

REPORT ON

CONSULTATION

GENERATING DEMAND FOR EFFECTIVE IMPLEMENTATION OF MVA, 2019

April 26, 2022
Thiruvananthapuram Kerala



Submitted to

CUTS
(CONSUMER UNITY & TRUST SOCIETY, JAIPUR)

By



CENTRE FOR ENVIRONMENT AND DEVELOPMENT
THIRUVANANTHAPURAM

APRIL 2022

PROJECT TEAM

Dr. T Sabu , Program Director, CED	: Principal Investigator
Dr. P V Radhakrishnan , Program Director, CED	: Co-Principal Investigator
Shri P Baiju , Program Officer, CED	: Project Coordinator

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Background	1
1.2 Objective of the Consultation	2
2.0 DETAILS OF ACTIVITIES	3
2.1 Participation	3
2.2 Inaugural Session	3
2.3 Technical Session	8
2.4 Discussion and Feedback	19
3.0 THE WAY FORWARD	22
Annexure 1: List of Participants	26

1.0 INTRODUCTION

1.1 Background

Road accidents are globally recognized as a serious public health problem. Approximately 1.3 million people die each year on the world's roads, making road traffic injuries a leading cause of death in the world. As per Global Health Observatory, low- and middle-income countries had higher road traffic fatality rates. Almost half of all deaths on the world's roads are among those with the least protection – motorcyclists, cyclists and pedestrians.

Road traffic injuries involve issues of social equity, having a disproportionate impact on the poor in developing countries, where most victims are vulnerable road users (such as pedestrians, children, cyclists and passengers) having less access to medical services, their chances of survival and recovery after crashes are also relatively lower. As per Global Status report on Road Safety 2015, globally, road traffic crashes are a leading cause of death among young people, and the main cause of death among those aged 15–29 years. As people in this age groups are the most economically active are also most affected by road crashes, this is an added burden on poorer countries attempting to tackle poverty and raise levels of economic growth.

The economic, social and health losses resulting from road traffic injuries are not inevitable. There is substantial evidence confirming that road traffic injuries can be prevented. A number of factors have been identified as increasing the risk of traffic-related injuries, including inappropriate and excess speed, non-use of seat belts and child restraints, drinking and driving, non-use of helmets by riders of motorized two-wheelers, poorly designed or insufficiently maintained road infrastructure and vehicles that are old, not well maintained or that lack safety features. Regulatory and other actions that address these risk factors have led to dramatic decreases in road crashes in many countries. The provision of emergency trauma care services has also been shown to be important in mitigating the negative impacts of road traffic crashes.

Over the past decades, many regional and global road safety initiatives have been implemented. These initiatives stress the role of many sectors in the prevention of road traffic injuries and describe the fundamental concepts of road traffic injury prevention, the magnitude and impact of road traffic injuries, the major determinants and risk factors and effective intervention strategies.

Realising need of the hour, Govt. of India implemented the new Motor Vehicle Amendment Act, 2019 (MVA Act, 2019) from September 01, 2019. The Corresponding Motor Vehicle Amendment Rules, 2020 are now also being enforced. Road safety, road environmental health, vehicle fitness, victim compensation, accident fund, assistance to good Samaritans, compulsory insurance, taxi aggregate, driver's register, online driving license and digital enforcement are the main features of this law.

The State of Kerala, situated at the South-West tip of the sub-continent is ranked 21st (38,863 km²) and 13th (3.34 crores) in the country in terms of land area and population respectively. However, in the case of road accidents it is in the 4th position in India. One reason attributed to this is the high population density -860 persons per km² compared to the national average of 382 persons per km²

Kerala seems to have undergone a radical transformation in the transportation sector in the last decade. The Economic review of 2019, published by the State Planning Board, puts the annual traffic growth at 12 to 14%. This creates huge pressure on the road safety scenario, with an explosion of number of vehicles adding to the already existing imbalance in terms of demand and availability of resources. In the period of 2010-2019, the number of motor vehicles grew by 59% in the State, meanwhile the total length of SH and NH which carry 80% of the total traffic and accounts for 50% of fatality, grew only by a mere 256 Kms. During the same period, road crashes and fatality increased by 13%. The road density of Kerala is also very high (390 km per km²), roughly three times higher than the national scenario. There is 686.55 kms of road for one lakh population, 90% of which is with single lane traffic.

In tune with national Motor Vehicle (Amendment) Act 2019, the Govt. of Kerala notified the new MVA, 2019 and its amended rules in September 2019 itself. Towards a great step forward to ensure road safety the State and has initiated several road safety initiatives like Safe Kerala Project, mass awareness program through Panchayats and Schools, integrating the ambulance network in Kerala and making trauma care units functional at the district level are the few.

The initiatives to some extent have helped in reducing road accident deaths in Kerala. However, the increased number of accidents, crashes and injuries on road are highly worrisome factor in Kerala. Still there is a need of making the state road safety policy stronger, enhancing the effectiveness of Road Safety Authority, implementing all the road safety related budgetary announcements on priority basis, effective control and management of key risk factors of road safety which are speeding, not wearing helmet and seat belts, drink and drive and use of mobile phones etc.

1.2 Objective of the Consultation

The objective of the consultation is to brainstorm all the associated factor of road safety in the state and chalk out the way forward.

The main purpose of this consultation is to work out the next steps to be taken in this regard in consultation with the major stakeholders like implementing officers of the Motor Vehicle Department, Police, PWD, Department of Health, Research and Development Institutions and NGOs working most closely on road safety.

2.0 DETAILS OF ACTIVITIES

2.1 Participation

In order to ensure maximum participation from the Government departments and policy makers, the organisers joined hands with the Kerala Road Safety authority through proper liaisoning. The consultation has become a remarkable success in terms of the participation, with 79 participants representing governmental, quasi-governmental, non-governmental institutions and initiatives. The list of participants is given in Annexure 1. The major government departments participated are:

1. Motor Vehicle Department
2. Police
3. Kerala Road Safety Authority
4. Public Works Department, National Highway Authority of India
5. College of Engineering Thiruvananthapuram
6. Govt. Engineering College, Barten Hill
7. Health and Family Welfare
8. Kerala Road Transport Corporation
9. District Institute of Education and Training (DIET)
10. Kerala Higher Education Council

The cosy comforts of the Senate Hall of South Park Hotel, Thiruvananthapuram provided an appropriate scholastic ambience for the deliberations.



View of Participants

2.2 Inaugural Session

Welcome

The meeting started at 10.30 AM with the welcome address by **Dr. Babu Ambat**, Executive director of CED. He introduced the organizers and welcomed all the guests, speakers and participants.

