SIAM

Society of Indian Automobile Manufacturers

Building the Nation, Responsibly.

INDIAN ROAD SAFETY

POLICIES, INNOVATIONS, AND THE ROAD AHEAD

सुरक्षित सफर
SAFE JOURNEY
An initiative by SIAM

SAFE *(a SIAM initiative)*

Society for Automotive Fitness & Environment

CONTEXT PAPER

September 2025

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ABOUT SIAM

The Society of Indian Automobile Manufacturers (SIAM) is an apex national body representing all major vehicle and vehicular engine manufacturers in India. It is a society with charitable objectives registered under the Societies Registration Act, 1860. Its objectives include enhancing the contribution of automobile industry to the growth and development of Indian economy, assisting the automobile industry to meet its social obligations and encouraging the efficiency of industry in general and automobile industry particularly in India. SIAM focuses on activities related to improvement of environment and ensuring safety and protection of automobile vehicle users and public at large. Recognising these objectives, SIAM has been granted registration under the Income Tax Act, 1961 as an institution with charitable purpose.

To meet these objectives, SIAM works closely with stakeholders in the formulation of the economic, environment and commercial policies, regulations and standards relating to automobiles. It provides economic and statistical information as well as technical and public policy services to the stakeholders on behalf of Indian Automobile Industry. It publishes Monthly Industry Statistics, Monthly Commodity Price Monitor and other periodic reports. SIAM organises seminars and workshops on the subjects of topical relevance and interest to the industry. It also carries out various public policy activities, particularly in the field of Road Safety and Environment.

SIAM works closely with various Government departments, both at Central and State level and with international bodies like International Organisation of Motor Vehicle Manufacturers (OICA), International Motorcycle Manufacturers Association (IMMA) and coordinate with other counterpart international associations.

SIAM, jointly with ACMA and CII, organises the Auto Expo – The Motor Show, an exhibition showcasing the trends in the Automobile Industry.

SIAM aims to promote Sustainable Mobility through focused initiatives and campaigns on जैविक पहल (Bio Initiative), हरित हाइड्रोजन (Hydrogen Mobility), गैस गतिशीलता (Gas based mobility), विधुतीकरण (Electrification), चक्रीयता (Circularity) and सुरक्षित सफर (Safe Journey) in alignment with Sustainable Development Goals, 2030 and Net Zero by 2070.

ABOUT SAFE

In order to achieve advancement of Inspection and Certification I(I&C) of vehicles and increased safety on roads, the Society of Indian Automobile Manufacturers (SIAM) has incorporated an independent body Society for Automotive Fitness & Environment (SAFE) with membership from Industry, Testing Agencies and NGOs.

SAFE works to spread awareness among the various stakeholders on the concerns of in-use vehicles which would lead to safer vehicles and cleaner environment

SAFE organizes inspection clinics for in-use vehicles and training workshops in various parts of the country for technicians in the area of pollution checking. These programmes are aimed at creating awareness amongst vehicle owners on importance of regular maintenance of their vehicles. It is one of the most effective ways to control emission levels from vehicles in the country.

In addition, SAFE also organizes conferences, seminars and interactions on these subject with State Governments and other stakeholders.

SAFE has also commenced various initiatives for imparting road safety education to students, drivers and the general public at large. Through Road Safety Awareness Programmes, SAFE tries to apprise the community on traffic rules and also to inculcate correct and responsible attitude towards fellow road users.

SAFE is a catalyst in the automobile industry's endeavour to fulfil its commitment towards a cleaner and a safer environment and will continue to support and enhance the industry's role as a responsible corporate citizen in the country

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EXECUTIVE SUMMARY ==================================

Road traffic injuries and related mortality remain a major public health concern worldwide. While progress has been made in combating various other causes of danger to human life, road safety continues to demand urgent attention. Recognizing this, the UN General Assembly launched the Decade of Action for Road Safety 2021-2030, aiming to reduce road traffic deaths and injuries by at least 50% by 2030. This initiative advocates for better road infrastructure, vehicle safety standards, strict enforcement of traffic laws, and improved emergency response systems. These efforts contribute to the Sustainable Development Goals, particularly SDG Target 3.6 (reducing road crash deaths and injuries) and SDG Target 11.2 (safe, accessible, and sustainable transportation).

In India, road safety is a critical challenge. The country accounts for 11% of global road accident deaths, with an average of 53 accidents and 15 fatalities per hour. While the number of accidents per 10,000 vehicles has declined, fatalities have continued to rise. Two-wheelers account for the highest share of accident-related deaths, while pedestrians and cyclists remain highly vulnerable. In 2022, nearly 30.6% of accidents involved drivers without valid licenses, and non-compliance with safety measures such as helmets and seat belts contributed to a significant number of fatalities. Highways, though comprising less than 5% of the total road network, witness disproportionately high accident rates. The economic and social losses from road accidents are substantial, with nearly 50% of victims under 35 years old. Amongst States with high vehicle parc (50 Lacs or more), Kerala, Madhya Pradesh, Tamil Nadu, and Telangana, report the highest number of road accidents.

To address these challenges, the Indian government has adopted a multi-pronged approach under the National Road Safety Policy. Public awareness programs such as the Road Safety Advocacy Scheme and National Road Safety Month aim to educate citizens. Engineering measures include enhanced road design standards, stricter vehicle safety regulations, and initiatives like the Bharat New Car Assessment Program (BNCAP) and the Vehicle Scrappage Policy. Traffic law enforcement has been strengthened under the Motor Vehicles (Amendment) Act, 2019, with harsher penalties for violations and expanded electronic surveillance. Emergency response measures have improved through the Good Samaritan Law, increased compensation for hit-and-run victims, and cashless treatment pilots for accident victims. Evaluation methods

like Road Safety Audits and black spot rectification efforts continue to enhance highway safety, while increased financial support aids awareness campaigns and vehicle inspection programs.

A key player in advancing road safety and sustainability in India is the Society of Indian Automobile Manufacturers (SIAM). As the apex national body representing vehicle and engine manufacturers, SIAM plays a crucial role in shaping automotive policies and industry standards. It collaborates with the government on initiatives to improve vehicle safety, promote sustainable mobility, and enhance environmental responsibility. SIAM is actively involved in the development of biofuels, hydrogen mobility, gas-based transportation, and vehicle electrification, aligning with India's net-zero emission goals by 2070. It organizes key industry events such as the Auto Expo and various technical workshops to foster innovation, public engagement, and awareness about the future of mobility. By advocating for regulatory advancements and technological innovations, SIAM continues to drive the automotive sector toward safer and more sustainable transportation solutions.

Complementing SIAM's efforts, the Society for Automotive Fitness & Environment (SAFE) focuses on vehicle inspection, certification, and environmental awareness. SAFE conducts inspection clinics, training programs, and awareness campaigns for vehicle owners, technicians, and has discussions with policymakers to ensure vehicles roadworthiness and emissions compliance. It collaborates with state governments and transport authorities to enhance road safety education and promote responsible driving behaviour amongst professional drivers and masses. By strengthening vehicle fitness regulations and spreading awareness about traffic safety, SAFE plays a pivotal role in India's broader road safety framework.

With strong regulatory frameworks, industry collaboration, and public engagement, India is making steady progress in enhancing road safety. A multi-stakeholder approach, involving government agencies, industry bodies like SIAM and SAFE, and the public, remains essential to achieving safer and more sustainable mobility for all.

NEED FOR ROAD SAFETY

Road traffic injuries and fatalities represent a significant public health crisis across the globe. Despite making notable progress in combating a variety of diseases and health conditions, all countries still face formidable road safety challenges . In September 2020, to combat the same, the UN General Assembly adopted resolution, "Improving global road safety", proclaiming the Decade of Action for Road Safety 2021-2030, with the ambitious target of preventing at least 50% of road traffic deaths and injuries by 2030. This Global Plan aligns with the Stockholm Declaration, by emphasizing the importance of a holistic approach to road safety, and calling on continued improvements in the design of roads and vehicles; enhancement of laws and law enforcement; and provision of timely, life-saving emergency care for the injured. Additionally, the plan also promotes sustainable mode of transportation like walking, cycling and using public transport as inherently safer and environmentally sound modes of transport[i],[ii].

This plan also reaffirms the following SDG Goals:

- SDG Target 3.6 called for a 50% reduction in road traffic crash deaths and injuries by 2020.

- SDG Target 11.2 calls for safe, sustainable, and accessible transportation systems for everyone, with an emphasis on people in vulnerable situations, women, children, older adults, and people with disabilities.

3 GOOD HEALTH AND WELL-BEING

11 SUSTAINABLE CITIES AND COMMUNITIES

Closer home, India has prepared to face this issue head-on by setting the ambitious target of preventing at least 50% of road traffic deaths and injuries by 2030[iii] .

In 2021, road traffic injuries were the 10th leading cause of death in India. With close to 6.11 Lakh fatalities and injuries in 2022[iv], India accounts for 11% of global road accident deaths, with 53 accidents and 15 deaths occurring every hour. At the same time, India has grown to become an automotive behemoth with an estimation of more than three crore vehicles added every year. With an expanding middle class in this growing economy, the vehicle parc is bound to increase exponentially from current ~39 Cr. vehicles on road[v]. India needs to reduce the burden road traffic injuries impose on society.
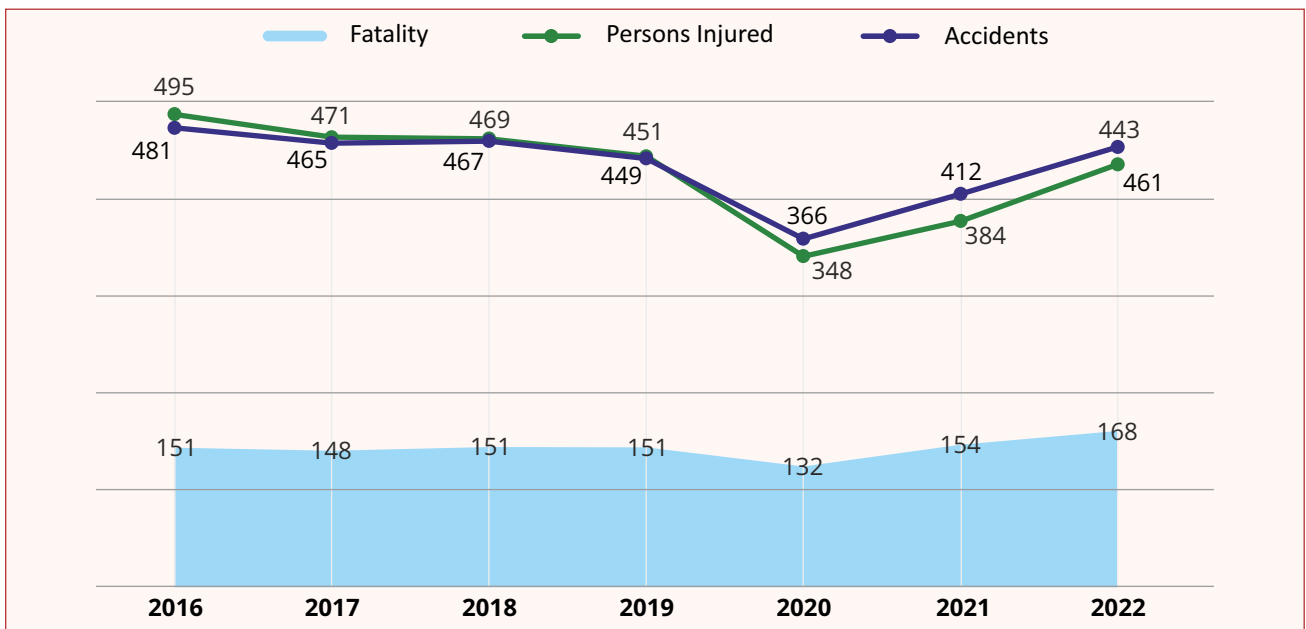

Figure 1: 2016 to 2021 Trends in number of Accidents, Persons Injured and Fatalities ('000)
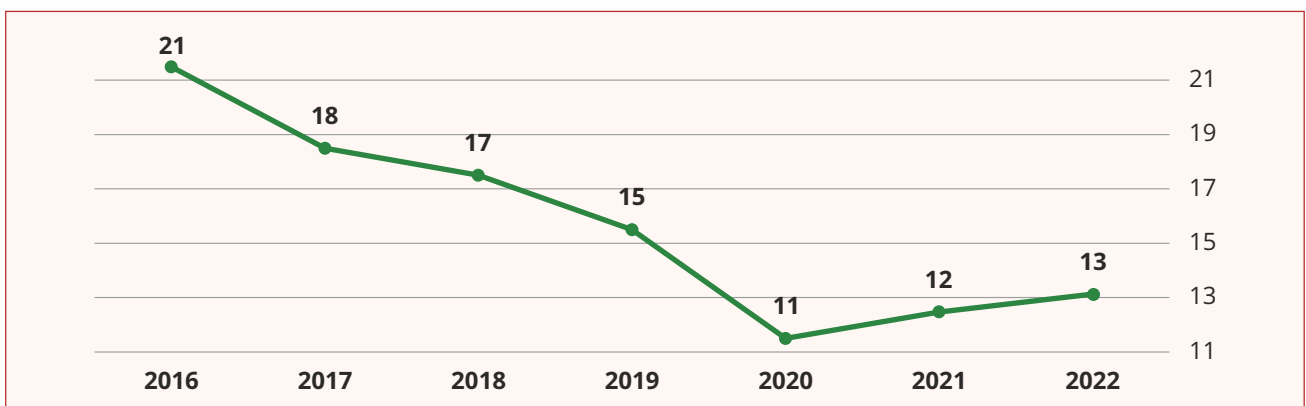

