

HOW SAFE ARE **INDIAN** **ROADS** FOR **PEDESTRIANS** & **CYCLISTS**

AN ANALYSIS OF **ROAD ACCIDENTS DATA**

IN WEST BENGAL, JHARKHAND AND ODISHA



EXECUTIVE SUMMARY

The Ministry of Road Transport and Highways' 'Road Accidents in India - 2021' report provides a detailed overview of road accidents in India, highlighting the alarming number of incidents, fatalities, and injuries across various states. The report underscores the need for improved road safety measures and targeted interventions to reduce the high rates of accidents and fatalities.

FINDINGS

NATIONAL OVERVIEW

- The report recorded 4,12,432 accidents with 1,53,972 fatalities in 2021.
- Madhya Pradesh and Tamil Nadu reported the highest accident rates among Indian states.

ODISHA

- Motorized two-wheelers caused the highest number of accidents at 5,085, followed by cars, taxis, vans, and LMVs with 1,429 incidents.
- Odisha recorded 5,081 fatal traffic accidents in 2021. Two-wheeler riders accounted for 2,531 (49.8%) of deaths.
- Pedestrian accidents involved two-wheeler users causing 190 (31.8%) casualties, followed by trucks and lorries with 129 (21.4%).

WEST BENGAL

- Commuters and motorized vehicles caused a higher range of accidents (1,400–5,400).
- In 2021, West Bengal had 5,800 road accident fatalities. Pedestrians accounted for 50% of deaths.
- Motorized two-wheelers caused 830 (28.5%) pedestrian deaths, closely followed by four-wheelers (24.8%).

JHARKHAND

- In 2021, two-wheelers led with 1,605 accidents, followed by cars with 742 incidents.
- Two-wheeler users faced 1,317 fatalities, making up 37.5% of total deaths.
- In accidents involving pedestrians as victims, two-wheelers caused the most casualties with 115 (23.19%), followed by trucks and lorries with 110 (22.18%).

CONCLUSION

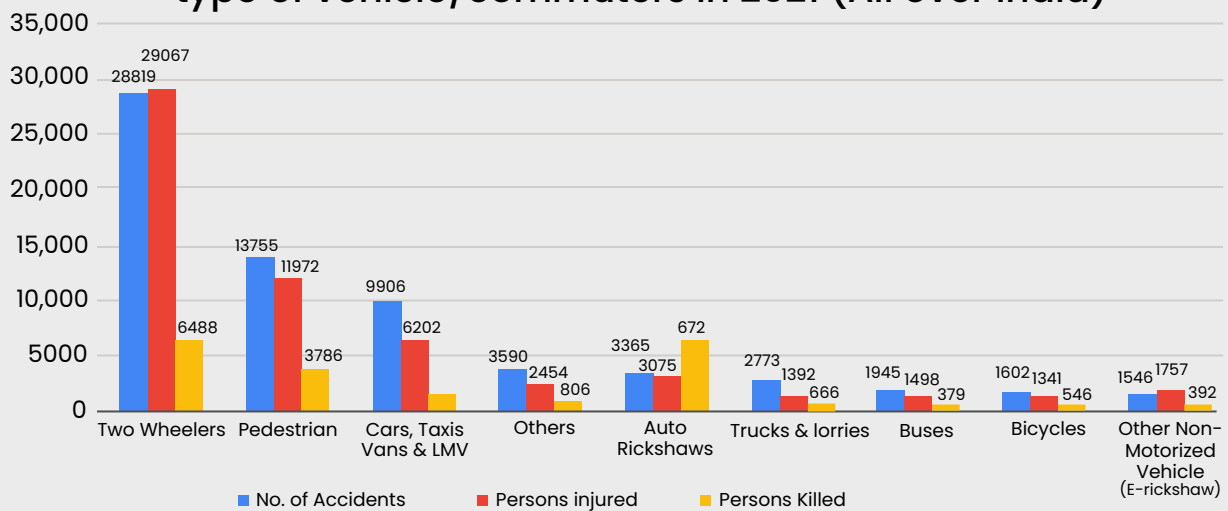
The data from the report highlights the pressing need for immediate action to improve road safety in India. Targeted interventions, stricter enforcement of traffic regulations, and enhanced infrastructure are crucial to reducing accidents and fatalities, particularly among vulnerable road users like two-wheeler riders and pedestrians.

