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## Data in brief

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## Data Article

## Classification of traffic accidents datasets between 2003–2017 in Iraq

Hasan H. Joni <sup>a</sup>, Ali A. Mohammed <sup>a,\*</sup>, Alaa A. Shakir <sup>b</sup><sup>a</sup> Civil Engineering Department, University of Technology, Baghdad, Iraq<sup>b</sup> Al-Nahrain University, Civil Engineering Department, Baghdad, Iraq

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## ABSTRACT

After the epidemic disease and the violence, the traffic injuries in Iraq has become a massive threat that menace the lives of the citizens and plagued the number of victims in Iraq after 2003. Iraq is seeing a catastrophic growth in the number of the traffic injuries reaching a high level during the previous ten years. Datasets results for the previous 10 years in Iraq were collected in this study. The data was arranged into spreadsheets creating a useful database for the prospectus studies. Classification of the traffic injuries was performed according to the number of fatalities, the number of injuries, and the number of accidents. Overall, traffic accidents were drastically growing from 2005 to 2017. In additional, the number of accidents recorded a relatively higher rate of accidents in a month with about 9%. However, the highest rates were observed during 2014, 2015, 2016 and 2017 consecutively. It may be attributed to the absence of security and safety precautions procedures. The number of injuries was as high as 12% and it increased during 2014, 2015, 2016 and 2017 respectively, whereas the number of fatalities recorded the highest number during 2017 with a ratio about 21%.

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\* Corresponding author.

E-mail address: [hf160001@siswa.uthm.edu.my](mailto:hf160001@siswa.uthm.edu.my) (A.A. Mohammed).

Specifications Table

|                                |  |
|--------------------------------|--|
| Subject                        | Civil Engineering, Transportation Engineering  |
| Specific subject area          | Traffic Accidents  |
| Type of data                   | Table  |
| How data were acquired         | Traffic Directorate with cooperation Ministry of Planning/the Central Statistical Organization (CSO) |
| Data format                    | Raw, Analyzed  |
| Parameters for data collection | The data was collected from the national traffic offices in Iraq distributed along the Iraqi cities  |
| Description of data collection | Data was distributed into three groups, traffic accidents, traffic injuries, and fatalities          |
| Data source location           | Iraq<br>33° 00' N latitude and 43° 00' E longitude   |
| Data accessibility             | Data are available with this article   |

### Value of the Data

- The data could be utilized as a beneficial instrument either by road engineers or researchers for the prospectus research
- Researches could be motivated by this data to share their dataset to enrich the information needed to the research in Iraq.
- Extensive statistical analysis might be done so as to yield with more valuable information.
- The data could be beneficial in manipulating the growing number of injuries in Iraq.
- The data could be used as one of the vital tools in assessing the severity of the accident in Iraq.
- The data can be useful in predicting the number of accidents, a number of injuries, and the number of fatalities in the future in Iraq.

## 1. Data

Traffic injuries information's per each city in Iraq per month during 2003–2017 was collected from the General Traffic Directorate with cooperation Ministry of Planning/the Central Statistical Organization (CSO) with coordination with the Ministry of Interior in Iraq. The percent of accidents for each month and the percent of variance in accidents during 2005–2017 was evaluated [3,4]. Traffic accidents increased during February approached 975 accidents in 2017 while the number of injuries increased during December 1330 injuries in 2017, However, the number of fatalities grew during December reaching 820 accidents. The standards deviation for the number of the accident was 1720.83 Whilst the standards deviation for the number of injuries was 2207.82 and the number of fatalities was 1366.44 consecutively. The statistical distribution is indicated by the skewness where the curve looks corrupted or skewed to the right with a magnitude of  $-0.27$  in the number of injuries while the number of accident skewed to the right with a magnitude of 1.33, Moreover, the number of fatalities skewed to the left with a magnitude of 2.54. The raw data can be used as a beneficial data base for the prospectus studies. Iraq occupies a magnificent location in the Arabian homeland and it is located within the Middle East in Southwest Asia with an area approached  $438000 \text{ km}^2$  with the population growth of around 37547686 capita; around 70% of the Iraqi people lives the urban areas. Geographically, Iraq has  $33^\circ 00' \text{ N}$  latitude and  $43^\circ 00' \text{ E}$  longitude. It is regionally [3,4,11]. Fig. 1 illustrates the location of the study area.

