

## CHAPTER – 1A

### TRAFFIC ACCIDENTS

#### Introduction

India has a well-knit and coordinated system of transport which plays an important role in development of economic activities by promoting fair distribution of produced goods and services and movement of people. The share of transport sector in Gross Domestic Product (GDP) of India is steadily growing. It is one of the key indicators in assessment of socio-economic development of the country. Since traffic accidents are indicator of bottlenecks and other hindrances in smooth flow of traffic, hence NCRB collects detailed data on traffic accidents including road accidents for inferring the trend and patterns of traffic accidents for the planners to devise appropriate preventive strategies.

The Bureau collects data on 'Traffic Accidents' comprising of (i) Road Accidents (ii) Railway Accidents and (iii) Railway Crossing Accidents, as these are the major contributors of accidental deaths.

Number of 'Traffic Accidents' in the country have increased from 3,68,828 in 2020 to 4,22,659 in 2021. (The rate of deaths in road accidents per thousand vehicles has also increased from 0.45 in 2020 to 0.53 in 2021). Maximum increase in number of traffic accidents cases in States from 2020 to 2021 was reported in Tamil Nadu (from 46,443 to 57,090) followed by Madhya Pradesh (from 43,360 to 49,493), Uttar Pradesh (from 30,593

to 36,509), Maharashtra (from 24,908 to 30,086) and Kerala (from 27,998 to 33,051). **[Table-1A.1].**

These traffic accidents resulted in injuries to 3,73,884 persons and 1,73,860 deaths during 2021. State of Uttar Pradesh (24,711 deaths) followed by Tamil Nadu (16,685 deaths) and Maharashtra (16,446 deaths) have reported maximum fatalities in traffic accidents in the country; these 3 States accounted for 14.2%, 9.6% and 9.5% of total deaths in traffic accidents respectively and collectively accounted for 33.3% (57,842 out of 1,73,860) of total fatalities reported at all India level during 2021.

The percentage share of traffic accidental deaths in total deaths due to 'Other Causes' has decreased from 45.1% in 2017 to 44.5% in 2021. A rising trend was seen in total number of deaths in 'Traffic Accidents' from 2017 to 2019 with sharp decline in 2020, which has again increased in 2021 but this number in 2021 is less than that in 2017, 2018 & 2019. Total number of Accidental deaths have increased by 18.8% (from 1,46,354 to 1,73,860) in 2021 over 2020. **[LIST-1A.1].**

These traffic accidents comprise of 4,03,116 road accidents, 17,993 railway accidents and 1,550 railway crossing accidents and caused 1,55,622, 16,431 and 1,807 deaths respectively during 2021.

