Global Road Safety and Road Safety in India
Global Road Safety Scenario

Road Safety Scenario - India

Characteristics of Accidents in India

Measures to reduce the accidents - Globally

Measures to reduce the accidents - India

Conclusions
World Road Safety Scenario

Injuries - 50 million

Deaths - 1.3 million

And still rising...
WORLD ROAD SAFETY SCENARIO

Goal of the Decade of Action for Road Safety 2011–2020

- Projected increase without action
- Projected reduction if action taken

5 million lives saved

Number of deaths (millions)

Year

UN GA resolution 54/255 in 2010 called for a Decade of Action for Road Safety (2011-2020). I call on Member States, International Agencies, Civil Society organizations, Business and Community leaders to ensure that the Decade leads to real improvements. As a Step in this direction, governments should release their national plans for the Decade when it is launched globally on 11th May 2011 – Mr. Ban Ki-moom, UN Secretary General
World Road Safety Scenario

Decade of Action for Road Safety 2011-2020

Five pillars for a Safe System approach

- Build safer roads
- Build safer vehicles
- Safer user behaviour
- Improve post-crash care

www.who.int/roadsafety/decade_of_action/
The plateau in road traffic deaths, set against a 4% increase in global population and 16% increase in motorization, suggests that road safety efforts over the past 3 years have saved lives.
WORLDWIDE ROAD FATALITIES: PARTICIPATING COUNTRIES

182/195
Pop. 97%

Data Source: World Health Organization
Map Production: Public Health Information and Geographic Information Systems (GIS)
World Health Organization

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Road traffic deaths accounted for 23% of all injury deaths worldwide.
Road traffic injuries are the No.1 cause of death among those aged 15–29.
### Worldwide Road Fatalities

Over 50% of deaths are among young adults in the age range of 15 - 44 years.

Among both children aged 5 - 14 years, and young people aged 15 - 29 years, Road Traffic Injuries (RTI) are the second-leading cause of death worldwide.

#### Leading causes of deaths by age group, world, 2002

<table>
<thead>
<tr>
<th>Rank</th>
<th>0–4 years</th>
<th>5–14 years</th>
<th>15–29 years</th>
<th>30–44 years</th>
<th>45–59 years</th>
<th>≥60 years</th>
<th>All ages</th>
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<tbody>
<tr>
<td>1</td>
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<td>Childhood cluster diseases 707 277</td>
<td>HIV/AIDS 1 178 856</td>
<td>Ischaemic heart disease 1 043 978</td>
<td>Ischaemic heart disease 5 812 863</td>
<td>Ischaemic heart disease 7 153 056</td>
<td>Ischaemic heart disease 7 153 056</td>
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<td>2</td>
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<td>Road traffic injuries 302 208</td>
<td>Road traffic injuries 285 457</td>
<td>Road traffic injuries 285 457</td>
<td>Road traffic injuries 285 457</td>
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<td>3</td>
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<td>Lower respiratory infections 127 782</td>
<td>Self-inflicted injuries 251 806</td>
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<td>4</td>
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<td>HIV/AIDS 108 090</td>
<td>Tuberculosis 245 818</td>
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<td>Ischaemic heart disease 2 396 739</td>
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<td>Childhood cluster diseases 1 046 177</td>
<td>Drowning 86 327</td>
<td>Interpersonal violence 216 169</td>
<td>Self-inflicted injuries 230 490</td>
<td>Tuberculosis 400 704</td>
<td>Lower respiratory infections 3 764 415</td>
<td>Lower respiratory infections 3 764 415</td>
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<td>Malaria 76 257</td>
<td>Lower respiratory infections 92 522</td>
<td>Tuberculosis 165 796</td>
<td>Diarrhoeal diseases 3 379 239</td>
<td>Diabetes mellitus 749 977</td>
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<td>7</td>
<td>HIV/AIDS 370 706</td>
<td>Tropical cluster diseases 35 454</td>
<td>Fire 90 845</td>
<td>Cerebrovascular disease 261 860</td>
<td>Trachea, bronchi, lung cancers 2 743 509</td>
<td>Trachea, bronchi, lung cancers 2 743 509</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Congenital heart anomalies 223 569</td>
<td>Fire 33 046</td>
<td>Drowning 87 499</td>
<td>Cirrhosis of the liver 100 101</td>
<td>Trauma 221 776</td>
<td>Trauma 221 776</td>
<td>Trauma 221 776</td>
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<td>Protein–energy malnutrition 138 197</td>
<td>Tuberculosis 32 762</td>
<td>War 71 680</td>
<td>Lower respiratory infections 98 232</td>
<td>Tuberculosis 405 199</td>
<td>Trauma 1 359 548</td>
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<td>10</td>
<td>STDs excluding HIV 67 871</td>
<td>Protein–energy malnutrition 30 763</td>
<td>Hypertensive disorders 81 930</td>
<td>Self-inflicted injuries 189 215</td>
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<td>Trauma 1 221 432</td>
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<tr>
<td>11</td>
<td>Meningitis 64 255</td>
<td>Meningitis 30 694</td>
<td>Maternal haemorrhage 56 233</td>
<td>Fire 67 511</td>
<td>Liver cancer 180 117</td>
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<td>12</td>
<td>Drowning 57 287</td>
<td>Leukaemia 21 097</td>
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<td>Maternal haemorrhage 63 191</td>
<td>Tubercolosis 440 708</td>
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<td>Falls 20 084</td>
<td>Poisoning 52 956</td>
<td>War 61 018</td>
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<td>Tuberculosis 1 605 063</td>
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<td>Violence 18 551</td>
<td>Childhood cluster diseases 48 101</td>
<td>Drowning 56 744</td>
<td>Breast cancer 1 47 489</td>
<td>Tuberculosis 1 605 063</td>
<td>Tuberculosis 1 605 063</td>
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<tr>
<td>15</td>
<td>Tuberculosis 40 574</td>
<td>Poisonings 18 529</td>
<td>Abortion 43 782</td>
<td>Liver cancer 55 486</td>
<td>Hypertensive heart disease 318 112</td>
<td>Tuberculosis 1 605 063</td>
<td>Tuberculosis 1 605 063</td>
</tr>
</tbody>
</table>
**Worldwide Road Fatalities**

