

FINAL REPORT

LEGISLATIVE GAP ANALYSIS AND ASSESSMENT OF SUPREME COURT COMMITTEE ON ROAD SAFETY GUIDELINES IN KERALA



Submitted to



By



CENTRE FOR ENVIRONMENT AND DEVELOPMENT
THIRUVANANTHAPURAM
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PROJECT TEAM

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TABLE OF CONTENTS

Chapter 1 Introduction	1
1.1 Background	1
1.1.1 World scenario	1
1.1.2 Indian scenario	2
1.1.3 Importance of the present study	4
1.2 Objectives of the present project	7
Chapter 2 Approach and Methodology	8
2.1 Approach for the study	8
2.2 Methods	8
2.2.1 Review of Literature	9
2.2.2 Stakeholder Consultation	9
2.2.3 Meetings with policy makers to identify Gaps in the state law and policy	11
2.2.4 Finalization of the State legislative Gap Analysis on high risk areas	11
2.2.5 Reviewing the implementation of relevant Supreme Court guidelines related to high risk areas	12
Chapter 3 Findings of the Study	13
3.1 Gaps in the state motor vehicle rules regarding high risk areas	13
3.1.1 Scenario analysis	13
3.1.2 General observations and need assessment	26
3.1.3 Gaps in state rules and recommendations	33
3.2 Gaps in the current official notifications, office orders and others	42
3.3 Institutional barriers and challenges to strengthen the provisions	43
3.4 Gaps in the state road safety policy, regarding the high risk areas	43
3.5 Scope of bringing in new road safety legislations or policies, to strengthen the scenario of road safety	46
3.6 Status of implementation of guidelines given by the supreme court committee on road safety	46
Chapter 4 The Way Forward	56
4.1 General recommendations	56
4.2 Need for proper fund allocation to road safety	58
Bibliography	59
Annexure I	

LIST OF TABLES

Table 3.1 Road accident parameters in 2015 and 2016	13
Table 3.2 number of road accidents and number of persons involved	13
Table 3.3 Road length, motors vehicles and road accidents (2005-2016)	15
Table 3.4 Factors responsible for road accidents: 2016	18
Table 3.5 Accident details of Kerala during 2004-2017	19
Table 3.6 Accident details of Kerala according to the type of vehicles	21
Table 3.7 Accident details of Kerala according to time during 2004-2017	22
Table 3.8 Accident details of Kerala according to cause during 2004-2017	22
Table 3.9 Findings on compliance of guidelines of supreme court committee	47

LIST OF FIGURES

Fig. 2.1 Flow chart of the activities	8
Fig. 3.1 Trend of percentage of fatal accidents on total accidents (2005-2016)	14
Fig. 3.2 Trend of accident severity in India over the years 2005 to 2016	15
Fig. 3.3 Month wise road accidents details in India-2016	16
Fig. 3.4 Share of various vehicles in road accidents 2016	16
Fig. 3.5 Persons killed in road accidents in 2016 in terms of Road user categories	17
Fig. 3.6 Share of persons killed in road accidents in India-2016 (age wise details)	18
Fig. 3.7 Trend of accidents, persons killed and injured in Kerala various years	19
Fig. 3.8 Number of persons killed and number of injured persons per 100 accidents	20
Fig. 3.9 Share of road accidents on different types of roads	21
Fig. 3.10 Share of road accidents in Kerala according to various reasons, 2017	23

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PROJECT TEAM

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Roads are essential to our everyday lives. We all use them in some way, by driving, riding, walking or travelling as a passenger, and we depend on them to obtain goods and services. Unfortunately, this comes at a price, which includes people being killed and injured. However, road deaths and injuries are not inevitable. The last few decades have demonstrated that effective and comprehensive road safety strategies can reduce the number of people killed or injured on the road, despite increasing traffic levels

A Road Traffic Accident can be defined as " An event that occurs on a way or street open to public traffic; resulting in one or more persons being injured or killed, where at least one moving vehicles is involved". Thus, it is a collision between vehicles; between vehicles and pedestrians; between vehicles and animals; or between vehicles and geographical or architectural obstacles. Road traffic accidents are a human tragedy. They involve human suffering and socio-economic costs in terms of premature deaths, injuries, loss of productivity etc. Road accidents fatalities reported in developing countries are about seventy percentages. As per United Nations, the most vulnerable road users killed in road accidents are Two Wheelers (31.5%) followed by Pedestrians (9.5%) and Bicycles (2.1%). According to the World Health Organization, about 1.25 million people die each year on the world's roads and between 20 and 50 million people sustain non-fatal injuries. India's death toll on roads constitutes 8-10 percent of global road deaths. These numbers are conservative estimates, however as some motor vehicle accidents are not reported to avoid lengthy and coercive adjudication problems. It is estimated that the country loses around 750 billion rupees per year due to road traffic accidents, which is 2-3 percent of the gross domestic product (GDP).

1.1.1 World Scenario

In response to this growing public health challenge, a Global Plan for the Decade of Action for Road Safety 2011–2020 was developed by the United Nations Road Safety Collaboration (UNRSC) in 2010 to integrate and coordinate global efforts to promote road safety (UNRSC, 2011). The plan adopts a multi-faceted approach for prevention activities

to be conducted at local, national, regional and global levels and the UNRSC has taken measures to promote the implementation of the global action plan in each member country of the United Nations. Experts anticipate 5 million lives could be saved and 50 million injuries could be avoided across the ten-year period if all countries strictly implement the global action plan.

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. Although solutions for road safety problems in India may differ from those countries that have very high rate of motorization, some basic principles would remain the same. These include, for example, good road design and traffic management, improved vehicle standards, speed control, the use of seat belts and helmets, and the enforcement of alcohol limits (Margie et al., 2004). Current efforts to address the problems of road safety are minimal in comparison to what should be done. While there are many interventions that can save lives, political will and commitment at central, state, and local government levels are essential and without them little can be achieved. Road users in India deserve better and safer road travel.

1.1.2 Indian Scenario

Driving recklessly/dangerously, non-observance of traffic rules, like crossing speed limit, jumping red light, driving without driving licence, driving by untrained/disqualified driver, driving by minor, driving under the influence of liquor, driving while talking on mobile, driving without helmet, ill-health of vehicle and bad road infrastructure are amongst the causes of road accidents. We may also note the following description of the chaotic conditions prevailing on Indian roads, in the words of Hon'ble Mr. Justice V. R. Krishna Iyer:

“More people die of road accidents than by most diseases, so much so the Indian highways are among the top killers of the country....

“Parking of heavy vehicles on the wrong side, hurrying past traffic signals on the sly, neglecting to keep to the left of the road, driving vehicles criss-cross, riding scooters without helmets and with whole families on pillions, thoughtless cycling and pedestrian gay walking with lawless ease, suffocating jam-packing of stage carriages and hell-driving of mini-buses, overloading of trucks with perilous projections and, above all, policemen, if

any, proving by helpless presence that law is dead in this milieu charged with melee – such is the daily, hourly scene of summons by Death to innocent persons who take to the roads, believing in the bona fides of the traffic law” (*Rattan Singh v. State of Punjab* (1979) 4 SCC 719)

Fatalities and injuries resulting from road traffic accidents are a major and growing public health problem in India also. It constitutes 8-10 percent of global road deaths. Currently about 138,258 people are killed and another 509,667 are injured in road traffic accidents per year. These numbers are conservative estimates, however as some motor vehicle accidents are not reported to avoid lengthy and coercive adjudication problems. It is estimated that the country loses around 750 billion rupees per year due to road traffic accidents, which is 2-3 percent of the gross domestic product (GDP).

With the cumulative growth in roads and vehicles, Indian roads have seen the inevitable growth in road safety issues including accidents, injuries and fatalities. Sufferers on Indian roads hit an all time rise during 2016, with a total of 1.51 lakh people dying in 4.81 lakh accidents. This denotes 3 percent increase in fatalities over the previous year even though the number of accidents declined by 4.1 percent, indicating rise in the severity of accidents according to the report ‘Road accidents in India 2016’. The share of fatal accidents and seriously injured rose to 28.3 percent and 25.1 percent during 2016, as against 26.3 and 23.9 percent respectively in 2015. Among the cities, Chennai had the highest number of road accidents (7486) while Delhi had the highest fatalities (1591) in 2016. The accident severity in 50 cities with over a million population rose sharply to 19.8 percent in 2016, as compared with 14.9 percent in 2015. Among the states, Tamil Nadu’s share of total number of accidents is maximum with a value of 14.9 percent followed by Madhya Pradesh with a share of 14.2 percent. The accident data for selected cities in India reveal that four metropolitan cities (Delhi, Chennai, Mumbai and Bengaluru) except Kolkata contribute 61 percent of road accidents in the selected cities, which is about 11 percent of total accidents in the country. The mixed traffic conditions on Indian roads is often said to be responsible for the high accident rate.

The unique conditions on Indian roads including a heterogeneous traffic mix that includes high-speed vehicles sharing the road space with vulnerable road users as well as unsafe road infrastructure and vehicles that are in poor condition, all contribute to the high fatality rates seen on India’s roads. Large-scale interventions related to transport infrastructure are being planned in India and are also predicted to have good returns on investments. But still

there is no significant potential for road traffic injuries reductions by providing multi modal transportation and improvements to road design standards in at least in urban areas, thereby reducing vehicle miles travelled. Sustainable transport has significant potential as a road safety policy because of the numerous co benefits that can be achieved while reducing road traffic injuries (e.g., reduced greenhouse gas emissions and pollutants, reduced congestion, improved accessibility for all transport modes). However, such evidence has not resulted in actual investments in India. Despite the need for and availability of cost-effective interventions, an implementation gap persists. That is, the growing body of evidence supporting the use of road traffic injuries interventions has yet to be operationalised into an effective program on the ground.

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.

The current legal tools to control the road accidents in India, the Motor Vehicle Act, 1988 and Central Motor Vehicle Rules, 1989 are almost 30 year old. During these 30 years road safety scenario has completely changed and there is an effort to bring in amendment in this through Motor Vehicle Amendment Bill, 2017, but that effort has gone in vain.

1.1.3 Importance of the Present Study

Kerala State is blessed with high literacy rate, better health care and higher density of population distribution and connectivity of roads to all villages. But Government of Kerala is deeply concerned about the relatively higher number of road accidents occurring in the State, as compared to the National average. The State registered an all-time high number of accidents (41,678) and injuries (51,225) in 2005. Road accidents are considered to be the third major cause of death in the state. The state of Kerala has nearly 3% of the country's population but it has recorded about 10% of the country's road traffic accidents. Each day

on an average, 11 people lose their lives and 120 people get injured from road accidents and the Kerala state incurs an additional financial burden of over `1,000 crores because of accidents. Rapid increase in the number of motor vehicles has been the major reason for the increasing number of road accidents in our state. Although the rate of absolute number of road accident cases have come down from 42,000 accidents in 2005 to around 36,000 now, the fatality rate has increased tremendously. Out of around 4,200 people who get killed every year in Kerala, 30 percent are pedestrians and 35 percent are two-wheeler riders. Around 142 cyclists are also killed in road accidents every year.

The Public Accounts Committee of The Kerala Legislative assembly (2011-2014) has conducted a road safety audit in the State (GoK, 2014). The audit observed that there are many initiatives for road safety in Kerala like the District Road Safety Committees, Co-ordination Committee for Accident Reduction Plan (CCARP), Kerala Road Safety Authority (KRSA) etc. but all these authorities had almost the same members and discussed the same issues during their meetings. Their recommendations such as providing medians, identifying of black spots, establishing emergency care facilities, coordinating in digging of roads, enforcing motor vehicle rules, creating awareness, etc. were discussed repeatedly at the meetings but were not implemented by the departments concerned due to financial constraints or manpower shortage. Thus the Government's initiative of creating multiple entities did not produce the desired results towards improving road safety in the State.

It is globally proven fact that the road traffic fatalities and injuries are, to a great extent, preventable, since the risk of incurring injury in an accident is largely predictable and many countermeasures, proven to be effective, exist. The most effective way to reduce fatalities and injuries would be through an integrated approach involving close collaboration of many sectors. Progress is being made in many parts of the world where multi-sectoral strategic plans are leading to incremental reductions in the number of road accidental fatalities and injuries (Evans, 2003). Such strategies focus on four key factors that contribute to the risk of occurrence of a road accident – exposure, behavioral factors, road environment, and vehicle factors. Perhaps the least used of all road safety intervention strategies are those that aim to reduce exposure to risk. Risk in road traffic arises out of a need to travel – to have access to work or for education or leisure pursuits. Therefore, there is a need to promote not only regional economies in such a way that reduces the need for

long-distance travel but also self sufficient compact townships which would reduce the need for short-distance travel within the cities (Sanjay, 2017).

In addition to the Central Acts, Rules and Regulations, States can also play a critical role in the area of Road Safety, since they are mostly responsible for enforcing the state and national road safety laws, rules and regulations. As we know that the Motor Vehicle Act, 1988 and Central Motor Vehicle Rules, 1989 are almost 30 year old from now and most of the State Rules are also of that much old. Current road safety scenario at all the states is far more complex and challenging than ever so there is a need to scientifically review these state road safety Rules, regulations, policies, notifications, official orders and policies, and there is an urgent need to advocate for immediate amendments and changes in the existing Act, rules and regulations on one hand and new acts and regulations also have to be introduced on the other hand to meet these challenges. Importantly the advocated amendments and changes in rules shall necessarily focus the five risk areas to make them more strong and enforceable.

In April 2014, the Honorable Supreme Court of India constituted a three member Committee on Road Safety, headed by Retired Justice K S Radhakrishnan, in light of increasing road accidents which required immediate attention and remedial action. The main objective was to scrutinize and monitor enforcement of statutory provisions including the Motor Vehicles Act for making road safer. With this objective, the Committee interacted with various central and state ministries and issued directions to improve road safety in India. The Supreme Court Committee on Road Safety (SCCRS) has, over the course has sent directions to the States to implement various policies, institutional and infrastructure related measure in an effort to improve the standards of road safety and reduce accidents and fatalities.

The Committee, while sending the recommendations for implementation had directed the States that the measures should be implemented positively, and the adopted measures and actions taken up should be shared with the committee through an Action Taken Report (ATR) every quarterly by sending a detailed report to the Committee. Subsequent to this, the Committee issued additional directions to the States based on the review of action taken report received from the States. It has been observed by the committee that even though the States were taking actions to implement the directions, the road accident fatality rates were not showing much improvement.

Thus there is also a dire need of looking in to the actual implementation of these guidelines in the targeted states so that actual implementation level, challenges and way forward for the same is assessed and advocated to implement with more effectiveness.

1.2 OBJECTIVES OF THE PRESENT PROJECT

The major objective of the present initiative is to support the State Government to assess gaps in the existing Motor Vehicles Rules, State Road Safety Policy and Road Safety Action Plan and to bring in new legislations to strengthen and effective the road safety framework especially the five risk areas in the state

The specific objectives are;

- To identify the gaps in the state motor vehicle rules regarding high risk areas (Wearing seat belts, helmets, Drink and Drive, Speeding, Child Restraint system and distracted driving) to strengthen the provisions of the same.
- To identify the gaps in the current official notifications, office orders and others, especially regarding high risk areas (Wearing seat belts, helmets, Drink and Drive, Speeding, Child Restraint system and distracted driving) to strengthen the provisions of the same.
- To see the institutional barriers and challenges to strengthen the provisions related to the high risk areas in the state.
- To identify the gaps in the state road safety policy, regarding the high risk areas as above, to strengthen the provisions of the same.
- To explore the scope of bringing in new road safety legislations or policies, to strengthen the scenario of road safety in the state.
- To look at the state of implementation of 14 guidelines given by the Supreme Court Committee on Road Safety in the state.

CHAPTER 2

APPROACH AND METHODOLOGY

2.1 APPROACH FOR THE STUDY

In order to analyse the legislative Gap, the study followed a participatory approach through various consultation process throughout the study by involving major stakeholder classes related to the issue. Various consultation tools like PRAs, key stakeholder consultations, focus group discussions, and individual consultations were done for gathering the data.

2.2 METHODS

The flow chart on the activities involved in the study is given in Fig.2.1. The major activities are further discussed in detail.

