WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Road Safety Improvement in India

K. Saketh Reddy, K. Deepak, V. Rakesh

M.Tech Ist Year, Dept of Civil engineering , Jawaharlal Nehru Technological University,Hyderabad,India

ABSTRACT

Due to increase in the use of number of vehicles in India vehicular accidents has become a serious concern. Road safety refers to the methods and measures used to reduce the risk of road users from being killed or severely injured. Road safety improvement program is a systematic approach to reduce the damages caused due to the road accidents. The causes of accidents may be due to environmental conditions or human factors or conditions of the road etc. The typical road users are pedestrians, cyclists, motorists, passengers on public transport etc. With the rapid increase in vehicular traffic road safety has become of utmost importance to the country citizens

Keywords: Road safety ,Vehicular accidents, safety improvement.

1 Introduction

India is one of the busiest countries in the world in terms of road traffic. India has a road network of over 5,897,671 km (3,664,643 mi) as of 31 March 2017. It is the second largest road network in the world. India's road network carries about 85% of passenger traffic and over 65% of its freight. 1230 road crashes and 414 deaths occur every day in India which is 51 accidents and 17 deaths every hour. In 2019 alone, due to road accidents the country reported over 151 thousand fatalities. Each year, about 3 to 5% of the country's GDP was invested in road accidents.In 2019, there were almost 3 million new car registrations in the country. In 2019 a total of 4,49,002 road accidents were reported by States and Union Territories (UTs) killing 1,51,113 people and causing injury to 4,51,361 persons.Road accidents in 2019 compared to the previous year i.e. 2018, decreased by 3.86 percent, the number of persons killed decreased marginally by 0.20% and the number injures decreased by 3.85%. One of the important reasons for the decrease in accidents may be due to implementation of MVA 2019.The Motor Vehicle Amendment Act 2019 included, inter-alia, provisions like increase in penalties for traffic violations, electronic monitoring of the traffic violations, enhanced penalties for juvenile driving etc and hence had the desired impact.

Road accidents, Number of persons killed and Injured in the last five years 2014-2018

	Total Number of Road Accidents (in numbers)	%change	Total Number of Persons Killed (in numbers)	%change	Total Number of Persons Injured (in numbers)	%change
2014	4,89,400		1,39,671		4,93,474	
2015	5,01,423	2.46	1,46,133	4.63	5,00,279	1.38
2016	4,80,652	-4.14	1,50,785	3.18	4,94,624	-1.13
2017	4,64,910	-3.28	1,47,913	-1.90	4,70,975	-4.78
2018	4,67,044	0.46	1,51,417	2.37	4,69,418	-0.33

* Corresponding author.
E-mail address: *K.sakethreddy2019@gmail.com*

2 Road Safety

Statistics about road accidents show that road safety in India is poor. The general factors responsible for road accidents are:
1)The road
2)The vehicle
3)The drivers and other road users
4)Environmental factors
5)Lack of enforcement
Road safety improvement can be achieved by

1)Engineering
2)Education
3)Enforcement
4)Emergency care

3 Engineering

The engineering aspects in road safety improvement include design of vehicles anddesign of roads.

1)Design of vehicles

Vehicle design is one of the important factors in road safety. The modern vehicles are much safer compared to that of older model vehicles. According to Global-Road-Safety-OICA-position-paper under similar accident modern vehicles are more effective in protecting people compared to older model vehicles. One of the major reasons for road accidents is over speed. The vehicle should be designed considering the factors like vehicle speed, vehicle capacity, vehicle size etc.
The vehicles should be designed to have good control even under extreme conditions.

2)Design of roads

The roads should be designed by considering road safety and passenger comfort in mind. To minimize the accidents rotaries and medians should be constructed at required places. Traffic signals should be placed at congested junctions. Generally the urban roads are to be designed to a width of 3.5 m. The speed humps should be constructed in places with high pedestrian traffic. The road barriers should be constructed and speed limit boards should be placed.

4 Education

The aim of education in Road Safety is to educate all road users in the safe and proper use of roads in order to change road user attitude, behavior and to raise the awareness of the need for improvement in safety of the road. To reduce the road collisions public behavioral changes are necessary. This change can be partly achieved through awareness programs of education, publicity, training and promotion. Education for safety can be divided into two primary areas.

1) EDUCATION OF THE DRIVER.

Education of the driver includes all driver training, from the pre-license training and testing that one must complete before gaining a driving license, to advanced driver courses aimed at improving the driving of those that already have licenses. Each road user is trained specifically for their vehicle, for example lorry drivers and bus drivers must pass additional tests in order to legally drive the larger vehicles.

2) EDUCATION OF THE PUBLIC.

It relies on dissemination of road safety awareness and regulation through media, classrooms and non-governmental organizations (NGOs). This approach takes a longer time to achieve the desired change in individual perceptions and attitudes.
The WHO/World Bank Report on Road Traffic Injury prevention in the light of global experience about education has observed, "Whenused as a single, isolated intervention, do not deliver tangible and sustained reductions in deaths and injuries".

5 Enforcement

Enforcement is a major component of work and environmental safety as it strengthen the laws that serve to protect you. The main role of strengthening laws is to reduce accidents, save people, and facilitate a danger free and efficient work environment. This plan helps open the line

of communication between you and the law enforcement authority, ensuring proper training and reporting of accidents and operational risks.Its prime emphasis is on restraining road users from undertaking behaviours which expose road users and others to risk of accidents and injuries. The Indian Motor Vehicle Act of 1988 has Chapter 8 and portion of Chapter 13 devoted to many rules and regulations, viz. laws with regard to use of safety devices (helmets),speed limits, etc.

6 Emergency Care

A quick emergency response can make a difference in saving the life of accident victims. Government should provide more ambulances and cranes to reach accident location in time and reduce accidental deaths. The vehicles should be designed to directly contact the emergency responders if an accident has occurred. Well regulated and effective emergency medical services can bring down the accidental deaths substantially.

7 Conclusion

Road safety is very important now a days in India due to increase in number of vehicles on the road. One must follow traffic rules and people must be made aware of road safety rules. Some ways through which road safety can be improved are mentioned above. Thrust of the road safety are 4 e'sengineering, education,emergency care and enforcement.

References

1) Global-Road-Safety-OICA-position-paper
2) Road safety improvement in India-conference paper by AparnaVerma, Ashutosh Gupta and BaikunthNath
3) Traffic engineering and transport planning by L.R.KADIYALI
4) Taking a 7 E's' approach to road safety in the UK and beyond by Katherine L. Plant, Rich C. McIlroy & Neville A. Stanton.
5) ROAD SAFETY IMPROVEMENT: A CHALLENGING ISSUE ON INDIAN ROADS BY Singh, A.P*., Agarwal P.K**., Sharma A.**.