

Road Safety In India



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33 National & international awards. Humanitarian Award from USA, Godfrey Philips Physical Bravery Award , National & Three State awards . Satyamev Jayte with Amir Khan. 10 Books, 100 + papers . A TED Speaker.Global Best Practices in Drivers Training.

A Jumbo Jet Crashes Today -500 People Killed ???



Road Safety

- About 1.4 million people die each year as a result of road traffic crashes.
- Between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability as a result of their injury.
- Road traffic injuries are the leading cause of death among young people, aged 15–29 years.
- 90% of the world's fatalities on the roads occur in low- and middle-income countries, even though these countries have approximately half of the world's vehicles.
- Half of those dying on the world's roads are “vulnerable road users”: pedestrians, cyclists and motorcyclists.
- The newly adopted 2030 Agenda for Sustainable Development's has set an ambitious road safety target of halving the global number of deaths and injuries from road traffic crashes by 2020. (who)

India's highway of death creates village of widows.....

- National Highway 44 is a road with a deadly reputation, connects India's north and south .
- One such village is Peddakunta, belonging to the Mahbubnagar district of Telangana, and lying adjacent to the highway bypass.
- Tiny Peddakunta is easy to locate because of its reputation as the "village of highway widows". In the village of 35 huts and families, there is only one male adult. Thirty seven others have died, and three have left the village for good

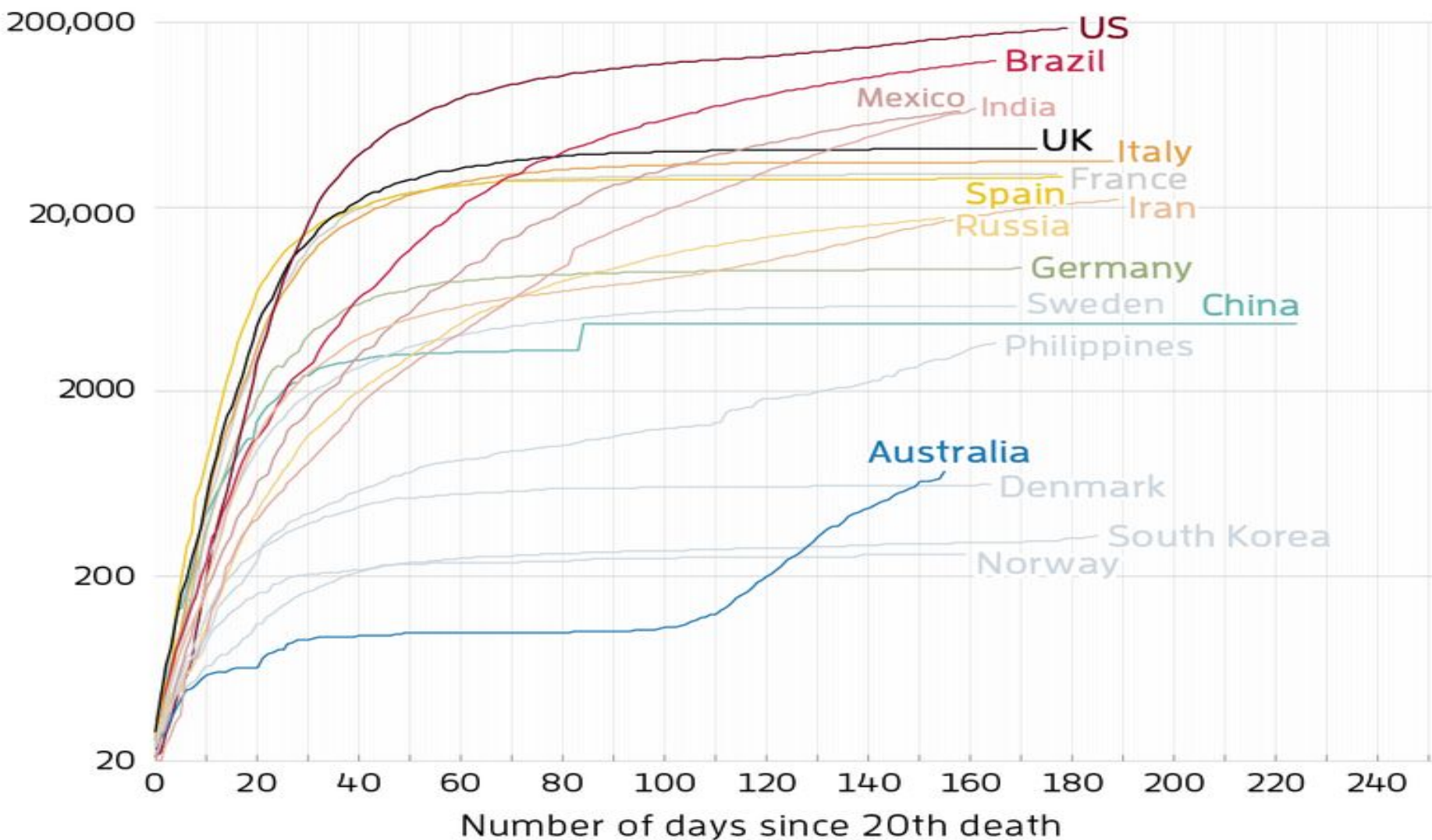


CORONA...