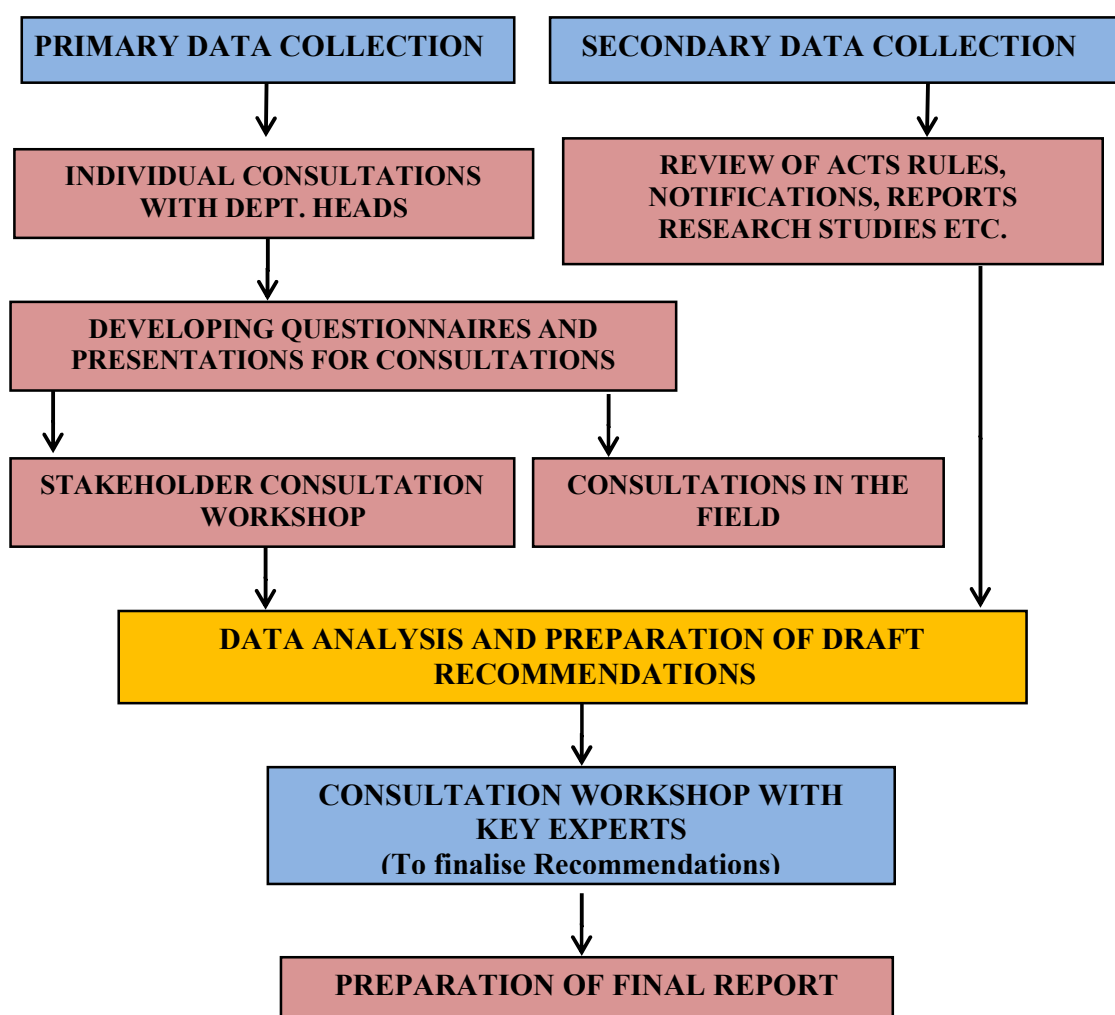


Fig.2.1
Flow Chart of the Activities

2.2.1 Review of Literature

Relevant literature with regard to various legislation, research studies, raw data on accidents from Police and Motor Vehicle Departments, case studies and best practices related to the topic available in the State were collected and analysed. News appeared in media also collected. The major literature surveyed includes:

- Central Motor Vehicle Act, 1988. (Central Act 59 of 88)
- Central Motor Vehicles Rules, 1989
- The Motor Vehicles (Driving) Regulations, 2017. Govt. of India
- Kerala Motor Vehicles Rules, 1989 (Published as required under the sub section (1) of the section 212 of the Motor Vehicle Act, 1988)
- Central Motor Vehicle Amendment Rules, 1989-2018.
- Motor Vehicles (Driving) Regulations, 2017 (GoI, 2017)
- The Kerala Road Safety Authority Act, 2007
- Kerala Police Act 2011
- Kerala State Road Safety Policy (Draft-2019)
- Study on implications of the Kerala State Liquor Policy (2014)
- Kerala State Policy on Outdoor Advertising (Draft-2018)
- Research studies related to road safety in Kerala like ADB (2017), Mohammed (2017), Vigneshkumar and Ramachandran (2015) etc.

2.2.2 Stakeholder Consultation

As a preliminary step for the study, a team of officers working on the project has sitted together to identify the key stakeholders and prepared a list of stakeholders to be consulted and is given below:

- Members of Committees of Kerala Legislative Assembly related to transport and road safety
 - Select Committee for Kerala Metropolitan Transport Authority Bill 2018
 - Subject Committee for Public Works, Transport and Communications
- Senior Officials of all concerned departments
 - Members, Kerala State Planning Board
 - The Principal Secretary, Transport, Government of Kerala
 - The Road Safety Commissioner, Kerala Road Safety Authority
 - The Transport Commissioner, Government of Kerala
 - The IG of Police, Traffic and RSM

- The SP State Crime Record Bureau
- The Director, Health Services, Government of Kerala
- The Chief, Industry and Infrastructure Division, Kerala State Planning Board
- The Chief Engineer, Roads, Kerala Public Works Department
- The Chief Town Planner, Government of Kerala
- Managing Director, Kerala State Road Transport Corporation (KSRTC)
- The Executive Director, Kerala Road Safety Authority
- The Chief Engineer, Kerala State Transport Project,
- The Executive Engineer, Road safety Cell, PWD
- The Executive Director, Kerala Social Security Mission
- Chairman Trivandrum Development Authority (TRIDA)
- Secretary Trivandrum Development Authority (TRIDA)
- Implementation officers
 - Junior level officers working in the field from all the above mentioned institutions
- Representatives of Local Self Government Institutions, both elected representatives and officials.
- Research and Academic Institutions Dealing with Road Safety related activities
 - National Transportation Planning and Research Centre (NATPAC) – Senior Scientists and Researchers
 - College of Engineering Trivandrum, Department of Civil Engineering and Architecture - Senior Professors and PG students working in the area.
 - Kerala Highway Research Institute, Trivandrum
- Legal Practitioners, especially advocates regularly practising in MACT
- Representatives of major road users
 - Auto and Taxi drivers
 - Heavy vehicle drivers
 - Own car/bike users
 - Cyclists
 - Pedestrians etc..
- Non Government Organization
 - Senior Office bearers, Indian Medical Association (IMA)
 - Director, Alcohol & Drug Information Centre (ADIC)-India

- Director, Centre for Consumer Education, Kottayam, Kerala
- Program Coordinator, CESDI, Thiruvalla
- Director, EduWorld Foundation, Thiruvananthapuram
- Director, Trivandrum Social Service Society etc..

The meeting also developed stakeholder type wise semi-structured questionnaire for conducting the consultation process at various levels. The major focus was on:

- Current awareness on road safety rules and regulations
- Major reason for road accidents and fatalities
- Gap in legislation for better road safety
- Institutional barriers and challenges to strengthen the provisions related to the high risk areas
- Implementation level of 14 guidelines given by the Supreme Court Committee on Road Safety in the state
- Suggestions for improvement

2.2.3 Meetings with policy makers to identify Gaps in the state law and policy

As a preliminary step towards achieving the objectives of the project, CED has conducted a quick review of the activities in Kerala related to the present status road safety law enforcement and related activities and identified the key stakeholders.

In order to discuss the findings and to gather more information in this regards and to identify gaps in the state law and policy, a key stakeholder meeting was organised at CED head quarters, Thiruvananthapuram on 14th February, 2019. This report discusses the outcome of the meeting. 17 participants from different categories like policy makers, implementing authority, researchers, NGOs etc. were present in the meeting. The outcome of the meeting was used for preparing the final recommendation.



2.2.4 Finalization of the State legislative Gap Analysis on high risk areas

A half day consultation workshop with the key State road safety experts to discuss about the Gaps in the state rules which are resulting in to the poor road safety scenario in the State and eliminating these gaps was conducted at Thiruvananthapuram on 14th May 2019. The workshop was conducted with the active participation of Kerala Road Safety Authority

and the Road Safety Commissioner **Shri. Shankar Reddy IPS** has formally inaugurated it.

He also made authoritative comments on the gaps in the rules and regulations and the areas where legislations are essential. There were 47 people from different categories of experts to participate in the workshop and the



outcome of the workshop was consolidated and used for finalizing the recommendations of the study.

2.2.5 Reviewing the implementation of relevant Supreme Court guidelines related to high risk areas

In order to review the implementation status of the Supreme Court guidelines related to high risk areas, the relevant documents from various departments of Kerala were collected and consolidated. The consultation workshops also reviewed this.

CHAPTER 3 FINDINGS OF THE STUDY

3.1 GAPS IN THE STATE MOTOR VEHICLE RULES REGARDING HIGH RISK AREAS

3.1.1 Scenario Analysis

India

In India, there are 4, 80,652 road accidents reported in 2016 which is 4.14% lower than that in 2015 (5, 01,423). The number of fatalities due to road accidents was still increasing in 2016 than that of 2015. There are 1, 50,785 fatalities reported in 2016 which is 3.18% higher than 2015 data. Number of persons injured by road accidents also showed a decrease of 1.13% with respect to 2015 resulted 4, 94,624 in number. Accident severity is also showing slight increase in 2016. The accident parameters of 2015 and 2016 are given in Table 3.1.

Table 3.1: Road Accident Parameters in 2015 and 2016

Parameter	2015	2016	% change over previous year
Total Accidents in the country	5,01,423	4,80,652	-4.14
Total number of Persons Killed in the country	1,46,133	1,50,785	3.18
Total number of Persons Injured in the country	5,00,279	4,94,624	-1.13
Accident Severity(No. of persons killed per 100 accidents)	29.14	31.37	7.64

Source: MORTH (2016)

The number of road accidents and number of road accident victims during the years 2005 to 2016 is given in Table 3.2 and Fig. 3.1. The figures clearly demonstrate that the fatal accidents are increasing over the years and in 2016 it reached 28.31 percentage of the total road accidents.

**Table 3.2
Number of Road Accidents and Number of Persons involved during 2005-2016**

Year	Number of Accidents		Number of Persons		Accident Severity*
	Total	Fatal	Killed	Injured	
2005	4,39,255	83,491	94,968	4,65,282	21.6
2006	4,60,920	93,917	1,05,749	4,96,481	22.9
2007	4,79,216	1,01,161	1,14,444	5,13,340	23.9
2008	4,84,704	1,06,591	1,19,860	5,23,193	24.7
2009	4,86,384	1,10,993	1,25,660	5,15,458	25.8

Year	Number of Accidents		Number of Persons		Accident Severity*
	Total	Fatal	Killed	Injured	
2010	4,99,628	1,19,558	1,34,513	5,27,512	26.9
2011	4,97,686	1,21,618	1,42,485	5,11,394	28.6
2012	4,90,383	1,23,093	1,38,258	5,09,667	28.2
2013	4,86,476	1,22,589	1,37,572	4,94,893	28.3
2014	4,89,400	1,25,828	1,39,671	4,93,474	28.5
2015	5,01,423	1,31,726	1,46,133	5,00,279	29.1
2016	4,80,652	1,36,071	1,50,785	4,94,624	31.4

Source: Information supplied by States/UTs (Police Departments).

* Number of persons killed per 100 accidents

Source: MORTH (2016)

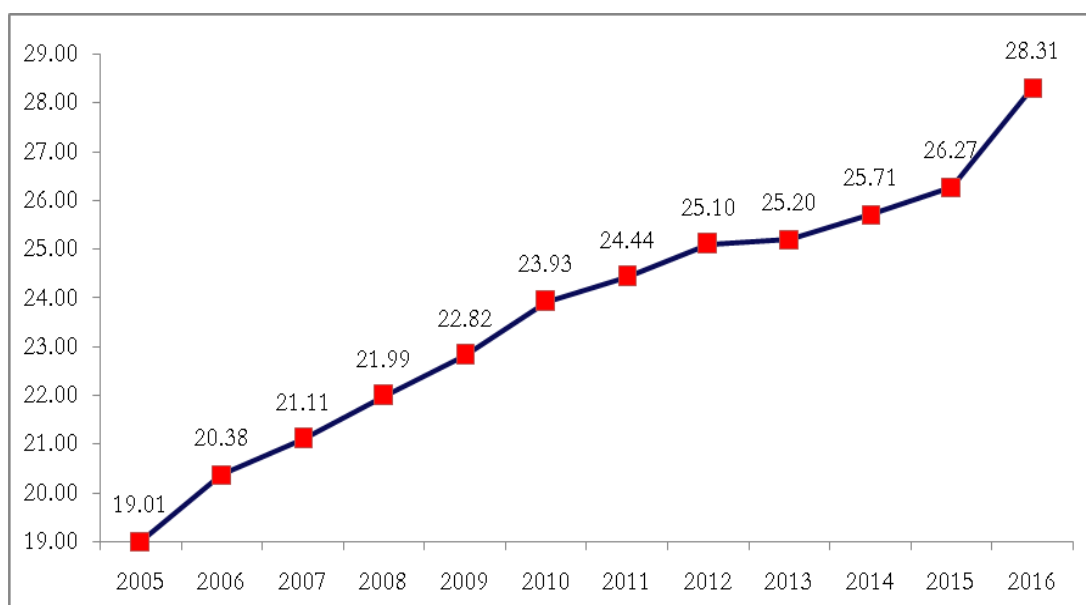


Fig 3.1

Trend of percentage of fatal accidents on total accidents (2005-2016)

Accidents severity is the number of persons killed in 100 road accidents. The trend of accident severity of India during 2005 to 2016 is shown in the Fig 3.2. Every year more than twenty precious lives are wiping out on roads in every 100 road accidents and it now reached at 31.4 in 2016. In 2005, nearly 128 victims were created in every 100 road accidents, which were increased to 134 in 2016. From 2005 to 2006, there is an increase and then a zigzag trend upto 2015. Then in 2016 again a steep increase had shown.

The details of the length of roads in India, number of registered motor vehicles in India along with road accident details during 2005 to 2016 is given in Table 3.3. There is 43.66% increase in road length in 2015 compared to that in 2005; at the same time 157.69% increase in number of vehicles. The number of accidents reported per 1000 km road length is between 90 and 120 these years and fatalities in 25 to 30 numbers.

