

Executive Summary

In 2021, India lost over 1,53,000 lives to more than 4,13,000 road crashes (MoRTH 2022). During the same period, over 3,85,000 persons were injured. On an average, India witnessed 1,130 road crashes and 422 deaths every day, translating to 47 crashes and 18 deaths every hour. Vulnerable road users such as pedestrians and motorized two-wheelers accounted for the majority of road crash deaths (64%); two-wheeler users comprised almost half of the total road crash deaths registered in 2021. Among high-fatality roads, highways emerged on top, with State and National highways, along with expressways, collectively witnessing 54.6% of all road crashes and almost 61% of all road crash fatalities, despite accounting for only 5% of the total road network.

It is important to note that a significant portion of fatalities on National and State highways in India is attributed to bad driving behavior, particularly speeding and negligent driving. To address this issue, strict enforcement measures are necessary. However, the current enforcement mechanism in India has been observed to be inadequate. Presently, enforcement is primarily carried out manually and is constrained by limited manpower and time frames within a day. This is especially evident on highways, where enforcement is usually conducted by the concerned State Police and Transport departments. Due to limited manpower, the level of enforcement on these highways remains low. Therefore, electronic enforcement systems are employed for continuous monitoring in some places, including on highways.

Roads in areas with high levels of mixed traffic very often do not have adequate infrastructure to accommodate pedestrians and non-motorized transport users. In addition, the inefficient use of

existing road infrastructure poses a huge challenge to road safety in India. This can be attributed to a lack of knowledge, education, and appropriate behavior among commuters. An illustrative example is the misuse of service roads: originally designed to accommodate local traffic needs, these service roads are often used as parking spaces or for other unauthorized activities by the local vendors, while the main carriageway intended for regular travel by local commuters ends up bearing the additional load. Consequently, this mix of local commuters with high-speed moving traffic increases the likelihood of crashes at such locations.

Various State Governments in India have devised ways and means to tackle the mammoth concern of reducing road crash deaths. Many of these “good practices” have shown results that make them exemplars for replication at other similar high-crash zones in India. The World Bank Group, in collaboration with SaveLIFE Foundation (an independent, non-governmental organization committed to improving road safety and emergency medical care across India and the developing world), has compiled this report to support these endeavors to reduce the overall road crash burden in the country, and make a leap towards achieving SDG 3.6. It compiles certain “good practices” implemented across States in India that have either been implemented in the past or are currently under implementation.

The good practices covered in the study were selected based on one or more of the following criteria:

- a. Practices that resulted in a sustained reduction in road crash deaths during the project implementation period.
- b. Practices that involved strengthening of institutions for efficient management of road safety interventions and effective inter-agency collaboration.
- c. Robust mechanisms for ensuring road safety that have been implemented across the 4 E's that can be taken as intermediate indicators and provide evidence of progress towards key metrics- reduction in fatalities or crashes.

Most of the knowledge available on road safety in the developing countries that shoulder the majority burden of road crashes, fatalities, and injuries, is ad hoc and disjointed. This study aims to close this gap by putting forth a compilation of road safety good practices that can be utilized by various State government authorities for replication. The core objective is to document evidence-based good practices that have either reduced, or have shown promise in reducing deaths and injuries across different States in India. The path to achieving this reduction for each documented practice has been compiled in the guide.

To gather these practices, all the relevant stakeholder departments (i.e., police, transport, health, etc.) of all 28 States and 8 Union Territories across India were contacted through questionnaires. Further, global road safety literature was also reviewed to determine the scope and aspects that a good practice should capture. The available literature was also reviewed to understand the national road safety landscape, search for more promising road safety endeavors, and supplement the data shared by States. The responses from States, and the findings from secondary research have been compiled and presented in this report.

The practices and interventions studied in this report have been categorized as Corridor-based, City- and Network-based, and State-based interventions.

CORRIDOR-BASED INTERVENTIONS

The corridor-based approach captures interventions in various contexts - from a two-lane State highway in Karnataka to a six-lane expressway in Uttar Pradesh. Geographically, it captures interventions predominantly from Western and Southern India, barring the success of the Zero Fatality Corridor on the Yamuna Expressway. The States that have adopted a corridor-based approach include relatively high-capacity States such as Maharashtra, Gujarat, Tamil Nadu, Kerala, Karnataka, Andhra

Pradesh, and Telangana. The corridor-based practices focused heavily on engineering and enforcement initiatives. They also focused on enhancing emergency care systems on the particular corridor..

