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TRENDS EVALUATION OF ROAD SAFETY IN INDIA THE SITUATION OF RURAL AND URBAN ACCIDENTS

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BY

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ABSTRACT

Accidents are the most undesirable mishaps responsible for the destruction of a considerable number of National Resources. According to international statistics, Losses due to traffic accidents in developing countries are well over 1% percent of their gross national product (GDP). This percentage is nearly 2.5% in INDIA, and Globally, INDIA is in 3rd position from the South Asia region.

This paper briefly overviews India's current road accident statistics, especially on National Highways, during the last seven years. India has a high rate of road traffic accidents, presents a clear picture of violation of traffic discipline, and day by day, the situation is getting worse, not only in terms of the number of people killed or injured but also of the high social and economic costs occurring from these accidents. This scenario is even worse in rural areas (comprising 63% of total accidents occurring in India between 2015 and 2021). Out of 31,41,601 reported accidents, 18,35,254 accidents occurred during the seven-year study period from 2015 to 2021.

In this thesis, an attempt has been made to find out traffic accident trends in India. Also, an attempt to find out trends of accident data presented herein to either accident profiles or compare the proportion of accidents by road class, time, light, junction, collision, weather, locations, pavement, road surface condition, and alignment can be undertaken.

Road safety initiatives should be taken to manage hazardous conditions and locations by imposing appropriate safety provisions.

CHPATER-1

INTRODUCTION

1.1 BACKGROUND

Although traffic safety has improved in recent years, the number of road fatalities is still unacceptably high. It is estimated that by 2021, road traffic accident will have moved from ninth to third in the world disease burden ranking and third in the developing countries like India. In 2021 the number of total accidents is almost 31,41,601 and number of fatalities 10,33,047 in India. In the ESCAP region, the rate of road accidents of India is the third highest.

To develop realistic quantitative safety targets, and then to design effective strategies and plans and one must be able to measure safety developments and to understand the underlying processes and their causes. This, in turn, requires extensive and reliable data recorded over a long period of time that is suitable for describing interpreting and ideally, forecasting safety developments.

To develop safety improvements and understanding the situation of road accidents, trends of road accidents is essential.

Even though the total number of police reported accidents decreased the last few years,

safety is one of the challenging issues in the transportation industry. The safety impacts issues are important because for example in 2020 were approximately 4.0 fatalities per 10,000 vehicles. New emerging technologies attempt to alleviate congestion on the roads and improve safety conditions on them.

1.2 OBJECTIVES OF THE THESIS

What Trend:

Collection of rural accidents data and their analysis to make trends evaluation of road safety in India.

Why do we Trend:

Trends are needed for effective remedial measures of road traffic accidents Analysis of socio-economic losses (National property, income, health).

The objectives of this thesis are mainly the following:

- To find out road traffic accident trends in India
- To find out road traffic accident trends in the rural area of India
- Also find out trends of accident data in rural and urban area presented herein to either accident profiles or compare proportion of accidents by road class, time, light, junction, collision, weather, locations, pavement, road surface condition, alignment can be undertaken.

1.3 THE STUDY AREA

The study Area of the thesis covers rural and urban roads which consist of several types of roads to focus on the followings.

National Highway

Regional Highway

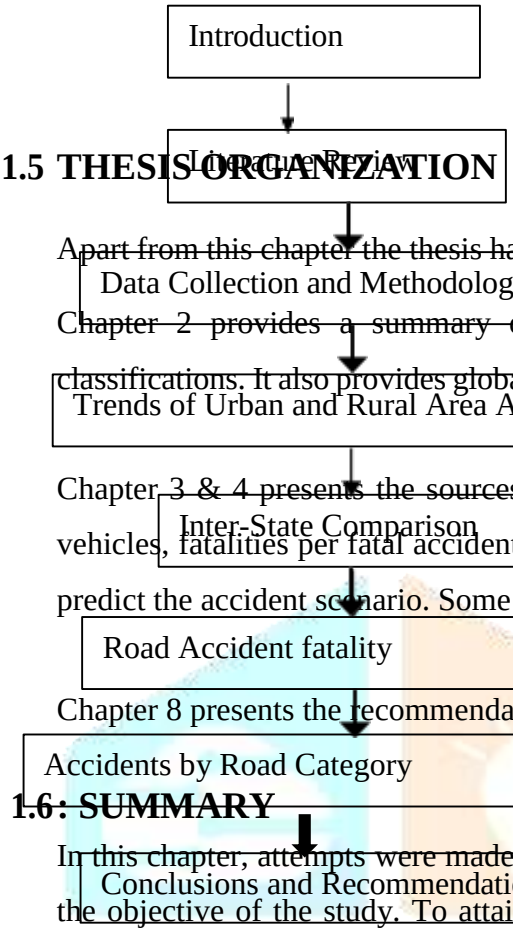
Feeder Road

Rural Road

City Road

1.4 THESIS STRUCTURE

The outline of the Thesis is organized as per the Following Flow Chart



1.5 THESIS ORGANIZATION

Apart from this chapter the thesis has been divided into six chapters.

Chapter 2 provides a summary of the available literature in the area of accidents and classifications. It also provides global and regional rates and trends, road safety situation in India.

Chapter 3 & 4 presents the sources of data used for the development of fatalities per 10,000 vehicles, fatalities per fatal accidents. It also presents extensive analysis of the accident data to predict the accident scenario. Some graphs are also presented in this chapter based on data.

Chapter 8 presents the recommendations and conclusion.

1.6: SUMMARY

In this chapter, attempts were made to introduce the background of the research. It also defines the objective of the study. To attain these objectives a structured methodology has also been formulated here. In order to proceed with the steps of this methodology, it is required to obtain firm knowledge on accidents and accident-related factors. The information provided in this next chapter lays a foundation of that through reviewing the principles and background information of all those relevant elements.

CHAPTER-2

LITERATURE REVIEW

2.1 INTRODUCTION

Nearly 0.5 million people die and up to 15 million people are injured in urban road accidents in developing countries each year, at a direct economic cost of between 1 and 2 percent of worldwide gross domestic product. A majority of victims are poor pedestrians and bicyclists. Fears for personal safety and security significantly deter the use of non-motorized transport. This burden of physical harm that is borne by the poor can be reduced by improved road design, traffic management, medical service, and by policy improvement. This solution requires comprehensive action by a well-trained, committed, adequately financed, and organizationally integrated public sector.

The literature review however included a general understanding of the types of accident severity and casualty accidents, occurring factors, global road safety situation, road safety in India, methodology.

2.2 SOME IMPORTANT DEFINITIONS RELATED TO ACCIDENTS AND THEIR CLASSIFICATIONS.

2.2.1 Definition of Accident.

Accident is a general Phenomenon and expected in a road as vehicle is controlled by human. There is minimum to do when accident occurs in random nature. Accidents may take place even with high standard road because of random errors (mechanical/human). When accidents occur deterministically counter measures are need to be taken accordingly. To take appropriate remedial measures accident study is essential.

2.2.2 Accidents Classification

Primary classification:

- Road traffic casualty accident
- Road traffic non injury accident

1) Road traffic casualty accident:

Fatal accident; when one or more dead Personal injury accident.

Grievous injury: Refers to a person who has to admit hospital.

Simple injure; Refers to a person who is victim but not has to admit in the hospital.

2) Road traffic non injury accident :(property damage only)

Secondary classification.

Location; Rural or urban

Collision or non-collision event

Single vehicle or multi vehicle accidents

Classification of accidents based on collision type vehicles.

- Head on
- Rear end
- Right angle collision
- Sideswipe
- Overturning accidents
- Hitting objects on the carriage way
- Hitting objects outside the carriage way
- Collision on the parked vehicle
- Hit- pedestrian

Source: CE 451: transportation engineering III: Traffic Planning and Management

2.2.3 Definition of some important keywords.

Crashes and Casualties:

Traffic safety researchers measure crashes (also called collisions, accidents or incidents), injuries, fatalities and damage. Injuries and fatalities together are called casualties. Many road safety experts prefer the term crash to accident, because “accident” implies a random event, while “crash” emphasizes that such events have a cause (driver error, mechanical failure, poor roadway design, etc.) and so are preventable.

Fatal Accident:

Fatal accident is an event in which one or more persons are killed outright on the spot is called a fatal accident.

Grievous Accident: Grievous Accident is an event in which a person has received injuries, such as fractures, concussions, internal lesions, crushing, severe cuts and lacerations and severe general shock, requiring medical treatment and detention in hospital.

Simple Accident:

Simple Accident is an event in which a person sustained injuries but needed not be admitted to hospital. It can also include an accident victim who sustained injuries and was treated in hospital but not detained overnight.

Property damage:

A property damage type accident is when motor vehicles hit a pedestrian, another vehicle in traffic, a parked vehicle, an animal, a fixed object, etc.

Casualty Accidents:

Casualty Accidents are the number of persons whose are dead or injured in an accident.

2.3 ACCIDENT FACTORS CAN BE GROUPED UNDER THE FOLLOWING HEADINGS.

1. Road users: The actions of vehicle drivers, cyclists, motor cyclists, passengers & pedestrians.
2. Vehicles: The design, condition & faults of vehicles
3. Road environment: The planning, design & care of roads & roadside environment.

Others:

- Road user's behavior
- Driver's behavior
- Pedestrian behavior
- Passenger's behavior

1) Driver's Behavior

- Falling to maintain safe speed
- Falling to maintain safe headway
- Making decision during lane changing, overtaking, crossing junction, turning, merging in response of traffic signal interaction with animal crossing overtaking competition underestimating vehicles loading condition
- Interacting with pedestrians

2) Accident Risk Depends on Driver's Physical and Mental Condition

- Age of drivers
- Sex of drivers

- Material status
- Alcohol of drugs
- Fatigue
- Use of crush of helmets

3) Pedestrian Behavior

- Pedestrian carelessness & lack of knowledge regarding traffic rules
- Use of road instead of footpath
- Crossing attempts without looking around
- Miscalculation of approaching vehicle speed

4) Passengers Behavior

- Causing trouble to the driver
- Making noise joking and diverting the of the driver
- Projecting their body outside the vehicle
- Getting down the vehicle from the wrong side

Factors Related To Roadway Geometry

- Road curvature
- Vertical alignment
- Sight distance
- Super elevation
- Carriageway width
- Width and condition of shoulders
- Road signs and markings
- Pavement surface condition
- Formation delineators and guard rails
- Lighting
- Median
- Junction

Source: CE 451: transportation engineering III: Traffic Planning and Management

2.4 EXAMPLES OF NINE CLASSES OF ACCIDENT LOSS FACTORS

Designation	Examples
Pre-cash	
1) Human…	Driver fell asleep
2) Vehicle…	Brake failure
3) Environment	Slippery roadway surface
At-crash	
4) Human…	Seat belts improperly worn
5) Vehicle…	Structural weakness of side of vehicle
6) Environment…	Unyielding sign post near pavement
Post-crash	
7) Human…	By-standers took improper first aid action
8) Vehicle…	vehicle not equipped with a fire extinguisher.
9) Environment…	Emergency telephone not available

Source: SNPA Foundation Seminar Book by Paul H. Wright

2.5 THE ACCIDENT REPORT FORM

For most purposes the database needs to be able to answer the following questions:

- Where accidents occur
- When accidents occur
- Who was involved?
- What was the result of the collision?
- What environmental conditions existed?
- Why or how did collision accident Data

2.6 TRENDS OF GLOBAL ROAD SAFETY SITUATION

2.6.1 Estimating Global Road Fatalities

Previous reviews of global fatalities undertaken by TRL, World Bank and others have produced a wide range of estimates and whilst the problem of data reliability and underreporting has been regularly acknowledged previous forecasts have been based on the use of officially published statistics based in turn on police reports. Using these values to obtain a more accurate estimate of the current global fatality situation (on a regional basis) required several factors to be considered as follows:

1. Updating the fatality figures given for the latest year available 1970 to 2021.
2. Estimating for those countries where fatality data was not available.
3. Making adjustment for those countries which do not use the definition of a road death occurring when a person dies within 30 days of the accident taking place. This ranges from 'on the spot' to 'within a year of the accident occurring'. Furthermore, many developing countries state that they use the '30-day' definition and may do so at the local level (for prosecution purposes) but at the same time, official statistics are often based on preliminary information which is not always updated.
4. Adjusting official figures to consider the underreporting of fatal accidents. Figures derived for both developed and developing countries were based on detailed research undertaken in recent years on this topic. Rather than use one figure for under-reporting in developing countries, upper and lower adjustment factors were calculated.

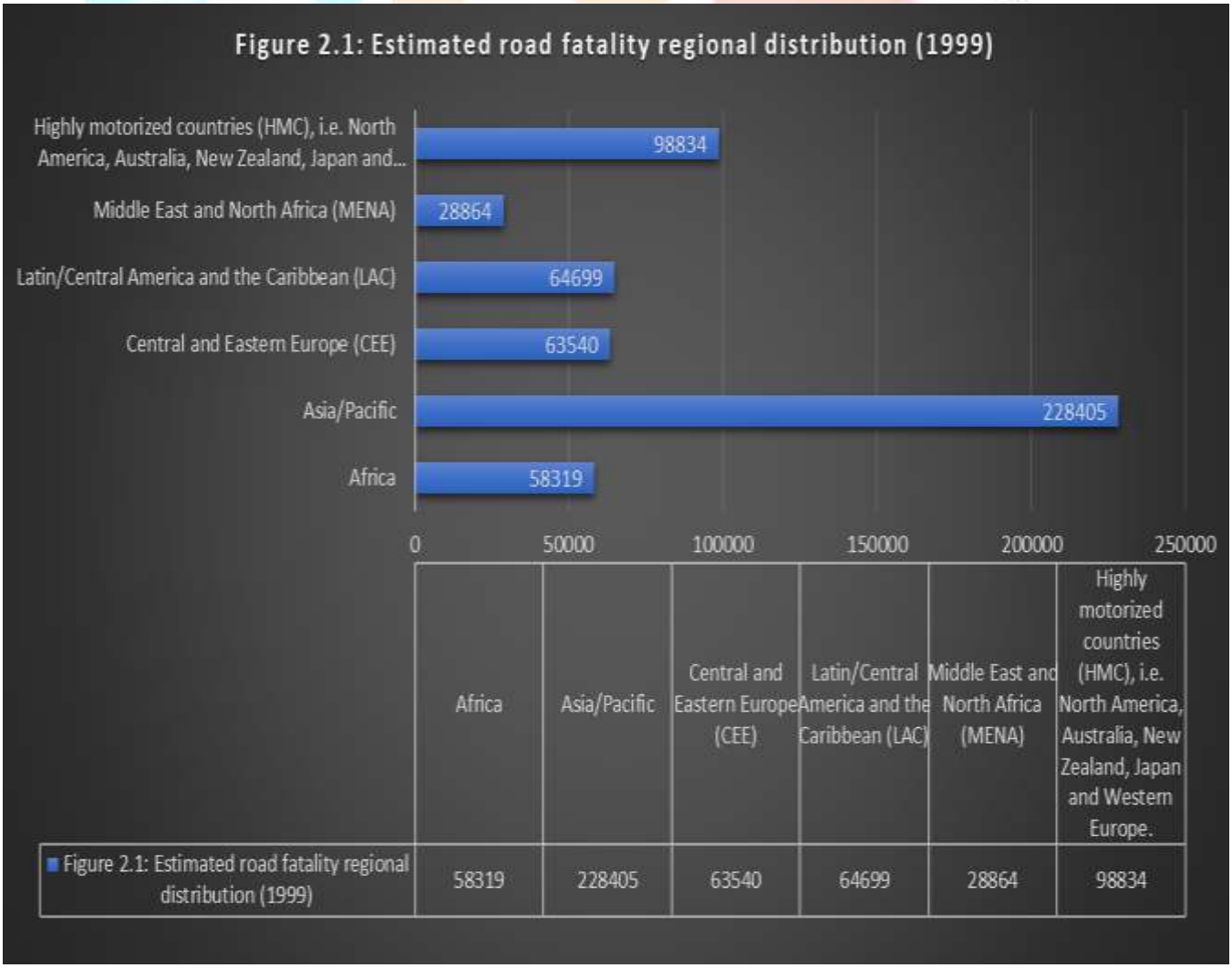
There is no standard approach to regional groupings used by the many different international organizations concerned with road safety. However, to aid interpretation of data, a total of 192 countries were assigned to six major regional groups as follows:

- Africa
- Asia/Pacific
- Central and Eastern Europe (CEE)
- Latin/Central America and the Caribbean (LAC)
- Middle East and North Africa (MENA)
- Highly motorized countries (HMC), i.e. North America, Australia, New Zealand, Japan and Western Europe.

Less motorized countries (LMC) is the collective term used to describe the first five Regions where motorization is typically much lower than in the industrialized HMCs.

Source: A Review of Global Road Accident Fatalities

- Fatality rates (i.e. death per 10,000 vehicles) were lowest in developed countries (in the range 1.1 to 5.0) whilst the highest (frequently in excess of 100) were found in South Asian Region like India, India Pakistan, African countries, particularly Ethiopia, Lesotho and Tanzania.
- According to official statistics, there were at least 1,53,972 fatalities and 3,84,448 injuries in 4,12,432 reported accidents in 2021 and 1,46,133 fatalities, 5,00,279 injuries in 5,01,423 reported accidents in 2015. Significant fluctuations in the number of fatalities and injuries as reported by police clearly reflect the problems of reporting and recording inconsistencies. The number of fatalities from 1,46,133 in 2015 to 1,53,972 in 2021 indicates 1.05 times in 7 years period.



2.6.2 Current Global Fatality Estimate

From Jacobs, G.D. & Thomas, A.A. (2000) "A Review of Global Road Accident Fatalities"

Based on the factors described above, a realistic estimate of global road deaths is between 750,000 and 880,000 for the year 1999.

It should be noted that these estimates are less than those derived by the WHO in the studies mentioned. However, the WHO estimates were based on forecasts from 1990 data which in turn came from a variety of sources. The WHO forecast was that in 1998 there would be 1.17 million deaths worldwide. A lack of detailed information on WHO data sources, forecasting techniques etc. made detailed comparisons difficult.

Results from a number of countries show wide variation between official (i.e. police) statistics and information from other sources. For example in the Philippines only one out of five medically reported road deaths are included in police statistics. In Indonesia, insurance companies report almost 40 per cent more deaths than the police. The Department of Health in Taiwan reported in 1995 some 130 per cent more deaths than the police. In Karachi a recent study comparing road casualties reported by the police with ambulance statistics showed only about half of road accident deaths were reported by the police.

Under-reporting also appears to be high in China which already has the world's highest reported number of road deaths. Thus, the Beijing Research Institute of Traffic Engineering estimated that the actual number of people killed in road accidents in 1994 was about 111,000, over 40 per cent greater that the 78,000 reported officially by the police.

Using results from a number of studies indicated that in developed countries underreporting of fatalities was minimal (between 2 - 5 per cent), whilst in developing countries upper and lower adjustment factors were between 25 to 50 per cent increases of those numbers reported by the police. The burden of global road fatalities is on the LMCs where 86 per cent of the world's road fatalities occur, with almost half of all fatalities in Asia. The below chart shows that South Arica registered the highest number of road accident deaths per one lakh people of 26, followed by Iran, Islamic Republic of 20 followed by Russian Federation of 13 followed by US, India & Indonesia of 11, followed by Morocco & Peru of 10.

Source: Country wise number of persons killed per lakh population - WRS, 2020

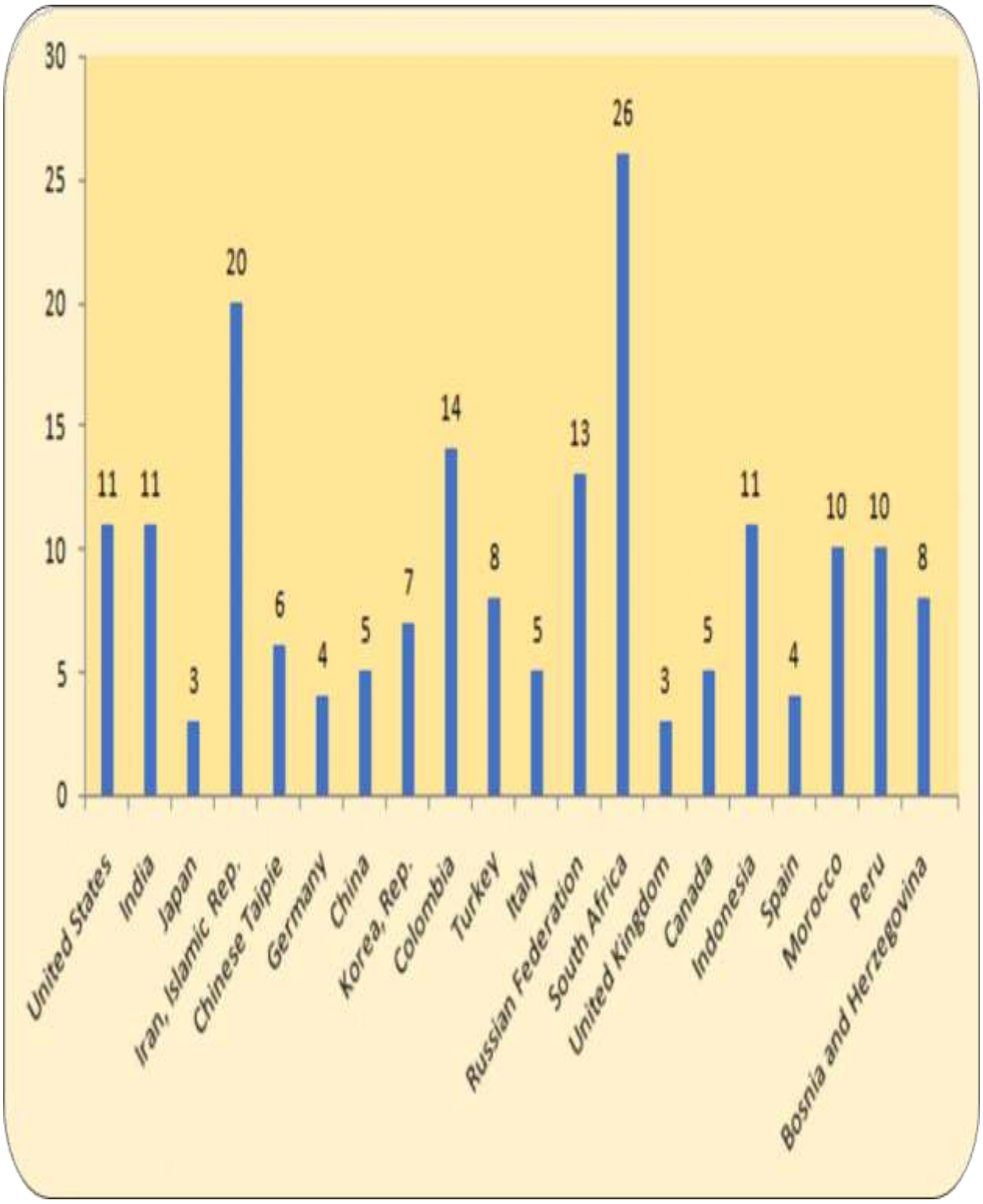


Fig.-2.2: **Country wise number of persons killed per lakh population - WRS, 2020**

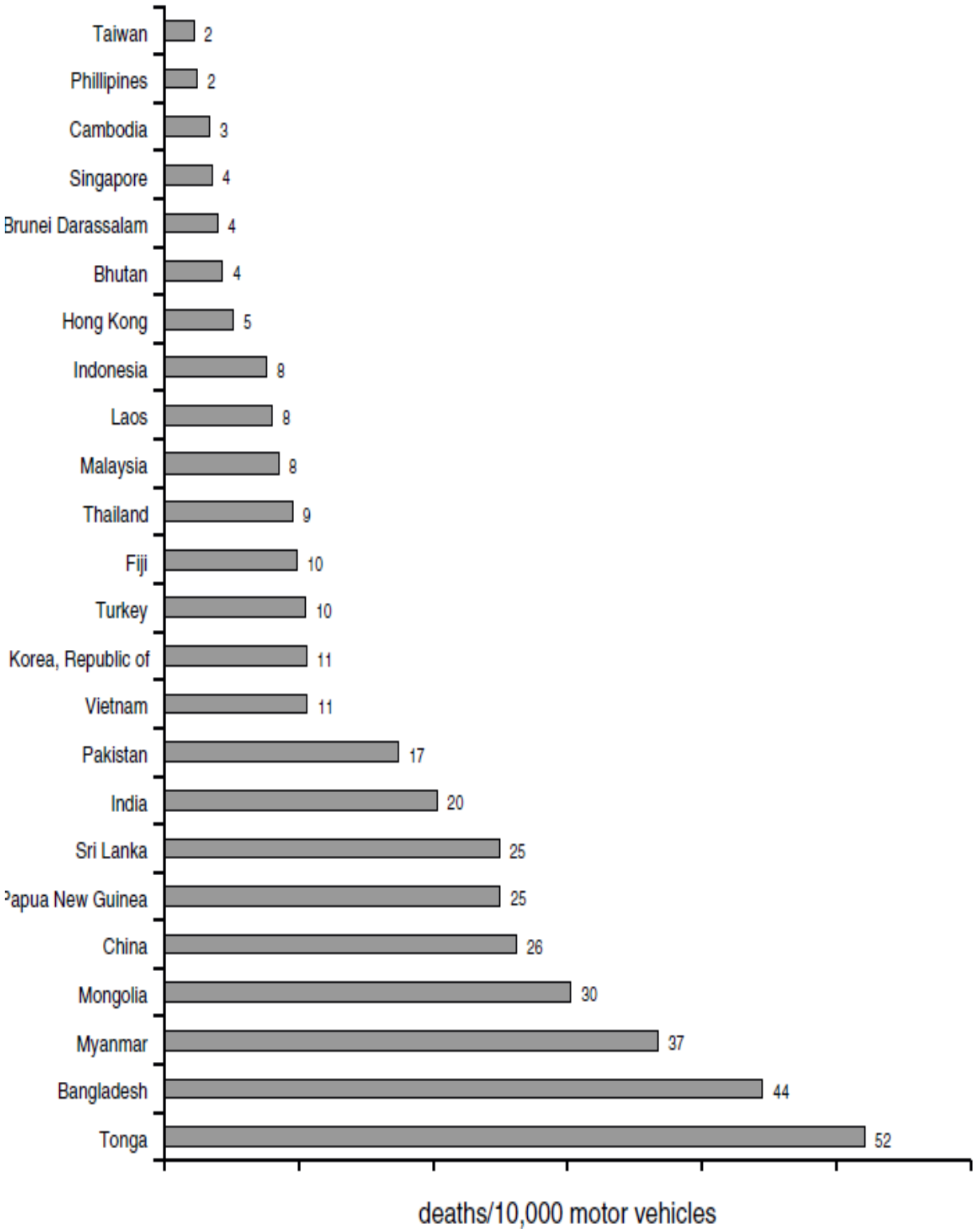


FIG. 2.3: FATALITIES/10,000 LICENSED MOTOR VEHICLES IN SELECTED COUNTRIES

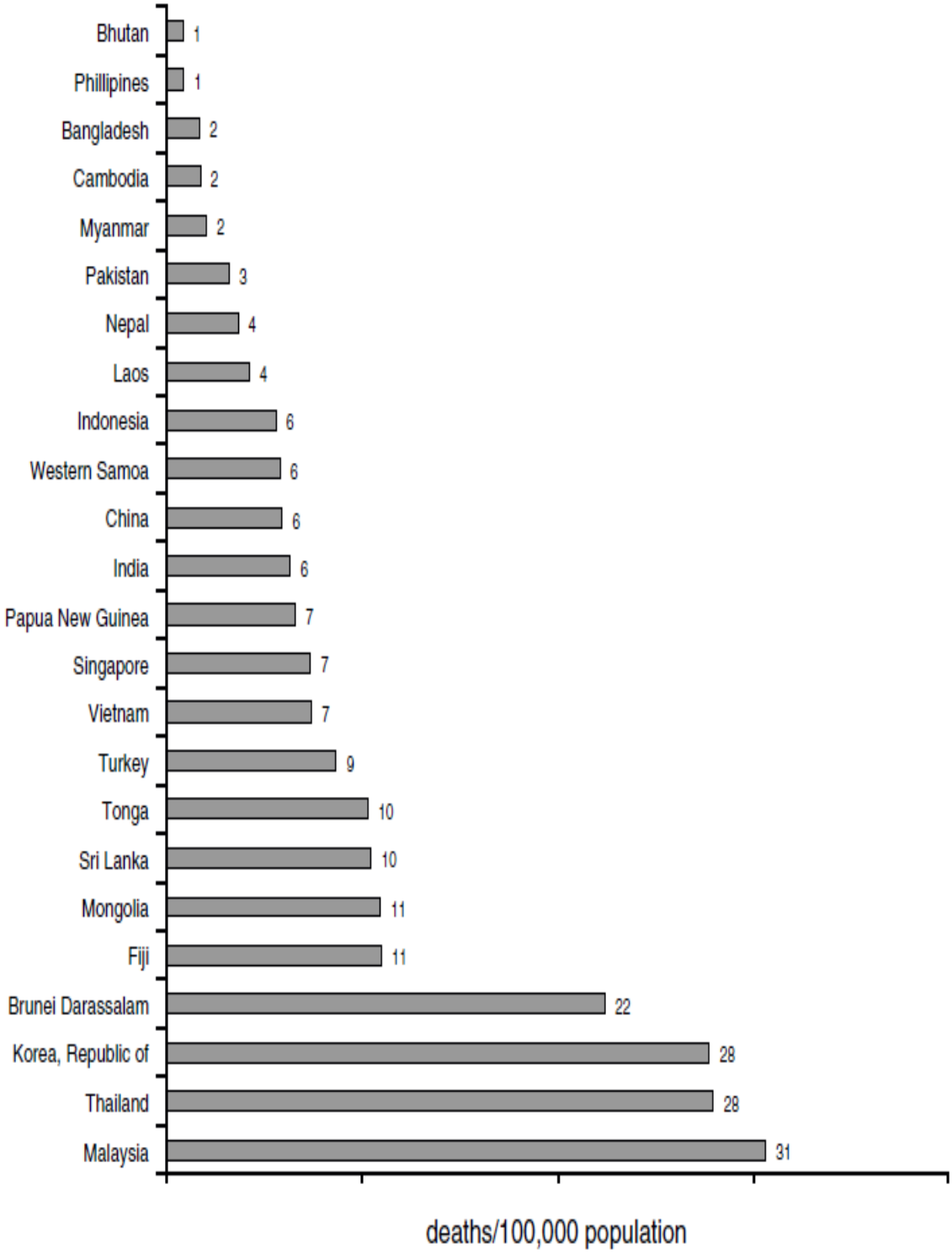


FIG. 2.4: FATALITIES/10,000 POPULATION IN SELECTED COUNTRIES

2.6.3 Estimate of Global Injuries

Whilst the under-reporting of injuries are known to be even worse than with fatalities, a minimum estimate within a likely range has been derived. Based on the International Road Traffic and Accident Databases (IRTAD) report and earlier studies that had estimated approximately 50 per cent of road injuries were reported, it was decided that a ratio of 100 injuries for every fatality would apply in the HMCs. For LMCs, a ratio of between 20 to 30 was taken to be a minimum estimate.

These values produce annual road accident injury estimates for 2020 of at least:

· Million in HMCs

· To 23 million in LMCs

· Global estimate of between 23 and 34 million road accident injuries per annum

This estimate is approximately twice the global road injury estimates currently being suggested. An estimate of the number or percent of injuries that are disabling was beyond the scope of this review.

2.6.4 Fatality Forecasts

Forecasting future deaths worldwide is fraught with difficulties. For example, past trends may be thought to give a reasonable picture of what may happen in the future. However, some countries, such as Japan experienced rapid deterioration in road safety in the 1960s with an 80 per cent growth in road fatalities but then with massive investment reduced deaths by almost 50 per cent over the next decade. However, deaths started to increase once again in the early 1980s due in part to a continued increase in vehicle ownership but with a slowing down of investment in life-saving activities. Additionally, trends in many parts of the world are not consistent and there is evidence that rapid increases of deaths in Africa and Asia/Pacific show signs of slowing down (that said growth rates in Africa and Asia are still high and of concern).

Social and political changes also play a part and ideally would be taken into account in any forecasting actively. However, these changes are difficult to predict. For example, in the CEE region, changes in road accident reporting methodology took place with the transition to market economies. Whilst the trend in this region over recent years has been one of fewer fatalities, it is quite possible that with economic development and rapid motorization there is potential for growth in the number of accidents and fatalities.

Forecasting future trends should be approached cautiously for the reasons outlined above. With these caveats in mind, we suggest that for the year 2030 the likely range of global road deaths will be between 1.1 TO 1.25 million

2.7 TRENDS OF ROAD SAFETY IN INDIA

2.7.1 The Road Safety Situation in India:

Transport is an extremely important part of India economy. The following table shows the growth of motor vehicles & road accident casualties in India. Major causes of road accident in India due to over speeding, over taking, overloading in presence of non-motorized vehicle on National highway , reckless driver habit , lack of awareness , presence of unfit vehicles , lack of enforcement.

Category	2020			2021			% Change in 2021 over 2020		
	Accidents	Fatalities	Injured	Accidents	Fatalities	Injured	Accidents	Fatalities	Injured
Over-speeding	2,65,343	91,239	2,55,663	2,95,522	1,07,236	2,80,285	11.4	17.5	9.6
% share of total	72.5	69.3	73.4	71.7	69.6	72.9			
Drunken driving/ consumption of alcohol & drug	8,355	3,322	7,845	9,150	3,314	7,509	9.5	-0.2	-4.3
% share of total	2.3	2.5	2.3	2.2	2.2	2.0			
Driving on wrong side/Lane indiscipline	20,228	7,332	19,481	21,491	8,122	20,351	6.2	10.8	4.5
% share of total	5.5	5.6	5.6	5.2	5.3	5.3			
Jumping red light	2721	864	2688	2203	679	1905	-19.0	-21.4	-29.1
% share of total	0.7	0.7	0.08	0.5	0.4	0.5			
Use of mobile phone	6,753	2,917	5,975	6,530	2,982	5,394	-3.3	2.2	-9.7
% share of total	1.8	2.2	1.7	1.6	1.9	1.4			
Others	62,738	26,040	56,627	77,536	31,639	69,004	23.6	21.5	21.9
% share of total	17.1	19.8	16.3	18.8	20.5	17.9			
All India	**3,66,138**	**1,31,714**	**3,48,279**	**4,12,432**	**1,53,972**	**3,84,448**	**12.6**	**16.9**	**10.4**

Table2.1: Fatalities and Accidents

According to official statistics, there were at least 1,46,133 fatalities and 5,00,279 injuries in 5,01,423 reported accidents in 2015. Trends of reported road accidents are given in the above table. It is estimated that the actual fatalities could well be 1,00,000-1,50,000 each year. Significant fluctuations in the number of fatalities and injuries as reported by police clearly reflect the problems of reporting and recording inconsistencies. The number of fatalities from 1,05,749 in 2006 to 1,53,972 in 2021, nearly 1.45 times in 16 years period. The statistics revealed that India one of the highest fatality rate in road accidents, over 4.0 deaths per 10,000 motor vehicles based on the year 2020.

2.7.2 The Global Health Burden of Road Traffic Injuries:

	Disease or injury	
	1990	2020
1	Respiratory	Ischaemic heart disease
2	Diarrhoeal diseases	Unipolar major depression
3	Perinatal	Road traffic accidents
4	Unipolar major depression	Cerebrovascular disease
5	Ischaemic heart disease	Pulmonary
6	Cerebrovascular disease	Respiratory
7	Tuberculosis	Tuberculosis
8	Measles	Diarrhoeal diseases
9	Road traffic accidents	HIV
10	Congenital anomalies	Perinatal
11	Malaria	Congenital anomalies
12	Pulmonary	Measles

Table 2.2: Status of Injuries

2.7.3 Burden on Health Infrastructure:

The trends in RTA(Road Traffic Accidents) burden per 100,000 population in India from 2010 to 2019. During this period, the disease burden (as measured using DALY) due to RTA declined in all Indian states except Jammu and Kashmir, where it exhibited a minor increase from 1,458 to 1,564 DALYs, and in Rajasthan, where it rose from 1,275 to 1,394 DALYs (Figure 2.5). The data for 2019 shows the states with the lowest percent of RTA burden compared to the total disease burden include Meghalaya (0.0222%), Bihar (0.0255%), Assam (0.0260%), and Nagaland (0.0279%). On the other hand, states with the highest share of RTA burden as a percentage of total disease burden are Punjab (0.0411%), Haryana (0.0499%), Uttarakhand (0.0505%), and Jammu & Kashmir (0.0525%) (Figure 2.5).