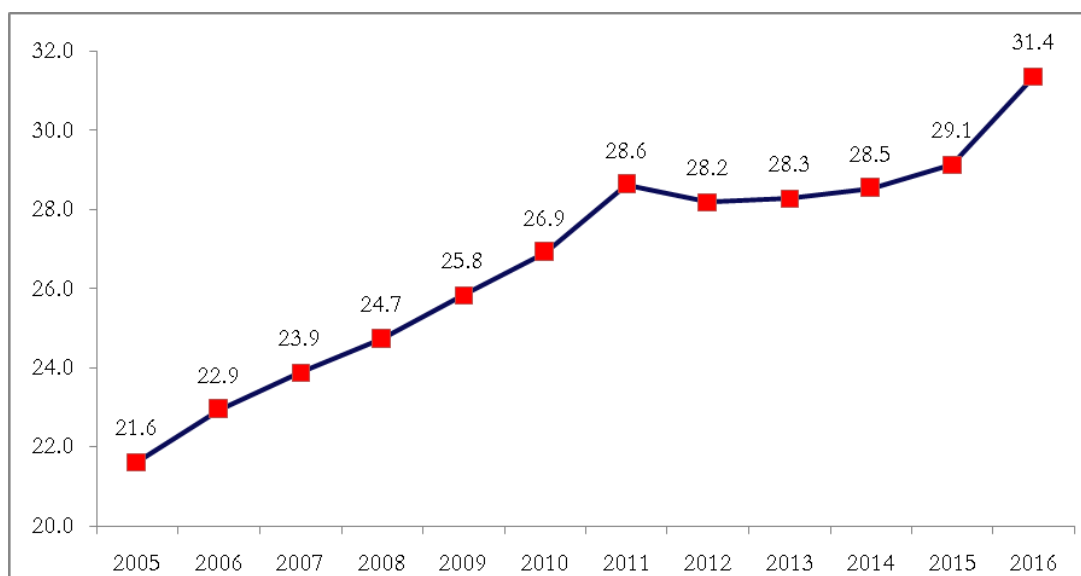


Fig 3.2

Trend of accident severity in India over the years 2005 to 2016

Table 3.3

Road Length, Motors Vehicles and Road Accidents (2005-2016)

Year	Road Length (in kms)	Total Number of Registered Motor Vehicles (in thousands)	Total Number of Fatal Accidents (in numbers)	Total Number of Road Accidents (in numbers)	Total Number of Persons Killed (in numbers)
2005	38,09,156	81,502	83,491	4,39,255	94,968
2006	38,80,651	89,618	93,917	4,60,920	1,05,749
2007	40,16,401	96,707	1,01,161	4,79,216	1,14,444
2008	41,09,592	1,05,353	1,06,591	4,84,704	1,19,860
2009	44,71,510	1,14,951	1,10,993	4,86,384	1,25,660
2010	45,82,439	1,27,746	1,19,558	4,99,628	1,34,513
2011	46,76,838	1,41,866	1,21,618	4,97,686	1,42,485
2012	48,65,394	1,59,491	1,23,093	4,90,383	1,38,258
2013	52,31,922	1,81,508	1,22,589	4,86,476	1,37,572
2014	54,02,486	1,90,704	1,25,828	4,89,400	1,39,671
2015	54,72,144	2,10,023	1,31,726	5,01,423	1,46,133
2016	-	-	1,36,071	4,80,652	1,50,785

Source: MORTH (2016)

Note: Road Length is inclusive of all roads constructed under Pradhan Mantri Gram Sadak Yojana and the erstwhile Jawahar Rozgar Yojana. The road length data is taken from the Basic Road Statistics, MoRTH, Vehicles data from the – Road Transport Year Book, MoRTH. The data for Road Length and Registered Motor Vehicles is for the financial year up to 2015 & not available for 2016

The month wise distributions of road accidents in 2016 are represented in Fig 3.3 which gives the trends of road accident characteristics like number of accidents, fatalities and injuries.

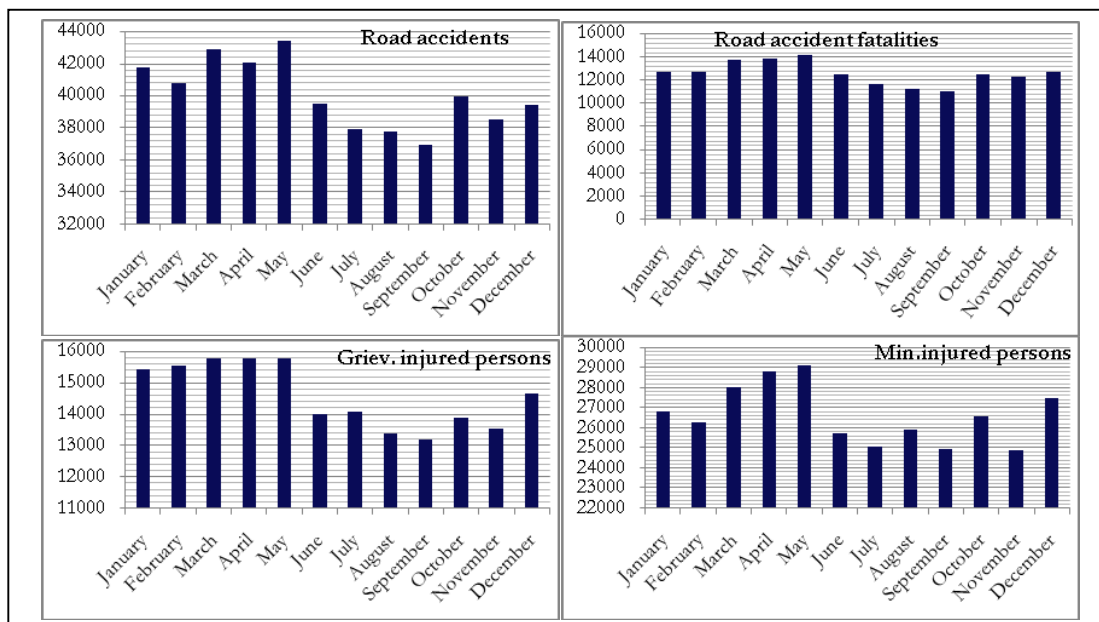


Figure 3.3
Month wise Road Accidents details in India-2016

The Figure 3.4 shows the share of vehicles in road accidents. 31% of the total accidents are accounted by two wheelers and 27 % by vehicles like trucks, tempos etc. The cars and jeeps accounted for 21% of accidents. These three categories shared the 79% of total road accidents.

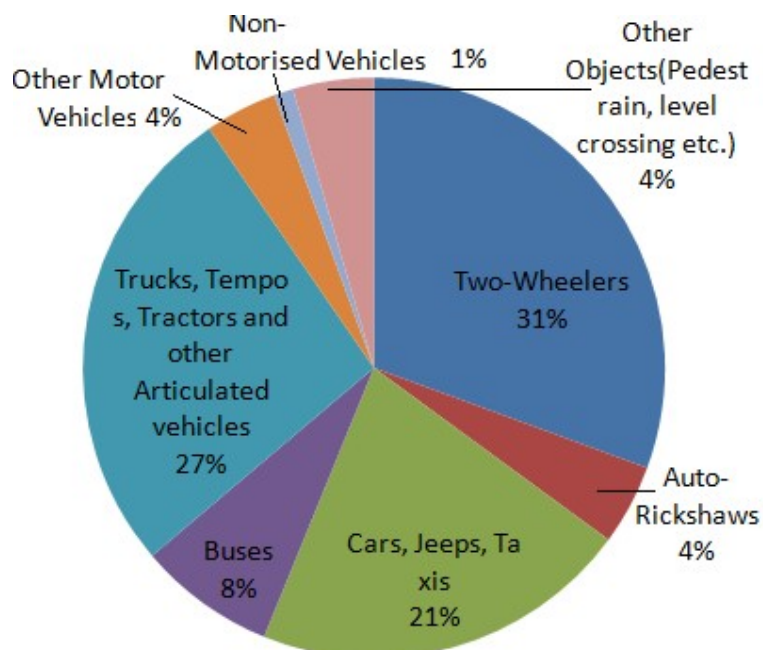


Figure 3.4
Share of various vehicles in road accidents 2016

It is also reported in MoRTH (2016) that the vehicles with age less than 5 years are accounted for most number of accidents, fatalities and injured persons followed by the

vehicles with age limit of 5 to 10 years. The number of accidents, fatalities and injured persons are decreasing as the age of vehicles is increasing.

It is also noted for the last many years that the largest number of persons killed in road accidents in terms of road user categories is the two-wheelers. For example it was 35% in 2016 as per the MoRTH report (Fig.3.5)

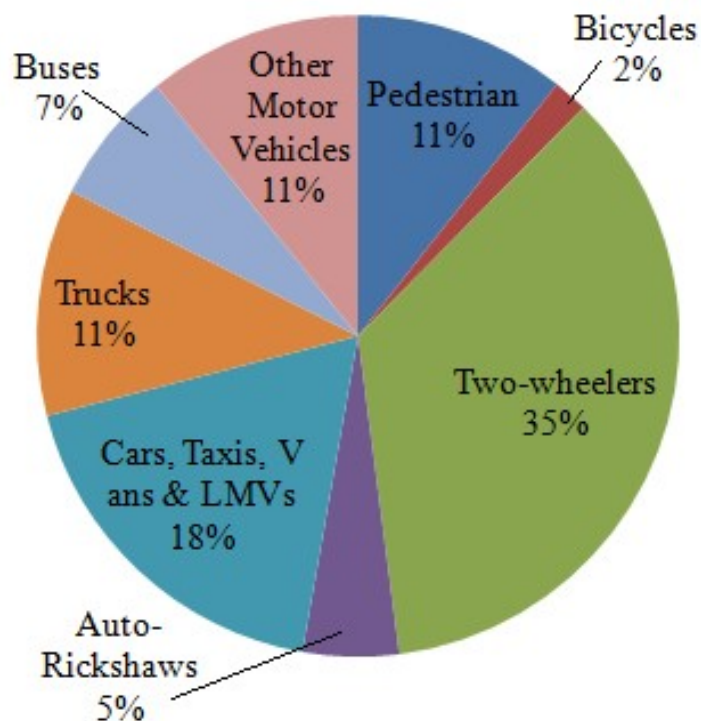


Fig. 3.5

Persons killed in Road Accidents in 2016 in terms of Road User Categories

Figure 3.6 shows the percentage share of various age groups of people as road accident fatal victims. People of age group of 25 to 32 are 25% of the total fatalities followed by age group 35 to 45 (22%) and 18 to 25 (21%). That means about 68% of persons killed in road accidents are of the age group 18 to 45; which is the most earning age group of youth and thus the road accidents have high social impact.

To develop strategies for reducing the accidents we have to find out the main factors responsible for most of accidents and have to find out the ways to control those in successful manner. The main factors responsible for road accidents in 2016 are given in the Table 3.4. The number of accidents and number of victims due to each factor is given here. The fault of driver of motor vehicle is the prime factor responsible for most number of accidents, fatalities and injured. Nearly 84% of the accidents, 80% of the fatalities and 84% of the injuries are reported to be occurred by the fault of driver of motor vehicle.

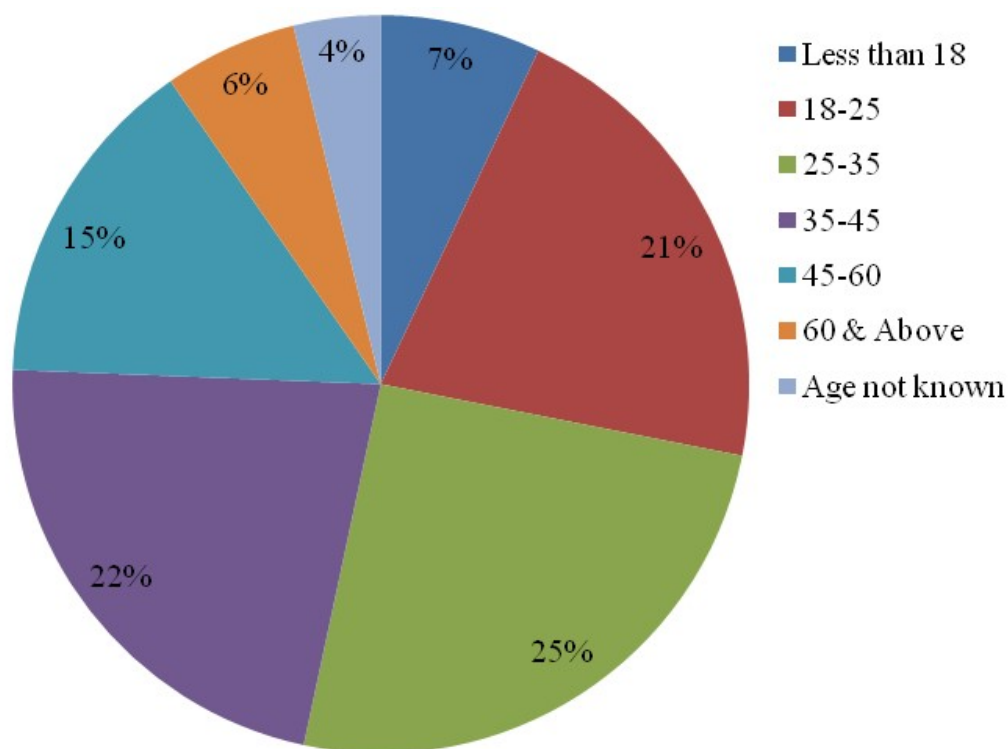


Fig. 3.6
Share of Persons Killed in road accidents in India-2016(age wise details)

Table 3.4
Factors responsible for Road Accidents: 2016

Factors	Accidents	Killed	Injured
Fault of Driver of motor vehicle	403598	121126	414785
Fault of Driver of non-motorized vehicle	6546	2250	7620
Fault of Pedestrian	8298	3091	7465
Fault of Passenger	5200	2181	4535
Mechanical Defect in motor vehicle	6688	2823	6956
Engineering/ Designing fault of Roads	1289	589	1217
Defect in road condition (surface of roads/surface condition of roads)	7158	2983	6579
Stray Animal	1604	629	1307
Poor light condition	3833	1631	4477
Other causes	20858	7312	23380
Causes not known	15580	6170	16303
Total	480652	150785	494624

Kerala

The Table 3.5 and Fig. 3.7 give an idea about trends of accidents, fatalities, and injuries against from 2004 and 2017. From the figure it is clear that Road accidents increased in

2014, 2015 and 2016 after the slight decreasing trend from 2006 onwards; and again trend to decrease in 2017. Number of persons with fatalities and grievous injuries are also showing an increasing trend from 2004 to 2016. The number of grievous injuries decreased a little in 2009, 2013 and 2017; fatalities in 2014 and 2017.

Table 3.5
Accident details of Kerala during 2004-2017

Year	Number of Accidents	Number of Accidents with only Property Damages	Number of Persons				Number of victims per 100 accidents
			Killed	With Grievous Injuries	With Minor Injuries	Total	
2004	41124	1317	3059	25630	25598	54287	132
2005	42363	2007	3203	27060	24064	54327	128
2006	41647	1437	3589	27279	22602	53470	128
2007	39917	1851	3778	26977	21269	52024	130
2008	37263	2082	3810	25479	17994	47283	127
2009	35388	2219	3831	24706	16749	45286	128
2010	35013	2526	3942	25029	15968	44939	128
2011	35309	2424	3990	25174	15535	44699	127
2012	36137	1585	4133	26059	15228	45420	124
2013	35230	1650	4151	25403	14805	44359	126
2014	36318	1633	3964	26139	14613	44716	123
2015	39040	1734	4052	29089	14473	47614	122
2016	39455	1645	4171	30225	14025	48421	123
2017	38485	1527	4004	29818	12930	46752	121

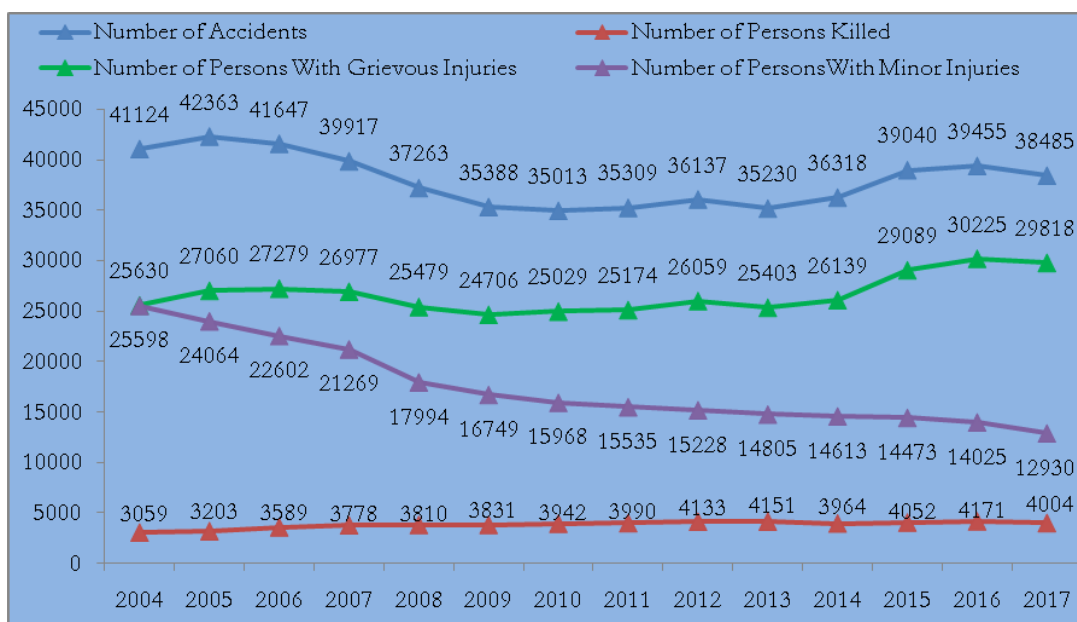


Figure 3.7
Trend of Accidents, Persons killed and injured in Kerala various years

The number of fatalities and number of persons injured by road accidents of various years can be easily compared by normalizing these quantities; here, we normalize by converting these quantities per 100 accidents. Fatalities per 100 accidents give the severity index. Fig. 3.8 provides the trends of severity indices and number of persons injured per 100 accidents in 2004 to 2017. From figure it is clear that the number of persons injured per 100 accidents always showed an increasing trend till 2016 and continued in same state in 2017. The severity indices increased from 7 in 2004 to 10 in 2017; but from 2008 onwards this value continues with small ups and downs but recorded the highest value 12 in 2013.

