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A Study on Road Accidents Statistics in India and Reasoning

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***Abstract*—** This article examines the road safety situation in India and finds areas where overall harm caused by collisions may be significantly and easily decreased. This article focuses on two topics: road accident statistics and the causes of road accidents. The first section of the paper presents a thorough examination of current statistics on road accidents in India. According to the data, the death rate has climbed in recent years. According to these figures, the number of fatalities in India is unlikely to decrease for many years unless new laws are introduced. The second section of the article provides a quick overview of the major causes of road accidents in India.

Key words: **Road Accidents; Traffic Safety; Accident Factors**

I. INTRODUCTION

People don't bother to weep for the dead in a country where 34 births occur every minute and over ten deaths occur every minute. Road accidents are among the leading causes of death. According to a research of 2015 road accident statistics, around 1,374 accidents and 400 deaths occur on Indian roads every day, resulting in 57 accidents and the loss of 17 lives on average per hour in our nation. In 2015, about 54.1 percent of the those died in car accidents were between the ages of 15 and 34. This document presents an overview of the many causes and data of the traffic accidents that occur on a daily basis in.

In this research, we also attempt to investigate the many causes of road accidents in India. To begin with, most roads in India are unsafe for driving. Every year, the government makes an effort to improve the situation, but it is futile. Most roads built nowadays do not even survive six months. The majority of the roads feature open manholes and trenches, which are extremely unsafe for two-wheeler drivers. Also, most roads have no adequate manner of dealing with waste water, thus rainwater often runs onto the roadways, destroying them. As a result, most roads do not even endure through one wet season.

II. ROAD ACCIDENTS STATISTICS

Road accidents are caused by the interaction of several elements, including the length of the road network, vehicle population, human population, and adherence/enforcement of road safety standards, among others. Road accidents result in injuries, fatalities, disability, and hospitalisation, as well as significant socioeconomic consequences across the country.

According to the most recent statistics from the Indian Ministry of Road Transport and Highways, the overall number of road accidents in India climbed by 2.5 percent from 4,89,400 in 2014 to 5,01,423 in 2015. The overall number of people died in traffic accidents rose by 4.6% from 1,39,671 in 2014 to 1,46,133 in 2015. Road traffic injuries climbed by 1.4% from 4,93,474 in 2014 to 5,00,279 in 2015. The severity of traffic accidents, as defined by the number of people killed per 100 incidents, has risen from 28.5 in 2014 to 29.1 in 2015.

According to the states/UTs, two-wheelers accounted for the greatest proportion of overall road accidents in 2015, followed by cars, jeeps, and taxis. The proportion of two-wheelers in total road accidents has steadily climbed from 26.3 percent in 2013 to 27.3 percent in 2014 and 28.8 percent in 2015. In addition to two-wheelers, the percentage of automobiles, jeeps, and taxis has increased slightly from 22.2 percent in 2013 to 22.7 percent in 2014 and 23.6 percent in 2015. Out of all traffic accidents, 28.4 percent, 24.0 percent, and 47.6 percent occurred on National Highways, State Highways, and Other Roads 4, respectively.

Police stations report statistical tables that summarise key information about road traffic injuries to their district's Crime Records Bureau, from which aggregated statistical tables flow upwards to the state's crime records bureau and the National Crime Records Bureau (NCRB), which publishes the country's official statistics. In India, police-based figures underreport road traffic deaths and injuries.

According to a research conducted in Bangalore, while the number of traffic fatalities recorded by the police is relatively credible, the overall number of injuries is significantly overestimated. According to the analysis, mortality were underestimated by 5%, and the number of wounded people who needed medical care was overestimated by more than a ratio of two. The ratio of wounded persons reporting to hospitals versus those died in that study was 18:1.

During the decades 1994-2004 and 2005-2015, the compound annual growth rate (CAGR) of the number of road accidents and the number of people wounded in the country decreased from 2.8% to 1.3% and from 4.1% to 0.7%, respectively[3]. However, the CAGR in terms of traffic accident deaths climbed from 3.7% to 4.4 % within the same time period. Figure 1 depicts this.