Chapter 3 of the report presents nine corridor-based interventions (two expressways, one National highway, and six State highways). Two major project types covered here are the Safe Corridor Demonstration Projects (SCDPs) and the Zero Fatality Corridor (ZFC) projects. The SCDPs of the World Bank in States such as Kerala and Karnataka led to a visible reduction in road crashes and deaths, due to multi-sectoral interventions in the areas of emergency medical care, road engineering, police enforcement, road safety education and awareness, and road safety management. These interventions can be replicated on high-fatality stretches across the country.

In terms of the specific interventions, installation of signages, crash barriers, pedestrian facilities, intersection improvements followed by active patrolling, and speed enforcement have been seen across corridors. To ensure widespread replication of the good engineering practices, efforts can be made to institutionalize them through the relevant IRC codes. Additionally, the practices can be called out specifically under Rule 166 of the Central Motor Vehicles Rules, 1989, which also provides statutory backing to the IRC codes as well as empowers the Government of India to issue guidelines from time to time for the design, construction and maintenance of roads. Strengthening of emergency response systems through measures such as the creation and upgradation of trauma care centers, and the optimal deployment of ambulances to reduce response time, have been undertaken across all corridor-based projects.

The tactics and approaches for safety on State highways have two key notable replicable practices. First, institutional measures created through legislation at the State level for monitoring all road safety-related work. For example, both in Kerala and Gujarat

- Road Safety Authorities were created to coordinate all road safety-related work amongst different stakeholders. Second, most of the practices on State highways focused on the upgradation of emergency care infrastructure and capacity building of staff. In certain cases, private capital through CSR was mobilized that helped unlock government funding for scale. The State highway corridor interventions covered in this report were jointly funded by the State Government and the World Bank.

In terms of safety outcomes, the Zero Fatality Corridor on NH-48 (Old Mumbai-Pune Highway) saw a 61% dip in deaths over three years (2018-2021), followed by SCDP in Karnataka on SH-20 (Belgaum-Yaragatti Highway) that saw 54% reduction in deaths in three years (2015-18). Some of the corridor-based practices such as the NH-48 and the Mumbai-Pune Expressway involved partnerships with the private sector. As private partners are increasingly becoming engaged in achieving the Sustainable Development Goals, such partnerships can help in improving road safety in the country. A report documenting such public-private partnerships in road safety can be the next step towards scaling them across India.

NETWORK-BASED INTERVENTIONS

Chapter 4 of the report presents two regional practices - one city-based and the other network-based. The city-based practice describes the success story of the interventions in Kolkata over five years (2016-2021), leading to a 52% dip in deaths. The Safe Drive, Save Life campaign led to Kolkata witnessing the biggest dip in road crash deaths amongst all Tier-1 cities (MoRTH 2022, Invest UP 2023). The interventions under the campaign focused on introducing electronic enforcement in the city and engineering interventions to address infrastructural concerns. It is also one of the few interventions that was evaluated by a third-party consultant - KPMG, which reported that the increased investment in road safety through the Road Safety Fund had a positive effect on bringing down the incidence of road crashes and deaths.

The Sabarimala Safe Zone is an example of a high impact project. It achieved a 100% reduction in road crash deaths in a 10-year time frame (2009-2019). The stretch had sustained this reduction and continued to see no deaths for the reported period, as per submissions by the Kerala Motor Vehicles Department. While the mortality burden in the Sabarimala Safe Zone was relatively low - 16 road deaths reported in 2009-10, the good practices to improve road safety can be replicated in other areas, especially religious tourist circuits such as the Uttarakhand Char Dham Yatra that witnesses a high number of road crash fatalities.