Thousands of emergency visits occurred due to road traffic accidents every year which put an enormous burden on the health care services.

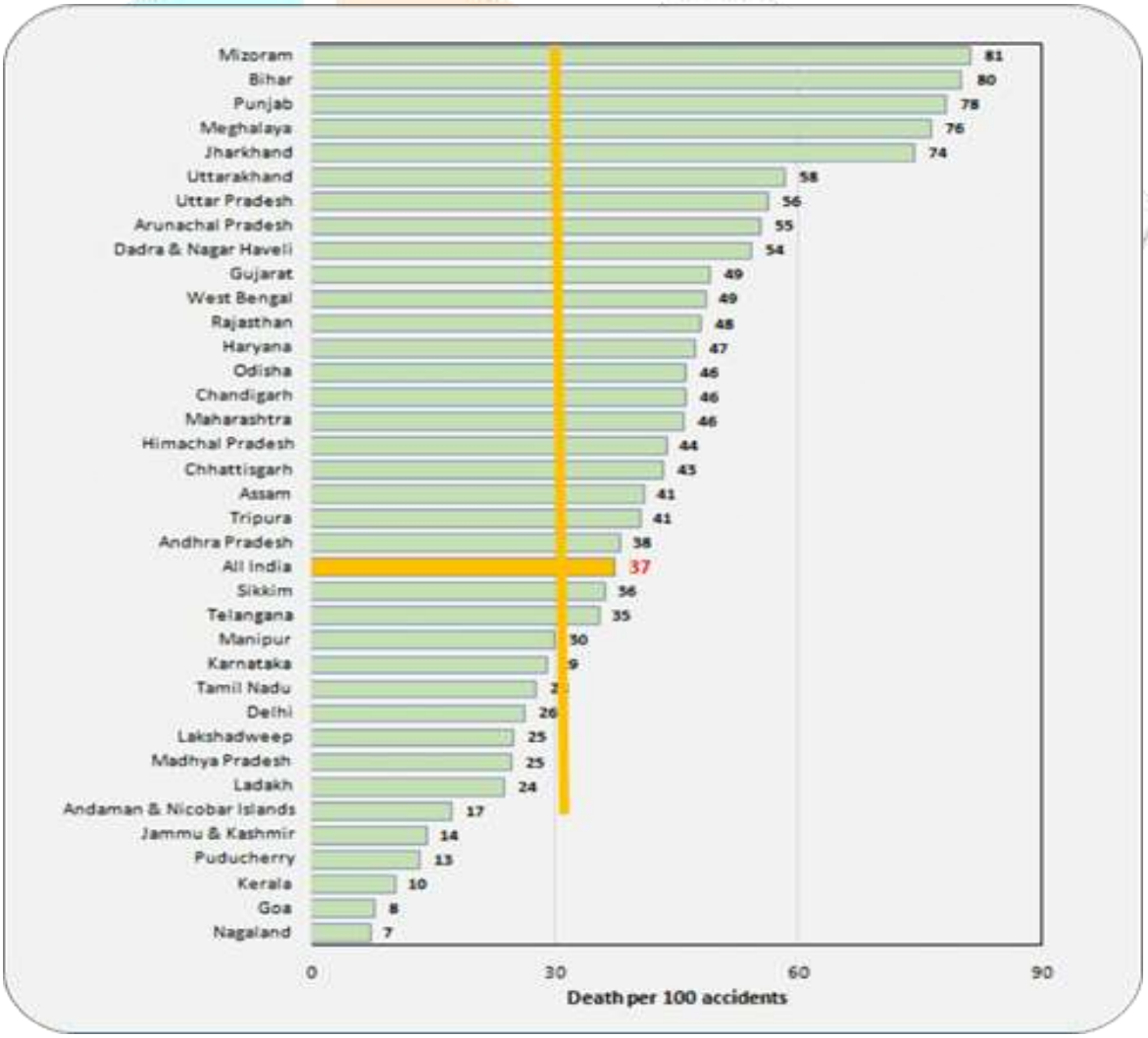


Fig. 2.5 : Accident Severity across the State/UTs during 2021

Road accidents alone cost society about 2.5% of a country's GDP.

- Why Road Traffic injuries are higher in India:
  - Substantial number of people makes their trip on foot –So Pedestrians are involved in about 70 % of all accidents.
  - Buses and trucks are generally overloaded
  - Substandard Road with mix of motorized and non-motorized traffic
  - Unsafe vehicles (shallow engine-driven vehicle, tyre bursting)
  - Low Enforcement and Poor Practices
  - Non-skilled Driver

Lack of proper education & training. Lack of public awareness.

2.7.4. Priority Road Safety Options for India:

- Engineering road safety: Road environmental improvements
- Application of road safety audit
- Community based road safety
- Intensified enforcement and safety education measures
- New innovative high-tech solutions

2.7.5. Progress in Road Safety Works Research in India:

2.7.5.1 India is committed to bring down fatalities from road accidents. Road accidents are multi-causal which requires multi-pronged measures to mitigate the problems through concerted efforts of all agencies of both Central Government and State Governments. The Ministry has formulated a multi- pronged strategy to address the issue of road safety based on Education, Engineering (both of roads and vehicles), Enforcement and Emergency Care. Accordingly, various initiatives taken up by the Ministry in the recent Past are given below.

I. EDUCATION MEASURES:

Publicity and Awareness Campaigns

2.7.5.2 The Ministry of Road Transport & Highways, has implemented a scheme, "Grant of Financial Assistance for Administering Road Safely Advocacy and Awards for the Outstanding

Work Done in the Field of Road Safety". Under the scheme, financial assistance is provided to various eligible agencies such as NGO/Trust under Indian Trusts Act/ Cooperative Society under Societies Registration Act/ Firm registered under the companies Act, 1956/ 2013 or an Academic Institutions accredited / affiliated to or recognized as a university or Deemed university by UGC Act (hereinafter referred to as 'Applicant Agency'). As prescribed in the scheme guidelines, programmed themes covered under the scheme are Road Safety Audit, Pilot projects, Awareness campaigns (Awareness Building, Safer Vehicles, Safer Road Users) and Capacity Building.

2.7.5.3 To create effective public awareness about road safety, Ministry undertakes various publicity measures and awareness campaigns on road safety through social media, electronic media, and print media.

II. ENGINEERING MEASURES

Road Engineering Identification and Rectification of Accident Blackspots

2.7.5.4 High priority has been accorded for identification and rectification of black spots (accidents prone spots) on National Highways. Concerted efforts towards improvement of road safety through engineering measures on National Highways have been made. Ministry of Road Transport & Highways has identified 5352 blackspots on National Highways based on accident and fatality data of year 2015-2018 in 30 states/UTs. Ministry is taking following steps to rectify the blackspots.

- The blackspots are being rectified by providing immediate short-term measures such as cautionary road signs and markings, transverse bar markings, rumble strips and solar blinkers etc.
- For long term rectification, measures such as Flyover, Underpasses, Foot over Bridges, Service roads etc. are being provided wherever required.
- Traffic calming measures such as traffic warning signs, delineators, road studs, bar markings, humps at approach roads, etc. are taken at vulnerable sections of National Highways to reduce road accident fatalities.
- Emergency / medical facilities for the road accident victims are provided as per the respective contract / concession agreements signed between NHAI and the contractor / concessionaire.

Road Safety Audits

2.7.5.5 It is mandatory to carry out the Road Safety Audit of all highway projects at all stages i.e. design, construction, and operation & maintenance stages. The Road Safety Audit is being carried out as per the applicable standards laid down by the Indian Road Congress (IRC).

Pedestrian Facilities

2.7.5.6 Financial power of up to Rs.25 crores for construction of Pedestrian Underpasses (PUP) and Pedestrian Subways (PSW) and up to Rs.1.25 crore for construction of Foot Over Bridges (FOBs) is delegated to Regional Officers of NHAI to speed up the process. To make roads safer for pedestrians, MoRTH notified AIS 100, which contains the requirements for the protection of pedestrian and other vulnerable road users in the event of a collision with a Motor Vehicle. These norms were applicable from 01st October 2018 for new models and from 01st October 2020 for all models.

Vehicle Engineering

2.7.5.7 Crash Safety norms: To ensure the safety of the occupants of the vehicles in an event of a crash, following standards have been notified.

a. AIS 098: Requirements for the Protection of the Occupants in the event of an Offset Frontal Collision

b. AIS 099: Requirements for the Protection of the Occupants in the event of a Lateral Collision.

The applicability of these standards started from 01st October 2017 for new models and from 01st October 2019 for all existing models.

2.7.5.8 Mandatory fitment of safety technologies

To enhance the safety aspect of the vehicle, from time to time, MoRTH notifies mandatory fitment of various safety technologies in various vehicle categories. Few of the safety technologies mandated by MoRTH are as listed below:

a. Airbags: Fitment of front airbag for driver was mandated from 01st July 2019. From 01st April 2021 for new models and 31st December 2021 for all models, fitment of co-driver airbag was also made mandatory. In his regard, Ministry has notified GSR 148(E) dated 2nd March 2021.

b. Anti-lock Braking System (ABS) and Combined Braking System (CBS): Mandatory fitment of ABS, applicable for 4 wheelers and for 2-wheelers with engine capacity greater than 125 cc, got implemented from 01st April 2018 for new models and 01st April 2019 for all models. For 2-wheelers with engine capacity less than or equal to 125 cc, ABS or CBS must be fitted.

c. Safety Technologies: Some other safety technologies made mandatory from 01st July 2019 are seat belt reminders for driver and co-driver, over speed warning system, reverse parking sensors, and manual override for central locking door.

2.7.5.9 Bharat New Car Assessment Program: The Ministry of Road Transport and Highways has issued a draft notification dated 24th June 2022, for the introduction of Bharat New Car Assessment Program (BNCAP). Under this program motor vehicles of category M1 [motor vehicles used for carriage of passengers comprising not more than eight seats in addition to the driver's seat] and gross vehicle weight not more than 3.5 tonnes, cars will be tested as per Standard AIS -197, and star rating will be assigned based on its performance in respect of adult occupant protection, child occupant protection and safety assist technology. The customers can refer to this star rating to evaluate the safety aspect of the vehicle before purchasing it. The program is proposed to be implemented from 1st April 2023.

2.7.5.10 The Ministry has mandated that all transport vehicles shall be equipped with speed limiting function/ device, except for two-wheeler, three wheeler, Quadricycle, fire tenders, ambulances, police vehicles.

2.7.5.11 This Ministry has mandated that the fully built buses (with a seating capacity of 22 passengers or above, excluding driver) manufactured on and after 1st April 2019 by Original Equipment Manufacturers shall comply with the requirements of Fire Detection, Alarm and Suppression system. Further, type III buses of category M3 and school buses, shall also comply with fire alarm and protection system in occupant compartment.

2.7.5.12 This Ministry has prescribed norms related to safety measures for children under four years of age, riding or being carried on a motorcycle. Further, it specifies use of a safety harness, crash helmet and restricts speed to 40kmph.

2.7.5.13 MoRTH mandated the application of reflective tapes on the front, rear and side of buses, trucks and trailers to ensure better visibility of these vehicles during nighttime.

III. TRAINING AND CAPACITY BUILDING

2.7.5.14 **Accredited Driver Training Centre:** Shortage of skilled drivers is one of the major issues in the Indian Roadways Sector. The Ministry of Road Transport and Highways has published a notification on 7th June 2021, wherein the requirements to be fulfilled by accredited driver training centers have been mandated. The Centre shall be equipped with simulators and a dedicated driving test track to provide high quality training to candidates. The candidates who successfully pass the test at these centers will be exempted from the driving test requirement at the time of applying for a driving license, which is currently being taken at the RTO. These centres are allowed to provide industry- specific specialized training as well.

2.7.5.15 To ensure good driving skills and knowledge of rules of road regulations among the drivers and to strengthen the system of driver licensing and training to improve the competence and capability of drivers, Ministry is setting up model Institutes of Driving Training and Research (IDTR) Centres, Regional Driving Training Centres (RDTCs) and Driving Training Centres (DTC) in the States/UTs. As of December 2021, a total of 31 IDTRs and 6 RDTCs were sanctioned. out of 31 IDTRs, 18 IDTRs are functional, and the remaining are at different stage of completion.

2.7.5.16 Poor maintenance and use of old vehicles which is not roadworthy (not fit) cause accidents and deaths. To strength the fitness check regime in the country, the Ministry of Road Transport and Highways is setting up model Inspection and Certification Centres in States/UTs. As of December 2021, 26 States/UTs have been covered under the scheme.

2.7.5.17 Ministry of Road Transport and Highways has tied up with Indian Institute of Technology (IIT) Madras to setup a Center of Excellence for Road Safety, to work on development of new products, capacity building, knowledge sharing, collaborations, research, and strategic initiatives focused towards improving road safety and reducing road fatalities in the Country. CoERS will assist in the creation of an ecosystem for bringing the best practices of road safety to the Country and in establishing leadership at the tri-junction of academia, industry and Government.

IV. ENFORCEMENT MEASURES

The Motor Vehicles Act

2.7.5.18 The Motor Vehicles Act, 1988 is the principal instrument through which road transport is regulated in the country. The same has been amended first time in a comprehensive way by The Motor Vehicles (Amendment) Act, 2019, passed by the Parliament and published in the

Gazette of India on 9th August 2019. The Act is expected to bring reforms in the various segments as elaborated upon in the subsequent paras:

2.7.5.19 The Act will bring reforms in the area of Road Safety, bring citizen facilitation, transparency, and reduce corruption with the help of information technology and removing intermediaries. The Act will strengthen public transport, safeguard and protect Good Samaritan and reform the insurance and compensation regime. It will allow innovation and new technologies such as driverless vehicles, to be tested in live environment and increase efficiency in research. The Act will facilitate Divyang by allowing motor vehicles to be converted to adapted vehicles with post-facto approval and facilitating license to drive adapted vehicles.

2.7.5.20 Some of the important Road Safety Provisions and Penalties are as under:

A. Strengthening Enforcement and Road Safety

a. Stricter penalties to improve deterrence effect

b. Minimum Penalty of Rs 500 as against present amount of Rs 100 for minor offences

c. Stricter penalties for Juvenile offences

d. Drunken driving -Penalty increased to Rs 10000 from present level of Rs 2000 and suspension of license

e. Impounding and suspension of License in case of over speeding, dangerous driving, drunk driving, use of unsafe vehicles, not wearing helmets, use of mobiles etc.

f. Recognizing the use of IT-enabled enforcement equipment.

g. Recognition of driver refreshing training course as a remedial measure in case of suspension of license.

h. Mandatory automated testing for fitness certification.

I. Constitution of National Road Safety Board to render advice on Road Safety and Traffic Management.

B. Speedy Assistance to Accident Victims

a. Protection of Good Samaritans who help accident victims

b. Heavy Penalties on those not giving way to Ambulances

c. Cashless treatment during golden hour

d. Faster and hassle-free provisions for compensation of Rs 2.5 lacs for grievous hurt and Rs 5 lacs for death.

e. Enhanced compensation of Rs. Two lacs in case of death and fifty thousand for grievous hurt for victims of hit and run accidents.

f. Simplification of procedures for 3rd Party Insurance and hired Driver brought under the insurance cover.

C. Simplification and citizen facilitation

a. Permitting issue of driving license anywhere in the State

b. Facilitating grant of online learning license.

c. Registration of new vehicles at the dealer's end including grant of registration number before the delivery of the vehicle is given.

d. Renewal of transport license after five years as against present provision of three years.

e. Documentation permissible in electronic form.

f. Provision for recycling of vehicles

g. Adapted vehicles for Divyang

D. Strengthening Public Transport

a. Aggregators recognized as a legal entity

b. Promote Rural Transport

c. Promote Public Transport

d. Promote last mile connectivity

e. National and State Level Transportation plans

f. States can formulate Schemes for promotion of public transport waiving the conditions in the Act.

E. Automation and Computerization

a. Promoting use of electronic forms and documents.

b. Migration from State registers of driving license and vehicle registration to National level database.

F. Empowerment of States

a. Compound offenses at amounts equal to the penalty or higher amounts

b. Impose a multiplier up to 10 to any penalty

c. Exempt the requirement of Stage Carriage in interest of rural transport

d. Exempt the requirements for promoting the last mile connectivity

e. Can authorize any other person to exercise the powers

f. Regulating pedestrians' movements and non-motorized traffic

V. Enhancing Road Safety of Citizens

Protection of Good Samaritan

2.7.5.21 The Motor Vehicles (Amendment) Act, 2019 inserted a new section 134A, viz., "Protection of Good Samaritans". This section provides that no police officer or any other person, shall compel a Good Samaritan to disclose the name, identity, address or any such other personal details: provided that the Good Samaritan may voluntarily choose to disclose his /her name.

2.7.5.22 MoRTH initiated a scheme, "Scheme for grant of Award to the Good Samaritan who has saved life of a victim of a fatal accident involving a motor vehicle by administering immediate assistance and rushing to Hospital/Trauma Care Centre within the Golden Hour of the accident to provide medical treatment". Under this scheme, Good Samaritans are incentivized, so that Good Samaritan Acts are encouraged.

VI. OTHER INITIATIVES

Electronic Monitoring and Enforcement

2.7.5.23 For provision of electronic monitoring and enforcement of Road Safety (through speed cameras, CCTVs, speed guns, dash cams, body wearable cameras etc.), rules have been notified through G.S.R. 575(E) dated 11th August 2021.

Incident Management System & Incident Management Services

2.7.5.24 The services like ambulances, patrol vehicles, cranes are deployed at every toll plaza.

National Road Safety Board (NRSB)

2.7.5.25 National Road Safety Board and its Rules has been notified on 3rd September 2021.

Supreme Court Committee on Road Safety

2.7.5.26 Regular review meetings are being conducted by the Supreme Court Committee on Road Safety, State Road Safety Committee and District Road Safety Committee. The Ministry, in coordination with field offices, ensures compliance of directions of the Supreme Court Committee on Road safety.

Integrated Road Accident Database (iRAD)

2.7.5.27 Integrated Road Accident Database (iRAD) system is a central repository for r eporting, management, c l a im processing and analysis of road accidents data to enhance road safety in the Country. The application is being developed and implemented by NIC/ NICSI and the required analytics on the data is being carried out by Indian Institute of Technology (IIT) Madras under the aegis of Ministry of Road Transport and Highways (MoRTH). It is being integrated with national databases such as CCTNS, VAAHAN, SAARTHI etc. Till now, the application has been rolled out in 34 States for live data entry of road accidents.

2.8 CONCLUSION

This chapter also consulted with important definitions related to accidents, global road safety situation, road safety in India and methodology. In the next chapter data collection will be discussed.

CHAPTER-3

Data Collection and Methodology

3.1 Introduction:

Accident Data Analysis is of paramount importance to improve safety. Accident-related information like accident Severity (Fatal Accidents, Grievous Accidents, and Simple Accidents), casualties, length of route, traffic volume, time, working day, month, type of junction, no of intersections, roadway geometry, traffic condition, driver's age etc. are needed. Not all parameters are taken into consideration because of their importunacy. If all parameters may be taken into consideration, then this study will be more correct.

This chapter comprises accident data analysis depending on Accident severity (Fatal Accidents, Grievous Accidents, and Simple Accidents), casualties, length of route, traffic volume which has greater importance than other parameters. Here discussed issues are globally position of India depending on accident severity & how much improvement or demotion within last seven years. Also discussed fatalities per 10,000 registered vehicles, fatalities per fatal accident in that route of National Highway.

3.2 Data Collection:

The WHO Report on Road Traffic Injuries for 2018 has listed Road accidents as the leading cause of death for the age group 5-29 years and a growing public health concern. To address this growing public health problem, there is a need for evidence-based research and hence the focus on relevant and reliable data on accidents.

Transport Research Wing (TRW) under the Ministry of Road Transport and Highways collects Accident Data from the State Police Departments in standardized formats as provided by the UNESCAP under the Asia Pacific Road Accident Data (APRAD) base project. These formats were revisited by the Committee of Experts on Road Safety in 2017 comprising of Experts from IIT Delhi, IIT Kharagpur, DGPs of Police of Tamil Nadu & Tripura, representatives of WHO, Ministry of Health & Family Welfare, Secretary, Ministry of Road Transport & Highways and TRW. This issue was also discussed in regional workshops conducted by various IITs in the country.

3.3 Interpretation of Data:

At present there are 21 formats (enclosed in **Appendix I**), including three additional formats added recently at the instance of the Supreme Court Committee. Information in respect of different dimensions of accidents is sought from the Nodal Officers nominated by State DGPs for the purpose of accident data collection. Most of the nodal officers nominated are at senior levels. Thus, what needs to be noted is that the information on accidents is collected in standardized formats, which are internationally acceptable and are obtained from responsible levels in the Police Departments. A brief note on the explanation of the terms used in this report is placed in **Appendix II**.

These 21 formats cover the following aspects of an accident.

a) Accident Identification Details
b) Road Related Details including related jurisdiction.
c) Details of the Vehicles Involved in Accident.
d) Drivers Details.
e) Persons other than drivers involved in Accident.

All such data is normally called out from the States in the beginning of each calendar year and full information on the same is generally received by June end /early July every year. The data received from State Governments is then aggregated based on the soft versions received and the Report brought out. It is the endeavor of TRW to bring out the Accident Report by September/October every year.

Until last year, data was called for annually from the State Governments. We have now started calling for monthly data from the States to enable us to study the impact of policy changes introduced by the Ministry such as the MVA 2019 etc. However, the system of monthly data is yet to stabilize as the data collection machinery in the State has been affected because of the COVID- 19 pandemic.

Amongst the various challenges faced by TRW are the non-receipt of information in a timely manner from the States, the need for capacity building in the police stations to understand the formats and to fill them up correctly. Workshops for capacity building of the police personnel are required for this purpose which are undertaken by Ministry of Road transport & Highways from time to time.

Separately, to bring out the report in a timely fashion, TRW is in the process of developing a software with the help of NIC at the national level wherein the States would key in the required information and there would be automatic report generation at the national level. While the software is ready, it is yet to be tested.

The challenge faced in designing this software by NIC is the way accidents data is collected in States varies and while there are some States which have very advanced software for this purpose, there are others where the process is done manually.

The upshot of the foregoing is that accident data at present is sourced from the Police Departments in India. The Police are the first responder in accidents and is considered to be the best source of data even though there are other sources like Hospitals and State Transport Departments. Even internationally, as per WHO's Global Status Report, almost 50% of the Reporting countries sourced their data from police with 7% sourcing from Health Departments and another 11% sourcing the same from Transport Departments.

3.4 Methodology

Amongst the critique of the existing system of collecting road accident data are as below:

(I) There is a variation in respect of accident data reported by the Police/Hospitals and the Transport Departments at the District/State and National level and consequently there is a need to integrate and link the above accident databases. This is also in line with the current thinking that there is a need for a "Systemic solution" to be found for road safety, requiring simultaneous and coordinated action by all stakeholders like Police, Health, Hospitals, Blood Banks, Trauma Care, Transport Department, Insurance etc. This systemic solution gained currency in the 90's when some Nordic countries, found it to be an effective solution helping them to successfully reduce their accidents and fatalities.

(ii) There is a possible under reporting of fatalities in police reported data because the deaths that take place in hospitals after 30 days will not get reported if the police and hospital data are not linked. Also, because under IPC, any crime or offence has to be lodged against a human being and there cannot be any charge against a road, vehicle or any other object and hence fatalities in which the human being causing the accident cannot be identified may go unreported.

(iii) That the data collected by Police is not evidence based as the policeman who goes to the spot would normally record the data after returning depending on his memory.

(iv) That the accident data recorded is not dynamic and does not get updated on a real time basis.

(v) That the data reported by the Police is often limited to the questions asked in TRW formats.

(vi) That the data collected by Police is often affected by the value judgement and biases of the policeman.

(vii) That the data collected often does not provide inputs on the real time condition of the road to enable the road engineers to take the maintenance work.

It is to address the above criticisms that Ministry of Road Transport & Highways (MoRTH) has formulated the Integrated Road Accidents (IRAD)Project under World Bank Assistance. Technical support for the project is being rendered by IIT Madras and NICSI. In the first phase, IRAD is to be implemented in 6 States namely Tamil Nadu, Rajasthan, Karnataka, Madhya Pradesh, Bihar and Uttar Pradesh.

Basically, the IRAD project involves capture of road accidents and geotagging of the same through a tablet provided to the first responder which is the police. The software of the project would provide back-end analytics, as well as simultaneous linkage with multiple users (as in Hospitals, Ambulance, Blood Banks, Vahan, Sarathi, NHAI, PWD, Courts, Insurance Companies etc.), near real time syncing and updating of data base as well as development of a mobile application for Road Accidents. The project is expected to be launched shortly and is in line with the systemic solutions on accident collection in place internationally.

3.5 Conclusion

A review of these International best practices (EU, USA, Sweden, Australia, New Zealand, Italy and South Korea) shows the following:

a. Traffic crash data recording has traditionally been the responsibility of the police in all countries.

b. Recognizing the limitations of data collected by police, many countries have established specialized institutions for creating reliable traffic safety database which can be used by policy makers at different levels.

c. Usually a standardized format has been recommended in most countries. However, the level of details and accuracy of recording crash details varies in different countries with different number of variables reported upon.

d. Most countries have linked police data with other data sources. However, the degree of integration varies across countries.

Table-3.1: . A study of the framework for accident data collection internationally is summarized in the table 10.1 below:

Country wise	EU	US	Australia	New Zealand	Italy	Korea	Sweden
Agency for Road Accident Data Collection	Available since 1991 in Community Road Accident Database (CARE) – as collected by Member States- is not always compatible. EU (CADaS) consisting of a minimum set of standardized data elements has been developed. The CADaS promotes comparable crash data to be available in Europe.	**Various Accident Reporting Data Systems in US:** • Fatality Analysis Reporting System (FARS) was created by National Highway Traffic Safety Administration (NHTSA) in USA in 1975, and is maintained by National Center for Statistics and Analysis (NCSA). It provides data about fatal crashes involving all types of vehicles. • IRTAD (International Road Traffic and Accident Database) IRTAD brings out an annual report on overview of road safety performance in 32 member and observer countries. Most of IRTAD data can be found in IRTAD's Road Safety Annual Reports. Online access to the full IRTAD database is available for subscribers via the OECD statistics portal: • The U.S. Census Bureau • The Highway Safety Information System (HSIS) • The NASS-GES • The NASS-CDS • The State Data System (SDS • The Highway Safety Information System (HSIS)	Each Australian State and Territory has a separate crash analysis system. Nat level data Published by the Bureau of Infrastructure, Transport and Regional Economics. The Australian Road Deaths Database (ARDD) is maintained and published by BITRE (Bureau of Infrastructure, Transport and Regional Economics). It commenced in 1989 and is updated on a monthly basis.	NZ Transport Agency. (Road features & Traffic data from RAMM database)	National Institute of Statistics (ISTAT) and contains only information on injury crashes. The national database is based on information collected on the scene by Highway Police, Local Police, Police, and Carabinieri (an army corp	Korea Road Traffic Authority (KoROAD), designed the Traffic Accident Analysis System (TAAS)	Swedish Traffic Accident Data Acquisition (STRADA) STRADA (Swedish Traffic Accident Data Acquisition) is a national information system containing data on traffic accidents and injuries occurring in the Swedish road transport system. The information comes from the police and the medical care services.

table continued...

Note: The Data for the years 2017, 2018, 2019 and 2020 of Tamil Nadu is undergoing revision.

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Country wise	EU	US	Australia	New Zealand	Italy	Korea	Sweden
Variables Studied	73 variables and 471 values	100 variables Integrated data- The data collected within FARS do not include any personal identifying information, such as names, addresses, or social security numbers. Thus, any data kept in FARS data fully conforms to the Privacy Act.			Contains 189 variables. Access to the database is restricted	TAAS studies 35 different coded elements	
Systemic Analysis			Access to detailed Police crash reports is restricted to varying degree of hospital and ambulance data linked to the police reports in all of the jurisdictions, due to privacy reasons			Data base of Police, Insurance Companies & mutual aid associations is Integrated.	The data in STRADA is integrated across police and hospitals. By combining data from two sources, it is possible to get better data especially of pedestrians, cyclists and moped drivers which is maintained by hosptals but not by police. provided.
System components		An electronic data file is used by data analyst to interpret and code data. Annual FARS data files are available for 1975 through 2016.	Need for integrating the various systems.	GIS based analysis; collision diagrams, access to original police reports	The national crash database is not linked to road and traffic database, which do not exist even though they are required by the Road Code issued in 1992.	TAAS consists of Input Management System, a Statistical Analysis System, a Spatial Analysis System, and a Web-service System	

Note: The Data for the years 2017, 2018, 2019 and 2020 of Tamil Nadu is undergoing revision.

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CHAPTER-4

TRENDS OF URBAN AND RURAL AREA ACCIDENTS

4.1 Introduction:

4.1.1 As per 2011 census, 68.8 per cent of India's population lives in rural area and while 31.2 per cent lives in urban areas. Urban areas have higher population density and more vehicular traffic and therefore more incidences of road accidents as compared to rural areas.

Social and economic activities and travel during a year and in a day have some seasonality and pattern which affects road traffic volume and, perhaps, incidences of accidents as well. This section presents a summary of the related data for 2021 furnished by the States and UTs.

ROAD ACCIDENTS IN URBAN AND RURAL AREAS

4.2 During 2021, 1,52,586 (37%) road accidents were reported in urban areas and 2,59,846 (63%) in rural areas. In respect of fatal accidents, a total of 43,851 (30.8%) accidents were reported in urban areas and 98,312 (69.2%) accidents in rural areas. In urban area accidents killed 47,235 (30.7%) persons whereas in rural areas the number reported was 1,06,737 (69.3%). As compared to 2020, the share of urban areas in accidents and fatalities have come down in 2021, whereas the same has increased for rural areas (Table 4.1). About 35 percent of the injuries were in the urban area whereas 65 percent of injuries took place in the rural area. The higher share of rural areas in total fatalities reveals comparatively inadequate trauma care facilities in rural areas as compared to urban areas. State-wise details are given at **Annexure 7.**

Table 4.1: Number of road accidents, persons killed and injured in Rural and Urban areas- 2015 to 2021

Year	Urban Area			Rural Area			All India		
	Accidents	Killed	Injured	Accidents	Killed	Injured	Accidents	Killed	Injured
2015	2,31,894 (46.25)	56,978 (38.99)	2,04,545 (40.89)	2,69,529 (53.75)	89,155 (61.01)	2,95,734 (59.11)	5,01,423	1,46,133	5,00,279
2016	2,16,813 (45.11)	57,840 (38.36)	2,12,346 (42.93)	2,63,839 (54.89)	92,945 (61.64)	2,82,278 (57.07)	4,80,652	1,50,785	4,94,624
2017	1,95,723 (42.1)	51,334 (34.71)	1,83,703 (39)	2,69,187 (57.9)	96,579 (65.29)	2,87,272 (61.00)	4,64,910	1,47,913	4,70,975
2018	1,90,956 (40.89)	51,379 (33.93)	1,76,785 (37.66)	2,76,088 (59.11)	1,00,038 (66.07)	2,92,633 (62.34)	4,67,044	1,51,417	4,69,418
2019	1,78,062 (39.66)	49,715 (32.9)	1,66,608 (36.91)	2,70,940 (60.34)	1,01,398 (67.10)	2,84,753 (63.09)	4,49,002	1,51,113	4,51,361
2020	1,40,313 (38.32)	42,088 (31.95)	1,25,045 (35.90)	2,25,825 (61.68)	89,626 (68.05)	2,23,234 (64.10)	3,66,138	1,31,714	3,48,279
2021	1,52,586 (37.6)	47,235 (30.7)	1,34,719 (35.0)	2,59,846 (63.0)	1,06,737 (69.3)	2,49,729 (65.0)	4,12,432	1,53,972	3,84,448

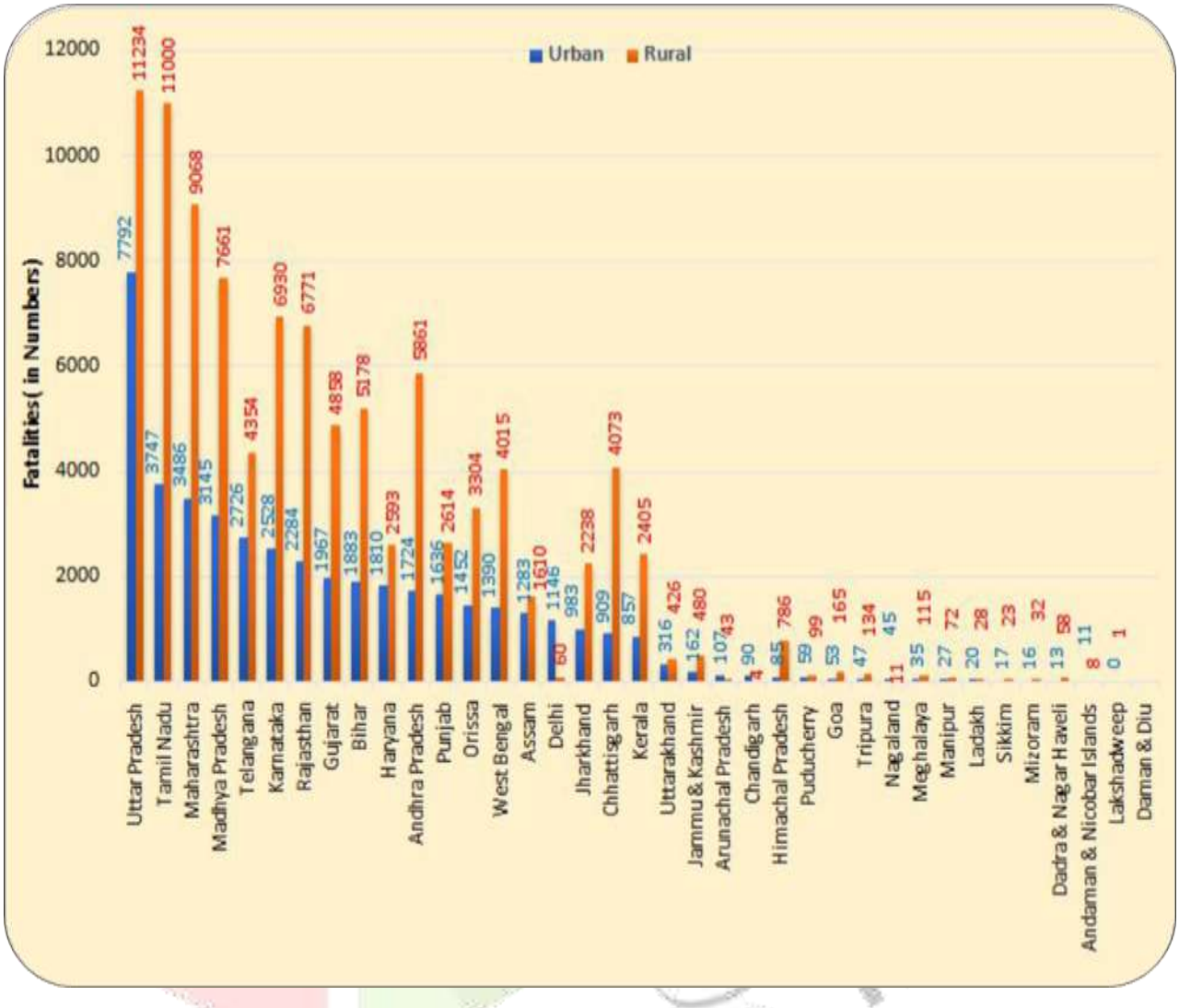
Note: Figures in parenthesis indicate the % share in total

4.3 The share of Urban Areas in number of accidents and persons killed has declined as compared to Rural Areas, whose share has increased over the period 2016 to 2021 (chart 4.1) Urban areas shared 37 percent of accidents whereas corresponding share of Rural area as at 63 per cent in 2021.Similarly, 31 percent of total fatality took place in Urban area and 69 percent of same in rural area.