INTRODUCTION

The Ministry of Road Transport and Highways' 'Road Accidents in India - 2021' report lists 4,12,432 road accidents, 1,53,972 fatalities, and 3,84,448 injuries in a single year. Notably, out of all the Indian states, Madhya Pradesh and Tamil Nadu have the highest accident rates.

On the other hand, bicycles and other non-motorized modes of transportation are found to have supposedly caused a little over 2% of accidents nationwide, while two-wheelers are found to have reportedly caused 43% of accidents.

Accidents, Fatalities and Injuries caused by type of vehicle/commuters in 2021 (All over India)



Source: Road accidents in India 2021. https://morth.nic.in/sites/default/files/RA_2021_Compressed.pdf

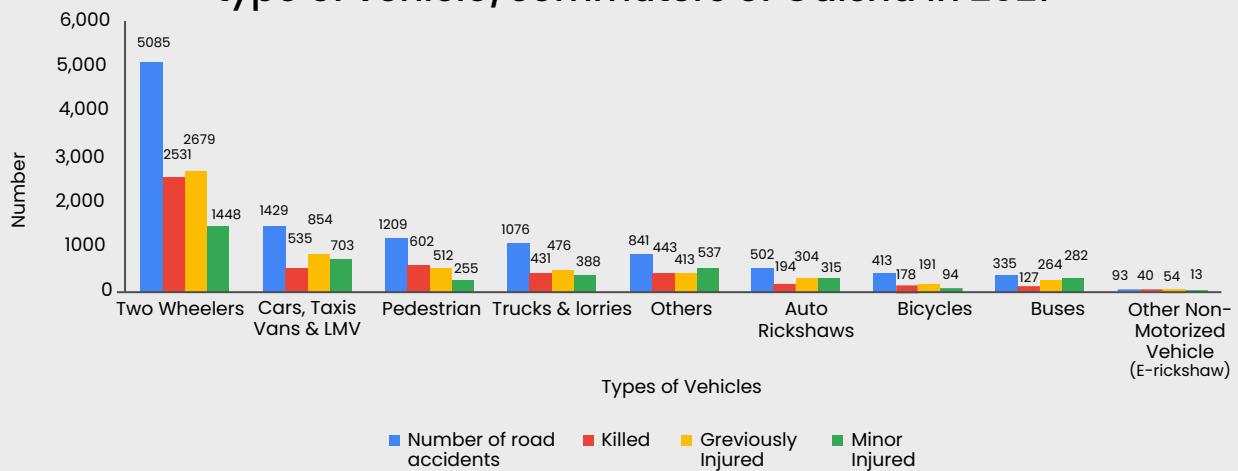
In Odisha, road accidents claim an average of 15 lives daily (Pattanayak, 2023). Ministry of Road Transport and Highways data highlights overspeeding and mobile phone usage as major causes of fatalities in Odisha in 2022 (The New Indian Express, 2023). Jharkhand and West Bengal also faced alarming numbers, with Jharkhand reporting 4,728 accidents and West Bengal witnessing a tragic toll of 5,800 fatalities in a single year.