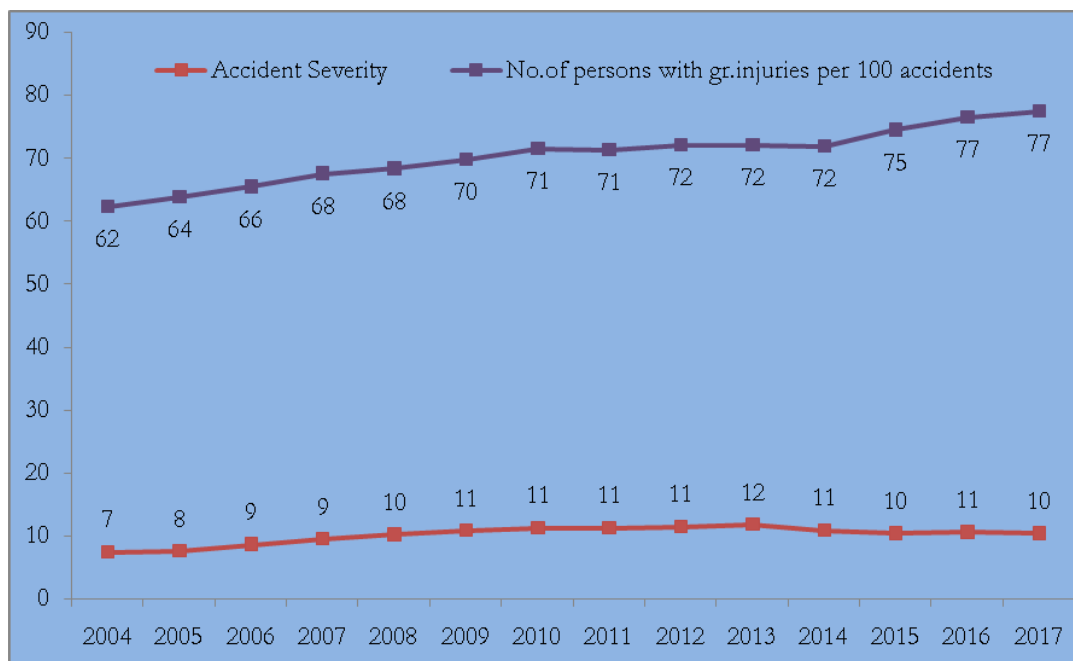
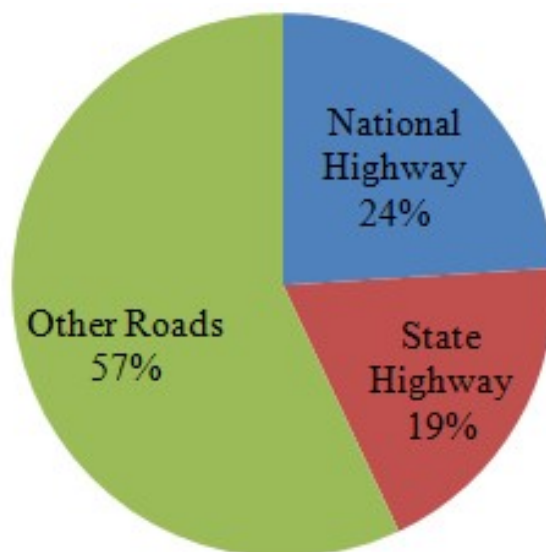


Fig. 3.8

Number of persons killed and number of injured persons per 100 accidents

The maximum number of accidents per day is recorded in 2005 with 116 accidents. In 2004 there were 112 accidents in a day, but in 2017 it reduced to 105. Even though, there is more than one accident in every 15 minutes. Between 2004 and 2017, there were many ups and downs are shown in daily accidents. The number of grievously injured persons per day due to road accidents increased from 70 in 2004 to 82 in 2017. In 2017 more than three people were getting seriously injured from four road accidents in every single hour of the day. During 2004 to 2017, this number never went below 70, except in three years with values 68 and 69. While going through the fatalities per day, from 2006 to 2009, it had a constant value 10 and from 2010 to 2017 it recorded 11.

The Fig. 3.9 shows the percentage share of NH, SH and other roads on accidents. 24% of accidents are reported on NH, 19% on SH and 57 % on other roads.

**Fig. 3.9****Share of Road Accidents on different types of roads**

Road accident cases involving various types of vehicles during (2004-2017), is listed in Table 3.6. In every year, motor vehicles are increasing tremendously and it is definitely a reason for increasing road accidents. More than one crore of vehicles are in Kerala, of which nearly 64 % are two wheelers, more than 21% are cars, nearly six percent are three wheelers, and one percent is buses and so on. While considering every 100 road accidents, there are 58 accidents in which two wheelers are involved and 28 accidents in which cars are involved in 2017.

Table 3.6**Accident details of Kerala according to the type of vehicles during 2004-2017**

Year	KSRTC Bus	Private Bus	Lorry	Mini Bus/ Mini Lorry	Car	Jeep	Auto	Two Wheelers	Not known /Others
2004	1332	4880	2434	2812	6924	2380	8126	20196	1885
2005	1513	4447	2170	2790	7245	2038	7943	21567	2639
2006	1211	4239	2126	2519	7296	1830	7522	22641	2190
2007	1052	4503	3010	2507	8150	1587	6961	18445	1762
2008	1123	4258	3805	525	7739	1622	6140	15546	1988
2009	1144	3980	3391	477	8103	1493	5601	15278	2001
2010	1195	3885	3325	448	8471	1419	5662	15870	1872
2011	1203	3705	3302	462	8916	1088	5555	16235	1766
2012	1312	3470	3392	435	9063	1043	5753	17116	1868
2013	1166	3135	2830	597	8869	866	5303	17448	2036
2014	1059	2986	2869	614	9408	825	5225	20293	1896
2015	1158	3126	2817	613	10121	893	5047	20434	2354
2016	1115	3058	2665	451	11020	797	4842	23538	2237
2017	1150	2765	2414	654	10896	767	4572	22459	1616

Day time and night time accidents of Kerala for 2003 to 2016 is given Table 3.7. More number of accidents is reported during day time. That is more than 70 % of accidents are reported on day time every year.

Table 3.7
Accident details of Kerala according to time during 2004-2017

Year	Accidents on Day Time		Accidents on Night Time	
	Number	%	Number	%
2004	27440	66.73	13684	33.27
2005	27641	66.32	14037	33.68
2006	26081	62.95	15348	37.05
2007	28802	74.01	10114	25.99
2008	26853	72.24	10318	27.76
2009	25712	72.86	9576	27.14
2010	25456	73.83	9557	26.17
2011	25921	73.41	9388	26.59
2012	26326	72.85	9811	27.15
2013	25553	72.53	9677	27.47
2014	26936	74.17	9382	25.83
2015	28942	74.13	10098	25.87
2016	28837	73.09	10618	26.91
2017	27844	72.35	10641	27.65

There are many reasons for road accidents. The primary causes identified are rash driving, drunken driving etc. Road accidents due to rash driving and drunken driving for the last few years are listed in Table 3.8.

Table 3.8
Accident details of Kerala according to cause during 2004-2017

Year	Number of Accidents due to					
	Rash Driving		Drunken Driving		Other Causes	
	Number	%	Number	%	Number	%
2004	40818	99.26	0	0.00	306	0.74
2005	41572	99.75	0	0.00	106	0.25
2006	41252	99.57	0	0.00	177	0.43
2007	-	-	-	-	-	-
2008	35557	95.47	497	1.33	1189	3.19
2009	34074	96.52	296	0.84	931	2.64
2010	33862	96.71	324	0.93	827	2.36
2011	34066	96.48	308	0.87	935	2.65
2012	34937	96.68	246	0.68	954	2.64
2013	33866	96.13	418	1.19	946	2.68
2014	34845	95.94	383	1.05	1090	3.00
2015	37755	96.71	286	0.73	999	2.56
2016	38278	97.02	193	0.49	984	2.49
2017	37184	96.62	255	0.66	1046	2.72

It is also interesting is not that in the recent years the number of cases reported due to drunken driving is increasing. In 2017 96% of accidents are due to rash driving and 3% are due to other reasons and 1% due to drunken driving (Fig.3.10).

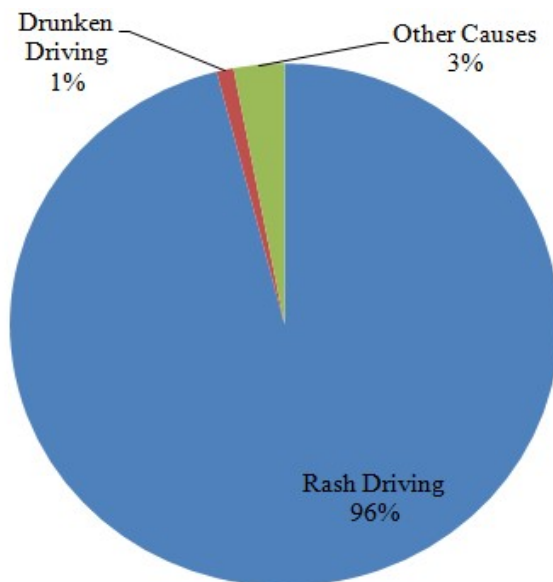


Fig. 3.10
Share of road accidents in Kerala according to various reasons, 2017

Ernakulam and Thiruvananthapuram districts are recorded as the worst districts with most number of accident parameters. Thrissur is in third place in most cases. Kollam is in the second place in number of road accident fatalities, number of NH accidents, number of accidents due to “other reasons” etc. Pathanamthitta is in the first place for accidents due to drunken driving. In Two wheeler involved accidents Alappuzha is in 2nd place. In SH and minibus involved road accidents Kottayam bears the third place. In 2016 more than 52% of road accidents due to “drunken driving” were reported in Kottayam but zero accidents this year. Jeep involved accidents are higher in Idukki, Palakkad and Kozhikode. Nearly 59% of accidents and 54% of fatalities are reported in seven Southern districts, i.e. Trivandrum, Kollam, Pathanamthitta, Alappuzha, Kottayam Ernakulam and Idukki. But the accident severity index of these seven districts is 9 whereas that of the other seven districts (Northern districts- Thrissur, Palakkad, Malappuram, Kozhikode, Waynad, Kannur and Kasargode) is 12.

It is observed that more than 100 accidents were reported a day leading to more than 3000 accidents each month. In 2016 an average of 347 fatalities reported due to road accidents, which is decreased to 337 in 2017. The number of fatalities per day is slightly decreased to

10.43 from 11.43 of previous years' fatalities. A slight decrease has shown in severity index in 2017 with respect to that of 2016. About 8% reduction in accidents was achieved from 2016 to 2017, but there is an Increase of 4.7% accidents & 3% deaths from 2017 to 2018. From 2016 to 2018, there is an increase of 5.3 % in the number of accidents.

Kerala Motor Vehicle Rules 1989

In conformity with the Motor Vehicles Act of 1988, the Government of Kerala made special rules by name "Kerala Motor Vehicle Rules 1989." The Kerala Motor Vehicle Rules 1989 framed general rules and specific rule relating to all matters of road transport. The notification says that:

“In exercise of the powers conferred by sections 26, 28, 38, 65, 96, 107, 111, 138, 159, 176 and 213 of the Motor Vehicles Act 1988 (Centrd Act 59 of 1988), the Government of Kerala hereby made the following rules, the same having been previously published as per Notification No.57129/M3/881PW & T dated the 14th June 1989 in the Kerala Gazette Extraordinary No.554 dated the 14th June 1989 and Notification No. 57 129/M3183/PW &T dated the 19 ' June 1989 in the Kerala Gazette Extraordinary No.574 dated 19th June 1989 and Notification No. 571291M3188fPW & T dated the 19~ June 1989 in the Kerala Gazette Extraordinary No. 578 dated the 20' June 1989, as required by sub-section (1) of section 212 of the said Act. ”

Offences and Penalties by Kerala Police

- Driving without a Valid Licence – Rs 500
- Allowing vehicle to be driven by a person who does not possess a valid Licence – Rs 1000
- Driving by Minor – Rs 500
- Driving Excessive Speed – Rs 300(NTV), Rs 400(TV)
- Rough/Rash/Negligent driving - Rs 1000
- Driving in the influence of Alcohol/Drugs – 2000/MDL Suspension
- PUCC (Pollution) – Rs 1000
- Fixing Multi toned/Shrill Horn – Rs 1000
- Not carrying documents as required – Rs 100
- Without Registration – Rs2000(NTV)/3000(LMV)/4000(MMV)/5000(HMV)
- Without Insurance – Rs 1000
- Carrying more the one person on two wheeler – Rs 100/1000

- Driving Without Helmet – Rs 100
- Seat Belts not fastened - Rs 100
- Using Mobile Phone While Driving - Rs 1000/MDL Suspension
- Improper Horn usage while driving – Rs100
- Disobeying Lawful Directions – Rs 500
- Driving when mentally or physically unfit to drive – Rs 200
- PUCC not produced - Rs 100
- Overloading a Good vehicle –Rs2000+Rs1000(for every addl ton)
- Without certificate of Fitness –3000(LMV)/4000(MMV)/5000(HMV)
- Without Permit - Rs 3000(LMV), Rs 4000(MMV), Rs 5000(HMV)
- Smoking, Chewing or be under the influence of any intoxicating drink or drug – Rs 100
- Registration number not in prescribed Size – Rs 100
- Registration number not in prescribed Manner – Rs 100
- Unauthorized alteration – Rs 500
- Displaying applied for – Rs 4500
- Smoky Exhaust – Rs 1000
- Disobeying Traffic Police Officer in Uniform – Rs 100
- Driving against Police Signal – Rs 100
- Disobeying manual Traffic Signal – Rs 100
- Disobeying Traffic Signal/Sign Board – Rs 100
- Disobeying Lawful Directions – Rs 500
- Failing to give signal – Rs 100
- Jumping Signal – Rs 100
- Overtaking perilously – Rs 100
- Failing to confer way to sanction Overtaking – Rs 100
- Overtaking from wrong side – Rs 100
- Without Wiper – Rs 100
- Without Side Mirror – Rs 100
- Without Horn – Rs 100
- Improper horn usage while driving – Rs 100
- No Spare Wheel – Rs 100
- Without Brake light & Indicators – Rs 100

- Without Side particulars – Rs 100
- Head light not working – Rs 100
- Using Spot Lights – Rs 100
- Reflector not fitted – Rs 100
- Painted Olive green/ Navy blue color – Rs 100
- Silencer not fitted – Rs 100
- Audio system fitted in S/C – Rs 100
- Highway yellow not painted – Rs 100
- Driving in the center and not to left side – Rs 100
- Driving against One Way – Rs 100
- Reversing without due care and attention – Rs 100
- Taking U turn during outlawed hours - Rs 100
- Failing to take precaution while taking a Turn – Rs 100
- Failing to decelerate at intersection – Rs 100
- Failing to carry on left of traffic island – Rs 100
- Carrying persons on Foot board – Rs 100
- Carrying persons causing hindrance to the driver – Rs 100
- Tripling – Rs 100
- Driving on Foot Path – Rs 100
- Stopping at pedestrian crossing or crossing a stop line – Rs 100
- Violation of Yellow Line – Rs 100
- Violation of Stop Line – Rs 100
- Violation of Mandatory Signs – Rs 100
- Improper use of headlights/tail lights for vehicles used in driving – Rs 100
- Using High Beam where not required – Rs 100
- Leaving Vehicle in unsafe position – Rs 100

3.1.2 General Observations and Need Assessment

Institutional Mechanism and inter departmental Collaboration

The Kerala Road Safety Authority (KRSA), is the state level statutory body to co-ordinate action on areas related to Road Safety among various departments, advice Government on road Safety Policies, prescribing and enforcing Road Safety standards and procedures etc.