Chart 4.1: Trends of Accident and Persons Killed in Rural and Urban Areas

4.4 State wise distribution of fatal accidents during 2021 presented in the Chart 4.2 depicts a smaller number of fatal accidents recorded in urban areas in all States except for Delhi and Assam. Uttar Pradesh topped the list with 11,234 rural and 7,792 urban fatal accidents followed by Tamil Nadu (11,000 rural and 3,747 urban fatal accidents) and Maharastra (9,068 rural and 3,486 urban fatal accidents). Top 10 States share about 71.0 percent of fatal road accidents (22% in rural and 49% in urban area) during 2021. Details are given at **Annexure 8.**

Chart 4.2: State wise and Rural Urban wise distribution of fatal accidents during 2021



TRENDS IN MONTH-WISE DISTRIBUTION OF ROAD ACCIDENTS

4.5 The month wise data on road accidents presented in Table 4.2 reveals during the last five years (2017 to 2021), the months which recorded maximum number of accidents and accident deaths were May, June, March, however, in 2020 these months reported comparably less number of accidents, which may be due to Nationwide lock down and subsequent restrictions imposed on movements. The month-wise distribution in Chart 4.2 depicts both road accidents and fatalities are comparably low during April to July and then rises during August to December. Maximum number of accidents reported in the month of January followed by December, November, October (Chart 4.3). The peak month for road related deaths was in January and March both followed by December, November and February. . The state wise data are given at **Annexure 9.**

Table 4.2: Trends of month wise distribution of Road Accidents and Persons Killed during 2017-2021

Year	2017		2018		2019		2020		2021	
Month	**Accident**	**Killed**	**Accident**	**Killed**	**Accident**	**Killed**	**Accident**	**Killed**	**Accident**	**Killed**
JAN	39,824	12,416	41,780	13,196	41,130	13,688	39,527	12,736	40,305	14,575
FEB	36,742	11,656	38,238	12,030	37,280	12,577	39,055	13,132	37,339	13,864
MAR	40,394	13,013	40,640	13,205	39,706	13,587	31,967	11,006	39,491	14,579
APR	38,966	12,665	40,841	13,420	37,777	13,112	7,855	3,172	31,240	12,226
MAY	42,799	14,417	42,730	14,368	41,490	14,644	19,924	7,786	22,530	10,338
JUNE	39,397	12,891	39,176	13,249	39,869	13,983	27,442	10,544	29,142	11,985
JULY	36,380	11,183	36,991	11,742	36,190	11,875	27,264	10,081	32,627	12,275
AUG	36,294	11,116	35,845	11,053	34,096	10,740	29,319	10,762	33,781	12,109
SEPT	36,093	10,983	35,387	10,867	32,059	10,148	31,042	11,160	33,269	11,553
OCT	38,527	12,402	38,238	12,172	35,398	11,595	34,918	12,405	36,354	12,763
NOV	39,701	12,515	38,417	12,710	36,936	12,504	38,089	14,022	37,581	13,623
DEC	39,793	12,656	38,761	13,405	37,071	12,660	39,736	14,908	38,773	14,082
Total	**4,64,910**	**1,47,913**	**4,67,044**	**1,51,417**	**4,49,002**	**1,51,113**	**3,66,138**	**1,31,714**	**4,12,432**	**1,53,972**

Chart 4.3 The month-wise distribution of number of Accidents and Fatalities during 2021

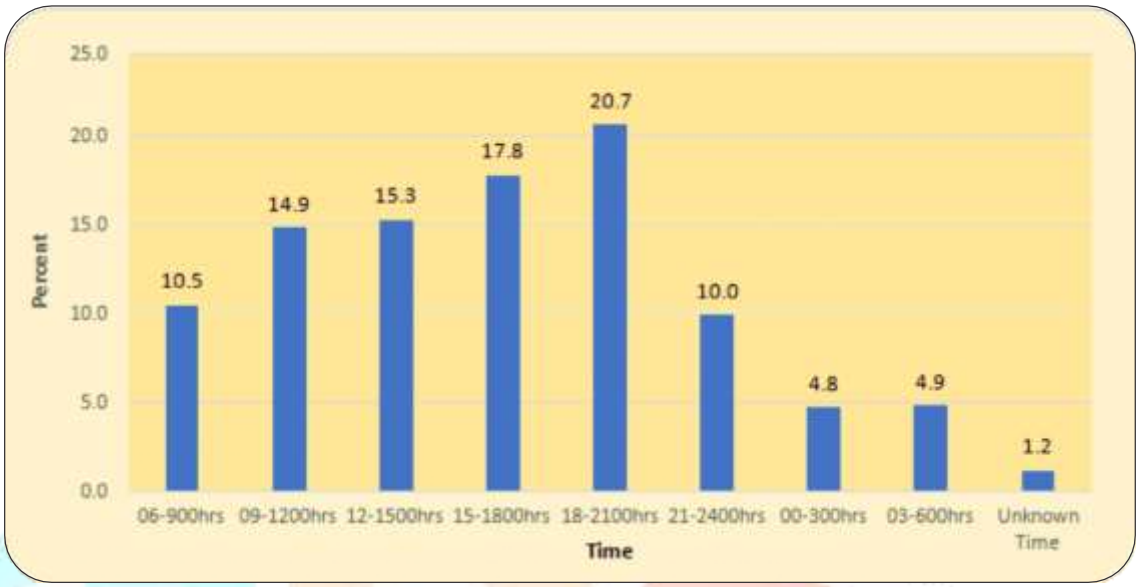
TRENDS IN TIME INTERVAL-WISE DISTRIBUTION OF ROAD ACCIDENTS

4.6 In 2021, the time interval between 18:00 - 21:00 hrs (Night) recorded maximum number of road accidents, accounting for 20.7 per cent of the total accidents in the country and this is in line with the pattern seen over the past five years (Table 4.3). The second highest time interval of a day was between 15:00 - 18:00 hrs (Day) constituting for 17.8 per cent of road accidents. As per the data, afternoon and evening times are the most dangerous times to be on the road. The time interval of 0.00 hrs to 6:00 AM has the least number of accidents (Refer Table 4.3 and Chart 4.4). State-wise details of time interval-wise road accidents are given at **Annexure 10.**

Table 4.3: Number of Road Accidents by time interval of day during 2017-2021

Time	2017		2018		2019		2020		2021	
	Number of Accidents	% share in total accidents	Number of Accidents	% share in total accidents	Number of Accidents	% share in total accidents	Number of Accidents	% share in total accidents	Number of Accidents	% share in total accidents
06.00 to 9.00 hrs (Day)	51,551	11.1	51,489	11.0	49,165	10.3	39,435	10.8	43,370	10.5
09.00 to 12.00 hrs (Day)	71,426	15.4	70,211	15.0	66,767	14.9	54,496	14.9	61,387	14.9
12.00 to 15.00 hrs (Day)	71,594	15.4	71,392	15.3	67,623	15.1	56,090	15.3	63,139	15.3
15.00 to 18.00 hrs (Day)	82,456	17.7	81,619	17.5	78,513	17.5	65,263	17.8	73,467	17.8
18.00 to 21.00 hrs (Night)	85,686	18.4	86,986	18.6	86,452	19.3	73,607	20.1	85,179	20.7
21.00 to 24.00 hrs (Night)	49,567	10.7	49,162	10.5	48,370	10.8	36,432	10.0	41,092	10.0
00.00 to 3.00 hrs (Night)	25,050	5.4	25,407	5.4	23,573	5.3	18,003	4.9	19,682	4.8
03.00 to 6.00 hrs (Night)	27,580	5.9	26,571	5.7	25,187	5.6	18,921	5.2	20,120	4.9
Un-known Time	NA	NA	4,207	0.9	3,352	0.7	3,891	1.1	4,996	1.2
Total 24 hrs	**4,64,910**	**100**	**4,67,044**	**100**	**4,49,002**	**100**	**3,66,138**	**100**	**4,12,432**	**100**

Chart 4.4: Road Accidents by time interval of day during 2021 (percentage share)



CHAPTER- 5

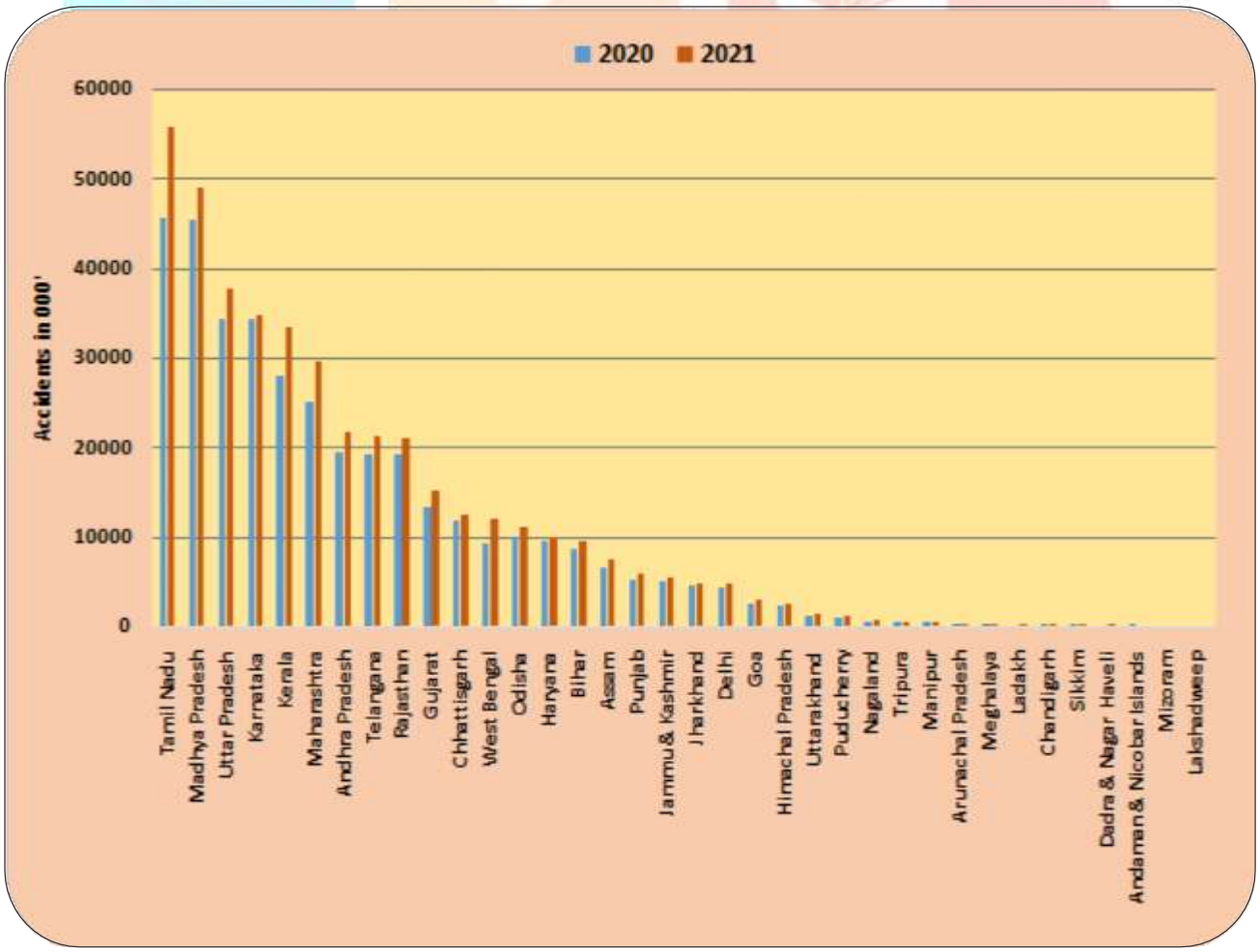
INTER STATE COMPARISON

5.1 This section examines the performance of States and UTs in respect of number of road accidents and number of persons killed during the calendar year 2021. The absolute number of road accidents and fatalities across States and Union Territories (UTs) varies widely and depends inter-alia on the size of the states/UTs in terms of population, road length, road transport, economic activity in the state/UT, quality of safety related infrastructure and enforcement etc. in place.

State wise Profile of Road Accidents

5.2. Total number of accidents increased from 3,66,138 in 2020 to 4,12,432 in 2021, registered an increase of 12.6 percent on average over same period last year. In chart 5.1, all States/UTs other than Manipur and A& N Island, recorded a greater number of accidents in 2021 compared to same period in 2020.

Chart: 5.1 State/UT- wise distribution of number of accidents during 2020 and 2021



5.3 State wise data on number of accidents during the period 2017 to 2021 along with the ranking of States/UTs in total accidents in 2017-21 is presented in table 5.1.

Table: 5.1: State wise distribution of number of Road accidents during 2017 to 2021

S. No.	States/UTs	Total Number of Road Accidents occurred in States and UTs					Absolute Change in 2021 over 2020	% change in 2021 over 2020	Rank of State /UTs in Total Number of Road Accidents				
		2017	2018	2019	2020	2021			2017	2018	2019	2020	2021
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Andhra Pradesh	25,727	24,475	21,992	19,509	21,556	2,047	10.5	7	7	8	7	7
2	Arunachal Pradesh	241	277	237	134	283	149	111.2	30	30	30	32	28
3	Assam	7,170	8,248	8,350	6,595	7,411	816	12.4	16	16	16	16	16
4	Bihar	8,855	9,600	10,007	8,639	9,553	914	10.6	15	15	15	15	15
5	Chhattisgarh	13,563	13,864	13,899	11,656	12,375	719	6.2	11	11	11	11	11
6	Goa	3,917	3,709	3,440	2,375	2,849	474	20.0	21	21	21	21	21
7	Gujarat	19,081	18,769	17,046	13,398	15,186	1,788	13.3	10	10	10	10	10
8	Haryana	11,258	11,238	10,944	9,431	9,933	502	5.3	13	14	13	13	14
9	Himachal Pradesh	3,114	3,110	2,873	2,239	2,404	165	7.4	22	22	22	22	22
10	Jharkhand	5,198	5,394	5,217	4,405	4,728	323	7.3	20	20	20	19	19
11	Karnataka	42,542	41,707	40,658	34,178	34,647	469	1.4	3	4	5	4	4
12	Kerala	38,470	40,181	41,111	27,877	33,296	5,419	19.4	5	5	4	5	5
13	Madhya Pradesh	53,399	51,397	50,669	45,266	48,877	3,611	8.0	2	2	2	2	2
14	Maharashtra	35,853	35,717	32,925	24,971	29,477	4,506	18.0	6	6	6	6	6
15	Manipur	578	601	672	432	366	-66	-15.3	26	25	25	27	27
16	Meghalaya	675	399	482	214	245	31	14.5	25	28	27	28	29
17	Mizoram	68	53	62	53	69	16	30.2	34	35	35	34	35
18	Nagaland	531	430	358	500	746	246	49.2	27	27	28	25	25
19	Odisha	10,855	11,262	11,064	9,817	10,983	1,166	11.9	14	13	12	12	13
20	Punjab	6,273	6,428	6,348	5,203	5,871	668	12.8	18	18	17	17	17
21	Rajasthan	22,112	21,743	23,480	19,114	20,951	1,837	9.6	9	9	7	9	9
22	Sikkim	196	180	162	138	155	17	12.3	31	32	32	31	32
23	Tamil Nadu	65,562	63,920	57,228	45,484	55,682	10,198	22.4	1	1	1	1	1
24	Telangana	22,484	22,230	21,570	19,172	21,315	2,143	11.2	8	8	9	8	8
25	Tripura	503	552	655	466	479	13	2.8	28	26	26	26	26
26	Uttarakhand	1,603	1,468	1,352	1,041	1,405	364	35.0	24	24	24	23	23
27	Uttar Pradesh	38,783	42,568	42,572	34,243	37,729	3,486	10.2	4	3	3	3	3
28	West Bengal	11,631	12,705	10,158	9,180	11,937	2,757	30.0	12	12	14	14	12
29	A & N Islands	189	254	230	141	115	-26	-18.4	32	31	31	30	34
30	Chandigarh	342	316	305	159	208	49	30.8	29	29	29	29	31
31	D & N Haveli	67	80	68	100	140	40	40.0	35	33	34	33	33
32	Daman & Diu	79	76	69			0		33	34	33		
33	Delhi	6,673	6,515	5,610	4,178	4,720	542	13.0	17	17	19	20	20
34	J & K#	5,624	5,978	5,796	4,860	5,452	592	12.2	19	19	18	18	18
35	Ladakh	0	NA	NA	NA	236	236		37	NA	NA	NA	30
36	Lakshadweep	1	3	1	1	4	3	300.0	36	36	36	35	36
37	Puducherry	1,693	1,597	1,392	969	1,049	80	8.3	23	23	23	24	24
Total (All India)		**4,64,910**	**4,67,044**	**4,49,002**	**3,66,138**	**4,12,432**	**46,294**	**12.6**					

 # Includes Ladakh from 2017 to 2020

Top 10 States in Number of Accident in 2021

5.4. Top 10 States presented in the Table 5.2 has been selected based on the number of road accident reported by States/UTs in 2021. The same set of States which constituted top in 2019 and 2020 constitutes the top 10 States in 2021. Tamil Nadu maintains its top position for the fourth consecutive year in 2021 with 55682 (13.5%) accidents followed by Madhya Pradesh with 48,877 (11.8%), Uttar Pradesh with 37, 729 (9.1%) Karnataka with 34,647, (8.4%) and Kerala with 33,296 (8.1%) accidents.

5.5 Top ten States listed in the Table 5.2 accounted for a combined share of 77.3 % of total road accidents in India during 2021. Details on State/UT wise distribution of total road accidents is given at **Annexure 1.**

Table 5.2: Number of road accidents in top 10 States and their respective percentage shares in total accidents during 2018-2021

States	2018	% share in Total	2019	% share in Total	2020	% share in Total	2021	% share in Total
Tamil Nadu	63,920	13.7	57,228	12.7	45,484	12.4	55,682	13.5
Madhya Pradesh	51,397	11	50,669	11.3	45,266	12.4	48,877	11.9
Uttar Pradesh	42,568	9.1	42,572	9.5	34,243	9.4	37,729	9.1
Karnataka	41,707	8.9	40,658	9.1	34,178	9.3	34,647	8.4
Kerala	40,181	8.6	41,111	9.2	27,877	7.6	33,296	8.1
Maharashtra	35,717	7.6	32,925	7.3	24,971	6.8	29,477	7.1
Andhra Pradesh	24,475	5.2	21,992	4.9	19,509	5.3	21,556	5.2
Telangana	22,230	4.8	21,570	4.8	19,172	5.2	21,315	5.2
Rajasthan	21,743	4.7	23,480	5.2	19,114	5.2	20,951	5.1
Gujarat	18,769	4.0	17,046	3.8	13,398	3.7	15,186	3.7
Total	3,62,707	77.7	3,49,251	77.8	2,83,212	77.4	3,18,716	77.3
All India	**4,67,044**		**4,49,002**		**3,66,138**		**4,12,432**	

Comparison amongst the Northeastern States in Number of Accidents in 2021

5.6 Despite some marginal fluctuations, the percentage share of Northeastern States in total accidents has been constant during last five years i.e. 2017 to 2021 (Table 5.3). Among the Northeastern States, Assam recorded highest number of accidents during 2017 to 2021.

Nagaland, with 746 accidents, is in second place followed by Tripura (479) and Manipur (366). Number of accidents have been increasing in 2021 over 2020 in all the Northeastern states except Manipur. Manipur has 66 smaller number of accidents in 2021 over 2020.

Table 5.3: Number of Road Accidents in Northeastern States during 2017-2021

North East States	2017		2018		2019		2020		2021	
	Accidents	% Share in all India	Accidents	% Share in all India	Accidents	% Share in all India	Accidents	% Share in all India	Accidents	% Share in all India
Arunachal Pradesh	241	0.05	277	0.06	237	0.05	134	0.04	283	0.07
Assam	7,170	1.54	8,248	1.77	8,350	1.86	6,595	1.80	7,411	1.8
Manipur	578	0.12	601	0.13	672	0.15	432	0.12	366	0.09
Meghalaya	675	0.15	399	0.09	482	0.11	214	0.06	245	0.06
Mizoram	68	0.01	53	0.01	62	0.01	53	0.01	69	0.02
Nagaland	531	0.11	430	0.09	358	0.08	500	0.14	746	0.18
Sikkim	196	0.04	180	0.04	162	0.04	138	0.04	155	0.04
Tripura	503	0.11	552	0.12	655	0.15	466	0.13	479	0.12
Total North East	**9,962**		**10,740**		**10,978**		**8,532**		**9,754**	
Total All India	**4,64,910**		**4,67,044**		**4,49,002**		**3,66,138**		**4,12,432**	
Share of North East in All India	**2.14**		**2.30**		**2.44**		**2.33**		**2.36**	

Comparison amongst the Union Territories (UT) in Number of Accidents in 2021

5.7 Among Union Territories, Jammu & Kashmir has recorded highest number of accidents (5452) during 2021, followed by Delhi(4720) and Puducherry (1049).

(Table 5.4). Union Territories presently account for 2.9 percent of the total road accidents.

Table 5.4: Number of Road Accidents in Union Territories during 2017-2021

UTs	2017		2018		2019		2020		2021	
	Accidents	% Share in all India	Accidents	% Share in all India	Accidents	% Share in all India	Accidents	% Share in all India	Accidents	% Share in all India
A & N Islands	189	0	254	0.1	230	0.1	141	0	115	0
Chandigarh	342	0.1	316	0.1	305	0.1	159	0	208	0.1
D & N Haveli	67	0	80	0	68	0	100	0	140	0
Daman & Diu	79	0	76	0	69	0		0		0
Delhi	6,673	1.4	6,515	1.4	5,610	1.2	4,178	1.1	4,720	1.1
J&K #	5,624	1.2	5,978	1.3	5,796	1.3	4,860	1.3	5,452	1.3
Ladakh	NA		NA		NA		NA		236	0.1
Lakshadweep	1	0	3	0	1	0	1	0	4	0
Puducherry	1,693	0.4	1,597	0.3	1,392	0.3	969	0.3	1,049	0.3
Total UTs	**14,668**		**14,819**		**13,471**		**10,408**		**11,924**	
Total All India	**4,64,910**		**4,67,044**		**4,49,002**		**3,66,138**		**4,12,432**	
Share of UTs in all India	**3.2**		**3.2**		**3**		**2.8**		**2.9**	

 # Includes Ladakh for the period from 2017 to 2020.

Road Accidents on National Highways

5.8 Tamil Nadu maintains its top position in 2021 by contributing 13.1 per cent of total road accident on National Highways in the country followed by Uttar Pradesh (11.3%) and Karnataka (8.9) and Bihar in the bottom (10th position) with a share of 3.4 per cent (Table 5.5). Top Ten States together accounted for more that 74 percent of accidents on NH and share of National Highways in total accidents has decreased during 2021 over 2020.

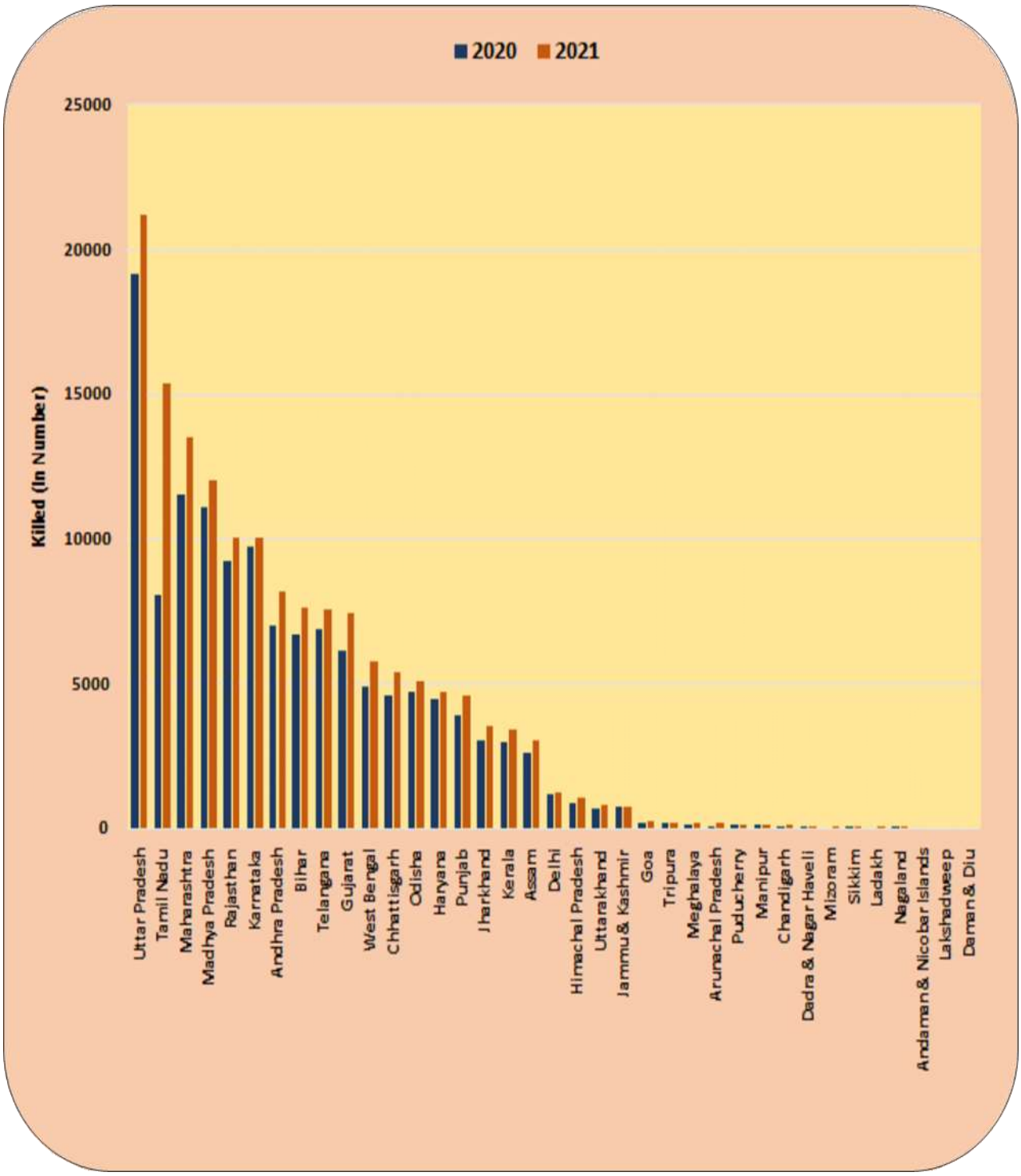
Table 5.5: Number of road accidents on National Highways in top 10 States during 2018-2021

S. No.	States	2018		2019		2020		2021	
		Accidents	% Share in total NH	Accidents	% Share in total NH	Accidents	% Share in total NH	Accidents	% Share in total NH
1	Tamil Nadu	19,583	13.9	17,633	12.9	15,269	13.1	16,869	13.1
2	Uttar Pradesh	16,198	11.5	16,181	11.8	13,695	11.8	14,540	11.3
3	Karnataka	13,638	9.7	13,363	9.7	11,230	9.6	11,462	8.9
4	Madhya Pradesh	9,967	7.1	10,440	7.6	9,866	8.5	11,030	8.6
5	Andhra Pradesh	8,122	5.8	7,682	5.6	7,167	6.2	8,241	6.4
6	Kerala	9,161	6.5	9,459	6.9	6,594	5.7	8,048	6.2
7	Maharashtra	9,355	6.6	8,360	6.1	6,501	5.6	7,501	5.8
8	Telangana	6,487	4.6	7,352	5.4	6,820	5.9	7,214	5.6
9	Rajasthan	6,726	4.8	6,883	5.0	5,764	4.9	6,424	5.0
10	Bihar	4,016	2.9	4,526	3.3	4,101	3.5	4,349	3.4
Total of Top 10 States		**1,03,253**	**73.3**	**1,01,879**	**74.3**	**87,007**	**74.7**	**95,678**	**74.3**
Total NH		**1,40,843**		**1,37,191**		**1,16,496**		**1,28,825**	
All India Total		**4,67,044**		**4,49,002**		**3,66,138**		**4,12,432**	
% Share of NH in Total		**30.2**		**30.6**		**31.8**		**31.2**	

STATE WISE PROFILE OF FATALITIES

5.9 The total number of accident death increased from 1,31,714 in 2020 to 1,53,972 in 2021, registered an increase of 16.9 percent on average over previous year. All States except Puducherry and Manipur recorded an increase in fatalities during 2021 compared to same period in 2020.

Chart: 5.2: State wise distribution of number of accident deaths during 2020 to 2021



5.10. State/UT-wise data on number of accident-related deaths along with state rankings in terms of accident-related deaths during the period from 2017 to 2021 is presented in Table 5.6 below.

Table 5.6: State/UT- wise number of persons killed in accidents and ranking in

accident related deaths during 2017-2021

Includes Ladakh from 2017 to 2020

S. No.	States/UTs	State/UT-wise Total Number of Persons Killed in Road Accidents					%change in 2021 over 2020	Rank of States/UTs in Total Number of Persons Killed in Road Accidents				
		2017	2018	2019	2020	2021		2017	2018	2019	2020	2021
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Andhra Pradesh	8,060	7,556	7,984	7,039	8,186	16.3	7	8	7	7	7
2	Arunachal Pradesh	110	175	127	73	157	115.1	28	27	28	28	26
3	Assam	2,783	2,966	3,208	2,629	3,036	15.5	18	18	18	18	18
4	Bihar	5,554	6,729	7,205	6,699	7,660	14.3	11	9	9	9	8
5	Chhattisgarh	4,136	4,592	5,003	4,606	5,371	16.6	15	15	14	13	12
6	Goa	328	262	297	223	226	1.3	23	23	23	23	23
7	Gujarat	7,289	7,996	7,390	6,170	7,452	20.8	8	7	8	10	10
8	Haryana	5,120	5,118	5,057	4,507	4,706	4.4	12	13	13	14	14
9	Himachal Pradesh	1,203	1,208	1,146	893	1,052	17.8	20	20	20	20	20
10	Jharkhand	3,256	3,542	3,801	3,044	3,513	15.4	17	17	17	16	16
11	Karnataka	10,609	10,990	10,958	9,760	10,038	2.8	4	4	4	4	6
12	Kerala	4,131	4,303	4,440	2,979	3,429	15.1	16	16	16	17	17
13	Madhya Pradesh	10,177	10,706	11,249	11,141	12,057	8.2	6	5	3	3	4
14	Maharashtra	12,264	13,261	12,788	11,569	13,528	16.9	3	2	2	2	3
15	Manipur	136	134	156	127	110	-13.4	27	28	26	27	28
16	Meghalaya	182	182	179	144	187	29.9	25	26	25	26	25
17	Mizoram	60	45	48	42	56	33.3	31	32	32	33	31
18	Nagaland	41	39	26	53	55	3.8	33	33	34	30	34
19	Odisha	4,790	5,315	5,333	4,738	5,081	7.2	13	12	12	12	13
20	Punjab	4,463	4,740	4,525	3,898	4,589	17.7	14	14	15	15	15
21	Rajasthan	10,444	10,320	10,563	9,250	10,043	8.6	5	6	5	5	5
22	Sikkim	78	85	73	47	56	19.1	30	30	30	32	31
23	Tamil Nadu	16,157	12,216	10,525	8,059	15,384	90.9	2	3	6	6	2
24	Telangana	6,596	6,603	6,964	6,882	7,557	9.8	9	10	10	8	9
25	Tripura	161	213	239	192	194	1	26	25	24	24	24
26	Uttarakhand	942	1,047	867	674	820	21.7	21	21	22	22	21
27	Uttar Pradesh	20,124	22,256	22,655	19,149	21,227	10.9	1	1	1	1	1
28	West Bengal	5,769	5,711	5,500	4,927	5,800	17.7	10	11	11	11	11
29	A & N Islands	21	19	20	14	20	42.9	35	35	35	34	35
30	Chandigarh	107	98	104	53	96	81.1	29	29	29	30	29
31	D & N Haveli	43	54	49	64	76	18.8	32	31	31	29	30
32	Daman & Diu	36	35	28				34	34	33	35	
33	Delhi	1,584	1,690	1,463	1,196	1,239	3.6	19	19	19	19	19
34	J & K #	926	984	996	728	774	6.3	22	22	21	21	22
35	Ladakh	NA	NA	NA	NA	56		NA	NA	NA	NA	31
36	Lakshadweep	0	1	0	0	1		36	36	36	35	36
37	Puducherry	233	226	147	145	140	-3.4	24	24	27	25	27
	Total (all India)	**1,47,913**	**1,51,417**	**1,51,113**	**1,31,714**	**1,53,972**	**16.9**					

TOP 10 STATES IN NUMBER OF FATALITIES

5.11 Top 10 State in the Table 5.7 has been selected based on the number of accident deaths reported by States/UTs during 2021. The composition of 10 States is largely same with that of 2018, 2019 and 2020. Uttar Pradesh recorded the highest share i.e. 13.8% of accident death (21,227) followed by Tamil Nadu with share of 10 % (15 , 384 killed), Maharashtra with of 8.8% (13,528 killed), and Madhya Pradesh with share of 7.8% (12,057 killed). The top 10 States accounted for a combined share of 73.5 % of road accidents death in 2021. In terms of percentage change of accident related deaths over previous year, Tamil Nadu with 90.9% and Gujarat with 20.8% growth over previous year are above than the national average of 16.9%. Details of State/UT wise distribution of total road accident deaths is given in **Annexure 2.**

Table 5.7: Number of fatalities in top 10 States during 2017-2021

States	2017		2018		2019		2020		2021	
	Persons Killed	% Change	Persons Killed	% Change	Persons Killed	% Change	Persons Killed	% Change	Persons Killed	% Change
Uttar Pradesh	20124 (13.6)	4.2	22256 (14.7)	10.6	22655 (15.0)	1.8	19149 (14.5)	-15.5	21227 (13.8)	10.9
Tamil Nadu	16157 (10.9)	-6.2	12216 (8.1)	-24.4	10525 (7.0)	-13.8	8059 (6.1)	-23.4	15384 (10.0)	90.9
Maharashtra	12264 (8.3)	-5.2	13261 (8.8)	8.1	12788 (8.5)	-3.6	11569 (8.8)	-9.5	13528 (8.8)	16.9
Madhya Pradesh	10177 (6.9)	5.5	10706 (7.1)	5.2	11249 (7.4)	5.1	11141 (8.5)	-1.0	12057 (7.8)	8.2
Rajasthan	10444 (7.1)	-0.2	10320 (6.8)	-1.2	10563 (7.0)	2.4	9250 (7.0)	-12.4	10043 (6.5)	8.6
Karnataka	10609 (7.2)	-4.7	10990 (7.3)	3.6	10958 (7.3)	-0.3	9760 (7.4)	-10.9	10038 (6.5)	2.8
Andhra Pradesh	8060 (5.4)	-5.6	7556 (5.0)	-6.3	7984 (5.3)	5.7	7039 (5.3)	-11.8	8186 (5.3)	16.3
Bihar	5554 (3.8)	13.3	6729 (4.4)	21.2	7205 (4.8)	7.1	6699 (5.1)	-7.0	7660 (5.0)	14.3
Telangana	6596 (4.5)	-8.6	6603 (4.4)	0.1	6964 (4.6)	5.5	6882 (5.2)	-1.2	7557 (5.0)	9.8
Gujarat	7289 (4.9)	-10.4	7996 (5.3)	9.7	7390 (4.9)	-7.6	6170 (4.7)	-16.5	7452 (4.8)	20.8
Total Top 10	**107274 (72.5)**		**108633 (71.7)**		**108281 (71.7)**		**95718 (72.7)**		**113132 (73.5)**	
Total All India	**147913**		**151417**		**151113**		**131714**		**153972**	

Figures in parentheses indicate the percentage share in the total

Comparison amongst the Northeastern States

5.12. Despite some marginal fluctuations, the percentage share of North Eastern States in total fatalities has been constant during the last four years i.e. 2017 to 2021 (Table 5.8). Among the Northeastern States, Assam recorded the highest number of fatalities during 2017 to 2021.