INCIDENTS OF DIFFERENT CATEGORIES OF VEHICLES GETTING INVOLVED IN ROAD ACCIDENTS AS IMPACTING VEHICLE

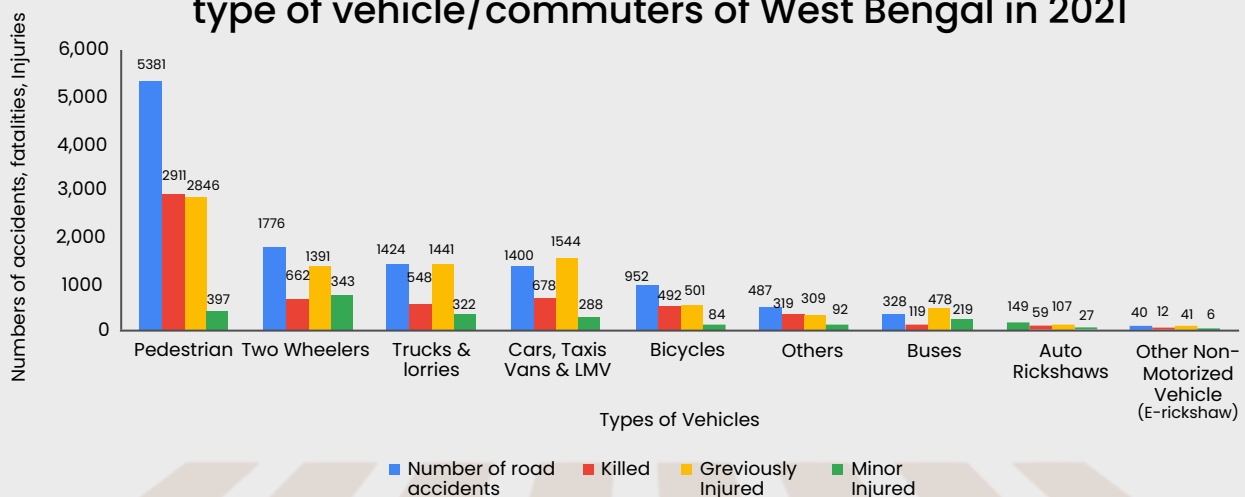
- In Odisha Motorized two-wheelers caused the highest number of Odisha accidents at 5,085, followed by Cars, taxis, vans, and LMVs at 1,429 incidents. Meanwhile, bicycles, auto-rickshaws, buses, and non-motorized transport were involved in fewer accidents, ranging from 93 to 502.

Accidents, Fatalities and Injuries caused by type of vehicle/commuters of Odisha in 2021

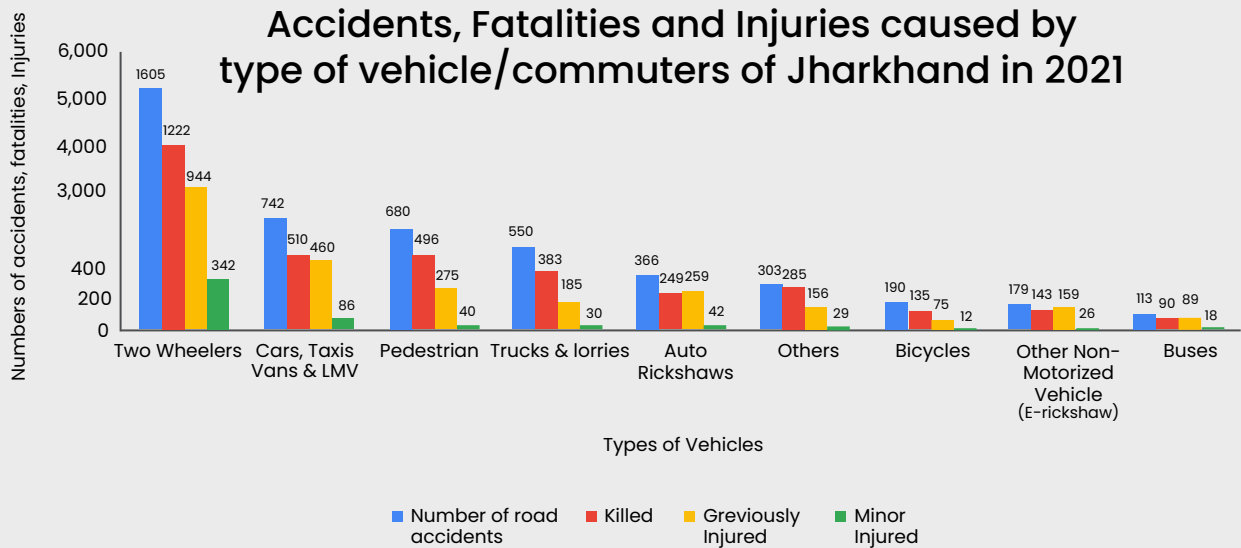


- In West Bengal commuters and motorized vehicles caused a higher range of accidents (1400-5400) compared to buses, auto-rickshaws, and non-motorized vehicles, which were linked to fewer incidents: 328, 149, and 40 accidents, respectively.