The Minister for transport is the chairman of the authority. PWD Minister is the co-chair and an executive committee with chief secretary as head is overseeing the activities. KRSA is functioning in the State for the last three years and coordinates the activities related to road safety in the state and brings all stake holders together. KRSA is having a strong statutory support and strong institutional structure. This model of KRSA is nationally acclaimed. All projects, programs at district level and local levels come to the authority and evaluated by KRSA for implementation. In Kerala 50% of compounding fee and one time road CESS collected by Motor Vehicle Department (MVD) goes to the government, and the government allocates the fund for the authority. Many agencies related to transportation like PWD, Motor vehicle dept, Police, Health, Development Authorities, KSRTC, NATPAC, several NGOs and individuals are involved in the road safety activities. Road safety management group in the state jointly by KRSA, NATPAC, Medical Department, Police, MVD are all working together for better road safety.

There is a need to enhance the inter-departmental coordination at State, district, taluk and Panchayat levels to attain the maximum results. All these can be done through online platform. The staff strength of the authority is to be enhanced with permanent set up since continuity is needed at certain levels to sustain the activities of road safety. A dedicated team is to be constituted with adequate powers and finance.

Ensuring Safer Road Infrastructure

The road construction , up gradation and maintenance of the state is being done by state public works department, local self government, forest dept, port department, etc. The standards followed are Indian Roads Congress Guidelines, Special Publications, MORTH guidelines.

There is a need for following the IRC guidelines and MoRTH specifications are to be followed strictly on all categories of roads. A thorough review is needed on safety issues with respect to road planning and design and maintenance of roads before issuing the orders at state level to suit to Kerala conditions. A Manual for the State on “Safety-conscious Highway Design Standards and specific actions” on “Safety at road Works” should also be incorporated. There is also a need for giving high priority for identification and rectification of black spots and the safety Auditing of existing roads and new roads would also be carried out in a phased manner.

Non-completion of black spot identification and rectification is another major issue identified by the study. A junction or reach of a road where more than three major accidents take place in a year is identified as a 'black spot'. The responsibility for identification and rectification of black spots rests with the PWD. As per the recommendations of the Co-ordination Committee for Accident Reduction Plan, black spots are to be identified and rectified regularly. But this has not properly.

Ensuring Safety of Vulnerable Road Users

At present. It is noticed that the needs of non-motorized transport, pedestrians, vulnerable and physically challenged is not considered seriously in design the road. Guidelines in tune with national standards are to be published.

Law Enforcement

Police is the major enforcement agency and from last year onwards the traffic police stations are the enforcement agency, cases are transferred to local police stations which has helped in conducting more enforcement activities and reducing the accident rates. There are 44 highway patrolling units in the state now. Monitoring is made more effective by separating highways into different units. One of the major reasons for accidents is frequent changing of lanes, sudden swerves and use of the left side of the road for overtaking maneuvers. Moreover, as the drivers of motor vehicles most often hug the center of the road, even if it is made up of multi -lanes, maximum capacity of roads is not utilized. To ensure safety and utilization of the available road space optimally, it is absolutely vital to cultivate lane discipline. If lane discipline is followed, safety will increase and also the capacity of each lane would increase. Impact of Supreme Court decision on banning of liquor shops near to high ways had some influence on bringing down accidents. Sale of liquor dropped and accident also came down as no shops are allowed on high ways.

The study has found that the major cause for increased accident rates in the State is the lack of proper enforcement of rules. Only over speeding, driver helmet, drunken driving are the areas where the enforcement is currently active. There is not much enforcement for wearing helmets for the pillions, seat belts by other than driver in cars, observing child safety regulations, improper lane changing, overtaking through left etc.

Even though enforcement of traffic legislation is in the preview of the state govt., it often goes to lower level priority. Hence there is a need for shifting the priority of law enforcement on traffic legislation to a higher place. The following aspects has to followed very strictly.

- The state enforcement officials should make sure that all two-wheeler users (Rider and Pillion riders) are wearing standard helmets with proper use of chin strap.
- To ensure safety and utilization of the available road space optimally, it is absolutely vital to cultivate lane discipline.
- Traffic signals should be integrated in a multi-level hierarchy of signal controllers, and they should contribute to demand management strategies.
- Use of Intelligent Transport System (ITS) in road safety enforcement
 - Vehicle to vehicle distance warning; lane departure warning; speed governing system; assisted parking system
 - Seatbelt reminder/ interlock; electronic driver's license
 - Collision warning system; blind spot warning; vision enhancement system
 - Alcohol interlock; fatigue warning system
 - Point to point speed enforcement
 - Incident management system

The Enforcement officers from various department should be given proper training in various ways of law enforcement..

Emergency Medical Assistance to Crash Victims

The emergency medical assistance system in the state is practically not up to the mark to meet the demand. This situation has to be reversed immediately. The major needs are:

- Speedy and effective trauma care and management is to be ensured with appropriate legislations at state level.
- The current practice in emergency medical assistance is to be reviewed thoroughly, and plan should be developed to strengthen the emergency medical services including - communication, transportation, on the spot medical aid, new trauma care centers, insurance back up, rehabilitation centers etc.
- The trauma care units, especially the level 3 units need to be brought under a common management including budgetary financial support.

Crash Data Collection and Management System

- Three agencies are now involved in crash data collection management., viz, C-DAC, NATPAC, and State Crime Records Bureau under Kerala Police. C-DAC is in the process of preparing and establishing an online crash data collection and management system for the state at the instance of transport department. NATPAC , being an R & D centre doing research and consultancy projects in transportation is regularly collecting traffic and accident data related to project roads. Accident data book is published by NATPAC yearly which contains analyzed information of world, national and state level accidents by compiling the data available from various sources including state crime records bureau. State crime records bureau is the agency which collects and compiles all data related to accidents in addition to the crime data. The data is made available to all stake holders, researchers and students on request.
- In this area, there is need for integrated data analysis to be coordinated by KRSA. Online platform software for accident reporting and data analysis in all the Police Stations to be made mandatory. Steps already taken in this regard have to be implemented at the earliest
- The accident data from insurance companies, Motor Accident Claims Tribunal (MACT), Hospitals/Trauma care centers and other sources are to be collected and compiled to supplement the data available in SCRB. Output should be in GIS platform: accessible by police, PWD, MVD and others. The software being used/developed by different departments/stakeholders can be pooled into one and can be used through online platform. .Special need-based surveys would be conducted to supplement this database.

Vehicle Parking on Road Sides

Parking is one of the essential components of Development plan for a city. All vehicles produced need space to park somewhere. As per Indian Road Congress (IRC) Standards, a vehicle takes 25 sqm of space on an average. A car owner would park their car in his residence and in his office, in addition to the spaces taken while going for shopping and other purposes. This would mean that they would take up huge volume of land space. These land spaces are generally in prime locations where the market value would be huge. Parking is a major concern when it is not able to accommodate the ever-increasing traffic

volume, keeping in mind that parking space are public spaces. There is need for a comprehensive law relating to parking than a nation-wide general policy. Enforcement is the key element for parking, as larger the tendency to violate the laws, graver the issue affecting traffic and economy. Considering all the factors it is better to have a parking policy which should be formulated based on parking management strategy.

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Good Samaritans Rules

Many Good Samaritans are healing accident victims and saving many lives. In this direction the Ministry of Road transport & Highways have issued guidelines to be followed by hospitals, police and all other authorities for the protection of Good Samaritan. Further, Ministry has also issued Standard Operating Procedure (SOP) for the examination of Good Samaritans by the Police or during trial. Both the guidelines have been mandated by Hon'ble Supreme Court of India with slight modifications. Now people must not hesitate to help the road accident victims to reach the nearest hospital, in case they come across one.

There is a need for Government to publish suitable material to educate public about role of "Good Samaritans".

Ensuring Safer Drivers through continued education

Training programs are being arranged in the state by various agencies and stake holder departments. The police department has initiated three innovative programs for awareness and law enforcement which are:

- a) **Subhayatra** - is a program to enforce traffic rules and create awareness among people on road safety.
- b) **SOFT** (Save Our Fellow Traveller) - is a community based intervention program which focuses on imparting training to volunteers, who participate in providing immediate medical attention to accident victims.
- c) **Student Police Cadets** - is a school based initiative to train high school students to respect the law, practice discipline and civic sense and develop empathy for vulnerable sections of society.

Motor Vehicle Department also have five similar programs like:

- a) **TRUST** - is a community based intervention program which focuses on imparting training to volunteers, who participate in providing immediate medical attention to accident victims.
- b) **TRACK** - is also a community based intervention program which focuses on imparting training to volunteers, who participate in providing immediate medical attention to accident victims.
- c) **THIRD EYE** - is a program to enforce traffic rules with public participation.
- d) **LUVTHY ROAD** - is a program with public participation which focus to share the roads to safer roads.
- e) **ROAD SAFETY CLUBS** - It is a school based initiative to train school students & teachers to impart road safety education.

NATPAC also taking persistent efforts in this field and designed specific user oriented programmes for different road users.

- i. *Safe Community Programme at Panchayath Level* –This program aims to encourage local communities like Panchayats to initiate and proactively seek ways to reduce accident risk and increase road safety on their own in their panchayats..
- ii. *Safe Road to School (SRS) Programme* – A proactive program for School Children, where the school authorities and children are trained and supported to conduct the safety audit of their premises and implement appropriate corrective measures.
- iii. *Training/Awareness Programmes to different targeted road users like drivers, general public, NGOs, road safety activists etc.*–This program covers all categories of drivers, enforcement personnel and also impart road safety education among general public.
- iv. *Road Safety Youth Leadership Programme (RSYLP)* A proactive program for youth.
- v. *Road Safety Education Through Schools (Teachers Training Programme)*- A proactive program for School Teachers
- vi. *Training Courses for Drivers of Vehicles carrying Dangerous and Hazardous Goods*
- vii. *Exhibitions to spread Road Safety*

NATPAC has published 28 short documentary/animation films, 48 Booklets, 31 student badges, 6 calendars, 46 leaflets, 25 posters, one online E-portal (www.safesavari.com) and one android mobile application (Safe Savari) on road safety. NATPAC has prepared the documents on Road Safety vision, Policy, Action plan and safety Protocol for the state

KRSA is funding most of these programs. Integration of training programs is the need f of the hour and there should also be proper monitoring mechanism and impact assessment. Thus:

- All the training programs being organized by various agencies are to be coordinated and managed under one umbrella of KRSA.
- Strengthen the system of training for the drivers of heavy vehicle, emergency vehicle, Educational Institution Bus (EIB) , Hazardous goods vehicles, tipper lorries, multi axle and over dimensional cargo vehicles, driving school instructors, etc
- Regular/Refresher training should be given to all the drivers in a phased manner.
- Evaluation of these programs to be done for regular updation.

Road Safety Research

Road safety research is being undertaken by NATPAC and academicians.(KTU).The Kerala Highway Research Institute (KHRI), under PWD also has mandate for research in highway engineering. To have a good research output and to ensure safety on roads accident reconstruction technique is employed and for this purpose an accident reconstruction team to be constituted. The accident data generation is very pathetic and available data is not available hence an accident database is to be created. Recording accident data is essential and available in public domain. The major needs are;

- Collaborative research between institutions has to be promoted.
- The research centres should have autonomy to do independent research which is to be supported by Government.
- A study is to be carried out urgently in the functioning and management of the research institutions of the state like NATPAC and KHRI and the gaps are to be identified and rectified.

Involvement of Local Self Government Institutions

The Section 72 of Kerala Police Act 2011 deals with formation of Traffic regulatory Committees and it states that:

(1) In every Grama Panchayat, Municipality and Corporation Traffic Regulatory Committees shall be constituted as may be prescribed, for regulating matters in respect of traffic.

(2) The concerned head of the Local Government institution shall be the Chairman of the Traffic Regulatory Committee and the nominees of the District Magistrate, the District Police Chief, the Regional Transport Officer and the Executive Engineer of Public Works Department shall be the members of the said committee.

(3) The Traffic Regulatory Committee shall issue orders, not inconsistent with the provisions of the Motor Vehicles Act, 1988 (Central Act 59 of 1988) and the Kerala Road Safety Act, 2007 (Act 8 of 2007) and the rules made thereunder, for preventing danger, obstruction and inconvenience caused to the general public in respect of traffic in the following matters. Such orders issued shall be complied with by the Government Departments concerned, the officers and the general public, namely:

(a) regulate the manner and time of traffic of all kinds in public places;

(b) regulate the gateways, festoons, banners, hoardings, signs, representations, illuminated displays, construction activity, trade, welding, environmental pollution, nuisance by noise, blasting of rocks, mining, bursting of crackers, flying of kites and fireworks etc. seen in any property in the manner having the possibility of distracting attention of the public road users or causing danger to them;

(c) regulate the manner and mode of conveyance of timber, poles, ladders, iron girders, beams, iron bars, boilers, hay, soil and articles difficult in handling, etc. along the streets;

(d) regulate the carrying of any explosive substances or hazardous chemicals along public places which may cause danger to road users;

(e) close certain streets or instruct that no one shall enter in certain places under circumstances that there is reasonable apprehension of danger from buildings which are on the verge of collapse or due to other reasons;

(f) regulate the manner and means of entry from streets and public places to private buildings and places situated on the road side;

(g) fix the manner in which the members of the general public may voluntarily assist in traffic management without causing any financial liability in that respect to the State or the Police Department.

(4) Subject to the approval of the Traffic Regulatory Committee, the District Police Chief may issue orders on the above matters and such orders shall be submitted before the concerned Traffic Regularity Committee within seven days.

(5) The orders submitted in such manner shall be considered by the Traffic Regulatory Committee and appropriate decision shall be taken thereon: Provided that the orders issued by the District Police Chief shall remain in force until a decision is taken by the Traffic Regulatory Committee.

(6) A District Level Traffic Regulatory Committee shall be constituted, in the manner prescribed by the Government, for coordinating the activities of the Traffic Regulatory Committees in a District and to establish traffic regulations for the district as a whole in the above matters.

3.1.3 Gaps in State Rules and Recommendations

The major rules controlling the vehicle transport system in the State is the Kerala Motor Vehicle Rules (1989) published as required under the sub section (1) of the section 212 of the Central Motor Vehicle Act, 1988. The Kerala State Rules are in accordance with the Central rules. The main drawback is that the State rules that it has not considered the State specific condition related to the roads and the population density, urban pattern et. while drafting the rules and simply followed the Central rules. The major risk factors of road accidents the state to are over speeding; safety in road engineering, visibility, drunk and driving, non use of seat belts, non- use of helmets and use of mobile phones during driving. It should also consider keeping lane discipline, signal jumping, overtaking through wrong sides, overtime duty by drivers, pedestrian rights like good foot path, walkways, hazardless road crossing, noise pollution affecting the health of public, etc.

The Kerala Road Safety Authority Act and Rules came into existence in 2007. And the only purpose of the Act and Rules is to constitute the Road Safety Authority as required by the supreme court regulations.

The major gaps in the present rules followed are:

- Additional state level legislations are needed for safety aspects like mandatory usage of helmet and seat belt by all travellers, child restraint seat etc. All the safety gadgets in vehicles are to be made compulsory, not optional.
- More considerations are needed in coming legislations on safety issues with respect to road planning and design and maintenance of roads and placed high priority for identification and rectification of black spots. Another aspect brought to highlight was the design for roads to cater to the needs non-motorized transport, pedestrians, vulnerable and physically challenged. Placing hinders on roadside should also to be controlled by law.
- The speeding limits in the roads shall be based on the road condition prescribed by the Indian Road Congress and other statutory bodies. Modifying this by other agencies (police, traffic etc.) without proper studies has to be checked through strict provisions in the rule.
- The fine for non-observance is very low to many of the major offences. For example Rs. 100/- is now charged now for offenses like: driving without helmet, seat Belts not fastened, improper horn usage while driving, disobeying traffic police officer in uniform, driving against traffic signal, failing to give signal, overtaking perilously, overtaking from wrong side, riding vehicle without brake light & indicators, headlight not working, silencer not fitted, driving against one way, carrying persons/objects causing hindrance to the driver, driving on Foot Path, not stopping at pedestrian crossing or crossing a stop line, violation of Mandatory Signs, using High Beam where not required etc. In many other cases also the penalty is very and this has to be enhanced based on the inflation rates every year.
- The driving license is issued as per central rules but the State is not strictly following the requirements for the driving schools and the rules and regulations for issuing the license. State has to have some legal measures to check this by revisiting the procedures followed and incorporating more stringent provisions for checking this.
- The road safety act should have provisions to cater the needs of non-motorized transport, pedestrians, vulnerable and physically challenged with utmost priority taken care in design. Guidelines in tune with national and international standards have to be followed.