- The worldwide death toll has passed 900,000. The number of confirmed cases is more than 26.3 million, according to Johns Hopkins University, though the true number of cases will be much higher.
- Total 2.67 Crore
Deaths : Approx 9 Lacs
New Cases : 3 Lacs
- India Official Figure
Number of Cases : 43 Lacs . Deaths ; 70,000

Coronavirus deaths as of 4 September 5pm BST

Cumulative deaths, by number of days since 20th death (log scale)



Note: Only selected countries are shown

Source: New Scientist analysis of Johns Hopkins University, CSSE

Road safety

is

a public health priority





The road safety paradigm shift

- Road crashes are predictable and preventable/ Not Act of God Any More
- Road crashes is a multi-sectoral issue
- Traffic Management systems should accommodate common human error
- Traffic Management systems should account for the vulnerability of the human body
- Road safety is a social equity issue
- Technology transfer needs to fit local conditions
- Local knowledge should inform local solutions

Challenges

DANGER



DANGER







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Road Accidents

-India/ROAD TERRORISM

**TERRORIST IN OUR DRIVING SEAT
ROADS KILL MORE THAN TERRORISM IN INDIA**

Road safety calls for special attention in India where drivers killed 150000/- people on our roads last year -- more than all the terrorism related deaths in past 60 years put together.

On an average Three '26/11's happened every day on the Indian roads with a daily toll of 500. With auto manufacturers, media and civic agencies abandoning their social responsibility, the situation presents a hopeless scenario.