Accidents, Fatalities and Injuries caused by type of vehicle/commuters of West Bengal in 2021

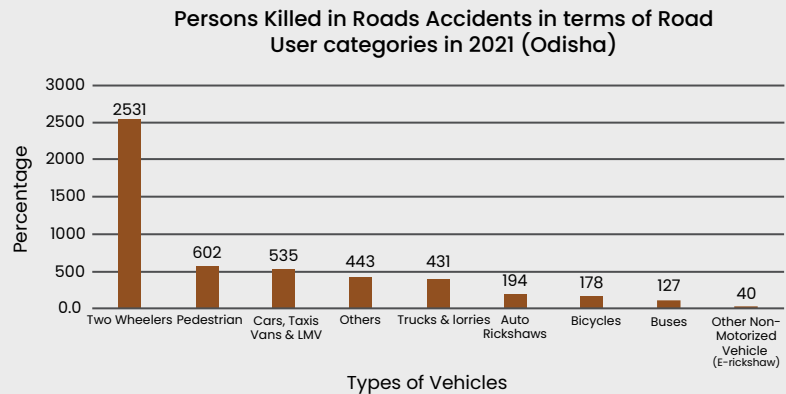


- In Jharkhand in 2021, two-wheelers led with 1,605 accidents, followed by Cars with 742 incidents. Pedestrians were involved in 680 accidents, while Trucks and Lorries contributed to 550. Bicycles, auto-rickshaws, buses, and non-motorized transport ranged from 113 to 366 accidents.