- Footpaths are practically absent in most of the roads and if present most of them are close to built-up areas or encroached by street vendors. There should be footpaths and pedestrian crossings in all roads and it should be made mandatory by law.
- It is noted by the study that the number of road accidents are less in 4 lane sector whereas in 2 lane sectors without any dividers accidents are increasing steadily. It recommends that while designing road it would be four lane roads with proper pedestrian passage, road dividers, zebra lines etc.
- The wrong parking of containers and trucks on the right side of the roads and in the service roads in highways, especially in the nights is creating traffic problems and accidents. There is a need for proper law enforcement and imparting training to drivers especially of tippers, trucks etc. at regular intervals.
- Lack of proper road markings and warning sign boards, especially near humps where it creates accidents in many roads and this should be properly monitored by law enforcement.
- A large number of accidents were caused by KSRTC buses and in case of accidental claims, compensation would be met from the corpus fund of KSRTC. There is a need for the Transport Department to make necessary amendments in the rules providing the person causing accidents shall also be equally responsible for paying compensation in case of accidental claims involving vehicles of KSRTC rather than bearing it solely by the Corporation.
- Drunken driving is a major cause of accidents and in any case should be made punishable and strict legislation in this regard is to be made and enforced. Impact of Supreme Court decision on banning of liquor shops near to high ways had strong influence on bringing down accidents. Sale of liquor dropped and accident also came down as no shops are allowed on high ways. This has to be properly analysed and the road safety policy should consider this aspects also. It may also think about giving utmost punishment to drunken drivers by cancelling the driving licence on repeated non- obeying.
- One reason rash/careless driving without observing the traffic rules by the drivers is that the driving schools in the state are not giving proper guidance to the students in this direction. It is found that the MVD has lack of control over driving schools. Even though there are directions by the Transport Commissioner to all RTOs to

inspect at least one driving school in a month and Joint RTOs to inspect all driving schools once in six months and report on their functioning. It is observed that the inspections were not conducted by the concerned RTOs/Joint RTOs as prescribed. This indicated lack of proper control over the functioning of the driving schools. The main reason attributed is the shortage of manpower was the main reason for not conducting regular inspections of the driving schools. The legislation in this regard should be more stringent and the officers not observing the duties also to be made responsible.

- The powers of the Police are limited under the MV Act and only a few sections are there in the Act which enable police to register cases and the fines that can be imposed is found not substantial and more concrete legislation is needed in this area..
- Due to ground-breaking advances in car design and technology, high-quality modern vehicles can perform much better in case of a collision than those of the past. In fact, they are much better equipped to avoid collisions altogether. But most of these are not made mandatory in the state now. There is need for making mandatory the minimum vehicle safety standards for seatbelts, car seat anchorages and frontal/side crash protection etc.
- Kerala urbanizing very fastly than other States in India. Considering this the separate road safety regulations shall be stipulated in the act and rules.
- There is a need for multiple transportation options to be integrated into cities for the greatest impact in reducing in road accidents.. There is a need for policies that provide economic incentives to reduce private motorized vehicle use, such as congestion charging and parking policies, also provide health and environmental benefits and can improve access to vital services, like jobs and education.
- Parking, encroachment, street vender regulation etc. has to be controlled through the act. The Kerala Municipality Building Rules, 1999, prescribe the parking areas required for different categories of buildings.. As the vehicle population increased the requirement of parking areas specified in the rules became inadequate because more than one business entity was operating in office and commercial buildings. As parking space in commercial buildings was based on carpet area rather than on foot-falls, most of the vehicles had to be parked on public roads, which led to traffic congestion. The commercial entities submit to local bodies building plans for

construction of buildings showing adequate space for parking of vehicles. Subsequently, these parking spaces were utilised for business activities leading to parking of vehicles on roads and cause traffic congestion. The local bodies did not have any effective control to prevent such illegal practices. The Corporation of Thiruvananthapuram did not maintain proper records of such violations. In a test check by the PAC, (GoK, 2014), it was noticed that the designated parking spaces in two commercial buildings had been converted for commercial use. Though the Corporation issued a notice to the Manager of these buildings for causing traffic congestion and accidents due to lack of parking space, no action had been taken later. Thus there is a need for comprehensive State specific legislations to check these types of activities.

- Placing hoarders on the road junctions and roadside and erection of arches are another major threat to road safety. The Kerala State Human Rights Commission directed (April 2008) the District Collectors to issue necessary orders banning erection of arches in public places. Erection of arches in public places, especially on busy roads and placing of hoardings on the roadsides obstructed the view of drivers, diverted their attention and cause accidents. It was found that 879 accidents in 2006 and 3025 accidents in 2007 took place due to diversion of attention of drivers (GoK, 2014). The Road Fund Board Thiruvananthapuram issued several orders from 2009 onwards banning erection of arches on public roads. However, it was noticed that the erection of arches continues and concrete legislation is needed for checking this.
- Black spot identification and rectification is another area which needs proper mention in the State legislation. There should be legislations to punish the officers who are responsible for making delays in this.
- Noise pollution through horn and vehicle sounds is a matter which has not given much importance in the laws and law enforcement based on current rules and regulations is also very poor. Recent studies in Kerala by IMA have highlighted this and there is a need for revisiting the current rules and modifying the regulations based on the findings of the study.
- More traffic deaths occur outside of hospitals due to less effective emergency response. Fast, effective emergency response is key to reducing the impact of traffic collisions. Often, delayed responses to fatal crashes are due to uncoordinated communication between responder systems and slow deployment of resources. The

best way to provide prompt medical treatment is through a State or regional trauma system, which includes hospital-based mobile medical teams that are trained to work efficiently with ambulance services, local police and fire services. The State act has to take care developing proper systems for providing emergency medical assistance to crash victims.

- Availability of good ambulance services and emergency medical services to support the victims are inadequate in the state now. Considering the financial crisis of the state there is a need for thinking about the possibility for a PPP mode of implementation.. All ambulances services need be brought under one umbrella and a coordination mechanism to be developed to run them efficiently. For proper working of the system a centre to co-ordinate the activities is needed with latest technologies, it can be under MVD and under proper monitoring by KRSA. Proper rules and regulations needed in the State for this.
- The state govt. also should have control over the insurance sector in the case of accidents which has to be achieved through appropriate legislation.
- Large trucks and buses are running at high speed in many roads especially in peak hours, and several recent accidents with the large trucks has taken many lives.. In some cases, these large trucks were parked at junctions and along the various market areas. Buses are running in competition and many are stopping in the middle of the road or junctions. It is recommended that bus bays should be constructed at key junctions and law should be made more stringent to check this.
- Getting safe, competent and well-trained drivers on the road is part of the battle. In Kerala there is many lacuna in issue driving licences and manily due to large number of applicants to be handled by a single Motor Vehicle Inspector for conducting the practical tests. The PAC (Gok, 2014) has observed that the practical test for the permanent driving licence is conducted by the MVI/AMVI. The number of licences issued during 2004-05 to 2008-09 was around three lakh per year. The maximum number of candidates to be tested on a day was fixed at 40 by the Transport Commissioner in May 1997. However, Audit found that during 2008-09 in RTO, Thiruvananthapuram, the number of candidates who took driving tests were in the range of 41 and 68 per day on 157 days. The increase in the number of candidates was likely to affect proper evaluation of the driving skills which would,

in turn, lead to issue of licences to persons with inadequate driving skills. There should State level legislature to control the number of applicants per day.

- There is also a need for continuing education for the drivers under various categories. Education programs for new drivers should be thorough, highly supervised, regulated, hands-on and start early. Cognitive Behavioural Therapy for drivers improvement was recommended by a study by Muhammed Najeeb (2008). This should be legalised and it should made mandatory that all driving license holder should successfully attend a training session once in every five years.
- The road safety should be an integral part of the school curriculum to help adolescents build their competencies as early as possible. For this proper directions are needed in the state road safety act.
- Awareness creation to the all types of road users is the need of the hour. This will include development of effective traffic education for school children, road safety publicity and enforcement campaigns to encourage safer road user behavior and training of the officers in effective planning, implementing and monitoring of community based road safety programs. Procedures and performance indicators should be developed for capacity development in communities. Safety training will be provided to the department officers and to the local communities living along the main highways to minimize risks of their people becoming injured or killed in a road accident.. Government to publish suitable material to educate public about role of “Good Samaritans” and the ambiguities in this regard has to be sorted out in the new road safety act. The activities of various departments/institutions in this direction have to brought under one umbrella monitored by KRSA Provision for proper awareness creation programs with proper monitoring and impact assessment programs shall be there in rules.
- Road safety research is now undertaken by NATPAC and some engineering colleges which are running traffic and transportation engineering PG courses. Another institute under PWD, The Kerala Highway Research Institute (KHRI) has to be strengthened to meet the objectives. Collaborative research between institutions has to be promoted by incorporating this in the road safety policy.
- Lack proper data management by various agencies is the main lacuna in this direction. And road safety act by the state has to take care this very seriously and

give provision for decentralized data collection and management of this data in centralized manner. Regular data updating also to be made mandatory.

- There is a gap in involving the local government institutions (LSGs) in road safety issues. The 73rd Constitutional Amendment Act has provided a Constitutional status to the Panchayati Raj Institutions in India and left no discretion with the State governments in several important matters pertaining to these Institutions. Considering this their involvement very crucial in tackling road safety issues also. This may include: providing parking facilities, providing immediate trauma care facilities, maintenance of roads, awareness creation and education etc. The sec. 72 of Kerala Police Act 2011 mention that “in every Grama Panchayat, Municipality and Corporation Traffic Regulatory Committees shall be constituted as may be prescribed, for regulating matters in respect of traffic”. But the implementation level is very poor. It is an undisputed fact that there is an urgent need in the revisiting the current legislations, but it is also important there should be a sound mechanism for law enforcement and the state situation is very poor in this direction.

3.2 GAPS IN THE CURRENT OFFICIAL NOTIFICATIONS, OFFICE ORDERS AND OTHERS

The study has gone through the office orders and circulars of the Motor vehicle department but only very few dealing with road safety issues related to the high risk areas. Out of more than 200 government notifications, office orders and circular issued by the transport and home departments from 2010 onwards, only 16 deals with road safety related issues (15 from motor vehicle department and 1 from home department).

Out of this 4 (3 by MVD and 1 by Police) on enforcement of traffic laws, 3 on over speeding of vehicles including fitting speed governors, 2 on helmet wearing, 2 are on accident reporting, 1 on child safety in cars, 1 on placing hoardings on roadside affecting the visibility of drivers, 1 on competition of private buses creating accidents, 1 on fitness of vehicles and 1 on formation of road safety clubs.

There is gaps in conducting regular monitoring and analysis of the road safety issues by various departments and Kerala Road Safety Authority and issues notifications and circulars to the implementing officers to perform their duty more promptly.

3.3 INSTITUTIONAL BARRIERS AND CHALLENGES TO STRENGTHEN THE PROVISIONS

At present the Kerala Road Safety Authority is the nodal agency for coordinating all activities related to road safety in the State. Kerala Road Safety Authority Act-2007 (8 of 2007) was promulgated by Notification No.2622/Leg.Uni.2/07/Law dated 13th April 2007 providing for Constitution of Kerala Road Safety Authority and the Road Safety Fund. As per G.O(P) No. 20/07/Tran dated 19-04-2007 (published as per SRO No. 355/2007 in the Kerala Gazette extra ordinary dated 19-04-2007) issued under Section 3 of the Act Kerala Road Safety Authority has been constituted. The Authority has been set up to co-ordinate action on areas related to Road Safety among various departments in government, advise Government on road Safety Policy, prescribing and enforcing Road Safety standards and procedures, formulate and implement schemes, projects and programmes relating to Road Safety promote Road safety awareness, co-ordinating the functions of all the agencies and Government Departments discharging the duties related to Road Safety etc.

Based on the above, Government as per G.O(P) No. 55/07/Tran. dated 26-12-2007 (published as per SRO No. 1082/2007 in the Kerala Gazette extra ordinary dated 26-12-2007) framed Rules as laid down in Section 38 of the said Act.

The main functions of the Authority are:

1. Advising the Government on Road Safety Policies
2. Prescribing and enforcing Road Safety standards and procedures
3. Formulate and implement schemes, projects and programmes relating to Road Safety.
4. Co-ordinating the functions of all the agencies and Government Departments discharging the duties related to Road Safety.
5. Implementing Road Safety awareness programmes.
6. Administration of the fund
7. Sanctioning expenditure for the implementation of Road Safety schemes and programmes.
8. Sanctioning expenditure for Road Safety projects and for purchase and installation of equipments and devices connected with Road Safety.
9. Sanctioning expenditure for the conduct of studies, projects and research on matters, relating to road safety.
10. Sanctioning expenditure for trauma-care programmes or activities.
11. Sanctioning administrative expenditure of the Authority.

12. Sanctioning expenditure on matters connected with road safety measures.
13. Formation of self help groups, under the leadership of the Authority for the rescue operation in the place of accident.
14. Discharging such other directions, as may be prescribed, having regard to the objects of this Act.

The major departments and other institutions associated with road safety issue are:

1. The State Department of Transport
2. Motor Vehicle Department
3. The State Home Department
4. Public Works Department
5. Health and Family Welfare Department
6. General Education Department
7. Local Self Government Department
8. Law Department
9. Finance Department
10. National Transportation Planning and Research Centre (NATPAC) under the Kerala State Council Science Technology and Environment

The major gap identified here is that at the authority is not able to interfere in the road safety related activities of various departments mentioned above and provide better integration. Some example noted by the study are:

- The PWD is fixing a speed limit for each roads based on the road conditions but the enforcing authority (Police) fix a higher speed limit for the same road.
- Many road accidents are caused by the delayed road restoration works. This is happening due to lack of co-ordination between various agencies in Government like K.S.E.B., K.W.A. etc.
- The district road safety council meetings are not conducted in many places regularly because of lack of coordination between institutions.

One of the reasons attributed for lack proper coordination between different agencies is that the authority is now chaired by the Minister for Transport. In order to overcome this, the Chief Minister could be the chairman so that the authority will have more power to integrate the activities of various departments.

3.4 GAPS IN THE STATE ROAD SAFETY POLICY, REGARDING THE HIGH RISK AREAS

The State has long back drafted the Kerala Road Safety Policy under the leadership of NATPAC. However, it was not notified at that time. Now after the formation of Kerala Road Safety Authority, they have developed a modified draft policy document, conducted lot of consultations and prepared the final policy and is now approved by the Government, but is yet to be notified. The final policy document is attached as annexure 1.

In order to achieve significant improvements in road safety in Kerala the policy identified various activities like:

1. Raising Public Awareness about Road Safety Issues
2. Establishing Road Safety Information Database
3. Ensuring Safer Road Infrastructure
4. Safer vehicles/vehicle safety
5. Safer Drivers
6. Safety of Vulnerable Road Users
7. Road Traffic Safety Education and Training
8. Enforcement of Safety Laws
9. Emergency Medical Services for Road Accidents
10. HRD and Research for Road Safety and
11. Strengthening Enabling Legal, Institutional and Financial Environment for Road Safety

KRSA is identified as the implementation authority for Road Safety Policy. It has also developed an action plan for implementation.

The major gaps identified in the proposed policy are that the action plan does not anything about various timelines for implementation and there is no fund allotment for activities proposed. The policy has to have detailed mention about the following aspects also:

- Control on urban transport,
- Control on vehicle parking on road side

- Street Vender's Rehabilitation
- Concrete policy/action plan for ensuring the safety of vulnerable road users.
- Out door advertisement policy

The study suggests separate policies under the broad road safety policy for addressing the very important issues mentioned above.