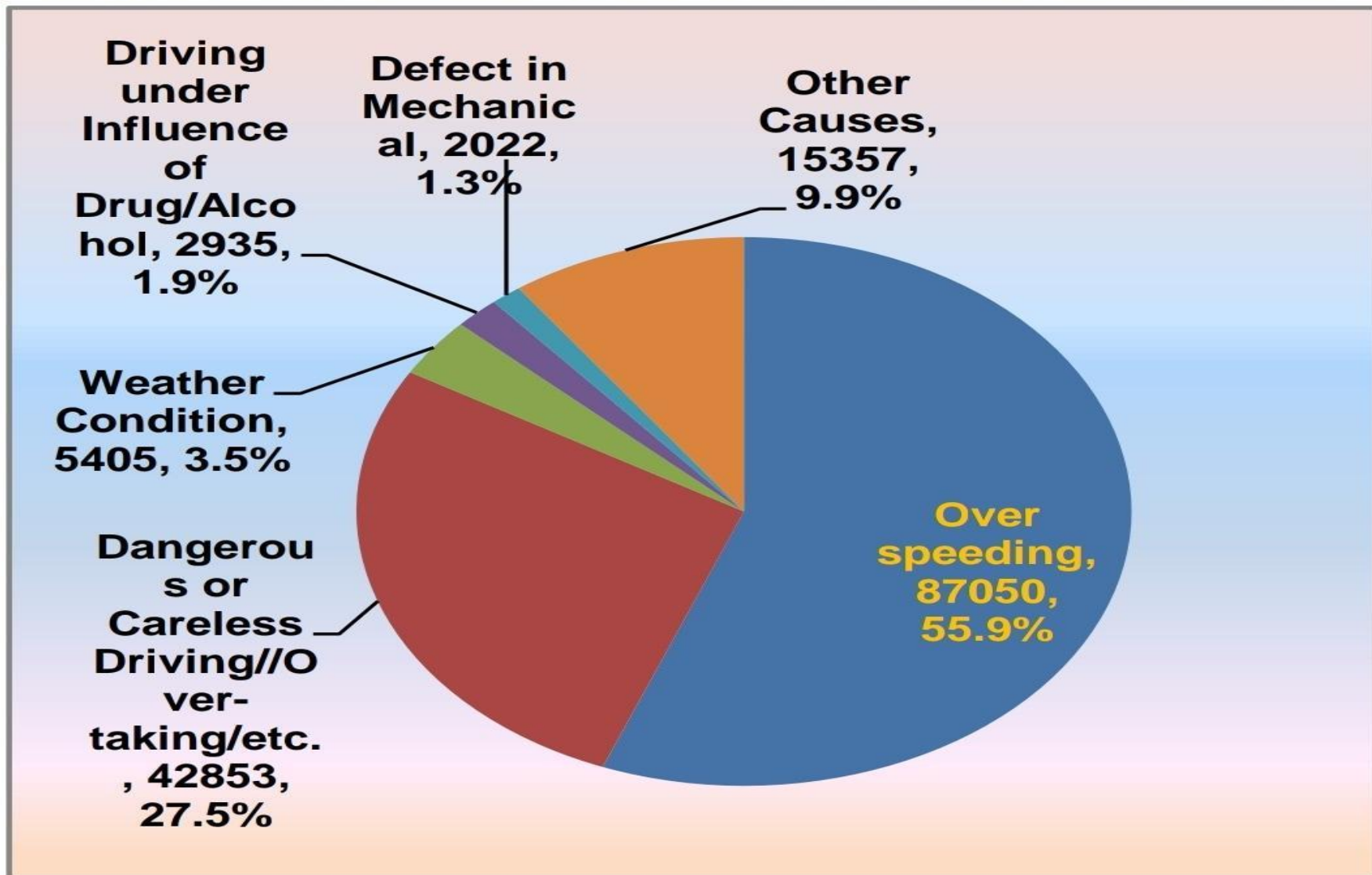
India – Road Safety- A Crying Need

Reality Check –INDIA.

- 150000 People Dies Every Year on Indian Roads , Over Five Lacs are Injured seriously . (WHO Figures – 2,20,000).
- An Economic Loss over 35 US Billion Dollars , Little less than our Defence Budget – 2-3% Of GDP
- Road Crashes – Psycho –Socio – Economic Issue ..
- Public Health Disease ...

FIGURE-1A.6

Major Causes of Road Accident Deaths during 2021



- As per data provided by States/UTs.

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Reality Check –INDIA.

Road Accidents : 2021

- As per the National Crime Records Bureau (NCRB), 4,22,659 accidents were recorded in the country in 2021 as compared to 3,68,828 in the previous year. These included 4,03,116 road accidents, which caused 1,55,622 fatalities – a 16.8% increase over 2020.
- The number of traffic accidents reported in Tamil Nadu went up from 46,443 in 2020 to 57,090 in 2021. Madhya Pradesh recorded 49,493 accidents, while Uttar Pradesh, Maharashtra and Kerala registered 36,509, 30,086 and 33,051 accidents, respectively.
- According to NCRB data, the rate of deaths per thousand vehicles increased from 0.45 in 2020 to 0.53 in 2021. Road accidents caused more deaths than injuries in Mizoram, Punjab, Jharkhand and Uttar Pradesh.
- Over-speeding and careless driving were the two major causes of road accidents that claimed 87,050 and 42,853 lives, respectively, in the country in 2021.
- Driving under the influence of drugs or alcohol contributed 1.9 per cent of the total accidents, which resulted in injuries to 7,235 people and 2,935 deaths.

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Road Accidents : 2021

A total of 1,55,622 people lost their lives due to road accidents in 2021.

Cause-wise analysis of road accidents

Most of the road accidents were due to over-speeding, accounting for 59.7 per cent of the total accidents (2,40,828 out of 4,03,116 cases) which caused 87,050 deaths and injuries to 2,28,274 persons.

Dangerous driving and overtaking caused 1,03,629 accidents, which resulted in 42,853 deaths and injuries to 91,893 people. They constituted 25.7 per cent of the total accidents in 2021.

Another 2.8 per cent of accidents (11,110 out of 4,03,116 cases) were due to poor weather conditions. Overall, poor weather conditions, driving under the influence of drugs or alcohol, and mechanical defects in vehicles caused 3.5 per cent (5,405 deaths) ,1.9 per cent (2,935 deaths) and 1.3 per cent (2,022 deaths) of total deaths, respectively, in 2021.

As many as 11,419 of the total 87,050 deaths due to over-speeding were reported from Tamil Nadu, contributing 13.1 per cent, followed by Karnataka with 8,797 deaths (10.1 per cent).

Careless driving and overtaking caused maximum fatalities in Uttar Pradesh (11,479 out of 42,853) which accounted for 26.8 per cent of total deaths, followed by Rajasthan - 10 per cent (4,299 deaths). [Dr Kamal Soi](#)

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Uttar Pradesh also reported the highest fatalities due to driving under the influence of drugs, accounting for 27.1 per cent, followed by Telangana (11.6 per cent), Jharkhand (11.1 per cent), Madhya Pradesh (9.2 per cent) and Maharashtra (6.4 per cent).