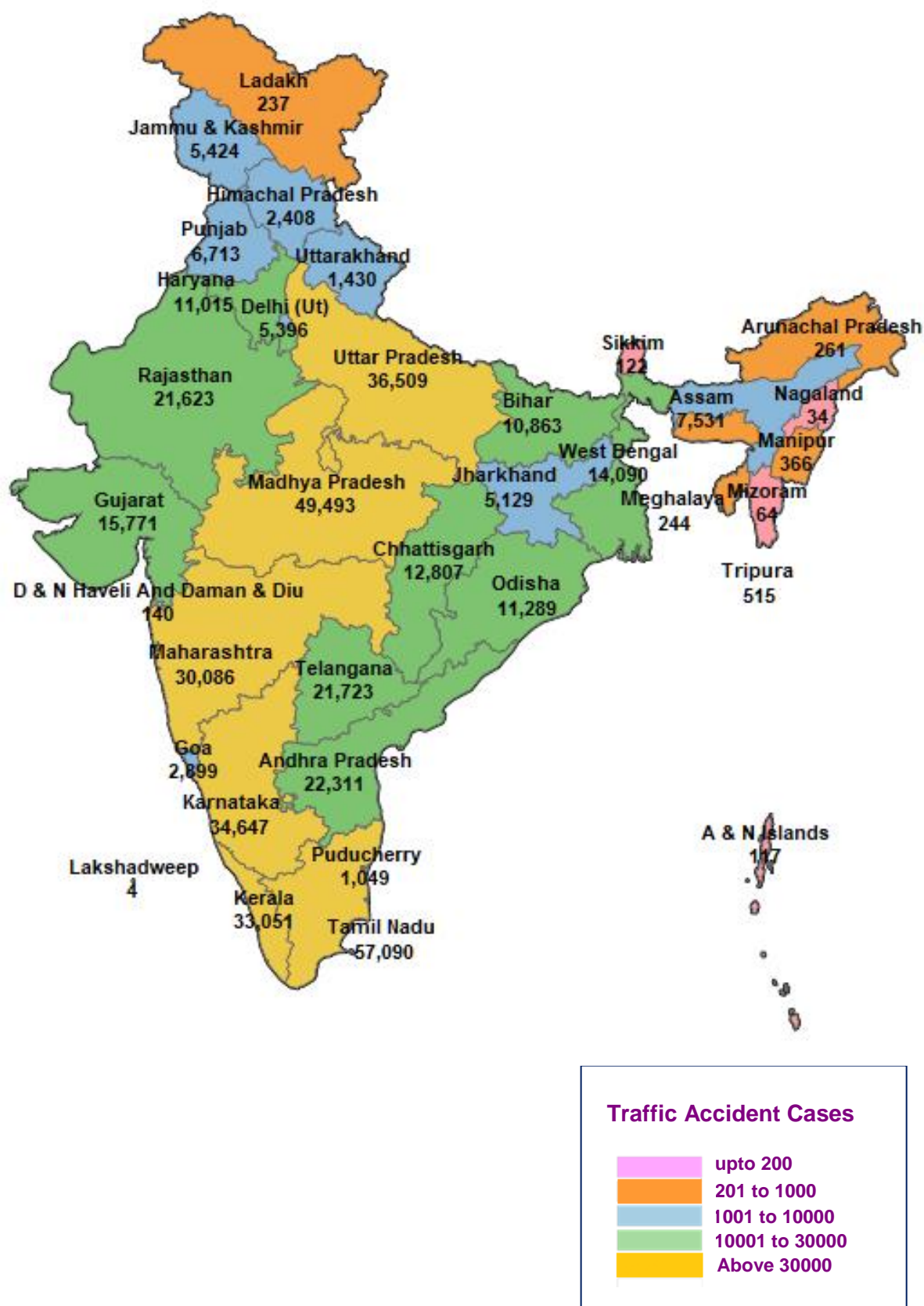
#### LIST-1A.1

##### Number and Share of Deaths due to Traffic Accidents during 2017 – 2021

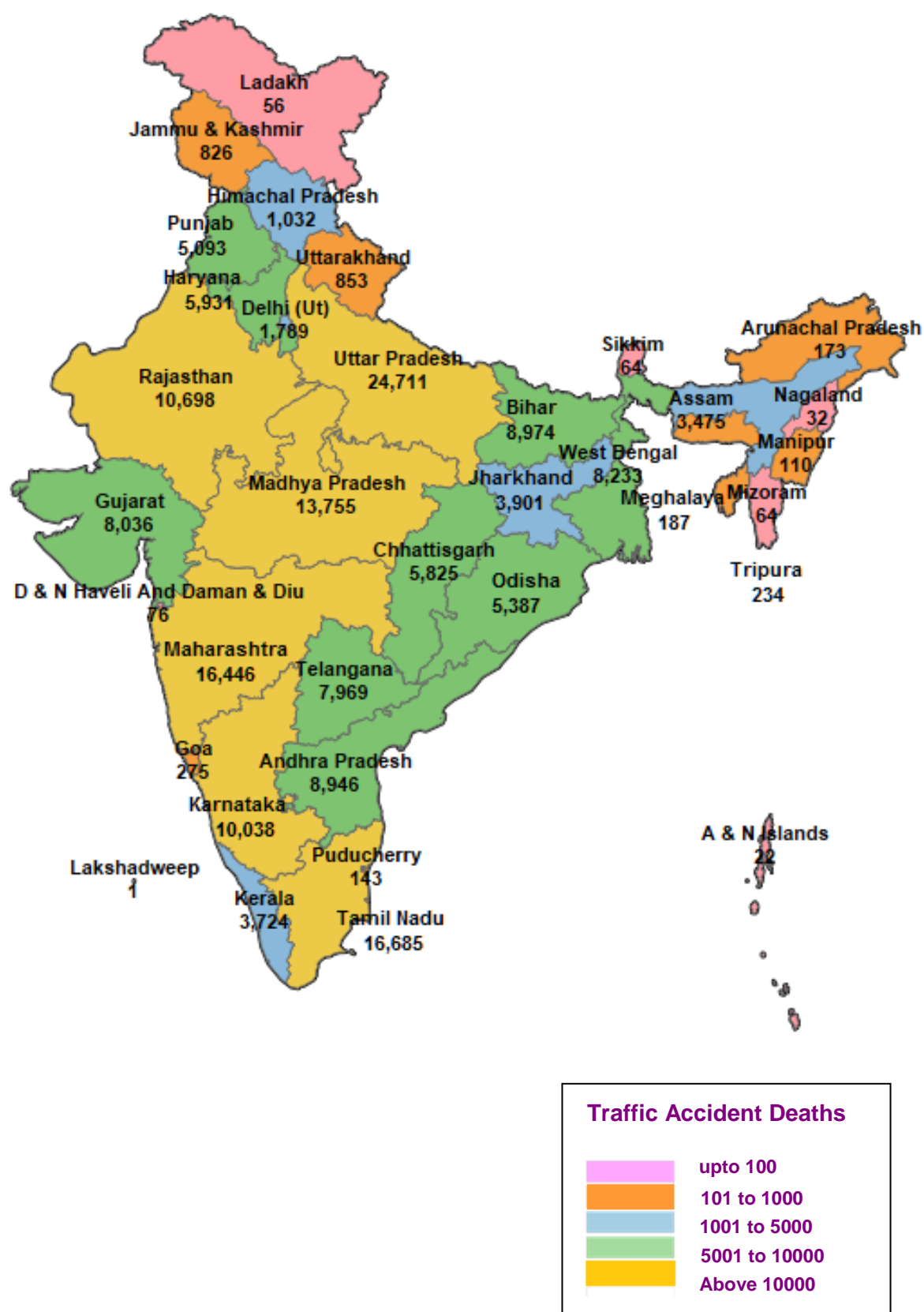
Sl. No.	Year	Number of Accidental Deaths				Percentage Share of 'Traffic Accidental Deaths' in Accidental Deaths due to 'Other Causes'	
		Road Accidents	Railway Accidents	Railway Crossing Accidents	Total Traffic Accidents	Total Accidental Deaths due to 'Other Causes'	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	2017	1,50,093	23,959	1,534	1,75,586	3,89,441	45.1%
2	2018	1,52,780	24,545	1,507	1,78,832	4,04,933	44.2%
3	2019	1,54,732	24,619	1,762	1,81,113	4,12,959	43.9%
4	2020	1,33,201	11,968	1,185	1,46,354	3,66,992	39.9%
5	2021	1,55,622	16,431	1,807	1,73,860	3,90,404	44.5%

