Kerala Road Safety Authority
Road Safety Master Plan - 2030

Key Elements of the project
Vision Statement

“To facilitate safer mobility to all road users”

Mission Statement

“Reducing road deaths and crash injuries by developing safe road infrastructure, through sustainable enforcement, public awareness, and speedy trauma care”
GLOBAL PLAN
DECADE OF ACTION FOR ROAD SAFETY
2021-2030

The Global Plan describes what is needed to achieve that target, and calls on governments & partners to implement an integrated Safe System Approach.

UN General Assembly Resolution 74/299 declared a Decade of Action for Road Safety 2021-2030, with the target to reduce road traffic deaths & injuries by at least 50% during that period.

HOW TO DO IT?

WHAT TO DO?

WHO TO DO IT?

- Multimodal transport & land-use planning
- Safe road infrastructure
- Safe roads use
- Safe vehicles
- Post-crash response
- Legal frameworks
- Speed management
- Gender
- Technologies
- Focus on low- and middle-income countries
- Funders
- UN agencies
- Government
- Civil society
- Private sector

For further information, visit: DECADE OF ACTION FOR ROAD SAFETY 2021-2030
DECADE OF ACTION FOR ROAD SAFETY – GLOBAL PLAN - TARGETS

GLOBAL ROAD SAFETY PERFORMANCE TARGETS

Target 1: By 2020, all countries establish a comprehensive multisectoral national road safety action plan with time-bound targets.

Target 2: By 2030, all countries accede to one or more of the core road safety-related UN legal instruments.

Target 3: By 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better.

Target 4: By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.

PILLAR 1: Road safety management
PILLAR 2: Safer roads and mobility
PILLAR 3: Safe vehicles
PILLAR 4: Safe road users
PILLAR 5: Post-crash response
UN's ROAD SAFETY TARGETS - 2030 (Cont...)

Target 5: By 2030, 100% of new (defined as produced, sold or imported) and used vehicles meet high quality safety standards, such as the recommended priority UN Regulations, Global Technical Regulations, or equivalent recognized national performance requirements.

Target 6: By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.

Target 7: By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.

Target 8: By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.

Target 9: By 2030, halve the number of road traffic injuries and fatalities related to drivers using alcohol, and/or achieve a reduction in those related to other psychoactive substances.

Target 10: By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.

Target 11: By 2030, all countries to enact regulation for driving time and rest periods for professional drivers, and/or accede to international/regional regulation in this area.

Target 12: By 2030, all countries establish and achieve national targets in order to minimize the time interval between road traffic crash and the provision of first professional emergency care.
Decade of Action for Road Safety (2011-2020): Kerala Scenario

- Kerala achieved **65%** of the overall first decade of action target
- **State need better approach to achieve second decade target**
Basics for Safe Road System

- Establish the need of Safe Road System, and draw political will and Government support for the same.
- Firm Policies for a meticulous Landuse and Transportation Plan for the State, with Institutional setup for Transportation Planning
- Policy modification to prepare and practice new Transportation Systems and Standard Operation Procedures.
- Develop efficient working mechanism for lead agency, along with Stake holding departments for steadfast Road Safety Management.
Road Safety Master Plan’ 2030

In tune with UN’s ‘Global Plan - for 2nd Decade of Action for Road Safety 2021-2030’, KRSA plan to prepare a decadal Road Safety Master Plan.

• The Kerala State with the comprehensive Road Safety Masterplan, aims to achieve the **UN’s target of 50% reduction in fatalities & injuries by 2030**.

• To set out a 10 year visionary framework for systematic road safety management in Kerala, the plan will be based on scientific approach, adopting international best practices, and implemented through phased action plan.

• **Authority decided to prepare the Road Safety Masterplan through WRI**, who later informed that they won’t be able to do the study, instead they can be a technical partner for the Study, right from inviting an EoI.
Objectives of the Project

- Identify gaps in current road safety management,
- Formulating a system for road safety management,
- Formulate Road Safety Action Plan,
- Identify various Standards, Guidelines, Manuals, SOPs, Policy Documents.
- Frame-out Road Safety Data Management System,
- Explore and suggest innovative road safety systems,
- Develop framework for effective and equitable utilisation of Road Space.
- Systematic road safety education for School students to university level.
- Formulate Syllabus and Mechanism for Driver Training and Licensing.
- Develop Outreach Plan for Road Safety Awareness.
- Capacity building of KRSA office to function effectively
- Formulate a system for effective Lead Agency functioning
- Framing suitable business model for Projects
- Monitoring and Evaluation mechanism for State’s Road Safety Projects
Systematic Road Safety Management

• A system for road safety management for the State, for each and every office activities, processes, documentation & filing, etc.

• Setting up 'Standard operating procedures’, work flowcharts, review & approval process, QA & QC, etc for all activities.