STATE-BASED INTERVENTIONS

Chapter 5 of the report presents two State-wide practices- one from Odisha, and the other from Tamil Nadu. Odisha saw a 4.1% reduction in deaths between 2018 and 2021, as per the submission from the Transport Department. The State has been lauded by the Supreme Court Committee on Road Safety (ET Infra 2022) for the implementation of various road safety measures, such as improved helmet compliance in Bhubaneswar, driver training programs, functioning of lead agencies and optimal utilization of road safety funds. Odisha also witnessed a 6.24% drop in fatalities in the second quarter of 2023, in comparison with 2022 (Odisha Post 2023). Tamil Nadu witnessed a 2.8% dip in road crash deaths from 2018 to 2022. This has been achieved by focusing on strengthening institutions, especially through the creation of a Special Task Force headed by ADGP SCRB, the creation of the Tamil Nadu Accident and Emergency Care Initiative (TAEI) headed by Principal Secretary Health and Family Welfare and the establishment of the Innuyir Kappom Thittam: Nammai Kakkum 48 scheme, which provides cashless treatment to road crash victims within the first 48 hours of the crash occurrence.

COMMON ELEMENTS

Emergency Medical Care is an important element across all projects documented in this report. In addition to the efforts of the States, the Government of India has created a universal emergency number-112 Emergency Response Support System (ERSS). Under this program, health, fire and police services will be integrated into one emergency number (Ministry of Home Affairs 2023). Numerous States have implemented the 112 emergency number in parts . For example, in Uttar Pradesh, the command center has a team of 150 members working in three shifts of eight hours each. The center handles around 2.5 million calls daily, distinguishing between Actionable and Non-Actionable Calls. The average closure time of all cases received by the Control Center is 28 minutes (ERSS Assessment Report 2023).

Another common element across all good practices is the optimal deployment of human resources to increase capacity at the grassroots and the administrative levels of road safety management in the State governments. For instance, the State TAEI Governance Committee in Tamil Nadu has numerous high-ranked stakeholders including the Principal Secretary, Health and Family Welfare Department. In parallel, it also involved capacity building at the grassroots level through training programs for medical professionals, nurses, and paramedics in handling trauma cases (Tamil Nadu Health and Family Department 2018). The success of each case study lies greatly in the smooth coordination of various stakeholders involved in each intervention.

RECOMMENDATIONS

An overall analysis of all thirteen case studies provides certain key practices that can be replicated across projects and contexts. Policymakers at the State and national levels can adopt a specific approach based on the context and the challenges they face. As mentioned above, the Sabarimala Safe Zone approach can easily be replicated by administrators in other religious circuit zones,

including the Uttarakhand Char Dham Zone, which sees a mass fatality crash almost every year. Similarly, practices followed in Karnataka can be replicated across stretches with mixed traffic and high pedestrian footfall. Stretches with a high density of VRUs and schools can follow the Kazhakuttom-Adoor Corridor model, wherein the school-focused safety interventions have helped reduce VRU deaths by around 50%.

For administrators looking for low-cost, temporary, and quick intersection or blackspot treatment, a Tactical Redesign trial at Karla Phata on NH-48 provides a good example. The ZFC model deployed on the Yamuna Expressway and the Mumbai-Pune Expressway is worthy of emulation on access-controlled highways. Forensic Crash Investigations and Crash Vulnerability Audits (followed by the Zero Fatality Corridor Model) can be used to determine the interventions that need to be prioritized in a corridor, zone, or a State. Similarly, a gap analysis of the existing emergency care infrastructure in the State (as was done in the case of Odisha) helps ensure that States can prioritize areas of improvement.

As Tamil Nadu and Odisha are high-capacity and low-capacity States respectively, these interventions can serve as models for replication across similar States in India. States that have low road safety funds can start by implementing corridor-based interventions on specific high-fatality corridors. Considering that 61% of the total road crash deaths occurred on National and State Highways (MoRTH 2022), by implementing a suitable corridor-based intervention, low-capacity States can also bring about a significant reduction in road crash deaths.

Two-wheeler users make up the maximum number of deaths every year, with over 69,000 deaths in 2021 (45% of total deaths) (MoRTH 2022). Yet, there was insufficient information on road safety interventions for two-wheeler safety. While Kolkata's "No Helmet No Petrol" campaign is an example of an intervention that briefly

induced behaviour change, it was not effectively implemented, and was eventually unsuccessful. Further, there are insufficient measures with respect to road engineering and enforcement for two-wheeler users. In countries such as Thailand, special enforcement projects for helmet detection using electronic enforcement were undertaken (The Phuket News 2016). Such projects can be replicated in India as well.