Inaugural Address

Shri Antony Raju, the State Minister for Transport promptly responded to our call as the chief guest in the consultation and has inaugurated the consultation. In his inaugural address he has highlighted the initiatives of Government of Kerala after the implementation of MVA 2019. Kerala is one among the 1st States to implement the Act by notifying the new MVA Act, 2019 and its amended rules in September 2019 itself. The major reforms are enacted under the Safe Kerala Project (SKP). The project is spearheaded by the Kerala Road Safety Authority (KRSA) and the Motor Vehicles Department (MVD). A number of other road safety initiatives such as the mass awareness programs through panchayats and schools, integration of ambulance network and operation of trauma care units at district level are also implementing along with this. This is a major step forward in ensuring road safety in the state. About two years after the starting the SKP, recently, the SKP Safe has been revamped, with renewed emphasis on rule enforcement and accident mitigation measures, instead of on the quantum of fines imposed on erring motorists. This follows an assessment that the emphasis on fine alone would not bring down the number of accidents. The emphasis would henceforth shift to rule-enforcement measures in accident-prone black spots that abound on roads in the State. Measures to prevent accidents caused by potholes, ill-maintained vehicles, drunk and dangerous driving, dangerous overtaking, driving on the wrong side and use of cell phone while driving are some of the activities given emphasis in the ongoing activities. If the enforcement agencies took proactive measures against grave road-safety violations, a good percentage of accidents can be prevented. He has opinion that utmost importance would be given to reducing fatal accidents in the State. If needed the SKP shall be restructured to focus on enforcing road-safety norms. The police too need a dedicated road-safety enforcement and management wing. Enforcement personnel also need to be more equipped with body-worn cameras and other equipment to strengthen enforcement, Recently KRSA had given ₹1 crore to the KSRTC to install dual dashboard cameras on its long-distance buses to keep tabs on rash driving and for evidentiary-up in the event of accidents, he said. He also emphasised the need for this type of consultations all over the state and the Government is looking forward for the recommendations of the meeting and will be utilised for further improvements SKP and developing a more participatory action plan for implementation.

Opening Address

After the introductory speech by the Minister, Shri George Cheriyan, Director, CUTS International delivered the opening address. He pointed out that CUTS has been working in the area of Road Safety for more than two decades. He has made an analysis of road accidents at International, National and State Level. He explained that even though India is ranked No. 3 in road accidents all over the world, it is No. 1 in road accident deaths. Considering this India had made an international commitment in 2015 to reduce the road accidents by 50% by 2020 by taking various

policy measures including making various provisions. However, India is not able to achieve the target till now, and now the target period is extended to 2030 and the Union Transport Minister has announced some activities to be completed before 2025. No signs of activities were noticed for this also. To achieve the 2030 targets also there is a need for strengthening the Motor Vehicle Act. Even though a separate Bill for road safety was put forward in the Indian Parliament in 2015 it was not passed and later amended MVA was passed and notified in 2019. In an average, more than 5 lakh accidents and more than 1.5 lakh deaths were happening annually for the last many years. The road accident deaths are seeming to be more dangerous than the COVID 19 deaths. In 2020 there was a reduction in road accidents and was mainly due COVID 19 restrictions.



Opening Remarks by Shri George Cheriyan

Shri George Cheriyan explained that the main objective of the meeting is to brainstorm all the associated factor of road safety in the state and chalk out the way forward. referring to the data of MoRTH he said that Kerala stands on 4th position in the country as per the number of accidents. Kerala with Based on the latest statistics, he has explained that even after implementing various action plan after MVA 2019 notification, the increased number of accidents, crashes and injuries on road are highly worrisome factor in Kerala. Only the state of Kerala has reported an increase in road accidents in 2019-2020. We have to find out the proper reason for these rises even after the implementation of the Act and Rules. Here we have to analyse the key risk factors viz. speeding, not wearing helmet and seat belts, drink and drive and use of mobile phones etc.

Thus, there is a need of making the state road safety policy stronger, enhancing the effectiveness of Kerala Road Safety Authority, implementing all the road safety related budgetary announcements on priority basis, effective control and management of key risk factors of road safety which are speeding, not wearing, helmet and seat belts, drink and drive and use of mobile phones etc. As Kerala has shown remarkable progress in literacy, health, education and many other fields, the other states are looking at Kerala in the case of addressing road safety issues also. Kerala was the first State in establishing the Road Safety Authority way back in 2007 and after that up to 2010

there was a drastic reduction in road accidents. However, after that the graph is going up and we have to do a cross examination of this.

The road safety programs of CUTS in Kerala are also intended to support Govt. of Kerala to adopt and implement evidence-based road safety policies on behavioural risk factors. He requested active participation of all stakeholders in the activities of CUTS in Kerala and hoped that the Government of Kerala will seriously consider the recommendations of the consultation.

Keynote Address

Shri Anup Kuruvila John IPS -IG of Police (Social Policing & Traffic), has delivered the Keynote address of the meeting. The points highlighted by him are:

- The MVA 2019 is unique act which has not only concentrating on enforcement but also giving equal and more considerations to other social and economic factors with a view to reducing the number of accidents and fatality. So we have to make a critical analysis of whether we were able to reduce the accidents after the implementation of the Act.



Keynote Address by Shri Anup Kuruvila John IPS

- The average death rate is around 4000 per year and another 30,000 are very seriously injuring. Last two years the number of accidents and fatality rates were reduced and was only due to COVID 19 restrictions, it seems.

- This years statistics is very alarming that more than 1000 people died in road accidents during the last less than four months. So there is an urgent need for intervention.
- One of the important aspect of the amended Act is that there is scope convergence of activities of different departments and institution related to road safety. The role KRSA is very important for this convergence and we need to more strengthening and diversify the activities of KRSA.
- Now we are using AIDA software for enforcement better communication by different departments involved in Road Safety. This can process data from different sources and all departments need to properly contribute for better utilization of the software. So stakeholder analysis is very important for better implementation of the Act.
- Road environment is very important. There is a need for behavioural change in the road use culture by different stakeholders. For this we have to involve in school level activities and include in school curriculum.
- Now the attitude of people towards the accident victims is changed, still there need more intervention in this area. We can reduce the fatality rate by 30% by timely intervention of the good Samaritans. For encouraging this we have now constituted State level and district level committees and they are analysing the accident cases implementing some activities for encouraging the good Samaritan activities.
- For years we are doing very good enforcement in the roads. This has given good results in some areas. However, in order to make the enforcement more effective we need to make sure that all the persons not obeying the rules are to be punished. More and more surveillance cameras are installing now a days to ensure this. Driving license suspension is giving good results in this direction. Police department itself had suspended more than 2000 DL last year.
- More important is that we have to do the enforcement activities with more focused action to get best results as far as road safety is concerned. Number of enforcement cases is only one part of the activity. We have to see that how effective these enforcements are to reduce the road accidents. For example, the black spot identification is a main part of road safety but the enforcement officers are not aware of this things when they are doing the enforcement. We need to overlay three maps to identify the areas for better enforcement. They are: accident areas, black

spot and regular enforcement areas. Smart use of enforcement facilities at local level is need of the hour.

Vote of Thanks

The inaugural session of the consultation came to an end by 11.15 pm with **Dr. T. Sabu**, Program Director, CED expressed the vote of thanks to guests participated and the meeting braked for Tea/Coffee.