Table 5.8: Road Accidents Fatalities in Northeastern States during 2017-2021

North East States	2017		2018		2019		2020		2021	
	Persons killed	% Change	Persons killed	% Change	Persons killed	% Change	Persons killed	% Change	Persons killed	% Change
Arunachal Pradesh	110 (0.1)	-26.17	175 (0.1)	59.09	127 (0.1)	-27.43	73 (0.1)	-42.52	157 (0.1)	115.1
Assam	2783 (1.9)	8.20	2966 (2.0)	6.58	3208 (2.1)	8.16	2629 (2.0)	-18.05	3036 (2.0)	15.5
Manipur	136 (0.1)	67.90	134 (0.1)	-1.47	156 (0.1)	16.42	127 (0.1)	-18.59	110 (0.1)	-13.4
Meghalaya	182 (0.1)	21.33	182 (0.1)	0	179 (0.1)	-1.65	144 (0.1)	-19.55	187 (0.1)	29.9
Mizoram	60 (0.0)	-14.29	45 (0.0)	-25.00	48 (0.0)	6.67	42 (0.0)	-12.5	56 (0.0)	33.3
Nagaland	41 (0.0)	-10.87	39 (0.0)	-4.88	26 (0.0)	-33.33	53 (0.0)	103.85	55 (0.0)	3.8
Sikkim	78 (0.1)	-8.24	85 (0.1)	8.97	73 (0.0)	-14.12	47 (0.0)	-35.62	56 (0.0)	19.1
Tripura	161 (0.1)	-6.94	213 (0.1)	32.30	239 (0.2)	12.21	192 (0.1)	-19.67	194 (0.1)	1.0
Total North East	**3551 (2.4)**	**6.76**	**3839 (2.5)**	**8.11**	**4056 (2.7)**	**5.65**	**3307 (2.5)**	**-18.47**	3851 (2.5)	16.4
Total All India	**1,47,913**	**-1.90**	**1,51,417**	**2.37**	**1,51,113**	**-0.20**	**1,31,714**	**12.84**	**1,53,972**	16.9

Figures in parentheses indicate the percentage share in the total

Comparison among the Union Territories (UT)

5.13. Among the Union Territories, NCT of Delhi recorded the highest number of fatalities during 2017 to 2021, where the number declined from 1584 in 2017 to 1239 in 2021, followed by Jammu and Kashmir and Puducherry. Union Territories presently accounted for nearly 1.6 percent of the total road accident deaths in the country.

Table 5.9: **Road Accidents Fatalities in Union Territories during 2017-2021**
Road Accidents Fatalities on National Highways

UTs	2017		2018		2019		2020		2021	
	Persons Killed	% Change	Persons Killed	% Change	Persons Killed	% Change	Persons Killed	% Change	Persons Killed	% Change
A & N Island	21	23.5	19	-9.5	20	5.3	14	-30	20	42.9
Chandigarh	107	-29.1	98	-8.4	104	6.1	53	-49	96	81.1
D & N Haveli	43	-6.5	54	25.6	49	-9.3	64	30.6	76	18.8
Daman & Diu	36	-5.3	35	-2.8	28	-20		-100.0		
Delhi	1,584	-0.4	1,690	6.7	1,463	-13.4	1,196	-18.3	1,239	3.6
J&K*	926	-3.3	984	6.3	996	1.2	728	-26.9	774	6.3
Ladakh	NA	NA	NA	NA	NA	NA	NA	NA	56	
Lakshadweep	0	-100.0	1			-100	0		1	
Puducherry	233	-4.5	226	-3.0	147	-35.0	145	-1.4	140	-3.4
Total UTs	**2,950**	**3.3**	**3,107**	**5.3**	**2,807**	**-9.7**	**2,200**	**-21.6**	**2,402**	**9.2**
Total All India	**1,47,913**	**-1.9**	**1,51,417**	**2.4**	**1,51,113**	**-0.2**	**1,31,714**	**-12.8**	**1,53,972**	**16.9**

5.14 Uttar Pradesh maintains its top position in road accident fatalities in 2021 at National level and also top in the list of total number of road accident fatalities on National Highways in the country by contributing 15.2 per cent followed by Tamil Nadu (9.4%), Maharashtra (7.3%), Rajasthan (6.8%). West Bengal is at the bottom (10th position) with a share of 3.9 per cent (Table 5.10). Top Ten States together accounted for more that 72 percent of accidents fatalities on NH.

Table 5.10: Number of road accidents fatalities on National Highways in top 10 States and respective percentage shares during 2017-2021

S. No.	States/UTs	2017	2018	2019	2020	2021
1	Uttar Pradesh	7,946 (14.9)	8,818 (16.3)	8,830 (16.4)	7,859 (16.4)	8,506 (15.2)
2	Tamil Nadu	5,892 (11.1)	4,492 (8.3)	3,956 (7.3)	3,203 (6.7)	5,263 (9.4)
3	Maharashtra	3,637 (6.8)	4,088 (7.6)	3,799 (7.1)	3,528 (7.4)	4,080 (7.3)
4	Rajasthan	4,066 (7.6)	3,874 (7.2)	3,870 (7.2)	3,320 (6.9)	3,829 (6.8)
5	Andhra Pradesh	2,898 (5.4)	2,929 (5.4)	3,114 (5.8)	2,858 (6.0)	3,602 (6.4)
6	Bihar	2,540 (4.8)	3,051 (5.6)	3,436 (6.4)	3,285 (6.8)	3,517 (6.3)
7	Karnataka	3,792 (7.1)	3,986 (7.4)	3,842 (7.1)	3,330 (6.9)	3,487 (6.2)
8	Madhya Pradesh	2,521 (4.7)	2,601 (4.8)	2,904 (5.4)	3,022 (6.3)	3,389 (6.1)
9	Telangana	1,954 (3.7)	2,064 (3.8)	2,491 (4.6)	2,620 (5.5)	2,735 (4.9)
10	West Bengal	2,135 (4.0)	2,150 (4.0)	2,002 (3.7)	1,810 (3.8)	2,177 (3.9)
Total Top 10		**37,381** (70.3)	**38,053** (70.4)	**38,244** (71.0)	**34,835** (72.6)	**40,585** (72.5)
All India Total		**53,181**	**54,046**	**53,872**	**47,984**	**56,007**

Figures in parentheses indicate the percentage share in the total.

SECTION – 6

ROAD ACCIDENT FATALITY

6.1 Expansion in the road network, surge in motorization and a rising population of a country contribute towards increasing numbers of road accidents, accident-related injuries and fatalities. In India, road crashes claimed about 1.5 lakh lives and left more than 3.8 lakh people injured every year. Road accident injuries are the leading causes of deaths and disabilities. The number of total accidents, fatal accidents and number of persons killed in road accidents over the period 2006 to 2021 is shown in Table 6.1.

Table 6.1: Trends in the number of Accidents, Fatal Accident and number of persons killed (2006-2021)

Year	Total Accidents	Fatal Accidents	Persons Killed
2006	4,60,920	93,917 (20.4)	1,05,749
2007	4,79,216	1,01,161 (21.1)	1,14,444
2008	4,84,704	1,06,591 (22.0)	1,19,860
2009	4,86,384	1,10,993 (22.8)	1,25,660
2010	4,99,628	1,19,558 (23.9)	1,34,513
2011	4,97,686	1,21,618 (24.4)	1,42,485
2012	4,90,383	1,23,093 (25.1)	1,38,258
2013	4,86,476	1,22,589(25.2)	1,37,572
2014	4,89,400	1,25,828(25.7)	1,39,671
2015	5,01,423	1,31,726(26.3)	1,46,133
2016	4,80,652	1,36,071 (28.3)	1,50,785
2017	4,64,910	1,34,796(29.0)	1,47,913
2018	4,67,044	1,37,726(29.5)	1,51,417
2019	4,49,002	1,37,689(30.7)	1,51,113
2020	3,66,138	1,20,806(33.0)	1,31,714
2021	**4,12,432**	**1,42,163(34.5)**	**1,53,972**

Figures in parentheses are the percentage shares in the total of respective columns

LONG RUN TREND IN ROAD ACCIDENT FATALITIES

6.2 Despite some marginal fluctuations, the long run trend of number of persons killed in road accident has largely stable increasing over small margins till 2019 and slightly decreased in 2020 due to COVID -19 and again increasing in 2021 (Chart 6.1). Category wise distribution of fatalities across various category of road reveals State Highways record a comparably less number of fatalities (about 24.7 percent), whereas National Highways with 2.1 percent of total road network in the country accounts for more than 36 percent of accident deaths in 2021. Other Roads with 95 percent of road network in the country shares more than 39 percent of accident deaths in 2021.

Chart 6.1: Trends in number of Persons Killed in road accidents

NH- National Highways, SH- State Highways, OR-Other Roads

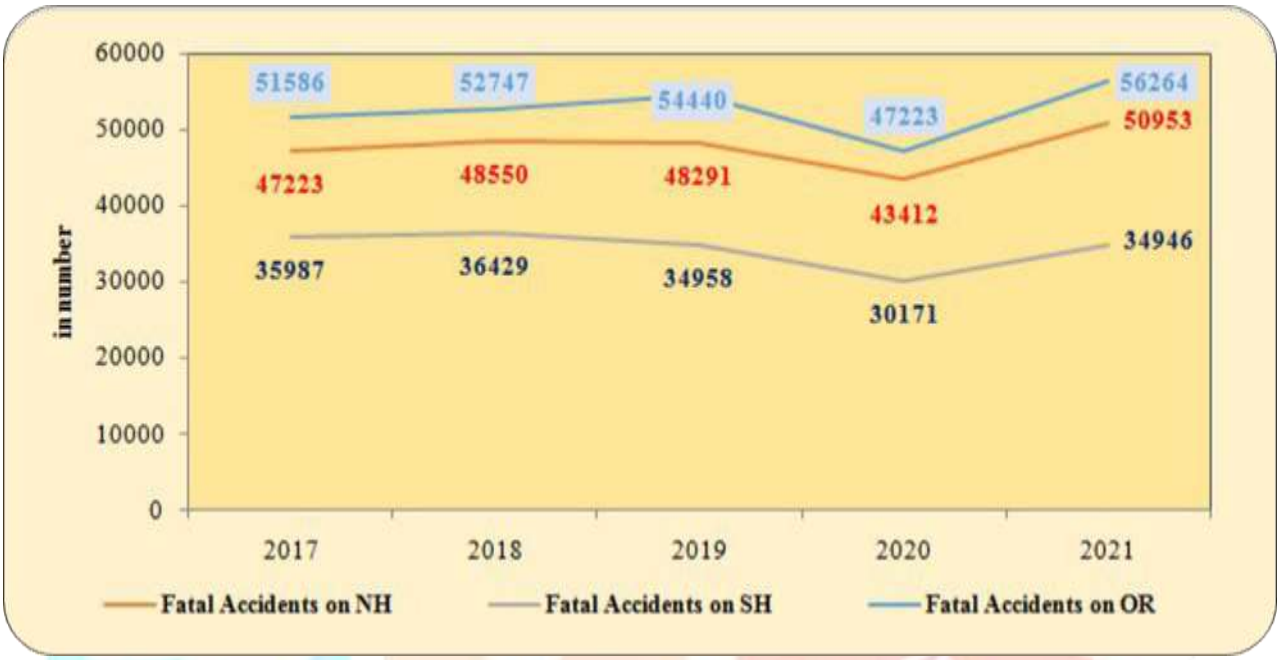
FATAL ROAD ACCIDENT BY CATEGORY OF ROADS

6.3 A road accident may cause loss of life/lives or grievous injury or minor injury or non-injury to road-users. An accident which resulted in death of one or more person is a fatal accident. In 2021, out of 4,12,432 road accidents, 1,42,163 (34.5%) were fatal accidents (Table 6.1).

The trend of fatal road accidents by category of road presented in Chart 6.2 shows a less fatal accidents took place on State Highways during 2017 to 2021. The total number of fatal accidents on National Highways and Other Roads have remained largely stable

fluctuating over very small margins over the years. There has been a significant decline in fatal accidents during 2020 recorded by all categories of roads.

Chart 6.2: Trends in number of Fatal Accidents by category of roads (2017-2021)



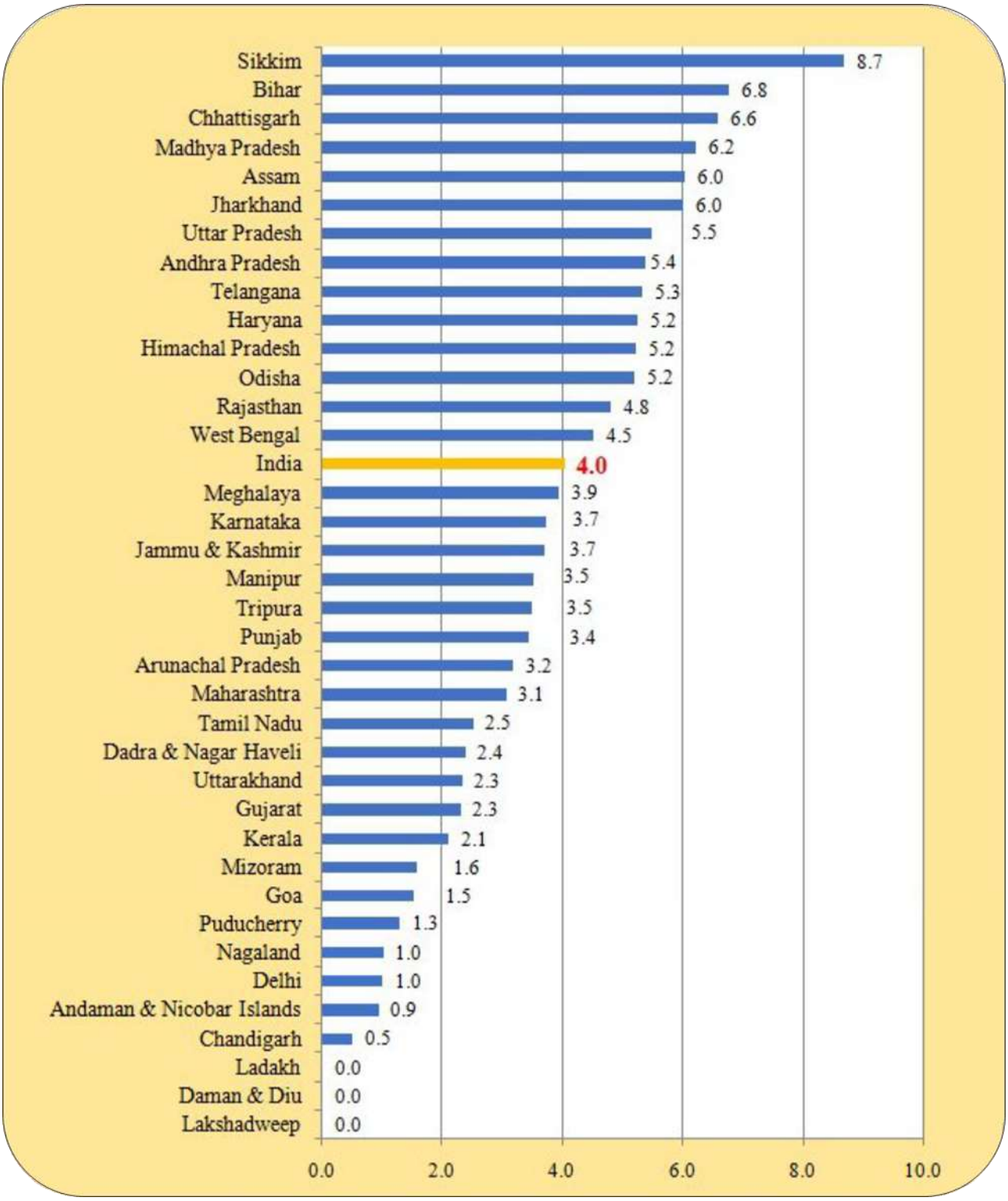
FATALITY RATE

6.4 Fatality rate is used to explain road accidents relative to vehicular population in the country. It is measured by the number of road accidents fatalities (persons killed) per 10,000 vehicles. National average accident fatality rate has been declining over the years and remained at 4.0 in 2021 (Chart 6.3).

6.5 The fatality rate is useful for comparing road safety across States, particularly those with similar levels of motorization. Comparing the number of road fatalities in relation to the number of vehicle- kilometers driven (total distance travelled by motor vehicles) provides a better indicator for assessing the risk of travelling on a given road network. The number of traffic deaths in relation to the number of registered vehicles sometimes serve as an approximation for the fatality rate in the absence of data on distance travelled.

6.6 Road traffic-related fatality rate differs among the States (Chart 6.3). During 2021, Sikkim (8.7) recorded highest fatality rate followed by Bihar (6.8). About fifty percent of States have fatality rate above National average of 4.0 during 2021. Union Territories recorded fatality rate lower than National average. It may be noted that the States like Kerala (2.1), Tamil Nadu (2.5), Gujarat (2.3) and Maharashtra (3.1) have larger share in total accident and persons killed in 2021, however, recorded fatality rate lower than the National average. Generally, States with larger share of road network and registered motor vehicles accounted for relatively higher fatality rate. However, Maharashtra has largest roads network (628715 Km with 11.6 % share in 2019) and highest number of registered motor vehicles in the country (37.78 Million, 11.5% in 2020), recorded fatality rate 3.1, which is lower than national average.

Chart 6.3: State/UT wise distribution of Fatality Rate during 2021



AGE PROFILE OF ROAD ACCIDENT VICTIMS

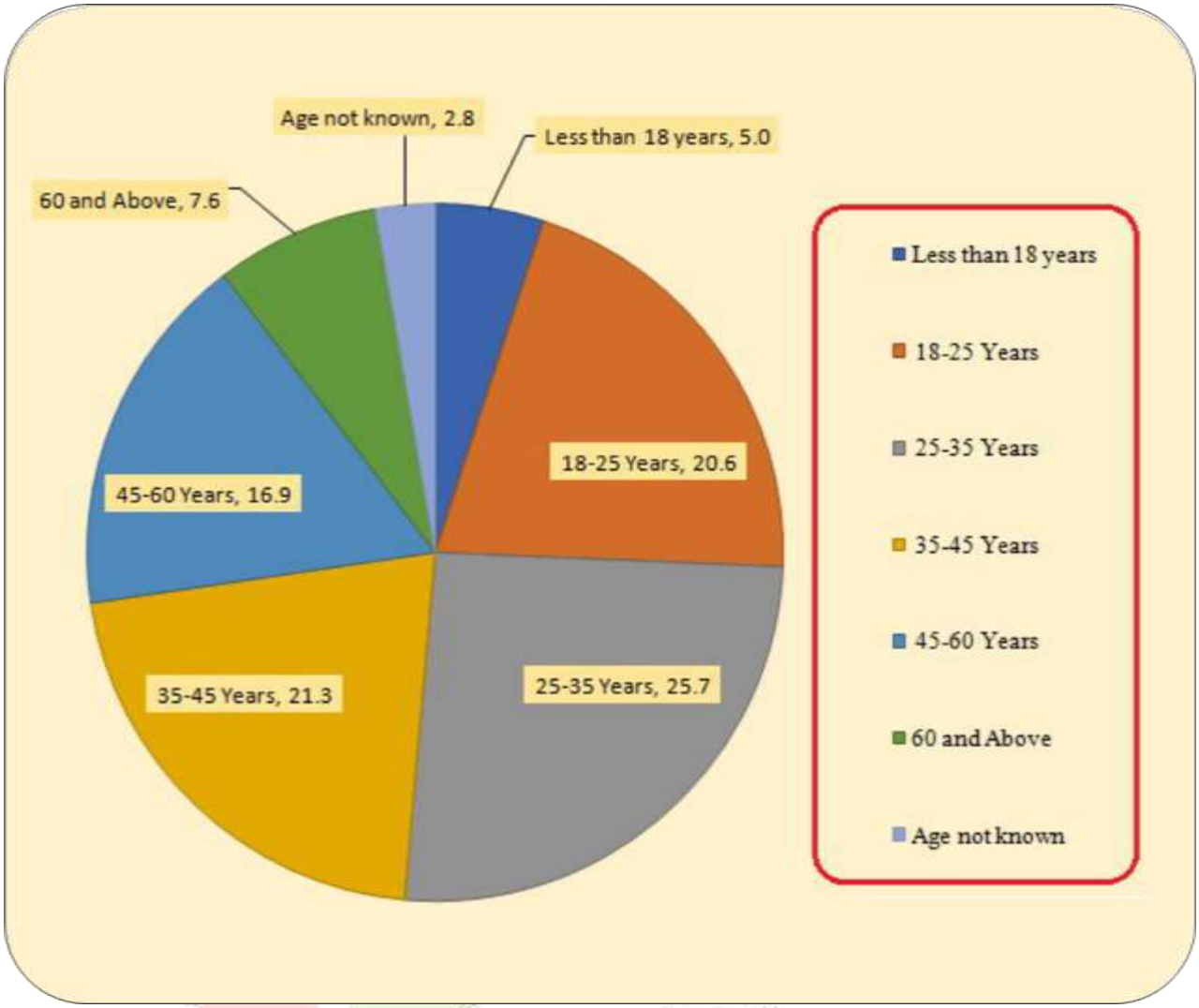
6.7. Age profile of fatal road accident victims during the last three years presented in Table 6.2 reveals road accident victims largely constitute young people in the age groups of 18 - 25, 25 - 35 and 35 – 45 and this age profile together accounted for around 67.6 percent of accident deaths in last three years (Chart 6.4). Road accident victims largely constitute young people in the productive age underscoring major implication on economic cost of road accidents, apart from their emotional and psychological impact. Changes in demographic composition, coupled with greater mobility among younger age group, result in a higher proportion of younger age groups and a lower proportion of senior citizens among traffic fatalities.

6.8. The working age group of 18 - 60 accounted for 84.5 percent of total road accident deaths (Chart 6.4) in the country. The percentage change in Road deaths in the age group less than 18 is 10.9% in 2021 which is lowest in age profile. State-wise details are provided at **Annexure 3.**

Table: 6.2: Agewise Victims Last Three Years(2019-2021)

Age-group	Number of Persons killed			%-age change in 2020 over 2019	%-age change in 2021 over 2020
	2019	2020	2021		
Less than 18	11,168	6,998	7,764	-37.3	10.9
% Share in total	7.4	5.3	5.0		
18-25	33,206	27,612	31,750	-16.8	15.0
% Share in total	22.0	21.0	20.6		
25-35	39,023	34,947	39,646	-10.4	13.4
% Share in total	25.8	26.5	25.7		
35-45	32,509	29,379	32,741	-9.6	11.4
% Share in total	21.5	22.3	21.3		
45-60	22,612	20,938	26,085	-7.4	24.6
% Share in total	15.0	15.9	16.9		
Above 60	9,004	8,380	11,739	-6.9	40.1
% Share in total	6.0	6.4	7.6		
Age not known	3,591	3,460	4,247	-3.6	22.7
% Share in total	2.4	2.6	2.8		
Total	**1,51,113**	**1,31,714**	**1,53,972**	**-12.8**	**16.9**

Chart 6.4: Age profile of Fatal Road Accident victims during 2021 (in percent share)



GENDER AND AGE PROFILE OF FATAL ROAD ACCIDENT VICTIMS

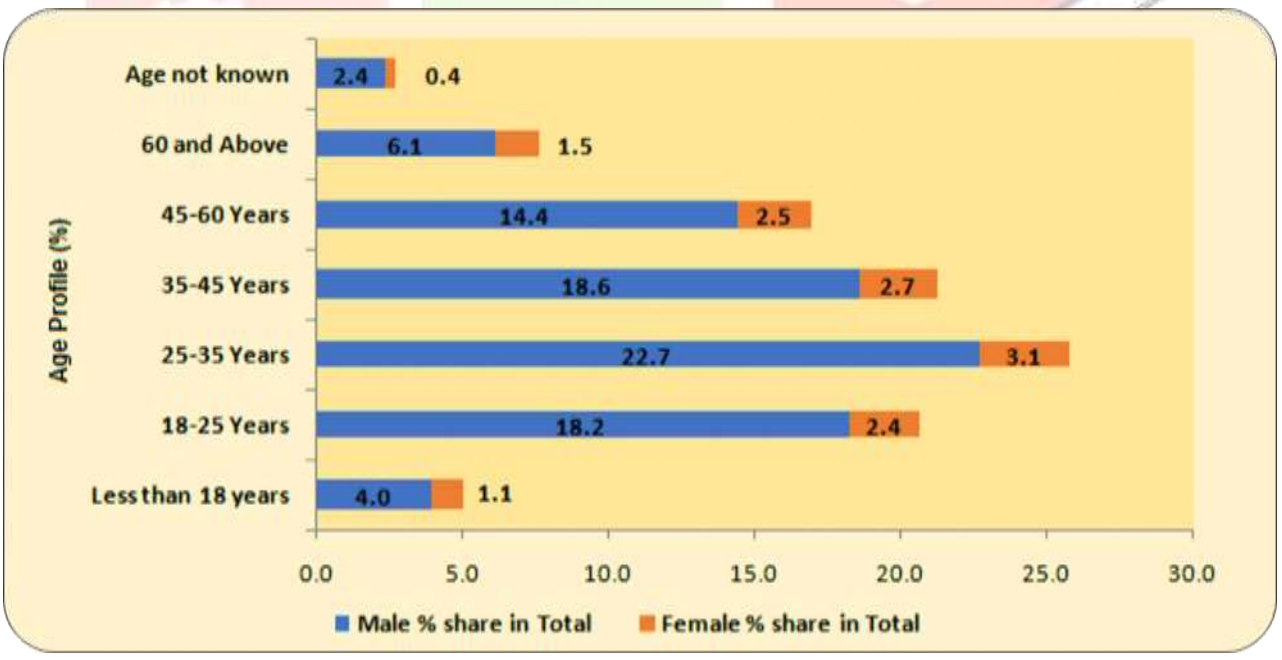
6.9 The gender-wise comparison of road accident deaths for the year 2021 reveals that total number of males and females killed were 1,33,025 (86.4%) and 20,947 (13.6%) respectively. The gender-wise distribution of fatal road accident victims in 2021 shows the largest number of deaths recorded in young people's age group i.e. 18-45. In this age group 18-45, number of males killed was 91,583 and female killed was 12,554. State-wise, gender- wise breakup is at **Annexure 3.**

Table 6.3: Gender-wise age profile of Fatal Road accident victims during 2019 to 2021

Age-group	2019		2020		2021		%-age change in 2020 over 2019		%-age change in 2021 over 2020	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Less than 18	8,652	2,516	5,520	1,478	6,137	1,627	-36.2	-41.3	11.2	10.1
% share in total	6.7	11.5	4.8	8.8	4.6	7.8				
18-25	29,078	4,128	24,500	3,112	28,088	3,662	-15.7	-24.6	14.6	17.7
% share in total	22.5	18.9	21.3	18.5	21.1	17.5				
25-35	34,194	4,829	31,003	3,944	34,927	4,719	-9.3	-18.3	12.7	19.7
% share in total	26.4	22.2	27.0	23.5	26.3	22.5				
35-45	27,967	4,542	25,940	3,439	28,568	4,173	-7.2	-24.3	10.1	21.3
% share in total	21.6	20.8	22.6	20.5	21.5	19.9				
45-60	19,140	3,472	17,947	2,991	22,171	3,914	-6.2	-13.9	23.5	30.9
% share in total	14.8	15.9	15.6	17.8	16.7	18.7				
60 and Above	7,201	1,803	6,956	1,424	9,435	2,304	-3.4	-21.0	35.6	61.8
% share in total	5.6	8.3	6.1	8.5	7.1	11.0				
Age not known	3,087	504	3,067	393	3,699	548	-0.6	-22.0	20.6	39.4
% share in total	2.4	2.3	2.7	2.3	2.8	2.6				
Total	**1,29,319**	**21,794**	**1,14,933**	**16,781**	**1,33,025**	**20,947**	**-11.1**	**-23.0**	**15.7**	**24.8**
Share of male and female	85.6	14.4	87.3	12.7	86.4	13.6				

Chart 6.5: Gender-wise age profile number of fatal road accident victims during 2021

Chart 6.6: Gender-wise age profile of fatal road accident victims in 2021



GENDER-WISE AGE PROFILE OF DRIVERS KILLED

6.10. The gender-wise comparison of total drivers killed during the year 2021 presented in the Chart 6.7. A total of 68,150 (96.9%) Male and 2155 (3.1%) female drivers were killed due to road accident in 2021 (refer to Annexure 4). Age wise profile of fatalities reveals 50,819 (72.3%) Male and 1696 (2.4%) Female drivers were killed in the young age group of 18-45. This highlights the need for setting up of Driving Training Centre (DTC) to provide quality training to commercial vehicle drivers to improve road and environment safety and strengthen overall mobility on roads. State-wise, gender-wise breakup of drivers killed in road accidents is given at **Annexure 4.**

Chart 6.7: Gender-wise age profile of total drivers killed during 2021

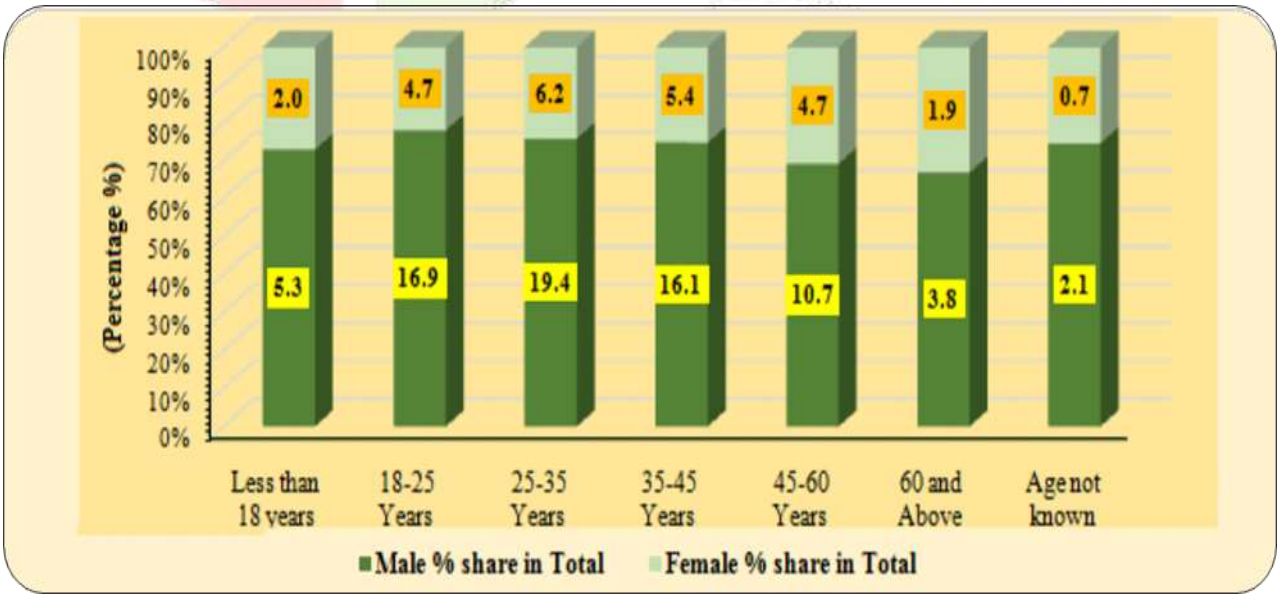
Chart 6.8: Gender-wise age profile of total drivers killed during 2021 (in percent share)

GENDER-WISE AGE PROFILE OF PASSENGERS KILLED

6.11. The gender-wise comparison of total passengers which were killed during the year 2021 presented in the chart 6.9. Total number of 37,155 (74.4%) Male and 12,803 (25.6%) female passengers were killed due to road accident in 2021 (refer to Annexure 5). Chart 6.9 reveals among the young people's age group of 18-45, total number of 26,220 (52.5%) killed were male passengers and 8,159 (16.3%) killed were female passengers. State-wise, gender-wise breakup of passengers killed in road accidents is at **Annexure 5.**

Chart 6.9: Gender-wise age profile of total Passenger killed during 2021

Chart 6.10: Gender-wise age profile of total Passengers Killed during 2021 (percent share)



GENDER-WISE AGE PROFILE OF PEDESTRIANS KILLED

6.12. The gender-wise comparison of total pedestrians killed during the year 2021 presented in the chart 6.11. Total number of 23,551 (80.8%) Male and 5593 (19.2%) female pedestrians were killed due to road accident in 2021 (refer to Annexure 6). Chart 6.11 show 12,190 (41.8%) Male and 2426 (8.3%) Female pedestrians were killed in the young age group of 18-45. State-wise, gender-wise breakup of pedestrians killed in road accidents is at **Annexure 6**.

Chart 6.11: Gender-wise age profile of total Pedestrians killed during 2021

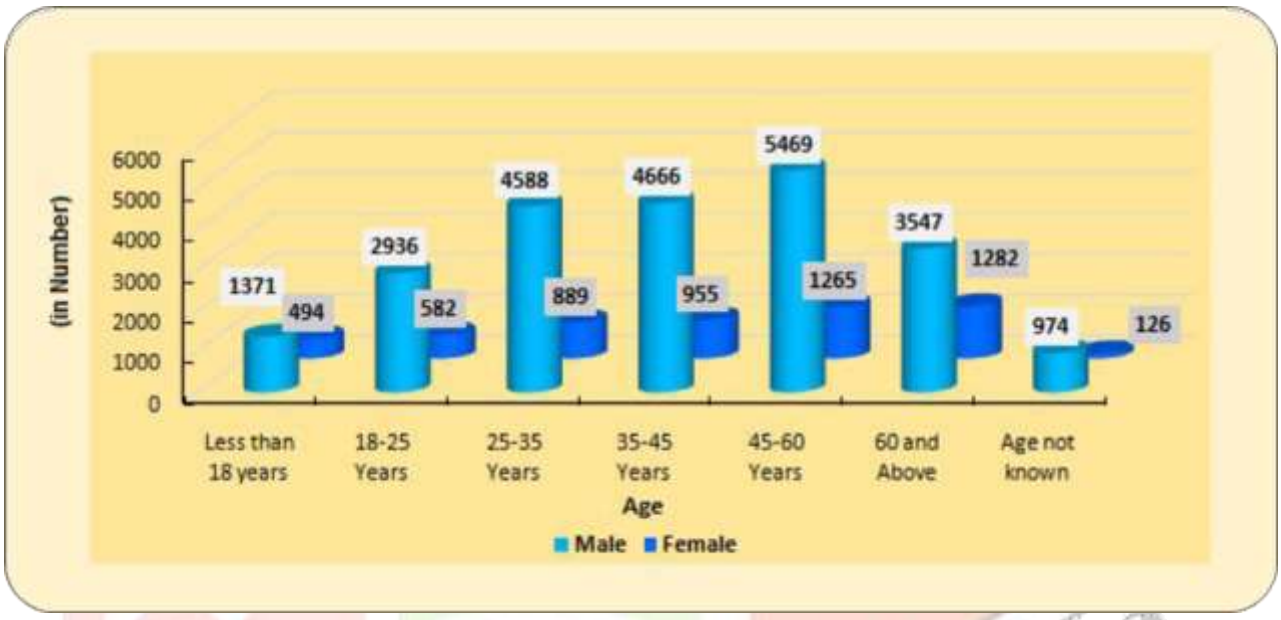
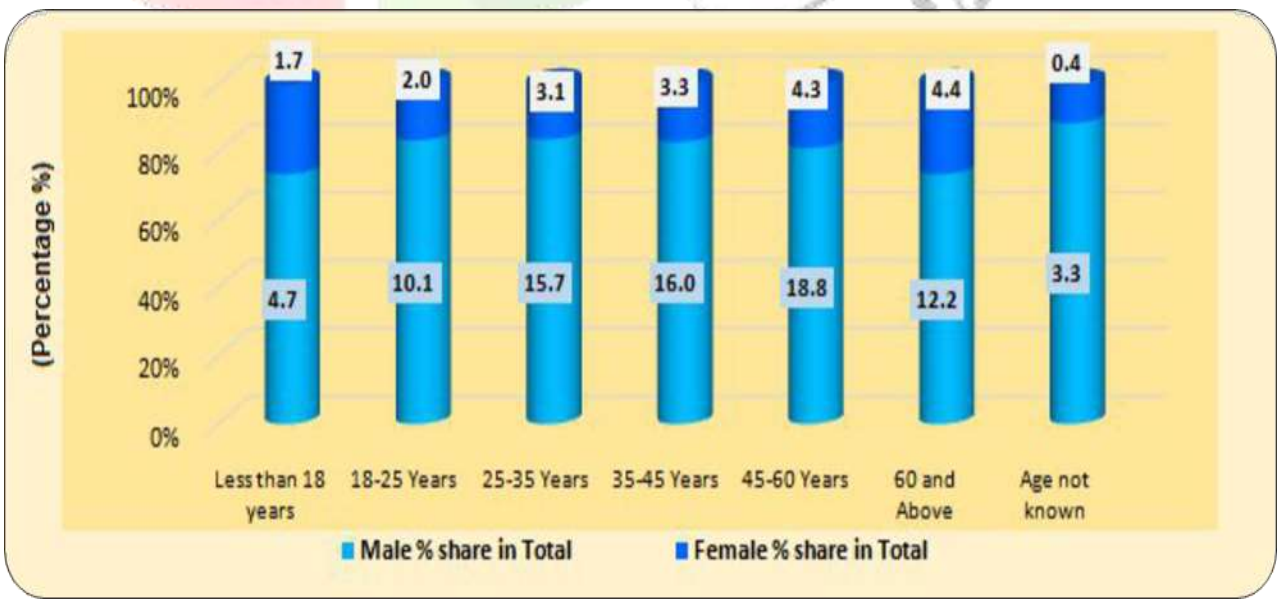


Chart 6.12.: Gender-wise age profile of total Pedestrians Killed during 2021 (percent share)



PERSONS KILLED IN ROAD ACCIDENTS IN TERMS OF ROAD USER CATEGORIES

6.13. A road-user is one who uses a road for movement or transportation as a pedestrian or cyclist or motorist (driver and passenger). Vehicle occupants benefit most from the reduction in road deaths. Data on road-user wise accident victims helps in recognizing vulnerable categories which helps the authorities to put special attention on the most vulnerable section.