3.5 SCOPE OF BRINGING IN NEW ROAD SAFETY LEGISLATIONS OR POLICIES, TO STRENGTHEN THE SCENARIO OF ROAD SAFETY

The unique conditions of the State which differ from most of the other States in India like: Rapid urbanization, High population density even in the rural areas, narrow road infrastructure, difficulties in land acquisition (high land cost and high concentration of buildings in road sides) etc. points to have a separate road safety act for the state without diluting the basic principles of the central law.

The Kerala Road Safety Authority Act and Rules (2007) has mention only about the constitution of Road Safety Authority and its duties and responsibilities. The Government may think formulating a broad act as the Kerala Road Safety Act which may cover all aspects related to road safety in accordance with the central act and rules and giving more powers to the authority to coordinate activities under various departments.

3.6 STATUS OF IMPLEMENTATION OF GUIDELINES GIVEN BY THE SUPREME COURT COMMITTEE ON ROAD SAFETY

In April 2014, the Honorable Supreme Court of India constituted a three member Committee on Road Safety, headed by Retired Justice K S Radhakrishnan, in light of writ petition (No.295/2012) under Article 32 of the Constitution filed by Dr. S. Rajaseekaran, an orthopaedic surgeon, a public spirited citizen and President of the Indian Orthopaedic Association has, *inter alia*, prayed for enforcement of road safety norms and appropriate treatment of accident victims due to increasing road accidents which required immediate attention and remedial action.

The main objective of the committee was to scrutinize and monitor enforcement of statutory provisions including the Motor Vehicles Act for making road safer. With this

objective, the Committee interacted with various central and state ministries and issued directions to improve road safety in India.

The Supreme Court Committee on Road Safety (SCCRS) has, over the course of last many years, sent directions to the States to implement various policies, institutional and infrastructure related measure in an effort to improve the standards of road safety and reduce accidents and fatalities. The Committee, while sending the recommendations for implementation had directed the States that the measures should be implemented positively, and the adopted measures and actions taken up should be shared with the committee through an Action Taken Report (ATR) every quarterly by sending a detailed report to the Committee. Subsequent to this, the Committee issued additional directions to the States based on the review of action taken report received from the States.

It has been observed by the committee that even though the States were taking actions to implement the directions, the road accident fatality rates were not showing much improvement. Also, some of the States were not shown progress towards implementation of the directions.

The present study has made a detailed enquiry through various communications to the committee by the transport department and office orders and circulars available in the department. The findings are given in table 3.9.

Table 3.9
Findings on Compliance of Guidelines of Supreme Court Committee on Road Safety

No	Issues	Observations of SC committee	Action Taken
i	Analysis of cause for high number of accidents and fatalities.	<p>The committee noted that the State of Kerala has marked increased in fatality rate by 2.6% in the period January – September as compared to corresponding period in 2017</p> <p>The committee directed the State to analyze, district wise, the cause for high number of accidents and fatalities, identify all vulnerable locations on the basis of such analysis and take specific prevention measures to reduce road accidents and fatalities at all vulnerable locations</p> <p>Set annual targets of not</p>	<p>Accident analysis are carried out by Kerala SCRB and the report is shared to other departments periodically</p> <p>Kerala Road Safety Authority coordinates various Road Safety Activities/ Programs and extends financial assistance to District Road Safety Council (DRSC) for undertaking multi-sectoral road safety interventions</p> <p>District- wise Accident Analysis identifies vulnerable locations periodically and share with stake holding departments for appropriate treatments. Latest report of accident analysis for 2018 is available in the Transport Department</p> <p>10 % target communicated to a DRSC,</p>

No	Issues	Observations of SC committee	Action Taken
		<p>less than 10% for reduction of road related fatalities on the basis of analysis of the accident data. Take specific measures to address problems in the stretches where maximum fatalities occur.</p> <p>As required under Section 135 of Motor Vehicle Act 1989, every road accident involving death or major injury should be scientifically investigated by a team comprising of a representative each from Department of Transport, Police and PWD.</p>	<p>Dist. Police chiefs and Range IGs. In 2018, an increase of 4.3% in accidents and 1.6% in fatalities were recorded in 2018 compared to previous year.</p> <p>Although the accident in absolute numbers have increased by 1641 cases compared to 2017, the accident rate per 1000 vehicles has come down from 3.5 accidents in 2017 to 3.0 in 2018. Similarly, fatality rate has come down from 0.4 deaths per 1000 vehicles in 2017 to 0.3 in 2018.</p> <p>Directions have been issued to all DRSCs and district level officers to conduct joint field visit and submit report to avoid such instances. Post-crash analysis of selected fatal accident locations are done by NATPAC at the instance of KRSA.</p> <p>Complied with the directions.</p>
ii	State Road Safety Council	<p>The Committee noted that the State Road Safety Council met twice in 2018. The committee directed that the Council should continue meeting at least twice every year to take stock of the road safety situation in the State and to take necessary remedial measures wherever required. The minutes of the meeting of the Council should also be forwarded to Committee regularly.</p>	<p>The State has complied with the direction</p> <p>Road Safety Council formed and meetings conducted for 4 times in FY 2016-17, 2 times FY 2017-18 and 2 times FY 2018-19 under the chairmanship of Transport Minister.</p> <p>Complied with the directions.</p>
iii	District Road Safety Committee	<p>The State officials inform that meetings of the DRSCs are being held quarterly</p> <p>The committee directed that analysis of the accident data of the district and identification of vulnerable road segment should be done online regular basis. Annual targets for the reduction of road accidents and fatalities should be fixed for each district and the same should be monitored by the Lead</p>	<p>District Road Safety Councils hold meetings regularly. Instructions are sent to DRSC to conduct at least once in a quarter.</p> <p>Schedule of DRSC meeting held during the year 2017 and 2018</p> <p>Annual targets of 10% reduction in fatalities and the road accidents was communicated to all DRSCs, Range IGs District Police Chiefs and RTOs.</p> <p>DRSCs are directed to submit annual report highlighting actions taken to reduce accidents, enforcement strategy and the Road Safety Programs during</p>

No	Issues	Observations of SC committee	Action Taken
		Agency.	the year. Technical support group of the Lead Agency monitors functioning of DRSCs regularly. Complied with the directions.
iv	Lead Agency	<p>The committee noted that the State has appointed a full-time road Safety Commissioner and filled up the vacant managerial post also.</p> <p>The committee stated that the Lead Agency should have a fulltime staff with the domain knowledge of enforcement, road engineering, education and emergency care. the committee directed the State to comply with the directions latest by 31st March 2018.</p> <p>Arrange/Impart training on road safety to the staff of the Lead Agency(Course Outline/Curriculum attached)</p>	<p>A full time Road Safety Commissioner In palace</p> <p>Five technical experts in the fields of Road Safety cum Transportation Planning, Traffic & Engineering, Social Work and Community Liaison, Journalism & PR work are posted in the Lead Agency as Technical Support Group.</p> <p>MoRTH sponsored 5-days training program was imparted in Feb-March 2019. Six such programs are planned by AITD during the year 2019.</p> <p>The State PWD has drawn up Training calendar of conducting three Road Safety Training Programs for Engineers in the months of June, Sept and December 2019.</p> <p>Complied with the directions.</p>
v	Road Safety Fund	<p>The Committee noted that even though Road Safety fund has been established in the State Since 2008, the allocation of funds is not as per rules.</p> <p>The DIMTS audit report clearly stated that no road safety fund was allocated since 2015 and it is lapsed in the FY 2017-2018 even though it is non-lapsable as per road safety fund rule.</p> <p>The committee noted the state has not set up a dedicated non- lapsable Road Safety Fund as per the Committee's directions dtd.24th Nov. 2016 and the lack of road safety funds has adversely affected the remedial measures in the State to set up Road Safety Funds in the prescribed</p>	<p>As per Section 11 of KRSA Act 2007, the main contributions of Road Safety Fund is one-time Cess received from vehicles state contribution to the Fund, an amount equal to S0% of compounding fee collected in the previous year under Section 200 of MV Act 1988 (Central Act able 59 of 1988).</p> <p>Allocation of fund is made by the Government as per the requirements</p> <p>An amount of Rs 481.57 Crore is due to KRSA up to March 2018. Government has been requested to release the amount and exempt KRSA from resumption of its fund.</p> <p>Partially complied with the directions.</p>

No	Issues	Observations of SC committee	Action Taken
		manner.	
vi	Protocol for identification and rectification of black spots.	<p>The committee was informed that the state has not finalized the Annual Protocol of Black Spots. The committee directed the State to prepare the protocol and follow the same every year. The State should also monitor the rectified black spots to check the efficiency of the rectification action taken by the State and send the evaluation reports on the rectified black spots. The committee directed the State to send compliance reports latest by 31st March 2019.</p>	<p>NHAI: Identified 14 blackspots. Road Safety Expert team engaged by NHAI studied these Blackspots and proposed long term measures, immediate / short term measures.</p> <p>PWD(NH and State):NATPAC identified 275(159 on NH and 116 on SH and MDR's) black spots in the year 2012, with an estimate of rupees 590 crores. Due to funds constraint NATPAC was directed to prioritize the blackspots/road safety works up to the limit of rupees 10 crores. Accordingly only 46 blackspots have been prioritized but not rectified till date.</p> <p>There is no clarity been excised to identify the fund sources for blackspots rectification</p> <p>Partially Complied with the directions</p>
vii	Traffic calming measures	<p>(i.) The committee directed the state to adopt the traffic calming measures on the lower hierarchy roads at locations where they merge with higher hierarchy roads. Traffic calming measures on as other accident prone locations should also be taken.</p> <p>(ii.) The committee directed that the State to carry out audit of roads and take the traffic calming measures as recommended by audits.</p>	<p>A Circular for providing traffic calming measures on PWD Roads is issued, vide PWD Circular No. GL(Tech)/CE-Roads/RSW/ 2019 dated 18-03-2019.</p> <p>There are no Traffic Calming easures at the blackspot junction. Speed measurements shows that commercial vehicles are moving with speeds higher than 60kmph. There are no speed humps etc on minor road. Two wheelers trying to join NH are not getting appropriate safe gap due to high speed of traffic. Because of this they are driving on wrong side of the NH. Also, there are no traffic signs, signals, road marking etc.</p> <p>Few Engineers from PWD and NATPAC are trained as Certified Road Safety Auditor. Design-stage auditing and post-construction audit are usually carried out by professional auditors. NHAI engages professional agencies to conduct Safety Auditing in the</p>

No	Issues	Observations of SC committee	Action Taken
			state. Not properly complied with the directions
viii	Capacity building in road safety measures	<p>The committee noted that the State has not drawn up Annual calendar for training Engineers in road safety. The committee observed that the number of engineers trained is low and that a calendar for training of all engineers for the year 2019 should be drawn up and implemented without any further delay.</p> <p>The committee directed the State to send compliance reports latest by 31st March 2019.</p>	<p>KSRTC imparts periodical training to their crew through their Training Centers. Senior officers of KSRTC are deputed regularly to attend training national institutes of repute.</p> <p>MORTH sponsored 5-day training program was conducted during Feb-March 2019. Six such programs are planned during year 2019. The State PWD has drawn up Training calendar of conducting three Road Safety Training Programs for Engineers in the months of June, Sept and December 2019.</p> <p>Training imparted to Casualty Medical officers, Staffs and paramedics on Trauma and Emergency medical care staff.</p> <p>Training programs for stake holder departments are being initiated MORTH sponsored 3-day training on Road Safety for officers of the holder departments incl. Police, MVD, Transport, PWD and LSGD are planned.</p> <p>Road safety education included in school curriculum from 3rd to 6th standards and 5th to 10th standards in Basic Science from Coming academic year.</p> <p>State council for Education, Research and Training has taken up the Task and Developing Modules</p> <p>Complied with the directions</p>
ix	Engineering Design of New Roads design stage audit of road projects of 5km or more	<p>(i) The committee noted that the road safety audit at the design stage has not been made mandatory for all road projects costing more than 5 Crore as directed by Honorable Supreme Court.</p> <p>(ii) The committee directed to the State to ensure that design a design</p>	<p>Govt. issued GO in this regard. NATPAC has been entrusted with Road Safety Audit of works costing above Rs 10 Crore to a length of 5 km or more, was issued</p> <p>Complied with the directions</p>

No	Issues	Observations of SC committee	Action Taken
		stage audit is implemented and all road owing agencies should ensure that the recommendations of the Audit are implemented before commencement of the construction.	
x	Agency of man power and Road safety equipment for ensuring strict implementation of the Motor Vehicle Act	The committee directed the State should draw up an action plan with, yearly targets with regarded to both, the Equipment and Traffic man power, so of as to reach the BPR & D norms as a phased manner.	Recently, under Safe Kerala Project, Government created 262 additional posts of MVD Officers & deployment of addl. 51 enforcement squads and vehicles fitted with modern equipment for 24x7 patrolling and monitoring of Kerala roads. Complied with the directions
xi	Emergency medical Care	The committee was apprised by the State representatives that each district the State has a Trauma Care Centre and they are functional.	A comprehensive Trauma and Emergency Management Project is in Place in the State. The project is to operate 315 ambulances in aggregator model throughout the state. A letter of intent has been issued on 8 th March 2019. The Project is implemented through Kerala Medical Service Corporation Trauma Care facilities are provided in selected Hospitals along National Highways and near Black Spots locations. Complied with the directions
xii	Response to the Committee's letter date 11 th September 2018	The committee noted that the State has not set up institutionalized mechanism for the identification and rectification of problems, The committee directed the State to prepare a scheme.	The State created a new set up in PWD known as Road maintenance wing under the Chief Engineer to monitor maintenance works of roads Partially complied with the directions
xiii	Fatalities due to Pot-holes	On the same and send the compliance report latest by 31 st March 2019.	Vide GO (MS) NO.73/2013/PWD dated 31/8/2013, Defect Liability period has been fixed for various types of road surfaces. If any defect occurs during this period, it will be rectified by the Contractor at their own cost. Partially complied with the directions
xiv	Road accidents and fatality data collection	The committee noted that the State follow a separate web-based system called RAPID for accident recording and reporting and	The Road Accident Portal Information Details for (RAPID) System is now updated to collect all the field of MORTH-Road Accident Recording Form.