2.3 Technical Session

The technical session of the consultation started by 11.40 AM was conducted as a Panel Discussion focusing on Key Risk Factors of Excessive Speed, Not wearing helmet, seat belt, Drink Driving & Distractive Driving. The following experts participated as panel member to handle various topics:

- | | |
|---|---|
| 1. Shri T Elangovan , Executive Director, Kerala Road Safety Authority | : <i>New Road Safety initiatives in Kerala - Post-implementation of MV Act 2019</i> |
| 2. Shri Najjeb A K , Nodal Officer - SSG(MVI), TC Office TVM | <i>MVA, 2019 Enforcement in Kerala - Issues, challenges and way forward</i> |
| 3. Dr. Samsaon Mathew , Director, KSCSTE-NATPAC | <i>R&D for addressing key risk factors related to Road Safety- Post-implementation of MV Act 2019</i> |
| 4. Dr. B G Sreedevi , Former Director, KSCSTE-NATPAC | <i>Addressing Infrastructure challenges - opportunities and way forward</i> |



Shri **George Cheriyan**, Director, CUTS International coordinated the discussion as moderator. He introduced the topic for discussion.

The major points he has presented for initiating discussion are:

- The six major factors influencing the exposure to crash to be discussed in detail in the meeting are:
 - i. Over speeding (Inappropriate or excessive speed)
 - ii. Not wearing Seat-belt
 - iii. Not wearing Helmet
 - iv. Drunken Driving (Presence of alcohol, medicinal or recreational drugs)
 - v. Distractive Driving
 - vi. Child restraint system

- As per the Road Crash Data as per Kerala Police in 2020 - 2021, the total accidents in Kerala are 33296, total Injuries are 40204 and total deaths are 3429



Shri George Cheriyan Presenting the Key Risk Factors in the Panel Discussion

- Overspeeding is found as major reason for all accidents
 - Increase in speed multiplies the risk of accident and severity of injury during accident
 - An average increase in speed of 1 km/h is associated with a 3% higher risk of a crash involving an injury. Someone hit by a vehicle traveling at 50 kms/h is having a 3 times higher risk of dying, than if they had hit by a vehicle moving at 30kms/speed
 - Over speeding accounts for 71% of crashes, 67.3% deaths and 72.4% of injuries (MoRTH 2019)
 - Section 189 of the MV Act (2019):*Racing and trials of speed.—Whoever without the written consent of the State Government permits or takes part in a race or trial of speed of any kind between motor vehicles in any public place shall be punishable with imprisonment for a term which may extend to one month, or with a fine which may extend to five hundred rupees, or with both.*
 - Speeding / Racing will be fined Rs 5,000 instead of Rs 500 earlier
- Non wearing helmet is the key factor for accident deaths for motor cyclists
 - Non-helmeted users of motorized two-wheelers are three times more likely to sustain head injuries in a crash compared to those wearing helmets
 - Helmets reduce the risk of death by **37%** and reduce the risk of head injury by **69%**.
 - Section 129 of MV Act: *Above four years of age, driving or riding or being carried on a motorcycle of any class or description shall, while in a public place, wear protective headgear conforming to ISI standards.*

- Section 194 D of the Act; Riding without Helmets will be fined to Rs1000 and disqualification for 3 months for licence
- Not using/incorrect use of seat belts causes injuries and deaths
 - Correctly used seat-belts reduce the risk of death in a crash by approximately 60%.
 - Section 381(3) of MV Act: *Specifies that everyone in a car including the “person seated in the front seat or the persons occupying front-facing rear seats” must wear seat-belts while the vehicle is in motion. This section makes it compulsory for rear passengers also to wear a seat belt.*
 - Section 194B of the MV Act: *Whoever drives a motor vehicle without wearing a safety belt or carries passengers not wearing seat belts shall be punishable with a fine of one thousand rupees*
 - Driving without seat belt will cost Rs. 1000, earlier it was Rs 100.
- Drink and driving in another key factor for road accidents
 - Inexperienced young adults driving with a blood alcohol content of 0.05 g/dl have 2.5 times the risk of a crash compared with more experienced drivers
 - Section 185 of MV Act: *Driving by a drunken person or by a person under the influence of drugs, Act prescribes that whoever while driving or attempting to drive a motor vehicle has in his blood alcohol exceeding 30 mg per 100 ml of blood detected in a test by a breath analyser shall be punished with imprisonment of 6 months or with fine or both*
 - Now the fine for drink and driving is increased from Rs 2,000 to Rs 10,000 along with imprisonment of 6 months. On the repetition of this act fine would be Rs. 15,000.
- Distractive driving as a key factor
 - Distraction while driving: includes using cell phones (hand held set) and texting
 - Section 184 of MV Act: *Whoever, drives a motor vehicle at a speed or in a manner which is dangerous to the public¹[or which causes a sense of alarm or distress to the occupants of the vehicle, other road users, and persons near roads,] having regard to all the circumstances of case including the nature, condition and use of the place where ...*
 - Fine of up to Rs 5000 or up to one year jail or both
 - Deaths from crashes due to mobile use while driving rose 33% in 2019 as compared to 2018 at national level.
- Non use of child restraint system (CRS)
 - CRS can reduce the risk of death by 71 per cent for infants under age 1, and 54 per cent for children in the age group 1-4.
 - There are three main types of children safety restraint systems: rear-facing, forward-facing, and booster seats

- Section 194B (2): *Whoever drives a motor vehicle or causes or allows a motor vehicle to be driven with a child who, not having attained the age of fourteen years, is not secured by a safety belt or a child restraint system shall be punishable with a fine of Rs 1000.*

The six tips for safe driving he has suggested are:

- i. Avoiding over speed
- ii. Fastening seat belts
- iii. Avoiding distractions (Mobile phone)
- iv. Maintaining space from the vehicle ahead
- v. Never drink and drive and
- vi. Take proper rest before driving

He has suggested that the action at district level is critical for reducing road accidents

- The role of District Road Safety Committee (2017) is very critical.
- The district road safety plan and execution has to be target oriented and in line with the state and national targets (Reducing road accidents, deaths and injuries by 50 percent by 2025).
- There has to be strong coherence and convergence among stakeholder departments. Capacity Building of enforcement officials at regular intervals.
- There is need of preparing first responders and strengthened Trauma care at district level.
- ‘Member of Parliament District Road Safety Committee’ (Feb. 2021) with District Collector as Member Secretary also need to be activated.
- Further there is a need for rectifying ambiguous road crash data as per the causes

Shri T Elangovan in his presentation has highlighted the major initiatives by Kerala Road Safety Authority on implementation of MVA, 2019.