- As per data provided by States/UTs.

**FIGURE-1A.1**  
**STATE/UT – WISE TRAFFIC ACCIDENT CASES DURING 2021**



**FIGURE-1A.2**  
**STATE/UT – WISE TRAFFIC ACCIDENT DEATHS DURING 2021**



- As per data provided by States/UTs.

Month - wise patterns of traffic accidents reveal that maximum number of 'Traffic Accidents' have occurred in the month of January which accounted for 9.9%. The month-wise break-up of 'Traffic Accidents' for each State/UT/City are presented in **Table-1A.5**.

Time of occurrence - wise analysis of traffic accidents reveal that maximum number of 'Traffic Accidents' have taken place during 18:00 hrs – 21:00 hrs and 15:00 hrs – 18:00 hrs, accounting for 19.9% (84,221) and 17.6% (74,241) of total traffic accidents (4,22,659) respectively during the year 2021. State/UT-wise 'Traffic Accidents' by time of occurrence is presented in **Table-1A.6**.

## Road Accidents

The Bureau has made an effort to capture comprehensive information on road accidents using the revised proforma and published the first report for the year 2014 and this edition is eighth in the series.

A total of 4,03,116 road accident cases were reported during 2021. Road accident cases in the country have increased from 3,54,796 in 2020 to 4,03,116 in 2021 [**Table-1A.1**]. The fatalities in road accidents have

increased by 16.8% (from 1,33,201 in 2020 to 1,55,622 in 2021). The **LIST-1A.1** can be referred to see the patterns of 'Road Accidental Deaths'.

The number of vehicles, number of road accidents along with resultant fatalities and injuries therefrom, their percentage variations over previous year and the rate of accidental deaths per thousand vehicles during the last five years are presented in **LIST-1A.2**. It is observed that the rate of deaths per thousand vehicles in 2021 has increased from 0.45 in 2020 to 0.53 in 2021.

4,03,116 road accidents caused 1,55,622 deaths and injuries to 3,71,884 persons during 2021. Generally road accidents have caused more injuries than deaths, but in Mizoram, Punjab, Jharkhand and Uttar Pradesh, road accidents caused more deaths compared to persons injured. In Mizoram, 64 road accidents caused 64 deaths & injuries to 28 persons, in Punjab, 6,097 road accidents caused 4,516 deaths and injuries to 3,034 persons, in Jharkhand, 4,728 road accidents caused 3,513 deaths and injuries to 3,227 persons, and in Uttar Pradesh, 33,711 road accidents caused 21,792 deaths and injuries to 19,813 persons. [**Table-1A.2**].

## LIST-1A.2

### Growth in Number of Vehicles and Road Accidents in India (2016–2021)

Sl. No.	Year	Road Accidents (in thousand)	% Variation over Previous Year	Persons Injured (in thousand)	% Variation over Previous Year	Persons died (in Nos.)	% Variation Over Previous Year	No. of Vehicles (In Thousand)#	% Variation over previous Year	Rate of Deaths per thousand Vehicles (Col.7/Col.9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	2017	445.7	-5.80%	456.2	-6.00%	1,50,093	-1.10%	2,53,311	10.1%	0.59
2	2018	445.5	0.00%	446.5	-2.10%	1,52,780	1.80%	2,72,587	7.6%	0.56
3	2019	437.4	-1.8	439.2	-1.6	1,54,732	1.3	2,95,772	8.5%	0.52
4	2020	354.8	-18.9	335	-23.7	1,33,201	-13.9	2,95,772*	-	0.45
5	2021	403.1	13.6	371.9	11.0	1,55,622	16.8	2,95,772*	-	0.53

# Source: Road Accidents in India - 2020, TRW, MoRT&H, as per latest published data.

\* figures of the previous year used due to non-availability of data.

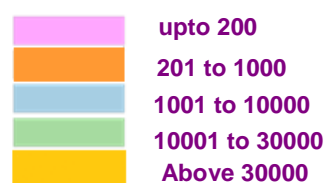
+ for calculation, figures of previous year regarding number of vehicles has been used due to unavailability of data.