6.14. The data in Table 4.4 reveals the road user categories, two-wheelers with a share of 45.1% constitute the largest number of road accident deaths (69,385).Pedestrian are next highest contributor with a share of 18.9 percent in 2021.

6.15. Truck and Lorries account for a share of 6.2 percent in total person killed in 2021 with its share and as well as the absolute numbers of deaths having declined in 2021 as compared to 2020. Similarly, death due to Cars, Taxis, Vans & LMVs declined in 2021 compared to 2020.

6.16. Further Cyclists contributed to another 3.1%, Auto-Rickshaws accounted for 3.9%, Buses accounted for 2.0% of the Road Users those are killed in 2021. Death due to Other Motor Vehicles (including e-rickshaw) declined in 2021 compared to 2020.

6.17. Gender wise profile of persons killed in road accident in terms of road user category is presented in the Chart 6.13, reveals two wheelers have the highest share (45.1%) followed by pedestrians (18.9%) and cars, taxis and vans (12.9). The absolute and relative share of male killed is higher than that of female in all road user categories.

Table 6.4: Comparison of Persons killed in road accidents in terms of road user categories during 2019 to 2021.

Road-user category	Persons killed 2019	Persons killed 2020	Persons killed 2021	% Change 2021 over 2020
Pedestrian	25,858	23,483	29,124	24.0
share in Total	17.1	17.8	18.9	
Bicycles	4,196	4,167	4,702	12.8
share in Total	2.8	3.2	3.1	
Two-wheelers	56,136	57,282	69,385	21.1
share in Total	37.1	43.5	45.1	
Auto-Rickshaws	6,655	5,086	5,966	17.3
share in Total	4.4	3.9	3.9	
Cars, Taxis, Vans & LMVs	23,900	18,095	19,811	9.5
share in Total	15.8	13.7	12.9	
Trucks/Lorries	13,532	9,824	9,476	-3.5
share in Total	9.0	7.5	6.2	

Buses	6,529	3,001	3,106	3.5
share in Total	4.3	2.3	2.0	

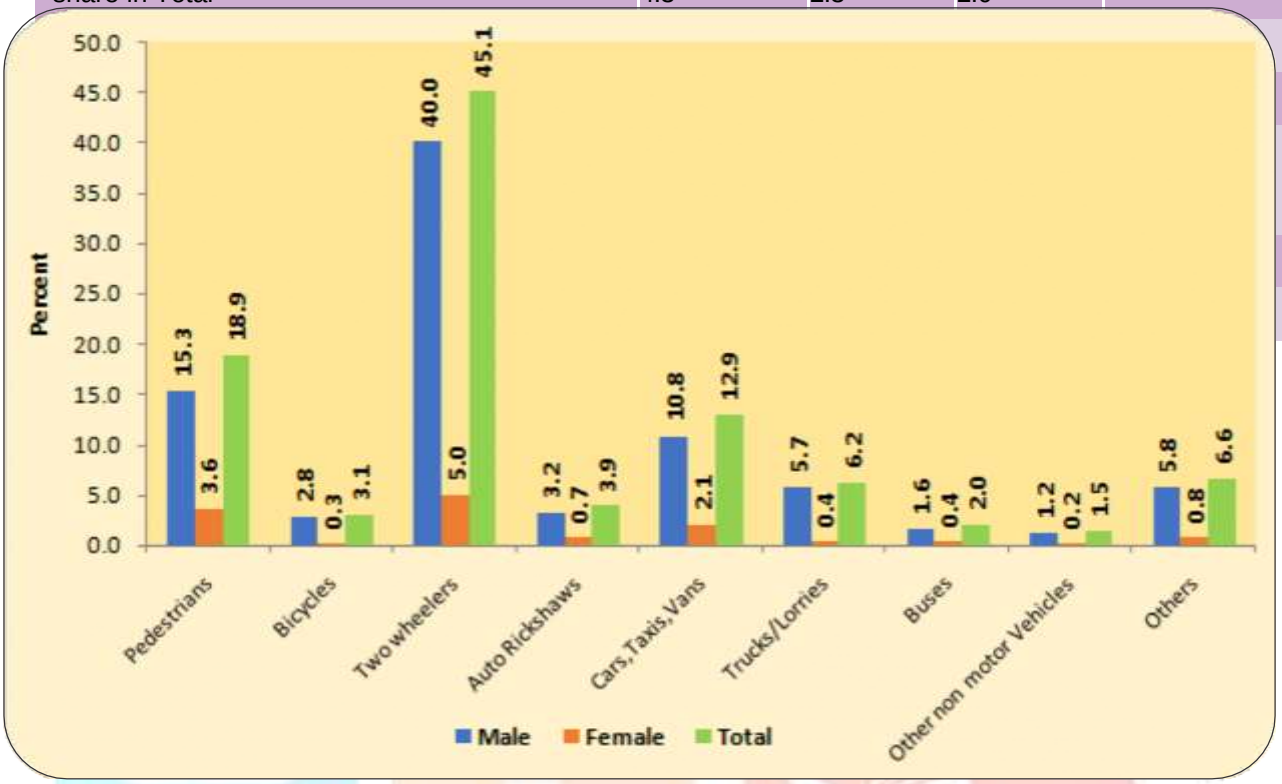


Chart 6.13: Gender wise profile of Persons killed in road accidents in terms of road user categories during 2021 (percentage share)

6.18. This is new format has been introduced from 2019 onward, collecting information on persons killed in accidents. The 2018 Accident Report had earlier provided accident/fatality/injury report only by type of impacting vehicle, wherein impacting vehicle meant the "Crime Vehicle". However, we received feedback that users were not clear by what was meant by impacting vehicles and therefore, a 9X9 matrix detailing the various categories of accident-related deaths by crime vehicle and victim vehicle category have now been provided.

6.19. According to Table 6.5, the number of Pedestrians killed by different categories of crime vehicles in 2021 was 29,124 which is 18.9 percent of the total road accident deaths. The leading three crime vehicles in terms of share of pedestrians killed are Cars, Taxis, Vans & LMV (19.9%), Two wheelers (18.0%) and Auto Rickshaws (16.9%).

6.20. The number of victims on two wheelers killed were 69,544 which is around 45.2% of the total road accident deaths. In terms of percentage share, the three leading crime vehicles responsible include two wheelers (60.2%), Cars, Taxis, Vans & LMV (41.6%) and Trucks & lorries (41.4%).

6.21. The table also reveals that as many as 19,488 occupants of cars, taxis, Vans and LMV which is 12.7 percent of the total got killed in 2021 with collision with cars, taxis, Vans and LMV accounting for a share of 22.4 percent followed by Bicycles (17.9%), Trucks/Lorries (14.8%) and Buses (13.2%).

Table 6.5: Persons killed in Accidents Classified by the type of impacting vehicles (Crime Vehicles by Victim vehicles) in 2021

Crime Vehicle → / Victim/Victim Vehicle ↓	1. Bicycles	2. Two Wheelers	3. Auto Rickshaws	4. Cars, Taxis, Vans & LMV	5. Trucks /Lorries	6. Buses	7. Other Non-motorized vehicle (E-rickshaw etc.)	8. Others	9. Total
Pedestrian	98	7,878	1,161	7,566	4,681	1,463	280	5,997	29,124
% Share in total	9.4	18	16.9	19.9	15.4	16.8	12.4	26.2	18.9
Bicycles	81	1,210	264	1,241	933	315	121	577	4,742
% Share in total	7.8	2.8	3.9	3.3	3.1	3.6	5.4	2.5	3.1
Two-wheelers	220	26,378	2,221	15,804	12,583	3,107	557	8,674	69,544
% Share in total	21.2	60.2	32.4	41.6	41.4	35.7	24.7	37.9	45.2
Auto-Rickshaws	62	531	1,307	1,466	1,241	472	129	609	5,817
% Share in total	6.0	1.2	19.1	3.9	4.1	5.4	5.7	2.7	3.8
Cars, Taxis, Vans & LMVs	186	2,304	688	8,499	4,510	1,152	232	1,917	19,488
% Share in total	17.9	5.3	10.0	22.4	14.8	13.2	10.3	8.4	12.7
Trucks/Lorries	127	1,757	371	1,094	4,256	629	193	955	9,382
% Share in total	12.2	4.0	5.4	2.9	14.0	7.2	8.6	4.2	6.1
Buses	77	627	132	394	647	854	85	260	3,076
% Share in total	7.4	1.4	1.9	1.0	2.1	9.8	3.8	1.1	2.0
Other Non-Motor Vehicles (including e-rickshaw)	125	2,648	582	1,523	1,172	465	342	3,604	10,461
% Share in total	12.0	6.0	8.5	4.0	3.9	5.3	15.2	15.7	6.8
Others (other motor vehicles, Animals drawn vehicle, cycle rickshaws, hand carts, & other	63	509	124	403	383	252	313	291	2,338

persons)									
% Share in total	6.1	1.2	1.8	1.1	1.3	2.9	13.9	1.3	1.5
Total	**1,039**	**43,842**	**6,850**	**37,990**	**30,406**	**8,709**	**2,252**	**22,884**	**1,53,972**

SECTION - 7
ACCIDENTS BY ROAD CATEGORY

7.1 The total road length in India is 63.31 lakh km (as on 31st March 2019), consisted of 1.32 lakh km of National Highways, 1.80 lakh km of State Highways and 60.19 lakh km of Other Roads (include District Roads, Rural Roads, Urban Roads, and Project Roads). In percentage term, National Highways shares 2.1 per cent, State Highways 2.8 per cent and other roads 95 per cent, respectively of the total road length in the country. Though the percentage share of the three broad categories of roads in the total road length is highly uneven, the distribution of the number of road accidents, fatality, and injury in 2020 among these road categories was much less skewed.

7.2 During 2021, a total 4,12,432 accidents were recorded in the country, of which, 1,28,825 (31.2%) took place on the National Highways (NH) including Expressways, 96,382 (23.4%) on State Highways (SH) and the remaining 1,87,225 (45.4%) on Other Roads (Table 7.1 refer to). Out of total 1,42,163 fatal accidents reported in 2021, 50,953 (35.8%) were on National Highways, 34,946 (24.6%) were on State Highways and 56,264 (39.6%) were on Other Roads (Table 7.2).

Table 7.1: Road Accidents, Fatalities and Injuries by Road Category (2020 and 2021)

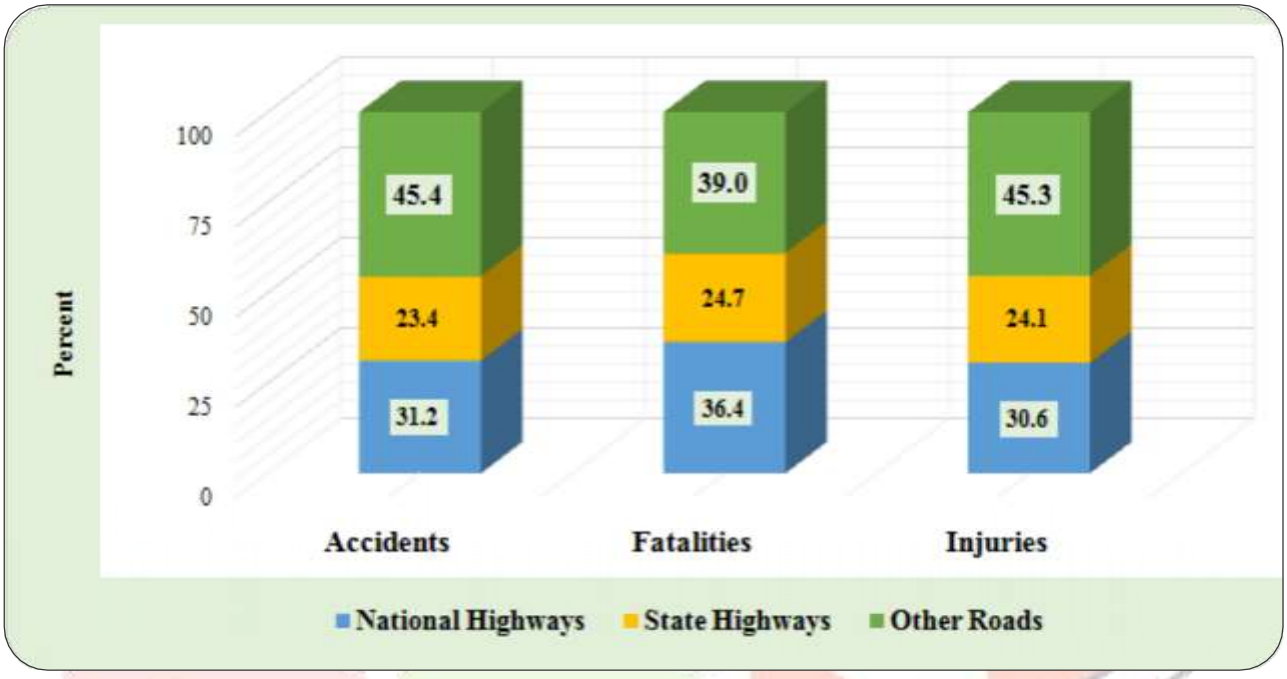
Category of Road	2020			2021			% Change in 2021 over 2020		
	Accidents	Killed	Injured	Accidents	Killed	Injured	Accidents	Killed	Injured
National Highways	1,16,496	47,984	1,09,898	1,28,825	56,007	1,17,765	10.58	16.72	7.16
% share	31.8	36.4	31.6	31.2	36.4	30.6			
State Highways	90,755	33,148	88,208	96,382	37,963	92,583	6.20	14.53	4.96
% share	24.8	25.2	25.3	23.4	24.6	24.1			
Other Roads	1,58,887	50,582	1,50,173	1,87,225	60,002	1,74,100	17.84	18.62	15.93
% share	43.4	38.4	43.1	45.4	39.0	45.3			
All Roads	**3,66,138**	**1,31,714**	**3,48,279**	**4,12,432**	**1,53,972**	**3,84,448**	**12.64**	**16.9**	**10.39**

7.3. The road category wise distribution of number of accidents, fatalities and injuries recorded a tremendous decline in 2020 primarily due to Covid-19 pandemic and subsequent nationwide lockdown imposed to curb further spread. As a result, the total number of accidents on National Highways decreased by 15.08 percent, on State Highways decreased by 16.7 percent and on Other Roads decreased by 21.67 percent in 2020 corresponds to same period in 2019. Similarly, total number of fatalities on National Highways decreased by 10.93 percent, on State Highways decreased by 13.8 percent and on Other Roads decreased by 13.93 percent in 2020 corresponds to same period in 2019. There has been a decrease in number of accidents and injuries on three categories of roads in 2021 as compared to 2019 (refer to Chart 7.2, 7.3 & 7.4).

7.4 The percentage share of National Highways, State Highways and Other Roads in total accidents, persons killed and injured during 2020 is presented in the Chart 2.1 reveals 31.2 percent of accident, 36.4 percent of death and 30.6 percent of accidents related injuries took place on National Highways which shares only 2.1 percent of total road network in the country. Highways (both National and State) accounted for only five

percent of total road network witnessed a disproportionately large share of accidents (54.6 %)and (61.1%) accident related fatalities during the year 2021, and naturally become the focus of our attention. More accidents on these have been attributed to higher vehicle speeds and increasingly higher volume of traffic on these roads.

Chart 7.1: Accidents, Persons Killed and Injured by Category of Roads during 2021 (in percent)



7.5. Despite some marginal fluctuation, there has been a general declining trend in number of accidents and injuries that took place on all roads during 2015 to 2020 (refer to Chart 7.2 & 7.4). However, these indicators registered a slight increase in 2021. Road category wise distribution of fatalities show mixed trend (Chart 7.3) and recorded increase in 2021 compared to 2020.

Chart 7.2: Trends in Number of Road Accidents by category of roads

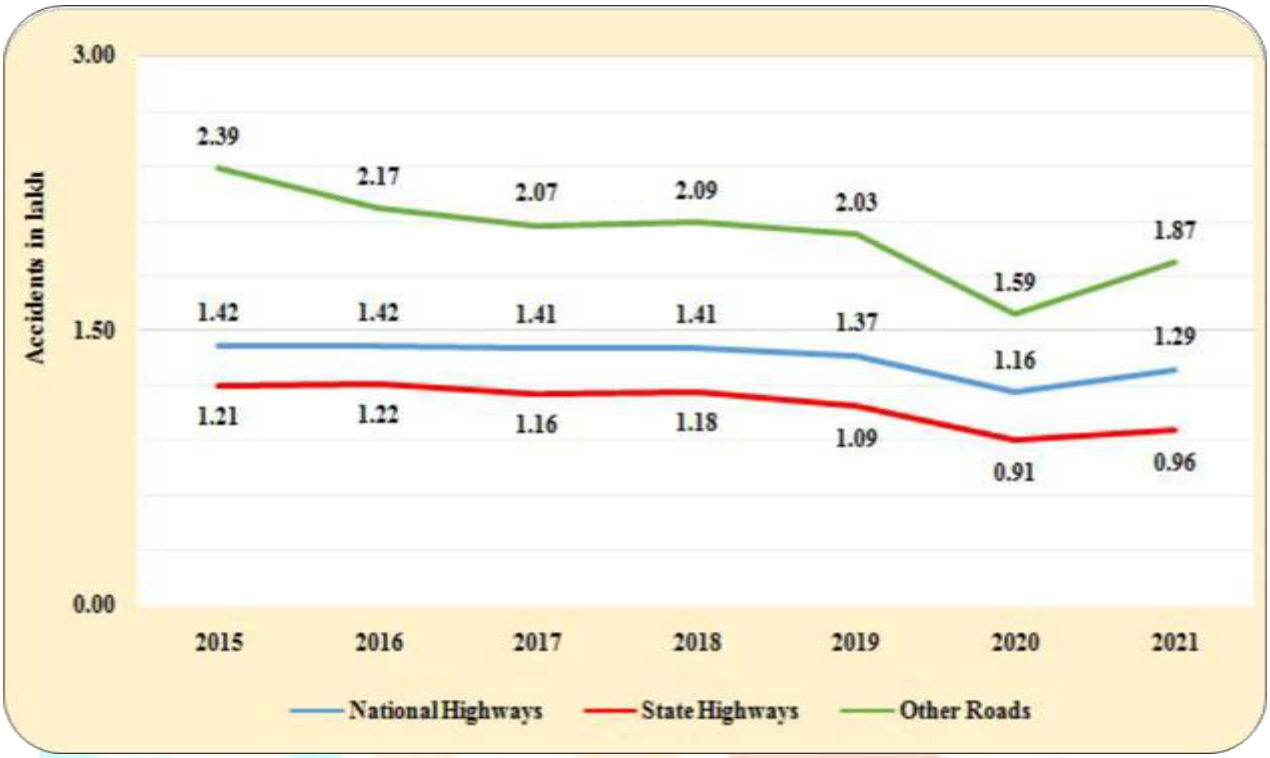


Chart 7.3: Trends in Number of Persons Killed by category of roads.

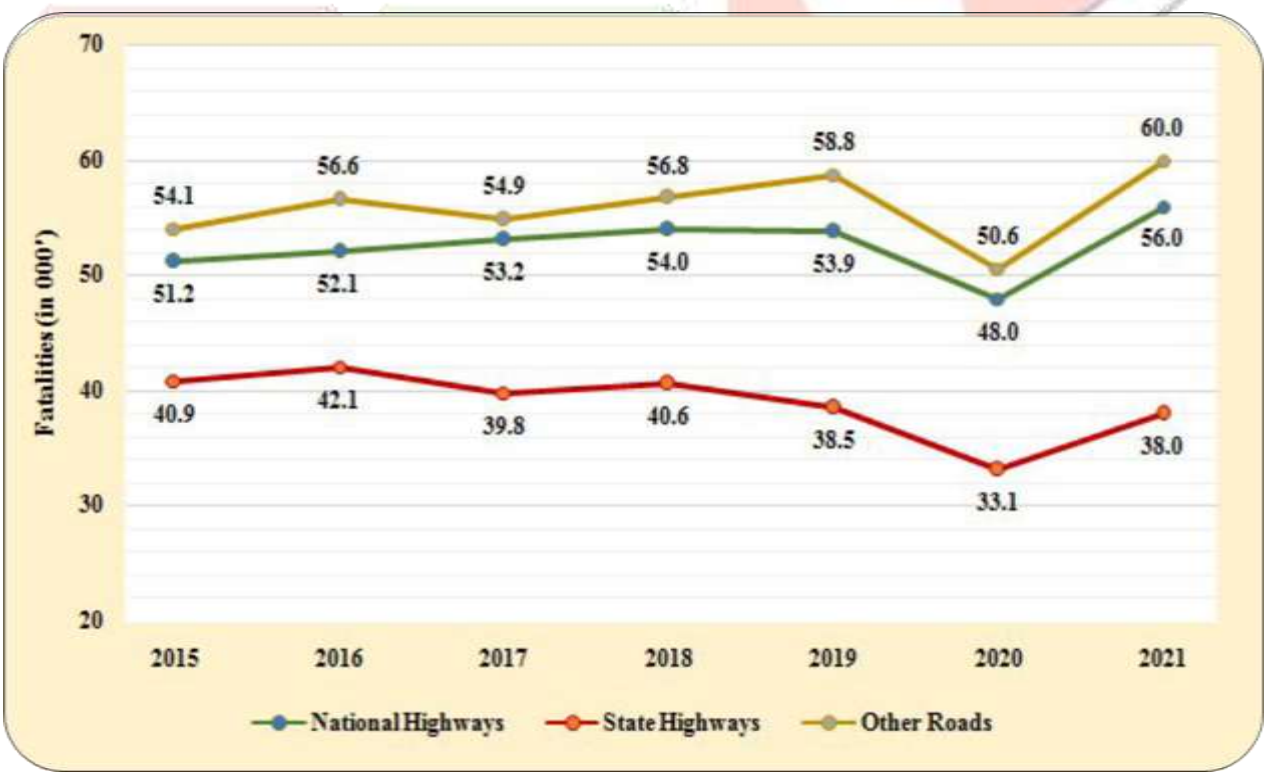


Chart 7.4: Trends in Number of Persons Injured by category of roads

FATAL ACCIDENTS BY CATEGORY OF ROADS

7.6 The distribution of fatal accidents across categories of roads reveals National Highways have significant share in total fatal accidents over the last five years (2016-2021). Trend in percent share of three categories of roads in terms of accidents, deaths and injuries have stabilized with marginal fluctuations (refer to Chart 7.6). The share of State Highways in total fatal accident has declined from 27.6 percent in 2016 to 24.6 percent in 2021, whereas that for National Highways increased from 34.1 percent to 35.8 percent during the same period. Road category wise trend in number of fatal accidents have stabilized with marginal fluctuations during 2016 to 2020, thereafter, registered an increase in 2021 (refer to Chart 7.5).

Table 7.2: Fatal Accidents by Road Categories: 2016-2021

Fatal Accident	2016	2017	2018	2019	2020	2021
National Highways	46,406	47,223	48,550	48,291	43,412	50,953
YoY Growth		1.8	2.8	-0.5	-10.1	17.4
% Share in Total	34.1	35	35.3	35.1	35.9	35.8
State Highways	37,497	35,987	36,429	34,958	30,171	34,946
YoY Growth		-4	1.2	-4	-13.7	15.8
% Share in Total	27.6	26.7	26.5	25.4	25	24.6
Other Roads	52,168	51,586	52,747	54,440	47,223	56,264
YoY Growth		-1.1	2.3	3.2	-13.3	19.1
% Share in Total	38.3	38.3	38.3	39.5	39.1	39.6
All India	1,36,071	1,34,796	1,37,726	1,37,689	1,20,806	1,42,163
YoY Growth		-0.9	2.2	0	-12.3	17.7

Chart 7.5: Trends in Number of Fatal Accidents by category of roads (2016-2021)

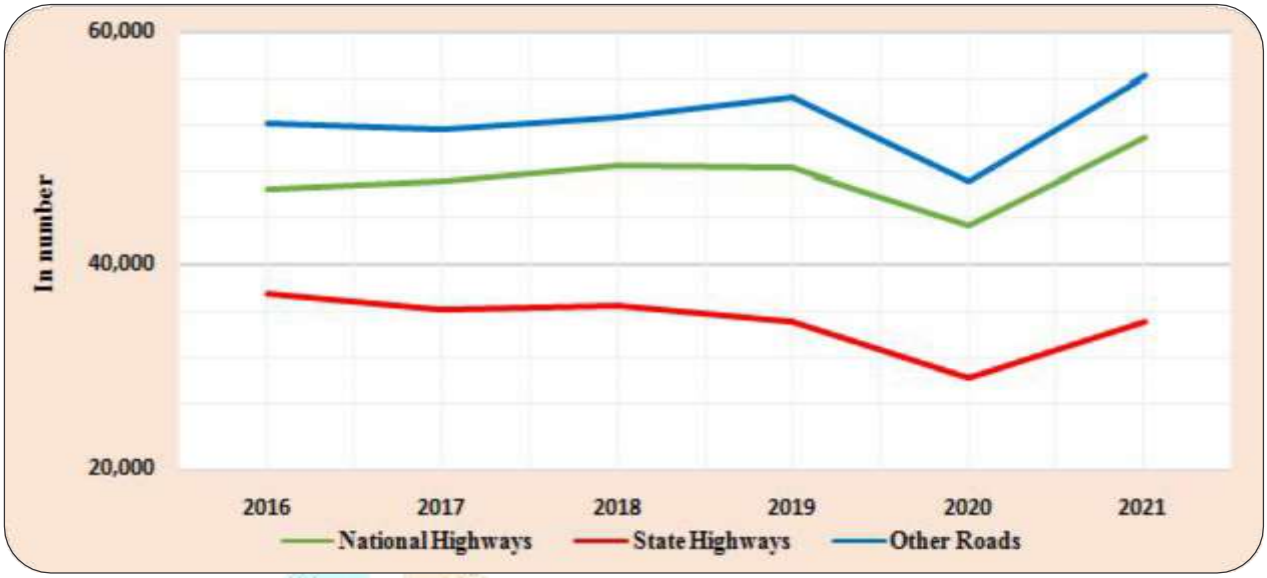
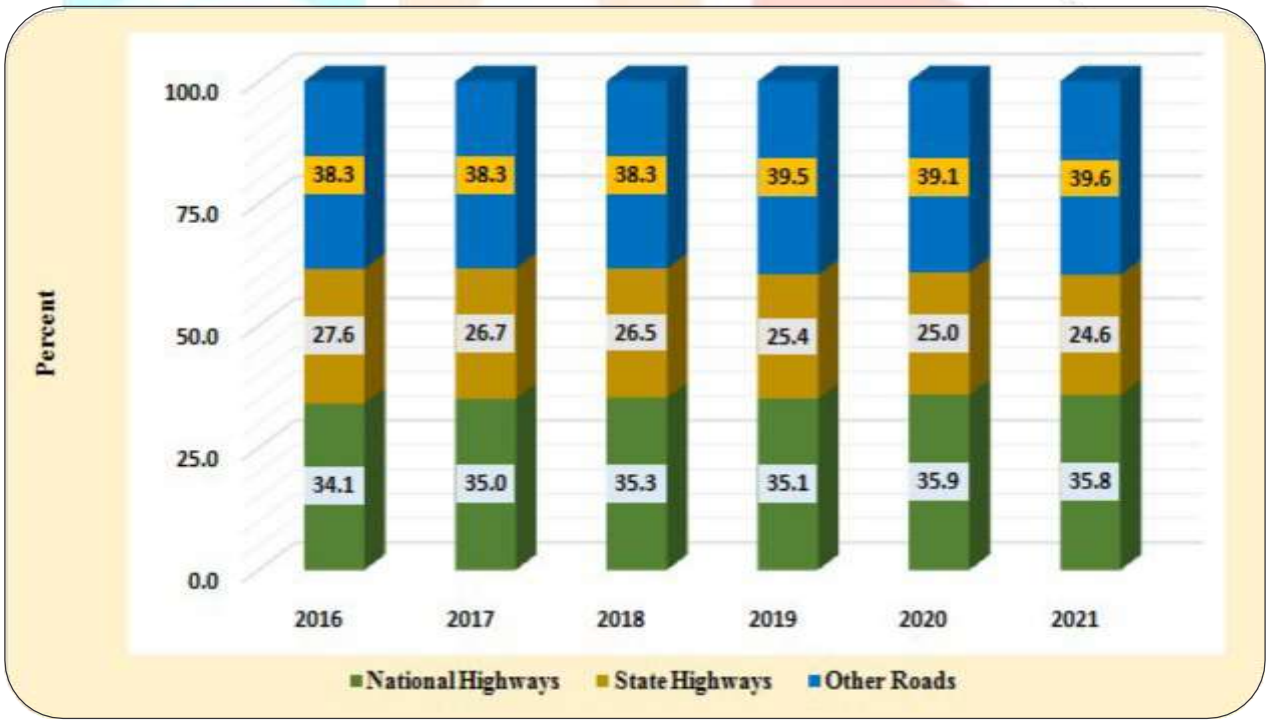


Chart 7.6 Fatal Accidents by category of roads (in percent)



LONG-RUN TREND

7.7. Despite some fluctuations, the number of road accidents and the number of persons killed have stabilized over the years except for a slight increase recorded in 2021 (refer to Chart 7.7). However, total number of accidents increased from 3,66,138 in 2020 to 4,12,432 in 2021, registered increase of 12.6 percent relative to same period last year. Similarly, total number of persons killed increased from 1,31,714 in 2020 to 1,53,972, in 2021, registered increase of 16.9 percent relative to same period in 2019.

Table 7.3: Trends of Major Parameters of Accident by category of Roads (2015 to 2021)

Year	National Highways (including Expressways)			State Highways			Other Roads			Total (All Roads)		
	Road Accidents	Persons killed	Persons Injured	Road Accidents	Persons killed	Persons Injured	Road Accidents	Persons killed	Persons Injured	Road Accidents	Persons killed	Persons Injured
2015	1,42,268	51,204	1,45,341	1,20,518	40,863	1,31,809	2,38,637	54,066	2,23,129	5,01,423	1,46,133	5,00,279
2016	1,42,359	52,075	1,46,286	1,21,655	42,067	1,27,470	2,16,638	56,643	2,20,868	4,80,652	1,50,785	4,94,624
2017	1,41,466	53,181	1,42,622	1,16,158	39,812	1,19,582	2,07,286	54,920	2,08,771	4,64,910	1,47,913	4,70,975
2018	1,40,843	54,046	1,40,622	1,17,570	40,580	1,21,579	2,08,631	56,791	2,07,217	4,67,044	1,51,417	4,69,418
2019	1,37,191	53,872	1,37,549	1,08,976	38,472	1,11,831	2,02,835	58,769	2,01,981	4,49,002	1,51,113	4,51,361
2020	1,16,496	47,984	1,09,898	90,755	33,148	88,208	1,58,887	50,582	1,50,173	3,66,138	1,31,714	3,48,279
2021	1,28,825	56,007	1,17,765	96,382	37,963	92,583	1,87,225	60,002	1,74,100	4,12,432	1,53,972	3,84,448
CAGR 2015-2021	-3.9	-1.3	-5.4	-5.5	-4.1	-7.7	-7.8	-1.3	-7.6	-6.9	-2.05	-6.9

Chart 7.7: Long-run trends in number of Accidents by Category of Roads (2003-2021)

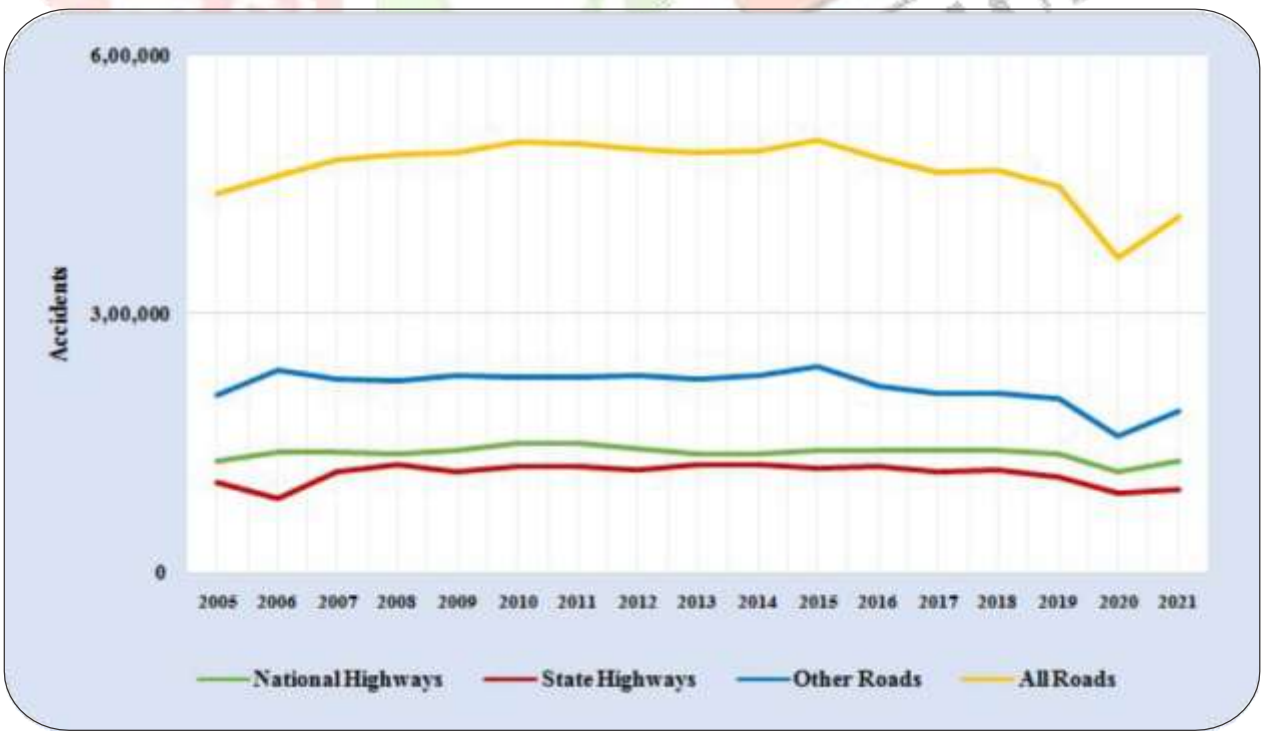
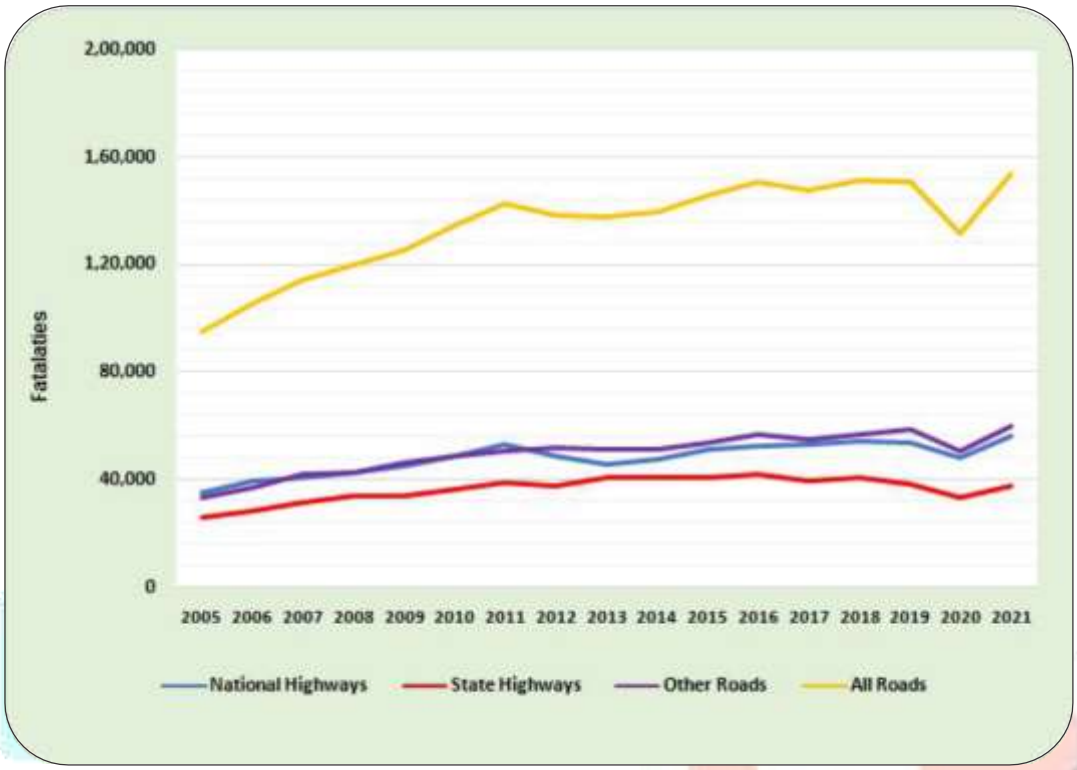


Chart 7.8: Long-run trends in number of fatalities by Category of Roads (2003-2021)



LONG-RUN TREND BY ROAD CATEGORIES

7.8. The percentage share of different categories of roads in total number of accidents, persons killed, and persons injured have remained largely stable fluctuating over very small margins over the years (refer to Table 7.4). In percentage terms, share of road accident, persons killed and injured on Highways have decreased in 2021 compared to previous year, but in absolute terms these parameters shown increasing trend (Table 7.4 refer to). The distribution and percentage shares of accidents and fatalities among the road categories underline the high accident and fatality rates and high accident severity on the National Highways and State Highways given their relatively low share in the total road length of the country. Whereas, in respect of Other Roads, parameters of accident show increasing trend both in absolute and relative terms in 2021 relative to 2020.