The salient features of MVA, 2019 according to him are:

- Improved Road Safety Standards
- Safer Mobility & Environment Health
- Safety of pedestrians, NMT road users
- Electronic Monitoring & Digital Enforcement
- Punishment for Faulty Design, Maintenance – Responsibility of Contractors & Civil Agencies
- Online Driving License & Driver’s Register
- Compulsory Insurance, Vehicle Fitness
- Stringent Punishment for Offenders
- Compensation for Accident Victims
- Accident Fund & Relief to Victims
- Good Samaritan for Saving Lives



Shri T Elangovan Presenting in Panel Discussion

According the KRSA has started many new initiatives for Road Safety Management in Kerala. The major ones are:

- Safe Kerala Project – Implemented by MVD & Funded by KRSA
- Save Our Fellow Travellers (SOFT) – Piloted by Kerala Police & Funded by KRSA
- Road Safety Volunteer Force & use of SHG for Rescue Operation (like Sannadha Sena)
- Cashless treatment to accident victims incl. Golden Period (up to Rs 2 lakh per victim)
- Extending financial assistance to the public who help transport of victims to hospital.
- Identification & Prioritisation of Blackspots
- Critical Road Sections (fixing responsibility of crash reduction to concerned Engr & Enforcers)
- Target to reduce 25% fatality by end of 2022 as compared to 2019 (pre-pandemic situation)
- Pedestrian & School Children Safety
 - School Zone Treatment to selected schools
 - Sponsoring Road Safety Projects thro' Corporate Social Responsibility Fund of Pvt/Public companies
 - Safe Road To School – An Action Plan to improve Road Safety (within & outside School campus)
- Road Safety Awareness
 - Funds to organise awareness programs in schools
 - Campaign thro' Social media, TV, FM Radio etc
 - Jingles in KSRTC Bus stand, Railway stations
 - Short film, videos & info. boards at bus stops
- Trauma care Management
 - Positioning Ambulances close to Critical Road Corridors / accident prone locations
 - Networking Private and Public ambulances

- Guidelines for Ambulance operations in Kerala & regulation of over speed drivers
- Remove the cause of accidents
 - Orders issued to remove obstruction on public roads and task force at district level was created to oversee the removal
- Strengthen the functions of DRSCs
- Amendments to KRSA Act 2007
- Separate verticals for Road Safety Management in Police and MVD

He has pointed out that after the implementation of the new initiatives certain impacts are noticed. The major one are:

- Enforcement agencies faced challenges, initially, in implementing the amended Act
- Criticism in media reg. the quantum of fines and punishment for certain offenses
- Implementation of MV Act 2019 positively influenced the people to follow Rules
- Positive changes in adhering to road safety norms & other regulations pertaining

According to him the Motor Vehicle (Amendment) Act 2019 has shown Positive Impact to provide Safe and Corruption free Transport system in the state.

Shri Najeeb M K of Motor vehicle department presented on the MVA, 2019 Enforcement in Kerala - Issues, challenges and way forward. His presentation was mainly on the programs of MVD Kerala. He has given a brief account on the activities and function of MVD and its staff structure.



Shri Najeeb A K Presenting in Panel Discussion

The Kerala Motor Vehicles Department functions under the provisions of Section 213 of the Motor Vehicles Act 1988. Department is primarily established for enforcement of provisions of Motor Vehicle Act 1988, Kerala Motor Vehicles Taxation Act, 1976 and the rules framed there under. The Kerala Motor Vehicles Department (MVD) has been facilitating computerization of over 18 Regional Transport Offices (RTOs), 14 Safe Kerala Control Rooms, 68 Sub Regional Transport offices (SRTOs) and 19 Motor Vehicles Check Posts (MVCP) across the state. Kerala Motor

Vehicle Department is entrusted with the responsibility of providing registration of vehicles in Kerala, issuance of Driving license, issuance of various permits, collection of road taxes, control of vehicular pollution, accident inspection, and launch prosecution. The Safe Kerala Wing of MVD is for road safety activities and Enforcement of Motor Vehicles Act.

One major achievement in the road safety scenario in Kerala by MVD on implementation of MVA, 2019 is the preparation of a Road Safety Action Plan 2019-2024. This was developed by the Safe Kerala Enforcement Wing constituted one year before the MVA, 2019. The enforcement project was modelled on the very successful Sabarimala Safe Zone project with a brief to reduce road crashes, crash related injuries and fatalities.

As per the action plan the Enforcement RTOs were directed to analyse their respective district road crash scenarios and identify areas of key risk elements. A district wise draft action plan was developed on guidelines formulated by a working group and was then run on a trial basis from October 2020 onwards. Based on the suggestions received from the implementing officers, the final action plan was developed.

The action plan analyses the road crash scenario in Kerala to understand the trends, patterns and gaps. An overall picture on the challenges in front of us, and where Kerala stand in terms of other states in national ranking.

The action plan also assessed the institutional capacity of the Safe Kerala Project to successfully undertake the challenge of making Kerala's Road safer. Detailed account on the human and infrastructural resources available to the project and prospective improvements and additions were also given in the plan.

The need for an action and the theoretical approach espoused by it was also discussed in detail. It also outlines the key risk factors identification system which allows for a smarter and effective allocation of scarce enforcement resources, and emphasises why we should approach road safety as a complex matrix that requires a holistic synthesis of data analysis, road design, infrastructure development, media dissemination and enforcement.

To help to assess the effectiveness of the project, minimise procrastination, improve coordination and above all allow for review, long term goals and interim targets were fixed. The long-term goal is to reduce road crashes, injuries and fatalities by 25% in a period of five years. District wise monthly targets were also fixed.

A detailed process for crash data monitoring, monthly, quarterly, half yearly and annual evaluation of data, the hierarchy of reporting and evaluation process and continuous review of the results to identify gaps and redundancies for course correction is also formulated. The district action plans from district enforcement RTOs were collated. This data contains district profile, present road crash scenario, key risk elements that need to be addressed, suggested solutions and details of other outreach programs and media dissemination strategies planned by them.

It also puts forward various non-enforcement interventions, originally outside the ambit of the department but would go a long way in improving the road safety scenario in the state. Implementation of these recommendations would necessitate the participation of multiple stakeholders and coordination of a nodal agency like KRSA.

Dr Samson Mathew presented on the Research & Development needs for addressing key risk factors related to Road Safety. He has started with the crash scenario in Kerala in 2019. An analysis of the trends in number of crashes, severity of victims from 2016 to 2020 was done.



Dr Samson Mathew Presenting in Panel Discussion

The data analysis showed that 20.6% of the victims are pedestrians and 2.2% cyclists. About 40% of the victims accused in the crashes are motorcycles, 29% cars/jeeps, 9% three wheelers, 7% buses, 6% trucks and lorry, 3% light commercial vehicles, and 2% each small commercial vehicles and heavy articulated vehicles. 84% of the victim in crashes are motorcyclists. Other than this, using the available data he has made a detailed analysis of factors influencing road safety issues Kerala like time of occurrence, week days, months, weather condition, area/locality (Urban/Rural), type of road (single lane, double lane, four lane etc), road features (Straight Road, Curved road, Road intersection, Road link), Traffic control/non controlled locations, other features like bus stop, market, schools etc.), crash characteristics (hit pedestrian, vehicle to vehicle at different positions etc.), road type (NH, SH, other) etc.