- As per data provided by States/UTs.

**FIGURE-1A.3**  
**STATE/UT – WISE ROAD ACCIDENT CASES DURING 2021**



**Road Accident Cases**



- As per data provided by States/UTs.



During 2021, two wheelers have accounted for maximum fatal road accidents (69,240 deaths), contributing 44.5% of total road accidental deaths, followed by cars (23,531 deaths) (15.1%) and trucks/lorries (14,622 deaths) (9.4%) [Table-1A.3].

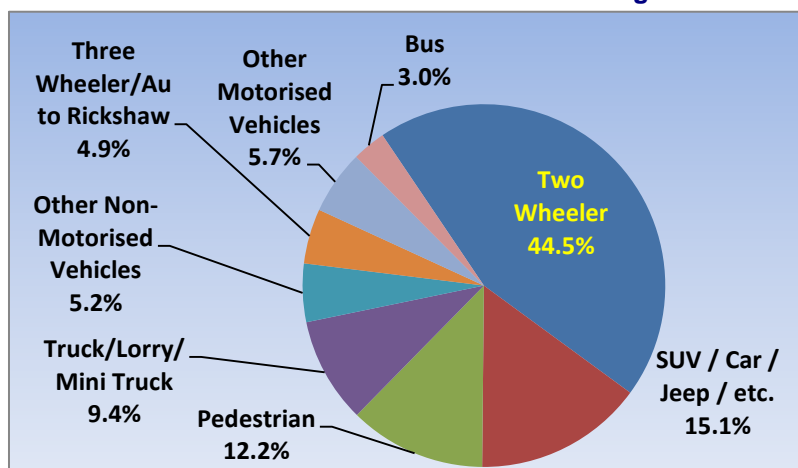
Majority of deaths due to two wheelers accidents were reported in Tamil Nadu (8,259 deaths) and Uttar Pradesh (7,429 deaths), accounting for 11.9% and 10.3% of total death due to two wheeled vehicles respectively. Large number of deaths due to SUV/car/jeep accidents (4,039 out of 23,531) were reported in Uttar Pradesh (17.2%) of total such accidents and large number of deaths due to trucks/lorries/mini truck accidents (3,423 out of 14,622) were reported in Madhya Pradesh, accounting for 23.4%. 28.9% (1,337 out of

4,622) and 11.9% (551 out of 4,622) of total fatal road accidents due to buses were reported in Uttar Pradesh and Tamil Nadu respectively. Deaths of 14.8% (2,796 out of 18,936) of pedestrians in road accidents were reported in Bihar during 2021 [Table-1A.4].

The month-wise distribution of 'Road Accidents' shows that most of road accidents were reported in the month of January 40,235 cases), contributing 10.0% of total road accidents. Majority of accidents in this month (January) have been reported in Tamil Nadu, accounting for 13.2% of total accidents reported (5,322 out of 40,235 cases) in the month of January [Table-1A.5].

FIGURE-1A.4

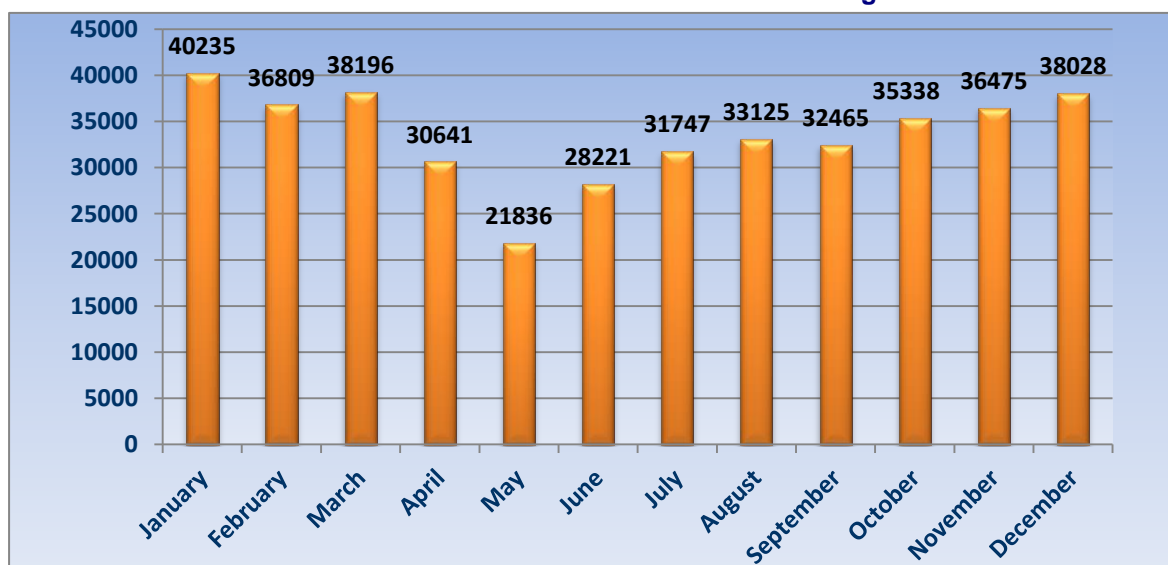
Vehicle wise Road Accident Deaths during 2021



Other Motorised Transport includes Tractor etc.