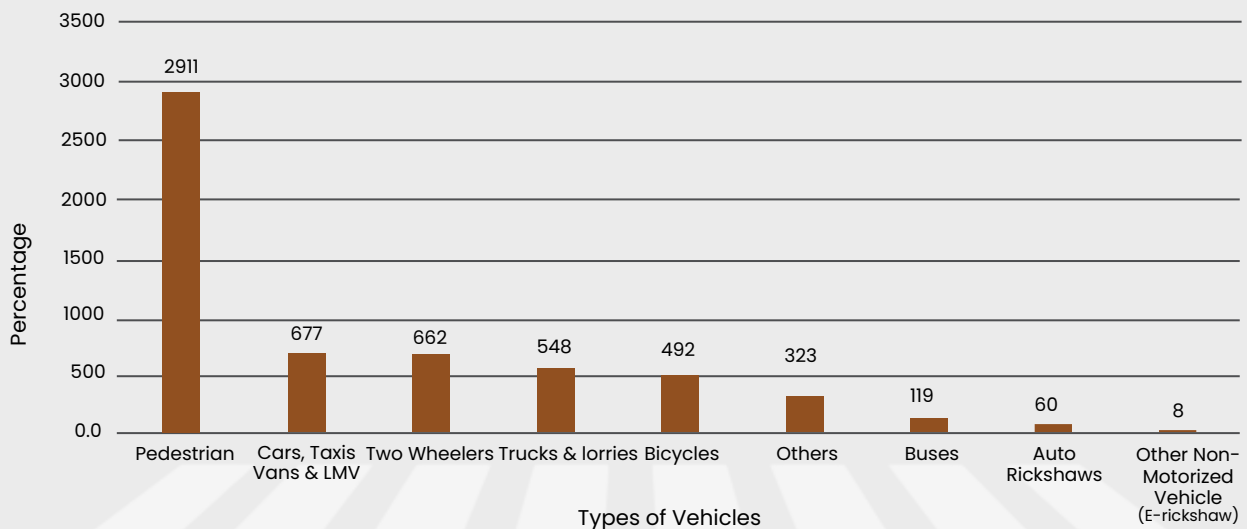
PERSONS KILLED IN ROAD ACCIDENTS IN TERMS OF ROAD USER CATEGORIES IN 2021

- Odisha recorded 5,081 fatal traffic accidents in 2021. Due to their significant danger, two-wheeler riders accounted for 2,531 (49.8%) deaths. The next group of fatalities were pedestrians, with 602 (11.8%), and car occupants, with 535 (10.5%). 431 (8.5%) fatalities were related to trucks and vehicles. There were 194 (3.8%) and 127 (2.5%) fatalities related to public transportation, which includes buses and auto rickshaws. A total of 178 (2.5%) deaths were associated with bicycle riders, whereas 40 deaths were associated with other non-motor vehicle users, such as E-rickshaws.



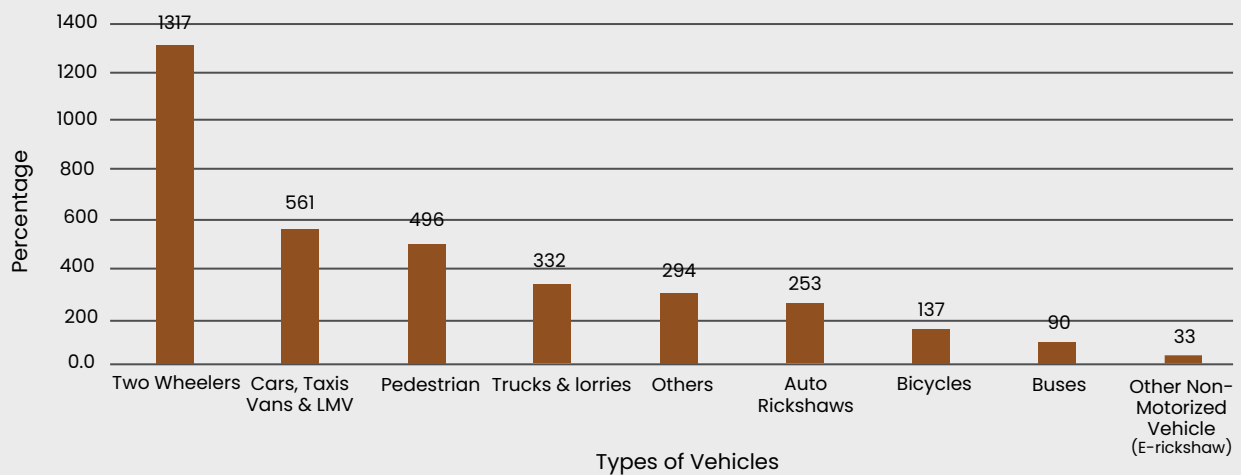
- In 2021, West Bengal had 5,800 road accident fatalities. Pedestrians accounted for 50% of deaths, followed by four-wheeler users (11.67%), two-wheeler users (11.41%), and Trucks/Lorries (9.45%). Public transport users were less vulnerable, with less than 5% deaths related to auto-rickshaws and 119 to bus commuters.

Persons Killed in Roads Accidents in terms of Road User categories in 2021 (West Bengal)



- In Jharkhand, two-wheeler users faced 1,317 fatalities, 37.5% total deaths. Cars, including taxis and LMVs, followed with 16% of deaths, while pedestrians accounted for 14% of fatalities. Trucks and lorries contributed to 9.5% of deaths. Auto rickshaws accounted for 7.2% of deaths and bicycle, buses accounted for less than 5% of fatalities.