Road accident parameters			
Parameter	**2018**	**2019**	**% change over previous year**
Total accident in country	489400	501423	2.5
Total no. of person killed in country	139671	146133	4.6
Total no. of person injured in country	493474	500279	1.4
Accident Severity*	28.5	29.1	2.1
*No of person killed per 100 accidents			

Table 1 : Road Accident Parameters

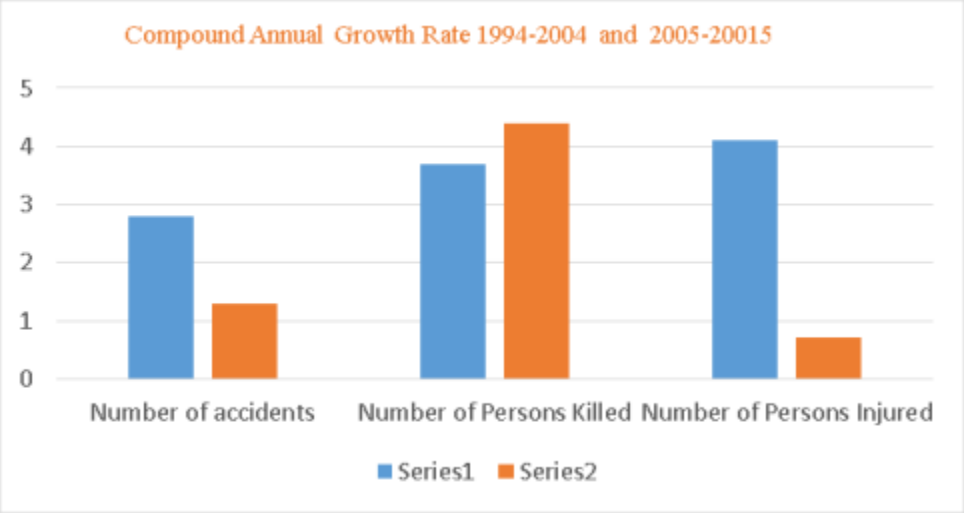

Figure 1 : CAGR

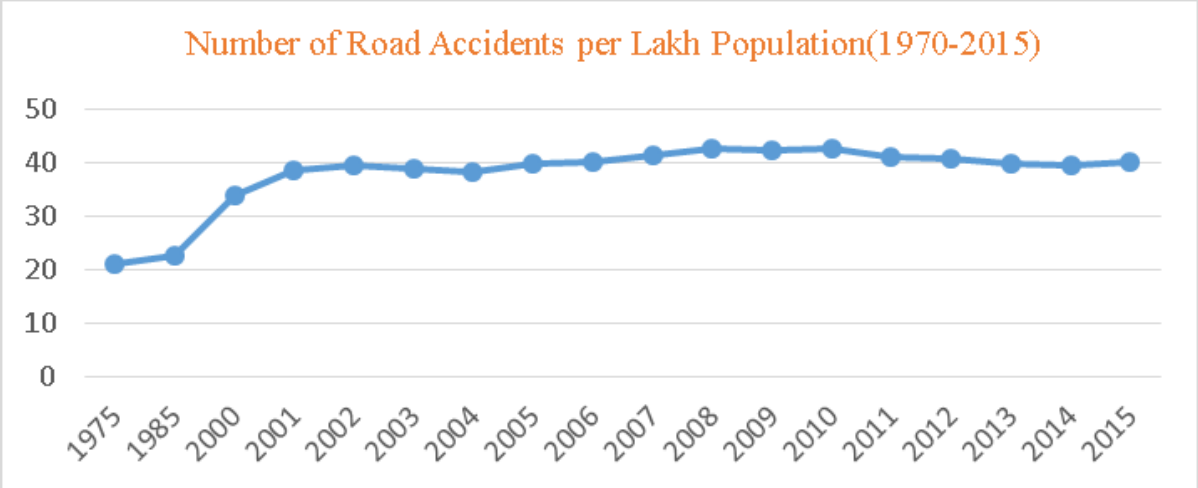

Figure 2. Accidents per Thousand Population

The number of accidents per lakh people increased from 21.2 in 1970 to 22.8 in 1980, followed by a rapid increase to 33.8 in 1990. Between 2000 and 2005, the values varied between 38.6 and 40.1; rising to above 42 (2007 and 2008); a little fall to 41.9 in 2009, followed by a climb to 42.5 in 2010. Between 1970 and 2010, the number of accidents per lakh population more than doubled. Between 2011 and 2014, the number fell from 41.1 to 39.5, with a small uptick to 40 in 2015.