The classification of traffic injuries utilized has three kinds divided into the number of accidents [1], number of injures [2], number of deaths [2]. Descriptive statistics were utilized in this study to provide plots for proper understanding and visualization and to summarize the data. SPSS version 20 and Minitab version 17 were adopted in this study for the data analyses.

The data set is summarized in Table 1. It is indicated that the injuries accidents were higher than the other types. The number of injuries individuals were higher as well among the other kinds of accidents. However, the total number of fatal accidents were the lowest among the other types which is rational. The whole data set is clarified in Fig. 2 The classification of traffic accident patterns is illustrated as a histogram in Figs. 3–5 respectively. The mean classification of a traffic accident in each type with their respective 95% Confidence Interval (C.I) is displayed in Table 2.

## 2. Experimental design, materials, and methods

Variance analysis has conventionally been utilized to verify the mean influences of the types of subjects. In this study, a one-way ANOVA is performed. ANOVA and other statistical tools were adopted



Fig. 1. Map of Iraq.

**Table 1**  
Summary statistics of the dataset.

|                      | Number of accident | Number of injuries | Number of death |
|----------------------|--------------------|--------------------|-----------------|
| Number of Parameters | 15                 | 15                 | 15              |
| Minimum (#)          | 3389               | 3303               | 1073            |
| Maximum (#)          | 9743               | 9854               | 6476            |
| Sum (#)              | 113846             | 104759             | 32388           |
| Mean (#)             | 7589.7             | 6983.9             | 2159.5          |

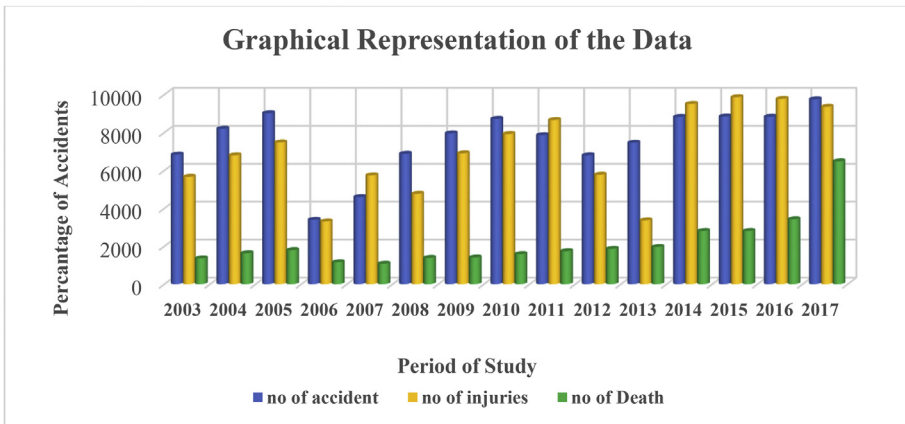


Fig. 2. The chart representing the Traffic accidents distribution through the study period.