FIGURE-1A.5

Month-wise occurrence of Road Accidents during 2021



- As per data provided by States/UTs.

Most of road accidents (81,410 out of 4,03,116 cases) were reported during 18:00 hrs to 21:00 hrs (Night), accounting for 20.2% of total road accidents. During 18:00 hrs to 21:00 hrs (Night), majority of road accidents were reported in Tamil Nadu (14,415 cases), Madhya Pradesh (9,798 cases) and Kerala (6,765 cases). Time period '15:00 hrs to 18:00 (Day)' and '12:00 hrs to 15:00 hrs (Day)' accounted for 17.8% (71,711 cases) and 15.5% (62,587 cases) of total road accidents during 2021 [Table-1A.6].

Road-wise classification of accidents is presented in Table-1A.7. As per road classification, the National Highways which has a share of only 2.1% of total road length\* (1.33 Lakh KMs out of 63.9 Lakh KMs) accounted for highest road accidents, contributing 30.3% of total road accidents. State Highways having the share of 2.9% (1.87 Lakh KMs) of total road length have reported 23.9% of road accidents in the country. However, a considerable number of road accidents were also reported on other roads. These accounted for 45.8% of total such accidents during 2021.

A total of 1,899 cases of road accidents were also reported on Expressways which caused injuries to 1,214 persons and deaths of 1,356 persons. The highest numbers of deaths in road accidents were reported on

the National Highways accounting for 34.5% (53,615 out of 1,55,622) followed by State Highways (25.1%) (39,040 deaths). A total of 62,967 (40.5%) persons died due to road accidents on the other roads during 2021.

State/UT-wise patterns revealed that maximum fatalities in road accidents on the National Highways took place in Uttar Pradesh (13.5%) (7,212 out of 53,615 deaths) followed by Tamil Nadu (10.0%) (5,360 deaths), Maharashtra (7.5%) (3,996 deaths), Rajasthan (6.8%) (3,653 deaths) and Andhra Pradesh (6.7%) (3,602 deaths) during 2021.

Maximum number of accidents on State Highways in the country occurred in Tamil Nadu (18,560 cases). Maximum fatalities in road accidents on State Highways were reported in Uttar Pradesh (5,891 out of 39,040 deaths) which accounted for 15.1% of total deaths due to road accidents on State Highways, followed by Tamil Nadu (5,067) (13.0%) during 2021. Maximum fatalities on the Expressways were reported in Uttar Pradesh contributing 71.2% (965 out 1,356) followed by Haryana (9.3%), Maharashtra (6.4%), Punjab (3.2%) and West Bengal (3.0%) during 2021. [Table-1A.7]

**LIST-1A.3**  
**Road Accidental Deaths in every 100 km-2021**  
**(Road Category wise)**

Type of Road	2021				
	Length of Road (in KM*)	Road Accident Cases	Total Number of Deaths	Cases per 100 KM	Deaths per 100 KM
National Highways	1,32,500 <sup>#</sup>	1,22,204	53,615	92	40
State Highways	1,86,528 <sup>#</sup>	96,451	39,040	52	21
Other Roads	60,67,269 <sup>#</sup>	1,84,461	62,967	3	1
Total	63,86,297 <sup>#</sup>	4,03,116	1,55,622	6	2

- As per data provided by States/UTs.

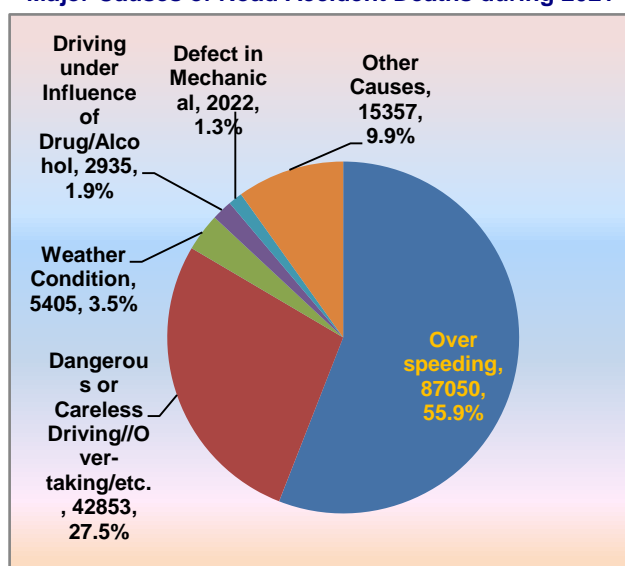
\* Source: Road Accidents in India – 2020, Ministry of Road Transport & Highways.

# figures of the previous year used due to non-availability of data.

Cause-wise distribution of road accidents (which also include unmanned railway crossing accidents) is presented in **Table-1A.8**. Cause-wise analysis of road accidents revealed that most of road accidents were due to over-speeding accounting for 59.7% of total accidents (2,40,828 out of 4,03,116 cases) which caused 87,050 deaths and injuries to 2,28,274 persons. Dangerous/careless driving or overtaking caused 1,03,629 accidents (25.7% of total accidents) which resulted in 42,853 deaths and injuries to 91,893 persons during 2021. 2.8% (11,110 out of 4,03,116 cases) of such accidents were due to poor weather condition. Driving under influence of drug/alcohol contributed 1.9% of total accidents which resulted in injuries to 7,235 persons & 2,935 deaths in the country.