Current and projected trends in low-income and middle-income countries foreshadow a huge escalation in global road crash mortality between 2000 and 2020. Furthermore, on current trends, by 2020, Road Traffic Injury (RTI) is likely to be the third leading cause.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Disease or injury</th>
<th>1990</th>
<th>Rank</th>
<th>Disease or injury</th>
<th>2020</th>
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<tbody>
<tr>
<td>1</td>
<td>Lower respiratory infections</td>
<td>1</td>
<td>1</td>
<td>Ischaemic heart disease</td>
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<td>2</td>
<td>Diarrhoeal diseases</td>
<td>2</td>
<td>2</td>
<td>Unipolar major depression</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Perinatal conditions</td>
<td>3</td>
<td>3</td>
<td>Road traffic injuries</td>
<td>3</td>
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<tr>
<td>4</td>
<td>Unipolar major depression</td>
<td>4</td>
<td>4</td>
<td>Cerebrovascular disease</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Ischaemic heart disease</td>
<td>5</td>
<td>5</td>
<td>Chronic obstructive pulmonary disease</td>
<td>5</td>
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<td>6</td>
<td>Cerebrovascular disease</td>
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<td>Lower respiratory infections</td>
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<td>7</td>
<td>Tuberculosis</td>
<td>7</td>
<td>7</td>
<td>Tuberculosis</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Measles</td>
<td>8</td>
<td>8</td>
<td>War</td>
<td>8</td>
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<tr>
<td>9</td>
<td>Road traffic injuries</td>
<td>9</td>
<td>9</td>
<td>Diarrhoeal diseases</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Congenital abnormalities</td>
<td>10</td>
<td>10</td>
<td>HIV</td>
<td>10</td>
</tr>
</tbody>
</table>
WORLD ROAD SAFETY SCENARIO

ROAD TRAFFIC ACCIDENTS
Death Rate Per 100,000
Age Standardized

North America
Europe
South-East Asia
Western Pacific
Southern Hemisphere
Eastern Mediterranean
Africa

North America
Europe
South-East Asia
Western Pacific
Southern Hemisphere
Eastern Mediterranean
Africa

HIGH
LOW

Clear
The high-income countries in Europe have the lowest road traffic fatality rate (9.0 per 100 000 population) followed by those of the Western Pacific Region (17.0 per 100 000 population). In general, the regional averages for low-income and middle-income are much higher than corresponding rates for high-income countries.
Worldwide Road Fatalities: Current Status

Low- and middle-income countries bear a disproportionate burden of road traffic deaths.