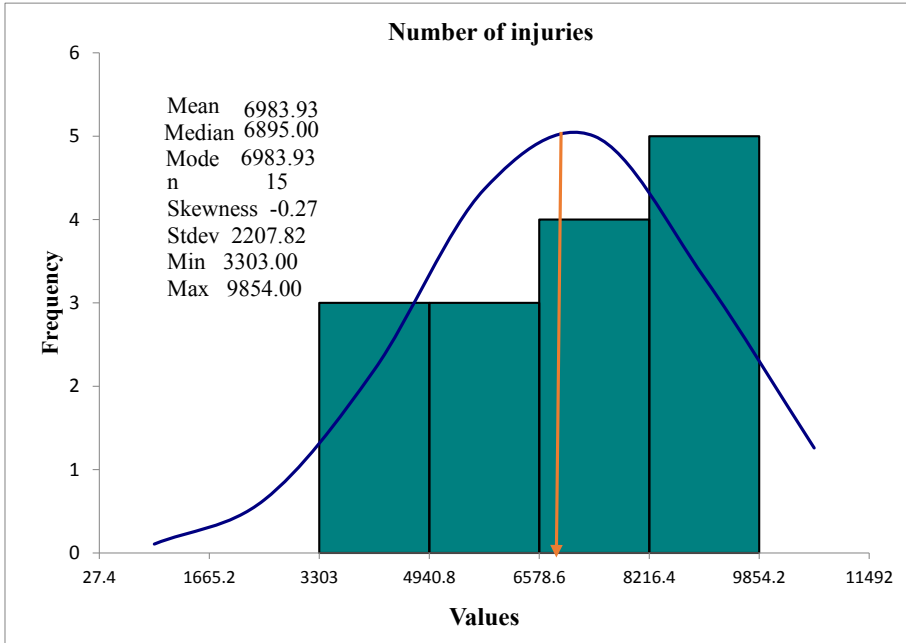


Fig. 3. The histogram for number of injuries.

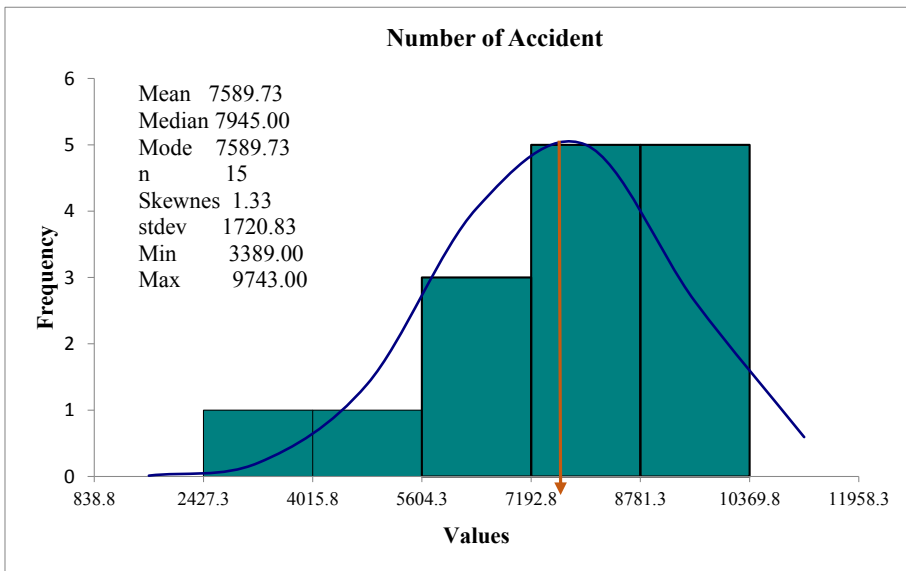


Fig. 4. The histogram for number of accident.

