

UK Road Safety Trends Over a Time Period

TEAM MEMBERS

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PROJECT DESCRIPTION/OUTLINE

2 different datasets have been combined (vehicle and accident) to look at road safety trends
Look into datasets of accidents, to analyse if there is any relationship between certain factors such as vehicle types, road conditions etc

RESEARCH QUESTIONS

1. Where did the accidents mainly happen?
2. Make a heatmap by accident severity and perhaps place them on gmap to visualise the main locations of accidents.
3. What days of the week did accidents mainly happen?
4. What hours of the day did accidents happen? Morning rush hours, afternoon hours, evening or night time?
5. Groupby genders and investigate the accidents by severity
6. Understand the impact of weather condition, road type, road surface conditions on accidents
7. Correlate age band of driver and likelihood of accidents.
8. Correlate age of cars / accident types and locations
9. Any correlation between accidents and engine capacity?
10. Accidents groupby junction locations/junction control?
11. Car make/model/vehicle types and accident correlation?
12. Did accidents happen mainly with towing cars or without?
13. Groupby accidents by maneuvers?
14. Correlate accidents with speed limits and car types and age bands?
15. Correlate driver IMD decile/number of casualties and accidents

DATASETS

The data come from the Open Data website of the UK government, where they have been published by the Department of Transport.

The dataset comprises of two csv files:

AccidentInformation.csv: every line in the file represents a unique traffic accident (identified by the AccidentIndex column), featuring various properties related to the accident as columns. Date range: 2005-2017

Vehicle_Information.csv: every line in the file represents the involvement of a unique vehicle in a unique traffic accident, featuring various vehicle and passenger properties as columns. Date range: 2004-2016

The two above-mentioned files/datasets can be linked through the unique traffic accident identifier (Accident_Index column).

The dataset will keep being updated as more data become available by the Department of Transport.

It covers a wider date range of events.

Most of the coded data variables have been transformed to textual strings using relevant lookup tables, enabling more efficient and "human-readable" analysis.

It features detailed information about the vehicles involved in the accidents.

BREAKDOWN OF TASKS

- 1) Obtaining data as CSV file
- 2) Studied/discussed
- 3) Exploring and cleaning of data
- 4) Lists questions / choose questions that will be used
- 5) Plan visualisations
- 6) Allocate tasks to group members
- 7) Coding
- 8) Create charts
- 9) Summarization/conclusion
- 10) Preparing the presentation