There are 144 repeated crash prone locations in the state of which 115 are in the NH, 23 in SH and 6 others. There are 4430 crash prone locations were identified in Kerala (1067 in NH, 1222 in SH and 2141 in other roads).

The major challenges in road safety Kerala are:

- Enhanced transport productivity
- Attracting private financing
- Safe roads - Well-maintained roads - asset preservation
- User charges on rational principles
- Addressing social concerns
- Reducing environment harm
- Promoting green technologies
- Resource efficiency
- Knowledge development and dissemination
- Capacity building and skills development
- Efficient and effective delivery
- Traffic operations and congestion management

The R&D for road safety in Kerala are done with:

- Scientific Crash Data Collection & Reporting System
- Comprehensive Integrated Platform for Road Crash Data Management
- Crash Data Analytical Platform
- Spatial Analysis – Macro & Micro
- Pre & Post Crash Management System
- Prediction models & tools
- Road Safety Risk Modelling and Profiling
- Advanced Analytical tools (Machine Learning Tools, Deep Learning)
- Scientific Crash Investigation
- Blackspot Studies – Identification & Rectification
- Vulnerable Corridor Studies – Identification & Rectification
- Road Safety Assessment
- Evaluation/Impact Studies

For arriving safe speed, the following are used:

- Corridor Speed Zones
- Intersection Speed Zones
- Speed Spill over Studies
- Speed Detection Systems
- Realtime Speed Information System
- Safe System Approach
- Behavioural Observation & Naturalistic Driver Studies
- Driver Behaviour Studies – Aggression, Overconfidence, Emotions, Social, Cultural etc.
- Road User Exposure Studies
- Traffic calming measures

He also stressed on the importance of real time speed display sign boards in road safety. Lane discipline is another important factor to ensure smooth flow of traffic and safety on any given road, it can be either direction or speed oriented. Poor lane discipline among motorists is the main cause for traffic congestion and accidents. Speed-oriented Lane discipline should be made mandatory.

Parking is also an integral part of a transportation system with its own pros and cons. The driver should park – without causing danger, obstruction or undue inconvenience to other road users. Instead of providing more parking spaces, Proper parking management should be done depending on the zoning of areas, type of buildings etc. Multi-level parking complexes - made a mandatory requirement in city centers. Parking fee shall be implemented to promote the use of public transport system.

The research needs for road safety in Kerala area;

- Cost - effective Innovative Prevention and Interventions
- Conflict - Crash Research
- Autonomous Vehicles
- Smart Realtime Applications
- Road Safety Research into Practice
- Assessment of Road User (Driver, Pedestrian, Cyclists, Passenger) Skill, Knowledge and Behaviour
- Trauma Care Information System
- Interdisciplinary Collaborative Research

Policy measures suggested improving R& in road safety are:

- Safe Design and Implementation of Road Intersection and Alignment
- Urban Speed Management
- Corridor Speed Management
- Fleet Speed Management
- Road Safety Inspection
- Road Safety Audit – Compliance with IRC Standards
- Safety of Vulnerable Road Users (TW, Pedestrians, Cyclists)
- Automated Road Traffic Management Systems
- Cooperative Intelligent Traffic Systems (communication between vehicles and infrastructure)

There is a dare need for a strategic action plan for crash reduction by 2030 which shall include:

- Protocol for Blackspot Management
- Advertisement Policy
- Strategic Implementation - Management of Hazardous Goods Transport vehicles

- Emergency Response Policy - Ambulance Protocol
- Parking Policy
- Green Corridors
- Road Safety and Land use Policy
- Road Safety Policy for Vulnerable Road Users (Pedestrians, Cyclists, Two wheelers)
- Awareness, Education and Training Interventions
- Speed Enforcement Strategy

Dr B G Sreedevi delivered the last talk in the panel discussion on infrastructure challenges. She highlighted the importance of road infrastructure for ensuring road safety..The road network has an effect on crash risk because it determines how road users perceive their environment. In this sense, the roadway provides instructions to the road users on what they should be doing. Negative road engineering factors include those where a road defect directly triggers a crash, where some element of the road environment misleads a road user and thereby creates human errors. Knowledge of roadway parameters affecting road safety can help to plan, design, build and maintain the road infrastructure to facilitate a safe road environment. The design of roads plays a major role in terms of road safety.



Dr B G Sreedevi Presenting in Panel Discussion

Many new roads and highways which are constructed now are come with some safety features- street lights, traffic signs, road and directional signs, iron guardrails to provide protection against dangerous portions of the road. But soon after those roads are opened to traffic, one sees the gradual disappearance of the very features that are expected to enhance the safe use of the roads.

Now it is time for us to analyse where we stand in developing and maintaining/monitoring the safe road infrastructure considering all road users including pedestrians, cyclists etc.

Major points highlighted by her based on Kerala scenario are with respect to:

- Road infrastructure development to strictly follow all the public safety standards prescribed by Indian Road Congress.
- Systematic approach for junction redesigning all over Kerala.
- The safety of the road does not depend only on the characteristics of the roadway but also depends on the condition of the roadside so road side marking and traffic signs are very important
- Scientific management of bus bays and bus shelters including proper designing of bus shelters based on site visit
- Lane markings and access control management from side road - major aspect which we are facing in kerala because when they are entering into a major or from side road so many accidents are happening.
- Systematic approach for periodic inspection and removal of obstructions in the roads and to ensure that all road safety features installed are functioning properly.
- Using punishment provision for people responsible not maintain the road safety features
- Proper road lighting
- Bicycle safety and bicycle paths in newly constructed roads under various schemes including the roads under Re-build Kerala Initiative
- We have to think: Are the roads equipped with space for pedestrians and cyclists? If yes, how can their rights of usage be enforced and enhanced? If no what are the measures to deter their presence on the highways?
- Pedestrian conflict resolution
- Foot path and road crossing design considering differently abled road users
- Road crossing facilities based on scientific study
- Mass transport facility to reduce vehicles in roads

2.3 Discussion and Feedback

Soon after the presentations by the panel members, the moderator asked to comment on the points highlighted here and give suggestions for ensuring safety in roads.

Shri Hari Prabhakar of Nature's Green Guardian Foundation (NGO): Most of the people are not aware of the road markings and many other signs even though they have a licence. Pedestrians also need awareness. So, there is a need for mass awareness campaign through all possible platforms including social media.

Comment by Elangovan: All Kerala roads are not planned roads. Only few stretches have clear markings. School based awareness programs are undertaken by KRSA and NATPAC is the resource agency for that. More actions are initiated in this direction by KRSA.

Comment by Dr Samson: Effective method is to spread the awareness through schools/colleges and also by including in the curriculum. There is a model developed through a World Bank assisted project, but has conducted only in limited areas.

Comment by George Cheriyan: One should know all these rules while getting the driving license. But it is not happening and we need to ensure this. Driving Park for learners available in Delhi.

Comment by Najeed: People are obeying the traffic rules only in fear of Punishment. Current system of issuing driving licences is having so many limitations in Kerala. The number of people giving licence a day is very high in Kerala. There needs a radical change in this direction.