Figure 2: Number of Accidents per 10,000 vehicles

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Even though number of accidents per 10K vehicles have reduced year on year, the fatalities owing to road incidents have increased year on year (except for the dip in 2020, owing to COVID-19). Currently, National and State Highways, which are less than 5% of the length of overall road network, witness very high number of accidents per Km of road when compared to the Other Roads in India[vi].
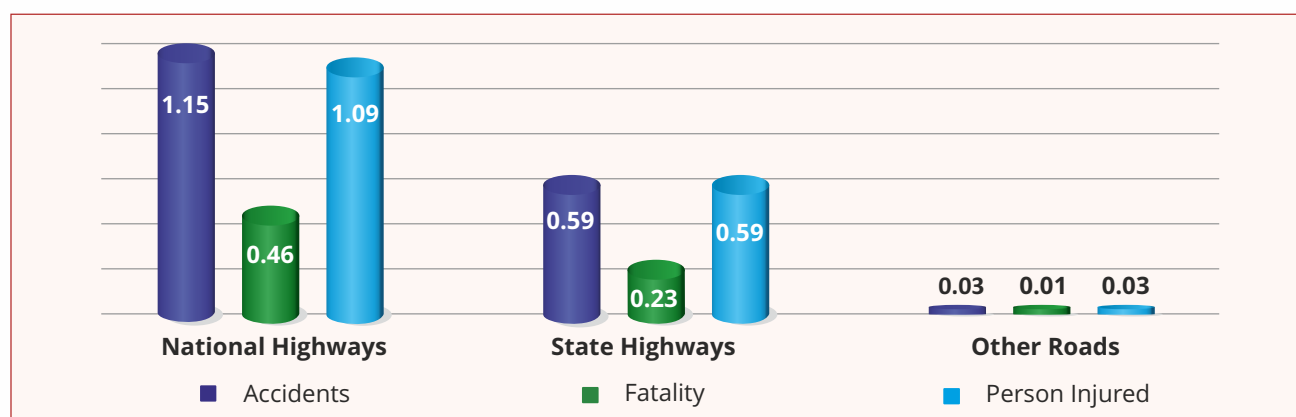

Figure 3: Per KM Road Incidents in India (2022)

This is more alarming when we see the types of road accidents, as the % share of fatal accidents and grievous injuries has increased year on year from 2018 to 2022. An accident which resulted in death of one or more person is a fatal accident. Grievous injury accident is one in which one or more victims suffer serious injury requiring hospitalization (not necessarily in terms of IPC definition of grievous injury).
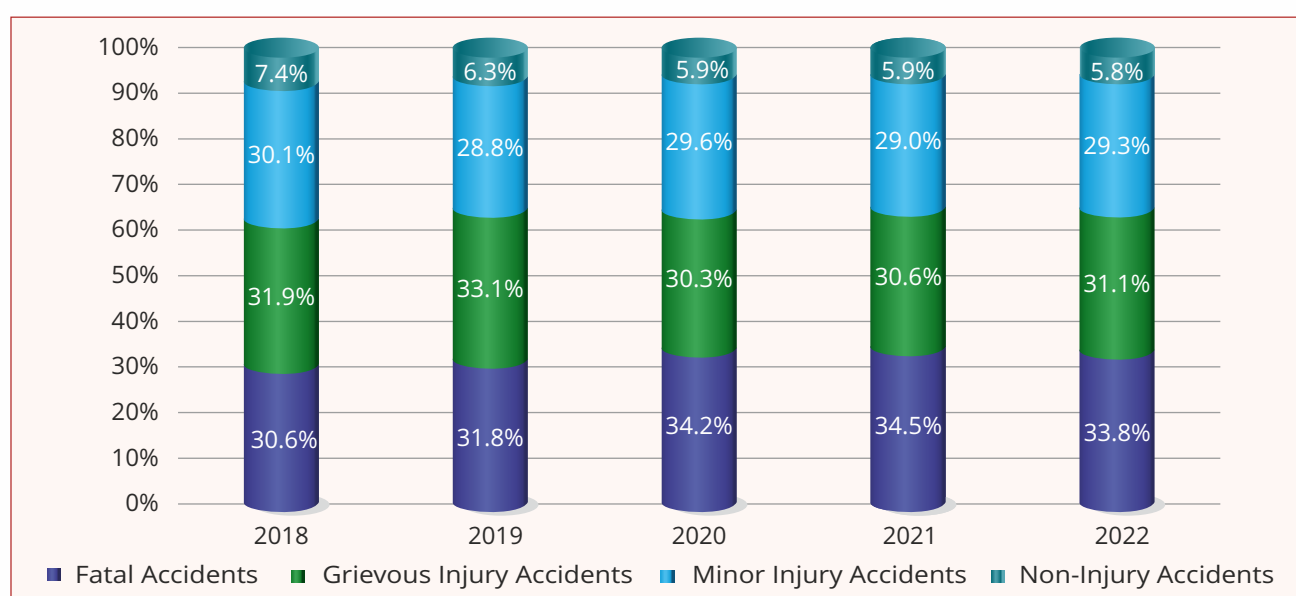

Figure 4: Type of Injuries in Road Accidents

Victim/Victim Vehicle ↓	Crime Vehicle →					
	Bicycles	2W	3W	4W	HCV	Others
Pedestrians, Bicycles	165	10,564	1,844	9,168	8,333	7,587
2W	281	27,615	2,807	17,020	17,158	10,016
3W	136	1,151	1,726	2,241	2,525	1,189
4W	173	2,320	752	8,941	6,583	2,271
HCV	212	2,564	839	1,760	7,747	1,466
Others	94	2,957	849	1,804	1,744	3,889

Table 1: Persons killed in Accidents Classified by the type of impacting vehicles

Nearly 30.6% of all road accidents in 2022 involved users without valid driving licenses, highlighting a significant concern around licensing and road safety. Adding to this, improper use of safety gear played a major role in fatalities; around 56% of drivers and 38% of passengers who lost their lives in road accidents were not wearing helmets, while the absence of seatbelts led to fatalities of approximately 49% of drivers and 33% of passengers. The risk posed by inadequate safety measures becomes even more apparent when considering accident-prone areas; the highest number of accidents, fatalities, and injuries occurred at 'uncontrolled crossings', accounting for 16.1% of all accidents, 14.8% of fatalities, and 15.5% of injuries.

This worrying trend has been particularly harsh on the younger population, with nearly 50% of fatal road accident victims belonging to the age group below 35 years, signifying a substantial socio-economic loss for the nation. Men are disproportionately affected, making up 86% of these fatalities.

Moreover in 2022, certain states with high vehicle density (parc > 50 lakhs) like Kerala, Madhya Pradesh, Tamil Nadu, Chhattisgarh, and Telangana recorded the highest number of road accidents in 2022, underscoring the pressing need for enhanced road safety measures and stricter enforcement[vii].

ROAD SAFETY IN INDIA

The Indian government has recognized the critical need to address road safety due to the alarming rise in traffic accidents and fatalities through the years.

Key Regulatory Developments

National Road Safety Policy was approved by the Union Cabinet on 15th March 2010 based on the recommendations of the Sunder Committee. The policy document detailed initiatives and actions to be undertaken by the government at all levels to enhance road safety in India.

Another major step was the Motor Vehicles (Amendment) Act, 2019, which introduced enhanced penalties for traffic violations, compulsory insurance coverage through the Motor Vehicle Accident Fund, safety provisions for children during commutes. The penalties under various headers have been updated time and again (refer Page 14).

Additionally, to ensure smoother traffic management and reduction of road incidents, mandates for electronic monitoring and enforcement, and automated testing for vehicle fitness to remove unfit vehicles from the roads were introduced.

Immediate Steps

These regulatory measures reflect the government's commitment to creating a safer road environment and reducing traffic-related injuries and fatalities across the country. In recent years, multiple initiatives are in process under all the 4Es of road safety,

Education

- Road Safety Advocacy Scheme: Provides financial assistance to agencies for awareness programs.

- National Road Safety Month/Week: Annual observance to spread awareness and strengthen road safety.

- Driving Training Centers: Establishment of Institutes of Driving Training & Research (IDTRs), Regional Driving Training Centres (RDTCs), and Driving Training Centres (DTCs) at state/district levels.

Engineering

2.1 Road Engineering

- **Designation of Road Safety Officers (RSOs):** Appointed at each regional office of road-owning agencies.

- **Electronic Detailed Accident Report (e-DAR) Project:** Centralized database for accident reporting and analysis.

- **Improved Signages on Expressways/NHs:** Guidelines for better visibility and guidance.

- **Motor Vehicles Act Provisions:** Enforces compliance with road design, construction, and maintenance standards.[viii]
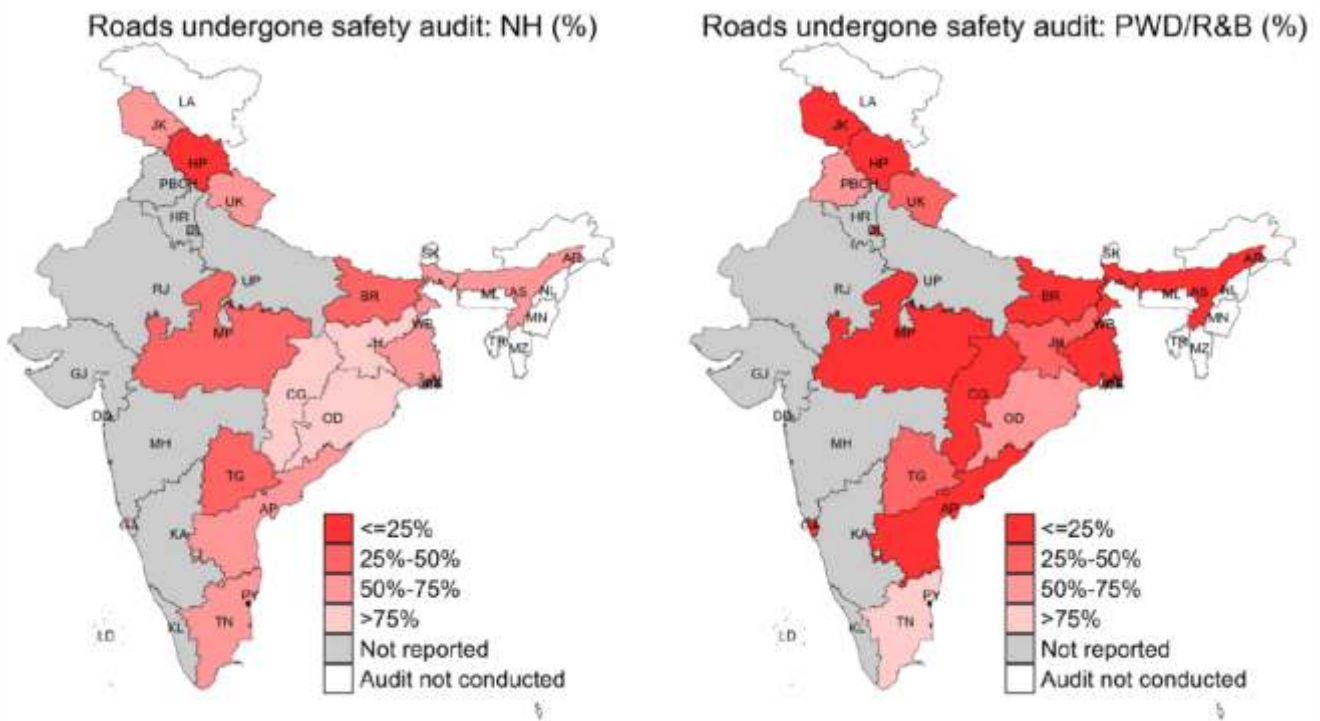

Figure 5: Road Safety Audit Status of Indian States

2.2 Vehicle Engineering

- Mandatory provision of an airbag for the passenger seated on the front seat of a vehicle, next to the driver.

- ABS for certain classes of L, M, and N category of vehicles

- 4W:

  - Seat Belt Reminder (SBR) for driver and co-driver.

  - Manual Override for central locking system

  - Over speed warning system. For all M and N category vehicles:

  - Reverse Parking Alert System

- Prescribed norms related to safety measures for children below four years of age, riding or being carried on a motorcycle. It also specifies use of a safety harness, crash helmet and restricts speed to 40kmph.

- Ensuring road worthiness of vehicles

  - Introduced Bharat New Car Assessment Program (BNCAP) to introduce the concept of safety rating of passenger cars and empower consumers to take informed decisions.

  - Published the rules for recognition, regulation and control of Automated Testing Stations, which define the procedure for fitness testing of vehicles through automated equipment and the procedure for grant of fitness certificate by ATSs

  - Formulated the Vehicle Scrapping Policy based on incentives/dis-incentives and for creating an ecosystem to phase out old, unfit and polluting vehicles.

  - A Scheme to set up one model Inspection & Certification Centre in each State/UT with Central assistance for testing the fitness of vehicles through an automated system.

Enforcement

- Motor Vehicles (Amendment) Act, 2019: Stricter penalties for traffic violations.

- Electronic Monitoring & Enforcement: Use of electronic enforcement devices at high-risk corridors and high density, state highways, and major junctions.

- Advisory for Technology-based Enforcement: Issued to states/UTs for compliance with the Motor Vehicles Act, 1988.