Road traffic death rates in low- and middle-income countries are more than double those in high-income countries.
68 countries have seen a rise in road traffic deaths since 2010, while 79 have seen a decrease.
Pedestrians & Motorcyclists Account for 45% of All Road Fatalities
Road traffic deaths by type of road user by region in 2010 (WHO region)

Vulnerable Road Users (VRUs) i.e. pedestrians cyclists and motorized 2Ws tend to account for a much greater proportion of road traffic deaths in low-income and middle-income countries than in high-income countries.
More than half of countries (92) report policies to increase walking and cycling, compared to (68) in 2010.
35 COUNTRIES PASSED NEW LAWS BUT ONLY 7% OF THE WORLD'S POPULATION IS COVERED FOR ALL 5 RISK FACTORS
In the last three years **17 countries** representing **409 million People** have amended their laws on one or more key risk factors for road traffic injuries to bring them into line with best practice.
Pedestrian fatality risk as a function of the impact speed of a car

1. Pedestrians have a 90% chance of surviving road crashes at 30 km/h or below, but reduces exponentially thereafter. i.e. less than a 50% chance of survival when impacted at 45 km/h or above.

2. Pedestrian being killed rises by a factor of 8.0 as the impact speed of the vehicle increases from 30 km/h to 50 km/h.
ONLY 59 COUNTRIES HAVE A COMPREHENSIVE URBAN SPEED LAW

Comprehensive urban speed law = 50km/h and local authorities allowed to reduce limits
47 countries, representing approximately 950 million people, have urban speed laws that meet best practice.

Comprehensive urban speed law = 50km/h and local authorities allowed to reduce limits
Comprehensive drink–driving law = Blood Alcohol Concentration (BAC) of 0.05 g/dl.
Only 44 countries, representing 1.2 billion people, have helmet laws that meet best practice and apply a helmet.

Comprehensive motorcycle helmet law = All riders, all roads, all engine types + helmet standard.

In India, the implementation of this law is still a State Subject!
105 countries, representing 4.8 billion people, have seat-belt laws that cover both front and rear-seat occupants.

Comprehensive seat-belt law = Applies to all vehicle occupants.

In India, the implementation of this law is still a State Subject!
53 countries, representing 1.2 billion people, have a child restraint law that meets best practice.

Comprehensive seat-belt law = Applies to all vehicle occupants

In India, the implementation of this law is still a State Subject!
Half of all countries have a Child restraint law but enforcement is poor.
Few countries rate the enforcement of laws as "good".

"Good" enforcement defined as 8 or more on a scale of 0 to 10.
World Road Safety Scenario: Safe Vehicles

Vehicles sold in 80% of all countries fail to meet priority safety standards.

Countries applying priority UN vehicle safety standards

- Green: Meets 7 international vehicle standards
- Yellow: Meets 2 to 6 international vehicle standards
- Orange: Meets 0 or 1 international vehicle standard
- Gray: Not applicable
- White: Data not available

CSIR CRRM
1.25 million people are killed each year on the world’s roads, and that this figure has plateaued since 2007.

For every 1 person who dies in a road traffic crash, 20 are injured.

1 in 20 of those injured are left with a disability.

Only 111 countries have a universal national access emergency number.

Only 59 countries have an ambulance service able to transfer over 75% of injured patients.

Less than 2/3 of doctors and <50% nurses are trained in emergency care in LMICs.
**Worldwide Road Fatalities**

**Number of persons killed per 100000 population**

- Qatar: 32.87
- South Africa: 32.53
- Botswana: 25.5
- Malaysia: 25
- Russia: 22.66
- Kuwait: 16.26
- USA: 14.66
- Korea, R: 13.07
- India: 10.1
- Italy: 9.83
- Canada: 8.54
- Australia: 8.09
- France: 7.88
- China, PR: 6.82
- Japan: 6.65
- Germany: 6.18
- Denmark: 5.63
- UK: 5.23
- Indonesia: 5.19
- Sweden: 4.89
- Singapore: 4.22
- Brazil: 3.33
- Pakistan: 2.78
- Phillippines: 1.11