Dr Asahalatha, Associate Professor of College of Engineering (Transportation division of Civil Engineering Dept.) commented that still there is gaps in accident data collection. Need for accurate data is very essential for R&D and planning.

Comment by George Cheriyan: There is specific guidelines for data accident data collection

Comment by Elangovan: Now RAPID software is used by police. IRAD for data management is under the piloting stage. And this software facilitate integrated data collection and analysis from different sources.

DR. Madhusoodhanan Pillai of SREDHA (NGO) commented that the carrying capacity of our roads are overloaded, one effective strategy to reduce road accidents is to popularise public transportation system. Also, we have to make use of the possibility of using the potential of artificial intelligence system for automatic speed control, wearing helmet, seat belt, drink and drive, using mobile phone etc. while driving. In Kerala there is not much rural – urban distinction so we have to give all facilities (eg. Foot path) in cities in the rural areas also.

Comment by Najeed: Definitely the artificial intelligence system will be utilised in near future. Driving schools are to be modernised.

Dr Jiju Joseph, Head of Accidents and Injury Prevention, National Resource Center for NCDs, Believers MCH Tiruvalla: Necessary training and equipment to be supplied to good Samaritans to handle accident victims. Even the police personals is not having such kind of training. They were even given a gloves to handle the victim. Do no harm is the basic principal during rescue operation.

Comment by Elangovan: 108 ambulance is having all facilities, trained drivers and medical technician but many private ambulances are not having it.

Er Sanjaykumar V S, Sr. Scientist, KSCSTE-NATPAC, Thiruvananthapuram: NATPAC now doing training to driving schools, pedestrians, wrong side walking, parking, foot path encroachments etc.

Comment by Elangovan: A handbook on road safety is prepared for capacity building and awareness creation to public and is having directions regarding handling accident victims. There

will be networking of all ambulance service soon. Trauma kits will be given to police soon as pilot cases and it will be extended.



Participant Interaction

Surya Dev, NGGFN NGO); High beam use causes accidents.

Comment by Elangovan: Now equipment given to all enforcing officers and has to be used properly

Comment by Najeeb: Specific directions are given to MV department and police to enforce properly.

Sri George Cheriyan concluded the session by saying that Kerala should be a model to all other states in handling road safety issues also.

Shri Byju P extended vote of thanks and the program disbursed for lunch by 1.45 PM.

3.0 THE WAY FORWARD

Kerala seems to have undergone a radical transformation in the transportation sector in the last decade. The high vehicle and road density which is increasing year by year and low width of roads (90% with single lane traffic) along with many other road user behaviour patterns of the road users is creating huge pressure on the road safety scenario. In tune with national Motor Vehicle (Amendment) Act 2019, the Govt. of Kerala notified the new MVA, 2019 and its amended rules in September 2019 itself. Towards a great step forward to ensure road safety the State and has initiated several road safety initiatives like Safe Kerala Project, mass awareness program through Panchayats and Schools, integrating the ambulance network in Kerala and making trauma care units functional at the district level etc. The initiatives to some extent have helped in reducing road accident deaths in Kerala. However, the increased number of accidents, crashes and injuries on road are highly worrisome factor in Kerala. Still there is a need of making the state road safety policy stronger, enhancing the effectiveness of Road Safety Authority, implementing all the road safety related budgetary announcements on priority basis, effective control and management of key risk factors of road safety which are speeding, not wearing helmet and seat belts, drink and drive and use of mobile phones etc.

The CUTS international in collaboration with Centre for Environment Development have organized many programs during the last 5 years in the State of Kerala to discuss and evaluate the activities of Government of Kerala and provide suggestions and recommendations received from various stakeholders. We also conducted many training programs for capacity building of the implementing officers in the State. In all such programs, the Kerala Road Safety Authority (KRSA) has ensured their collaboration which has helped in getting better results.

Kerala has shown remarkable progress in literacy, health, education and many other fields, the other states are looking at Kerala in the case of addressing road safety issues also. Kerala was the first State in establishing the Road Safety Authority way back in 2007 and after that up to 2010 there was a drastic reduction in road accidents. However, after that the graph is going up and we have to do a cross examination of this.

The main purpose of this consultation is to work out the next steps to be taken in this regard in consultation with the major stakeholders like implementing officers of the Motor Vehicle Department, Police, PWD, Department of Health, Research and Development Institutions and NGOs working most closely on road safety. There was good participation from stakeholders from all sectors of road users, implementing officers and policy makers and the meeting discussed at length various issues related to the six key risk factors with respect to the road safety.

The major suggestions and recommendations of this consultation to generate demand for effective implementation of MVA 2019 are:

- Kerala is one State which has shown increase in road accidents after starting implementation of MVA 2019 and there is a need for critical analysis of the accidents using data from all sources to arrive the exact reasons for these upsurges even after the implementation of the Act and Rules.
- Stakeholder analysis is very important for reducing accidents by using the provisions MVA, 2019 and suggesting needed changes in the Act. The role KRSA is very important for this convergence and there is a need to strengthen and diversify the activities of KRSA by making changes in the KRSA rules also.
- The Safe Kerala Project which shows significant reduction in crashes must be continued by incorporating the suggestions and feedback received from all stake holders.
- The progress of implementation of the Road Safety Action Plan 2019-2024 developed by the MVD must be reviewed with stakeholder participation and the gaps in implementation shall be identified.
- The role of District Road Safety Committee (2017) is very critical. The district road safety plan and execution have to be target oriented and in line with the state and national targets (Reducing Road accidents, deaths and injuries by 50 percent by 2025). The functioning of state and district level committees to be reviewed periodically and their role to be strengthened.
- 'Member of Parliament District Road Safety Committee' (Feb. 2021) with District Collector as Member Secretary also need to be activated.
- As the width of roads in Kerala is comparatively less due to higher population density and various other factors and the vehicle population is also high, the road infrastructure development has to be given high priority. The suggestions are:
 - Road infrastructure development to strictly follow all the public safety standards prescribed by Indian Road Congress.
 - Systematic approach for junction redesigning all over Kerala.
 - The safety of the road does not depend only on the characteristics of the roadway but also depends on the condition of the roadside so road side marking and traffic signs are very important
 - Scientific management of bus bays and bus shelters including proper designing of bus shelters based on site visit
 - Lane markings and access control management from side road - major aspect which we are facing in Kerala because when they are entering into a major or from side road so many accidents are happening.
 - Systematic approach for periodic inspection and removal of obstructions in the roads and to ensure that all road safety features installed are functioning properly.
 - Using punishment provision for people responsible not maintain the road safety features

