is in order from top to bottom. If you want to change the data element order just drag and drop to the desired order.

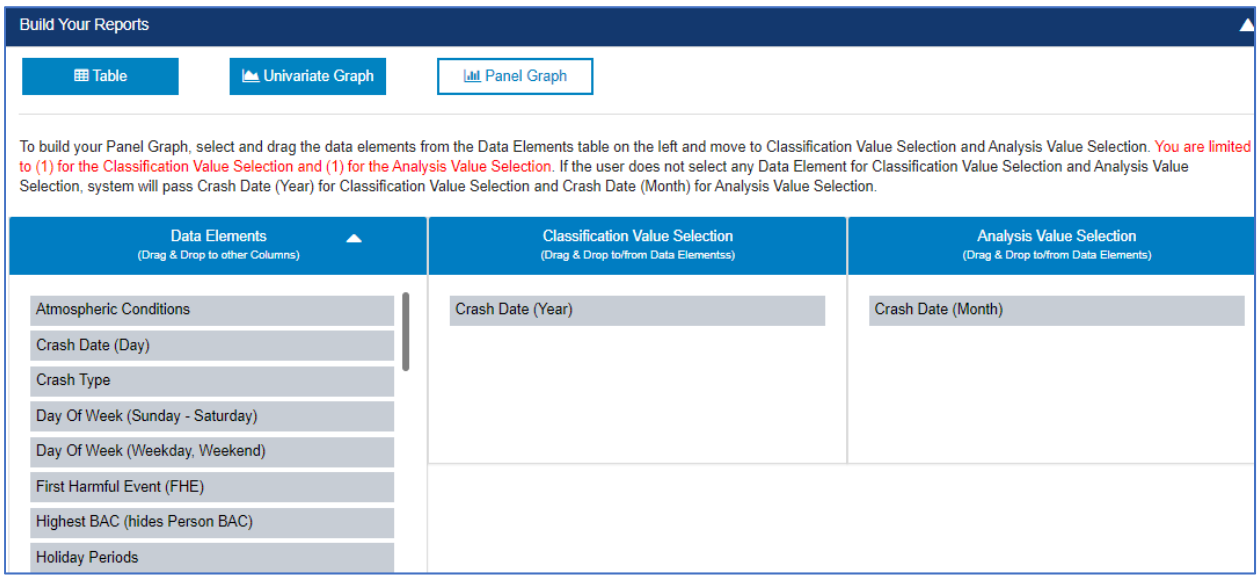
ii. **Univariate Graph Report:**

Select 'Univariate Graph': You will see the layout below: On the left-hand side, you will see the 'Data Elements' list. You can drag and drop (in both directions) from this menu over to the 'Univariate Graph Value' to create visual report. You can select one data element (Univariate)



iii. **Panel Graph Report:**

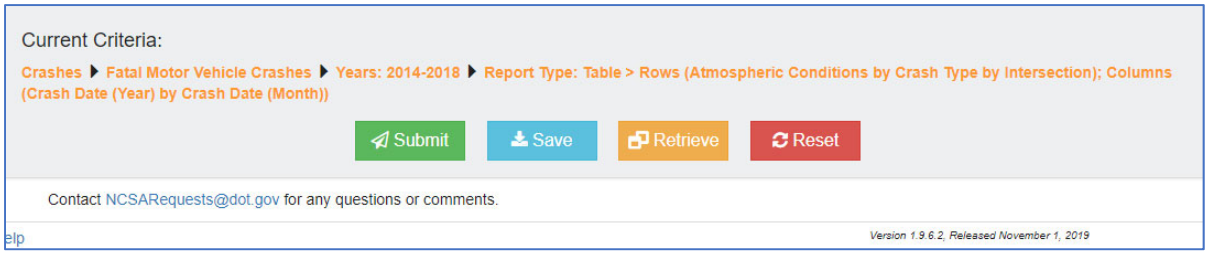
Select 'Panel Graph': You will see the layout below: On the left-hand side, you will see the 'Data Elements' list. You can drag and drop (in both directions) from this menu over to the 'Classification Value Selection' and 'Analysis Value Selection' to create the visual report. You can select one data element for the 'Classification Value' and one data element for the 'Analysis Value '.



