

What is the Real Number of Road Traffic Crashes in Iran? A Desperate Need for a Road Traffic Crash Registry System.

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I. INTRODUCTION

The development of road traffic safety is often measured, studied, and analyzed by road traffic crash (RTC) related factors such as the number of crashes, number of people injured and the number of fatalities or even the cost of the crashes. It should be noted that the advancement in road safety does not have equal impact on all of the above scales, for example introduction of any passive safety measures, might decrease the number of injury/fatality, but would not affect the number of crashes.

The Islamic Republic of Iran has been an interesting subject of study in the past decade; it is the second largest population in the Middle East region after Egypt with a rapid growth in the number of vehicles and a noticeable drop in the number of fatalities [1, 2]. However official reported number of crashes has been subjected to discussion among the agencies in charge and researchers since there is no accident registry system with public access in Iran. This article provides a closer look at the official reported number of crashes in Iran by comparing these numbers with the numbers reported by Central Insurance of Iran.

II. METHODS

The official number of crashes in Iran was extracted from previous studies [3, 4] and the Statistical Center of Iran [5] for a decade from 2003 to 2012. Rasouli et al. (2008) [3] have reported the number of fatalities per 1000 crashes during the 1997-2003 period and Rahimi-Movaghar et al. (2009) [6], have reported the number of fatalities during the same period. Based on these available data, the number of crashes was calculated. Bahadorimonfared et al. (2013) [4], have reported the rate of fatalities per 1000 crashes and the number of fatalities. It should be noted that March 21 is the first day of the year in the Iranian calendar. All reports between 21 March 2003 and 20 March 2012 were obtained for the present study.

The number of crashes was also extracted from the official reports from Central Insurance of Iran [5] based on the number of claims that Iranian insurance companies had paid for liability insurance.

III. INITIAL FINDINGS

As shown in Figure 1, Rasouli et al (2008) [3] has shown an increase from 1997 to 2005 and a small decrease in the number of crashes RTCs in 2006. The reported data by Bahadorimonfared et al (2013) [4] follows the same pattern that the reported data from the Central Insurance of Iran has reported, except for 2010 which Bahadorimonfared et al (2013) which showed a decrease while the reported data from the insurance business suggests an increase in the number of crashes compare to previous year. The reported data from the Statistical Center of Iran shows an increase in the 2009-2010 period, as the reports from the insurance industry, however have a reverse pattern comparing the insurance industry data from 2010 to 2012.

IV. DISCUSSION

The number of traffic crashes is commonly used as an identification of traffic safety, however it has been shown that since crashes might have multiple outcomes including injury and mortality, it cannot be merely used as a traffic safety measure [7]. As one of the factors that identify the improvement of traffic safety, the number of crashes in Iran has been subjected to discussion among researchers for the past few years, due to a discrepancy between the reported data on the traffic accident. This study compares the reported number of

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crashes to the number of liability claims received by the insurance companies in Iran as a more realistic measure that reflects the number of crashes in the country.

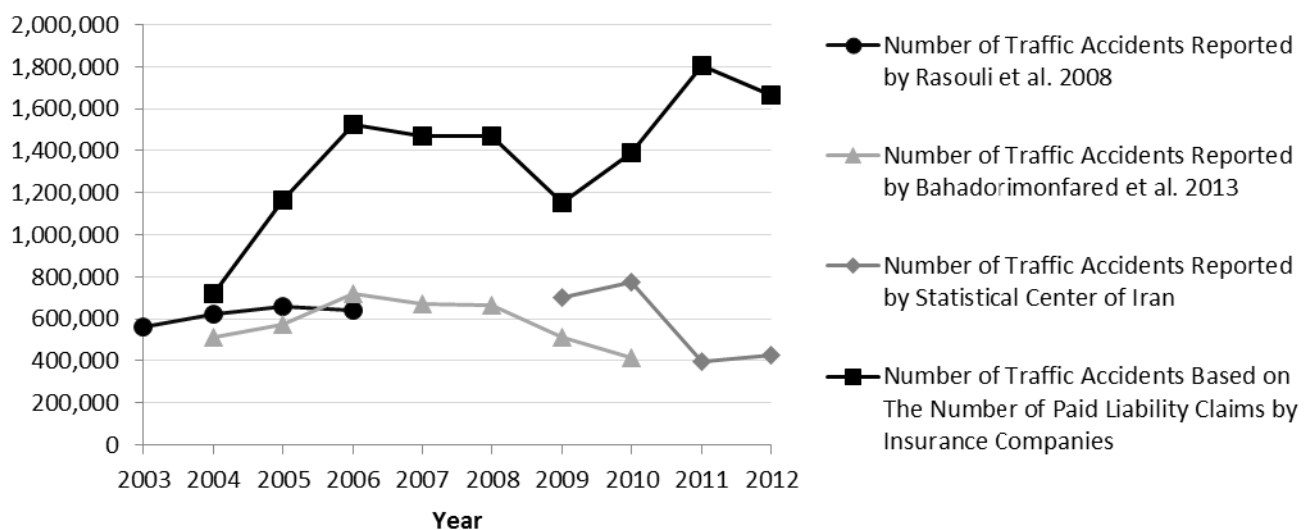


Figure 1. The number of crashes reported in Iran in 2003-2012

The previous studies that are referred to in this study have used the Legal Medicine Organization of Iran database [3] and Information and Communication Technology (ICT) database (equivalent to the Persian abbreviation of FAWA) [4] (This database was also approved by the Ministry of Road, the Legal Medical Organization, the Traffic Police and the Ministry of Health.) The reported data by Bahadorimonfared et al [4] follows the same pattern as the reported number of claims by the insurance industry (but with almost half the numbers) that can be explained by the fact that in many non-fatal/non-injurious crashes, the involved parties would submit their claims to the insurance companies without a police report, therefore the police registry system has no record of the accident. In the period of 2009 - 2010, the Traffic Police of Iran signed an agreement with the Central Insurance of Iran that non-fatal/non-injury accidents with the amount of damage less than 15 million IRR (equal to almost 500 USD) can submit their claims without a police report. In mid-2010 this amount was increased to 22.5 million IRR (equal to 750 USD). This agreement can also explain the dropping number of crashes in the reported numbers by the Statistical Center of Iran which acquires the data from the Information and Communication Technology (ICT) database

The evidence extracted from this study suggests that despite the significant decrease in the number of fatalities related to traffic crashes in Iran over the past few years, the number of crashes only decreased slightly in 2009 and 2012 and the reported numbers by the officials only identifies the crashes with property damage above a certain value that adds significant levels of uncertainty to the reported data. These facts also suggest that a more accurate and constant method for evaluation of traffic safety is needed and a "road traffic crash registry system" is one of them.

V. REFERENCES

- [1] WHO Global Status Report on Traffic Safety, 2009.
- [2] WHO Global Status Report on Traffic Safety, 2014.
- [3] Rasouli et al., Chinese Journal of Traumatology, 2008.
- [4] Bahadorimonfared et al., PLOS ONE, 2013.
- [5] Statistical Yearly Report of Central Insurance of Iran, 2014
- [6] Rahimi-Movaghar et al., International Journal of Injury Control and Safety Promotion, 2009
- [7] Bijleveld, Accident Analysis and Prevention, 2005