**Number of persons killed**

- India: 125000 (1st)
- China, PR: 89613 (2nd)
- USA: 43329 (3rd)
- Russia: 32605
- South Africa: 15590
- Indonesia: 11880
- Japan: 8477
- Brazil: 6071
- Malaysia: 5884
- Italy: 5508
- Germany: 5094
- France: 4861
- Pakistan: 4515
- UK: 3169
- Canada: 2744
- Australia: 1637
- Philippines: 983
- Botswana: 469
- Sweden: 446
- Kuwait: 367
- Denmark: 307
- Qatar: 264
- Singapore: 189
ROAD SAFETY SCENARIO - INDIA

1,50,785 deaths/yr (2016)
10% of World Road deaths

413 deaths /day - Equivalent to Jumbo jet crash
17 deaths /hr, One death /every 4 minutes
One of the Top three cause for death for age group 5-44 yrs
**Road Safety Scenario - India**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidents</td>
<td>5,01,423</td>
<td>4,80,652</td>
</tr>
<tr>
<td>Fatal Accidents</td>
<td>1,31,726</td>
<td>1,36,071</td>
</tr>
<tr>
<td>Persons Killed</td>
<td>1,46,133</td>
<td>1,50,785</td>
</tr>
<tr>
<td>Persons Injured</td>
<td>5,00,279</td>
<td>4,94,624</td>
</tr>
</tbody>
</table>

2016 MoRTH Data
Severity of Road Accidents in North-Eastern State:
Persons Killed per 100 accidents

Road Safety Scenario – North-East State
Road Safety Scenario – Accident Severity Index

Accident Severity: Tripura and National

Road accident deaths per 100 accidents

Year

2012 2013 2014 2015

24 25 26 27 28 29 30

Tripura
National
ROAD SAFETY SCENARIO – INDIA (TOP STATES IN TOTAL ACCIDENTS)

Total Number of Accidents

- Tamil Nadu
- Maharashtra
- Madhya Pradesh
- Karnataka
- Kerala
- Uttar Pradesh
- Andhra Pradesh
- Rajasthan
- Gujarat
- Telangana
- Chhattisgarh
- West Bengal
- Haryana
- Orissa
- Bihar
- Delhi
- Assam
- Punjab
- Jammu & Kashmir
- Jharkhand
- Goa
- Himachal Pradesh
- Puducherry
- Uttarakhand
- Manipur
- Tripura
- Meghalaya
- Chandigarh
- Arunachal Pradesh
- A & N Islands
- Sikkim
- Daman & Diu
- Mizoram
- D & N Haveli
- Nagaland
- Lakshadweep

Accidents > 10,000
Top 14 states - 89%

Accidents : 500 - 10,000
11 states - 10%

Accidents < 500
14 states / Uts < 1%

2016 MoRTH Data
### Road Safety Scenario – India (Top States in Total Accidents)

#### 2015
- **Accidents > 10,000**
  - Top 14 states - 89%

#### 2016
- **Accidents : 500 - 10,000**
  - 11 states - 10%
- **Accidents < 500**
  - 14 states / Uts <1%

**2016 MoRT&H Data**

<table>
<thead>
<tr>
<th>State</th>
<th>Total Number of Accidents</th>
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<tbody>
<tr>
<td>Tamil Nadu</td>
<td>65000</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>55000</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>50000</td>
</tr>
<tr>
<td>Karnataka</td>
<td>45000</td>
</tr>
<tr>
<td>Kerala</td>
<td>35000</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>25000</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>20000</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>15000</td>
</tr>
<tr>
<td>Gujarat</td>
<td>15000</td>
</tr>
<tr>
<td>Telangana</td>
<td>15000</td>
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<tr>
<td>Chhattisgarh</td>
<td>15000</td>
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<tr>
<td>West Bengal</td>
<td>15000</td>
</tr>
<tr>
<td>Haryana</td>
<td>15000</td>
</tr>
<tr>
<td>Odisha</td>
<td>15000</td>
</tr>
<tr>
<td>Bihar</td>
<td>15000</td>
</tr>
<tr>
<td>Delhi</td>
<td>15000</td>
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<td>Assam</td>
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<tr>
<td>Punjab</td>
<td>15000</td>
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<tr>
<td>Jammu &amp; Kashmir</td>
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<tr>
<td>Jharkhand</td>
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<tr>
<td>Goa</td>
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<td>Himachal Pradesh</td>
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<td>Puducherry</td>
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<td>Arunachal Pradesh</td>
<td>15000</td>
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<td>A &amp; N Islands</td>
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</tr>
<tr>
<td>Sikkim</td>
<td>15000</td>
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<tr>
<td>Daman &amp; Diu</td>
<td>15000</td>
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<tr>
<td>Mizoram</td>
<td>15000</td>
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<td>D &amp; N Haveli</td>
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<tr>
<td>Nagaland</td>
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</tr>
<tr>
<td>Lakshadweep</td>
<td>15000</td>
</tr>
</tbody>
</table>
### Road Safety Scenario – India (Top States in Total Accidents)