- Indian government has introduced new fine from March 2025 for increasing compliance with rules

TYPE OF OFFENCE	OLD FINE (Rs)	NEW FINE (Rs)
DRUNKEN DRIVING	1000 to 1500	Rs.10,000 and /or 6 months in prison
		Rs.15,000 and/or 2 years in prison in case of repetition of violation
Riding without Helmet	100	Rs.1,000 plus licence scrapping for three months
Driving without fastening the seat belts	100	Rs.1,000
Using Mobile Phone while Driving.	500	Rs.5,000
Driving of a vehicle without carrying a valid driving licence	500	Rs.5,000
Tripple riding on two wheeler	100	Rs.1,000
Driving without a valid Insurance	200 to 400	Rs.2,000 and/or 3 months in prison, community service
		Rs.4,000 in case of repetition of violation
Driving without a valid Pollution Certificate	1000	Rs.10,000* and/or up to 6 months of prison and community service
Dangerous driving	500	Rs.5,000
Not making way for emergency vehicles (Like: Ambulance etc..)	1000	Rs. 10,000
Racing or speeding on public roads	500	Rs.5,000
Overloading	2000	Rs.20,000
Signal Jumping	500	Rs.5,000
Offences made by juveniles (aged below 18 years)	2500	Rs.25,000 with three years of imprisonment, cancellation of registration of vehicle for 1 year, al ineligibility to avail a driving licence until 25 years

Table 2: Implementation of New Motors Vehicle fines 2025 in India.[lxxvi]

Emergency Care

- Good Samaritan Law introduced for protection of individuals assisting accident victims.

- Enhanced Compensation for Hit & Run Victims:

  - Grievous injury: ₹50,000 (up from ₹12,500).

  - Fatality: ₹2,00,000 (up from ₹25,000).

- Ambulance Services at Toll Plazas: Equipped with paramedics on National Highways.
- Cashless Treatment Pilot Program: Launched in Chandigarh, Haryana, Punjab, Uttarakhand, Puducherry, and Assam in collaboration with the National Health Authority (NHA).

Evaluation

Road Safety Audit (RSA) of all National Highways (NHs) has been made mandatory through third party auditors/experts at all stages i.e. design, construction, operation and maintenance etc. including **identification & rectification of Black Spots:** Focus on accident-prone areas.

Indian government has released INR 434 Cr. for Road Safety publicity measures and awareness campaigns, NHARSS, refresher Training of Drivers in Unorganised Sector and Human Resource Development, etc., Inspection and Certification Centres (Revenue), Improving and Strengthening of Public Transport System.
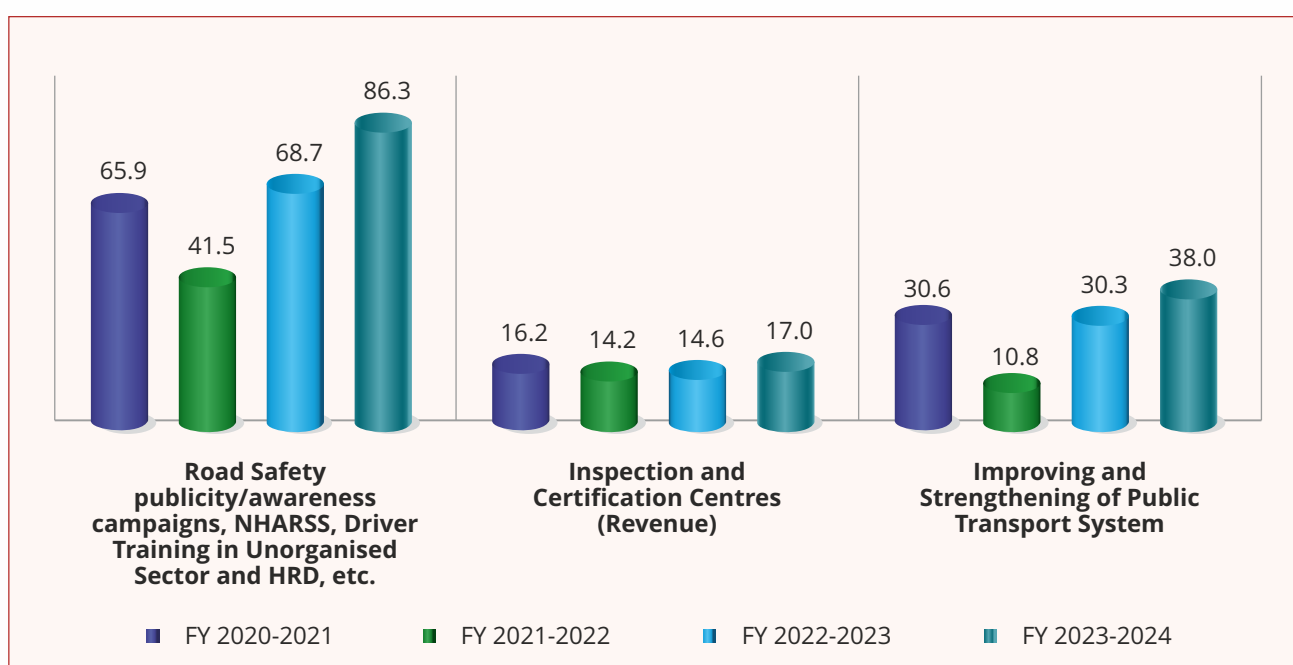
Figure 6: Fund Released by Central Government for Road Safety Initiatives (INR Cr.)

This report examines road accident data and the preventive policy measures in place for five major Indian states: Haryana, Telangana, Uttar Pradesh, Chhattisgarh and Chandigarh. The report aims to highlight the key policies and measures implemented by the respective state governments.

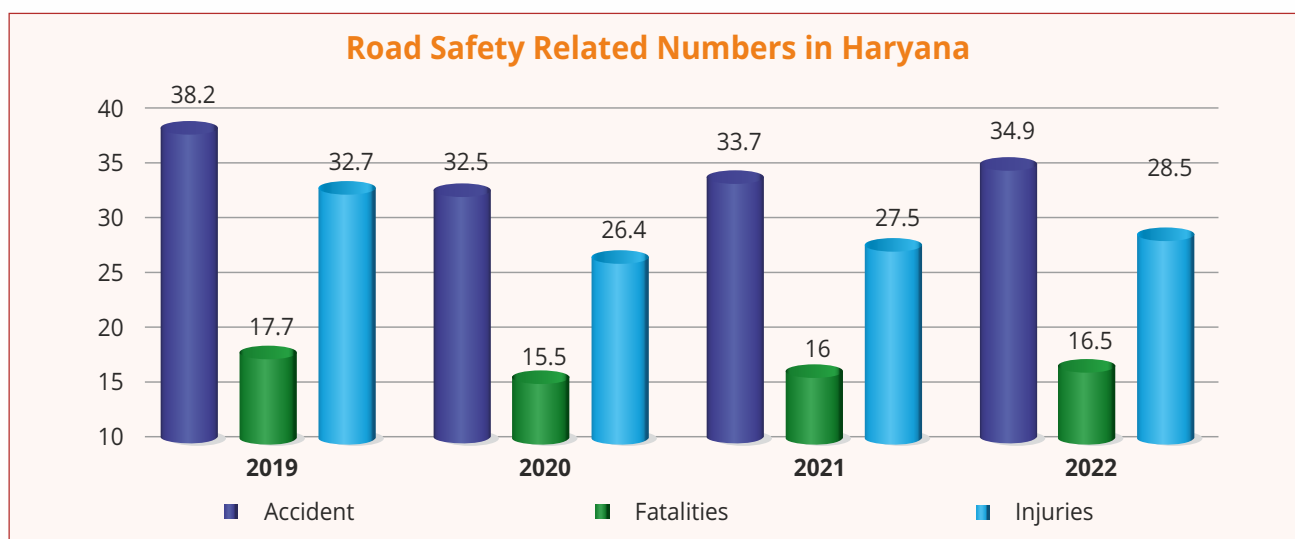## Amidst Growing Road Safety Awareness, Challenges Remain

Figure 7: Number of Accidents, Fatalities and Injuries per lakh Population

Although the number of road accidents have reduced in Haryana from 2019 to 2022, the severity has increased from 43.4 to 48.4. Close to 45% of the accidents have been fatal accidents in 2022. In the same time period, share of road accidents in National Highways have increased from 31% to 36%.
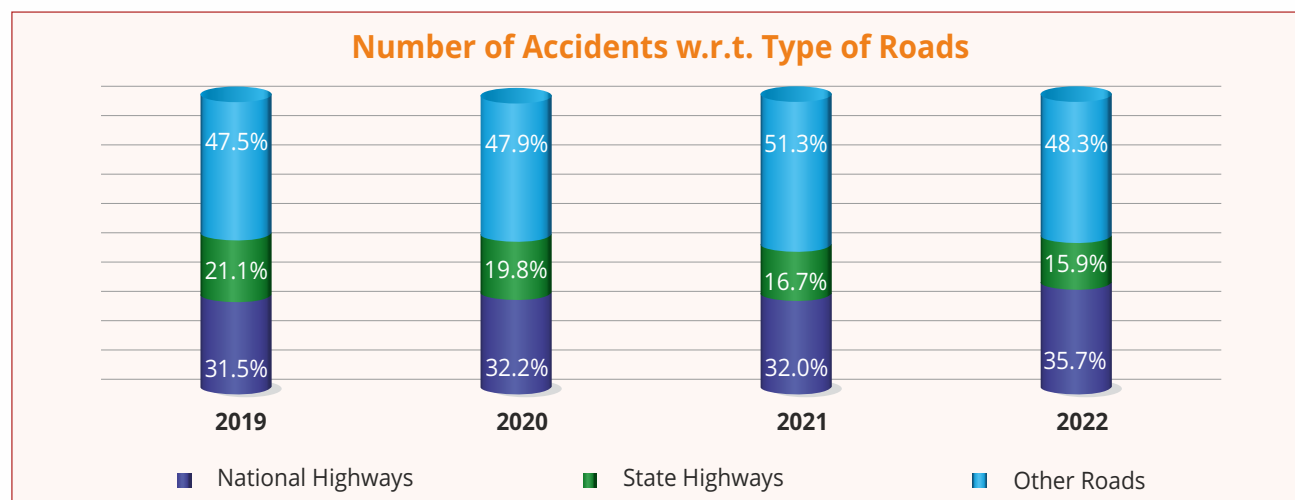

Figure 8: Road Accidents in Haryana Across Types of Roads

Over speeding causes 66% of the accidents in the state. When compared for accidents and fatalities related to over speeding, Haryana ranks 13th amongst all the states. Amongst all the reasons of accidents, Driving Under Influence and Jumping Red Lights have the highest Grievous Injury or Fatality Severity. At the same time, of all the 2W related fatalities in Haryana, 40% occur because of rider not wearing a helmet. In case of 4W and HCV related fatalities, 37% occur because of riders not wearing a seatbelt.

Haryana - Reason for Road Accidents
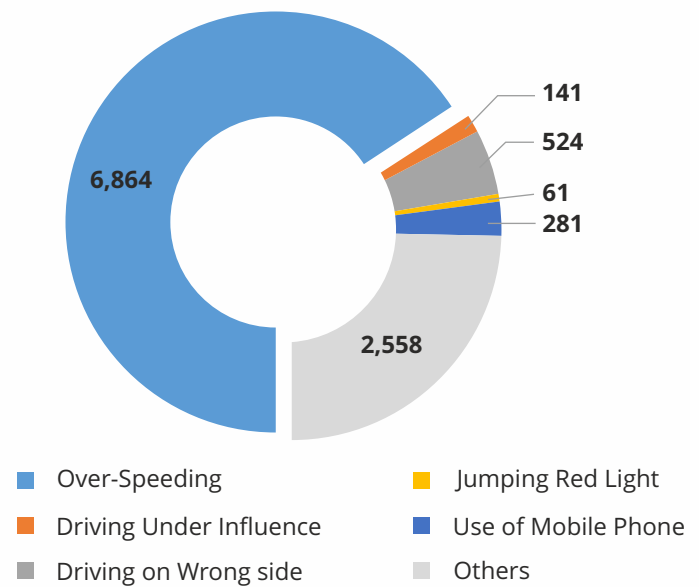
Figure 9: Reason of accidents in Haryana

To tackle the number of incidents, Haryana Road Safety Policy was launched in March 2016. Multiple Road Safety Awareness campaigns have been launched throughout the state. On Road Safety & Traffic Management multiple Road Safety Awareness campaigns have been launched for the road users in Schools, Colleges, Truck/Maxi-cab Unions, Haryana Road Workshop, Factory workers, Dhabas & Villages.

Strengthening Road Safety Through Innovation

Engineering:

- Haryana's public transport system is set for a major overhaul, with plans to modernise bus services, renovate terminals, and equip them with proper seating arrangements, digital information boards, and improved sanitation.

  To further improve vehicle maintenance and roadworthiness, Haryana will install automated washing systems and fitness-check facilities in every district.[ix]

- Amid persistent foggy weather, the Public Works Department (PWD) (B&R) has initiated road safety measures across the city and key state highways and major roads of the district to ensure safer travel for commuters. 250 km of road stretches covered with thermoplastic road marking paint[x]

Figure 10: Zebra crossing being painted on a road in Karnal. Photo: Varun Gulati

Education:

- HMIF and IRTE inaugurated two newly-established facilities - Traffic Engineering Centre (TEC) and Organisation Development Centre (ODC) - at the office of the DCP (Traffic) of Gurugram Police[xi]

- Road Safety Organisation (RSO), Panchkula, successfully concluded a series of impactful road safety awareness seminars across various colleges in Panchkula District. The presence of Principals from all government colleges in District Panchkula underscored the importance of integrating road safety education into the academic curriculum and promoting a culture of safety within educational institutions[xii].

