

TRANSPORTATION SAFETY AND ACCIDENT PREVENTATION: IN INDIA

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ABSTRACT

The aim of study is to explain the methods of transportation safety and accident prevention. What are the problem faced and how it can be overcome? To answer these questions various driving factors of transportation safety and accident prevention have been explored from literature review paper. To study the objective, study usages several published Review papers. Road accidents are human tragedy, they involve high human suffering and monetary cost in terms of ultimate deaths, injuries and loss of potential income. Although we have undertaken many initiatives and are implementing various road safety improvement program. During the calendar year 2010, there were close to 5 lakh road accidents in India, which resulted in more than 1.3 lakh persons. In other words every road accident death happens at an interval of every 4 minutes. Unfortunately, more than half the victims are in the economically active age group of 25-65 years. Road accidents are controlled up to an extent by adopting a multipronged approach to road safety that encompasses broad range of measures, such as, traffic management, design and quality of road infrastructure, application of intelligent transport system, safer vehicles, law enforcement, effective and quick accident response and care etc.

KEYWORDS: Road Safety, Accident Prevention, Pedestrian Safety, Accident Classification.

I. INTRODUCTION

Road traffic fatalities are forecast to increase over the next ten years from a current level of 1.3 million to more than 1.9 million by 2020. The world could prevent 5 million deaths and 50 million serious injuries by 2020 by dramatically scaling up investment in road safety, at global, regional and national levels. Each year nearly 1.3 million people die as a result of a road traffic collision, more than 3000 deaths each day and more than half of these people are not travelling in a car. Twenty to fifty million more people sustain non-fatal injuries from a collision, and these injuries are an important cause of disability worldwide. Ninety percent of road traffic deaths occur in low and middle-income countries, which claim less than half the world's registered vehicle fleet. Road traffic injuries are among the three leading causes of death for people between 5 and 44 years of age. Unless immediate and effective action is taken, road traffic injuries are predicted to become the fifth leading cause of death in the world, resulting in an estimated 2.4 million deaths each year. This is due to result of rapid increases in motorization without sufficient improvement in road safety strategies and land use planning. However it is observed that road accidents are relatively higher in May-June and December-January, it is weather influence. Accidents remain constant and high during 9AM-9PM and low during mid-night and early morning hour of the day.

Road Accident Scenario in India

In India growth rate of mobiles and automobiles are nearly same, in other words as, income increases need increases results in changing of life style. For instance while the population of India increased by 17.64 percent over the past ten years, the number of licensed vehicles increased by 132 percent over the same period. According to official statistics, 430,654 people were killed in road traffic crashes in India in 2010 (NCRB 2010). The situation in India has worsened in recent years. Traffic fatalities increased by about 5.5% per year from 2009 to 2010 . During the year 2010, there were around 5 lakh road accidents, which resulted in deaths of 134,513 people and injured more than 5 lakh persons in India. The loss to the Indian economy due to fatalities

and accident injuries estimated at 3% of GDP in 1999- 2000 is particularly severe as 53.1% of road accident victims were in the age group of 25 to 65 years in 2010, with pedestrians, bicyclists and two-wheelers, who comprise the most unprotected road users, accounting for around 40% of all fatalities.

Accident Classification by First Harmful Event Introduction:

The purpose of this classification is to describe a road vehicle accident in terms of the first harmful event that occurred. Motor vehicle accidents: Motor vehicle accident categories are:

Collision accident

1. Collision involving pedestrian
2. Collision involving motor vehicle in-transport
3. Collision involving parked motor vehicle
4. Collision involving bicycle
5. Collision involving animal
6. Collision involving fixed object
7. Collision involving other object

Non-collision accident

1. Overturning accident
2. Other non-collision accident

Guidelines for Road Safety and Prevention of Road Accidents

This section provides guidelines for road safety, examining what is known about their practicability, effectiveness, cost and acceptability to the public. In this in chapter some guidelines are developed, of course, may not easily be implemented, but will instead require careful adaptation and evaluation. Where effective guidelines are altogether lacking, scientific research is needed to develop and test new measures. Some guidelines of Road safety are as follows:

Guidelines for Setting up Model Inspection and Certification Centres for Vehicles