Persons Killed in Roads Accidents in terms of Road User categories in 2021 (Jharkhand)

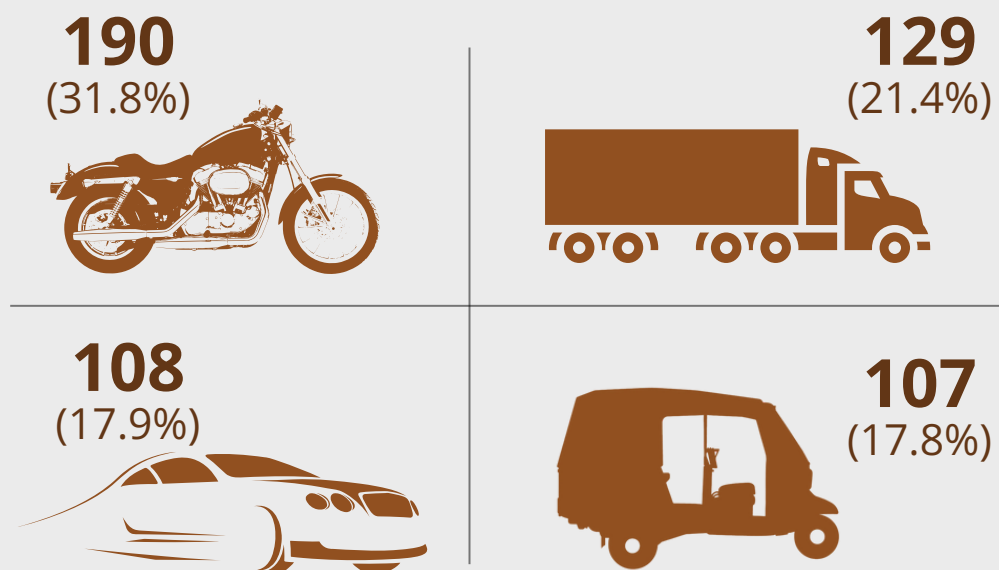


Source: Road accidents in India 2021. https://morth.nic.in/sites/default/files/RA_2021_Compressed.pdf

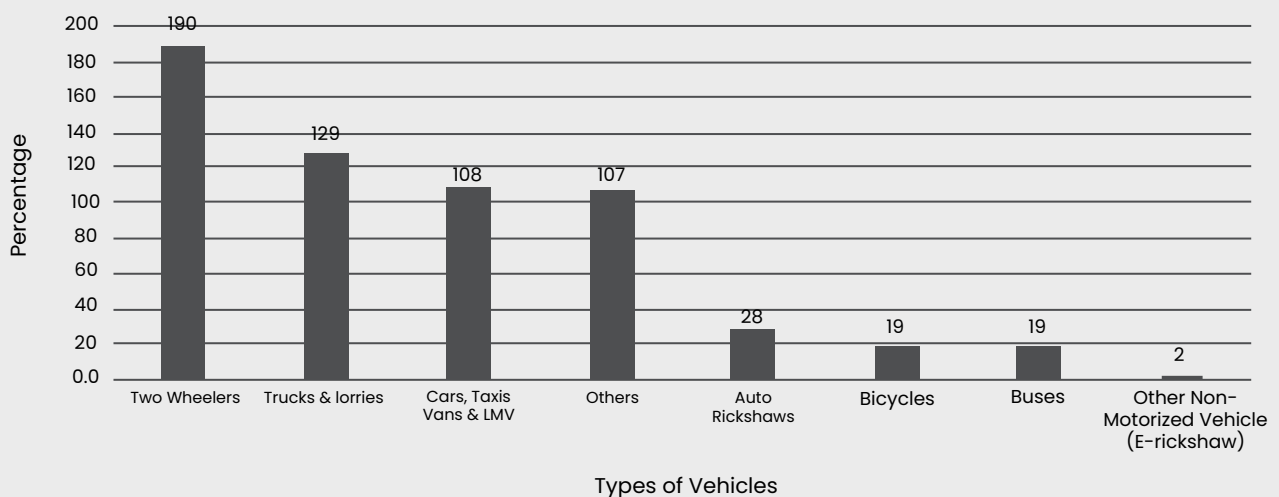


ACCIDENTAL DEATH OF PEDESTRIANS WITH DIFFERENT IMPACT VEHICLES

- In Odisha, pedestrian accidents involved two-wheeler users causing 190 (31.8%) casualties, followed by Trucks/Lorries with 129 (21.4%), Cars (including taxis and LMVs) with 108(17.9%), and the "Others" category with 107 (17.8%) casualties. Auto-rickshaws and bicycles caused 28 (4.7%) and 19(3.2%) casualties, while buses were involved in 19 (3.2%) casualties.