- Honda's IDTR, the National Skill Development Corporation (NSDC) and Kedman Skilling Private Limited collaboratively working to empower women by providing them with avenues for economic independence, particularly in unconventional domains such as transportation Through this initiative, IDTR aims to up skill over 250 female participants, equipping them with the necessary knowledge and expertise to pursue careers as cab drivers[xiii].

Figure 11: Successful completion of a Women Driver's Training Program session

Enforcement:

- Haryana Government aims to introduce stringent road safety measures.[xiv]

- The Gurugram Metropolitan Development Authority (GMDA) has initiated collaborating with Maruti Suzuki India Ltd. and Utkrisht Society (non Profit of Haryana Police) for 'Safe Haryana'. Stakeholders aim to eliminate/reduce manual intervention in traffic challan system, reduce violations and accidents by implementation of Intelligent Traffic Management System (ITMS).[xv]

Figure 12: Images of MoA signing ceremony to set up ITMS

- GMDC has already installed 1400+ CCTV cameras in Gurugram and Manesar and MSIL aims to install 400+ CCTV cameras with ITMS tech which would include Hardware and software for Red Light Violation Detection System (RLVDS), Spee Violation Detection System (SVDS), Automatic Number Plate Recognition (ANPR), Helmet detection, wrong side driving Detection, Electronic Challan System[xvi]

Emergency Care:

- On the occasion of World Head Injury Awareness Day , National Highways Authority of India (NHAI) signed a Memorandum of Understanding (MoU) with Amrita Hospital, Faridabad, towards creating a long-term polytrauma awareness campaign, सर सलामत तो घर सलामत। (If the head is safe, the home is safe).

  50 ambulance workers have already received hands-on training on critical interventions for road accident victims and emergency preparedness. Amrita Hospital aims to train thousands of ambulance workers in the future through this initiative.[xvii]

- Haryana government started a pilot project (Panchkula) with IIT Madras to optimize emergency response to road accidents. This would include development of a mobile app called "Sanjaya." This app will provide crucial information to first responders, including the location of the nearest blood banks, ambulances, and hospitals. This will significantly improve the timeliness and efficiency of medical care for injured victims.[xviii]

- NHAI's toll free number 1033, police's toll free number 1073 are nowintegrated with the unified helpline number 112; so that timely ambulance service can be made available in case of an accident.[xix]

Evaluation:

- Haryana Police has signed a initiated collaboration with the Institute of Road Traffic Education (IRTE), Faridabad for detailed road safety audit of the 187-km stretch of the National Highway-44 between Kundli in Sonepat to Shambhu border in Ambala.[xx]

- Transport Department through its support from Road Safety Associates would coordinate with all the departments related to road safety in their respective districts and will help in reducing road accidents. Additionally, every road construction department/agency should conduct an internal audit of its roads/highways and submit the report to the lead agency. It was decided that a tripartite audit should be done of the funds being given from the Road Safety Fund to all concerned departments and committees at the district level.[xxi]

- Till 2023, 175 meetings of the District Road Safety Committees had been held by the Transport Department under the chairmanship of the concerned Deputy Commissioners, in which works like road audit, checking of 4,603 school buses, inspection of roads, training of employees on 468 road safety audits have also been done; so that road accidents can be reduced by strengthening road safety.[xxii]

TELANGANA

Road Safety Gains, But Risks Persist

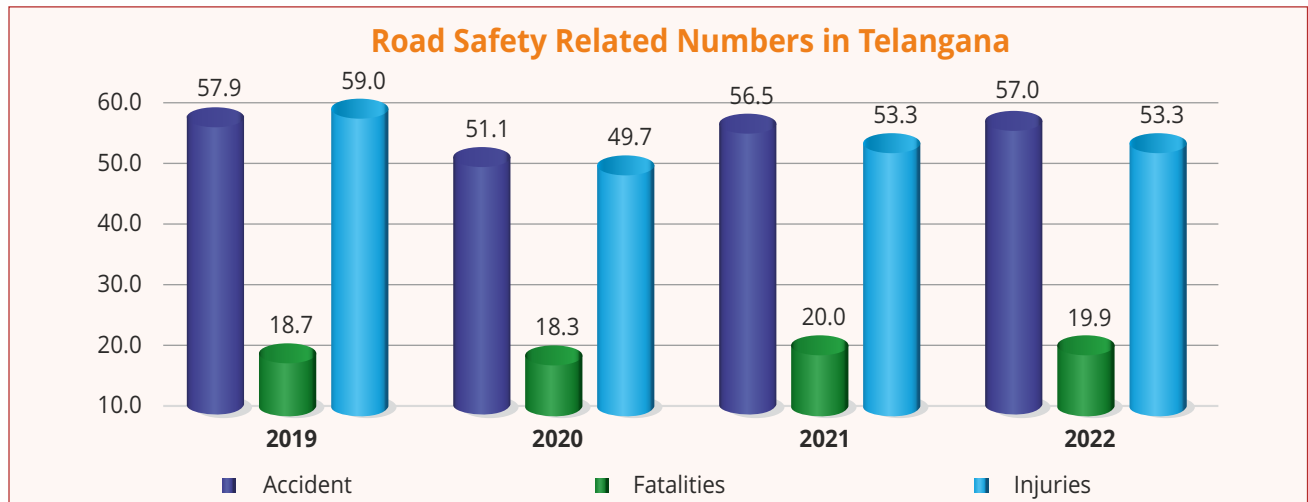**Road Safety Related Numbers in Telangana**

Figure 13: Number of Accidents, Fatalities and Injuries per lakh Population in Telangana

Telangana ranks number 8 in terms of number of accidents amongst all the states. In terms of accidents per lakh vehicles (only states with Vehicle parc more than 50 Lacs considered), Telangana is the 5th highest state, (just behind Kerela, MP, Tamil Nadu and Chhattisgarh). Conversely, the number of road accidents have reduced in Telangana from 2019 to 2022 but the severity has increased from 32% to 35%. In the same time period, share of road accidents in National and State Highways has stayed consistent at 45-46%.

Number of Accidents w.r.t. Type of Roads
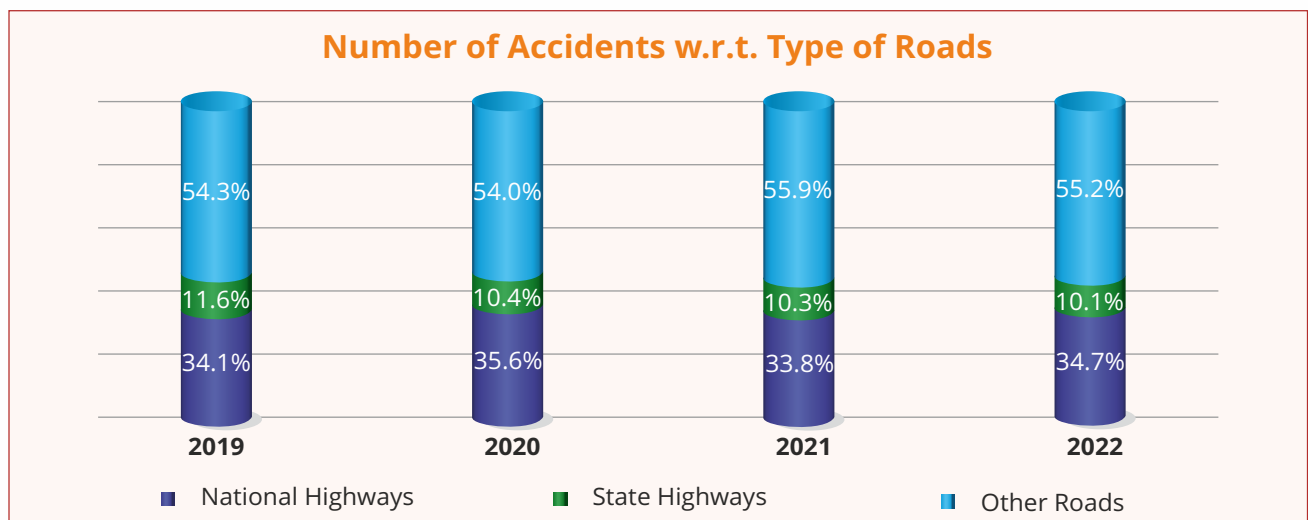
Figure 14: Road Accidents in Telangana Across Types of Roads

Over speeding causes 85% of the accidents in the state. When compared for accidents and fatalities related to over speeding, Telangana ranks 7th amongst all the states. Sadly, Over speeding also is the cause with highest Grievous Injury or Fatality Severity. At the same time, of all the 2W related fatalities in Telangana, ~75% occur because of rider not wearing a helmet. In case of 4W & HCV related fatalities, 64% occur because of riders not wearing a seatbelt.
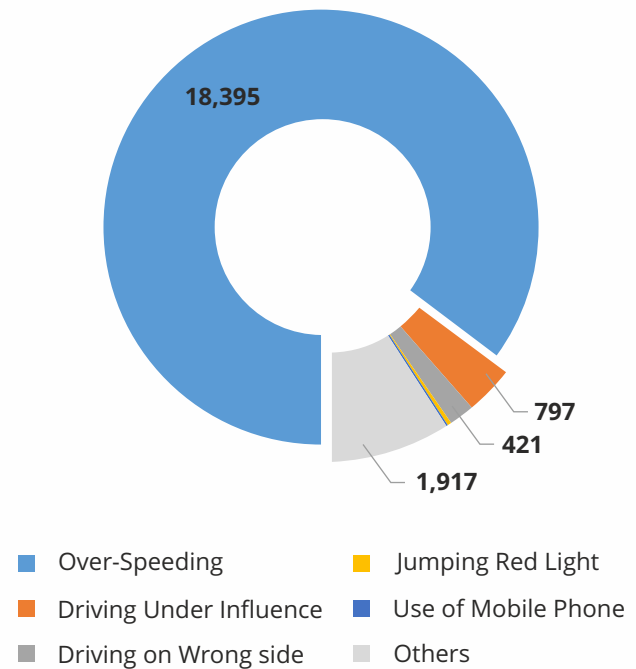
Telangana - Reason for Road Accidents

Figure 15: Reason of accidents in Telangana

To tackle the number of incidents, Telangana's Road Safety Policy was launched in March 2016. Telangana Govt. set up its Road Safety Council in Jan 2015.[xxiii]

Tech-Driven Reforms for Safer Roads

Engineering:

- The government aims to implement smart road technology, intelligent traffic management, automated construction methods, and Information and Communication Technology (ICT) to enhance road safety across the state. Collaboration with World bank are being discussed.

- Telangana has been among the leading states in making data sets available to start-up building new use cases. The state also did the intelligent solutions for road safety through technology and engineering (iRaste) projects.[xxiv] This locally designed artificial intelligence-based system has reduced road accidents involving RTC buses by 40 per cent, as compared to the buses that did not have the system, its developers have stated.[xxv]

Figure 16: Intelligence Solutions for Road Safety through Technology and Engineering

- Highway Traffic Management System (HTMS) strengthened to improve safety for commuters on the Outer Ring Road (ORR). To get assistance, the person needs to press the push button on the SOS box installed on either side of the road at a gap of every 1 km. Any grievance on the ORR can be reported through this SOS box including, accidents, vehicle breakdown, towing service, fuel requirements etc.[xxvi]

Figure 17: Hyderabad Metropolitan Development Authority's Highway Traffic Management System (HTMS)

Education:

- Honda Motorcycle and Scooter India (HMSI) launched a road safety awareness program in Siddipet, Telangana. Nearly 2,200 students and staff from Kendriya Vidyalaya and Sahasraa High School participated in this campaign.[xxvii]

  Additionally, HMSI also engaged over 1900 students and staff members from Naveen ITI and Govt. ITI equipping them with essential knowledge on responsible road behavior in March 2025.[xxviii]

- Road Safety initiative started by Sarvejana Foundation aims to reduce road accidents by 5% over the next decade. The foundation focuses on key issues such as overspeeding, non-usage of helmets and seat belts, and distracted driving. Sarvejana Foundation implements targeted awareness campaigns that emphasise the 4 E's: Education, Enforcement, Engineering, and Emergency Care through collaboration with central and state governments.[xxix]

- Telangana government launched "Mr RIDO," a road safety mascot, to enhance its audio-visual campaign to promote road safety awareness. This initiative includes the screening of five animated films that focus on essential road safety concepts in cinema halls across the state.[xxx]

Figure 18: Telangana's Road Safety Mascot

• Telangana Government has set up an KVRR Children Traffic Awareness Park in Karimnagar. This park is equipped with traffic signals, road signs, and road crossings to make students aware about safe driving necessities like: use of helmets while driving, not using mobile phones while driving and use of seat belts[xxxi]. Additionally, Traffic awareness parks are to be set up in 50 Telangana schools to inculcate road safety among children.[xxxii]

Enforcement:

Figure 19: School Children's visit to Traffic Awareness Park

• Cyberabad Traffic Police, Hyderabad conduct regular drunken-driving checks across Hyderabad and nearby areas to curb road accidents and ensure public safety. During one of the special drunken-drive checking operation on a Saturday night, 478 people were caught for driving under the influence of alcohol. These drives are conducted at strategic locations where drunken driving incidents are reported frequently.[xxxiii]

