



Status Summary 2022: Road Safety Risk Factors

Bloomberg Philanthropies Initiative for Global Road Safety

CHATTOGRAM, BANGLADESH



JOHNS HOPKINS
BLOOMBERG SCHOOL
of PUBLIC HEALTH

International
Injury Research Unit

Beginning in May 2022, the Johns Hopkins International Injury Research Unit through the Bloomberg Philanthropies Initiative for Global Road Safety has been conducting observations in Chattogram to reduce road injuries and fatalities.

The following report highlights results from an ongoing study that captured observations of three risk factors:* speed, helmet use, and seat-belt and child restraint use. The baseline round captured all three risk factors, while one additional round of speed observations was conducted between December 2022 and January 2023.

*This study did not observe drink driving due to COVID-19 risks.

Excessive speeding was high at



Speed limits were neither posted nor enforced.

Correct helmet use among all motorcycle riders was low at



Seat-belt use among vehicle occupants was low at



Child restraint use was non-existent at



Road Traffic Fatalities in Chattogram*

2021

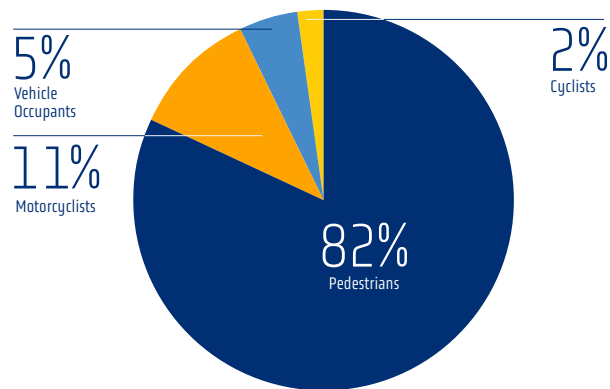
95
fatalities

5.1 million
total population

28,630
estimated registered
vehicles

20,956
estimated registered
2-wheelers

Deaths by road user, 2021



Vulnerable road users (pedestrians, motorcyclists, and cyclists) **accounted for 95% of road traffic fatalities in 2021.**

Enhanced speed enforcement and infrastructure changes could reduce deaths among pedestrians, which account for more than half of road traffic fatalities.

*Note: Data from existing sources was used for the outcome data indicators. Police crash data systems are prone to underreporting.

Recommendations

For Chattogram Metropolitan Police:

- Enhance enforcement of:
 - Helmet use among all motorcyclists, with a focus on proper strapping.
 - Seat-belt and child restraint use among all vehicle occupants.
- Implement targeted speed enforcement after speed limits are designated by the local authority and the community is informed.

For Chattogram City Corporation and Bangladesh Road Transport Authority:

- Advocate with national authorities for legislation to allow local authorities to designate speed limits.
- Ensure speed limits are designated in line with the functional classification of roads and global best practices.
- Generate awareness of the designated speed limits through signage and mass media campaigns.
- Implement speed-calming measures particularly where vulnerable road users interact with vehicles.
- Support mass media campaigns with enhanced enforcement initiatives to promote correct helmet and seat-belt use for all occupants.
- Advocate for a national child restraint law in line with global best practices.

Speed in Chattogram

Higher speeds lead to a greater risk of a crash and a higher probability of serious injury. An increase of 1 km/h in average vehicle speed results in an increase of 3% in the incidence of crashes resulting in injury and an increase of 4%–5% in the incidence of fatal crashes.*

*Save LIVES: A road safety technical package. Geneva: World Health Organization; 2017.

Note: Chattogram does not have posted speed limits. Thus, all speed analyses were conducted by applying the global recommendations of 30 km/h for collector and local roads and 50 km/h for arterial roads.



Speeding was high. Overall 40% of vehicles were observed exceeding the recommended speed limit.



Over half of all vehicles observed on local roads (51%) exceeded 30 km/h.



Speeding was more frequent among buses (48%), SUVs (46%), motorcycles (46%), and sedans/saloons (43%) in December 2022.

Functional classification of roads

Arterial road: These are roadways with high traffic volume; they provide a high degree of mobility and carry a high proportion of travel for long distance trips. These roadways carry the major portion of trips entering and leaving an activity center, as well as the majority of movements that either go directly through or bypass the area.

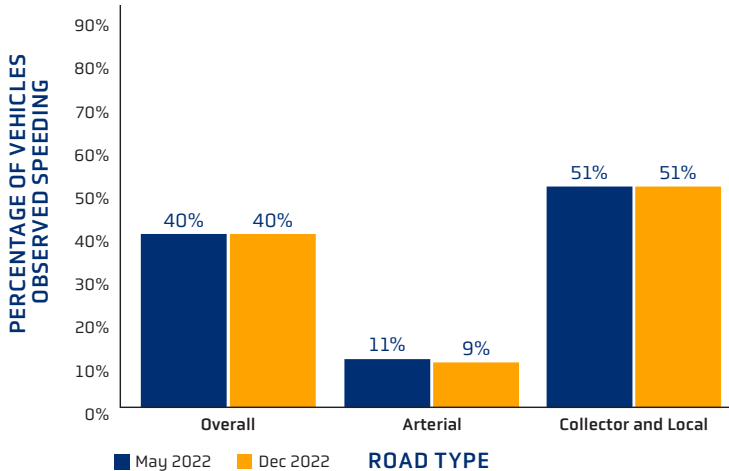
Local road: These roads provide limited mobility and are the primary access to residential areas, businesses, farms, and other local areas.