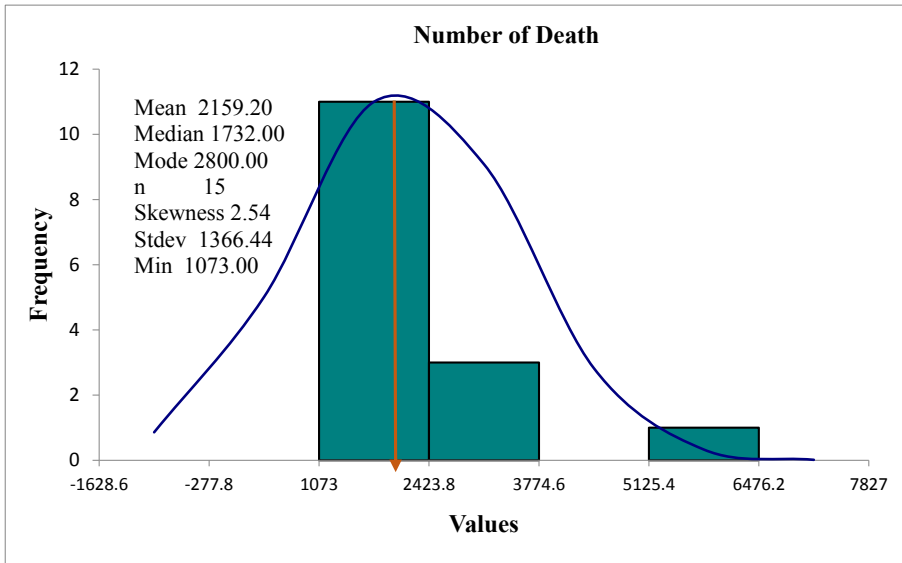


Fig. 5. The histogram for number of Death.

Table 2

95% confidence interval for the mean.

| Type               | N  | Mean    | Standard deviation | 95% C.I     |
|--------------------|----|---------|--------------------|-------------|
| number of accident | 15 | 7589.73 | 1720.83            | 1052, 5827  |
| number of injuries | 15 | 6983.93 | 2207.82            | 2860, 7162  |
| number of Death    | 15 | 2159.20 | 1366.44            | -4465, 1847 |

to analyze the data like number of accidents, number of injury and number of death. In addition, statistical instruments are often combined with other instruments for more sophisticated analysis. The underlying model is used for a one-way ANOVA analysis

$$Y_{ij} = \mu + \alpha_j + e_{ij} \tag{1}$$

The traffic accident involves the on- and off-road incidents. In 2003, a total of 6826 traffic accidents were reported. The number of traffic accidents recorded in Iraq through (2003–2017) are illustrated in Fig. 2. These accidents have resulted in 6476 deaths and 9854 injuries. Traffic accident statistics included the number of accidents, number of injuries, and number of fatalities [8]. Total accidents recorded in 2007 was 11393 traffic accidents resulted in 1073 deaths and 5732 injuries and the number of accidents in 4588. In 2008, a total of 13012 traffic accidents were documented, they resulted in 1379 deaths and 4760 injuries and the number of accidents in 6873. Traffic accidents were significantly increased by 7945 traffic in 2009, thus resulted in 1400 deaths and 6895 injuries. Traffic accidents kept increasing up to 8861 traffic accidents in 2010. These accidents have resulted in 1579 deaths of and 7912 injuries. In 2017, a total of 25567 traffic accidents were computed resulted in 6476 deaths and 9348 injuries. It is obvious the traffic accidents were growing from 2007 to 2017 thus they menace the life of the society [6,7-8].

where  $Y_{ij}$  is the  $j$ th observation in the  $i$ th treatment,  $\mu$  is the overall mean,  $\alpha_{ij}$  is the effect of treatment  $i$ ,  $\epsilon_{ij}$  is the error term [7,8] However, Minitab version 17 was used for the analysis of variance (ANOVA) and further tests. Also, the level of significance used for all the analyses is 0.05. The result is displayed in Table 3 [10].

### 3. Traffic accidents spreadsheet

The traffic accidents number of accidents, number of injuries, and number of Death were organized in spreadsheets including the following data:

- Date of traffic Accident by years
- Data of traffic accident by monthly
- Percentage of traffic accident each monthly
- Percentage number of injuries each monthly
- Percentage number of Death each monthly

### 4. Month-wise distribution statistical of traffic accidents spreadsheet

Fig. 6 clarified the month-wise distribution of the traffic accidents in Iraq. Traffic injuries were slightly high during January, August, November, September, and December Although the monthly difference in the road incidents was obvious, road accidents were relatively high in. This may be attributed to the weathering conditions effecting the road accidents due to the temperature increase during August to September in Iraq. Temperature increase may have physiological and psychological influences on the road users. According to previous accounts, people become more sensitive when the weather gets hot as they lose their concentration and get tired their reaction becomes slower [6,9]. Thus traffic accidents increased accordingly in summer season. Generally, traffic accidents were higher during summer season than that the other months [5]. Traffic accidents were increased during January in Iraq. It may be attributed to the poor visibility on the roads during December due to the hazy weather condition. Driver drive slowly and leave a small distance for the vehicle in front of them in fog weather whereby increasing the risk of the accidents occurrence [6,9].