**FIGURE-1A.6**

**Major Causes of Road Accident Deaths during 2021**



- As per data provided by States/UTs.

Cause - wise analysis of fatal road accidents revealed that 55.9% (87,050 out of 1,55,622 deaths) and 27.5% (42,853 out of 1,55,622 deaths) of fatalities in road accidents were due to over-speeding and dangerous/careless driving or overtaking respectively. Poor weather conditions, Driving under Influence of Drug/Alcohol and mechanical defects in motor vehicles caused 3.5% (5,405 deaths), 1.9% (2,935 deaths) and 1.3% (2,022 deaths) of total deaths due to road accidents respectively during 2021.

Large number of deaths in road accidents due to over- speeding were reported in Tamil Nadu (13.1%) (11,419 out of 87,050 deaths) followed by Karnataka (10.1%) (8,797 out of 87,050 deaths). Dangerous/careless driving or overtaking caused maximum fatalities in Uttar Pradesh (11,479 out of 42,853) which accounted for 26.8% of total deaths followed by 10.0% (4,299) deaths in Rajasthan. Maximum fatalities due to driving under influence of drug/alcohol were reported in Uttar Pradesh (27.1%) followed by Telangana (11.6%), Jharkhand (11.1%), Madhya Pradesh (9.2%) and Maharashtra (6.4%) during 2021 [**Table-1A.9**].

A total of 44 accidental deaths were reported at un-manned railways crossings. 72.7% of such deaths were reported in Tripura (32 out of 44 deaths) during 2021 [**Table-1A.9**].

Place of occurrence - wise patterns of road accidents reveal that 59.7% of total accidents have occurred in rural areas (2,40,747) and 40.3% in urban areas (1,62,369) out of 4,03,116 total cases during 2021. Both in rural as well as urban area most of the accidents were reported at places near residential area. 30.0% (72,333 out of 2,40,747 cases) accidents in rural area and 29.7% (48,270 out of 1,62,369 cases) in urban area have taken place near residential area. 7.7% of road accidents in urban area took place at pedestrian crossing (12,528 out 1,62,369 cases). Besides, 8.0% (28,873 out of 4,03,116 cases) of road accidents in the country have taken place near schools, college or other educational institutions [**Table 1A.10**].

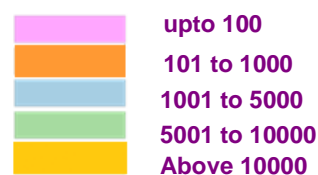
Uttar Pradesh followed by Tamil Nadu have reported 24.4% and 9.4% of total deaths due to road accidents near schools/college/other educational institutes in urban area respectively. Uttar Pradesh also reported highest fatalities due to road accidents at places near to residential area (urban area) accounting for 18.0% (2,969 out of 16,466) of total such deaths during 2021 [**Table-1A.11**].



**FIGURE-1A.7**  
**STATE/UT – WISE ROAD ACCIDENT DEATHS DURING 2021**



**Road Accident Deaths**



- As per data provided by States/UTs.

## Railway Accidents

A total of 17,993 cases of 'Railway Accidents' were reported, showing an increase of 38.2% during the year 2021 over 2020 (13,018). 17,993 railways accidents caused injuries to 1,852 persons and 16,431 deaths during 2021 [**Table-1A.1 & 1A.2**].

Maximum railway accidents were reported in Maharashtra accounting for 19.4% (3,488 out of 17,993 cases) followed by West Bengal (13.5%) (2,425 cases). These two States have also reported highest fatalities in railways accidents, accounting for 15.4% (2,535 out of 16,431 deaths) and 13.9% (2,282 deaths) of total deaths in railways accidents respectively. 957 out of 1,852 persons injured in railways accidents were reported in Maharashtra alone during 2021 [**Table 1A.2**].

The month-wise distribution of 'Railway Accidents' shows that most of railway accidents were reported in the month of October (1,729 cases), contributing 9.6% of total railway accidents. Maharashtra (327 out of 1,729 cases) has reported maximum railways accidents in the month of October, accounting for 18.9% of total such accidents [**Table-1A.5**].

Most of railway accidents (2,915 out of 17,993) have taken place during 06:00 hrs to 09:00 hrs (Day), accounting for 16.2% of total railway accidents. 15.5% (2,795 cases) railways accidents were reported during '09:00 hrs to 12:00 hrs (Day)'. Maharashtra has reported maximum accidents during 18:00 hrs to 21:00 hrs (Night) and 09:00 hrs to 12:00 hrs (Day), accounting for 15.8% (552 cases) and 15.2% (531 cases) respectively [**Table-1A.6**].