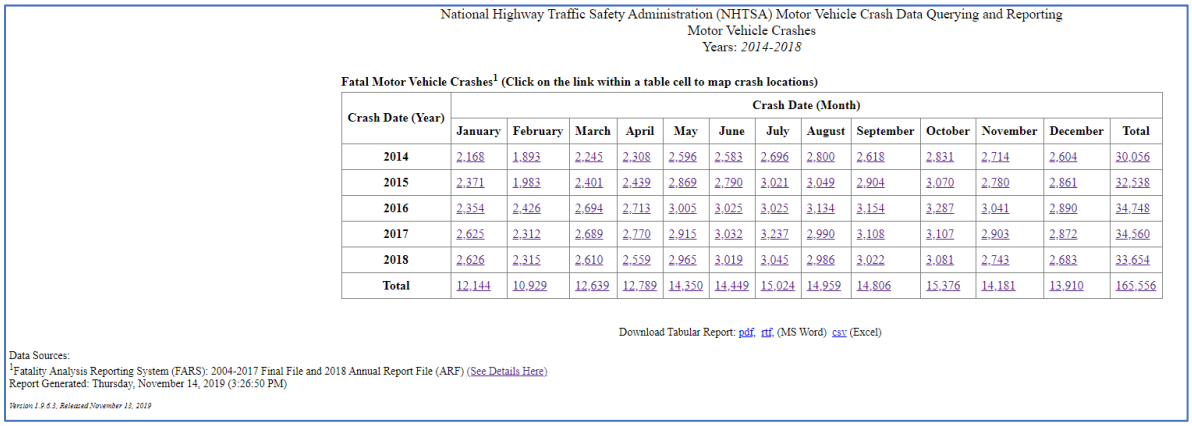
7. **Generate Report**

When you are finished building your report you will see the menu below:

- See the 'Current Criteria' section to review your data query and report choices.
- If ok then Select 'Submit' to generate the report.



Below is an example of the default table (Year by Month) report.



National Highway Traffic Safety Administration (NHTSA) Motor Vehicle Crash Data Querying and Reporting
Motor Vehicle Crashes
Years: *2014-2018*

Fatal Motor Vehicle Crashes[1] (Click on the link within a table cell to map crash locations)

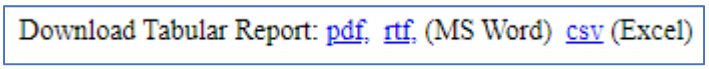
Crash Date (Year)	Crash Date (Month)												
	January	February	March	April	May	June	July	August	September	October	November	December	Total
2014	2,168	1,893	2,245	2,308	2,596	2,583	2,696	2,800	2,618	2,831	2,714	2,604	30,056
2015	2,371	1,983	2,401	2,439	2,869	2,790	3,021	3,049	2,904	3,070	2,780	2,861	32,538
2016	2,354	2,426	2,694	2,713	3,005	3,025	3,025	3,134	3,154	3,287	3,041	2,890	34,748
2017	2,625	2,312	2,689	2,770	2,915	3,032	3,237	2,990	3,108	3,107	2,903	2,872	34,560
2018	2,626	2,315	2,610	2,559	2,965	3,019	3,045	2,986	3,022	3,081	2,743	2,683	33,654
Total	12,144	10,929	12,639	12,789	14,350	14,449	15,024	14,959	14,806	15,376	14,181	13,910	165,556

Download Tabular Report: pdf, rtf, (MS Word) csv (Excel)