The Fitness tests of motor vehicles, being carried out presently are visual in nature, resulting in subjective evaluation by the inspecting officer. The prescribed tests are more of routine nature rather than fulfilling any meaningful exercise. 'In use' vehicles, therefore, require focused attention in the wake of worsening road accident scenario and environmental pollution. The Ministry intends to put in place a suitably designed Inspection and Certification system throughout the country to ensure proper inspection of motor vehicles and to remove the defects before they are allowed to ply on road. Guidelines for Enforcement of Rules and Regulation Good enforcement are integral part of road safety. Here some guidelines are given for enforcement is:

- It is critical that the deterrent be meaningful for the traffic law enforcement to be successful.
- Setting road speed limits is closely associated with road function and road design, as already mentioned.
- Automatic speed enforcement, such as by means of speed cameras, is now employed in many countries.
- Speed limiters in heavy goods and public transport vehicles.
- Enforcement levels need to be high and maintained over a period of time, so as to ensure that the perceived risk of being caught remains high.
- Once offenders are caught, their penalties should be dealt with swiftly and efficiently.
- Using selective enforcement strategies to target particular risk behaviours and choosing specific locations both improve the effectiveness of enforcement.

- Of all the methods of enforcement, automated means – such as cameras – are the most cost effective.
- Publicity supporting enforcement measures increases their effectiveness; used on its own, publicity has a negligible effect on road user behaviour.

II. LITERATURE REVIEW

As per study of several review papers we obtain some facts and issues regard Road accidents and safety.

1. Mohan D, Tsimhoni O., (January 2009) Pedestrians and other non-motorists in urban areas. The countermeasures with high potential for major positive effects include separation of traffic on arterial roads and traffic calming in all other areas (starting in urban areas that have the highest exposure of non-motorists to other traffic), and improvement in the pedestrian friendliness of vehicle front ends. International guidelines for traffic calming will have to be modified to incorporate designs that are effective for motorcycles as well. Speed control, use of scientifically designed roundabouts instead of traffic lights, and restrictions on free left turns.

2. Peden M, Scurfield., (2004) Pedestrians other non-motorists, and slow vehicles on highway The etiology of these crashes is somewhat different from the analogous crashes in urban areas. These crashes involve conditions with higher speeds and relatively lower frequency of exposure to non-motorists. Highway designs in India will have to be modified to separate slow vehicles and pedestrians all along the highway.

3. Mohan D., “Traffic Safety New Delhi,(2002) Night time driving visibility, alcohol, and fatigue to the increased risk of night time driving in India. Consequently improved head lighting and conspicuity of all vehicles (including bicycles and other non-motorized vehicles), frequent and sustained random breath testing programs, and rest regulations for truck drivers.

4. Traffic & Transportation Policies, Government of India, New Delhi, (May 2008) Wrong-way drivers on divided highways. Anecdotal evidence suggests that these crashes often involve drivers who take shortcuts, often with slow vehicles such as farming equipment. Research needs to be undertaken to understand the needs of local traffic and to develop standards for safer road crossings and the frequency at which they need to be provided. Additionally, collision warning systems would also contribute to a reduction of this type of crash.

CONCLUSION

The analysis shows that the distribution of road accidental deaths and injuries in India varies according to age, gender, month and time. It is found that the economically active age group is the most vulnerable population group. In general, males face higher fatality and accident risk than their female counterparts. Moreover, road accidents are relatively higher in May-June and December-January which shows that extreme weather influences the occurrence of road accidents. Accidents are relatively constant and high during 9 AM to 9 PM and variable but low during mid-night and early hours of the day. There are several factors responsible for accidents but drivers' fault is the most important. Despite the growing burden of road traffic fatalities and injuries, road safety has received insufficient attention at the central, state, and local government levels. The main reason for this is that the problem of road traffic accidents does not belong to any specific agency, either at central or state or local government levels. The responsibility of dealing with the various aspects of problems including road worthiness test for vehicles, the design of road networks and roads, urban planning, the introduction and enforcement of road safety legislations, and post-crash medical care is divided among many different agencies, sectors, and groups. There has usually been no leader to ensure that they coordinate their efforts and address the problem holistically. This situation needs to change so that responsibility is clearly assigned, specific roles are allocated to specific agencies, and duplication is avoided. Many countries, particularly from developed world, have experienced sharp reduction in road traffic accidents and fatalities over the past couple of decades by adopting a systems approach to road safety that emphasizes environment, vehicle, and road user interventions, rather than only focusing on direct approaches aimed at changing the behavior of road users. These include good road design and traffic management, improved vehicle standards, speed control, the use of seat belts and helmets, and the enforcement of alcohol limits

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