• To combat the menace of traffic violations and road safety breaches, the Telangana Transport Department has targeted serious offences, including speeding, drunk driving, carrying passengers in goods vehicles, driving on the wrong side of the road, and overloading. This has led to suspension of a staggering 6,916 driving licenses between April 1 and August 31, 2024. Adding to the efforts to enhance road safety, the traffic police have filed and disposed of 3,495 charge sheets in various courts, further emphasizing the importance of accountability.[xxxiv]

• Since using tinted glasses or black films beyond the permissible limit is a punishable offence and poses significant security risks, drive primarily targeted vehicles with black films on windows was conducted, which violated the Motor Vehicles Act. Traffic challans were issued to violators, and the films were removed on the spot.[xxxv]

Emergency Care:

- Telangana launches free eye checkups and spectacles for lorry drivers on NH 65 to boost road safety. In 2025, from January 5 to 10, a total of 527 lorry drivers underwent eye examinations. A total of 263 of them were given free spectacles on the spot. This initiative was started because officials noted that an estimated 30,000 to 40,000 vehicles, including heavy trucks, ply both sides of the Hyderabad-Vijayawada National Highway daily where poor eyesight among drivers was a significant factor contributing to accidents.[xxxvi]

Figure 20: Eye Check camp arranged for lorry drivers

- Telangana government is taking significant steps to enhance emergency care on roads by setting up 74 trauma care centres at strategic intervals of every 30 kilometres along major highways. This initiative ensures that critically injured patients can be transported to the nearest trauma centre within 15 minutes of an incident, providing immediate and advanced medical care. These centres aim to improve survival rates in life-threatening situations and address the rising number of road accidents in the state, especially on highways. By establishing trauma care facilities near accident-prone zones, Telangana is working towards reducing fatalities and strengthening road safety infrastructure.[xxxvii]

Evaluation:

- Minister for Transport and BC welfare Ms. Ponnam Prabhakar emphasised the need for concerted efforts to reduce road accidents by identifying blackspots. Under National Road Safety month, the inspection of accident-prone black spots was conducted near the Umesh Chandra IPS statue in Hyderabad.[xxxviii]

CHHATTISGARH

Rising Concerns Drive Focus on Safety

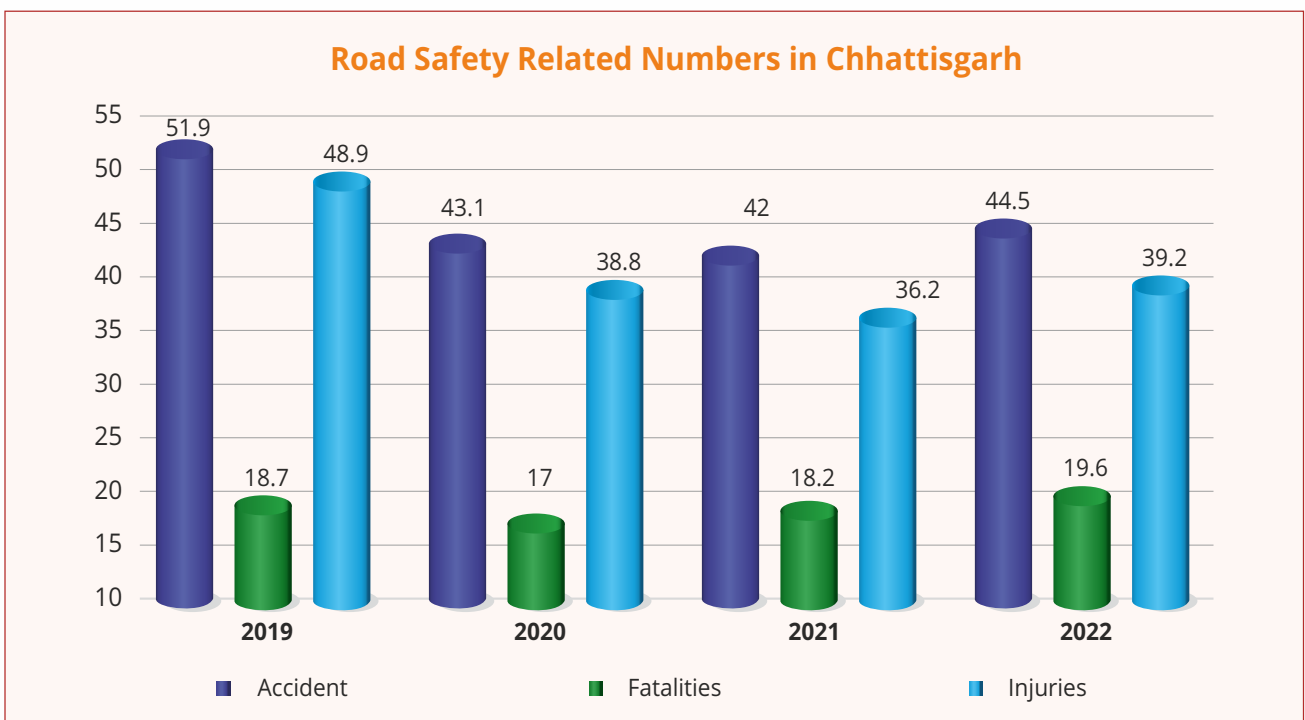**Road Safety Related Numbers in Chhattisgarh**

Figure 21: Number of Accidents, Fatalities and Injuries per lakh Population in Chhattisgarh

Chhattisgarh ranks number 12 in terms of number of accidents amongst all the Indian states. In terms of accidents per lakh vehicles (only states with Vehicle parc more than 50 Lacs considered), Chhattisgarh is the 4th highest state, (just behind Kerela, MP and Tamil Nadu). Conversely, the number of road accidents per lakh population have reduced marginally in Chhattisgarh from 2019 to 2022 but the severity has increased from 35% to 44%. In the same time period, share of road accidents in National Highways has increased a little.

Number of Accidents w.r.t. Type of Roads
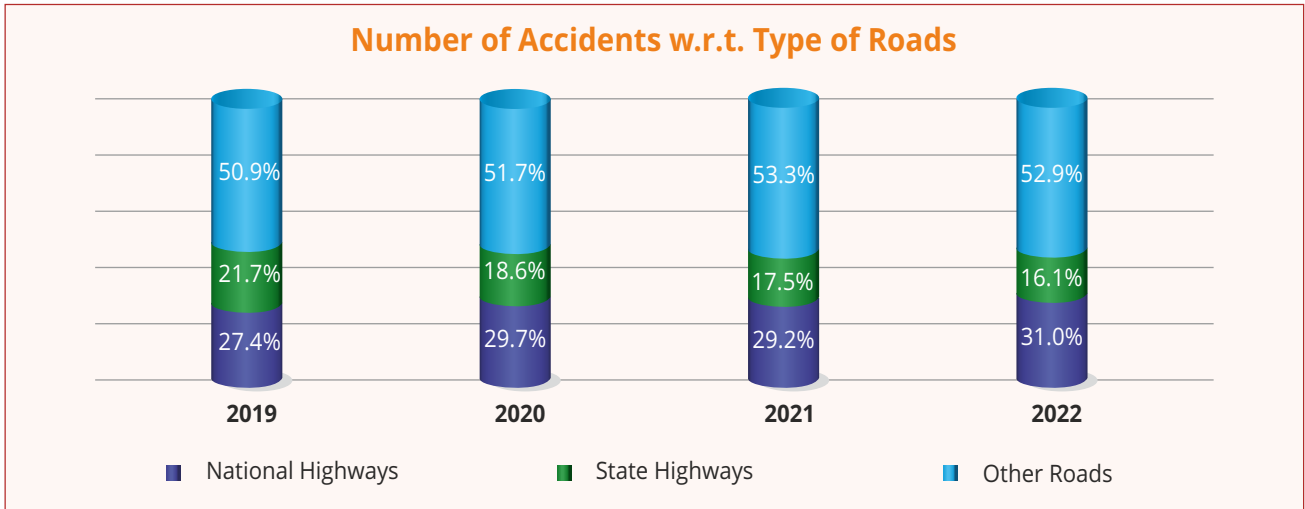
Figure 22: Road Accidents in Chhattisgarh Across Types of Roads

Over speeding causes 82% of the accidents in the state. When compared for accidents and fatalities related to over speeding, Chhattisgarh ranks 11th amongst all the states. Sadly, Over speeding also is the cause with highest Grievous Injury or Fatality Severity. At the same time, of all the 2W related fatalities in Chhattisgarh, ~96% occur because of rider not wearing a helmet. In case of 4W & HCV related fatalities, ~100% occur because of riders not wearing a seatbelt.

Chhattisgarh - Reason for Road Accidents
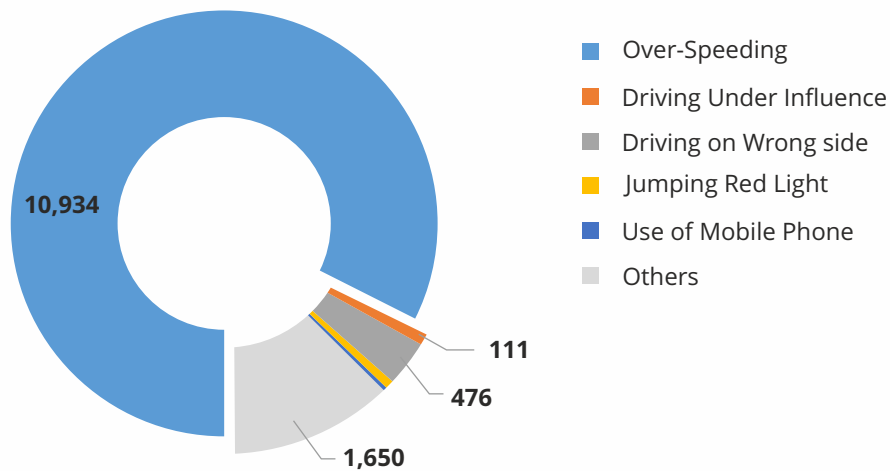
Figure 23: Reason of accidents in Chhattisgarh

Owing to alarming number of accidents in recent times, Chhattisgarh has increased focus on road safety in recent years.

Modest but Strong Steps Toward Safer Roads

Engineering:

Figure 24: Minimising Cattle related accidents in Chhattisgarh

- As Stray cattle have become a recurrent cause of road accidents, particularly during the night when spotting them becomes difficult at times, state authorities have been told to paint the cattle horns to prevent road accidents on the main routes of the capital.[xxxix]

Education:

- As a special initiative by the Chhattisgarh government, January 24 is now celebrated as 'Sarathi Diwas' (Driver's Day). Admirable, upright, law-abiding driver will be felicitated. Additionally, government's 'Sarathi' portal of the road transport department will also be visited to substantiate their credentials and standing.[xl]

- During National Road Safety Month 2025, a training session was conducted on emergency first aid and road safety at PHQ hall on Wednesday for personnel working at the Chhattisgarh police headquarters. Trainers for the program were sourced from the International Road Federation, New Delhi.[xli]

- To raise awareness about road safety concerns and foster cooperation among road users throughout the nation, with a particular emphasis on reducing road accidents, Chhattisgarh police planned a short film festival in local dialects. Films were planned in languages and dialects including Chhattisgarhi, Gondi, Halbi, Dhurwa, Bhatri, Dorli, Sambalpuri, Kudukh, Sadri, Baigani, Kamari, Odia, Surgujia, Dantewada, Gondi, Bhujiya, among others, with Hindi subtitle.[xlii] Similarly, in Jan 2024, CM Vishnu Deo Sai inaugurated two-day National Road Safety Short Film Festival in Raipur.[xliii]

Figure 25: Inauguration of Short Film Festival

- In collaboration with the Chhattisgarh state transport department, MSIL has taken a significant step toward enhancing road safety through its Institute of Driving Training and Research (IDTR). The initiative spans over 20 acres and utilizes the latest technology to impart motor training to drivers across the state.

  A major highlight of this effort is the training of over 10,000 heavy motor vehicle drivers through a refresher course focused on defensive driving techniques, handling dangerous conditions, recognizing road signs, administering first aid, and responding to road accident situations. Additionally, the program educated drivers on the provisions of the new Motor Vehicles Act, including fines and penalties.

  As part of this initiative, 1,151 school bus drivers underwent specialized training across Chhattisgarh at IDTR, reinforcing the state's commitment to reducing road accidents and promoting responsible driving practices. Over 12,000 people receive driving and road safety training from IDTR in Chhattisgarh.[xliv]

Figure 26: IDTR in Raipur Chhattisgarh

Enforcement:

- In an effort to reduce road accidents in the state, the transport department has imposed over 6.7 lakh fines for traffic violations, while the police department has imposed more than 4.8 lakh fines. Additionally, ~8000 licences were suspended for violations in 2023 and 2024.[xlv]

Emergency Care:

- Through active Dial 112 service, Chhattisgarh government has been able to help during 96k accidents.[xlvi]

Evaluation:

- 78 Black Spots on National Highways, 15 on State Highways and 10 on Other roads have been identified by Chhattisgarh government.