Thirty per cent accidents (72,333 out of 2,40,747 cases) in rural areas and 29.7 per cent accidents (48,270 out of 1,62,369 cases) in urban areas took place in residential localities.

Altogether, 7.7 per cent road accidents in urban areas took place at the pedestrian crossing (12,528 out 1,62,369 cases).

Besides, eight per cent (28,873 out of 4,03,116 cases) of road accidents in the country have taken place near schools, colleges and other educational institutions.

Uttar Pradesh followed by Tamil Nadu have reported 24.4 per cent and 9.4 per cent of total deaths due to road accidents near schools or college or other educational institutes in urban area respectively.

Uttar Pradesh also reported the highest fatalities due to road accidents at places near residential areas (urban) accounting for 18.0 per cent (2,969 out of 16,466) of total such deaths during 2021.

24% deaths near educational institutions in UP..

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Two-wheelers claimed highest number of lives in accidents in 2021: NCRB report

Two-wheelers have claimed the highest number of lives — nearly 70,000 people — in road accidents in the country during 2021.

“During 2021, two wheelers have accounted for maximum fatal road accidents (69,240 deaths), contributing 44.5 per cent of total road accidental deaths, followed by cars (23,531 deaths) (15.1 per cent) and trucks or lorries (14,622 deaths) (9.4 per cent).

Majority of deaths due to two-wheeler accidents were reported in Tamil Nadu (8,259 deaths) and Uttar Pradesh (7,429 deaths), accounting for 11.9% and 10.3% of total deaths 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 numbers of deaths due to trucks, lorries, mini trucks accidents (3,423 out of 14,622) were reported in Madhya Pradesh accounting for 23.4%.

A total of 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

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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% of total road accidents.

Most of the 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.

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While the percentage share of road deaths on ‘other roads’ is the highest, what is significant is that national highways and state highways constitute only 5.04 percent of all roads, but account for 61.11 percent of all road deaths.

India Plan of Action

Our Challenge

5 M's :

1M : Man/wMan -The Driver

2M : Machine - The Vehicle

3M : Medium - The Road

4M: Medical Care

5 M: Management of Road safety



1M – Man – The Driver

Studies Refer to Human error as a major factor in over 90% of collisions. Failing to look properly, misjudging other road users' movements, being distracted, careless or in too much of a hurry are the most common causes of collisions on our roads.



Darling, it's just a bike! Why don't you pass her?
Honey, *Overspeeding kills.*



Driver's Role

- **Vehicle control with Drivers**
Responsible for overall (hands on the steering wheel and foot on the pedal at all times).
- **Drivers are responsible for monitoring the roadway and are expected to be available for control at all times.**
- **Drivers are responsible for all safety-critical functions .Drivers have to constantly monitor the roadway. Day Driving Vs Night Driving**

- **Levels of Autonomous Vehicles (NHTSA 2013)**

Top Reasons For Road Crashes

The reason for the accident ...

- 1. Over speeding of the vehicle – The Time Constraint**
- 2.The Driver Was Under Intoxication**
- 3.The driver was sleepy because of long drive,**
- 4.The Vehicle had lived its life**
- 5.The driver didn't know the road junction**
- 6.There was no sign boards about the road junction**

Plan of Action

1M- Driver

- Automated Driving Test Tracks
- Driving Schools in all districts
- Training before Learner's license test in schools
- Refresher courses for Commercial Drivers
- Stringent Medical Tests
- To educate citizens on good road safety practices through publicity campaigns.
- Celebrities Involvement – Sport stars & Film Stars

2M – To Allow safer Cars on the roads The Machine BMW 3 Series Split into Two



2M – Machine -Unsafe Vehicles

Popular small cars Alto, i10, Nano fail crash test

NEW DELHI: Some of the most popular small cars sold in India, including Maruti Alto 800, Tata Nano, Ford Figo, Hyundai i10 and Volkswagen Polo, have failed crash tests showing high risk of life-threatening injuries in road accidents, according to Global NCAP.

As per the tests done by Global NCAP, an independent charity

based in UK focused on consumer orientated vehicle safety initiatives, these cars received zero for adult protection ratings in a frontal impact at 64km/hr.

The combined sales of these five cars account for around 20 per cent of all the new cars sold in India last year, Global NCAP said.

As per Society of Indian Automobile Manufacturers, total car

sales in India stood at 18,07,011 units in 2013. Global NCAP Chairman Max Mosley said: "Poor structural integrity and the absence of airbags are putting the lives of Indian consumers at risk.

"They have a right to know how safe their vehicles are and to expect the same basic levels of safety as standard as customers in other part of the world." India

is now a major global market and production centre for small cars, so it's worrying to see levels of safety that are 20 years behind the five-star standards now common in Europe and North America, he added.