While most of these practices relied on assessment tools or enabling factors such as the presence of an authority, government orders, etc., their manifestation as successful projects, was possible only with the will and cooperation of State governments and local authorities. Given the rarity of sustained, broad-based, and multi-sectoral participation, road safety “good practices” require codification to make them scalable and replicable across India.

LIMITATIONS OF THIS REPORT

This report has the following limitations:

- The impact of each intervention has been measured for a stipulated period (until project closure), and cannot be used to extrapolate trends in previous or subsequent years. For example, the Hyderabad-Bijapur road under the SCDP, which was a project that was completed at the beginning of 2019, and had witnessed a drop of 38.1% in road crash deaths between 2014 and 2018, witnessed an increase in road crash deaths post the project completion and handover to a national road-owning agency, with 132 deaths registered between 2019 and 2020 (Hans India 2020).
- Some of the case studies do not include impact data due to its non-availability.
- An intervention-wise budget break-up is unavailable for some case studies, such as Gujarat, YEW and MPEW. Further, some aspects of the project’s budget may have been excluded, as the data for case studies such as Karnataka’s KSHIP-II has been collated through secondary information sources, which may be limited in their scope.

- The launch of digital crash data collection through iRAD/e-DAR nationwide was done to improve data collection and digitization on-ground (iRAD 2023). Due to the improvement in reporting mechanisms, the under-reporting of road crashes would be rectified. The improved reporting mechanisms may reflect increased road crashes and deaths in many States. However, this does not necessarily indicate that the road safety scenario on-ground has deteriorated. For example, Tamil Nadu saw only a marginal dip in road crash deaths because it has entirely digitized and implemented e-DAR to record road crash deaths. This may not be necessarily a reflection of the relative burden of road crashes in the State compared to other States.
- A validation exercise was also conducted to verify the stated impact of interventions in all the case studies. While positive outcomes were verified in most case studies showcasing reduced deaths and improved road safety, limited open documents were available for validation.
- The fatality reduction reported for various projects is based solely on reported data for target periods. No statistical before or after analysis has been undertaken for validation purposes.

CONCLUSION

India aims to meet the United Nations Sustainable Development Goal 3.6 to reduce road crash fatalities by 50% by 2030. Considering India's huge annual road death toll, the country needs to enhance the ongoing efforts to achieve a significant reduction in deaths as per the SDG 3.6. One way to do this is by documenting success stories and disseminating them widely for replication. This report is the first such initiative aimed at creating a dispassionate compendium of replicable good practices for State governments to tackle their road safety concerns. The study hopes that the case studies and recommendations it puts forth will allow for cross-functional knowledge exchange and sharing, collaborative actions, synergies, improved policies, practices and more informed initiatives by the State and city-level entities to improve their road safety outcomes.