• KRSA need to establishing office process standards like, ISO certification on “Road Traffic Safety Management System [ISO 39001:2012]”, which enables an organization to reduce death and serious injuries related to road traffic crashes, by:
  – development and implementation of an appropriate RTS policy
  – development of RTS objectives and action plans
  – legal and other requirements related to RTS
Road Safety Action Plan

• In consistent with Kerala Road Safety Master Plan, a **phased execution plan** to be developed.
• Technically & Financially viable Plan with the support of Spatial Analysis tools.
• Proactive/ Data driven Plan focused on Safe Road System and safe road standards.
• Few examples of prioritized/ phased action plans (location specific);
  – Building 500 KMs of standard Footpath annually
  – Developing 250KMs motorbike lane yearly
  – Minor road junction treatment at 1000 intersections
  – Constructing 200KMs of Central Road Median annually
  – Ensuring ITS based Enforcement System for the whole State by 2025
  – Providing 1000 Streetlight based on luminous lux requirements yearly
  – Improving 50 junctions with Signal/ Priority Channelization yearly
  – Retrofitting of 25KMs of Urban Streetscapes yearly
  – 100 School & other special Zone Treatments each year
  – Curve correction at 50 most vulnerable curves every year
  – Establishing Parking Management mechanism by 2025, etc.
  – Institutional setup for Transportation Planning & Road Design by 2025

**SMART:**
- Specific
- Measurable
- Achievable
- Realistic
- Time-bound
Road Safety Standards & Guidelines

• Develop & Rollout various Standards, Guidelines, Manuals, SOPs, Policy Documents on Road Safety to Practices in Kerala.

• Basic documents in this regard may be prepared in concurrence with Stakeholders, Examples like;
  
  • Traffic Control Devices Manual,
  • Road Safety Standard Drawings,
  • Junction Improvement Guidelines,
  • Access Control Strategy, etc.

* File initiated in this regard, need to formulate a committee with stakeholders
Road Safety Data Management System

- Road safety database is the first step towards achieving scientific road safety management.
- Without systematic data collection, the system’s performance, evaluation and improvement can't be managed.
- GIS based Comprehensive Road Safety database is key to assist in planning proactive accident reduction measures.
- Any Road Safety influencing data is relevant data for RSDMS, like:

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Equitable Utilisation of Road Space

- Safe **Pedestrian** Facility & **Two-wheeler** lanes.
- **Parking Management Plan** for each City.
- Clearly defining road spaces following Standards.
- Retrofitting of city road space for better street life.
- Mobility focus for Highways and Accessibility for Urban Roads.
- Introduction of **Utility Corridor / Ducts** in all major corridors.
Speed Mapping of Roads

- A program to identify **safe driving speed** on each and every monolithic bit of road segments in Kerala.
- **Mapping of safe speed** for road stretches and publishing on GPS mediums.
- Speed limit guidance and/or **speed regulation of vehicles based on in-vehicle Safety System and GPS device**.
- Improvement for speed hazardous location (sharp curves), based on requirements like corridors design speed, posted speed, enforcement speed, etc.
In-vehicle Safety Measures

Basic Safety measures in all new vehicles may be ensured:

• Advanced Driver Assistant System is said to be the future of in-vehicle safety systems, which may be promoted.
• Also consider other in-vehicle safety features like:
  - Anti-lock braking system (ABS), Collision avoidance system, 360-degree omniview camera, intelligent headlamp control, Hill-start & descent assist, Blind-spot Monitor, Adaptive Cruise Control, Intelligent speed adaptation, Driver drowsiness detection, Forward collision warning, Lane departure warning, Lane keep assist, Pedestrian protection systems, Parking sensors, reverse-drive assist, Electronic stability control (ESC), Emergency driver assistant, etc may be considered
• Promoting in-Vehicle Safety measures prescribed in AIS standards to be retrofitted in old-existing vehicles.
AI based Traffic Enforcement

- Establishing a State-wide Digital Monitoring & Enforcement System, with camera based ANPR, ML & AI technology. Identify State wide requirements and phased implementation.

- In vehicle Monitoring & Enforcement of Traffic Rules may be considered with the help of Vehicle Location Tracking Devices (VLTD), AI Dashcams, Driver Monitoring System (DMS), RFID of FASTag, Google Vehicle Tracking, etc

- Integrating all Digital Traffic Enforcement Under one umbrella, preferably with a separate institutional mechanism, in accordance with MVA Act, Section 136(A).
ITS based Traffic Management

• Develop an Intelligent Transportation System based **Traffic Management** in all Major Cities in the State.

• Integrating the usage of Vehicle Location Tracking Devices (VLT) mandated in public vehicles, passive RFID technology of FASTag, Google Vehicle Tracking, ANPR Enforcement Cameras, etc together with State of Art Internet of Things (IoT) & Artificial Intelligence (AI) technology to develop indigenous ITS Traffic Management and Enforcement System for the State.