When contacted, spokespersons of the companies named said their products met Indian safety norms. According to the

findings, in Maruti Alto 800, Tata Nano and Hyundai i10, the vehicle structures proved inadequate and collapsed to varying degrees, resulting in high risks of life-threatening injuries to the occupants.

"The extent of the structural weaknesses in these models were such that fitting airbags would not be effective in reducing the

risk of serious injury," it said.

Ford Figo and Volkswagen Polo had structures that remained stable - and, therefore, with airbags fitted, protection for the driver and front passenger would be much improved, it added. "All but one of the cars tested failed to pass even this minimum standard," it said.

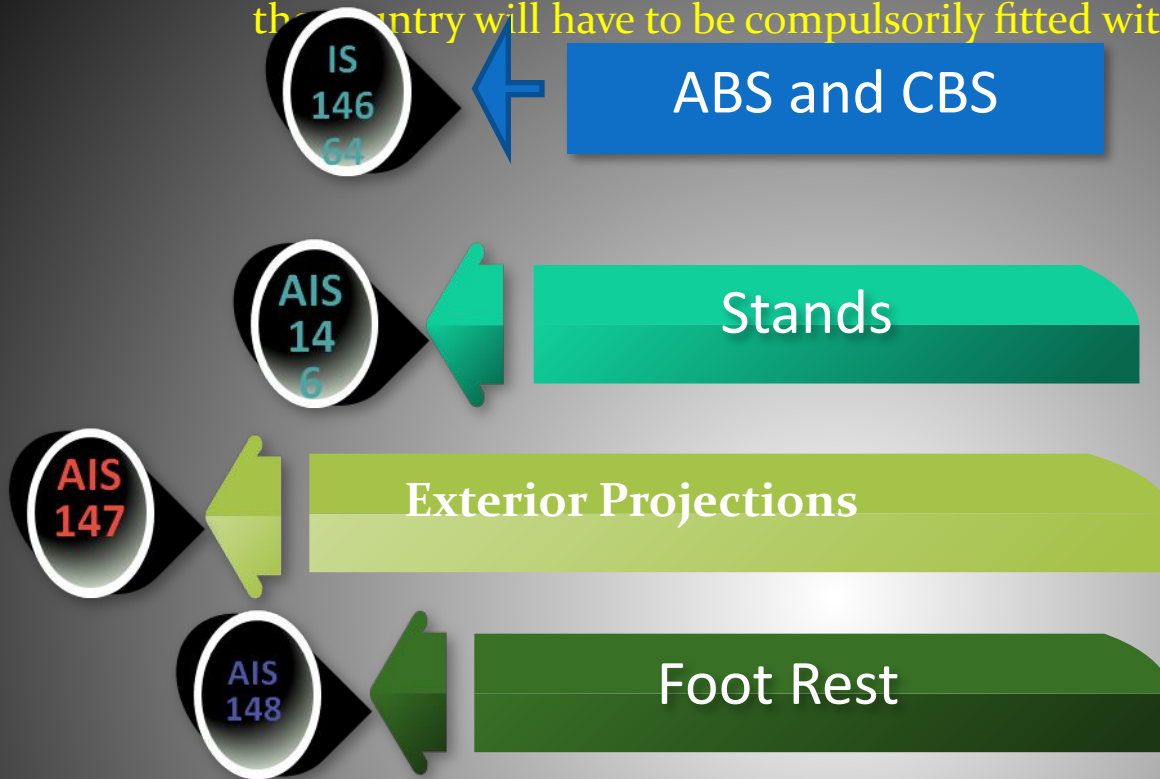


Steps being Taken For A Safer Machine ..

- Own New Car Crash Testing Investigation facility in ARAI Pune
- Compulsory –Air Bags & Seat Belts in all motorized vehicles
- Automated I&C Centers across the country
- Vehicle Scrappage policy
- BSVI Vehicles
- SLD's & VLTD's in Commercial Vehicles