Summary of Interventions



INSTITUTIONAL MECHANISM	ENGINEERING	ENFORCEMENT
<p>Development of Plans:</p> <ol style="list-style-type: none"> 1. Development of an Institutional Development and Strengthening Action Plan 2. Creation of a Dedicated Road Safety Fund 3. Notification of rules for a Non-Lapsable Road Safety Fund 4. Establishing a State-level Center of Excellence to disseminate sector-wise knowledge <p>Type of Private Sector Involvement:</p> <ol style="list-style-type: none"> 1. DBFOMT (Design- Build- Finance- Operate-Maintain- Transfer) 2. OPRC (Output and Performance-based Road Contracts) 3. Funding through CSR 	<p>Road design:</p> <ol style="list-style-type: none"> 1. 2+1 Lanes for Safe Overtaking 2. Right Turn Protected Lanes 3. Delineators 4. Rumble Strips 5. Road Studs 6. Tactile Edge Lines (TEL) 7. Polychrome Convex Mirrors 8. Creation of Freight Parking Spots 9. No Parking Zones 10. Removal of Dangerous Roadside Objects 11. Street Lights for Night Time Visibility 12. Crash Barriers 13. Bus-stop Redesigns with Bays 14. Road safety considerations in the design and construction phase 	<p>Monitoring:</p> <ol style="list-style-type: none"> 1. Training of officials on the Use of Monitoring Cameras 2. Deployment of Traffic Wardens at schools 3. Active Patrolling 4. Use of Interceptor Vehicles 5. Automatic Detection of Missing Permits, Missing Vehicles, and Violations 6. State-level Control Room 7. Use of Smart Patrolling vehicles 8. Intelligent Traffic Management Systems (ITMS) 9. Placing Highway Outposts
<p>Strategies:</p> <ol style="list-style-type: none"> 1. Creation of a Special Task Force on Road Safety to assess and prevent road crashes 2. Collaboration with Local Experts known as Faculty Partners 3. Survey of Enforcement Measures 4. Surveys for analyzing the Causes of Road Crashes 5. Deployment of Quantifiable Measures for Impact 	<p>Road Signages and Markings:</p> <ol style="list-style-type: none"> 1. Upgrading and placing Road Signages wherever required 2. Road Markings <ol style="list-style-type: none"> a. Yellow Painted Stripes b. Yellow and White Ladder Lines c. White "SLOW" and "SCHOOL ZONE" Markings d. Zig-Zag Lines e. Box Markings f. Edge Lines g. 3D Pavements h. Colored Pavements i. Chevron Markers j. Retro-Reflective Markers k. Three-set Deflector Arrows 	<p>Devices:</p> <ol style="list-style-type: none"> 1. Breathalyzers (with printer) 2. Speed Guns (laser and radar) 3. Speed Traps (fixed and actively relocatable) 4. Automated Number Plate Recognition (ANPR) 5. Vehicle-Activated Signs (VAsS) 6. Red Light Violation Detectors 7. Electronic Weigh-in Bridge 8. Variable Message Signs (VMS) 9. Digital Camera 10. Accessible Push Buttons for Pedestrian Crossing 11. Reflective Jackets
<p>Data-driven interventions</p> <ol style="list-style-type: none"> 1. Road Safety Audits for repeated blackspots (including manual and third-party audits) 2. Forensic Crash Investigation for Root Cause Analysis Matrix 3. Risk Assessment using automated iRAP techniques 4. Crash Vulnerability Audits (CVAs) 	<p>Intersection redesign:</p> <ol style="list-style-type: none"> 1. Tactical Redesign 2. Creation of Refuge Islands 3. Installation of Blinkers in Median Gaps 4. Creation of Splitter Islands 5. Construction of Raised (table-top) Crossings 6. Incorporating Traffic Channelization and Speed Calming Measures 7. Installation of Retroreflective Pavement Markings 8. Grade-separated Pedestrian Crossings 	<p>Risk Factor Management:</p> <ol style="list-style-type: none"> 1. Dynamic Speed limits 2. Training Officials on Speed Management Techniques 3. Police Counseling to non-users of helmets and seat belts 4. Strict Rear Seat Belt enforcement on highways 5. E-Challan System
<p>Database Management:</p> <ol style="list-style-type: none"> 1. IT-based Trauma Registry 2. Road Accident Database Management System (iRAD/e-DAR 2023) 3. Accident and Enforcement Data Collection 		