• Establishing automated AI Generative Pre-trained Transformer (GPT) based **Variable Message Signs (VMS)** and measures to efficiently Manage Traffic & to promote Public Transportation.
Post Accident Management

- Establish a **Single Point of Contact (SPoC)** for accident emergency management, integrating the service of Police, Ambulance, Fire & Rescue, Recovery Vehicles, etc with effective usage of VLTD.

- In-vehicle mechanism for detecting Accidents (Collision, Overturn) and automated alerts to first responders (SOS), Remote Medical Assistance, etc.

- Policy measures for **Right Early Support** for accident victims, which is medically correct, by revising existing Save Our Fellow Traveller (SOFT), Good Samaritan Laws.
• Including **systematic road safety education** for students from young age to University level.

• **Handbook for Teachers** Training already developed.

• Mapping of road safety subject in current curriculum through SCERT **required now**.

• Production of Road Safety Education Materials for SCERT, like videos, books, activities, programs, etc
A University for Transportation and Research, may be established in the State and offer capacity building Course like:

- Training of Trainers, Certification, and Diploma courses in road safety, like; Transportation & Road Safety Engineering, Safe Road Design & Analysis, and Accident Analysis & Crash Investigation, etc
- PHD and Research courses in Road Safety
- Driver permit/licensing training for Hazard goods vehicle, Ambulance, Emergency Vehicles, etc
- Assistant Motor Vehicle Inspector degree / training courses for Motor Vehicle Department.

Periodic Road Safety training for all Stakeholders to be arranged
MoRTH is running scheme/Guidelines for setting up of Institute of Driving Training & Research (IDTRs), Regional Driving Training Centres (RDTCs) and Driving Training Centres (DTCs) during the 15th Finance Commission Cycle (2022-2026).

Instead of current learners licensing method; systematic teaching methods to be adopted, which includes; *(time & training structure is indicative)*

- **Theory Classes** - 6 hours
- **Simulation Classes** - 2 hours
- **Practical Activities** - 2 hours
- **Yard/Track Training** - 10 hours
- **On Street Training** - 10 to 20 hours

Driving School Instructor Training Permit System and TOT training to be established.
360° Surveiled Driving

• 360-degree watching is a key defensive driving technique, where the driver drives with the awareness of what’s happening in his surrounding environment, mainly at the rear, with the help of Side / Rear View Mirrors.

• New-gen Cars provide live 360-degree camera views, blind-spot views, etc to monitor 360 deg driving environments.

• 360 deg monitoring is a basic safety measure in multi-lane highways (like, new six-lane NH-66), to avoid inter-lane collisions. Hence, procedures to follow for 360° Monitoring, Lane Change, and Lateral Movement may be essentially included in driver training lessons.
Centres for periodic Inspection & Certification (I&C) for all motor-vehicles:

• Setting up Inspection & Certification (I&C) Centre in all District.

• Vehicle Registration may be renewed periodically/annually based on successful certification after inspection.

• Clearance of traffic fines to be ensured periodically by linking with Inspection & Certification, or prerequisite for yearly vehicle Insurance renewal.
Road Safety Awareness Program

• Develop NGO/CBO intervention Plan for Road Safety Awareness and Outreach.
• Preparing Road Safety related Information, Education and Communication (IEC) Plan for KRSA.
• Road Safety Campaigns, Competitions, Festivals, Hackathons, etc.
• Persistent Programs for various target groups.
Strengthening of KRSA

• Develop **sufficient human resource capacity** in KRSA for Road Safety Planning, Road Safety Auditing, Accident Site Inspection, Project Delivering, Design Review/Approval, etc to perform activities as Nodal Agency for Road Safety.

• Develop **District Road Safety Office** capable of Managing Projects, Review/Approval, coordinating with Stakeholders.

• Explore additional funds like Central Road Fund, MoRTH Funds, KIIFB, etc and consider PPP models like DBFOT for successful implementation of Road Safety Programmes in the State.
System for Nodal Agency Functioning

For promoting KRSA as nodal authority for Road Safety Activities in Kerala State a competent Road Safety Management System is required, like:

• Paramount importance for coordination of all stakeholders of Kerala Road Safety.

• Setting out pinpointed roles and responsibilities of each stakeholders through delineation of jurisdictions.

• Establishing System for continuous Monitoring and evaluation of stakeholders through a centralized Road Safety Management ERP System.

• Setting DRSC / District office as sub-center for stakeholder coordination and bridging any gap in tying DRSCs close to KRSA.
Implementing the Master Plan in a phased manner, to achieve the **UN’s target of 50% reduction in fatalities & injuries by 2030**.

- **Scope of the Master Plan Study** - Consultancy Service to identify and propose specified Road Safety Improvements & phased Action Plan based on scientific approach and best practices.

- Master Plan Study Consultants to prepare TOR for inviting Consultancy Service to prepare detailed implementation plan for selected measures.

- KRSA in association with Stakeholders, to implement various measures suggested in the Master Plan, efficiently using KRSA Fund or other sources.

**Authority in 43rd Meeting decided to go ahead with the Master Plan Study. KRSA office may now invite EoI from technically competent consultants.**