State/UT - wise classification of railways accidents is presented in **Table-1A.12** and **Figure-1A.9**. The analysis of classification of railway accidents revealed that incidents of 'Fall from Trains or Collision with People at Track' constituted majority of railway accidents (67.7%) (12,181 out of 17,993). State of Maharashtra has reported the majority of such cases, accounting for 27.0% (3,285 out of 12,181 cases) of total cases of fall from train or collision of trains with people at track. A total of 11,036 persons died due to either fall from

trains or collision of trains with people at tracks, accounting for 67.2% of total deaths in railway accidents (16,431 deaths).

State/UT - wise causes of railways accidents is presented in **Table-1A.13**. The causes include Fault of Driver, Sabotage, Signalmen's Error, Mechanical Failure and Other causes. Majority of States/UTs have furnished railways accidents under unclassified category 'Other Causes', a total of 17,230 out of 17,993 cases of railways accidents were furnished under 'Other Cause' (fall of persons from trains, persons coming under trains etc. come under this category). During 2021, a total of 118 cases of railways accidents occurred due to fault of driver. Mechanical defects (like poor design, track faults, bridge/tunnel collapse, etc.) caused 459, 26 and 23 railways accidents in Assam, Uttar Pradesh and Jharkhand respectively. In Jharkhand, a total of 68 persons died in railways accidents due to fault of driver. Mechanical defects (like poor design, track faults, bridge/tunnel collapse, etc.) led to loss of 562 lives in railways accidents during 2021.

Maximum railway crossing accidents were reported in Uttar Pradesh accounting for 37.1% (575 out of 1,550 cases) followed by Madhya Pradesh (12.6%) (196 cases) and West Bengal (10.6%) (164 cases). States of Uttar Pradesh, Madhya Pradesh and Bihar have reported highest fatalities in railway crossing accidents, accounting for 48.4% (875 out of 1,807 deaths), 10.8% (196 deaths) and 9.0% (163 deaths) respectively during 2021 [**Table-1A.2**].

## Traffic Accidents in Cities

A total of 56,894 traffic accidents were reported in 53 cities during 2021. 56,894 traffic accidents caused injuries to 47,674 persons and 14,714 deaths. The maximum fatalities in traffic accidents was reported in Delhi City (1,722 deaths) followed by Chennai (998 deaths) and Jaipur (741 deaths) [**Table-1A.2**].

Road Accidents (55,442 cases) accounted for 97.4% of total traffic accidents in 53 mega cities during 2021. Chennai accounted for 9.1% (5,034 out of 55,442 cases) of total road accidents reported in 53 mega cities followed by Delhi City (8.1%) (4,505 cases) and

Bengaluru (5.8%) (3,213 cases). However, the large number of fatal road accidents were reported in Delhi City (1,172 deaths) followed by Chennai (998 deaths), accounting for 8.8% and 7.5% of total deaths due to road accidents in 53 mega cities respectively during 2021.

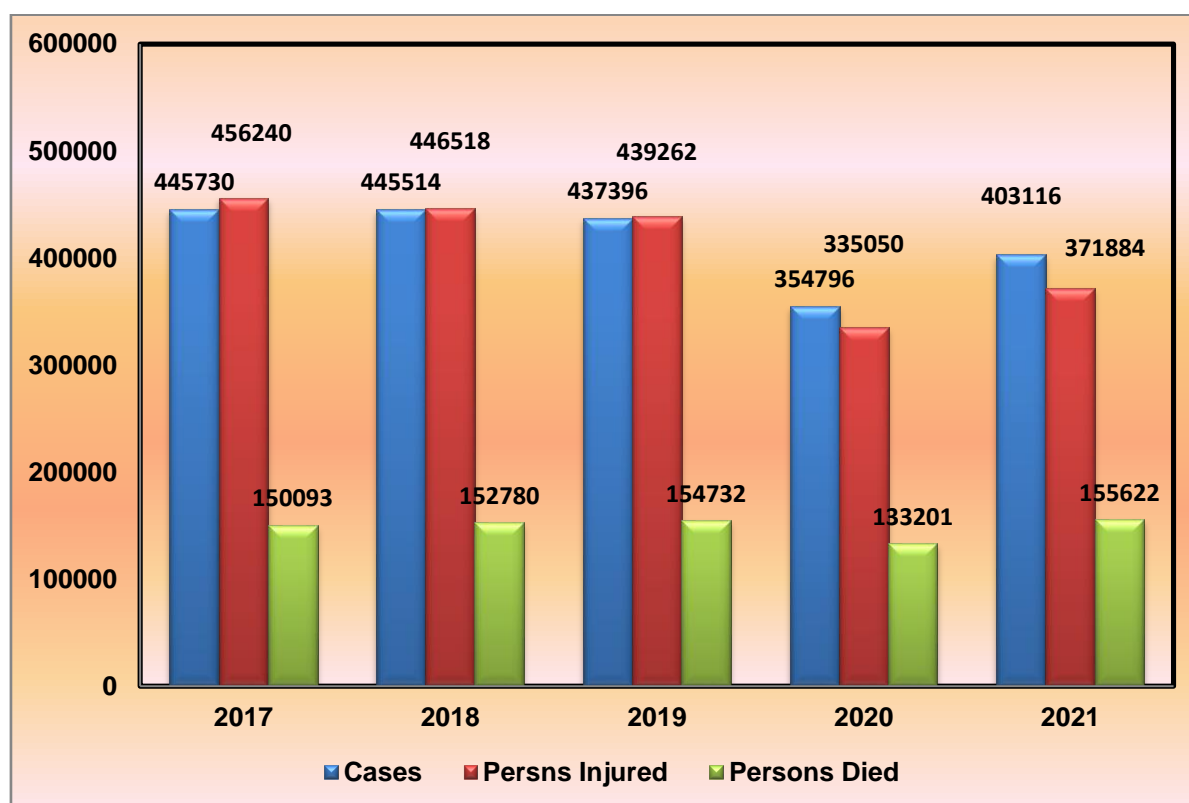
Cause-wise analysis of road accidents (including unmanned railway crossing) revealed that most of road accident deaths (including unmanned railway crossing) in 53 mega cities were due to over-speeding which accounted for 55.4% (7,415 out of 13,396 deaths) of total deaths due to road accidents during 2021. Dangerous or Careless driving/Over-taking etc. also caused 29.0% of total deaths due to road accidents (3,885 out of 13,396 deaths). Driving under influence of drug/alcohol had caused 2.0% (262 out of 13,396 deaths) of fatalities in road accidents. Among 53 mega cities, most of fatalities due to driving under influence of drug/alcohol were reported in Ranchi (54 out of 262 deaths) [Table-1A.9].