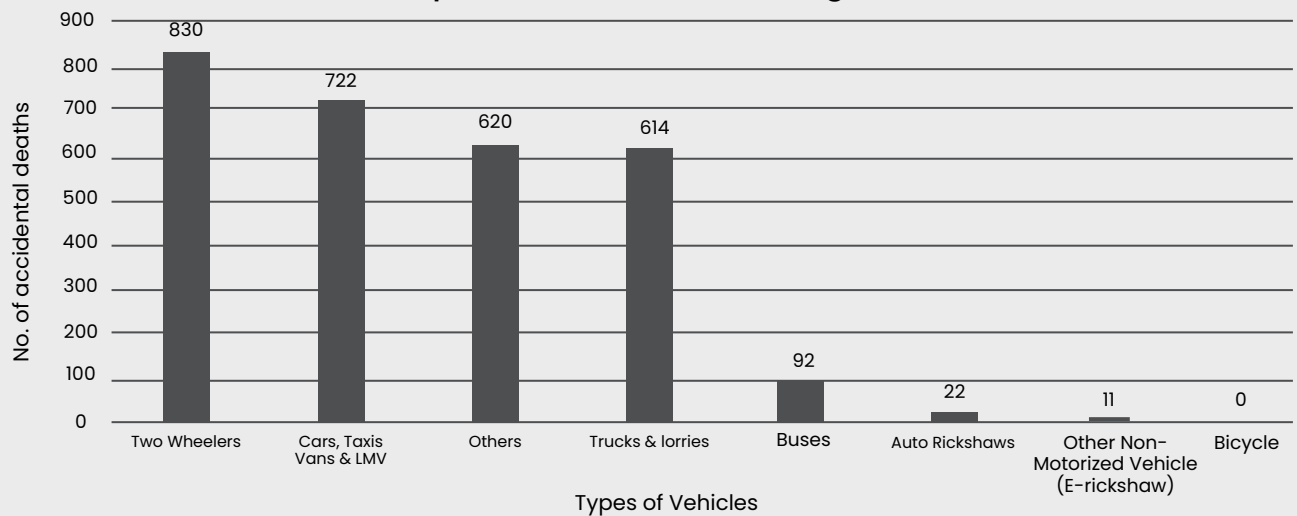
Accidental death of pedestrians with different Impact Vehicles (Odisha)



Source: Road accidents in India 2021. https://morth.nic.in/sites/default/files/RA_2021_Compressed.pdf

- In West Bengal, motorized two-wheelers caused 830 (28.5%) pedestrian deaths, closely followed by four-wheelers (24.8%) and trucks/lorries (21.1%). Public transport resulted in fewer deaths: 92 (3.2%) by bus and 22 (0.8%) by auto-rickshaws. Bicycles recorded no casualties in these accidents, highlighting their lower risk in fatal incidents involving pedestrians.

