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Data Article

Vehicular crash data used to rank intersections by injury crash frequency and severity



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ABSTRACT

This article contains data on research conducted in “A double standard model for allocating limited emergency medical service vehicle resources ensuring service reliability” (Liu et al., 2016) [1]. The crash counts were sorted out from comprehensive crash records of over one thousand major signalized intersections in the city of Chicago from 2004 to 2010. For each intersection, vehicular crashes were counted by crash severity levels, including fatal, injury Types A, B, and C for major, moderate, and minor injury levels, property damage only (PDO), and unknown. The crash data was further used to rank intersections by equivalent injury crash frequency. The top 200 intersections with the highest number of crash occurrences identified based on crash frequency- and severity-based scenarios are shared in this brief. The provided data would be a valuable source for research in urban traffic safety analysis and could also be utilized to examine the effectiveness of traffic safety improvement planning and programming, intersection design enhancement, incident and emergency management, and law enforcement strategies.

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Specifications Table

Subject area	<i>Transportation engineering</i>
More specific sub- ject area	<i>Traffic safety</i>
Type of data	<i>Figures, tables, Excel files</i>
How data was acquired	<i>Sorted out from raw crash records</i>
Data format	<i>Raw</i>
Experimental factors	<i>Intersection crashes data were extracted from raw crash records and sorted out by crash severity levels.</i>
Experimental features	<i>Intersections were ranked by crash frequency, which determined by total number of fatal and injury crashes, and crash severity, which defined by injury Type C crash equivalents</i>
Data source location	<i>Transportation Engineering Laboratory, Department of Civil, Architectural and Environmental Engineering, Illinois Institute of Technology, Chicago, IL 60616</i>
Data accessibility	<i>Data is with this article</i>

Value of the data

- The shared crash data provides long-term successive counts of vehicular crashes at a large number of major signalized intersections in the city of Chicago urban street network.
- Vehicular crashes were categorized by crash severity levels, including fatal, injury Types A, B, and C, property damage only (PDO), and unknown. This is essential for the development of experiments that are in need of crash severity information.
- The shared ranking data provides top 200 intersections according to proper indicators of crash frequency and crash severity at site.
- The data sets are ponderable sources in the development of further studies in traffic safety analysis and those in need of vehicular crash count data.

1. Data

Data contained in this brief ([spreadsheets in Supplementary data](#)) was used to support the development of experiments that conducted by Liu et al. [1]. Vehicular crashes located inside of or near intersection are counted and categorized by crash severity levels. The data involves all recorded crashes happened in a seven-year period from year 2004 to 2010 within the city of Chicago's jurisdiction. In addition, the top 200 intersections are listed in the shared data according to crash frequency and crash severity levels.

2. Experimental design, materials and methods

2.1. Raw crash records

Comprehensive records of vehicular crashes occurred in the city of Chicago from 2004 to 2010 were collected and processed as the basis of the crash data shared in this article. Information documented in the raw crash records consists of crash location, year, crash severity, and crash type.

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