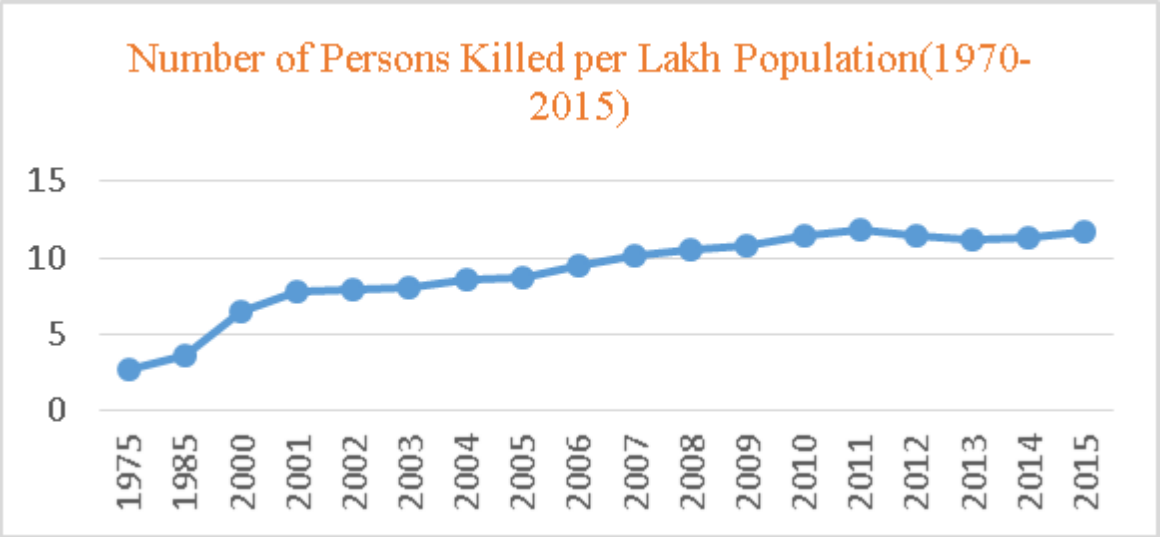

Figure 3 : Number of people murdered per 100,000 people

The number of people wounded or killed per 10,000 automobiles has decreased dramatically. The number of people wounded per 10,000 automobiles has decreased from 500 in 1970 to around 27 in 2013. It is worth noting that, despite continuing significant growth in vehicle population, this metric has steadily fallen since 1996. Similarly, as shown in Fig 3, the number of people murdered per 10,000 automobiles in the country decreased from around 104 in 1970 to fewer than 8 in 2013.