Table 7.4: Long-run trends in road accidents, fatalities and injuries by road categories

Year	National Highways			State Highways			Other Roads		
	Accidents	Killed	Injured	Accidents	Killed	Injured	Accidents	Killed	Injured
2003	31.4	38.6	30.1	22.4	28.2	26.7	46.2	33.3	43.2
2004	30.3	37.5	30.8	23.5	26.9	24.9	46.2	35.6	44.3
2005	29.6	37.3	31.3	23.6	27.2	25.7	46.8	35.4	43.0
2006	30.4	37.7	30.8	18.5	26.8	24.9	51.1	35.6	44.4
2007	29.0	35.5	30.2	24.4	27.7	26.2	46.6	36.8	43.7
2008	28.5	35.6	28.6	25.6	28.4	27.5	46.0	36.0	43.9
2009	29.3	36.0	29.6	23.8	27.1	25.5	46.9	36.9	44.8
2010	30.0	36.0	31.3	24.5	27.3	26.0	45.5	36.6	42.7
2011	30.1	37.1	30.5	24.6	27.4	26.1	45.4	35.5	43.4
2012	29.1	35.3	30.1	24.2	27.3	25.9	46.7	37.5	43.9
2013	28.1	33.2	28.9	25.6	29.6	27.6	46.3	37.2	43.4
2014	28.2	34.1	29.9	25.2	29.1	26.7	46.6	36.8	43.3
2015	28.4	35.0	29.1	24.0	28.0	26.3	47.6	37.0	44.6
2016	29.6	34.5	29.6	25.3	27.9	25.8	45.1	37.6	44.7
2017	30.4	36.0	30.3	25.0	26.9	25.4	44.6	37.1	44.3
2018	30.2	35.7	30.0	25.2	26.8	25.9	44.7	37.5	44.1
2019	30.6	35.7	30.5	24.3	25.5	24.8	45.2	38.9	44.7
2020	31.8	36.4	31.6	24.8	25.2	25.3	43.4	38.4	43.1
2021	31.2	36.4	30.6	23.4	24.7	24.1	45.4	39.0	45.3

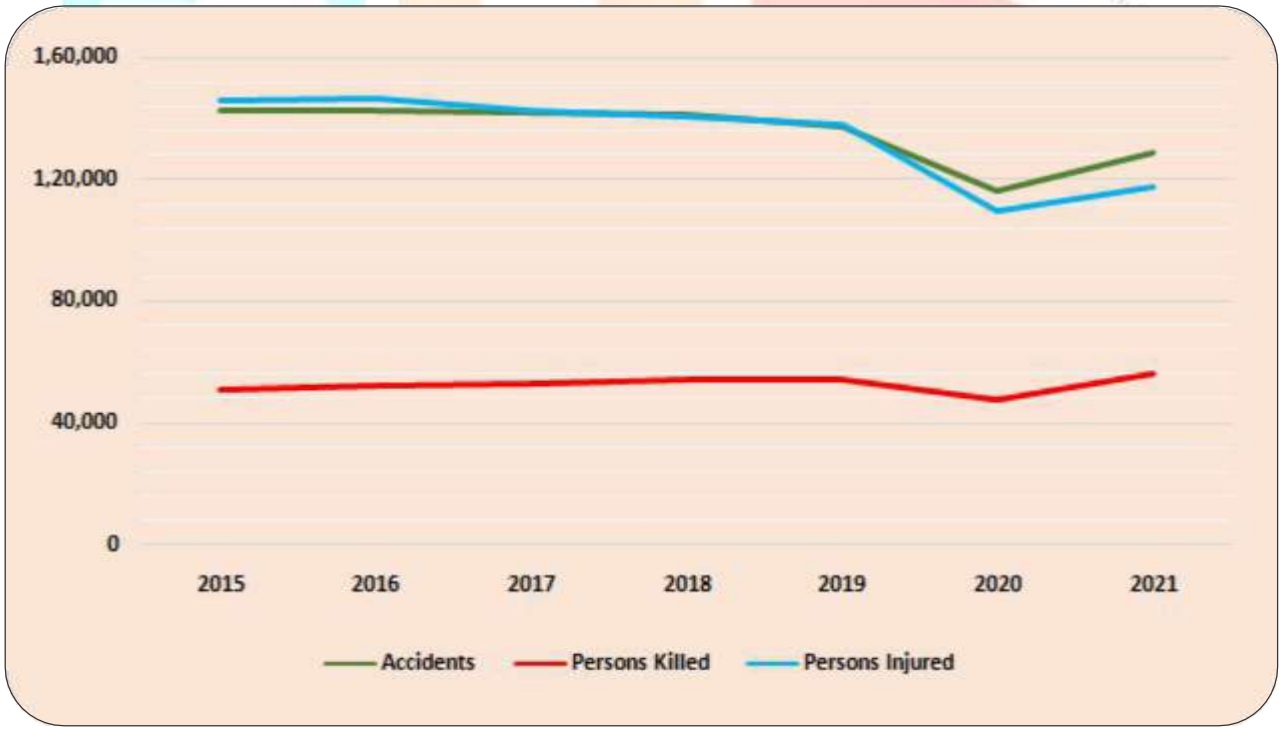
PROFILE OF ROAD ACCIDENTS – NATIONAL HIGHWAYS

7.9. In 2021, a total of 4,12,432 road accidents were reported by States/UTs, of which, 1,28,825(31.2%) were on National Highways killed 56,007 (36.4%) people and caused injury to 1,17,765 (30.6%) persons. There has been a consistent decline in the number of accidents and injuries on National Highways during 2017 to 2020 (Chart- 7.9). Road accidents causalities on National Highways shown an increase in 2021 as compared to 2020 due to Covid-19 pandemic and resultant nationwide lockdown. Total number of accidents and injuries decreased in 2021 relative to same period in 2019 (refer to Table 7.3), whereas number of fatalities show increase during the same period. State wise details are at **Annexure 11, 12 and 13.**

Table 7.5: Road Accidents, Fatalities and Injuries on National Highways

Year	Accidents	YoY Growth	Persons Killed	YoY Growth	Persons Injured	YoY Growth
2015	1,42,268		51,204		1,45,341	
2016	1,42,359	0.1	52,075	1.7	1,46,286	0.7
2017	1,41,466	-0.6	53,181	2.1	1,42,622	-2.5
2018	1,40,843	-0.4	54,046	1.6	1,40,622	-1.4
2019	1,37,191	-2.6	53,872	-0.3	1,37,549	-2.2
2020	1,16,496	-15.1	47,984	-10.9	1,09,898	-20.1
2021	1,28,825	10.6	56,007	16.7	1,17,765	7.2

Chart 7.9: Trend in Road Accidents, Fatalities and Injuries on National Highways



Fatal Accidents on National Highways

7.10. During 2021, a total of 50,953 fatal accidents took place on National Highways, whereas 43,412 fatal accidents were reported in 2020. In Chart 7.10, trends in number of fatal accidents show a general increasing trend except for a sharp decline recorded in 2020. This implies the need for strong policy intervention towards roads safety. State wise details are at the **Annexure 14.**

Chart 7.10 Trend in Fatal Accidents on National Highways

Top 10 States in Number of Accidents on National Highways

7.11. Top 10 States listed in the Table 7.6 are selected based on the number of accidents took place on National Highways as reported by States/UTs during the calendar year 2021. The same set of States which constituted top 10 in 2019 and 2020 constitutes the top 10 in 2021. Tamil Nadu retains its top position in 2021 for the sixth consecutive year (refer Annexure 11) with number of accidents 16,869 (13.1%) followed by Uttar Pradesh with 14,540 (11.3) accidents, Karnataka with 11,462 (8.9%) accidents, and Madhya Pradesh with 11,030 (8.6%) accidents. During the period 2018-2021, Top Ten States have contributed to more than 73 percent of total road accidents on National Highways (Table 7.6 refer to) in the country.

Table. 7.6: Top 10 States in number of accidents on National Highways

S.No	States/UTs	2018	2019	2020	2021
1	Tamil Nadu	19,583	17,633	15,269	16,869
	% Share in Total	13.9	12.9	13.1	13.1
2	Uttar Pradesh	16,198	16,181	13,695	14,540
	% Share in Total	11.5	11.8	11.8	11.3
3	Karnataka	13,638	13,363	11,230	11,462
	% Share in Total	9.7	9.7	9.6	8.9
4	Madhya Pradesh	9,967	10,440	9,866	11,030
	% Share in Total	7.1	7.6	8.5	8.6
5	Andhra Pradesh	8,122	7,682	7,167	8,241
	% Share in Total	5.8	5.6	6.2	6.4
6	Kerala	9,161	9,459	6,594	8,048
	% Share in Total	6.5	6.9	5.7	6.2
7	Maharashtra	9,355	8,360	6,501	7,501
	% Share in Total	6.6	6.1	5.6	5.8
8	Telangana	6,487	7,352	6,820	7,214
	% Share in Total	4.6	5.4	5.9	5.6
9	Rajasthan	6,726	6,883	5,764	6,424
	% Share in Total	4.8	5.0	4.9	5.0
10	Bihar	4,016	4,526	4,101	4,349
	% Share in Total	2.9	3.3	3.5	3.4
	Total (Top 10)	**1,03,253**	**1,01,879**	**87,007**	**95,678**
		73.3	74.3	74.7	74.3
	Total (NH)	**1,40,843**	**1,37,191**	**1,16,496**	**1,28,825**

Road Accident Fatalities on National Highways

7.12. During 2021, a total of 56,007, accidents related deaths took place on National Highways, which constitute about 36.4 percent of total accident deaths in the country. Number fatalities on National Highways reveals a general increasing trend since 2016 except for negative growth recorded in 2019 and 2020 (refer to Table 7.2). National Highways with 2.08 percent of total road network in the country shares about 36.4 percent of total fatalities need concern.

Top 10 States in Number of Accident Fatalities

7.13. Top 10 States are selected based on number of fatalities reported on National Highways during 2021. Uttar Pradesh retains its top position in road accident fatalities on National level in 2021 like 2020 with 15.2 per cent of fatalities followed by Tamil Nadu (9.4%), Maharashtra (7.3%), and Rajasthan (6.8%). West Bengal is at the bottom (10th position) with a share of 3.9 per cent (refer to Table 7.7). The top Ten States together accounted for more than 72 percent of accident fatalities on National Highways in 2021.

Table 7.7: Top 10 States in Number of Fatalities on National Highways

S.No	States/UTs	2018	2019	2020	2021
1	Uttar Pradesh	8,818	8,830	7,859	8,506
	% Share in Total	16.3	16.4	16.4	15.2
2	Tamil Nadu	4,492	3,956	3,203	5,263
	% Share in Total	8.3	7.3	6.7	9.4
3	Maharashtra	4,088	3,799	3,528	4,080
	% Share in Total	7.6	7.1	7.4	7.3
4	Rajasthan	3,874	3,870	3,320	3,829
	% Share in Total	7.2	7.2	6.9	6.8
5	Andhra Pradesh	2,929	3,114	2,858	3,602
	% Share in Total	5.4	5.8	6.0.	6.4
6	Bihar	3,051	3,436	3,285	3,517
	% Share in Total	5.6	6.4	6.8	6.3
7	Karnataka	3,986	3,842	3,330	3,487
	% Share in Total	7.4	7.1	6.9	6.2
8	Madhya Pradesh	2,601	2,904	3,022	3,389
	% Share in Total	4.8	5.4	6.3	6.1
9	Telangana	2,064	2,491	2,620	2,735
	% Share in Total	3.8	4.6	5.5	4.9
10	West Bengal	2,150	2,002	1,810	2,177
	% Share in Total	4.0	3.7	3.8	3.9
Total (Top 10)		**38,053**	**38,244**	**34,835**	**40,585**
		70.4	71.0	72.6	72.5
Total (NH)		**54,046**	**53,872**	**47,984**	**56,007**

CHAPTER - 8
CONCLUSION

8.1 Introduction:

A comprehensive database is a basic prerequisite for any effective road safety initiative to be undertaken. An accident data system should establish systematic procedures for the collection, storage analysis and dissemination of data for all traffic accidents involving a personal injury. The system should ensure that all road safety work whether in engineering, enforcement, education, or publicity could be data–led. In India, development of accident database has been based on police reported accident form. However, the accident database could not get a comprehensive and accurate level up to expectations due to under-reporting and under-recording. Our combined effort could address this problem. Training and awareness are urgent needs to improve the present situation.

8.2 Findings of Accident Data Analysis:

Total Accidents Statistics:

- According to official statistics, there were at least 1,46,133 fatalities and 5,00,279 injuries in 5,01,423 reported accidents in 2015 and 1,53,972 fatalities, 3,84,448 injuries in 4,12,432 reported accidents in 2021. Significant fluctuations in the number of fatalities and injuries, as reported by police, clearly reflect the problems of reporting and recording inconsistencies. The number of fatalities from 1,46,133 in 2015 to 1,53,972 in 2021 indicates 1.05 times in 7 years period.
- About 58% percent of road accidents occurred in rural areas, including rural sections of national highways.
- About 65% percent of casualty accidents occurred in rural areas, including rural sections of national highways.

Pedestrians-The Most Vulnerable Road User Group

- Pedestrians accounted for 55 percent of all reported fatalities in the accident database.
- Pedestrians accounted for nearly 17 percent of all reported fatalities that occurred in rural areas in the accident database.
- Pedestrians accounted for nearly 24 percent of all reported pedestrian injury occurred in rural areas in the accident database.
- The involvement of pedestrians between 20 to 49 years of age in road accidents is much higher, which is nearly 40 percent in rural areas of India.

Involvement of Children in Road Accidents:

- The National Road accidents statistics in India revealed as serious threat to the children. The incidence of overall child involvement in road accident in India is found to be very high, accounting for about 6% percent. This involvement of children less than 18 years of age in road accident.

Involvement of Middle Age in Road Accidents:

- The incidence of overall 25 to 45 years age people involvement in road accident in India is found to be very high, accounting for about 47 percent (see Table 6.3).

Over involvement of Buses and Trucks:

- Studies of road casualty accidents revealed that heavy vehicles such as trucks and buses including minibuses are major contributors to road casualty accidents (bus 2.02%, and Heavy truck 6.15%).

Accidents on National Highways:

- Of the total reported accidents nearly 50 percent occurred on national highway

Accidents on State Highways:

- Of the total reported accidents nearly 37 percent occurred on national highway

8.3 Recommendations:

Based on Data Collection

- **On Accident Recording/ Reporting:**

A systematic way of collecting, recording, and reporting accident data is crucial for making accident investigation and countermeasures evaluation meaningful and accurate. In order to ensure the quality of accident data as well as to minimize underreporting of data, the following measures should be addressed immediately:

1. Formation of separate accident data collection unit at each thana level.
2. The unit should be equipped with well-trained police personnel along with dispatch vehicles to reduce response time to the accident spot. At the same time, they should be given cameras to take photographs of the accident event, which may be invaluable supplementary information for post-incidence investigation.
3. They should be properly trained on how to describe accident events both by description and graphically by drawing collision diagrams, and most importantly, they must understand different modes of collections and their underlying mechanics.
4. Strict monitoring should be introduced so that an event responds quickly and is recorded on the very same day it happens. Most importantly, it should be ensured that the newly introduced accident report form and FIR are filled up at the same time, and a copy of the accident reporting I attached with the FIR.

- **On accident recorded keeping at hospitals:**

1. In the road traffic accident (TRA) related hospital register, the place of accident should be written for the purposes of relating to as well as verifying police data with hospital data.
2. The register should be preserved permanently, and for a systematic way of preserving accident data, computer record keeping may be introduced.
3. There should be a system of exchanging information regarding the related number of people admitted and deaths between police and hospital authorities.

On maintaining information by RHD

1. RHD should systematically preserve all construction and improvement-related documents like feasibility studies, design reports, tender documents, buildings, etc.
2. They should have their own post-improvement monitoring and evaluation programs to assess a particular countermeasure's effectiveness.

8.4: Recommendations for future study

- To obtain detailed research to find out fatalities per 10,000 registered vehicles of every road class, number of registered vehicles (including motorcycle, NMV and excluding) are very essential.
- Accidents per vehicle-km are an important parameter for this analysis.
- Separate analysis should be performed for pedestrian accidents.
- A regression model can be developed to establish a relationship between accidents and other factors.

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ANNEXURE-1: Total Number of Road Accidents in India: 2018 to 2021

S. No	States/UTs	State/UT-Wise Total Number of Road Accidents during					Share of States/UTs in Total Number of Road Accidents				Total Number of Accidents Per Lakh Population				Total Number of Road Accidents per 10,000 Vehicles			Total Number of Road Accidents per 10,000 Km of Roads	
		2018	2019	2020	2021		2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2018	2019
					Number	Rank													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Andhra Pradesh	24,475	21,992	19,509	21,556	7	5.2	4.9	5.3	5.2	27.3	24.3	21.5	40.8	22.7	18.3	14.9	1,121.7	1,247.1
2	Arunachal Pradesh	277	237	134	283	28	0.1	0.1	0.0	0.1	20.7	17.5	9.8	18.5	13.2	10.3	5.8	54.8	42.9
3	Assam	8,248	8,350	6,595	7,411	16	1.8	1.9	1.8	1.8	24.9	24.9	19.5	21.1	24.0	21.2	15.1	240.0	209.2
4	Bihar	9,600	10,007	8,639	9,553	15	2.1	2.2	2.4	2.3	9.0	9.3	8.0	7.8	13.0	11.7	8.7	330.4	335.6
5	Chhattisgarh	13,864	13,899	11,656	12,375	11	3.0	3.1	3.2	3.0	52.3	51.9	43.1	42.0	23.9	21.8	16.7	1,351.6	1,322.8
6	Goa	3,709	3,440	2,375	2,849	21	0.8	0.8	0.6	0.7	179.4	162.5	109.4	182.7	28.0	24.5	16.3	1,993.3	1,839.8
7	Gujarat	18,769	17,046	13,398	15,186	10	4.0	3.8	3.7	3.7	29.2	26.3	20.4	21.8	7.9	6.8	5.0	930.3	683.6
8	Haryana	11,238	10,944	9,431	9,933	14	2.4	2.4	2.6	2.4	39.8	38.2	32.5	33.7	14.5	12.7	11.0	2,246.7	2,176.1
9	Himachal Pradesh	3,110	2,873	2,239	2,404	22	0.7	0.6	0.6	0.6	43.2	39.6	30.6	32.5	20.8	17.6	13.1	502.4	392.3
10	Jharkhand	5,394	5,217	4,405	4,728	19	1.2	1.2	1.2	1.1	15.6	15.0	12.5	12.3	13.4	11.4	8.7	682.2	642.1
11	Karnataka	41,707	40,658	34,178	34,647	**4**	8.9	9.1	9.3	8.4	65.7	63.6	53.1	51.8	21.5	19.3	13.1	1,176.5	1,134.7
12	Kerala	40,181	41,111	27,877	33,296	**5**	8.6	9.2	7.6	8.1	111.4	113.4	76.6	93.8	32.6	30.8	19.7	1,562.9	1,581.6
13	Madhya Pradesh	51,397	50,669	45,266	48,877	**2**	11.0	11.3	12.4	11.9	64.2	62.5	55.1	57.8	38.9	38.4	25.3	1,412.1	1,388.0
14	Maharashtra	35,717	32,925	24,971	29,477	6	7.6	7.3	6.8	7.1	29.1	26.5	19.9	23.7	10.9	9.3	6.6	570.1	517.0
15	Manipur	601	672	432	366	27	0.1	0.1	0.1	0.1	22.7	25.1	16.0	11.6	19.5	18.6	11.9	206.0	207.5
16	Meghalaya	399	482	214	245	29	0.1	0.1	0.1	0.1	14.1	16.9	7.4	7.5	12.0	13.2	5.9	91.0	119.7
17	Mizoram	53	62	53	69	35	0.0	0.0	0.0	0.0	4.9	5.7	4.8	5.7	2.5	2.7	2.0	39.6	38.2
18	Nagaland	430	358	500	746	25	0.1	0.1	0.1	0.2	17.7	14.6	20.2	34.0	9.6	7.3	9.6	117.2	94.5
19	Odisha	11,262	11,064	9,817	10,983	13	2.4	2.5	2.7	2.7	26.1	25.5	22.4	24.9	15.2	13.4	10.8	365.7	362.0
20	Punjab	6,428	6,348	5,203	5,871	17	1.4	1.4	1.4	1.4	21.7	21.3	17.3	19.4	6.6	6.0	4.6	450.7	429.3
21	Rajasthan	21,743	23,480	19,114	20,951	9	4.7	5.2	5.2	5.1	29.0	31.0	24.9	26.4	13.4	13.3	9.9	693.8	749.0
22	Sikkim	180	162	138	155	32	0.0	0.0	0.0	0.0	27.3	24.3	20.5	22.9	29.3	22.6	25.5	133.2	133.0
23	Tamil Nadu	63,920	57,228	45,484	55,682	**1**	13.7	12.7	12.4	13.5	91.3	81.4	64.4	72.9	22.8	19.0	14.2	2,367.3	2,110.7
24	Telangana	22,230	21,570	19,172	21,315	8	4.8	4.8	5.2	5.2					20.3	17.8	14.9	1,735.8	1,534.6
25	Tripura	552	655	466	479	26	0.1	0.1	0.1	0.1	14.1	16.6	11.7	11.8	12.7	13.2	8.5	127.7	145.2
26	Uttarakhand	1,468	1,352	1,041	1,405	23	0.3	0.3	0.3	0.3	13.5	12.3	9.4	12.3	5.9	4.9	3.6	277.8	196.7
27	Uttar Pradesh	42,568	42,572	34,243	37,729	3	9.1	9.5	9.4	9.1	18.9	18.7	14.8	16.3	14.5	13.0	9.8	975.6	961.2
28	West Bengal	12,705	10,158	9,180	11,937	12	2.7	2.3	2.5	2.9	13.4	10.6	9.5	12.2	14.8	10.4	8.4	386.0	357.8
29	A & N Islands	254	230	141	115	34	0.1	0.1	0.0	0.0	44.2	39.1	23.5	28.8	19.4	16.3	9.4	1,415.7	1,271.5
30	Chandigarh	316	305	159	208	31	0.1	0.1	0.0	0.1	16.3	15.0	7.5	17.2	3.3	3.0	1.5	1,244.4	1,185.5
31	D & N Haveli	80	68	100	140	33	0.0	0.0	0.0	0.0	17.7	14.5	20.6	23.0	6.8	5.5	3.7	674.0	600.3
32	Daman & Diu	76	69				0.0	0.0	0.0	0.0	21.2	18.4	0.0	0.0				2,074.9	2,519.2
33	Delhi	6,515	5,610	4,178	4,720	20	1.4	1.2	1.1	1.1	28.9	24.2	17.5	22.9	6.1	4.9	3.5	3,702.5	3,469.3
34	Jammu & Kashmir	5,978	5,796	4,860	5,452	18	1.3	1.3	1.3	1.3	47.2	45.4	37.7	40.7	35.7	31.3	24.7	550.1	482.9
35	Ladakh	NA	NA	NA	236	30				0.1									
36	Lakshadweep	3	1	1	4	36	0.0	0.0	0.0	0.0	3.6	1.2	1.2	5.9	1.7	0.6	0.4	133.7	43.1
37	Puducherry	1,597	1,392	969	1,049	24	0.3	0.3	0.3	0.3	88.8	74.5	49.8	66.8	16.0	13.1	8.7	3,720.1	3,241.8
Total		**4,67,044**	**4,49,002**	**3,66,138**	**4,12,432**		**100**	**100**	**100**	**100**	**36.0**	**34.2**	**27.6**	**31.2**	**17.1**	**15.1**	**11.2**	**878.6**	**826.6**

***Note:** * Figures of road length for the year 2020 are not finalised*

The Data for the years 2017, 2018, 2019 and 2020 of Tamil Nadu is undergoing revision.

$= data for Daman & Diu and Dadar & Nagar Haveli has been recived as the two union territory were meregd on 20th January, 2020 to be known as Dadra and Nagar Haveli and Daman and Diu.

NA: Not Available

ANNEXURE-2: Total Number of Persons Killed in Road Accidents in India: 2018 to 2021

S. No.	States/UTs	State/UT-Wise Total Number of Persons Killed in Road Accidents during					Share of States/UTs in Total Number of Persons Killed in Road Accidents				Total Number of Persons Killed in Road Accidents Per Lakh Population				Total Number of Persons Killed in Road Accidents per 10,000 Vehicles			Total Number of Persons Killed in Road Accidents per 10,000 Km of Roads	
		2018	2019	2020	2021		2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2018	2019
					Number	Rank													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Andhra Pradesh	7,556	7,984	7,039	8,186	7	5.0	5.3	5.3	5.3	8.4	8.8	7.7	15.5	7.0	6.7	5.4	346.3	452.7
2	Arunachal Pradesh	175	127	73	157	26	0.1	0.1	0.1	0.1	13.0	9.4	5.3	10.2	8.3	5.5	3.2	34.6	23.0
3	Assam	2,966	3,208	2,629	3,036	18	2.0	2.1	2.0	2.0	8.9	9.6	7.8	8.7	8.6	8.1	6.0	86.3	80.4
4	Bihar	6,729	7,205	6,699	7,660	8	4.4	4.8	5.1	5.0	6.3	6.7	6.2	6.2	9.1	8.4	6.8	231.6	241.6
5	Chhattisgarh	4,592	5,003	4,606	5,371	12	3.0	3.3	3.5	3.5	17.3	18.7	17.0	18.2	7.9	7.8	6.6	447.7	476.1
6	Goa	262	297	223	226	23	0.2	0.2	0.2	0.1	12.7	14.0	10.3	14.5	2.0	2.1	1.5	140.8	158.8
7	Gujarat	7,996	7,390	6,170	7,452	10	5.3	4.9	4.7	4.8	12.5	11.4	9.4	10.7	3.4	2.9	2.3	396.3	296.3
8	Haryana	5,118	5,057	4,507	4,706	14	3.4	3.3	3.4	3.1	18.1	17.7	15.5	16.0	6.6	5.9	5.2	1,023.2	1,005.5
9	Himachal Pradesh	1,208	1,146	893	1,052	20	0.8	0.8	0.7	0.7	16.8	15.8	12.2	14.2	8.1	7.0	5.2	195.2	156.5
10	Jharkhand	3,542	3,801	3,044	3,513	16	2.3	2.5	2.3	2.3	10.3	10.9	8.6	9.1	8.8	8.3	6.0	448.0	467.8
11	Karnataka	10,990	10,958	9,760	10,038	6	7.3	7.3	7.4	6.5	17.3	17.1	15.2	15.0	5.7	5.2	3.7	310.0	305.8
12	Kerala	4,303	4,440	2,979	3,429	17	2.8	2.9	2.3	2.2	11.9	12.3	8.2	9.7	3.5	3.3	2.1	167.4	170.8
13	Madhya Pradesh	10,706	11,249	11,141	12,057	4	7.1	7.4	8.5	7.8	13.4	13.9	13.6	14.3	8.1	8.5	6.2	294.1	308.2
14	Maharashtra	13,261	12,788	11,569	13,528	3	8.8	8.5	8.8	8.8	10.8	10.3	9.2	10.9	4.0	3.6	3.1	211.7	200.8
15	Manipur	134	156	127	110	28	0.1	0.1	0.1	0.1	5.1	5.8	4.7	3.5	4.4	4.3	3.5	45.9	48.2
16	Meghalaya	182	179	144	187	25	0.1	0.1	0.1	0.1	6.4	6.3	5.0	5.7	5.5	4.9	3.9	41.5	44.5
17	Mizoram	45	48	42	56	31	0.0	0.0	0.0	0.0	4.1	4.4	3.8	4.6	2.2	2.1	1.6	33.6	29.5
18	Nagaland	39	26	53	55	34	0.0	0.0	0.0	0.0	1.6	1.1	2.1	2.5	0.9	0.5	1.0	10.6	6.9
19	Odisha	5,315	5,333	4,738	5,081	13	3.5	3.5	3.6	3.3	12.3	12.3	10.8	11.5	7.2	6.4	5.2	172.6	174.5
20	Punjab	4,740	4,525	3,898	4,589	15	3.1	3.0	3.0	3.0	16.0	15.1	12.9	15.1	4.9	4.3	3.4	332.3	306.0
21	Rajasthan	10,320	10,563	9,250	10,043	5	6.8	7.0	7.0	6.5	13.8	13.9	12.1	12.7	6.3	6.0	4.8	329.3	337.0
22	Sikkim	85	73	47	56	31	0.1	0.0	0.0	0.0	12.9	10.9	7.0	8.3	13.9	10.2	8.7	62.9	59.9
23	Tamil Nadu	12,216	10,525	8,059	15,384	2	8.1	7.0	6.1	10.0	17.4	15.0	11.4	20.1	4.4	3.5	2.5	452.4	388.2
24	Telangana	6,603	6,964	6,882	7,557	9	4.4	4.6	5.2	4.9	NA		NA	NA	6.0	5.7	5.3	515.6	495.5
25	Tripura	213	239	192	194	24	0.1	0.2	0.1	0.1	5.5	6.1	4.8	4.8	4.9	4.8	3.5	49.3	53.0
26	Uttarakhand	1,047	867	674	820	21	0.7	0.6	0.5	0.5	9.6	7.9	6.1	7.2	4.2	3.1	2.3	198.1	126.2
27	Uttar Pradesh	22,256	22,655	19,149	21,227	1	14.7	15.0	14.5	13.8	9.9	9.9	8.3	9.2	7.6	6.9	5.5	510.1	511.5
28	West Bengal	5,711	5,500	4,927	5,800	11	3.8	3.6	3.7	3.8	6.0	5.7	5.1	5.9	6.7	5.6	4.5	173.5	193.8
29	A & N Islands	19	20	14	20	35	0.0	0.0	0.0	0.0	3.3	3.4	2.3	5.0	1.4	1.4	0.9	105.9	110.6
30	Chandigarh	98	104	53	96	29	0.1	0.1	0.0	0.1	5.0	5.1	2.5	7.9	1.0	1.0	0.5	385.9	404.3
31	D & N Haveli	54	49	64	76	30	0.0	0.0	0.0	0.0	11.9	10.5	13.2	12.5	4.6	4.0	2.4	454.9	432.5
32	Daman & Diu	35	28				0.0	0.0	0.0	0.0	9.7	7.5	0.0	0.0				955.6	1,022.3
33	Delhi	1,690	1,463	1,196	1,239	19	1.1	1.0	0.9	0.8	13.3	11.4	9.3	9.2	1.6	1.3	1.0	960.4	904.7
34	Jammu & Kashmir	984	996	728	774	22	0.6	0.7	0.6	0.5	4.4	4.3	3.1	3.8	5.9	5.4	3.7	90.5	83.0
35	Ladakh	NA	NA	NA	56	31				0.0				18.9					
36	Lakshadweep	1	0	0	1	36	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.5	0.6	0.0	0.0	44.6	0.0
37	Puducherry	226	147	145	140	27	0.1	0.1	0.1	0.1	12.6	7.9	7.5	8.9	2.3	1.4	1.3	526.5	342.3

Total	**1,51,417**	**1,51,113**	**1,31,714**	**1,53,972**		**100**	**100**	**100**	**100**	**11.8**	**11.9**	**10.0**	**11.6**	**5.5**	**5.1**	**4.0**	**284.8**	**278.2**

NA: Not Available

Note: The Data for the years 2017, 2018, 2019 and 2020 of Tamil Nadu is undergoing revision.

$= data for Daman & Diu and Dadar & Nagar Haveli has been recived as the two union territory were meregd on 26th January, 2020 to be known as Dadra and Nagar Haveli and Daman and Diu.