UTTAR PRADESH

Progress Needed Amidst Persistent Road Safety Challenges

Road Safety Related Numbers in Uttar Pradesh
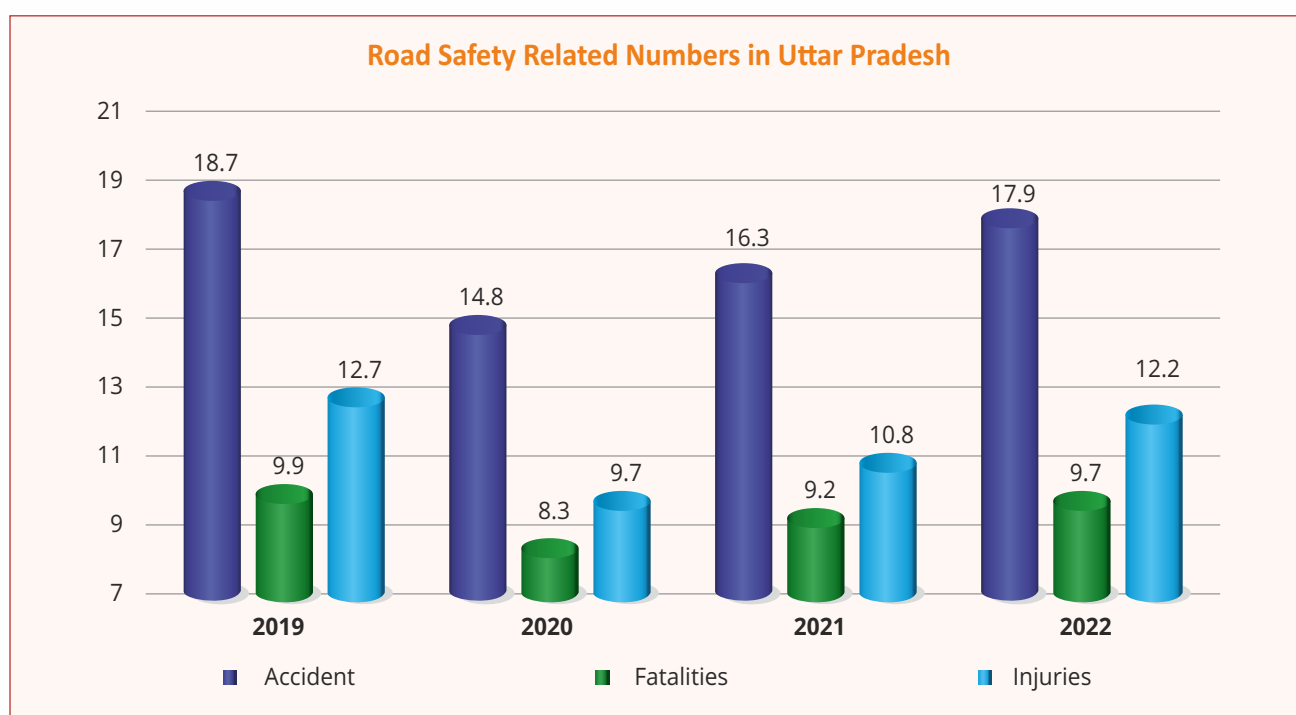
Figure 27: Number of Accidents, Fatalities and Injuries per lakh population in Uttar Pradesh

Uttar Pradesh ranks number 4 in terms of overall accidents amongst all the states. However, when compared for accidents per lakh vehicles *(only states with Vehicle parc more than 50 Lacs considered),* Uttar Pradesh is the 12th highest ranked state. Conversely, the number of road accidents per lakh population have reduced marginally in Uttar Pradesh from 2019 to 2022 but the severity has remained consistent around 55%. In the same time period, share of road accidents in National and State Highways have reduced marginally.

Number of Accidents w.r.t. Type of Roads
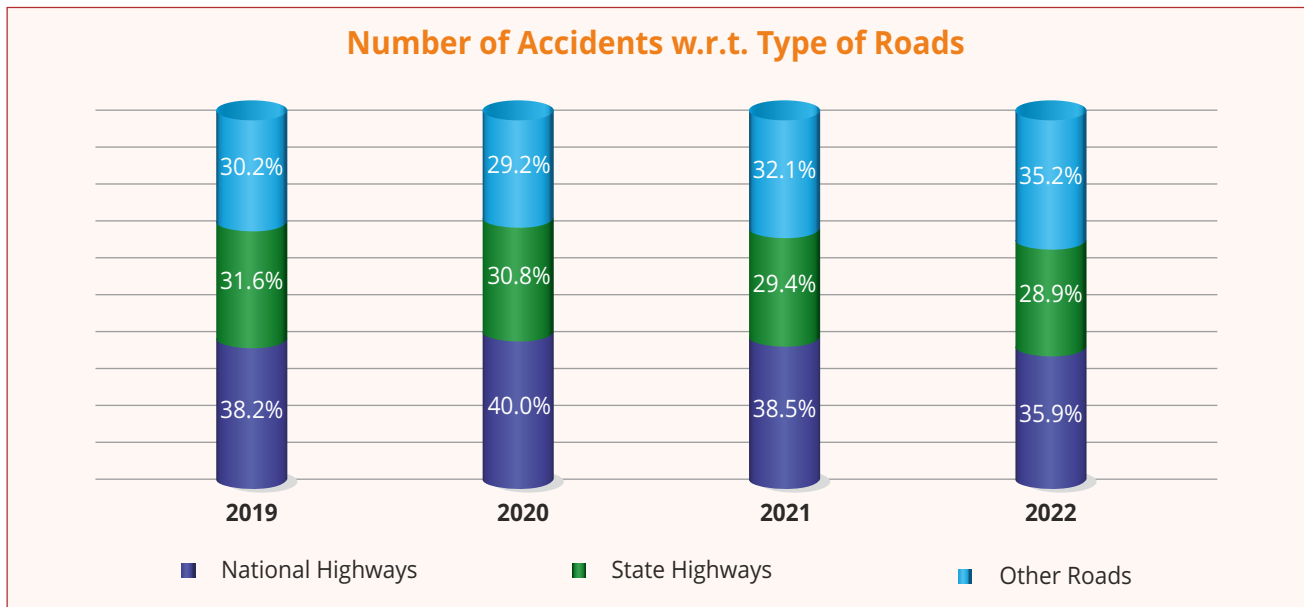
Figure 28: Road Accidents in Uttar Pradesh Across Types of Roads

Over speeding causes 82% of the accidents in the state. Amongst all Indian states, Uttar Pradesh has the highest number of fatalities and accidents due to Driving under Influence and Driving on Wrong Side. All the listed reasons of road accidents have a Grievous Injury or Fatality Severity greater than 90, whereas the same number is 100+ for Over speeding. At the same time, of all the 2W related fatalities in Uttar Pradesh, ~92% occur because of rider not wearing a helmet. In case of 4W & HCV related fatalities, ~64% occur because of riders not wearing a seatbelt.

Uttar Pradesh - Reason for Road Accidents
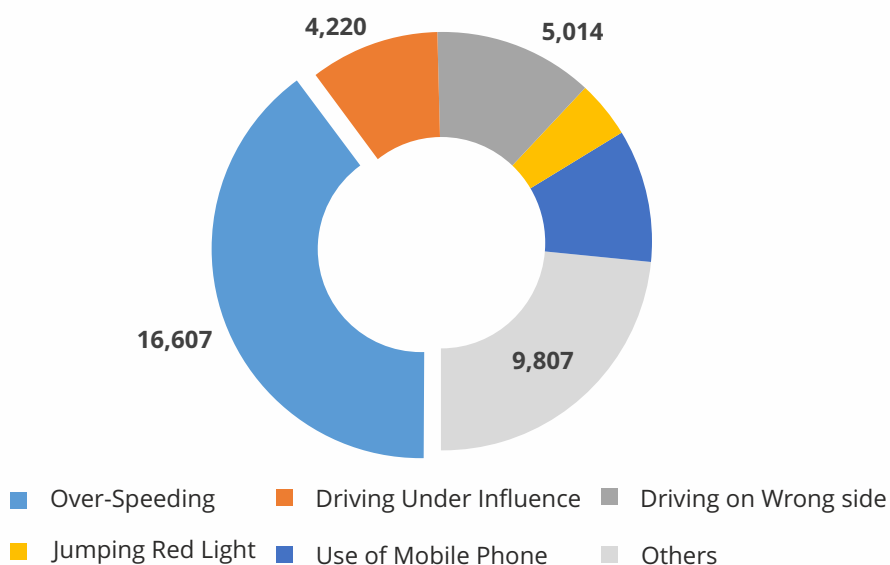
Figure 29: Reason of accidents in Uttar Pradesh

Uttar Pradesh also sees >100 fatalities or grievous injury severity in case of Hit from side, Fixed Object and Head on Collision. Amongst all types of accidents, the fatality severity is greater than 50. Uttar Pradesh was amongst the first states to launch a road safety policy in 2014. Uttar Pradesh has launched a revised version of Road Safety Handbook named 'A Guide to Road Safety' in 2024.

Strengthening Road Safety Through Innovation and Enforcement

Engineering:

- The Uttar Pradesh government is enhancing road safety on the Bundelkhand Expressway by implementing an Advanced Traffic Management System (ATMS). This includes a Traffic Management Command Centre with a high-capacity recording and backup server for data security.

  To improve surveillance, 150 solar-powered cameras will be installed at 50 locations, capable of operating up to 96 hours on a single charge. Motion detection cameras and vehicle speed detection systems will monitor both sides of the expressway, alerting the control room about over-speeding vehicles for immediate action.

  These steps aim to strengthen traffic monitoring, ensure better enforcement, and enhance overall road safety on the expressway.[xlviii]

Figure 30: Aiming for safe dependable expressways

- Ghaziabad Municipal Corporation aims to install ITMS system in 41 critical traffic intersections in the city.[xlix] In 8 months, Ghaziabad set to get 1.4k cams at 43 junctions under ITMS.

- The Greater Noida Authority is implementing the Integrated Security and Traffic Management System (ISTMS), a ₹227.6 crore project to enhance road safety and traffic management. 357 high-quality CCTV cameras will be installed for real-time traffic monitoring, 24/7 surveillance, emergency response, and public information services.

- A central Integrated Command and Control Centre will oversee operations, with remote viewing platforms in all nine police stations. The system will integrate video surveillance, smart traffic signals, emergency service management, and data analytics to improve traffic flow, reduce congestion, and enhance public safety.[l]

Education:

- SaveLIFE Foundation in partnership with Hindustan Unilever Limited (HUL) conducted a training workshop on aspects of road safety and blackspot treatment for 50 PWD engineers recently. This aimed to equip participants with hands-on problem solving techniques on improving road engineering issues.[li]

- Kanpur Traffic Police organized a road safety awareness program to mark the Uttar Pradesh government's eight-year tenure and the Kanpur Police Commissionerate's anniversary. Helmets were distributed to two-wheeler riders, emphasizing the importance of helmet use and adherence to traffic rules. The program included educational sessions on traffic regulations, lane discipline, and speed limits, along with practical demonstrations on helmet usage. Informative pamphlets with safety guidelines and emergency contacts were also distributed. Community members participated in discussions on road safety. The org. plans to conduct regular awareness programs and enhance monitoring systems across the city.[lii]

Figure 31: Helmets provided during road safety awareness program

- The Uttar Pradesh government has allocated INR 100 million for a statewide road safety awareness campaign. This initiative involves displaying slogans and messages promoting safe driving practices on over 12,000 buses, including those on election duty, to leverage public transport's reach in educating citizens about responsible road behaviour.

The decision, approved in a high-level meeting, underscores the government's commitment to prioritizing road safety. The allocated funds, drawn from the Road Safety Fund, will facilitate the placement of these messages on the rear end of all Transport Corporation buses.[liii]

Enforcement:

- Maruti Suzuki India Limited (MSIL) is enhancing road safety in Uttar Pradesh by automating 12 additional (on top of 5 already automated) driving license test tracks across the state. These facilities will cater to driving license testing for two-wheelers, light motor vehicles (LMVs), and heavy motor vehicles (HMVs) and is developed under an agreement with Transport Department of Uttar Pradesh.

Equipped with high-definition cameras and an integrated IT system, the automated tracks ensure a fully computerized and transparent evaluation process. This technology-driven approach aligns with the Central Motor Vehicle Rules (CMVR), aiming to make the issuance of driving licenses more scientific, transparent, and efficient.

By implementing these automated systems, Maruti Suzuki aims to enhance road safety by ensuring that only capable candidates receive driving licenses, thereby reducing accidents caused by unqualified drivers.[liv]

- Strict measures are being taken to enforce road safety and law compliance along highways. Authorities have been directed to crack down on illegal vehicles and overloaded trucks, which pose severe risks to road safety and infrastructure. Strict action is being taken against buses operating without permits and vehicles entering from other states without valid documentation.

  To address driver fatigue-related accidents, long-distance vehicles must have two drivers. Surveillance cameras are being installed on National Highways to monitor traffic violations, detect over speeding, and identify accident-prone areas for safety improvements.

- Additionally, the government is enforcing strict liquor regulations along highways, banning liquor shops on expressway sides and reducing the visibility of existing ones to curb drunk driving incidents. These measures aim to enhance road safety and promote responsible driving behaviour.[lv]

- The Aligarh Traffic Police have recently issued a new circular targeting helmetless bike and scooter riders, signalling a stricter crackdown on traffic violations to ensure public safety.[lvi]

- Noida Traffic Police have intensified enforcement against reckless driving to enhance road safety. They are focusing on identifying and penalizing repeat offenders by implementing stricter measures, including the cancellation of driving licenses for those who consistently violate traffic rules. Additionally, the police are increasing surveillance and deploying more personnel at critical points to monitor and deter negligent driving behaviours.