**Total Number of Accidents**

- **Tamil Nadu**: 50000
- **Maharashtra**: 45000
- **Madhya Pradesh**: 40000
- **Karanataka**: 35000
- **Kerala**: 30000
- **Uttar Pradesh**: 25000
- **Andhra Pradesh**: 20000
- **Rajasthan**: 15000
- **Gujarat**: 10000
- **Telangana**: 5000
- **Chhattisgarh**: 5000
- **West Bengal**: 5000
- **Haryana**: 5000
- **Orissa**: 5000
- **Bihar**: 5000
- **Delhi**: 5000
- **Assam**: 5000
- **Punjab**: 5000
- **Jammu & Kashmir**: 5000
- **Jharkhand**: 5000
- **Goa**: 5000
- **Himachal Pradesh**: 5000
- **Puducherry**: 5000
- **Uttarakhand**: 5000

**2015 MoRTH Data**

- **Accidents > 10,000**: Top 14 states - 89%
- **Accidents 500 - 10,000**: 11 states - 10%
Chart 7.1: Percentage Share of Top 13 States in Total Number of Road Accidents, 2016

1. Tamil Nadu 14.9
2. Madhya Pradesh 11.2
3. Karnataka 9.2
4. Maharashtra 8.3
5. Kerala 8.2
6. Uttar Pradesh 7.4
7. Andhra Pradesh 5.2
8. Rajasthan 4.8
9. Telangana 4.7
10. Gujarat 4.5
11. Chhattisgarh 2.8
12. West Bengal 2.8
13. Haryana 2.3

2016 MoRTH Data
Road Safety Scenario – India (Top States in Total Accidents)

Total no of Accidents in 2016
- Below 5000
- 5000 - 10000
- 10001 - 20000
- 20001 - 30000
- Above 30000
- Data N/A

6 MoRTH Data
**Road Safety Scenario – India (Top States in No. of Persons Killed)**

- **Fatalities > 5,000**
  - Top 12 states - 80%

- **Fatalities 500 – 5,000**
  - 10 states - 19%

- **Fatalities < 500**
  - 14 states / Uts <1%

2016 MoRTH Data

**Total Number of Persons Killed**

- Uttar Pradesh
- Tamil Nadu
- Maharashtra
- Karnataka
- Rajasthan
- Madhya Pradesh
- Andhra Pradesh
- Gujarat
- Telangana
- West Bengal
- Bihar
- Punjab
- Haryana
- Orissa
- Kerala
- Chhattisgarh
- Jharkhand
- Assam
- Delhi
- Himachal Pradesh
- Jammu & Kasmir
- Uttarakhand
- Goa
- Puducherry
- Meghalaya
- Tripura
- Manipur
- Chandigarh
- Arunachal Pradesh
- Mizoram
- Sikkim
- D & N Haveli
- Daman & Diu
- Nagaland
- A & N Islands
- Lakshadweep

2.96%

14th
Chart 7.2: Percentage Share of Top 13 States in Total Number of Persons Killed in Road Accidents, 2016

1. Uttar Pradesh 12.8
2. Tamil Nadu 11.4
3. Maharashtra 8.6
4. Karnataka 7.4
5. Rajasthan 6.9
6. Madhya Pradesh 6.4
7. Andhra Pradesh 5.7
8. Gujarat 5.4
9. Telangana 4.8
10. West Bengal 4.3
11. Punjab 3.4
12. Haryana 3.3
13. Bihar 3.3