ANNEXURE-3 : Total number of Persons Killed according to classification of age and sex 2021

ANNEXURE-4: Drivers Killed according to classification of age and sex, 2021

S.No	State/UT	Less than 18 years		18-25 Years		25-35 Years		35-45 Years		45-60 Years		60 and Above		Age not known	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1	Andhra Pradesh	52	1	773	20	1,157	39	875	55	748	9	246	0	3	0
2	Arunachal Pradesh	6	0	29	4	27	6	18	1	10	1	0	0	0	0
3	Assam	37	1	373	15	319	18	215	3	100	2	1	0	0	0
4	Bihar	46	0	780	37	617	35	447	21	213	5	44	0	0	0
5	Chhattisgarh	130	0	829	25	984	21	631	14	365	8	82	0	56	0
6	Goa	0	0	32	2	43	1	24	2	27	1	11	0	0	0
7	Gujarat	95	2	811	19	1,049	21	807	9	518	11	114	2	11	0
8	Haryana	34	4	482	21	467	24	297	8	161	4	58	0	573	15
9	Himachal Pradesh	4	0	115	0	162	3	103	2	90	0	15	0	0	0
10	Jharkhand	56	0	390	14	511	13	311	6	117	4	32	0	88	13
11	Karnataka	71	0	1,035	12	1,235	33	933	19	605	8	188	0	0	0
12	Kerala	13	1	342	3	337	5	307	10	434	13	252	0	46	3
13	Madhya Pradesh	165	9	1,242	54	1,496	56	1,237	28	702	6	206	5	176	6
14	Maharashtra	61	1	1,401	26	1,952	62	1,795	43	1,120	16	176	1	74	1
15	Manipur	2	0	19	1	21	0	10	0	2	0	0	0	0	0
16	Meghalaya	1	0	15	0	28	0	8	0	2	0	1	0	0	0
17	Mizoram	0	0	4	0	5	0	4	0	4	0	0	0	0	0
18	Nagaland	0	0	9	0	9	0	7	0	0	0	0	0	0	0
19	Orissa	52	2	604	23	824	28	582	10	327	7	67	1	71	0
20	Punjab	93	8	644	71	598	80	489	44	361	21	214	10	43	0
21	Rajasthan	74	4	1,371	21	1,483	25	969	6	459	13	71	1	29	1
22	Sikkim	0	0	1	0	3	1	2	0	0	0	0	0	0	0
23	Tamil Nadu	112	14	1,239	45	2,199	83	1,709	80	2,151	97	1,081	39	2	0
24	Telangana	59	1	643	6	1,108	9	855	7	589	5	160	0	3	1
25	Tripura	1	0	15	0	20	0	10	0	6	0	2	0	0	0
26	Uttarakhand	1	2	92	4	137	3	91	1	68	1	14	0	0	0
27	Uttar Pradesh	433	18	2,238	87	2,351	63	1,807	41	1,091	18	304	5	275	21
28	West Bengal	40	3	150	6	371	5	376	6	159	4	66	0	67	1
29	A & N Islands	0	0	2	0	3	0	2	0	1	0	0	0	0	0
30	Chandigarh	1	0	2	0	8	1	11	1	7	1	4	0	0	0
31	D & N Haveli	0	0	9	0	11	0	5	0	2	0	0	0	0	0

S. NO.	State/UT	Less than 18 years		18-25 Years		25-35 Years		35-45 Years		45-60 Years		60 and Above		Age not known		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Andhra Pradesh	293	88	1,225	149	1,808	228	1,566	277	1,445	278	657	153	15	4	7,009	1,177
2	Arunachal Pradesh	8	1	47	6	41	7	28	1	17	1	0	0	0	0	141	16
3	Assam	228	54	795	118	716	125	561	80	278	47	6	11	9	8	2,593	443
4	Bihar	475	174	1,687	352	1,436	397	1,147	262	930	186	320	106	142	46	6,137	1,523
5	Chhattisgarh	279	67	1,225	131	1,366	124	947	127	648	100	200	58	89	10	4,754	617
6	Goa	0	0	44	4	55	5	32	6	45	5	25	5	0	0	201	25
7	Gujarat	328	85	1,334	159	1,828	271	1,597	227	1,043	155	322	74	26	3	6,478	974
8	Haryana	149	40	791	86	860	114	626	70	363	61	155	31	1,271	89	4,215	491
9	Himachal Pradesh	42	12	181	16	259	29	173	15	177	39	77	32	0	0	909	143
10	Jharkhand	175	22	678	61	813	71	603	63	320	28	142	23	415	99	3,146	367
11	Karnataka	281	95	1,925	232	2,412	328	1,926	324	1,460	300	598	157	0	0	8,602	1,436
12	Kerala	55	15	463	27	451	34	426	65	752	177	732	118	103	11	2,982	447
13	Madhya Pradesh	616	223	2,263	393	2,730	517	2,269	399	1,401	283	493	115	305	50	10,077	1,980
14	Maharashtra	314	59	2,255	151	3,414	333	3,246	392	2,287	295	495	127	149	11	12,160	1,368
15	Manipur	5	0	33	4	32	2	16	0	7	2	6	1	2	0	101	9
16	Meghalaya	21	3	33	4	68	4	27	3	13	5	5	1	0	0	167	20
17	Mizoram	4	1	9	1	12	0	8	5	12	1	1	2	0	0	46	10
18	Nagaland	2	0	16	0	14	1	12	1	1	0	0	0	7	1	52	3
19	Orissa	167	36	1,065	123	1,393	155	1,007	122	617	72	189	34	96	5	4,534	547
20	Punjab	147	19	964	195	893	215	794	142	632	122	327	55	74	10	3,831	758
21	Rajasthan	309	73	2,451	260	2,795	329	2,038	249	1,076	168	205	36	46	8	8,920	1,123
22	Sikkim	0	0	10	4	24	8	8	2	0	0	0	0	0	0	42	14
23	Tamil Nadu	356	104	1,592	122	2,705	244	2,297	335	3,446	698	2,657	780	32	16	13,085	2,299
24	Telangana	233	60	1,183	109	1,994	230	1,654	245	1,173	201	367	98	8	2	6,612	945
25	Tripura	5	1	29	1	44	11	35	3	45	7	9	4	0	0	167	27
26	Uttarakhand	28	9	150	25	232	26	149	12	121	13	41	12	2	0	723	97
27	Uttar Pradesh	1,187	260	4,635	724	4,812	675	3,875	535	2,462	363	823	130	612	134	18,406	2,821
28	West Bengal	238	88	715	95	1,199	140	1,099	155	1,020	264	474	118	164	31	4,909	891
29	A& N Islands	0	0	4	0	6	0	5	0	4	0	1	0	0	0	20	0
30	Chandigarh	5	0	7	2	20	4	21	2	18	6	8	3	0	0	79	17
31	D & N Haveli	5	0	14	1	21	1	11	5	10	2	5	1	0	0	66	10
32	Daman & Diu															0	0
33	Delhi	19	3	134	25	318	21	240	15	267	15	56	11	105	10	1,139	100
34	Jammu & Kashmir	158	35	100	78	108	62	87	31	49	16	19	5	26	0	547	227
35	Ladakh	0	0	15	1	20	6	6	2	6	0	0	0	0	0	47	9
36	Lakshadweep	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
37	Puducherry	4	0	16	3	28	2	32	1	26	4	20	3	1	0	127	13
	Total	**6,137**	**1,627**	**28,088**	**3,662**	**34,927**	**4,719**	**28,568**	**4,173**	**22,171**	**3,914**	**9,435**	**2,304**	**3,699**	**548**	**1,33,025**	**20,947**

32	Daman & Diu																
33	Delhi	5	0	103	18	210	13	156	9	127	2	10	0	34	0		
34	Jammu & Kashmir	88	0	35	46	55	25	39	11	25	5	5	0	8	0		
35	Ladakh	0	0	8	0	8	3	2	1	3	0	0	0	0	0		

36	Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Puducherry	1	0	10	1	13	1	17	0	13	0	7	0	1	0
Total		**1,733**	**71**	**15,847**	**581**	**19,821**	**677**	**15,151**	**438**	**10,607**	**262**	**3,431**	**64**	**1,560**	**62**

ANNEXURE-5: Passengers Killed according to classification of age and sex, 2021

S.No	State/UT	Less than 18		18-25		25-35		35-45		45-60		60 and Above		Age not known	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Andhra Pradesh	173	65	376	102	464	170	437	172	340	187	160	67	3	0
2	Arunachal Pradesh	2	1	18	2	12	1	10	0	7	0	0	0	0	0
3	Assam	62	17	240	63	195	71	172	51	66	24	1	11	1	8
4	Bihar	163	57	408	142	364	142	261	97	141	57	68	34	142	46
5	Chhattisgarh	94	35	268	90	247	82	177	88	131	67	47	29	12	4
6	Goa	0	0	10	2	6	3	4	3	3	3	6	1	0	0
7	Gujarat	148	55	361	121	499	201	438	163	225	88	55	32	7	2
8	Haryana	59	20	146	46	177	47	146	45	80	37	46	16	292	46
9	Himachal Pradesh	32	9	62	15	74	22	43	10	54	25	16	23	0	0
10	Jharkhand	61	18	174	42	200	53	218	51	144	20	75	18	169	80
11	Karnataka	145	69	771	183	897	257	672	239	470	186	174	85	0	0
12	Kerala	26	9	104	23	82	24	62	43	103	118	56	58	22	5
13	Madhya Pradesh	297	165	759	286	872	400	742	301	438	222	166	70	84	38
14	Maharashtra	152	35	612	101	930	211	832	254	559	165	64	49	14	1
15	Manipur	1	0	10	3	6	2	4	0	0	0	1	0	2	0
16	Meghalaya	8	0	12	2	25	4	13	1	7	3	0	1	0	0
17	Mizoram	3	0	5	1	6	0	4	4	6	1	1	2	0	0
18	Nagaland	0	0	5	0	3	1	3	1	0	0	0	0	3	0
19	Orissa	80	21	334	80	427	106	278	83	144	48	63	17	20	2
20	Punjab	39	9	211	103	176	109	169	72	139	87	78	43	11	10
21	Rajasthan	175	51	836	202	964	250	808	188	432	124	85	22	12	6
22	Sikkim	0	0	9	4	18	6	6	2	0	0	0	0	0	0
23	Tamil Nadu	154	58	246	67	280	122	202	179	321	380	205	204	1	0
24	Telangana	126	42	433	86	621	170	491	175	336	129	83	39	2	0
25	Tripura	2	1	10	0	12	7	13	2	10	4	3	2	0	0
26	Uttarakhand	9	5	36	17	41	15	24	8	16	9	7	4	1	0
27	Uttar Pradesh	542	182	1,746	517	1,783	494	1,558	402	992	277	364	102	207	96
28	West Bengal	60	26	200	45	293	73	234	59	138	89	82	14	28	11
29	A & N Islands	0	0	2	0	0	0	1	0	0	0	0	0	0	0
30	Chandigarh	3	0	2	1	3	2	2	0	2	2	1	1	0	0

31	D & N Haveli	3	0	3	1	4	1	1	2	1	1	0	0	0	0
32	Daman & Diu														
33	Delhi	0	0	0	0	1	0	2	0	0	0	0	0	0	0
34	Jammu & Kashmir	27	29	33	23	19	31	22	12	17	8	11	2	12	0
35	Ladakh	0	0	6	1	12	3	4	1	3	0	0	0	0	0
36	Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Puducherry	1	0	4	0	1	0	1	0	0	1	0	2	0	0
Total		**2,647**	**979**	**8,452**	**2,371**	**9,714**	**3,080**	**8,054**	**2,708**	**5,325**	**2,362**	**1,918**	**948**	**1,045**	**355**

ANNEXURE-6: Pedestrians killed according to classification of age and sex, 2021.

S No.	State/UT	Less than 18 years		18-25 Years		25-35 Years		35-45 Years		45-60 Years		60 and Above		Age not known	
		Killed		Killed		Killed		Killed		Killed		Killed		Killed	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Andhra pradesh	56	19	66	26	169	19	221	50	316	82	224	86	8	4
2	Arunachal Pradesh	0	0	0	0	2	0	0	0	0	0	0	0	0	0
3	Assam	89	16	131	24	161	26	136	16	86	21	1	0	6	0
4	Bihar	213	101	368	154	364	213	351	133	524	119	187	71	0	0
5	Chhattisgarh	48	30	109	12	115	20	106	22	111	24	50	29	19	6
6	Goa	0	0	2	0	4	1	4	1	14	1	5	4	0	0
7	Gujarat	67	28	151	18	269	48	328	55	273	56	131	40	8	1
8	Haryana	49	14	147	17	200	41	167	15	107	20	43	15	370	28
9	Himachal Pradesh	5	3	4	1	23	4	26	3	28	14	44	9	0	0
10	Jharkhand	47	2	87	4	73	3	56	3	45	2	27	4	139	4
11	Karnataka	56	23	115	37	265	38	311	66	368	106	223	72	0	0
12	Kerala	11	5	16	1	31	5	55	12	191	46	370	60	32	3
13	Madhya Pradesh	137	45	235	45	345	53	277	67	250	54	118	39	44	6
14	Maharashtra	91	18	224	21	504	57	599	94	571	114	238	77	60	9
15	Manipur	2	0	3	0	3	0	1	0	4	2	3	1	0	0
16	Meghalaya	10	3	6	2	15	0	6	2	4	2	4	0	0	0
17	Mizoram	1	1	0	0	1	0	0	1	2	0	0	0	0	0
18	Nagaland	2	0	1	0	1	0	2	0	1	0	0	0	4	1
19	Orissa	24	11	91	17	101	20	118	28	109	17	46	16	1	3
20	Punjab	10	2	63	16	77	26	88	24	101	14	20	2	18	0
21	Rajasthan	58	18	225	37	326	54	251	53	173	30	48	12	5	1
22	Sikkim	0	0	0	0	3	1	0	0	0	0	0	0	0	0
23	Tamil Nadu	79	30	96	10	201	38	357	71	827	218	1,142	533	29	16
24	Telangana	43	17	105	17	259	51	290	63	221	67	114	59	3	1
25	Tripura	2	0	4	1	9	4	12	1	21	3	1	2	0	0
26	Uttarakhand	11	2	22	4	45	8	33	3	34	3	19	8	1	0
27	Uttar Pradesh	118	41	362	63	415	86	303	70	239	57	106	21	90	14

28	West Bengal	115	56	255	36	485	58	454	84	689	170	317	104	69	19
29	A & N Islands	0	0	0	0	3	0	2	0	3	0	1	0	0	0
30	Chandigarh	1	0	2	1	6	0	5	0	2	3	2	2	0	0
31	D & N Haveli	2	0	1	0	6	0	5	3	5	1	5	1	0	0
32	Daman & Diu														
33	Delhi	11	3	26	7	89	8	75	6	131	13	46	11	68	10
34	Jammu & Kashmir	12	6	16	9	13	6	15	8	7	3	3	3	0	0
35	Ladakh	0	0	1	0	0	0	0	0	0	0	0	0	0	0
36	Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Puducherry	1	0	2	2	5	1	12	1	12	3	9	1	0	0
	Total	**1,371**	**494**	**2,936**	**582**	**4,588**	**889**	**4,666**	**955**	**5,469**	**1,265**	**3,547**	**1,282**	**974**	**126**

ANNEXURE-7: Total Number of Accidents, Number of Persons Killed and Number of Persons Injured in Road Accidents in Urban & Rural Areas: 2021

S. No.	States/UTs	Urban					Rural					Total				
		Total Accidents	Persons Killed	Persons Injured			Total Accidents	Persons Killed	Persons Injured			Total Accidents	Persons Killed	Persons Injured		
				Greviously Injured	Minor Injury	Total Injured			Greviously Injured	Minor Injury	Total Injured			Greviously Injured	Minor Injury	Total Injured
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Andhra Pradesh	7,034	1,797	1,910	4,020	5,930	14,522	6,389	3,687	11,423	15,110	21,556	8,186	5,597	15,443	21,040
2	Arunachal Pradesh	201	113	186	91	277	82	44	51	19	70	283	157	237	110	347
3	Assam	3,219	1,294	2,042	239	2,281	4,192	1,742	3,170	312	3,482	7,411	3,036	5,212	551	5,763
4	Bihar	2,752	2,084	2,198	87	2,285	6,801	5,576	5,375	286	5,661	9,553	7,660	7,573	373	7,946
5	Chhattisgarh	3,884	978	393	2,773	3,166	8,491	4,393	1,148	6,369	7,517	12,375	5,371	1,541	9,142	10,683
6	Goa	689	55	60	248	308	2,160	171	158	377	535	2,849	226	218	625	843
7	Gujarat	5,703	2,061	2,783	1,902	4,685	9,483	5,391	5,066	3,939	9,005	15,186	7,452	7,849	5,841	13,690
8	Haryana	4,231	1,908	911	2,479	3,390	5,702	2,798	1,051	3,680	4,731	9,933	4,706	1,962	6,159	8,121
9	Himachal Pradesh	373	84	175	253	428	2,031	968	1,062	1,964	3,026	2,404	1,052	1,237	2,217	3,454
10	Jharkhand	1,589	1,207	969	213	1,182	3,139	2,306	1,633	412	2,045	4,728	3,513	2,602	625	3,227
11	Karnataka	11,654	2,659	6,587	5,739	12,326	22,993	7,379	12,746	15,682	28,428	34,647	10,038	19,333	21,421	40,754
12	Kerala	9,296	908	7,212	2,649	9,861	24,000	2,521	19,283	7,631	26,914	33,296	3,429	26,495	10,280	36,775
13	Madhya Pradesh	20,702	3,495	2,154	17,439	19,593	28,175	8,562	3,931	25,432	29,363	48,877	12,057	6,085	42,871	48,956
14	Maharashtra	11,327	3,692	6,311	2,842	9,153	18,150	9,836	9,762	4,156	13,918	29,477	13,528	16,073	6,998	23,071
15	Manipur	110	30	35	102	137	256	80	113	254	367	366	110	148	356	504
16	Meghalaya	80	38	37	45	82	165	149	129	52	181	245	187	166	97	263
17	Mizoram	31	16	9	12	21	38	40	26	18	44	69	56	35	30	65
18	Nagaland	646	41	102	220	322	100	14	20	38	58	746	55	122	258	380
19	Odisha	3,722	1,553	1,977	1,184	3,161	7,261	3,528	3,770	2,851	6,621	10,983	5,081	5,747	4,035	9,782
20	Punjab	2,435	1,757	804	498	1,302	3,436	2,832	1,228	542	1,770	5,871	4,589	2,032	1,040	3,072
21	Rajasthan	6,565	2,455	1,794	4,209	6,003	14,386	7,588	3,382	9,959	13,341	20,951	10,043	5,176	14,168	19,344
22	Sikkim	65	25	60	52	112	90	31	71	61	132	155	56	131	113	244
23	Tamil Nadu	16,122	3,846	8,110	7,637	15,747	39,560	11,538	15,033	25,216	40,249	55,682	15,384	23,143	32,853	55,996
24	Telangana	12,011	2,873	1,239	9,846	11,085	9,304	4,684	1,331	7,691	9,022	21,315	7,557	2,570	17,537	20,107
25	Tripura	180	50	168	5	173	299	144	371	3	374	479	194	539	8	547
26	Uttarakhand	678	328	372	111	483	727	492	436	172	608	1,405	820	808	283	1,091
27	Uttar Pradesh	15,990	8,834	6,611	4,055	10,666	21,739	12,393	9,535	4,696	14,231	37,729	21,227	16,146	8,751	24,897
28	West Bengal	4,338	1,468	2,784	803	3,587	7,599	4,332	5,892	975	6,867	11,937	5,800	8,676	1,778	10,454
29	A & N Islands	54	12	19	21	40	61	8	12	45	57	115	20	31	66	97

30	Chandigarh	203	91	9	162	171	5	5	0	1	1	208	96	9	163	172
31	D & N Haveli	24	14	9	2	11	116	62	92	68	160	140	76	101	70	171
32	Daman & Diu					0					0	0	0	0	0	0
33	Delhi	4,498	1,179	163	3,882	4,045	222	60	16	212	228	4,720	1,239	179	4,094	4,273
34	Jammu & Kashmir	1,615	189	1,420	557	1,977	3,837	585	2,563	2,432	4,995	5,452	774	3,983	2,989	6,972
35	Ladakh	90	25	21	70	91	146	31	29	122	151	236	56	50	192	242
36	Lakshadweep	0	0	0	0	0	4	1	0	6	6	4	1	0	6	6
37	Puducherry	475	76	280	358	638	574	64	192	269	461	1,049	140	472	627	1,099
Total		**1,52,586**	**47,235**	**59,914**	**74,805**	**1,34,719**	**2,59,846**	**1,06,737**	**1,12,364**	**1,37,365**	**2,49,729**	**4,12,432**	**1,53,972**	**1,72,278**	**2,12,170**	**3,84,448**

ANNEXURE-8: Fatal Road Accidents in Rural and Urban Areas during the calendar year 2021

S.No	State/UTs	Urban	Rural	Total
1	2	3	4	5
1	Andhra Pradesh	1,724	5,861	7,585
2	Arunachal Pradesh	107	43	150
3	Assam	1,283	1,610	2,893
4	Bihar	1,883	5,178	7,061
5	Chhattisgarh	909	4,073	4,982
6	Goa	53	165	218
7	Gujarat	1,967	4,858	6,825
8	Haryana	1,810	2,593	4,403
9	Himachal Pradesh	85	786	871
10	Jharkhand	983	2,238	3,221
11	Karnataka	2,528	6,930	9,458
12	Kerala	857	2,405	3,262
13	Madhya Pradesh	3,145	7,661	10,806
14	Maharashtra	3,486	9,068	12,554
15	Manipur	27	72	99
16	Meghalaya	35	115	150
17	Mizoram	16	32	48
18	Nagaland	45	11	56
19	Orissa	1,452	3,304	4,756
20	Punjab	1,636	2,614	4,250
21	Rajasthan	2,284	6,771	9,055
22	Sikkim	17	23	40
23	Tamil Nadu	3,747	11,000	14,747
24	Telangana	2,726	4,354	7,080
25	Tripura	47	134	181
26	Uttarakhand	316	426	742
27	Uttar Pradesh	7,792	11,234	19,026
28	West Bengal	1,390	4,015	5,405
29	Andaman & Nicobar Islands	11	8	19
30	Chandigarh	90	4	94
31	Dadra & Nagar Haveli	13	58	71
32	Daman & Diu			0
33	Delhi	1,146	60	1,206
34	Jammu & Kashmir	162	480	642
35	Ladakh	20	28	48
36	Lakshadweep	0	1	1
37	Puducherry	59	99	158
Total		**43,851**	**98,312**	**1,42,163**

ANNEXURE-9: Month-Wise total number of accidents, persons killed and injured during the calendar year 2021

S. No	States/UTs	January						February						March					
		Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured		
					Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Andhra Pradesh	686	2,120	742	599	1,606	2,205	650	1,845	699	514	1,331	1,845	669	1,906	743	590	1,354	1,944
2	Arunachal Pradesh	16	28	16	12	9	21	11	30	11	18	10	28	10	19	10	9	9	18
3	Assam	307	734	323	540	58	598	334	776	352	529	61	590	280	743	290	566	69	635
4	Bihar	605	848	645	642	40	682	635	888	699	776	47	823	617	839	672	731	47	778
5	Chhattisgarh	606	1,480	652	246	1,221	1,467	521	1,306	561	182	964	1,146	544	1,246	589	188	820	1,008
6	Goa	24	300	25	21	78	99	10	237	11	16	67	83	21	286	21	23	60	83
7	Gujarat	649	1,461	728	755	525	1,280	545	1,306	604	705	488	1,193	648	1,448	703	728	557	1,285
8	Haryana	345	773	361	174	450	624	379	811	410	158	494	652	414	941	446	203	628	831
9	Himachal Pradesh	85	211	117	106	170	276	69	175	73	95	162	257	84	196	112	100	152	252
10	Jharkhand	285	431	313	227	96	323	302	445	332	226	49	275	266	383	287	194	78	272
11	Karnataka	972	3,606	1,043	2,245	1,961	4,206	890	3,177	947	1,959	1,843	3,802	976	3,512	1,018	2,225	2,055	4,280
12	Kerala	378	3,602	407	2,907	1,136	4,043	336	3,375	362	2,737	1,011	3,748	341	3,505	355	2,808	1,089	3,897
13	Madhya Pradesh	1,079	5,181	1,194	805	4,437	5,242	940	4,439	1,135	565	3,923	4,488	941	4,449	1,064	593	3,982	4,575
14	Maharashtra	1,251	2,961	1,347	1,733	745	2,478	1,198	2,787	1,303	1,534	612	2,146	1,215	2,864	1,302	1,519	613	2,132
15	Manipur	8	33	9	14	23	37	7	30	10	12	47	59	14	51	15	19	52	71
16	Meghalaya	15	26	20	19	9	28	14	25	15	20	9	29	16	32	19	13	4	17
17	Mizoram	2	5	3	3	2	5	3	5	3	1	1	2	9	14	9	2	0	2
18	Nagaland	7	79	6	37	11	48	11	48	8	7	14	21	9	87	11	10	31	41
19	Odisha	467	1,098	503	614	429	1,043	440	1,029	472	587	423	1,010	487	1,099	516	563	477	1,040
20	Punjab	325	448	355	142	76	218	351	465	375	153	102	255	337	485	358	171	93	264
21	Rajasthan	815	2,141	899	632	1,397	2,029	744	1,914	838	492	1,456	1,948	832	1,982	919	469	1,425	1,894
22	Sikkim	2	16	3	8	18	26	5	19	6	12	7	19	5	15	8	10	15	25
23	Tamil Nadu	1,422	5,322	1,483	2,618	2,808	5,426	1,434	5,300	1,502	2,486	2,717	5,203	1,557	5,543	1,624	2,571	2,913	5,484
24	Telangana	701	2,068	755	319	1,703	2,022	616	1,821	664	271	1,467	1,738	599	1,849	636	254	1,578	1,832
25	Tripura	15	47	17	43	2	45	14	35	17	59	0	59	22	60	27	87	2	89
26	Uttarakhand	78	142	90	96	34	130	69	129	74	84	28	112	78	150	83	95	34	129
27	Uttar Pradesh	1,555	3,069	1,768	1,278	678	1,956	1,488	2,990	1,677	1,313	641	1,954	1,743	3,577	1,980	1,635	814	2,449
28	West Bengal	518	1,190	567	823	219	1,042	485	1,040	524	761	134	895	501	1,093	544	817	230	1,047
29	A & N Island	1	14	1	8	7	15	1	9	1	5	5	10	2	12	2	3	4	7
30	Chandigarh	8	20	8	1	17	18	11	16	11	0	6	6	11	23	12	0	23	23
31	D & N Haveli	5	14	5	13	9	22	7	15	8	13	4	17	7	16	7	13	3	16
32	Daman & Diu						0						0						0
33	Delhi	114	388	115	17	309	326	88	369	88	20	299	319	122	482	127	15	441	456
34	J & K	31	341	33	273	159	432	41	382	54	324	164	488	50	477	57	390	220	610
35	Ladakh	4	8	5	2	3	5	2	9	3	1	10	11	1	15	2	5	5	10
36	Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2
37	Puducherry	16	100	17	48	35	83	13	92	15	40	53	93	14	91	11	52	58	110
Total		**13,397**	**40,305**	**14,575**	**18,020**	**20,480**	**38,500**	**12,664**	**37,339**	**13,864**	**16,675**	**18,649**	**35,324**	**13,442**	**39,491**	**14,579**	**17,671**	**19,937**	**37,608**

To be continued……

S. No	States/UTs	April						May						June					
		Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured		
					Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured
1	2	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
1	Andhra Pradesh	657	1,703	708	446	1,203	1,649	532	1,233	585	292	818	1,110	636	1,594	671	431	1,034	1,465
2	Arunachal Pradesh	16	23	17	6	11	17	12	16	12	17	6	23	7	14	7	13	8	21
3	Assam	269	695	280	528	50	578	201	522	218	356	43	399	150	412	157	299	39	338
4	Bihar	630	835	684	690	25	715	600	795	657	658	42	700	621	811	683	668	39	707
5	Chhattisgarh	280	586	301	73	399	472	241	521	255	68	288	356	419	948	463	120	744	864
6	Goa	21	209	21	11	43	54	11	131	12	4	28	32	13	169	13	12	42	54
7	Gujarat	491	1,005	530	477	331	808	508	989	554	514	377	891	585	1,229	630	650	422	1,072
8	Haryana	391	831	417	164	497	661	243	498	259	97	295	392	359	790	377	159	481	640
9	Himachal Pradesh	72	203	94	116	190	306	48	110	59	51	75	126	66	174	84	101	159	260
10	Jharkhand	247	352	266	193	57	250	257	341	277	163	40	203	258	370	284	210	59	269
11	Karnataka	832	2,895	898	1,682	1,731	3,413	505	1,536	539	827	757	1,584	611	2,072	647	1,156	1,164	2,320
12	Kerala	313	3,157	326	2,542	953	3,495	118	1,052	123	820	300	1,120	181	1,539	195	1,189	414	1,603
13	Madhya Pradesh	791	3,000	924	352	2,531	2,883	819	2,672	919	328	2,293	2,621	998	4,111	1,098	473	3,508	3,981
14	Maharashtra	811	1,732	875	859	403	1,262	883	1,849	948	882	406	1,288	992	2,227	1,062	1,167	557	1,724
15	Manipur	16	36	15	18	36	54	3	9	3	5	5	10	3	18	4	9	10	19
16	Meghalaya	16	26	18	23	12	35	8	13	9	7	2	9	10	12	16	13	1	14
17	Mizoram	3	5	5	3	2	5	6	8	6	0	1	1	2	4	2	1	7	8
18	Nagaland	4	57	4	9	13	22	3	36	3	5	16	21	2	44	2	7	10	17
19	Odisha	385	865	409	447	299	746	284	655	302	313	214	527	354	824	385	414	295	709
20	Punjab	347	471	363	149	82	231	297	401	309	125	56	181	313	435	341	149	59	208
21	Rajasthan	744	1,673	840	431	1,074	1,505	509	991	564	254	584	838	650	1,410	695	328	846	1,174
22	Sikkim	4	14	4	12	17	29	5	12	8	8	13	21	4	8	9	2	4	6
23	Tamil Nadu	1,272	4,628	1,329	2,153	2,569	4,722	706	2,384	746	1,039	1,250	2,289	964	3,291	1,017	1,323	1,919	3,242
24	Telangana	573	1,578	610	168	1,249	1,417	525	1,346	546	153	941	1,094	556	1,605	604	186	1,252	1,438
25	Tripura	18	47	18	40	3	43	9	27	9	33	0	33	13	25	13	21	0	21
26	Uttarakhand	54	95	64	43	18	61	34	59	36	26	12	38	50	84	52	53	7	60
27	Uttar Pradesh	1,370	2,707	1,547	1,143	617	1,760	1,599	2,865	1,799	1,181	609	1,790	1,672	3,149	1,850	1,310	676	1,986
28	West Bengal	451	937	485	613	137	750	404	734	433	461	81	542	404	818	437	644	84	728
29	A & N Island	2	11	2	3	13	16	1	6	1	0	4	4	1	3	1	0	1	1
30	Chandigarh	10	15	10	2	6	8	6	11	6	1	5	6	2	13	2	1	18	19
31	D & N Haveli	6	7	6	2	1	3	5	7	6	2	5	7	3	6	3	4	1	5
32	Daman & Diu						0						0						0
33	Delhi	78	297	78	11	243	254	69	235	71	10	196	206	97	351	103	14	286	300
34	J & K	57	444	65	338	253	591	47	383	55	190	245	435	51	465	62	276	294	570
35	Ladakh	1	12	1	4	14	18	3	20	3	3	17	20	4	29	4	4	31	35
36	Lakshadweep	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	3	3
37	Puducherry	12	89	12	50	53	103	10	62	6	17	16	33	11	87	12	29	46	75
Total		**11,244**	**31,240**	**12,226**	**13,801**	**15,135**	**28,936**	**9,511**	**22,530**	**10,338**	**8,910**	**10,041**	**18,951**	**11,062**	**29,142**	**11,985**	**11,436**	**14,520**	**25,956**

To be continued……

S. No	States/UTs	July						August						September					
		Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured		
					Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured
1	2	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1	Andhra Pradesh	617	1,792	670	470	1,332	1,802	696	1,968	753	521	1,408	1,929	592	1,815	623	418	1,362	1,780
2	Arunachal Pradesh	13	18	14	51	9	60	10	20	11	16	11	27	12	25	13	14	7	21
3	Assam	161	446	169	294	31	325	176	540	183	379	32	411	226	547	234	336	48	384
4	Bihar	550	723	607	585	16	601	515	687	555	546	24	570	547	732	583	513	22	535
5	Chhattisgarh	438	1,052	468	123	693	816	409	1,088	441	116	758	874	348	1,005	372	122	733	855
6	Goa	14	198	14	13	44	57	17	212	17	27	31	58	18	227	20	21	37	58
7	Gujarat	502	1,200	542	596	448	1,044	553	1,269	599	649	577	1,226	484	1,157	529	649	529	1,178
8	Haryana	355	818	381	123	539	662	330	783	350	149	501	650	355	812	377	177	490	667
9	Himachal Pradesh	72	211	83	91	200	291	75	224	86	119	245	364	56	193	65	100	151	251
10	Jharkhand	247	365	270	209	49	258	250	394	273	220	33	253	233	365	256	207	40	247
11	Karnataka	718	2,584	759	1,389	1,540	2,929	759	2,859	795	1,610	1,704	3,314	749	2,876	808	1,533	1,838	3,371
12	Kerala	199	2,139	206	1,716	622	2,338	251	2,449	260	1,911	707	2,618	244	2,661	251	2,113	856	2,969
13	Madhya Pradesh	911	4,054	1,007	496	3,357	3,853	702	3,811	783	486	3,435	3,921	672	3,692	744	358	3,382	3,740
14	Maharashtra	996	2,328	1,089	1,276	499	1,775	895	2,225	964	1,228	604	1,832	917	2,260	987	1,180	555	1,735
15	Manipur	3	16	3	6	18	24	9	29	9	8	25	33	11	29	11	22	11	33
16	Meghalaya	10	12	14	1	5	6	6	10	6	6	2	8	15	23	15	9	6	15
17	Mizoram	4	4	4	4	4	8	2	3	2	2	0	2	3	3	3	5	4	9
18	Nagaland	3	53	3	9	22	31	5	69	5	5	28	33	4	73	4	9	23	32
19	Odisha	375	836	399	432	277	709	337	804	365	396	296	692	360	830	379	426	324	750
20	Punjab	356	483	395	204	81	285	356	484	402	175	100	275	342	492	365	181	84	265
21	Rajasthan	740	1,686	818	389	1,136	1,525	785	1,784	879	413	1,159	1,572	693	1,701	775	389	1,221	1,610
22	Sikkim	4	5	4	4	5	9	6	11	7	16	3	19	0	3	0	24	11	35
23	Tamil Nadu	1,249	4,592	1,281	1,958	2,609	4,567	1,310	4,977	1,365	2,070	2,909	4,979	1,254	4,941	1,313	1,990	2,967	4,957
24	Telangana	531	1,662	567	173	1,330	1,503	593	1,869	620	245	1,586	1,831	491	1,662	525	192	1,416	1,608
25	Tripura	9	30	10	27	0	27	18	41	18	43	0	43	12	37	13	51	0	51
26	Uttarakhand	62	114	69	47	25	72	49	103	49	56	16	72	56	134	62	75	40	115
27	Uttar Pradesh	1,562	3,165	1,745	1,428	790	2,218	1,483	2,991	1,629	1,319	697	2,016	1,441	2,937	1,571	1,268	692	1,960
28	West Bengal	433	968	454	669	163	832	426	997	460	789	152	941	423	940	447	621	117	738
29	A & N Island	1	13	1	0	5	5	1	10	1	2	5	7	3	10	3	3	12	15
30	Chandigarh	10	19	11	0	13	13	10	18	10	0	17	17	7	19	7	3	15	18
31	D & N Haveli	6	9	6	5	1	6	4	9	4	9	5	14	8	16	8	7	10	17
32	Daman & Diu						0						0						0
33	Delhi	101	380	108	7	352	359	118	425	120	11	354	365	108	426	109	12	368	380
34	J & K	60	526	77	400	351	751	59	503	71	328	327	655	51	510	64	322	312	634
35	Ladakh	12	39	15	7	34	41	6	29	6	7	26	33	6	24	7	5	19	24
36	Lakshadweep	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0
37	Puducherry	12	87	12	31	52	83	12	85	10	44	51	95	15	92	10	43	69	112
Total		**11,336**	**32,627**	**12,275**	**13,233**	**16,652**	**29,885**	**11,234**	**33,781**	**12,109**	**13,921**	**17,828**	**31,749**	**10,756**	**33,269**	**11,553**	**13,398**	**17,771**	**31,169**

