

Summarizing FARS data

Jim Tyhurst

4/14/2018

FARSUtil

This package provides easy access to data from the US National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS). Data for years 2013-2015 are included in the package.

fars_summarize_years

To view a summary by month and year for several years, call the `fars_summarize_years` function with an array of years. For example:

```
# fars_summarize_years(years)
fars_summarize_years(c(2013, 2014))
```

```
## # A tibble: 12 x 3
##   MONTH `2013` `2014`
##   * <int> <int> <int>
## 1     1     2230  2168
## 2     2     1952  1893
## 3     3     2356  2245
## 4     4     2300  2308
## 5     5     2532  2596
## 6     6     2692  2583
## 7     7     2660  2696
## 8     8     2899  2800
## 9     9     2741  2618
## 10    10     2768  2831
## 11    11     2615  2714
## 12    12     2457  2604
```

If you request a year for which there is no data, that year will not appear in the output and a warning message will be displayed:

```
# Year '1905' is not in the data set, so a warning is produced.
# However, the rest of the data is returned for year 2014 in this case:
fars_summarize_years(c(1905, 2014))
```

```
## Warning in value[[3L]](cond): invalid year: 1905
```

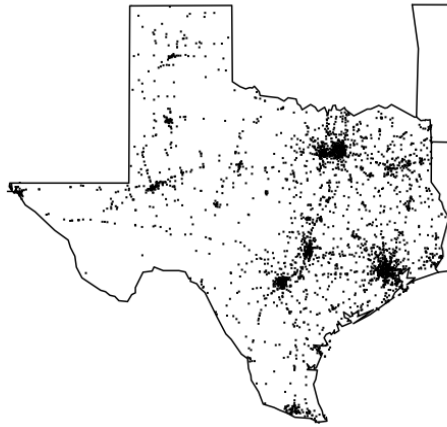
```
## # A tibble: 12 x 2
##   MONTH `2014`
##   * <int> <int>
## 1     1     2168
## 2     2     1893
## 3     3     2245
## 4     4     2308
## 5     5     2596
## 6     6     2583
## 7     7     2696
## 8     8     2800
```

```
## 9      9    2618
## 10     10   2831
## 11     11   2714
## 12     12   2604
```

fars_map_state

Another summary function, `fars_map_state`, provides a visualization of the data, showing the location of incidents on an outline map of a state for incidents occurring in a given year:

```
# fars_map_state(state.num, year)
# Incidents in Texas in 2015:
fars_map_state(48, 2015)
```



Unfortunately, the data does not contain a key to the states. Valid `state.num` values are in the range $[1, 55]$, although some of those values are invalid, such as 3:

```
# Invalid state.num = 3 produces an error message:
fars_map_state(3, 2015)
```

```
## Error in fars_map_state(3, 2015): invalid STATE number: 3
```

Accessing the original data directly

There are several functions that provide access to the underlying data used by the summary functions. Those utility functions are exported, so that you can use them also. See the R documentation for the following functions:

```
* make_filename(year)
* fars_read(filename)
* fars_read_years(years)
```