2016 MoRTH Data
Chart 7.3: Percentage Share of Top 13 States in Total Number of Persons Injured in Road Accidents, 2016

1. Tamil Nadu 16.6
2. Madhya Pradesh 11.7
3. Karnataka 11.0
4. Kerala 8.9
5. Maharashtra 7.3
6. Andhra Pradesh 6.1
7. Uttar Pradesh 5.1
8. Telangana 4.9
9. Rajasthan 4.9
10. Gujarat 4.0
11. Chhattisgarh 2.6
12. West Bengal 2.4
13. Odisha 2.3
% of Vehicle Registered Vs % Accidents

Andhra Pradesh
7%
Assam
1%
Bihar
2%
Chhattisgarh
2%
Delhi
4%
Gujarat
9%
Haryana
4%
Himachal Pradesh
1%
Jammu & Kashmir
1%
Jharkhand
2%
Karnataka
7%
Kerala
4%
Madhya Pradesh
4%
Maharashtra
12%
Orissa
2%
Punjab
4%
Rajasthan
6%
Tamil Nadu
11%
Telangana
4%
West Bengal
3%
Uttarakhand
1%
Uttar Pradesh
9%
All Uts
2%

% of Vehicles Registered

5
6
4
3
3
6
2
1

% of Accidents

5
6
4
3
3
6
2
1

% Share of Vehicles Registered

A & N Islands
0.0
Arunachal Pradesh
0.1
Chandigarh
0.6
D & N Haveli
0.1
Daman & Diu
0.1
Goa
0.5
Lakshadweep
0.0
Meghalaya
0.1
Mizoram
0.1
Nagaland
0.2
Puducherry
0.4
Sikkim
0.0
Tripura
0.1

% Share of Accidents

0.1
0.1
0.1
0.1
0.0
0.0
0.0
0.0
0.3
0.0
1.8

% of Vehicle Registered Vs % Accidents

Andhra Pradesh
7%
Assam
1%
Bihar
2%
Chhattisgarh
2%
Delhi
4%
Gujarat
9%
Haryana
4%
Himachal Pradesh
1%
Jammu & Kashmir
1%
Jharkhand
2%
Karnataka
7%
Kerala
4%
Madhya Pradesh
4%
Maharashtra
12%
Orissa
2%
Punjab
4%
Rajasthan
6%
Tamil Nadu
11%
Telangana
4%
West Bengal
3%
Uttarakhand
1%
Uttar Pradesh
9%
All Uts
2%

% of Vehicles Registered

5
6
4
3
3
6
2
1

% of Accidents

5
6
4
3
3
6
2
1

% Share of Vehicles Registered

A & N Islands
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Arunachal Pradesh
0.1
Chandigarh
0.6
D & N Haveli
0.1
Daman & Diu
0.1
Goa
0.5
Lakshadweep
0.0
Meghalaya
0.1
Mizoram
0.1
Nagaland
0.2
Puducherry
0.4
Sikkim
0.0
Tripura
0.1

% Share of Accidents

0.1
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.3
0.0
1.8
Road Safety Scenario in India: Road Crashes vs. Vehicle Kilometer Travelled

State/Union Territory

14th
17th

Total Number of Persons Killed

0 2000 4000 6000 8000 10000 12000 14000 16000 18000

Uttar Pradesh, Tamil Nadu, Maharashtra, Karnataka, Rajasthan, Madhya Pradesh, Andhra Pradesh, Gujarat, Telangana, West Bengal, Bihar, Punjab, Haryana, Orissa, Kerala, Chhattisgarh, Jharkhand, Assam, Delhi, Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Goa, Puducherry, Meghalaya, Tripura, Manipur, Chandigarh, Arunachal Pradesh, Mizoram, Sikkim, D & N Haveli, Daman & Diu, Nagaland, A & N Islands, Lakshadweep.
R O A D  S A F E T Y  S C E N A R I O  -  I N D I A  I N  M I L L I O N  P L U S  C I T I E S

ROAD CRASHES vs. VEHICLE KILOMETER TRAVELLED

Population (Million)

Vehicle Kilometres Travelled (Million)

City

Delhi
Chennai
Bengaluru
Patna
Hyderabad
Mumbai
Kanpur
Lucknow
Allahabad
Agra
Kolkata
Indore
Pune
Raipur
Vizag
Jaipur
Ghaziabad
Vijaywada
Malapuram
Ludhiana
Meerut
Jabalpur
Nagpur
Jodhpur
Coimbatore
Kollam
Bhopal
Gwalior
Ahmedabad
Dhanbad
Varanasi
Surat
Faridabad
Asansol
Thiruvanthapuram
Vadodara
Khozikode
Aurangabad
Jamshedpur
Kochi
Madurai
Thissur
Tiruchirapalli
Chhindwara
Rajkot
Nashik
Kota
Amritsar
Srinagar
Kannur