- Proper road lighting
- Bicycle safety and bicycle paths in newly constructed roads under various schemes including the roads under Re-build Kerala Initiative
- All newly constructed roads to be equipped with space for pedestrians and cyclists and the rights of usage be enforced and enhanced.
- Measures to deter their presence of cyclists, pedestrians etc on the highways to be strictly obeyed and they may be given proper education in this regard
- Carrying capacity of our roads to be analyzed and public transportation systems to be strengthened to overcome this
- Potential of artificial intelligence system for automatic speed control, wearing helmet, seat belt, drink and drive, using mobile phone etc. while driving.
- All facilities in cities (eg. Foot path) shall be provided in the rural areas also.
- Foot path and road crossing design considering differently abled road users
- Road crossing facilities based on scientific study
- Road Safety Audit is mandatory and must be carried out for all road corridors.
- City Road Improvement Projects must be planned for all districts by 2021.
- The Black spot Management following proper protocol must be ensured so that the black spots can be identified, prioritised and rectified properly.
- The mitigation measures must be applied in accordance with the need of the location and should be monitored and evaluated subsequently.
- Now the attitude of people towards the accident victims is changed, still there need more intervention in this area. We can reduce the fatality rate by 30% by timely intervention of the good Samaritans.
 - All ambulance services and hospitals with good trauma care facilities shall be interlinked to get proper medical care in the “golden hour”
 - Necessary training and equipment to be supplied to good Samaritans to handle accident victims. Even the police personals is not having such kind of training. They were even given a glove to handle the victim. Do no harm is the basic principal during rescue operation.
 - There is need of preparing first responders and strengthened Trauma care at district level.
- The 4E’s measures, that is, Enforcement, Engineering, Education and Emergency response must be followed properly to address the road safety issues.
- In order to make the enforcement more effective we need to make sure that all the persons not obeying the rules are to be punished. Driving license suspension is giving good results in this direction. Police department itself had suspended more than 2000 DL last year.
- The enforcement activities should be more focused to get best results. Instead of looking the number of enforcement cases, we have to ensure the effectiveness of enforcements are

to reduce the road accidents. Smart use of enforcement facilities (local level data based location identification and using modern equipment) is need of the hour.

- The driver behaviour is an important factor that contributes to the safety of roads; hence a system to monitor the driver behavior under piloting now is proper reviewed and continued
- Road environment is very important. There is a need for behavioral change in the road use culture by different stakeholders. Road Safety must be made a part of school curriculum as the lessons taught at an younger age will have greater impact.
- There is a need for rectifying ambiguous road crash data as per the causes. Crash investigation and reconstruction as per the MoRTH guidelines must be done for all crashes and proper Database Management System must be developed which will provide a detail about the cause and occurrence of the crash which can be utilized for better R&D and planning for road safety.
- The major research needs for road safety in Kerala identified by NATPAC to addressed properly, This include Cost - effective Innovative Prevention and Interventions, Conflict - Crash Research, Autonomous Vehicles, Smart Realtime Applications, Road Safety Research into Practice, Assessment of Road User (Driver, Pedestrian, Cyclists, Passenger) Skill, Knowledge and Behaviour, Trauma Care Information System and Interdisciplinary Collaborative Research.
- There is a need of making the state road safety policy stronger, enhancing the effectiveness of Kerala Road Safety Authority by making necessary amendments in the KRSA rules (2007), implementing all the road safety related budgetary announcements on priority basis, effective control and management of key risk factors of road safety which are speeding, not wearing, helmet and seat belts, drink and drive and use of mobile phones etc.
- There has to be strong coherence and convergence among stakeholder departments. Capacity Building of enforcement officials is needed at regular intervals.
- The Road safety policy may consider factors like: Safe Design and Implementation of Road Intersection and Alignment, Urban Speed Management, Corridor Speed Management, Fleet Speed Management, Road Safety Inspection, Road Safety Audit – Compliance with IRC Standards, Safety of Vulnerable Road Users (TW, Pedestrians, Cyclists), Automated Road Traffic Management Systems, Cooperative Intelligent Traffic Systems (communication between vehicles and infrastructure) etc.
- There is a dare need for a strategic action plan for crash reduction by 2030 which shall include:, Protocol for Blackspot Management , Advertisement Policy, Strategic Implementation - Management of Hazardous Goods Transport vehicles, Emergency Response Policy - Ambulance Protocol, Parking Policy, Green Corridors, Road Safety and Land use Policy, Road Safety Policy for Vulnerable Road Users (Pedestrians, Cyclists, Two wheelers), Awareness, Education and Training Interventions, Speed Enforcement Strategy

LIST OF PARTICIPANTS

Sl. No.	Name and Address	Mobile	Email
GUESTS/ORGANISERS			
1	Shri Antony Raju Minister for Transport Govt. of Kerala	9400088111	min.transport@kerala.gov.in
2	Shri Anup Kuruvila John IPS IG of Police (Social Policing & Traffic), Police Head Quarters, Thiruvananthapuram	4712318168	igptraffics.pol@kerala.gov.in
3	Dr Babu Ambat Executive Director Centre for Environment and Development, Thiruvananthapuram	9447168040	director@cedindia.org
4	Shri Baiju P Program Officer Centre for Environment and Development, Thiruvananthapuram	9495627867	baijupnld@gmail.com
5	Shri Elangovan T Executive Director Kerala Road Safety Authority	9447112510	tangoelango@gmail.com
6	Shri George Cheriyan Director CUTS International, Jaipur	9829285930	gc@cuts.rg
7	Shri Najeeb A K Nodal Officer -SSG(MVI) Transport Commissionerate Thiruvananthapuram	9188961124	nossg.mvd@kerala.gov.in
8	Dr Radhakrishnan K Program Director Centre for Environment and Development, Thiruvananthapuram	9447108131	radhakrishnan@cedindia.org
9	Dr Sabu T Program Director Centre for Environment and Development, Thiruvananthapuram	9447342377	sabut@cedindia.org
10	Dr Samson Mathew Director KSCSTE-NATPAC	9443176759	director.natpac@kerala.gov.in
11	Dr Sreedevi B G Former Director NATPAC WAPCOS TVM	9446342828	bgsreedevi@yahoo.com
DELEGATES			
12	Shri Abhilash S MVI RTO (E) Kollam	9446043178	abhilashekm@gmail.com
13	Shri Binu N Kunjumon MVI RTO (E) Kollam	9447282675	binuk@gmail.com
14	Shri Dileep Kumar MVI	9961485002	dileepvsdileep@gmail.com