EDUCATION/ ENGAGEMENT	EMERGENCY MEDICAL CARE
<p>Trainings:</p> <ol style="list-style-type: none"> 1. Post Crash Care and Road Safety (especially for adjacent communities) 2. First Aid Delivery 3. Forensic Crash Investigation (for police personnel) 4. Training in Basic Crash Prevention Techniques (for Truck drivers) 5. Anticipatory Driving and Accident Prevention Training (ADAPT) for Drivers 6. Refresher training through Workshops whenever required 7. Special Training in Blackspot Regions for school children, bus drivers, conductors, auto drivers/two-wheeler drivers/stage carriage drivers 8. Upgradation of Driver Training Institutes 9. Training of Contractors, Road Engineers, Concessionaires, and Consultants 	<p>Trainings:</p> <ol style="list-style-type: none"> 1. First Aid Delivery (especially for adjacent communities) 2. Training for Doctors in District hospitals, PHCs, and Taluk Hospitals 3. Training for medical personnel at Identified Emergency Medical Facilities 4. Airway, Breathing, Circulation, Disability, and Exposure (ABCDE) Training for Healthcare Professionals 5. Basic Trauma Life Support (BTLS) for police professionals 6. First Responders Training program
<p>Awareness Methods:</p> <ol style="list-style-type: none"> 1. Media Brochures 2. Short Films 3. Public Announcements 4. Street Plays 5. Mandatory Short Films at Movie Theatres 6. Public Meetings 7. Pamphlets and Leaflets 8. Radio Campaigns 9. Multilingual Audio Messages at Toll Plaza 	<p>Emergency Medical Facilities:</p> <ol style="list-style-type: none"> 1. Mapping all Emergency Medical Facilities 2. Identification of Trauma Facility Gaps 3. Identification of Existing Medical Colleges and Hospitals for training in trauma care 4. Establishing new facilities or Trauma Care Centers (TCC) 5. Upgrading existing facilities (TCC) 6. Designating a hospital in each District as TCC
<p>Other Interventions:</p> <ol style="list-style-type: none"> 1. Road Safety Hackathon 2. "No Helmet, No Petrol" rule 3. Awareness Programs at Schools for Children and their Guardians 4. Inclusion of Road Safety chapters in the curriculum 5. Road Safety Fairs 6. Road Safety Short Film Festival 7. Traffic Education and Awareness Mobile (TEAM) Vans 	<p>Ambulance Service:</p> <ol style="list-style-type: none"> 1. Ensuring all Ambulances are equipped with State-of-the-Art-Equipment 2. Deployment and stationing of Ambulances near High-Fatality Zones 3. Reduction in Ambulance Response Time by utilization of ambulance deployment tools
	<p>Other Key Interventions:</p> <ol style="list-style-type: none"> 1. Detailed Action plan for Health Departments 2. Cashless Treatment of road crash victims 3. Safe Zone Helpline 4. Regular Eye testing and general health checkups for Truck Drivers 5. Strengthening Emergency Care systems - e.g., Tamil Nadu Accident and Emergency Initiative

Corridor-Based Initiatives

BELGAUM- YARAGATTI HIGHWAY STRETCH, KARNATAKA

7 YEARS (2011-2018)

62 km- 2 lane stretch

Impact

2015 - 2018

54% reduction in road crash deaths

Decision Tool

Analysis by iRAP, Asian Development Bank and VicRoads

Enabler

Work Order by State Public Works Department (PWD)

Project Road Safety

Funding

Total Road Safety Funding:
INR 628.9 million
(USD 9.2 million)

KAZHAKOOTTAM- ADOOR CORRIDOR, KERALA

8 YEARS (2013-2021)

80 km stretch

Impact

2013-2021

46% reduction in total road crash deaths

Decision Tool

iRAP Study

Enabler

Work Agreement awarded under Safe Corridor Development Project

Project Road Safety

Funding

Total Road Safety Funding: INR 1.79 billion
(USD 22.9 million)

OLD MUMBAI- PUNE HIGHWAY, NH-48, MAHARASHTRA

2018- ONGOING

111 km Stretch on NH 48

Impact

2018 - 2021

61% reduction in road crash deaths

Decision Tool

Road Safety Audits, FIR Data, Crash records from Injury Reports

Enabler

MOU between MSRDC and an NGO working on road safety

Project Road Safety

Funding

Jointly funded by MSRDC and CSR funds. Total Road Safety Funding: Not Available

Corridor-Based Initiatives

YASHWANTRAO CHAVAN EXPRESSWAY, MAHARASHTRA

2016- ONGOING

94.5km six-lane wide, access-controlled Expressway

Impact

2016 - 2022

40% reduction
in deaths

Decision Tool

Audits, forensic
crash investigation,
electronic
enforcement tools

Enabler

MOU between
MSRDC and an NGO
working on road
safety

Project Road Safety Funding

Jointly funded by
MSRDC and CSR Total
Road Safety Funding
were **INR 2-2.5 billion**
(**USD 24.3-30.4 million**)
over a period of 7 years

RENIGUNTA- KADAPA STRETCH, ANDHRA PRADESH

5 YEARS (2014-2019)

138 km stretch

Impact

2012 - 2015

22% reduction in
deaths between

Decision Tool

iRAP Report on Road
Quality

Enabler

Government order,
Roads and Buildings
Department, Andhra
Pradesh

Project Road Safety Funding

AP Govt. - **INR 349**
million (**USD 5 Mill.**);
World Bank - **USD 12**
Million (**INR 834 million**)
for Road Safety:
USD 9.6 Million (INR 668
million) for Institutional
strengthening