Fatal Accidents
Persons Killed

0
200
400
600
800
1000
1200
1400
1600
1800
2000
Chart 8.1 Top Five Cities with Higher Road Accidents

- Chennai: 7486
- Delhi: 7375
- Bangalore: 5323
- Indore: 5143
- Kolkata: 4104
- Mumbai: 3379
### Road Safety Scenario – India – Top Million Plus Cities

#### Dip in Deaths in Delhi in 2016

<table>
<thead>
<tr>
<th>City</th>
<th>Accidents</th>
<th>Death</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi</td>
<td>↓ 7,375</td>
<td>8,085</td>
<td>↓ 1,591</td>
</tr>
<tr>
<td>Chennai</td>
<td>↑ 7,486</td>
<td>7,328</td>
<td>↑ 1,183</td>
</tr>
<tr>
<td>Jaipur</td>
<td>↑ 3,004</td>
<td>1,894</td>
<td>↑ 890</td>
</tr>
<tr>
<td>Bangalore</td>
<td>↑ 5,323</td>
<td>4,834</td>
<td>↑ 835</td>
</tr>
<tr>
<td>Kanpur</td>
<td>↓ 1,451</td>
<td>1,496</td>
<td>↑ 684</td>
</tr>
<tr>
<td>Mumbai</td>
<td>↑ 24,639</td>
<td>23,468</td>
<td>↓ 562</td>
</tr>
<tr>
<td>50 million- plus cities</td>
<td>↓ 89,835</td>
<td>1,11,024</td>
<td>↑ 17,797</td>
</tr>
</tbody>
</table>
Chart 3.1: Share of Accidents, Persons killed & Injured as per Road Category (2016)

National Highways
- No. of Accidents: 29.6
- No. of Persons Killed: 34.5
- No. of Persons Injured: 29.6

State Highways
- No. of Accidents: 25.3
- No. of Persons Killed: 27.9
- No. of Persons Injured: 25.8

Other Roads
- No. of Accidents: 45.1
- No. of Persons Killed: 37.6
- No. of Persons Injured: 44.6

Road Safety Scenario – INDIA – Road Length Wise
Chart 4.1: Share in Total Road Accidents by Type of Motor Vehicle Involved: 2016

- Two-Wheelers: 33.8%
- Cars, Jeeps, Taxis: 23.6%
- Buses: 7.8%
- Trucks, Tempos, Tractors and other Articulated vehicles: 21.0%
- Auto-Rickshaws: 6.5%
- Non-motorized vehicles & other objects: 4.5%
- Other Motor Vehicles: 2.8%
Chart 4.2: Share in accidents based on age of the vehicles (2016)

- Less than 5 years: 40.3%
- 5 - 10 Years: 32.7%
- 10 - 15 Years: 15.4%
- 15 Years & above: 9.4%
- Age not known: 2.2%

Type of Motor Vehicles Involved by Age
Chart 5.1: Share of Total Number of Persons Killed in Road Accidents in terms of Road User Categories: 2016

- Two-wheelers: 34.8%
- Cars, Taxis, Vans & LMsVs: 17.9%
- Buses: 6.6%
- Trucks: 11.2%
- Auto-Rickshaws: 4.7%
- Pedestrian: 10.5%
- Bicycles: 1.7%
- Other Motor Vehicles (including e-rickshaw): 10.6%
- Others*: 2.0%

* Includes: Animal Drawn Vehicles, Cycle Rickshaws, Hand Carts, Rickshaws and Other Persons

Type of Road Users Killed
Chart 5.2: Percentage share of Road Accident Victims as per age profile (Passengers as well as drivers)

- Less than 18: 7%
- 18-25: 21.1%
- 25-35: 25.3%
- 35-45: 22.3%
- 45-60: 14.7%
- 60 & Above: 5.8%
- Age not known: 3.8%
ROAD SAFETY SCENARIO – INDIA

Chart 5.3: Age wise number of Persons killed in Road Accidents during the calendar year 2016

Age Profile of Victim and Gender Profile

- Male
- Female
Chart 6.1: Share of Road Accidents based on Type of Licence holders during 2016