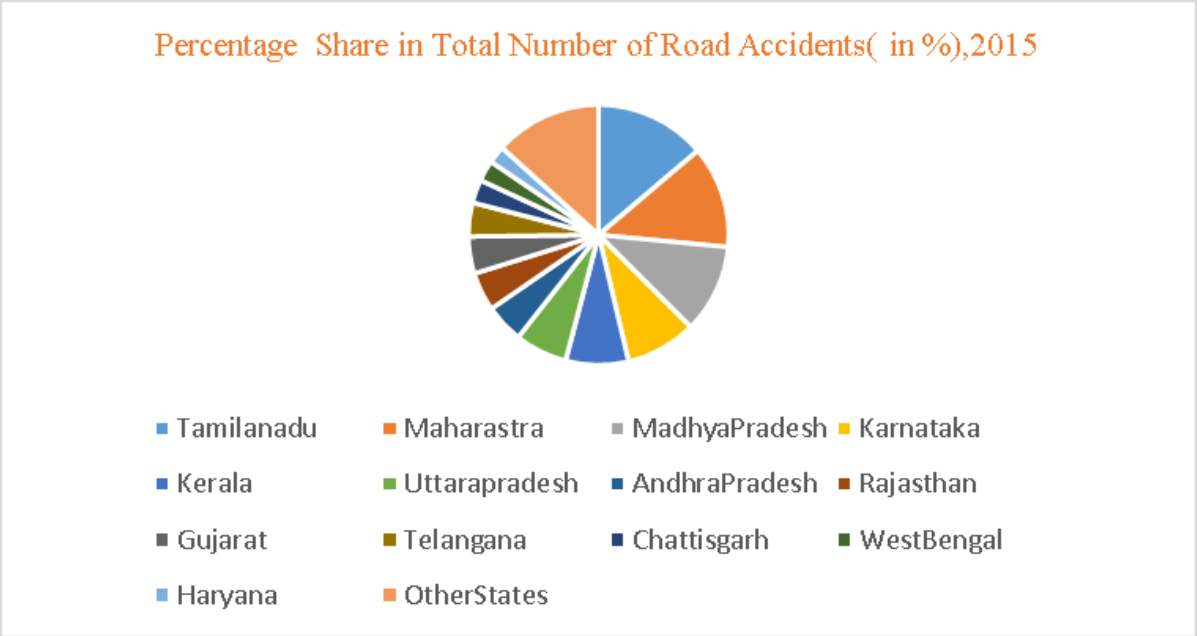

Figure 4 : Percentage of total number of traffic accidents

III. REASONING

Road accidents are the most dreadful thing that can happen to a road user, despite the fact that they occur rather frequently. The worst part is that we don't learn from our blunders on the road. The majority of road users are fully aware of the general norms and safety procedures when driving, but it is only laxity on the side of road users that causes accidents and wrecks. Human mistake is the leading cause of accidents and crashes. We are touching on some of the usual human behaviours that result in accident.

Over Speeding :
The majority of deadly incidents are caused by excessive speed. It is human nature to strive for success. If given the opportunity, man will attain infinite in speed. However, when we share the road with other users, we will always trail behind one or more vehicles. Increased speed increases the likelihood of an accident and the degree of harm during an accident. Quicker cars are more likely to be involved in an accident than slower vehicles, and the severity of the accident will be greater in the case of faster vehicles. The faster the speed, the greater the risk.

Drunken Driving:
Alcohol is commonly consumed to mark any event. When combined with driving, however, celebrating becomes a disaster. Concentration is impaired by alcohol. It shortens the response time of the human body. Limbs take longer to respond to brain commands. Because of the dizziness, it impairs eyesight. Alcohol reduces fear and encourages people to take chances. All of these variables contribute to car accidents, which are often fatal.

Distraction to Driver :
Though distraction while driving may be slight, it may lead to serious accidents. Distractions may exist both outside and within the car. Talking on a cell phone while driving is a huge distraction nowadays. The act of conversing on the phone takes up the majority of the brain, while the lesser portion is in charge of driving abilities. This division of the brain impairs response time and judgement.

Red Light jumping:
Vehicles crossing without regard for the signal is a regular sight at road crossings. The major reason for Red light jumping is to save time. Stopping at a red light is commonly seen to be a waste of time and fuel. According to studies, following traffic signals correctly by all cars saves time and ensures that commuters arrive safely and on schedule. A red light runner endangers not only his own life but also the safety of other road users.

Avoiding Safety Gears like seat belts and helmets:
The use of a seat belt in a four-wheeler is now required, and failure to do so results in a fine, just as failure to wear a helmet in a two-wheeler results in a fine. Seat belts and helmets are required by law since studies have shown that they minimise the degree of injuries during accidents. In a major accident, wearing seat belts and helmets increases your odds of surviving. In the event of an accident, safety equipment keeps you intact and safe.

IV. CONCLUSION

This presentation began by providing information about traffic accidents that occur in India. Common people should be made more aware of road safety by looking at these facts. This may be accomplished by arranging safety awareness programmes throughout India. NGO's and private sector organisations should work together with the government to make India a better and safer place. The numerous causes represent errors on the part of both the motorist and the government. Instead of wasting time and energy on meaningless prohibitions, governments should concentrate on matters that are actually life and death for citizens.

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