  Additionally, "No Helmet, No Fuel" policy has been introduced to enforce road safety regulations. Under this rule, petrol pumps are instructed not to provide fuel to two-wheeler riders who are not wearing helmets. The government is seeking collaboration with oil companies, aiming for their support in enforcing the policy across the state. This measure aims to encourage helmet usage, reduce fatal accidents, and promote responsible riding behaviour.[lvii]

  The commuters will be charged a penalty of INR 1500 if caught violating lane discipline rules on certain identified routes in Uttar Pradesh.[lviii]

- Noida Traffic Police have implemented stricter enforcement measures on the Noida Expressway to enhance traffic flow and safety. Under Section 201 of the Motor Vehicles Act, commercial vehicles that break down and obstruct traffic are now subject to fines ranging from INR 5,000 to INR 20,000.[lix]

Figure 32: Strong stance against reckless drivers

Emergency Care:

- Uttar Pradesh government aims to enhance emergency care on highways by setting up hospitals along expressways, modeled after food plazas, to provide immediate medical assistance to accident victims. Additionally, trauma centers are being established in divisional hospitals, equipped with specialized facilities and trained staff to handle critical cases effectively. To further strengthen emergency response, authorities are deploying more ambulances, cranes, and patrolling vehicles on highways, ensuring rapid medical aid and quick clearance of accident sites to prevent traffic congestion and secondary incidents.[lx]

- Uttar Pradesh planned to establish Emergency Stabilisation Centres (ESCs) every 50 kilometers along its highways to provide immediate medical care to road accident victims during the critical "golden hour." This initiative aims to stabilize patients before transferring them to hospitals for further treatment.[lxi]

Evaluation:

- Uttar Pradesh has launched the Road Crash Investigation Scheme, 2023 to analyze fatal accidents and improve road safety. District-level committees, including officials from traffic police, transport, PWD, and safety experts, will investigate accidents with three or more fatalities.[lxii]

- To rectify engineering defects and implement road safety enhancements on accident-prone black spots on four key routes. The initiative aims to reduce accidents caused by hazardous conditions such as blind turns and steep curves, which are significant contributors to road mishaps in the state. Notably, IIT-Delhi has recommended specific

Figure 33: One of the selected accident prone areas

corrective measures for the accident-prone Avantibai crossing on the 26-km stretch in Aligarh[lxiv]

- The Uttar Pradesh government has launched the 'Zone of Excellence' project in Lakhimpur Kheri to reduce road accidents. This initiative designates a 10-kilometer radius around the district collectorate as a model area for road safety, with plans for wider implementation upon success. To enhance awareness, authorities are conducting public education campaigns on traffic rules and safe driving practices, actively involving NSS and NCC student volunteers. The initiative includes strict enforcement of traffic regulations, continuous monitoring of road safety improvements, and the closure of unauthorized highway cuts that contribute to accidents. By integrating awareness and enforcement strategies, the 'Zone of Excellence' aims to serve as a comprehensive model for road safety across Uttar Pradesh.[lxvi]

CHANDIGARH

Strong Road Safety Measures, But Challenges Remain
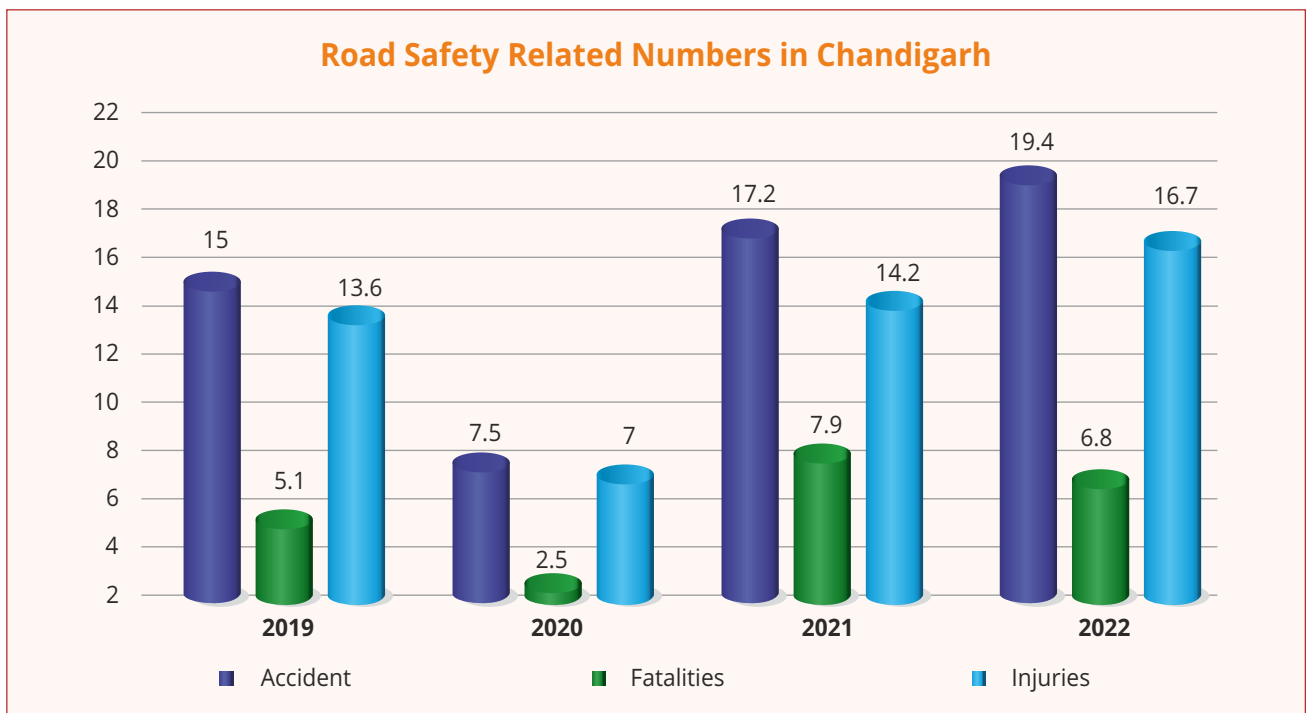
Figure 34: Number of Accidents, Fatalities and Injuries per lakh population in Chandigarh

Chandigarh ranks is the 2nd lowest in terms of overall accidents amongst all the UTs. However, the number of road accidents per lakh population have increased marginally in from 2019 to 2022. In the same time period, share of road accidents in National and State Highways have stayed consistent.

Number of Accidents w.r.t. Type of Roads
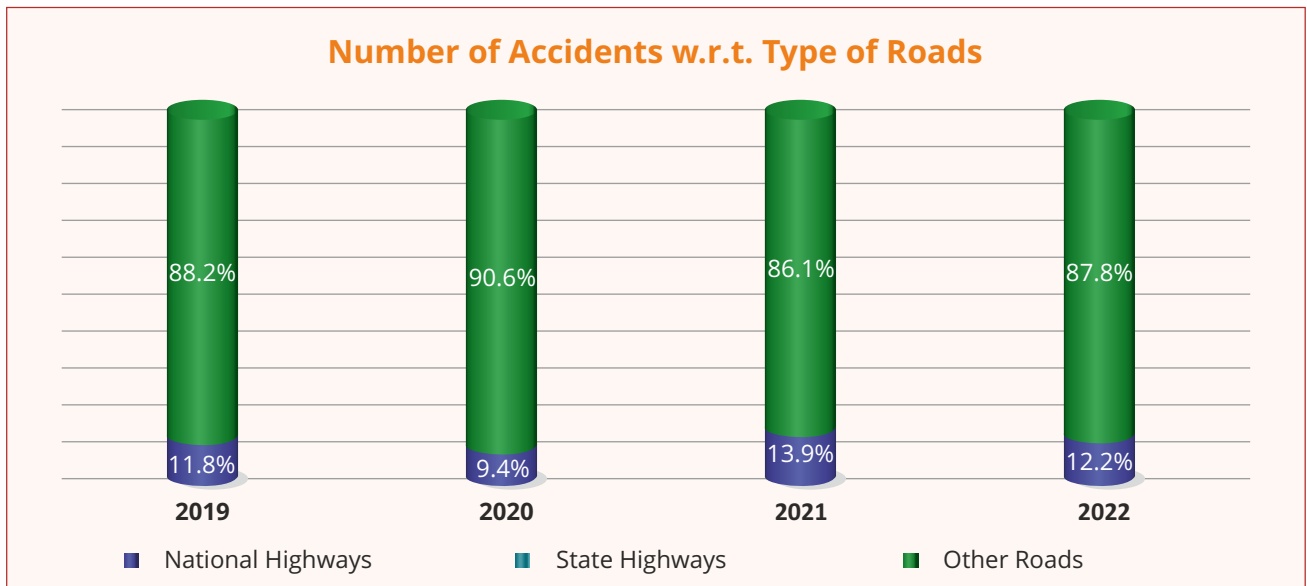
Figure 35: Road Accidents in Uttar Pradesh Across Types of Roads

Over speeding causes 78% of the accidents in the state. Driving on Wrong Side have a Fatality Severity greater than 75. At the same time, of all the 2W related fatalities in Chhattisgarh, only ~30% occur because of rider not wearing a helmet. Almost 75% of the accidents are caused by collision from the side or back. Fatality Severity for the accidents with impact on the side is >66.

Chandigarh - Reason for Road Accidents
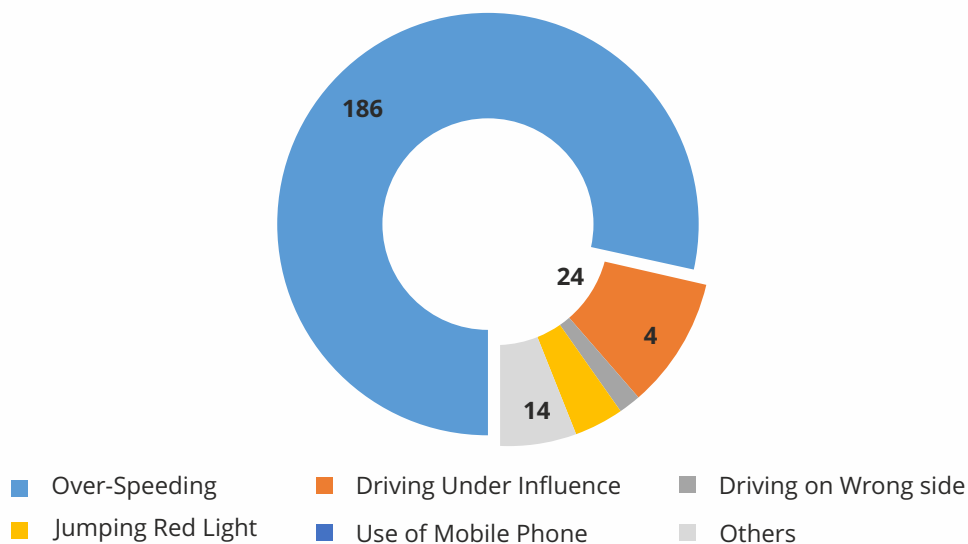
Figure 36: Reason of accidents in Chandigarh

Chandigarh has a comprehensive road safety policy and has launched 13 editions of annual road safety reports to analyse and pinpoint major issues related to road safety.

Major Traffic Violations; Total - 6,02,454
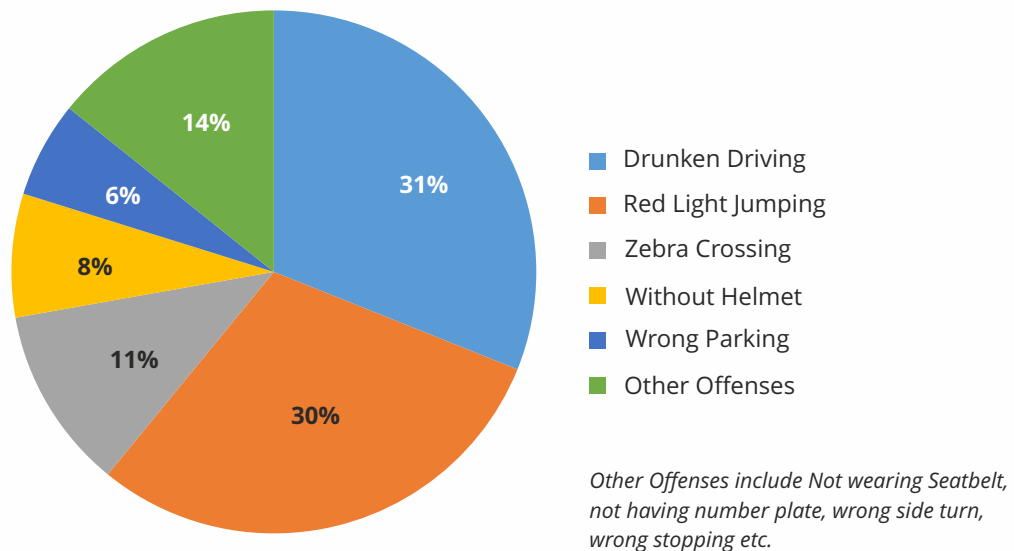
Figure 37: Major traffic Violations in Chandigarh

Proactive Policies Enhancing Road Safety

Engineering:

• Dedicated left lanes for buses, trucks, and taxis are being implemented to streamline traffic movement and reduce congestion.

• Mid-block pedestrian crossings are being upgraded in high-footfall areas to enhance pedestrian safety, ensuring compliance with national road safety standards.

• Backup power systems for automatic traffic signals are being introduced to prevent traffic disruptions during power failures, ensuring smoother traffic flow.

• High-illumination lighting (80 lux) and proper road markings are being installed at speed-calming zones to improve nighttime visibility and reduce accident risks.