- Regular Licence: 84.6%
- Learner's Licence: 6.7%
- Without Licence: 8.7%
Time of Occurrence of Road Accidents
Road Safety Scenario – INDIA – Month Wise

Accidents

Killed

Injured
## Road Safety Scenario – INDIA

### Table 6.2: Responsibilities of Drivers: 2016

<table>
<thead>
<tr>
<th>Responsibilities of Drivers</th>
<th>Accidents</th>
<th>Killed</th>
<th>Injured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exceeding lawful speed</td>
<td>2,68,341 (66.5)</td>
<td>73,896 (61.0)</td>
<td>2,82,870 (68.2)</td>
</tr>
<tr>
<td>Intake of Alcohol</td>
<td>14,894 (3.7)</td>
<td>6,131 (5.1)</td>
<td>11,648 (2.9)</td>
</tr>
<tr>
<td>Jumping Red Light</td>
<td>4,491 (1.1)</td>
<td>1,260 (1.0)</td>
<td>4,636 (1.1)</td>
</tr>
<tr>
<td>Driving on Wrong Side</td>
<td>17,654 (4.4)</td>
<td>5,705 (4.7)</td>
<td>17,908 (4.3)</td>
</tr>
<tr>
<td>Jumping/ Changing lanes</td>
<td>8,513 (2.1)</td>
<td>2,795 (2.3)</td>
<td>8,177 (2.0)</td>
</tr>
<tr>
<td>Overtaking</td>
<td>29,647 (7.3)</td>
<td>9,462 (7.8)</td>
<td>29,171 (7.0)</td>
</tr>
<tr>
<td>Using of Mobile phones during driving</td>
<td>4,976 (1.2)</td>
<td>2,138 (1.8)</td>
<td>4,746 (1.1)</td>
</tr>
<tr>
<td>Asleep or fatigued or sick</td>
<td>4,552 (1.1)</td>
<td>1,796 (1.5)</td>
<td>4,685 (1.1)</td>
</tr>
<tr>
<td>Other improper actions</td>
<td>50,530 (12.6)</td>
<td>17,943 (14.8)</td>
<td>50,944 (12.3)</td>
</tr>
</tbody>
</table>
Odisha ranked the 14th highest in the total number of road accidents (10,532) in the country in 2016, with a share of 2.19 per cent. The number of road accidents in Odisha slightly decreased from 11,825 in 2015 to 10,532 in 2016.

Odisha ranked the 14th highest in the number of persons killed in the country in 2016 accounting about 2.96% (42.4 Accident Severity Index).
ROAD SAFETY MEASURES - INDIA

- Safety Consultant Appointed for all Road Projects
- Road Safety Cell, NHAI has initiated Road Safety activities with World Bank loan
- Accident Data Collection from PIUs of NHAI on Daily/Monthly basis
- Issue of policy circular on work zone Safety and Engineering Measures to various PIUs
- Road Safety Public Education on all 4 arms of GQ
- Organizing various Work Shops /Seminars on Road Safety and Work Zone Safety including workers safety
- Road Safety Audits – Design Stage, Construction Stage, Pre-Opening stage and OM Stage
- New Bill on Road Transport & Safety Bill 2015 (Draft)
- Hon’ble Supreme Court Committee to Monitor Road Accidents

Ministry of Road Transport & Highways, Government of India
September 13, 2014
CONCLUSIONS

- The pace of *legislative change is too slow*: increase adoption of comprehensive laws.
- Enforcement of *strong road safety laws* is essential for success and should be coupled with *public awareness*.
- Reducing *road traffic* deaths requires more consideration of the needs of pedestrians, cyclists & motorcyclists.
- Also need to *make infrastructure safer*, implement crash testing standards, as well as improve post-crash care and road safety databases.
CONCLUSIONS

- **Safety hazards as result** of short falls in the compatibility of Road - Vehicle –Road User Systems-
- The Vehicle safety is improved recently with the advancement of Vehicle Technology
- Improvement in **Road User skill and behavior can** be achieved through driver training and public education and enforcement campaigns.
- **Engineering safety of Roads** can be enhanced through **Roads Safety Audits**
- **Road Safety Action Plan**- Conduct more problematic roads Road Safety Audit, get acquit some engineers further to train some other Engineers
Thank You