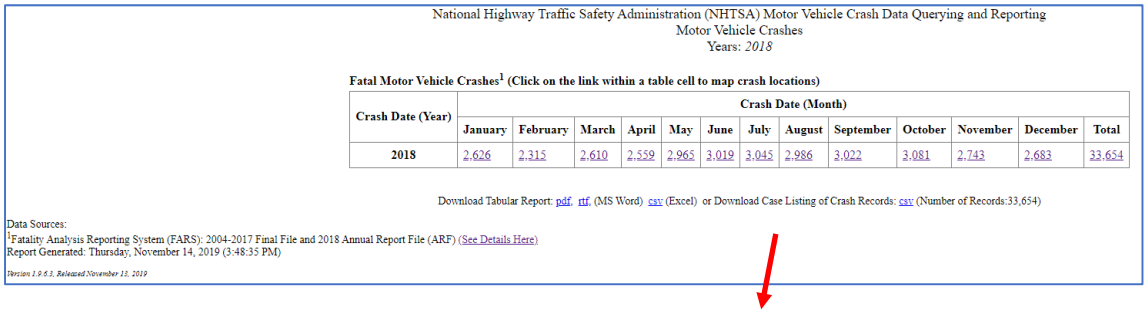
Data Sources:
[1]Fatality Analysis Reporting System (FARS): 2004-2017 Final File and 2018 Annual Report File (ARF) (See Details Here)
Report Generated: Thursday, November 14, 2019 (3:26:50 PM)

Version 1.9.6.3, Released November 13, 2019

Below the table you will see links to retrieve the table in multiple file formats (pdf, rtf and csv).
Note: Currently there are no report downloads for the Univariate or Panel Graph reports.



If you limit your query to a single year of Fatal Motor Vehicle Crashes (FARS) data then you will be provided with an additional link to download the individual crash records (case listing) in a csv file.
Note: This file maybe large. See section 'Case Listing Download' to interpret data.



National Highway Traffic Safety Administration (NHTSA) Motor Vehicle Crash Data Querying and Reporting
Motor Vehicle Crashes
Years: *2018*

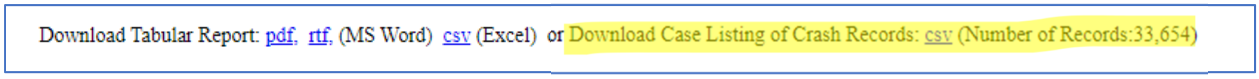
Fatal Motor Vehicle Crashes[1] (Click on the link within a table cell to map crash locations)

Crash Date (Year)	Crash Date (Month)												
	January	February	March	April	May	June	July	August	September	October	November	December	Total
2018	2,626	2,315	2,610	2,559	2,965	3,019	3,045	2,986	3,022	3,081	2,743	2,683	33,654

Download Tabular Report: pdf, rtf, (MS Word) csv (Excel) or Download Case Listing of Crash Records: csv (Number of Records:33,654)

Data Sources:
[1]Fatality Analysis Reporting System (FARS): 2004-2017 Final File and 2018 Annual Report File (ARF) (See Details Here)
Report Generated: Thursday, November 14, 2019 (3:48:35 PM)

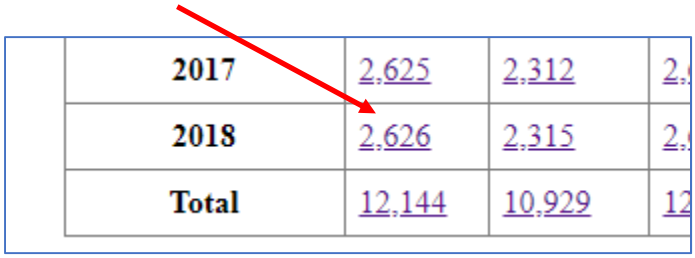
Version 1.9.6.3, Released November 13, 2019