### 5. Month-wise distribution statistical number of injuries spreadsheet

Fig. 7 illustrated the month-wise distribution number of injuries in Iraq. In spite of the monthly difference in the road accidents was big, road accidents were slightly high in January, August, November, July, and December. Fig. 6 clarified the distribution number of wounded from 2003 to 2017. It was demonstrated that the maximum rate for the accidents was in December was 1330 and the number of accidents was 989 in November. Accordingly, traffic signals were out of service in the intersections, the main roads and the arterial roads. Hence, increased the traffic accidents.

#### 5.1. Month-wise distribution statistical number of fatalities spreadsheet

Fig. 8 presents the fatality distribution by month. It is indicated that the death caused by the accidents was increasing from 2003 until 2017.

**Table 3**  
Analysis of variance (ANOVA) table.

| Source of variation (SV) | Degree of freedom (df) | Sum of square (SS) | Mean square (MS) | F    | P-value |
|--------------------------|------------------------|--------------------|------------------|------|---------|
| Types                    | 3                      | 25340472.87        | 12670236.44      | 9.43 | 0.003   |
| Error                    | 23                     | 16117296.06        | 1343108.005      |      |         |
| Total                    | 26                     | 41457768.93        |                  |      |         |

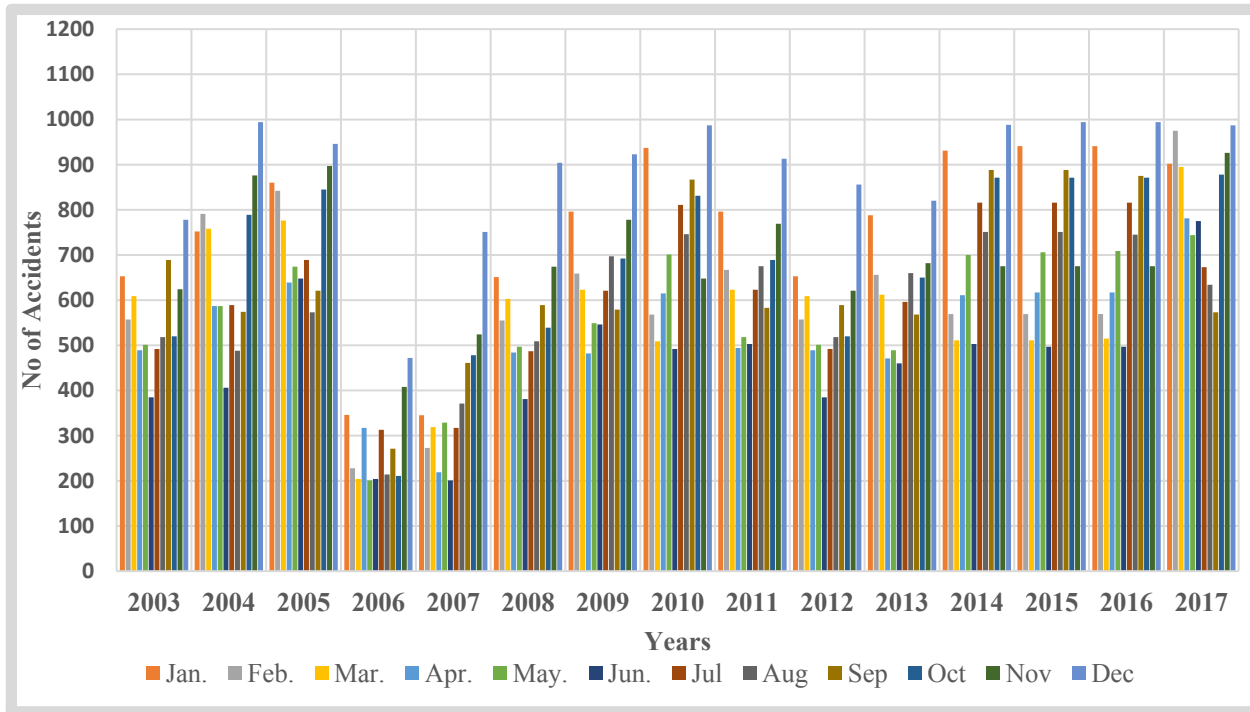


Fig. 6. Number of road accidents by month of occurrence during the study period.