accidents reveals that most of fatalities due to road accidents have taken place near residential area, contributing 30.2% (4,045 out of 13,396 deaths) of deaths in road accidents in 53 mega cities, followed by 9.6% (1,281 out of 13,396 deaths) near factory/industrial area and 7.4% near schools/ college/other educational institutions (987 out of 13,396 ) deaths. Out of 53 mega cities, Ahmedabad (161 deaths) followed by Delhi City (63 deaths) have reported maximum cases of road accidents at pedestrian crossing. [Table-1A.11]. As per road-wise classification of road accidents, 21.5% of total road accidents in 53 mega cities were reported at the National Highways. 29.0% of fatalities in road accidents were reported at the National Highways during 2021 [Table-1A.7].

A total of 1,280 railway accidents were reported in 53 mega cities where in Delhi City (676) has reported maximum incidents by contributing 52.8% of total railway accidents during 2021.

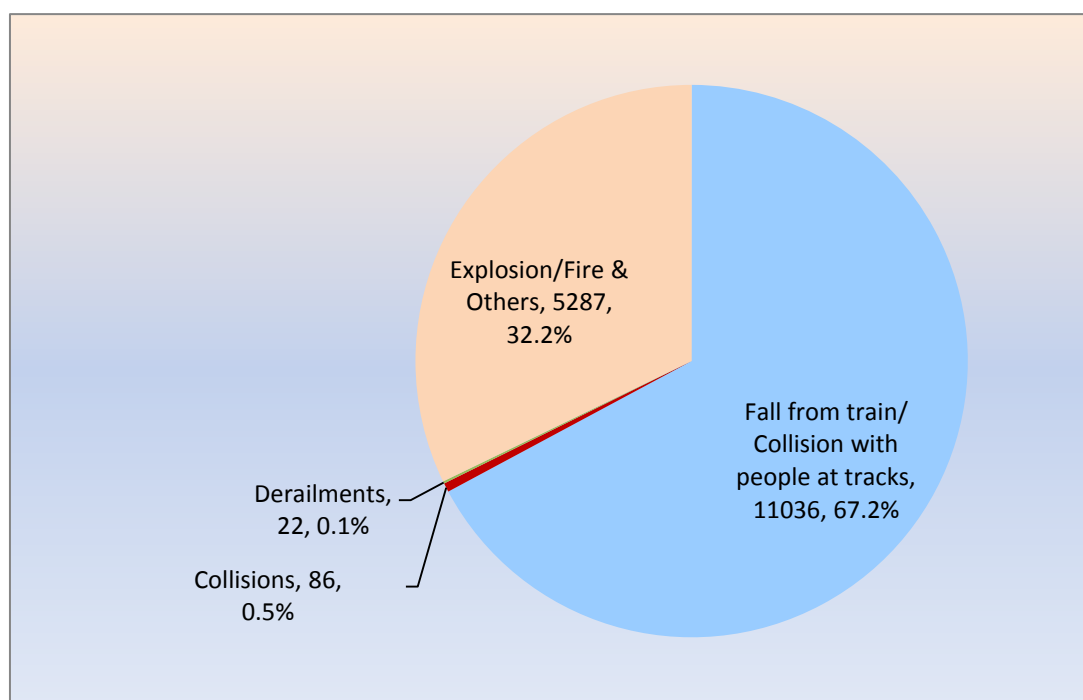
Place of occurrence – wise deaths in road

**FIGURE–1A.8**  
**Trend of Road Accident Cases, Persons Injured and Persons Died during 2017–2021**



- As per data provided by States/UTs.

**FIGURE-1A.9**  
**Classification of Railway Accident Deaths during 2021**



- As per data provided by States/UTs.

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