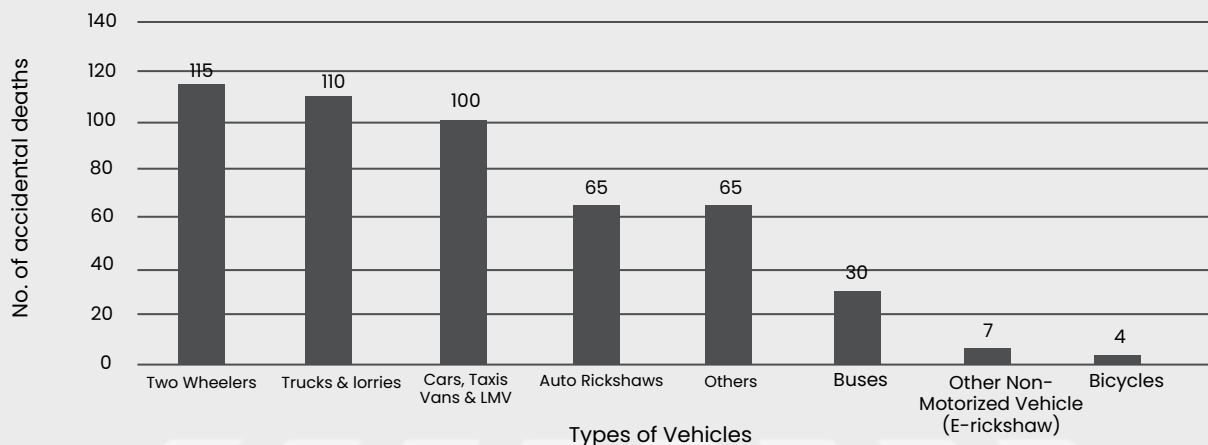
Accidental death of pedestrians with different Impact Vehicles (West Bengal)



Source: Road accidents in India 2021. https://morth.nic.in/sites/default/files/RA_2021_Compressed.pdf

- In Jharkhand accidents with pedestrians as victims, two-wheelers caused the most casualties 115 (23.19%). Trucks and lorries followed this with 110 (22.18%) casualties, stressing pedestrian safety around heavy vehicles. Car occupants caused 20.16% casualties, emphasizing safety needs in car-related pedestrian accidents. On the other hand, public transport and non-motorized vehicles proved to be much safer in this regard. Auto rickshaws caused 65 (13.10%) casualties, Buses led to 30 (6.05) casualties, while other non-motorized vehicles and bicycles caused less than 2% casualties respectively.

Accidental death of pedestrians with different Impact Vehicles (Jharkhand)



Source: Road accidents in India 2021. https://morth.nic.in/sites/default/files/RA_2021_Compressed.pdf

OBSERVATION

In the analysis of West Bengal, Odisha, and Jharkhand's road safety, it's evident that cycles and public transport present fewer fatalities, emphasizing their safer nature. In West Bengal cycles and public transport significantly enhance road safety, registering minimal fatalities compared to private motorized vehicles. Odisha confronts alarming accident rates among two-wheeler users and pedestrians, demanding immediate safety interventions. Jharkhand highlights two-wheelers as high-risk, necessitating attention, particularly for trucks/lorry regulations. Pedestrian safety remains paramount across these states.

CONCLUSION

The analysis underscores the pivotal role of bicycles and public transport in fostering road safety, boasting notably lower accident-related fatalities and championing eco-friendly transportation. It accentuates the necessity for customized safety protocols for vulnerable road users, particularly pedestrians, while advocating stringent regulations for higher-risk categories. Prioritizing pedestrian safety, advocating public transport and cycling, and crafting nuanced strategies for diverse risk profiles are paramount for an inclusive road safety paradigm. This collective emphasis on safer modalities and tailored interventions form the cornerstone of a holistic approach indispensable for ensuring comprehensive road safety in these regions.



RECOMMENDATIONS

- **Dedicated Lanes:** Implement dedicated lanes for cyclists and pedestrians to enhance safety.
- **Pedestrian Crossings:** Increase well-marked, signal-controlled pedestrian crossings in high-traffic areas.
- **Promote Public Transport:** Encourage the use of public transport as it is one of the safest modes of transport.
- **Traffic Calming:** Implement traffic calming measures like speed bumps in urban areas to reduce vehicle speeds.
- **Enforce Stricter Traffic Laws for Two-Wheelers:** Strengthen the enforcement of traffic laws for two-wheeler riders, including penalties for violations and stricter monitoring.
- **Data-Driven Policy Making:** Regularly analyze road accident data to identify high-risk areas, tailor interventions, and establish channels for public feedback to involve communities in planning and decision-making processes.



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