Sl. No.	Name and Address	Mobile	Email
	RTO (E) Kollam		
15	Shri Najmal U AMVI RTO (E) Kollam	9946698680	najmalubaid@gmail.com
16	Shri Sreekumar S MVI RTO (E) Kollam	9895520002	sreekumarvarkala@gmail.com
17	Shri Manu Viswanath AMVI RTO (E) Pathanamthitta	9947620562	viswanatmanu9@gmail.com
18	Shri Renju R AMVI RTO (E) Pathanamthitta	9188802395	renju.reghuvaran@gmail.com
19	Shri Suku S R MVI RTO (E) Pathanamthitta	9074817145	sukusr@gmail.com
20	Shri Swathi Dev K G AMVI RTO (E) Pathanamthitta	7510540283	swathi.george@gmail.com
21	Shri Vineeth S AMVI RTO (E) Pathanamthitta	9496666641	vineethspillai08@gmail.com
22	Shri Laiju B S AMVI RTO (E) Thiruvananthapuram	9447857603	laijubs@gmail.com
23	Shri Praveen Ben George MVI RTO (E) Thiruvananthapuram	9447333306	praveenbengeorge@gmail.com
24	Shri Ramji K Karan MVI RTO (E) Thiruvananthapuram	8589800680	ramji.karunakaran@gmail.com
25	Smt Sariga Jyothi J S AMVI RTO (E) Thiruvananthapuram	9605175588	sarigajyothy@gmail.com
26	Shri Vijesh V AMVI RTO (E) Thiruvananthapuram	9037252224	vijeshvmlm@gmail.com
27	Shri Sunilkumar A U SP Traffic South zone, TVM	9497980094	
28	Shri Amal K S Sub Inspector Thiruvananthapuram	9895316172	amalks99@gmail.com
29	Shri Ashkar A Sub Inspector Thiruvananthapuram	8547359054	ashkarabdulhameed@gmail.com
30	Shri Biju L M Grade Sub Inspector Thiruvananthapuram	9497960104	biju4893@gmail.com
31	Shri Dileepkumar S Grade Sub Inspector Thiruvananthapuram	9447698710	asnsupermarket@gmail.com
32	Shri Gilbert Jacob M Grade Sub Inspector	9447110921	gilbertjacob206@gmail.com

Sl. No.	Name and Address	Mobile	Email
	Thiruvananthapuram		
33	Shri Gopakumar S Grade Sub Inspector Thiruvananthapuram	9896568751	
34	Shri Satheesan Grade Sub Inspector Thiruvananthapuram	7034889955	satheesansheena123@gmail.com
35	Shri Sudheer A K Grade Sub Inspector Thiruvananthapuram	9544442232	sudheer123@gmail.com
36	Shri Sujith S Sub Inspector Thiruvananthapuram	9497980129	sujith08321983@gmail.com
37	Shri Unnikrishnan Grade Sub Inspector Thiruvananthapuram	9497930429	
38	Shri Sarin S Sub Inspector Kollam	9446715600	sarinpmor@gmail.com
39	Shri Suresh Thampi Grade Sub Inspector Kollam	9446900601	
40	Shri Ravi R Grade Sub Inspector Pathanamthitta	9447207176	ravikrishnan2000@gmail.com
41	Dr Anusha S P Asst Professor Dept Civil, College of Engineering Thiruvananthapuram	9446779699	anusha@cet.ac.in
42	Dr Ashalatha R Assoc. Professor Dept Civil, College of Engineering Thiruvananthapuram	9495823647	ashalatha@cet.ac.in
43	Er Pranoy S. Raj Asst Professor Dept Civil, College of Engineering Thiruvananthapuram	9746339053	pranoysomaraj@cet.ac.in
44	Smt Kala P Director (Road User Safety) Kerala Road Safety Authority	9446892600	krsa.dir2@gmail.com
45	Shri Niju Alagesan Director (Data Analysis & Performance monitoring) Kerala Road Safety Authority	8848533031	krsa.dir1@gmail.com
46	Er Sanjaykumar V S Sr. Scientist KSCSTE-NATPAC, Thiruvananthapuram	9074165228	vssanjayk6200234@kerala.gov.in
47	Er Subin B Sr. Scientist KSCSTE-NATPAC, Thiruvananthapuram	9895465620	mailmesubin@gmail.com
48	Er Harikumar A Asst. Executive Engineer	9745062228	haritells@gmail.com

Sl. No.	Name and Address	Mobile	Email
	NH Bypass Sub Division, Thiruvananthapuram		
49	Er Kavitha K Executive Engineer NH Division, Thiruvananthapuram	9920654777	
50	Smt Anisha Thomas Asst. Executive Engineer PWD Roads Division, Thiruvananthapuram	9447239614	
51	Smt Indu G S Asst. Executive Engineer PWD Roads Division, Thiruvananthapuram	9387847881	indu.rit@gmail.com
52	Shri Sajith S First Grade Draftsman PWD Roads Division, Thiruvananthapuram	9961843881	sajith881@gmail.com
53	Smt Sheeja P Asst. Engineer PWD Roads Division, Thiruvananthapuram	9496820388	
54	Shri Siyad M Executive Engineer PWD Roads Division, Thiruvananthapuram	7012248654	
55	Dr Jiju Joseph Head of Accidents and Injury Prevention National Resource Center for NCDs, Believers MCH Tiruvalla	97475 44544	jijujoseph@bcmch.org
56	Dr Shammy Douglas National Resource Center for NCDs, Believers MCH Tiruvalla	9847141447	shammydl@gmail.com
57	Shri Hari Prabhakar Managing Director Nature's Green Guardian Foundation, Thiruvananthapuram	9446065998	pshari71@gmail.com
58	Dr Dileepkumar S Program Director Centre for Environment and Development, Thiruvananthapuram	9895623767	-
59	Dr Pradeepkumar V S Medical Superintend CED People's Hospital, Thiruvananthapuram		pradeepkumar@cedindia.org
60	Dr. Anurup K Assoc. Professor Dept of Arch. & Planning, CET, TVM	9400330297	anurup@cet.ac.in
61	Dr. G. Madhusoodanan Pillai Director, SREDHA, Vayala P O Kollam	8848911062	sredhatvm@gmail.com
62	Er Madhukrishnan NGGFN, TVM	9846537768	herbalhomes@gmail.com

Sl. No.	Name and Address	Mobile	Email
63	Er Reghukumar C Senior Design Engineer Centre for Environment and Development, Thiruvananthapuram	9447863307	reghucholayil@gmail.com
64	Shri Abhijith Kairali TV	8086200696	
65	Shri Abhilash Thmomas Varghese Manger NHAI TVM	9446565565	
66	Shri Chandran V DIET, Thiruvananthapuram	9447464487	
67	Shri Johnson M KSRTC, TVM	9495502061	
68	Shri Kailasnath U Asst. Professor GEC, Barten Hill, TVM	7559880019	
69	Shri Priyan R Camera Person News18Kerala	9496089096	
70	Shri Rijindas Camera Person Manorama News	7356069060	
71	Shri Shinoj PV KRSA, TVM	9148430543	
72	Shri Sudheer Cameraman Kairali TV	9746426059	
73	Shri Sunil P Higher Education Council, TVM	9496790521	
74	Shri Surya Dev Cameraman NGGFN, TVM	9207382094	
75	Smt Antha Sebastain Reportaer Manorama News	8547542967	
76	Smt Jayanthi T A Scientist Centre for Environment and Development, Thiruvananthapuram	9995809776	jayanthikrishna002@gmail.com
77	Smt.Lakshmi S Office Secretary Centre for Environment and Development, Thiruvananthapuram	9961985578	lakshmi@cedindia.org
78	Smt Shajila Reportaer, Kairali TV	7012323155	
79	St Raja Parvathy Camera Person Manorama News	9947052364	