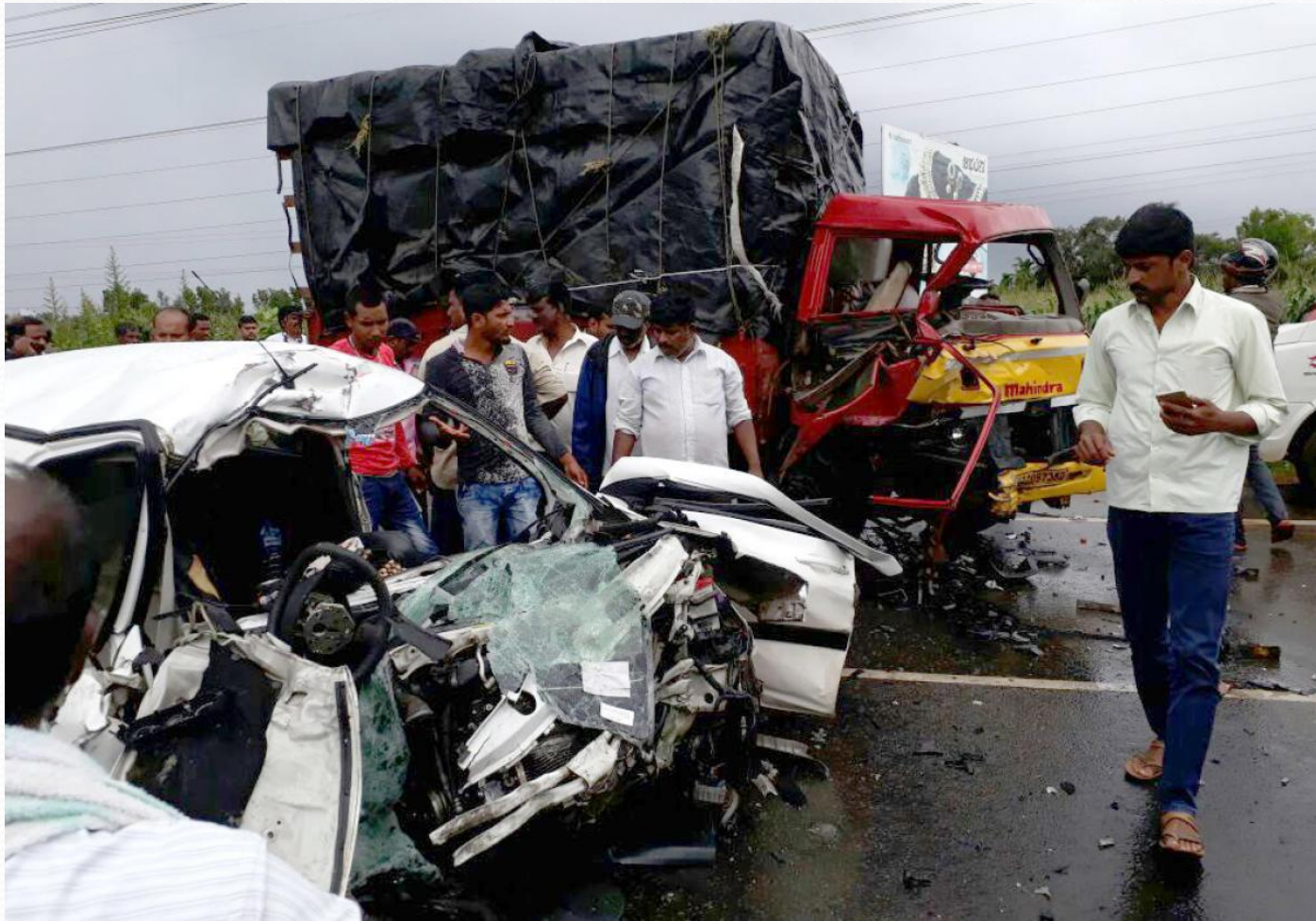
Safety Features in Motorcycles

an Anti-Lock Braking System. From today, April 1, 2019, all four- and two-wheelers manufactured in the country will have to be compulsorily fitted with ABS or CBS



- AIS 146 (Stands) : Reference Standard Annex XVI of EU directive 44/2014. Stability Requirement, Durability, Automatic Retraction while vehicle moving or disable vehicle propulsion if side stand is on.
- AIS 147 (External Projections) : Reference Standard : Annex VIII of EU directive 44/2014.
- AIS 148 (Foot Rest) : Reference Standard : Annex XIII of EU directive 44/2014. Strength Requirement.
- Notification: August 2020

3th M – Medium – The Road



3th M – Medium – The Road- Road As A Mother



3th M – Medium – The Road- Road As A Mother



- Forgiving Roads
- Self Explaining Roads
- Talking Roads
- Safe Roads
- Efforts less Roads
- Non fatal Roads

Steps being taken

- In 2013-14, the country had around 91,000 km of national highways. In 2021-22, they went up to 140,995 km. Road quality generally has also improved, leading to greater mobility and speed.
- **Safety is considered an integral concern in road planning, more land is acquired for roads that allow segregation of pedestrians, bicycles and motorcycles from the lanes that have motor vehicles travelling at great speed.**
- **Star Rating of roads**
- **Nationwide correction of black spots**

4th M – Medical Care



4th M – Medical Care

- **Every Minute Counts: A bid to save lives of Road crash Victims.**
- **Platinum 10 Minutes & Golden Hour**
- **At least 50 per cent of the fatalities can be averted if victims are admitted to a hospital within the first hour.**



4th M – Medical Care

- **Good Samaritan Law**
- **First Responders**
- **One Emergency Number 112**
- **Cashless Treatment of Road Accident Victims**



4th M – Cashless Treatment OF RTA Victims..