No	Issues	Observations of SC committee	Action Taken
		<p>note the prescribed format from the MoRTH</p> <p>The Committee directed the State to follow uniform method of recording analysis and reporting of accident data through computerized data entry in the format prescribed by MoRTH and makes the data public for the information of all stakeholders.</p> <p>The Committee also directed that annual accident data of the State relating to the year 2017 and 2018 may be published and a copy there of should be sent to the Committee by 31 March 2019</p>	<p>It is capable of generating all 17 forms of annual Road Accident Reporting Format as per MORTH of requirements. Road accident data is shared to limited stakeholders with user-controlled access.</p> <p>Road accident data is shared to limited stakeholders with user-controlled access. SCRB publishes annual road accidents statistics some of which are accessible to public. Published reports can be accessed through www.keralapolice.gov.in</p> <p>Partially complied with the directions</p>
xv	Enforcement of Traffic Laws	<p>The Committee observed that only 6% of the total violations detected have been forwarded for suspension for the quarter July- September 2018 clearly indicating that the enforcement of traffic in the State is significantly low, it has also been observed that there is 11% increase in fatality caused due to over speeding in 2007 when compared to 2016</p>	<p>Proposal for bifurcation of traffic police stations, setting up of traffic police station at sub divisional level and creation of additional posts submitted to additional chief secretary Home Department ref no. No.1/ CV/2015 dated 9th March 2015. Planning to introduce another 85 squads by TD. The following Enforcement Equipment are in place: Alcohol Meters -795, Speed Guns -30, Intersections-1, CCTV -448.</p> <p>There exists substantial gap between inventory maintained vs required as per MHA. Additional equipment required are: Alcohol Meters -222, Speed Guns -72, Intersections-40</p> <p>Safe Kerala Project envisages deploying additional manpower for Traffic Enhancement. The project is formally launched in March 2019.</p> <p>Partially complied with the directions</p>
xvi	Lane driving	<p>The Committee directed the State to strictly implement the Motor vehicle (driving) regulations 2017 dated 3rd</p>	<p>The State has limited length (about 175km) of divided carriage roads in 4-line/ 6line sections, line discipline is being enforced in other sections.</p>

No	Issues	Observations of SC committee	Action Taken
		June 2017 issued by MoRTH.	Depending on the risk level, no- over taking zone is declared. Partially complied with the directions
xvii	Response to the Committee's letter dated 26 th September 2018 regarding additional directions	The Committee directed the State to follow the State's n additional directions stated in the Committee's letter No 12/COAS 2018 dated 26 th September 2018 and submit the compliance report latest by 31 March, 2019	Response given Partially complied with the directions
xviii	Implementation of Street Vendors Act 2014	The Committee noted that the State has not initiated any steps in furtherance of the street vendor Act 2014 The Committee directed the State to set up the mandated authorities under the law without any further delay The Committee further directed to the State to ensure that there is availability of continuous and safe footpath free from encroachment for the pedestrian's safe movement	Response from LSGD awaited Not complied with the directions
xix	3 rd party insurance of Vehicles	The Committee stated that as already directed wide its letters dated 27 th December 2016 and March 2017, the state should conduct drives of periodically to check whether the vehicle owners have 3 party insurance in case they are not covered by the third party insurance, the State should detain the vehicles till such time he insurance certificate is produced by the vehicles owners. Quarterly reports on the prescribed Performa should be sent the committee regularly.	Quarterly Report in the prescribed format are sent regularly. Complied with the directions

No	Issues	Observations of SC committee	Action Taken
xx	Fitment of SLD in the transport vehicle	The Committee directed the State to strictly implement the directions contained in its letter dated 11th April 2017 in regard to the installation time of SLDs in the transport vehicles and submit quarterly reports to the Committee on the number of vehicles which came for fitment certificate and the number of vehicles which failed to comply with the said directions	As ordered by the committee, installation of SLDs in transport vehicles are given high priority. At the time of testing for the certificate of Fitness. Working of SLD is carefully watched and the certificate is issued only those vehicles complying the direction. Quarterly report in the matter is sent to the committee regularly. Complied with the directions
xxi	Compliance to DIMTS Audit Report	The Committee noted that the state has not till date provided point-wise reply to the gap identified by DIMTS in its Audit Report and has been issued a reminder letter dated 22nd January 2019. The Committee directed the state to examine the gap-analysis done by DIMTS and take action wherever Kerala necessary and send a compliance report as indicated in the above stated correspondence.	Compliance Report from Transport Commissioner sent on 14 th March 2019. Complied with the directions

CHAPTER 4

THE WAY FORWARD

4.1 GENERAL RECOMMENDATIONS

Road accidents are a never-ending drama. They are the leading cause of mortality among young people. It is a health emergency to which governments must find a response, and all the more so because they know what the remedies are: prevention, deterrence and making all major stakeholders to take its responsibilities.

Even though we have here discussed about the initiatives taken to improve road safety at national/state level but the road traffic accidents remain a burden in the State. Still, more than half of road traffic injuries affect pedestrians, cyclists and two- wheelers.

In the State of Kerala, the study has found that Government did not make concerted efforts to co-ordinate the activities of the various institutions involved in road safety activities. Shortage of enforcement officers and lack of equipment and training diluted the enforcement of rules and regulations. There was also no mechanism to identify habitual offenders of traffic rules and to impose penalties. Road safety awareness programmes lacked sufficient planning and impact assessments. Delays in road restoration works increased the risk of road accidents in many in the State.

The Road Accident Portal Information Details for (RAPID) System even though now updated to collect all the field of MoRTH-Road Accident Recording Form, the performance still poor and did not serve the intended purpose. Emergency care services in the State also need much improvement. The Motor Accidents Claims Tribunals still had the burden of clearing lakhs of pending cases.

There is a dare need for the Government should review the multiplicity of committees in the field of road safety and the Kerala Road Safety Authority should be given adequate financial and executive powers for ensuring proper co-ordination between the various concerned agencies.

One of the major lacuna observed by the study is the total negligence of the local body authorities (Grama Panchayat, Municipality and Municipal Corporation) in road safety related issues. There is an urgent need for giving proper capacity building of the local bodies in this direction. They may involved in the activities by proper training and capacity

building program by Kerala Institute of Local Administration (KILA) to develop their own road safety plans. The major points to be stressed are:

- Permission to buildings without adequate parking within the premise not to be given.
- Do not permit hoardings at junctions and near traffic signals or sign boards.
- Do not give license to establishments on busy roadsides any more.
- Do not permit ramp of houses onto road.
- Demand side measures like congestion tolls, kerbside parking charges.
- Ensure pothole free municipal roads
- Place road signs as per Act and Rules
- Entrust Kudumbasree units and SHGs for foot path maintenance for all roads, erecting guard rails for all roads in town areas and 2 kms on both sides of all towns, filling potholes etc under employment generation schemes/urban poverty schemes
- Have a road safety audit every year
- Review road safety measures in panchayat level RS council
- Assess the potential of water transport for mobility of goods & passengers in each district
- Train Panchayat members in trauma care
- Have at least one well equipped accident care hospital in each block

In addition to the major recommendations made by the study regarding the legal gaps, order to reduce the road accidents the Government may also think of alternative transport mechanism for which the State is having high potential. The major activities to be considered in this direction are:

- Focus on inland water transport with speedy, cost effective, comfortable and frequent boat services; developing efficient embarkation points (jetties) near to major towns – connecting with public transport aligned to boat timings
- Focus on sea transport from Trivandrum to Kasargode stopping at Cochin and Kozhikode ports with least turn around time, with speed, passenger capacity and all weather operations as major factors
- Consider not to have any new roads or further widening on North South direction on environmental impact consideration and availability of alternative modes of transport.
- Lobbying for more limited stop fast trains between Kasargode and Trivandrum.

- Many studies in India and abroad has shown the benefits of shifting from costly urban highways to well-designed streets with public transport and pedestrian and bicycling infrastructure. The State may also think in this direction by engaging well qualifies urban designers.

4.2 NEED FOR PROPER FUND ALLOCATION TO ROAD SAFETY

It is very unfortunate that the funding priorities of the State do not reflect a considerate of the evidence of large massacre of young people in the road. For the last one decade, most of the Indian states have mostly failed to devote funds for road safety. This evidence to action gap becomes especially noticeable when relatively inexpensive, effective interventions for road traffic injuries are available.

As more people realize that traffic deaths are one of the leading causes of deaths globally, many multinational and philanthropic road safety funds and networks have emerged to help address the problem. However, the Government need to back up their commitments to reducing deaths by directly allocating funding for road safety improvements. In addition to the ethical imperative to save lives, this investment is economical: Dangerous roads generate costs in terms of lost lives and productivity, as well as negative impacts on development. A study by the International Road Assessment Program showed that it would only take 1–3% of road construction budgets to increase road safety, suggesting that the problem is more about awareness and perceptions rather than a lack of resources. It is to be noted that:

- Because road safety is a multifaceted issue, budgets should not be allocated into road safety projects in isolation. Rather, any budget allocation for mobility – from street design to licensing to public transport planning – should be conditional on having a safety component.
- India's roads claim 150,000 lives a year, with more than 500,000 seriously injured, and the figures have been steadily increasing for the last 25 years, according to Government estimates. The human cost of this road safety crisis is enormous, and so is the impact on India's economic outlook. A recent study by the World Bank with support from Bloomberg Philanthropies found that reducing road mortality and injuries by 50 percent could boost India's GDP by as much as 14 percentage points of GDP over 24 years.

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KERALA ROAD SAFETY POLICY

Based on the globally accepted multi-pronged strategy and the safe-system approach for improving road safety and the National Road safety policy, the Kerala Road Safety Policy outlines the initiatives to be taken by the Government and its' agencies at all levels.

The policy is outlined as under: -

I. Preamble

The Government of Kerala is deeply concerned about the growth in the number of road accidents, injuries and fatalities in recent years. It recognizes that road accidents have now grown in to a disaster and become a major public health and safety issue, and the victims are mainly the poor and vulnerable road users.

2. The Government of Kerala further recognizes that as road accidents involve roads, motor vehicles and the human beings, State road safety needs to be addressed on a holistic basis. It also recognizes that regardless of jurisdiction the Government a joint responsibility in reducing the incidence of road accidents, injuries and fatalities.

3. In the light of this, the Government of Kerala, through this State Road Safety Policy, states its commitment to bring about a significant reduction in mortality and morbidity resulting from road accidents.

II. Policy Statements

In order to achieve a significant improvement in road safety, the Government of Kerala is committed to:

(i) Raise Public Awareness about Road Safety Issues

The Government would increase its efforts to promote awareness about the various aspects of road safety, the social, economic and health implications of road accidents

and what needs to be done to control the rising menace of road accidents. This would enable and empower people and different other stakeholders to play a meaningful role in promoting road safety.

(ii) Establish a Road Safety Information Database

The Government will provide assistance to local bodies, and related departments to improve the quality of crash investigation and of data collection, transmission and analysis. A State Road Safety Information System will be established for providing continuity and policy guidelines to this activity.

(iii) Ensure Safer Road Infrastructure

The State Government will take measures to review standards pertaining to safety in the design of rural and urban roads and bring them in consonance with international best practices keeping in view of State traffic conditions. Continuing application of Intelligent Transport Systems (ITS) under a national framework to establish a safe and efficient transport system will be encouraged.

(iv) Safer Vehicles/ vehicle safety

The Government will take steps to ensure that safety features are built in at the stage of design, manufacture, usage, operation and maintenance of both motorized and non-motorized vehicles in line with international standards and practices in order to minimize adverse safety and environmental effects of vehicle operation on road users (including pedestrians and bicyclists) and infrastructure.

(v) Safer Drivers

The Government will strengthen the system of driver licensing and training to improve the quality, competence and capability of drivers.

(vi) Safety of Vulnerable Road Users

The design and construction of all road facilities (rural and urban) will take into account the needs of non-motorized transport and the vulnerable and physically challenged in an appropriate manner. The Government will seek to disseminate 'best practices' in this regard to town planners, architects, and highway and traffic engineers.

(vii) Road Traffic Safety Education and Training

Road safety knowledge and awareness will be created among the population through education, training and publicity campaigns. Road safety education will also focus on

school children and college students, while road safety publicity campaigns will be used to propagate good road safety practices among the community. The Government will encourage all professionals associated with road design, road construction, road network management, traffic management and law enforcement to attain adequate knowledge of road safety issues.

(viii) Enforcement of Safety Laws

The Government will take appropriate measures to assist various agencies to strengthen and improve the quality of enforcement in order to ensure effective and uniform implementation of safety laws. The Government will actively encourage the establishment and strengthening of patrolling on National and State Highways in cooperation with appropriate departments/agencies.

(ix) Emergency Medical Services for Road Accidents

The Government will strive to ensure that all persons involved in road accidents benefit from speedy and effective trauma care and management. The essential functions of such service/s would include the provision of rescue operation and administration of first aid at the site of an accident and the transport of the victim from accident site to nearby hospital. Hospitals alongside the National Highways and State Highways would be adequately equipped to provide for trauma care and rehabilitation.

(x) HRD & Research for Road Safety

The Government will encourage increased activity in programmes of road safety research by identifying priority areas, funding research in those areas adequately and establishing centers of excellence in research and academic institutions. The Government will facilitate dissemination of the result of research and identified examples of good practices through publication, training, conferences, workshops websites and other media platforms.

(xi) Strengthening Enabling Legal, Institutional and Financial Environment for Road Safety

The Government will take appropriate measures to ensure that the required legal, institutional and financial environment for road safety is further strengthened and a mechanism for effective coordination of various stakeholders is put in place. The reforms in these areas would provide for the active and extensive participation of the community at large, of the private sector, academia and NGOs.

III. Implementation Strategy

The Government has already established Kerala Road Safety Authority (KRSA) under KRSA Act 2007 and made KRSA as the nodal agency to oversee the road safety activities in the State and evolve effective strategies for implementation of the Road Safety Policy.

The action plan is enclosed as appendix

Annexure

ROAD SAFETY ACTION PLAN FOR KERALA

- (i) Coordination and Management
- (ii) Crash Data Collection and Management System
- (iii) Road Safety Publicity and Campaigns
- (iv) Safe Planning and Design of Roads
- (v) Improvement of Hazardous Locations
- (vi) Road Safety Education for Children
- (vii) Traffic Legislation
- (viii) Emergency Medical Assistance to Crash Victims
- (ix) Vehicle Safety Standards
- (x) Traffic Police, MVD and Law Enforcement
- (xi) Setting up and Improvement of Driver Training, Testing and Licensing Centers
- (xii) Road Safety Research

(i) **Coordination and Management**

- Kerala Road Safety Authority (KRSA) has been entrusted with the task of coordination and management of the road safety activities in the State
- Suitable steps would be taken to further enhance the inter-departmental coordination at State, District, and local level.
- The District Road Safety Committees would be strengthened.
- A group of volunteers would be created at "community Levels" to assist accident victims

(ii) **Crash Data Collection and Management System.**

- Road accident analysis and safety management system will be in place for targeted action on Road safety.

- Integration of accident data from insurance companies, motor accident claims tribunal (MACT), hospitals/trauma care centers, and other sources.

(iii) **Sensitization of stakeholders and Raising Awareness**

- Sensitize all the stakeholders about what needs to be done to curb the menace of road accidents

(iv) **Road Safety Publicity and Campaigns**

- Key behavioral elements of road safety such as use of helmet/ seat belt, regulations in overtaking, over speeding etc will be ensured,
- Publicity campaigns will be scientifically designed and investigative studies would be conducted.

(v) **Road Safety Education and Training**

- Road safety education will be made as a part of the school and college curriculum
- Production of educational material for school children, teachers, and teacher training programs
- Provisions of pedestrian crossing and facilities near schools and developing school zones around the school.
- All professionals associated with road design, maintenance, traffic management, enforcement etc to attain adequate knowledge of road safety issues.
- Road safety community programs at panchayath, school neighborhood and work centers.

(vi) **Safer Road Infrastructure**

- A manual on "Safety-conscious Highway Design Standards" would be adopted
- Specific sections on "Safety at Road Works" would be incorporated.

- Road safety auditing of existing and new roads/ bye-passes and appropriate mitigation measures to be suggested
- Accident prone locations would be identified and improved in a phased manner for all important roads in the State.
- Application of Intelligent Transport System (ITS) to establish a safe and efficient transport system
- Modern/automated traffic management equipment for the smoother and safer flow of traffic.

(vii) **Traffic Legislations and Enforcement of Traffic Laws**

- Existing traffic regulation will be amended to improve operational efficiency.
- Graduated licensing system and hazard perception test for driving license candidates will be explored and adopted

(viii) **Emergency Medical Assistance to Crash Victims**

- An action plan would be developed to strengthen te emergency medical services including communication, transportation, on the spot medical aid, new trauma care centers, rehabilitation centers etc.
- Hospitals, both under public and private sectors alongside the major roads would be adequately equipped to provide for trauma care and rehabilitation
- Popularize Good Samaritan guidelines among people.

(ix) **Up gradation of Vehicle Safety Standards and Testing Procedure.**

- Review current vehicle testing system, standards, practices and impart training to police and staff of Motor Vehicles Department on roadside vehicle inspection
- Implement an effective and well-resourced vehicle testing center and issuance of fitness certificate.

- Legal provisions for safer use of different types of vehicles including school buses, heavy vehicles, and vehicles carrying hazardous materials.

(x) **Strengthening of Traffic Police and MVD and Improving Law Enforcement**

- To improve the quality of enforcement to ensure effective and uniform implementation of safety laws.
- To establish and strengthen highway patrolling on major roads

(xi) **Ensuring Safer Drivers and Setting up of Driver Training, Testing and Licensing Centers**

- The government would strengthen the system of driver licensing and training to improve the competence and capability of drivers.
- In each district driver training and testing centers would be planned and developed in a phased manner.

(xii) **Road Safety Research and HRD**

- Undertake road research using the resources available at regional and academic institutions
- Disseminate the results of research and national good practices through publications, training, conferences/ workshops, and other media formats.

(xiii) **Ensuring Safety of Vulnerable Road Users**

- Promote non-motorised transport, walking and cycling habits in cities of Kerala

(xiv) **Strengthen Institutional Mechanism**

- Institutional and financial environments for road safety works would be strengthened
- Extensive participation of the community, private sector, academic institutions and NGOs on road safety activities.

- Newer options for generating financial resources for road safety works.

(xv) **Implementation Strategy**

- Implement Road Safety Policy and Action Plan in a time-bound manner
- Review of role and activities of KRSA and strengthen its manpower
- Strengthen the effectiveness of KRSA and amend the KRSA Act as per need