HYDERABAD- BIJAPUR CORRIDOR, TELANGANA

4 YEARS (2015-2019)

118 km Stretch

Impact

2014-2018

38.1% reduction
in road crash deaths

Decision Tool

FIR Data

Enabler

Government order,
Roads and Buildings
Department,
Telangana

Project Road Safety Funding

Total Road Safety
Funding: **USD 4.3 Million**
(**INR 297.9 million**)
jointly funded- Govt. of
Telangana and World
Bank

Corridor-Based Initiatives

YAMUNA EXPRESSWAY, UTTAR PRADESH

2020- ONGOING

165.5 km

Impact

2019 - 2022

37.7% reduction
in road crash deaths

Decision Tool

Forensic Crash
investigation, Crash
Data Analysis

Enabler

MOU between
Government of
Uttar Pradesh and
an NGO working on
road safety

Project Road Safety

Funding
Total Road Safety
Funding not available

BHARUCH- DEHGAM CORRIDOR, GUJARAT

7 YEARS (2014-2021)

11.3 km

Impact

-

Decision Tool

-

Enabler

-

Project Road Safety Funding

Road safety component - **USD 13 million (INR 952 million)**
out of which 83.8% were World Bank funds and 16.2%
were funded by Government of Gujarat

GANDHINAGAR- Koba- INDIRA BRIDGE, GUJARAT

3 YEARS (2018-2021)

11.5 km

Impact

-

Decision Tool

-

Enabler

-

Project Road Safety Funding

Road safety component - **USD 13 million (INR 952 million)**
out of which 83.8% were World Bank funds and 16.2%
were funded by Government of Gujarat

Corridor-Based Initiatives

MEHSANA- HIMATNAGAR HIGHWAY, GUJARAT

1 YEAR (2017-2018)

66 km

Impact

-

Decision Tool

-

Enabler

-

Project Road Safety Funding

Road safety component - USD 13 million (INR 952 million)
out of which 83.8% were World Bank funds and 16.2% were funded by Government of Gujarat

UTHIRAMERUR- KANNAMANGALAM CORRIDOR, TAMIL NADU

6 YEARS (2015-2021)

4 road stretches-95.6 km

Impact

-

Decision Tool

-

Enabler

Tamil Nadu State Highway
Department and World Bank

Project Road Safety Funding

-

City and Network-Based Initiatives

SAFE DRIVE, SAVE LIFE CAMPAIGN, KOLKATA

2016- ONGOING

City of Kolkata

Impact

2016 - 2021

51.8% reduction
in road crash deaths

Decision Tool

Crash Data from
Police Departments

Enabler

Directions by the
Chief Minister of
West Bengal

Project Road Safety Funding

-

SABARIMALA SAFE ZONE PROJECT, KERALA

2009- ONGOING

400 km stretch around the Sabarimala Temple

Impact

2009-2021

100% reduction in road
crash deaths and a 91%
reduction in road crash
injuries

Decision Tool

Data from State
Crime Records
Bureau

Enabler

Kerala Road Safety
Authority Act (2007)

Project Road Safety Funding

INR 28.2 million
(USD 343,065) for 400 km
for a duration of 3 years

State-wide Initiatives

STATE GOVERNMENT ROAD SAFETY INITIATIVES, ODISHA

2019- ONGOING

Impact

2018-2021

4.4% reduction in road crash deaths

Decision Tool

Data from State Crime Records Bureau

Enabler

Directions from meetings of Road Safety Fund Management Committee; Government orders for implementation of Engineering and Enforcement measures

Project Road Safety Funding

INR 318.7 million (USD 3.9 Million)

STATE GOVERNMENT ROAD SAFETY INITIATIVES, TAMIL NADU

2017- ONGOING

Impact

2018 and 2022

Current reduction in road crash deaths by **2.8%**

Decision Tool

iRAD/ e-DAR (data analysis tool)
FIR data from Police Departments

Enabler

Government orders for the implementation of the Tamil Nadu Accident and Emergency Care Initiative and constitution of the Special Task Force

Project Road Safety Funding

TAEI - initial cost INR 570 million (USD 6.9 million)
Innuyir Kappom Nammai Kakkum 48 Scheme - INR 1.4 billion (USD 17.4 Million) until 2023
TNRADMS - INR 22 million (USD 267,640)