- Cashless treatment scheme for road accident victims with Rs 2.5 lakh cap per case
- This includes treatment of victims during the crucial golden hour.
- "The National Health Authority being the nodal agency for PM-JAY (Ayushman Bharat Pradhan Mantri - Jan Arogya Yojana) and having footfall across the country with over 21,000 hospitals on board has been entrusted to implement the scheme,"
- To provide compulsory insurance cover to all road users in the country“.
- The fund would be utilized for treatment of road accident victims and for payment of compensation to the injured or to the family of person losing life in hit and run cases.

4th M – Cashless Treatment OF

RTA Victims..

- To allow access to quality care at the right time for all individuals, irrespective of their capability to pay.
- "All road accident victims of Indian or foreign nationality will be considered eligible for the scheme as its beneficiary. The scheme will have a cap of Rs 2.5 lakh/person/accident.
- Trauma and healthcare services to road accident victim will be financed through an account which will be established under the road ministry for the implementation of the scheme.
- "The funds will have contributions from the insurance companies through general insurance council for insured vehicles and for hit-and-run-cases.
- Besides, the vehicle owners will be liable to pay the cost of treatment as a part of compensation in case of uninsured vehicles.
- "Hospitals have to ensure provision of stabilization in case they refer the patient to an empanelled PM-JAY hospital where the complete treatment may be provided.

Medical Care

- First Responders
- Emergency Number
- Response Teams
- Availability of Ambulances
- Paramedics
- First Aid/CPR
- Recovery Vans
- Hydraulic Cutters
- Transportation , Trauma care & Treatment

We Are Committed ..

Initiatives Taken by Indian Government to Prevent Road Accidents

- 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 have been taken by the Ministry as detailed below :-
- Education:
- The Ministry implements a scheme for undertaking publicity measures and awareness campaigns on road safety to create awareness among road users through the electronic media, print media, NGOs etc. Total 714 work orders issued to various NGOs from 2018-19 to 20202021.
- Observance of National Road Safety Month/Week every year for spreading awareness and strengthening road safety.
- A Certification Course for Road Safety Auditors has been commenced in Indian Academy of Highway Engineers (IAHE).

Initiatives Taken by Indian Government to Prevent Road Accidents

- Engineering (both of Roads and vehicles)

Road engineering:

- High priority to identification and rectification of black spots (accident prone spots) on national highways. Ministry has identified 5803 black spots on National Highways based on accident and fatality data of year 2015-2018 in 30 states/UTs. Out of 5803 Black spots, temporary measures have been taken on 5366 black spots and 3215 Black spots have been permanently rectified.
- Road safety has been made an integral part of road design at planning stage.
- Ministry has delegated powers to Regional Officers of MORTH for technical approval to the detailed estimates for rectification of identified Road Accident black spots.
- Guidelines for pedestrian facilities on National Highways for persons with disabilities have also been issued to all States / UTs.

Initiatives Taken by Indian Government to Prevent Road Accidents

- Vehicle engineering:
 - Safety standards for automobiles have been improved in respect of Airbags, Anti-Breaking System (ABS), Tyres, Crash test, Whole Vehicle Safety Conformity of Production (WVSCoP) etc.
 - Ministry has notified fitment of Speed Limiting devices on all transport vehicles.
 - Scheme for setting up one model Inspection & Certification Centre in each State/UT with Central assistance for testing the fitness of vehicles through an automated system.
 - Enforcement
 - The recently passed motor vehicles (Amendment) Act, 2019 provides for strict enforcement through use of technology and further provides for strict penalties for ensuring strict compliance and enhancing deterrence for violation of traffic rules.
 - Issue of Guidelines for protection of Good Samaritans and draft rules as per MV (Amendment) Act, 2019 has been published.
- Emergency care:
 - The Motor Vehicles (Amendment) Act, 2019 provides for a scheme for the cashless treatment of victims of the accident during the golden hour.
 - The National Highways Authority of India has made provisions for ambulances at all toll plazas on the completed corridor of National Highways.
 - Further, out of this, 297 ambulances have been upgraded to Basic Life Support as per AIS125 and upgradation for the remaining is under process.

We Are Trying to ..

- Create No Fatal Zones- No Deaths
- No Accident Zone – No Crashes
- No Congestion Zones – Free Movement of Traffic

Questions ??