8. **Crash Location Maps**

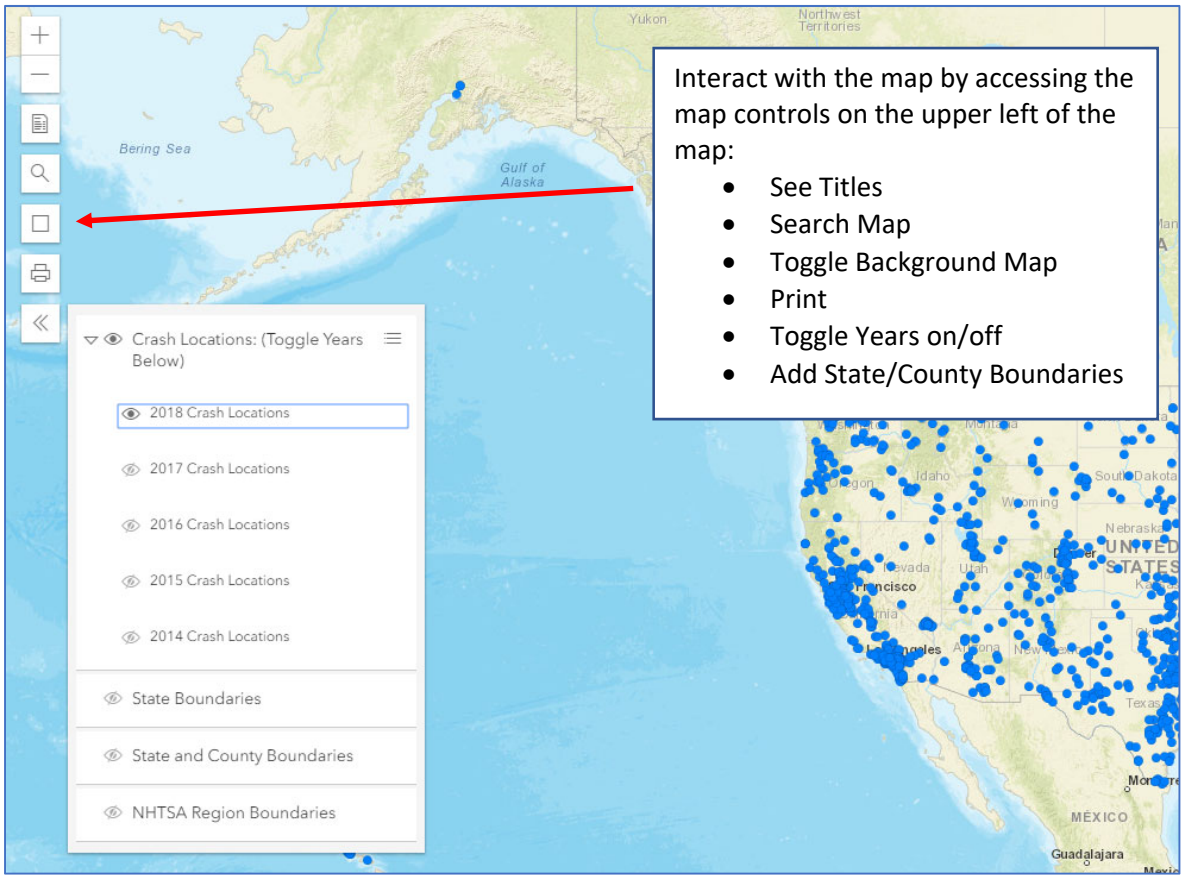
If the report is a summary of FARS crash counts then you will have the added ability to visualize the crash locations on a web map. Click on the link in any of the table report cells to see the location of those crashes on a map.
Note: Maps are only available for FARS Crash tables (excluding alcohol estimate tables which cannot be mapped)

Click the link in any table cell to generate a map report (example below):



2017	2,625	2,312	2,
2018	2,626	2,315	2,
Total	12,144	10,929	12

and a map will be generated

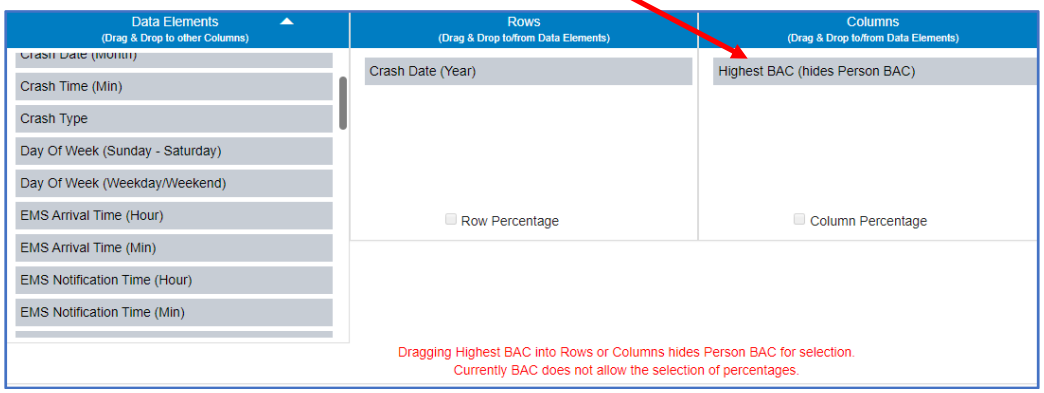


9. **Alcohol Estimates in the Fatality Analysis Reporting System (FARS)**

When analyzing FARS data, the query application allows a user to generate estimates of Blood Alcohol Concentration (BAC) levels. BAC is estimated due to the high level of unknown actual BAC levels. Please see the following document for more details on BAC estimates: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/809403