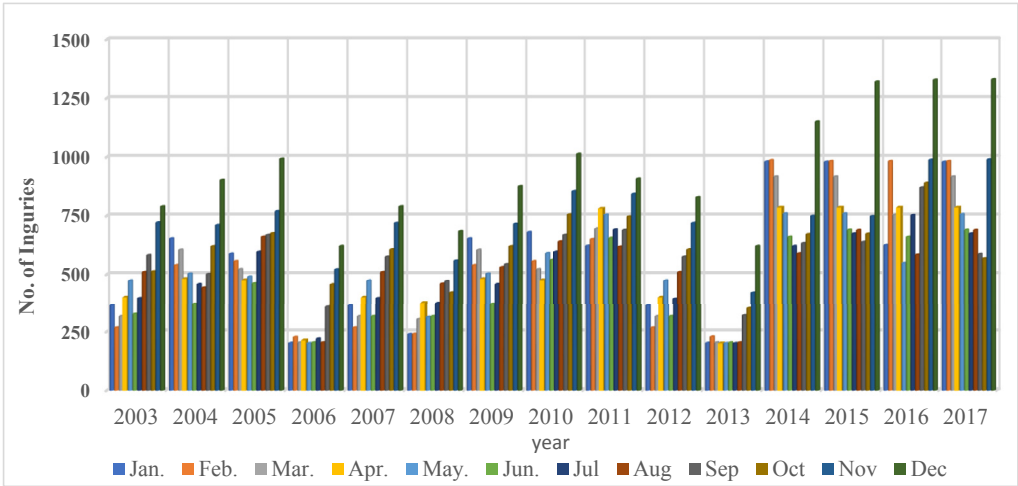


Fig. 7. Number of injuries by the month of occurrence during the study period.

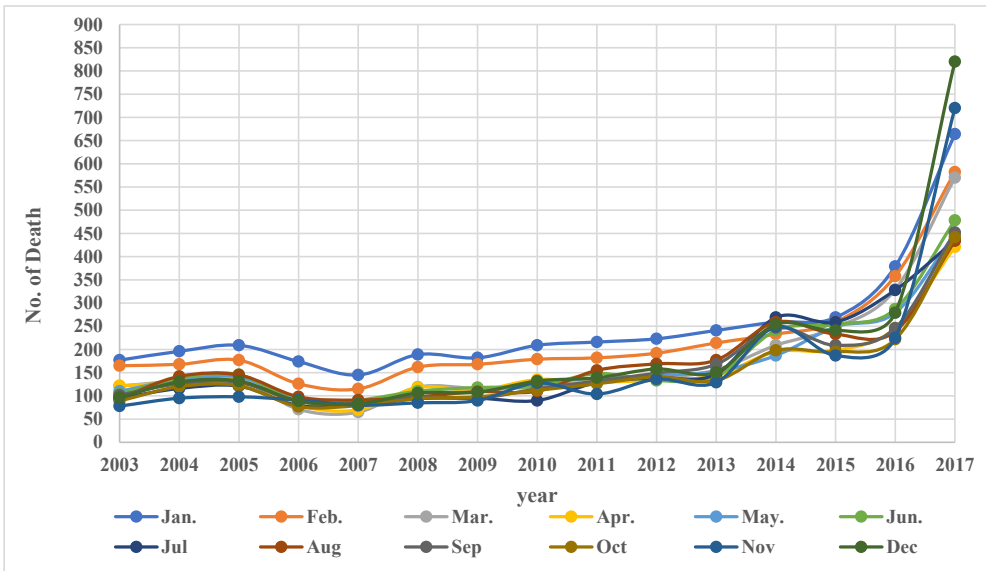


Fig. 8. Number of fatalities by a month of occurrence during the study period.

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## Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.dib.2019.104902>.

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