- ABS took 17 years, and ACC took 14 years to 5% penetration
- Disruption of insurance industry – liability migrates from the driver to the manufacturer
- A large part of safety can be done with only ADAS
- Automation is enabler for shared vehicle market
- Lack of law breakers will decimate local budgets
- 90% of organ donations come from auto accidents
- Car crash deaths will be death by computer ?
- The car is just a computer on wheels; just another device between a consumer and the info/data

***“If I had listened to my Customer,
I would have developed a faster
horse.”***

– Henry Ford

My 3 E's- Motor Vehicle Amendment Bill 2019

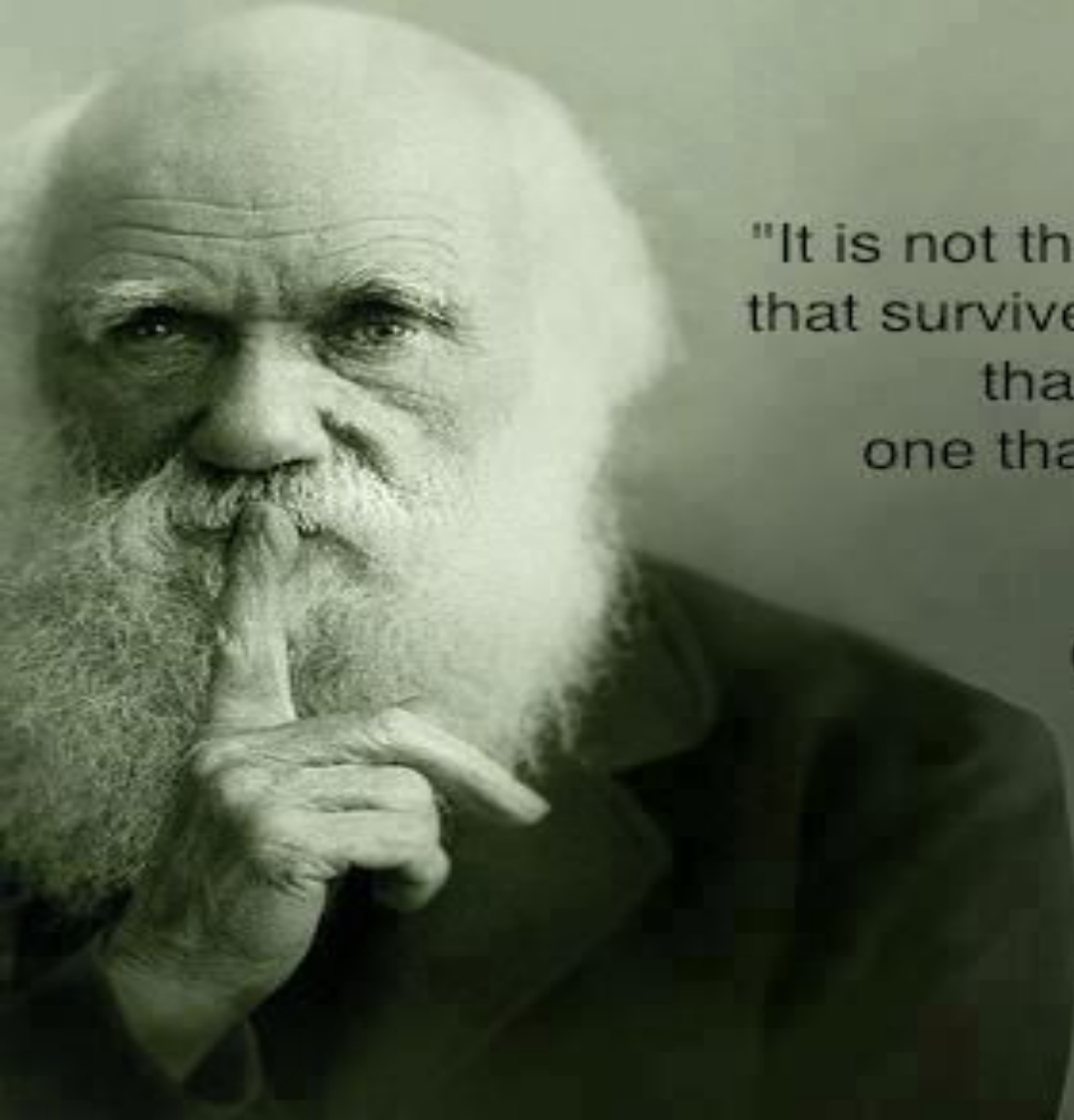
FOBC – FOBP

Enforcement

Enforcement

Enforcement





"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change".

Charles Darwin

Thank You

Dr Kamal Soi



**EVERY
LIFE
MATTERS!**

LETS ALL TAKE A PLEDGE



Thank You