The BAC estimates are generated in the 'Build Your Reports' section of the query application.

i. Select 'Highest BAC' to generate a table of BAC estimates based on the highest estimated level of BAC in the Crash:

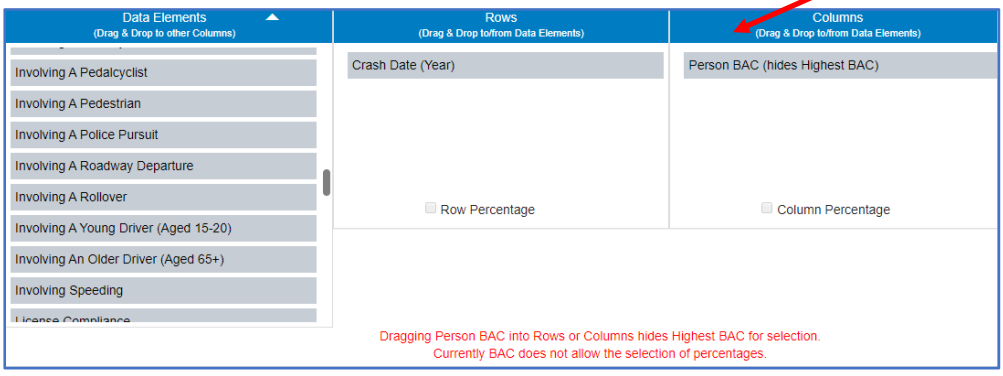


Fatal Motor Vehicle Crashes[1]

Note: The sum of the individual cells maybe different to the total due to BAC rounding

Crash Date (Year)	Highest Driver BAC*									
	BAC .00 g/dl		BAC .01-.07 g/dl		BAC .08+ g/dl		BAC .01+ g/dl		Total	
	#	%	#	%	#	%	#	%	#	%
2014	19,315	64	1,620	5	9,049	30	10,670	35	30,056	100
2015	21,397	66	1,746	5	9,311	29	11,056	34	32,538	100
2016	22,952	66	1,804	5	9,911	29	11,715	34	34,748	100
2017	22,834	66	1,684	5	9,949	29	11,633	34	34,560	100
2018	22,324	66	1,687	5	9,557	28	11,244	33	33,654	100
Total	108,822	66	8,541	5	47,777	29	56,317	34	165,556	100

ii. Select 'Person BAC' to generate a table of BAC estimates based on the estimated person level BAC (Drivers, Pedalcyclists or Pedestrians BAC level):



Drivers Involved in Fatal Crashes[1]

Note: The sum of the individual cells maybe different to the total due to BAC rounding

Crash Date (Year)	Person BAC*									
	BAC .00 g/dl		BAC .01-.07 g/dl		BAC .08+ g/dl		BAC .01+ g/dl		Total	
	#	%	#	%	#	%	#	%	#	%
2014	33,438	75	1,837	4	9,396	21	11,233	25	44,671	100
2015	37,529	76	1,964	4	9,670	20	11,634	24	49,163	100
2016	40,005	76	2,041	4	10,353	20	12,394	24	52,399	100
2017	40,478	77	1,920	4	10,354	20	12,274	23	52,752	100
2018	39,541	77	1,939	4	10,011	19	11,950	23	51,490	100
Total	190,990	76	9,701	4	49,784	20	59,485	24	250,475	100

Additional Information

Important: Case Listing Download

To interpret data element names and attributes please refer to the Fatality Analysis Reporting System (FARS) Analytical User's Manual, 1975-2018

Link: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812827

Contact Information

If you have any questions, comments or suggestions please contact via e-mail: NCSARequests@dot.gov