Education:

• Public Awareness & Education: The Children Traffic Park conducts road safety awareness programs, road crash analysis, and engages citizens via social media to promote responsible driving.[lxvii]

- To facilitate effective learning, the Road Safety Cell has developed a comprehensive Road Safety Education CD. This resource is utilized in various awareness programs to educate the public on traffic rules and safe driving practices.[lxviii]

- Police department conducts regular Exhibitions on Road Safety and Screenings of Road Safety Films to engage the community and raise awareness about traffic regulations and the importance of adhering to them.[lxix]

- More than 74,000 road safety booklets have been distributed to students across government schools to promote early awareness and responsible road behaviour.

- Recognizing the importance of reaching various groups, the Chandigarh Traffic Police organizes specialized programs tailored to different demographics, including school children, college students, and professional drivers. These initiatives aim to instil a culture of road safety from an early age and reinforce responsible driving habits among experienced motorists.[lxx]

Figure 38: Road Safety Traffic Park established to educated students

Enforcement:

- Strict Traffic Enforcement & Monitoring: Advanced equipment such as ANPR speed guns, interceptor vehicles, breath analyzers, body-worn cameras, barricades, and LED speed feedback screens is used for enforcement. Live CCTV monitoring aids in real-time action against violations.[lxxi]

- Towing & Seizure of Violating Vehicles: Two vehicle pounds have been set up in key commercial areas to facilitate immediate towing of illegally parked or offending vehicles.[lxxii] Increased monitoring and strict action against violators at accident-prone locations are being undertaken to deter reckless driving.

- Regular inspections and maintenance of traffic signals, road markings, and barriers are conducted to ensure continuous adherence to safety protocols.

Emergency Care:

- Coordination with engineering and planning departments is ensuring that road design flaws affecting emergency accessibility are promptly addressed.

- Emergency response teams are being trained and equipped to provide immediate assistance at accident-prone locations, reducing fatalities and response time.

- The Postgraduate Institute of Medical Education and Research (PGIMER), in collaboration with the Chandigarh Traffic Police, conducted a Head Injury Prevention Awareness Drive in March, 2025. The initiative emphasized the importance of road safety, helmet use, early recognition of head injuries, and rapid treatment to reduce mortality and disability. This collaborative effort underscores the commitment of PGIMER and the Chandigarh Traffic Police to community education and preventive healthcare, aiming to reduce the incidence and impact of traumatic brain injuries through increased public awareness and adherence to safety practices.[lxxiii]

Figure 39: Road Safety Drives

Evaluation:

- Road Crash Analysis Cell investigates accidents, identifying causes such as missing streetlights, road markings, blind curves, and other engineering defects. Authorities are directed to rectify issues immediately to prevent future crashes.[lxxiv]

- Road Safety Implementation Cell: A dedicated multi-agency team involving Traffic Police, Urban Planning, Engineering, and Municipal Corporation ensures coordinated action on road safety improvements.[lxxv]

- Accident-prone black spots are being rectified through the construction of table-top speed breakers, improved lighting, and better road signage to reduce crashes.

- Iron grills are being installed on specific road stretches where pedestrian-related accidents have been frequent, preventing jaywalking and ensuring safer road usage.

IMPLEMENTATION CHALLENGES

1. Road User Behaviour

- Overloaded Vehicles: Many vehicles exceed permissible weight limits, causing instability and a higher likelihood of accidents.

- Over speeding: Exceeding speed limits is a prevalent issue contributing to numerous accidents.

- Drunk Driving: Operating vehicles under the influence of alcohol remains a significant problem, impairing judgment and reaction times.

- Lack of Proper Licensing: The prevalence of unlicensed or untrained drivers undermines road safety.

- Distracted Driving: The use of mobile phones while driving diverts attention from the road, leading to accidents.

- Traffic Congestion: Severe congestion on Indian roads often leads to reckless driving and increased accident risks.

2. Infrastructural Gaps

- Road Safety Education: There is a lack of comprehensive programs to educate the public on traffic rules and safe driving practices.

- Data Management: The absence of a robust system for collecting and analyzing accident data hampers informed policy-making.

- Road Maintenance: Poorly maintained roads with potholes and inadequate signage pose significant hazards.

3. Process Issues

- Enforcement of Traffic Laws: Inconsistent enforcement and lenient penalties fail to deter traffic violations effectively.

- Emergency Response: Delays in providing timely medical assistance to accident victims increase the severity of injuries and fatalities.

- Flouting Safety Standards: The enforcement of safety standards in vehicle usage and maintenance is often inadequate, leading to the availability of unsafe vehicles on the roads.

KEY TAKEAWAYS

The Indian government has been actively taking measures ensure road safety by introducing number of policies and initiatives as the road accidents not only hampers the victim but also the country's economy as a whole. Indian government aims to catalyse as many stakeholders as possible across the value chain to ensure that the country is able to reduce the menace posed by accidents on road.

In our analysis of the five Indian states & UTs – Haryana, Telangana, Chhattisgarh, Uttar Pradesh and Chandigarh, we identified that all the stakeholders are actively working to target the specific issues in the state/UT. After analysing the best practices from all the states/UT, below are our key recommendations:

1. Engineering: Enhancing Road Infrastructure & Technology

- Smart road technology and intelligent traffic management should be widely adopted. Telangana's iRaste project, which uses tech solutions like AI to predict accident risks, has significant potential to reduce accidents.

- High-visibility Road markings and reflectors, such as Haryana's thermoplastic road markings will improve visibility for drivers, especially in low light conditions.

- Public transport infrastructure should be modernized. Haryana's plans to upgrade bus terminals and improve vehicle maintenance set a strong precedent.

- Highway Traffic Management Systems (HTMS), like Telangana's SOS emergency push-button system, ensure quick assistance for accidents or breakdowns.

2. Education: Spreading Road Safety Awareness

- Road safety education should be made mandatory in schools. Telangana's and Chandigarh's initiative to set up Traffic Awareness Parks can be replicated nationwide.

- Awareness programs should target high-risk groups. Telangana's free eye checkups for lorry drivers on NH-65 can address a major cause on high accident-prone zones.

- Community-led awareness campaigns must be expanded. The various road safety campaigns conducted for truck players, female drivers, factory workers and general public highlight the need for localized road safety efforts.

- Mass media campaigns should be utilized effectively. Telangana's Mr. RIDO mascot and Chhattisgarh's films for road safety awareness in cinemas set an innovative example.

- Public-private partnerships can enhance training programs. Initiatives like OEM's IDTR program for driver training and Sarvejana Foundation's road safety campaigns should be expanded.

3. Enforcement: Strengthening Laws & Traffic Management

- Strict action against over speeding and reckless driving is essential. In Telangana and Chhattisgarh, over 80% of accidents are due to over speeding. AI-based monitoring should be enforced nationwide.

- Automated traffic violation detection systems should be implemented. Haryana's Intelligent Traffic Management System (ITMS) uses Red Light Violation Detection and Automatic Number Plate Recognition (ANPR) to improve enforcement. Similar initiatives in UP and Chhattisgarh are bound to save injuries and fatalities.

- Regular drunken driving checks must be conducted. Telangana's special drive in Cyberabad caught 478 drunk drivers in a single night, showing the need for routine monitoring.

- Helmet and seatbelt enforcement should be stricter. In Chhattisgarh, 96% of 2W fatalities are due to non-helmet use, and 100% of 4W & HCV fatalities result from not wearing seatbelts.

- Suspension of licenses for serious offenses should be standardized. Telangana and Haryana have suspended thousands of licenses, ensuring accountability for reckless driving.

4. Emergency Care: Reducing Response Time & Improving Trauma Care

- Trauma care centers should be established at regular intervals. Telangana's initiative to set up 74 trauma centers every 30 km on highways ensures critical emergency care within 15 minutes. UP's goal to install emergency care centres along the highways will provide life saving care at critical junctions.

- Emergency helplines should be integrated for faster response. Haryana's linkage of 1033 (NHAI), 1073 (police), and 112 (emergency response) creates a seamless accident response system.

- First responder training programs should be expanded. Haryana's ambulance worker training by Amrita Hospital and Chhattisgarh's police personnel training improve emergency care capabilities.

- Mobile emergency response apps can enhance efficiency of zero hour care for accident victims. Haryana's pilot project with IIT Madras for the "Sanjaya" app will provide real-time information on nearby blood banks, ambulances, and hospitals.

- Health checkups for high-risk drivers should be mandated. Telangana's free eye tests for lorry drivers is bound to help prevent accidents caused by impaired vision.

5. Evaluation: Data-Driven Policy Making & Accountability

- Regular road safety audits and black spot identification, like National Highway audits conducted in multiple states and directed by central government, are crucial in addressing accident-prone areas.

- Black spot identification and rectification should be prioritized. Chandigarh's and Chhattisgarh's identification of black spots on NHs and SHs should be a model for all states.

- Strict enforcement of road safety laws and accountability is needed. Courts in Bilaspur, Chhattisgarh, summoning NHAI and transport authorities highlight the necessity of proper implementation.a

- Tripartite audits of road safety funds should ensure proper utilization. Haryana's evaluation of district-level spending improves transparency and effectiveness.

- AI and technology should be leveraged for real-time traffic data analysis. Telangana and Haryana's AI-driven traffic management systems help prevent accidents and enhance policymaking.

India's road safety landscape can be significantly improved by integrating best practices across engineering, education, enforcement, emergency care, and evaluation. While individual states have taken important steps, nationwide implementation of advanced measures is necessary to create safer roads for all.

LIST OF FIGURES & TABLES

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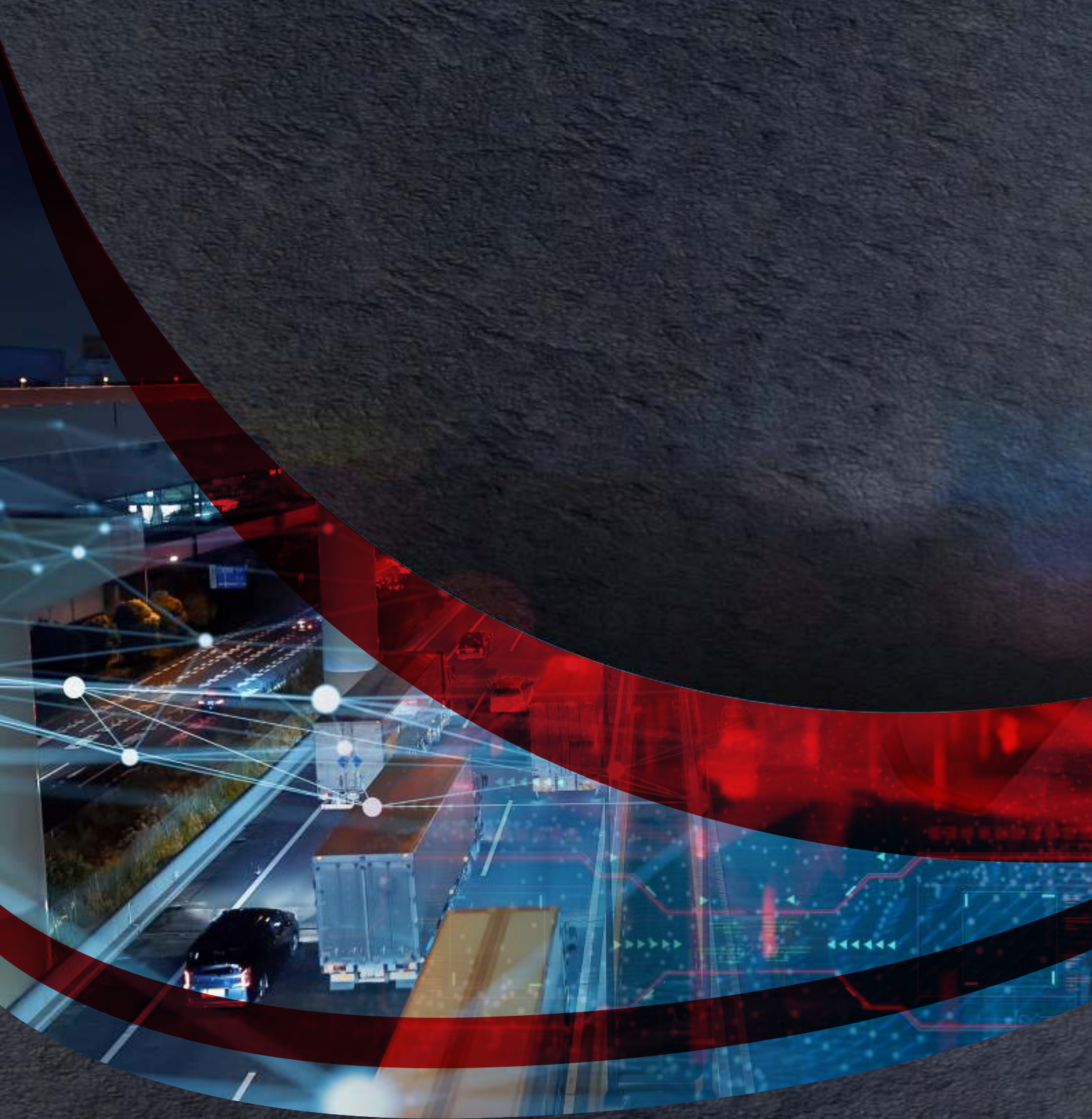[iii] https://economictimes.indiatimes.com/news/india/govt-aims-to-reduce-road-accident-deaths-by-50-by-2030-union-minister-nitin-gadkari/articleshow/106894097.cms?from=mdr

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