To be continued……

S. No	States/UTs	October						November						December						Total					
		Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured			Fatal Accidents	Total Accidents	Persons Killed	Persons Injured		
					Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured				Greviously Injured	Minor Injury	Total Injured
1	2	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	Andhra Pradesh	672	1924	721	487	1,288	1,775	568	1,649	601	396	1,195	1,591	610	2,007	670	433	1,512	1,945	7,585	21,556	8,186	5,597	15,443	21,040
2	Arunachal Pradesh	15	29	16	41	11	52	9	25	10	12	8	20	19	36	20	28	11	39	150	283	157	237	110	347
3	Assam	232	641	240	466	48	514	287	689	310	447	33	480	270	666	280	472	39	511	2,893	7,411	3,036	5,212	551	5,763
4	Bihar	558	753	607	584	26	610	590	819	623	564	23	587	593	823	645	616	22	638	7,061	9,553	7,660	7,573	373	7,946
5	Chhattisgarh	371	1055	402	126	904	1,030	403	1,066	427	102	779	881	402	1,022	440	75	839	914	4,982	12,375	5,371	1,541	9,142	10,683
6	Goa	19	253	19	19	47	66	21	287	21	26	77	103	29	340	32	25	71	96	218	2,849	226	218	625	843
7	Gujarat	591	1343	637	686	520	1,206	652	1,373	720	709	538	1,247	617	1,406	676	731	529	1,260	6,825	15,186	7,452	7,849	5,841	13,690
8	Haryana	420	1006	453	171	626	797	414	944	442	166	600	766	398	926	433	221	558	779	4,403	9,933	4,706	1,962	6,159	8,121
9	Himachal Pradesh	87	257	99	140	261	401	74	236	86	107	224	331	83	214	94	111	228	339	871	2,404	1,052	1,237	2,217	3,454
10	Jharkhand	287	415	317	252	48	300	286	419	313	257	34	291	303	448	325	244	42	286	3,221	4,728	3,513	2,602	625	3,227
11	Karnataka	746	2964	791	1,548	2,080	3,628	797	3,123	842	1,520	2,213	3,733	903	3,443	951	1,639	2,535	4,174	9,458	34,647	10,038	19,333	21,421	40,754
12	Kerala	297	2950	312	2,305	926	3,231	253	3,147	263	2,527	1,055	3,582	351	3,720	369	2,920	1,211	4,131	3,262	33,296	3,429	26,495	10,280	36,775
13	Madhya Pradesh	887	4445	963	479	4,142	4,621	1,024	4,859	1,101	582	4,345	4,927	1,042	4,164	1,125	568	3,536	4,104	10,806	48,877	12,057	6,085	42,871	48,956
14	Maharashtra	1010	2579	1,073	1,446	611	2,057	1,137	2,723	1,220	1,605	700	2,305	1,249	2,942	1,358	1,644	693	2,337	12,554	29,477	13,528	16,073	6,998	23,071
15	Manipur	8	25	11	11	16	27	11	43	11	15	54	69	6	47	9	9	59	68	99	366	110	148	356	504
16	Meghalaya	13	19	23	26	11	37	17	27	20	15	4	19	10	20	12	14	32	46	150	245	187	166	97	263
17	Mizoram	1	1	1	0	1	1	6	8	11	11	3	14	7	9	7	3	5	8	48	69	56	35	30	65
18	Nagaland	0	67	0	7	36	43	4	74	5	9	31	40	4	59	4	8	23	31	56	746	55	122	258	380
19	Odisha	355	893	367	489	343	832	426	950	456	490	291	781	486	1,100	528	576	367	943	4,756	10,983	5,081	5,747	4,035	9,782
20	Punjab	410	590	447	231	76	307	429	586	459	179	123	302	387	531	420	173	108	281	4,250	5,871	4,589	2,032	1,040	3,072
21	Rajasthan	799	1872	866	421	1,295	1,716	898	2,019	1,007	484	1,432	1,916	846	1,778	943	474	1,143	1,617	9,055	20,951	10,043	5,176	14,168	19,344
22	Sikkim	2	6	4	23	3	26	1	34	1	5	8	13	2	12	2	7	9	16	40	155	56	131	113	244
23	Tamil Nadu	1180	4899	1,221	1,870	3,297	5,167	1,181	4,741	1,237	1,626	3,142	4,768	1,218	5,064	1,266	1,439	3,753	5,192	14,747	55,682	15,384	23,143	32,853	55,996
24	Telangana	643	1948	681	214	1,604	1,818	567	1,874	604	201	1,732	1,933	685	2,033	745	194	1,679	1,873	7,080	21,315	7,557	2,570	17,537	20,107
25	Tripura	15	36	16	46	0	46	13	39	13	45	0	45	23	55	23	44	1	45	181	479	194	539	8	547
26	Uttarakhand	58	114	68	65	21	86	82	154	92	107	19	126	72	127	81	61	29	90	742	1,405	820	808	283	1,091
27	Uttar Pradesh	1545	3159	1,718	1,332	814	2,146	1,828	3,516	2,005	1,474	820	2,294	1,740	3,604	1,938	1,465	903	2,368	19,026	37,729	21,227	16,146	8,751	24,897
28	West Bengal	426	1049	458	833	181	1,014	470	1,065	502	802	153	955	464	1,106	489	843	127	970	5,405	11,937	5,800	8,676	1,778	10,454
29	A & N Island	0	3	0	0	1	1	2	11	2	4	4	8	4	13	5	3	5	8	19	115	20	31	66	97
30	Chandigarh	6	16	6	0	14	14	5	15	5	1	12	13	8	23	8	0	17	17	94	208	96	9	163	172
31	D & N Haveli	4	11	5	8	7	15	3	7	3	9	3	12	13	23	15	16	21	37	71	140	76	101	70	171
32	Daman & Diu						0						0						0	0	0	0	0	0	0
33	Delhi	106	429	108	19	397	416	109	449	111	15	408	423	96	489	101	28	441	469	1,206	4,720	1,239	179	4,094	4,273
34	J & K	64	490	89	391	255	646	78	515	86	410	225	635	53	416	61	341	184	525	642	5,452	774	3,983	2,989	6,972
35	Ladakh	4	22	4	2	15	17	3	12	4	1	9	10	2	17	2	9	9	18	48	236	56	50	192	242
36	Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	1	0	6	6
37	Puducherry	15	91	20	50	66	116	14	83	10	36	39	75	14	90	5	32	89	121	158	1,049	140	472	627	1,099
Total		**11,846**	**36,354**	**12,763**	**14,788**	**19,991**	**34,779**	**12,662**	**37,581**	**13,623**	**14,959**	**20,336**	**35,295**	**13,009**	**38,773**	**14,082**	**15,466**	**20,830**	**36,296**	**1,42,163**	**4,12,432**	**1,53,972**	**1,72,278**	**2,12,170**	**3,84,448**

End of Annexure-9

ANNEXURE-10: Road Accidents as per the Time of occurance 2021

S.No	States/UTs	06-900hrs (Day)	09-1200hrs (Day)	12-1500hrs (Day)	15-1800hrs (Day)	18-2100hrs (Night)	21-2400hrs (Night)	00-300hrs (Night)	03-600hrs (Night)	Unknown Time	Total Accidents
1	2	3	4	5	6	7	8	9	10	11	12
1	Andhra Pradesh	2,337	3,324	3,416	4,125	4,522	1,925	775	1,126	6	21,556
2	Arunachal Pradesh	23	48	46	36	43	31	22	20	14	283
3	Assam	881	1,350	1,145	1,412	1,145	423	455	472	128	7,411
4	Bihar	1,413	1,525	1,363	1,508	1,497	648	242	658	699	9,553
5	Chhattisgarh	837	1,853	1,940	2,732	3,110	1,219	375	309	0	12,375
6	Goa	229	393	467	502	582	394	155	124	3	2,849
7	Gujarat	1,630	2,314	2,419	2,624	3,200	1,613	752	617	17	15,186
8	Haryana	1,053	1,168	1,184	1,511	1,928	1,014	638	637	800	9,933
9	Himachal Pradesh	217	350	362	432	557	280	127	79	0	2,404
10	Jharkhand	616	764	702	808	682	360	277	307	212	4,728
11	Karnataka	3,556	5,055	5,370	6,097	7,260	3,907	1,601	1,528	273	34,647
12	Kerala	3,829	6,193	5,417	6,464	7,350	2,461	673	855	54	33,296
13	Madhya Pradesh	3,825	6,950	8,197	9,218	10,332	5,621	2,497	1,857	380	48,877
14	Maharashtra	3,093	4,086	4,454	4,815	5,670	3,653	1,792	1,590	324	29,477
15	Manipur	45	48	52	77	80	35	16	11	2	366
16	Meghalaya	23	36	40	64	36	26	9	11	0	245
17	Mizoram	11	12	10	13	9	7	6	1	0	69
18	Nagaland	66	73	38	68	245	130	72	54	0	746
19	Orissa	1,167	1,642	1,801	1,938	2,107	999	491	635	203	10,983
20	Punjab	623	679	698	879	1,185	800	414	411	182	5,871
21	Rajasthan	2,130	2,967	3,507	4,121	4,238	2,141	963	843	41	20,951
22	Sikkim	0	13	18	34	46	30	0	14	0	155
23	Tamil Nadu	6,246	8,358	8,437	10,385	14,416	4,455	1,125	2,260	0	55,682
24	Telangana	2,120	3,115	3,452	4,028	4,587	2,116	935	936	26	21,315
25	Tripura	56	86	86	105	91	39	4	12	0	479
26	Uttarakhand	119	193	179	225	271	164	60	60	134	1,405
27	Uttar Pradesh	4,713	5,143	4,811	5,371	5,986	4,056	3,002	3,299	1,348	37,729
28	West Bengal	1,221	1,866	1,648	1,832	1,908	1,289	1,440	733	0	11,937
29	A & N Islands	6	11	19	31	24	18	3	3	0	115
30	Chandigarh	16	28	18	31	42	44	22	7	0	208
31	D & N Haveli	15	9	21	25	36	26	3	5	0	140
32	Daman & Diu										0
33	Delhi	573	578	467	499	733	717	574	473	106	4,720
34	J & K	512	972	1,159	1,259	1,041	302	96	105	6	5,452
35	Ladakh	34	44	50	46	28	17	17	0	0	236
36	Lakshadweep	0	2	0	1	0	1	0	0	0	4
37	Puducherry	135	139	146	151	192	131	49	68	38	1,049
Total		**43,370**	**61,387**	**63,139**	**73,467**	**85,179**	**41,092**	**19,682**	**20,120**	**4,996**	**4,12,432**


IJCRT

ANNEXURE-11: Total Number of Road Accidents on National Highways*: 2018 to 2021

S. No.	States/UTs	State/UT-Wise Total Number of Road Accidents on National Highways during				
		2018	2019	2020	2021	
					Number	Rank
1	2	3	4	5	6	7
1	Andhra Pradesh	8,122	7,682	7,167	8,241	**5**
2	Arunachal Pradesh	89	95	67	147	29
3	Assam	3,963	3,988	2,963	3,408	14
4	Bihar	4,016	4,526	4,101	4,349	10
5	Chhattisgarh	3,995	3,811	3,463	3,610	13
6	Goa	1,425	1,244	787	1,116	21
7	Gujarat	3,997	3,511	3,234	3,406	15
8	Haryana	4,358	3,442	3,039	3,174	16
9	Himachal Pradesh	1,455	1,396	1,045	1,179	20
10	Jharkhand	1,616	2,074	1,772	1,890	19
11	Karnataka	13,638	13,363	11,230	11,462	**3**
12	Kerala	9,161	9,459	6,594	8,048	6
13	Madhya Pradesh	9,967	10,440	9,866	11,030	**4**
14	Maharashtra	9,355	8,360	6,501	7,501	7
15	Manipur	329	395	273	236	26
16	Meghalaya	118	325	128	153	28
17	Mizoram	23	21	25	29	33
18	Nagaland	244	235	309	488	24
19	Odisha	4,207	4,148	3,673	4,087	11
20	Punjab	2,821	2,423	2,032	2,288	17
21	Rajasthan	6,726	6,883	5,764	6,424	9
22	Sikkim	64	59	37	73	31
23	Tamil Nadu	19,583	17,633	15,269	16,869	**1**
24	Telangana	6,487	7,352	6,820	7,214	8
25	Tripura	188	248	184	199	27
26	Uttarakhand	816	662	524	711	22
27	Uttar Pradesh	16,198	16,181	13,695	14,540	**2**
28	West Bengal	4,071	3,537	3,338	3,821	12
29	Andaman & Nicobar Islands	93	71	42	41	32
30	Chandigarh	46	36	15	29	33
31	Dadra & Nagar Haveli	0	0	0	0	35
32	Daman & Diu	0	0	NA	NA	
33	Delhi	783	857	460	457	25
34	Jammu & Kashmir	2,118	2,081	1,512	1,899	18
35	Ladakh	NA	NA	NA	119	30
36	Lakshadweep	0	0	0	0	35
37	Puducherry	771	653	567	587	23
Total		**1,40,843**	**1,37,191**	**1,16,496**	**1,28,825**	

* *Includes expressways*

Note: The Data for the years 2017, 2018, 2019 and 2020 of Tamil Nadu is undergoing revision. NA: Not Available

ANNEXURE-12: Total Number of Persons Killed in Road Accidents on National Highways*: 2018 to 2021

S. No.	States/UTs	State/UT-Wise Total Number of Persons Killed in Road Accidents on National Highways during				
		2018	2019	2020	2021	
					Number	Rank
1	2	3	4	5	6	7
1	Andhra Pradesh	2,929	3,114	2,858	3,602	**5**
2	Arunachal Pradesh	56	54	32	87	25
3	Assam	1,541	1,690	1,322	1,574	16
4	Bihar	3,051	3,436	3,285	3,517	6
5	Chhattisgarh	1,384	1,421	1,390	1,663	15
6	Goa	104	107	61	83	27
7	Gujarat	2,171	1,898	1,797	2,077	11
8	Haryana	2,088	1,901	1,663	1,766	14
9	Himachal Pradesh	470	487	314	425	20
10	Jharkhand	1,122	1,554	1,241	1,496	17
11	Karnataka	3,986	3,842	3,330	3,487	7
12	Kerala	1,248	1,259	887	975	18
13	Madhya Pradesh	2,601	2,904	3,022	3,389	8
14	Maharashtra	4,088	3,799	3,528	4,080	**3**
15	Manipur	88	111	90	77	28
16	Meghalaya	73	89	81	112	23
17	Mizoram	15	19	20	23	31
18	Nagaland	12	18	29	25	30
19	Odisha	1,999	2,000	1,781	1,933	13
20	Punjab	2,085	1,693	1,492	1,950	12
21	Rajasthan	3,874	3,870	3,320	3,829	**4**
22	Sikkim	31	29	14	23	31
23	Tamil Nadu	4,492	3,956	3,203	5,263	**2**
24	Telangana	2,064	2,491	2,620	2,735	9
25	Tripura	77	106	78	94	24
26	Uttarakhand	631	428	365	430	19
27	Uttar Pradesh	8,818	8,830	7,859	8,506	**1**
28	West Bengal	2,150	2,002	1,810	2,177	10
29	Andaman & Nicobar Islands	8	7	8	5	34
30	Chandigarh	16	13	6	21	33
31	Dadra & Nagar Haveli	0	0	0	0	35
32	Daman & Diu	0	0	NA	NA	
33	Delhi	263	278	149	201	22
34	Jammu & Kashmir	400	384	258	268	21
35	Ladakh	NA	NA	NA	27	29
36	Lakshadweep	0	0	0	0	35
37	Puducherry	111	82	71	87	25
Total		**54,046**	**53,872**	**47,984**	**56,007**	

Includes expressways

ANNEXURE-13: Total Number of Persons Injured in Road Accidents on National Highways*: 2018 to 2021

S. No.	States/UTs	State/UT-Wise Total Number of Persons Injured in Road Accidents on National Highways during				
		2018	2019	2020	2021	
					Number	Rank
1	2	3	4	5	6	7
1	Andhra Pradesh	8,251	8,651	7,215	8,323	6
2	Arunachal Pradesh	105	138	83	150	29
3	Assam	3,389	3,625	2,369	2,631	15
4	Bihar	2,771	3,296	3,540	3,534	11
5	Chhattisgarh	3,592	3,541	3,075	2,906	13
6	Goa	541	374	262	228	26
7	Gujarat	3,677	3,112	2,760	2,781	14
8	Haryana	3,337	2,837	2,387	2,514	16
9	Himachal Pradesh	2,559	2,328	1,592	1,645	18
10	Jharkhand	1,223	1,483	1,230	1,138	19
11	Karnataka	16,503	16,835	13,131	13,229	**2**
12	Kerala	10,461	10,710	7,354	8,984	**5**
13	Madhya Pradesh	10,055	10,362	9,714	10,468	**3**
14	Maharashtra	8,457	7,263	5,253	5,901	9
15	Manipur	585	602	401	320	24
16	Meghalaya	36	134	160	175	28
17	Mizoram	32	25	26	27	33
18	Nagaland	180	150	168	240	25
19	Odisha	4,494	4,359	3,421	3,520	12
20	Punjab	1,582	1,454	974	1,100	20
21	Rajasthan	7,023	7,002	5,096	6,065	8
22	Sikkim	116	95	61	110	31
23	Tamil Nadu	24,016	21,770	17,446	17,596	**1**
24	Telangana	7,049	7,591	6,649	6,916	7
25	Tripura	227	297	182	207	27
26	Uttarakhand	759	705	402	546	22
27	Uttar Pradesh	10,912	10,900	8,986	9,512	**4**
28	West Bengal	4,203	3,714	3,259	3,570	10
29	Andaman & Nicobar Islands	99	74	55	44	32
30	Chandigarh	35	27	12	21	34
31	Dadra & Nagar Haveli	0	0	0	0	35
32	Daman & Diu	0	0	NA	NA	
33	Delhi	704	742	386	427	23
34	Jammu & Kashmir	2,762	2,620	1,740	2,175	17
35	Ladakh	NA	NA	NA	119	30
36	Lakshadweep	0	0	0	0	35
37	Puducherry	887	733	509	643	21
Total		**1,40,622**	**1,37,549**	**1,09,898**	**1,17,765**	

ANNEXURE-14: Total Number of Fatal Road Accidents on National Highways*: 2018-2021

S. No.	States/UTs	2018	2019	2020		
					Number	Rank
1	2	3	4	5	6	7
1	Andhra Pradesh	2,643	2,760	2,617	3,226	7
2	Arunachal Pradesh	43	43	28	85	26
3	Assam	1,501	1,572	1,225	1,479	16
4	Bihar	2,801	3,205	3,004	3,242	**5**
5	Chhattisgarh	1,220	1,279	1,221	1,505	15
6	Goa	98	103	59	79	27
7	Gujarat	1,913	1,697	1,612	1,867	11
8	Haryana	1,966	1,662	1,483	1,729	13
9	Himachal Pradesh	377	388	266	381	20
10	Jharkhand	1,027	1,419	1,157	1,357	17
11	Karnataka	3,571	3,411	3,039	3,228	6
12	Kerala	1,147	1,158	831	912	18
13	Madhya Pradesh	2,349	2,602	2,614	3,033	8
14	Maharashtra	3,591	3,432	3,232	3,678	**3**
15	Manipur	79	104	82	66	28
16	Meghalaya	71	85	75	91	24
17	Mizoram	14	17	18	22	31
18	Nagaland	15	18	22	26	29
19	Odisha	1,939	1,820	1,631	1,812	12
20	Punjab	1,969	1,599	1,477	1,714	14
21	Rajasthan	3,372	3,308	2,847	3,270	**4**
22	Sikkim	16	20	10	21	32
23	Tamil Nadu	4,058	3,605	2,935	4,944	**2**
24	Telangana	1,863	2,272	2,394	2,507	9
25	Tripura	69	93	73	86	25
26	Uttarakhand	498	370	320	393	19
27	Uttar Pradesh	7,677	7,760	7,031	7,630	**1**
28	West Bengal	1,938	1,822	1,651	1,989	10
29	Andaman & Nicobar Islands	7	7	6	5	34
30	Chandigarh	17	13	6	21	32
31	Dadra & Nagar Haveli	0	0	0	0	35
32	Daman & Diu	0	0			
33	Delhi	258	268	143	200	22
34	Jammu & Kashmir	333	304	234	234	21
35	Ladakh	NA	NA	NA	24	30
36	Lakshadweep	0	0	0	0	35
37	Puducherry	110	75	69	97	23
Total		**48,550**	**48,291**	**43,412**	**50,953**	

* ***Includes expressways***

Appendix - I

TOTAL NUMBER OF ROAD ACCIDENTS CLASSIFIED ACCORDING TO MONTH OF THE YEAR

Format - 1

Month	Type of Accidents					Number of persons involved			
	Fatal	GI	MI	NI	Total	Killed	Grievous Injured	Minor Injured	Total
1. January					0				0
2. February					0				0
3. March					0				0
4. April					0				0
5. May					0				0
6. June					0				0
7. July					0				0
8. August					0				0
9. September					0				0
10. October					0				0
11. November					0				0
12. December					0				0
TOTAL	0	0	0	0	0	0	0	0	0

Format - 2

ACCIDENTS CLASSIFIED ACCORDING TO AREA AND TIME

Urban | Rural

Time	Type of Accidents					Number of persons			Type of Accidents					Number of persons		
	Fatal	GI	MI	NI	Total	Killed	GI	MI	Fatal	GI	MI	NI	Total	Killed	GI	MI
06.00 to 9.00 hrs (Day)					0								0			
09.00 to 12.00 hrs (Day)					0								0			
12.00 to 15.00 hrs (Day)					0								0			
15.00 to 18.00 hrs (Day)					0								0			
18.00 to 21.00 hrs (Night)					0								0			
21.00 to 24.00 hrs (Night)					0								0			
00.00 to 3.00 hrs (Night)					0								0			
03.00 to 6.00 hrs (Night)					0								0			
Un-known time					0								0			
TOTAL$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Format - 3

Accidents Classified According to Weather Conditions

Weather Condition	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured	
							Grievously Injured	Minor Injury
1. Sunny/Clear					0			
2. Rainy					0			
					0			
3. Foggy & Misty					0			
4. Hail/Sleet					0			
5. Others (Specify)								
TOTAL$	0	0	0	0	0	0	0	0

Format - 4

Accidents According to the Classification of Road

Classification of Road	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured	
							Grievously Injured	Minor Injury
1. Expressways					0			
2. National Highways					0			
3. State Highways					0			
4.Other Roads					0			
Total$	0	0	0	0	0	0	0	0

Format - 5

Accidents Classified According to Road Environment

Accident Spot	Number of Accidents					Number of Persons			Comments if any
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured		
							Grievously Injured	Minor Injury	
1. Residential Area					0				
2. Institutional Area *					0				
3. Market/ Commercial area #					0				
4. Open Area					0				
5. Others (Specify)					0				
TOTAL$	0	0	0	0	0	0	0	0	

** Institutional Area: Colleges, Schools, offices & religious places etc. #*

Markets/Commercial : Shops

Format - 6

Accidents Classified According to Road Features

Road Features	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured	
							Grievously Injured	Minor Injury
1. Straight Road					0			
2. Curved Road					0			
3. Bridge					0			
4. Culvert					0			
5. Pot Holes					0			
6. Steep Grade					0			
7. Ongoing Road Works/Under Construction					0			
8. Others (Specify)					0			
TOTAL $	0	0	0	0	0	0	0	0

Format - 7

Accidents Classified According to Junction Type

Junction Type	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured	
							Grievously Injured	Minor Injury
1. T Junction					0			
2 Y Junction					0			
3. Four Arm Junction					0			
4. Staggered Junction					0			
5.Round About Junction					0			
Total	0	0	0	0	0	0	0	0

Format - 8

Accidents Classified According to Traffic Control at Junction

Traffic Control	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured	
							Grievously Injured	Minor Injury
1. Traffic light Signal					0			
2. Police Controlled					0			
3. Stop Sign					0			
4. Flashing signal/ blinker					0			
5. Uncontrolled					0			
Total	0	0	0	0	0	0	0	0

Format - 9

Location of pedestrian accidents according to whether at Pedestrian Infrastructure

Pedestrian Infrastructure	Number of Accidents					Number of persons			Comments if any
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	
1.Zebra Crossing [$]					**0**				
2.Foot Bridge/Subway					**0**				
3.Footpath					**0**				
4.Others (where there is no pedestrian infrastructure)					**0**				**Provide chainage where pedestrians in this category are dying**
Total	0	0	0	0	0	0	0	0	

$ Information to be filled in respect of pedestrians in the format according to presence of Zebra crossing, foot bridge and footpath.

Format - 10 (a)

Persons killed in Accidents Classified by the type of impacting vehicles

Crime Vehicle / Victim/Victim Vehicle	1. Bicycles	2.Two Wheelers	3.Auto Rickshaws	4.Cars, Taxis, Vans & LMV	5.Trucks/Lorries	6.Buses	7. Other Non-motorized vehicle (E-rickshaw etc.)	8. Others	9.Total
1. Pedestrian									**0**
2. Bicycles									**0**
3.Two Wheelers									**0**
4.Auto Rickshaws									**0**
5.Cars, Taxis, Vans & LMV									**0**
6.Trucks/Lorries									**0**
7.Buses									**0**
8. Other Non-motorized vehicle (E-rickshaw etc.)									**0**
9. Others									**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Format - 10 (b)

Persons Grievous injured in Accidents Classified by the type of impacting vehicles

Crime Vehicle / Victim/Victim Vehicle	1. Bicycles	2.Two Wheelers	3.Auto Rickshaws	4.Cars, Taxis, Vans & LMV	5.Trucks/Lorries	6.Buses	7. Other Non - motorized vehicle (E-rickshaw etc.)	8. Others	9.Total
1. Pedestrian									0
2. Bicycles									0
3.Two Wheelers									0
4.Auto Rickshaws									0
5.Cars, Taxis, Vans & LMV									0
6.Trucks/Lorries									0
7.Buses									0
8. Other Non-motorized vehicle (E-rickshaw etc.)									0
9. Others									0
Total		0	0	0	0	0	0	0	0

Persons Minor injured in Accidents Classified by the type of impacting vehicles

Format - 10 (c)

Crime Vehicle / Victim/Victim Vehicle	1. Bicycles	2.Two Wheelers	3.Auto Rickshaws	4.Cars, Taxis, Vans & LMV	5.Trucks/Lorries	6.Buses	7. Other Non - motorized vehicle (E-rickshaw etc.)	8. Others	9.Total
1. Pedestrian									0
2. Bicycles									0
3.Two Wheelers									0
4.Auto Rickshaws									0
5.Cars, Taxis, Vans & LMV									0
6.Trucks/Lorries									0
7.Buses									0
8. Other Non-motorized vehicle (E-rickshaw etc.)									0
9. Others									0
Total		0	0	0	0	0	0	0	0

Format - 10 (d)

Summary table of format 10 (a), 10 (b) & 10 (c)

Vehicles/persons involved	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured	
							Grievously Injured	Minor Injury
1. Pedestrian					0			
2. Bicycles					0			
3.Two Wheelers					0			
4.Auto Rickshaws					0			
5.Cars, Taxis, Vans & L MV					0			
6.Trucks/Lorries					0			
7.Buses					0			
8. Other Non-motorized vehicle (E-rickshaw etc.)					0			
9. Others					0			
Total	0	0	0	0	0	0	0	0

Format - 11

Accidents Classified According to Age of Impacting Vehicles

Age of Vehicles	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured	
							Grievously Injured	Minor Injury
1. Less than 5 years					0			
2. 5 – 10 years					0			
3. 10.1 - 15 years					0			
4. > 15 years					0			
5.Age Not Known					0			
Total	0	0	0	0	0	0	0	0

Format - 12

Accidents Classified According to Type of Collision/Impact

Load Condition	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured	
							Grievously Injured	Minor Injury
1. Normally Loaded					**0**			
2 Overloaded/ Hanging					**0**			
3. Empty					**0**			
4. Not known					**0**			
Total	0	0	0	0	0	0	0	0

Format - 13 (a)

Accidents Classified According to Type of Collision/Impact

Nature of Accident	Number of Accidents					Number of Persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)
1 Vehicle to Vehicle					**0**			
2. Vehicle to Pedestrian					**0**			
3. Vehicle to Non-Motorised vhicle					**0**			
4. Vehicle to Animal					**0**			
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Format - 13 (b)

Accidents Classified According to Type of Collision

Nature of Accident/ Fatalities	Number of Accidents					Number of persons		
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)
1.Hit & Run					0			
2.Hit With Parked Vehicle					0			
3.Hit from Back					0			
4. Hit from side					0			
5.Run Off Road					0			
6.Hit with Fixed Object					0			
7.Vehicle Overturn					0			
8.Head on Collision					0			
9.Others (Specify)					0			
Total	0	0	0	0	0	0	0	0

Format - 14

Accidents Classified According to Type of Traffic Violations

Number of Persons

Type of Traffic Violations	Number of Accidents							
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total	Killed	Injured Grievously	Injured Minor Injury
1. Over-Speeding					0			
2. Drunken Driving/ Consumption of alcohol & drug					0			
3. Driving on Wrong side					0			
4. Jumping Red Light					0			
5.Use of Mobile Phone					0			
6. Others#					0			
Total	0	0	0	0	0	0	0	0

 # Others refers to other than traffic violation i.e lost control, slept, poor road visibility, engineering defect etc.

Format - 15

Persons killed and Injured due to Non wearing of Safety Device by Victims

Safety Devices	Number of Persons		
	Killed	Grievously Injured (need hospitalisation)	Minor Injured (need hospitalisation)
1.Non-Wearing of Helmets	**0**	**0**	**0**
a) Drivers			
b) Passengers			
2.Non-Wearing of Seat Belt	**0**	**0**	**0**
a. Drivers			
b. Passengers			

Accidents Classified According to License of Drivers

Format - 16

Type of License	Number of Accidents				
	Fatal	Grievous Injury (need hospitalisation)	Minor Injury (not needing hospitalisation)	Non Injury	Total
1. Valid Permanent License					**0**
2.Learner License					**0**
3.Without License					**0**
4. Not known					**0**
Total	**0**	**0**	**0**	**0**	**0**

Format – 17

Accidents Classified According to Type of Road User

Persons	Number of Persons							
	Killed		Grievously Injured (need hospitalisation)		Minor Injured (not needing hospitalisation)		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
1. Pedestrian							**0**	**0**
2. Bicycles							**0**	**0**
a) Drivers							**0**	**0**
b) Passengers							**0**	**0**
3.Two Wheelers							**0**	**0**
a) Drivers							**0**	**0**
b) Passengers							**0**	**0**
4.Auto Rickshaws							**0**	**0**
a) Drivers							**0**	**0**
b) Passengers							**0**	**0**
5.Cars, Taxis, Vans & LMV							**0**	**0**
a) Drivers							**0**	**0**
b) Passengers							**0**	**0**
6.Trucks/Lorries							**0**	**0**
a) Drivers							**0**	**0**
b) Passengers							**0**	**0**
7.Buses							**0**	**0**
a) Drivers							**0**	**0**
b) Passengers							**0**	**0**
8.Other Non-Motor Vehicles (E-rickshaw etc.)							**0**	**0**
a) Drivers							**0**	**0**
b) Passengers							**0**	**0**
9.Others							**0**	**0**
a) Drivers							**0**	**0**
b) Passengers							**0**	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
a) Drivers	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
b) Pedestrain+ Passenger	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Format - 18

Persons killed and Injured according to Type of Victims, Age and Sex

Victims	Number of Persons			
	Killed		Injured	
	Male	Female	Male	Female
(A)Drivers – Total	**0**	**0**	**0**	**0**
1.Less than 18 years				
2. 18-25				
3. 25-35				
4. 35-45				
5. 45-60				
6. 60 and Above				
Age not known				
(B) Passengers – Total	**0**	**0**	**0**	**0**
1. Less than 18 years				
2 18-25				
3. 25-35				
4. 35-45				
5. 45-60				
6. 60 and Above				
Age not known				
(C) Pedestrian – Total	**0**	**0**	**0**	**0**
1. Less than 18 years				
2 18-25				
3. 25-35				
4. 35-45				
5. 45-60				
6. 60 and Above				
Age not known				
(D) Cyclist – Total	**0**	**0**	**0**	**0**
1. Less than 18 years				
2 18-25				
3. 25-35				
4. 35-45				
5. 45-60				
6. 60 and Above				
Age not known				
Total	**0**	**0**	**0**	**0**
1. Less than 18 years	**0**	**0**	**0**	**0**
2 18-25	**0**	**0**	**0**	**0**
3. 25-35	**0**	**0**	**0**	**0**
4. 35-45	**0**	**0**	**0**	**0**
5. 45-60	**0**	**0**	**0**	**0**
6 .60 and Above	**0**	**0**	**0**	**0**
Age not known	**0**	**0**	**0**	**0**

Format - 19

Accidents & fatalities occurred on National Highways* under different categories

Different categories	Total Accidents	Killed
1	2	3
1. National Highways under NHAI		
2. National Highways under State PWD		
3. National Highways under Other Departments		
4. Total		

** Including Expressways*

Format - 20

Accidents/Persons killed under the category of road user on National Highways* under different categories

Road User	National Highways under NHAI		National Highways under State PWD		National Highways under Other Departments	
	Total Accidents	Persons killed	Total Accidents	Persons killed	Total Accidents	Persons killed
1. Pedestrian						
2. Bicycles						
3. Two Wheelers						
4. Auto Rickshaws						
5. Cars, Taxis, Vans & LMV						
6. Trucks/Lorries						
7. Buses						
8. Other Non-Motorizd Vehicles (E-rickshaw etc.)						
9. Others						
Total						

** Including Expressways*

Format - 21 **Accidents & fatalities classified according to type of traffic violation on National Highways* under different categories**

Type of traffic violation	National Highways under NHAI		National Highways under State PWD		National Highways under Other Departments	
	Total Accidents	Persons killed	Total Accidents	Persons killed	Total Accidents	Persons killed
1. Over-Speeding						
2. Drunken Driving/ Consumption of alcohol & drug						
3. Driving on Wrong side						
4. Jumping Red Light						
5.Use of Mobile Phone						
6. Others						
Total						

* Including Expressway

Appendix - II

Explanation of terms used in the Report:

Accident Type	Definition
Fatal Accident	A fatal accident is one in which one or more persons are killed as a result of the accident, provided death occurs within 30 days.
Serious Injury Accident	A serious injury accident is defined as either for which a person is detained in hospital as an " **in patient"** or if any one of the following injuries are sustained whether or not he or she is detained in the hospital: - fractures, concussions, internal injuries, crushing, severe cuts and lacerations or severe general shock requiring medical treatment and **victim require ICU admission.**
Major Injury Accident	A major injury accident is defined as either for which a person is detained in hospital as an **"in patient",** or if any one of the following injuries are sustained whether or not he or she is detained in the hospital: - fractures, concussions, internal injuries, crushing, severe cuts and lacerations or severe general shock requiring medical treatment but **does not require ICU ICU admission.**
Grievous Injury Accident	Includes both Serious injury accident and Major injury. accident defined above.
Minor Injury Accident	Minor accident is one in which there are no deaths or serious injuries but a person is slightly injured. This will be an injury. of minor nature such as a cut, sprain, or bruise, where only first aid is required and **does not require hospitalisation.**
No Injury Accident (Damage only Accident)	One in which no one is injured but damage to vehicle and/or property sustains.
Road Accident Risk	Number of Accidents per Lakh Population
Road Accident Death Risk:	Number of Persons Killed per Lakh Population
Road Accident Rate	Number of Accidents Per Ten Thousand Vehicles
Road Accident death rate	Number of Persons killed Per Ten Thousand Vehicles
Vehicle Density	Number of Vehicles per Km of Road
Pedestrian	Any person other than a driver or passenger. Persons in or operating pedestrian conveyance such as perambulator, invalid chair without engine, pushcart etc or pulling a cycle are Pedestrians. Persons attending to a vehicle (e.g for change or tyre, repairing engine etc) moving on roller skates, etc are also pedestrians.
Type of Collision	
Run off road	This is a type of road traffic collision in which only one vehicle is involved. Contributing factors include such as loss of control or mis-judging a curve, or attempting to avoidcolliding with another road user or an animal
Head on collision	where the front ends of two vehicles hit each other in opposite. directions

----------END----------