Collector road: These roads collect traffic from local roads and connect to arterial roadways. They penetrate neighborhoods and communities, collecting and distributing traffic between neighborhoods and arterial roads. Collector roads are shorter than arterial but longer than local roads.

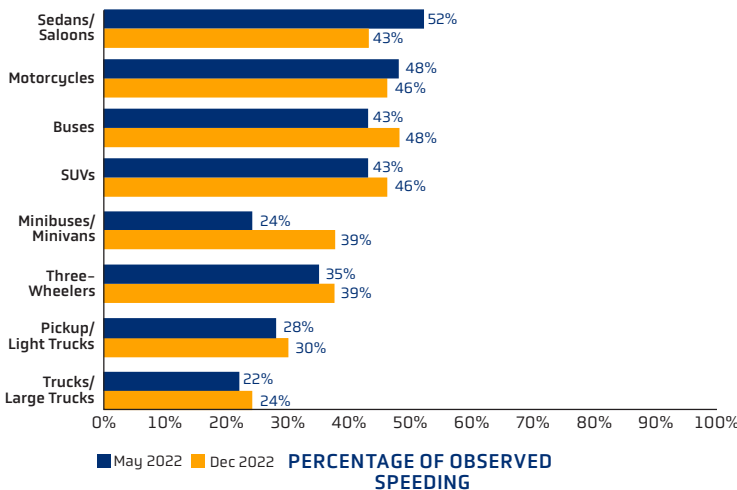
These roads provide less mobility than arterials at lower speeds and for shorter distances.

Key Findings on Speed in Chattogram

Speeding was more prevalent on local and collector roads than on arterial roads, indicating a need for strategically placed speed-calming measures



Efforts are needed to enforce the recommended speed limit with a focus on sedans/saloons, motorcycles, buses, and SUVs



Note: Between May 2022 and December 2022, the observed speeding increased for all vehicle types except sedans/saloons and motorcycles

Recommendations

For Chattogram Metropolitan Police:

- Increase awareness of speed limits and speed as a risk factor for road traffic crashes.
- Implement targeted speed enforcement after speed limits are designated by the local authority and the community is informed.

For Chattogram City Corporation and Bangladesh Road Transport Authority:

- Advocate with national authorities for legislation to allow local authorities to designate speed limits.
- Ensure that the speed limits are designated in line with the functional classification of roads and global best practices.
- Generate awareness of the designated speed limits through signage and mass media campaigns.
- Implement speed-calming measures particularly where vulnerable road users interact with vehicles.

Helmet Use* in Chattogram

Using a motorcycle helmet correctly** can reduce the risk of fatality by 42% and the risk of serious head injury by 69% in the case of a crash.

*Overall helmet use was defined as strapped or unstrapped use of a helmet of any type.

**Correct helmet use was defined as the use of a standard helmet that was worn correctly and with the chin strap fastened.



Correct helmet use was low among drivers (68%), and even lower for passengers (20%).



Correct helmet use was lower among female passengers (6%) compared with male passengers (23%).



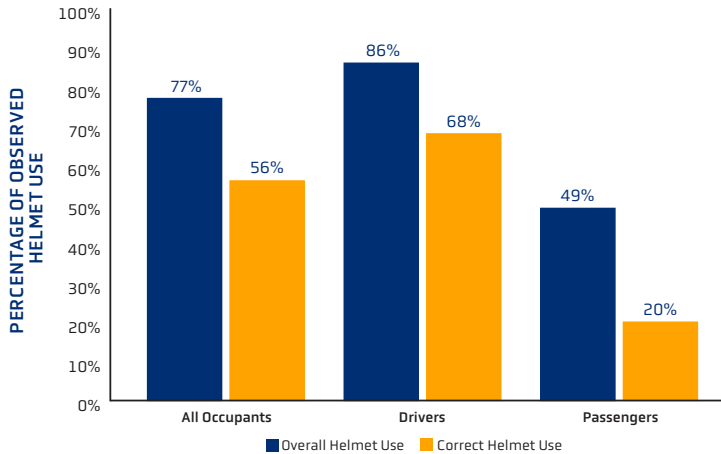
Correct helmet use was almost non-existent among children (7%) compared with adult (58%) occupants.



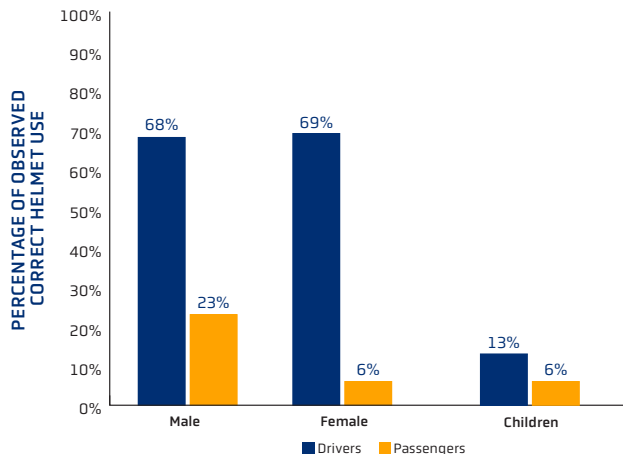
Correct helmet use was lower on weekends, Fridays (55%), and Saturdays (48%).

Key Findings on Helmet Use in Chattogram

Correct helmet use was low, especially among passengers



Enhance enforcement efforts to increase correct helmet use among passengers, especially women and children



Recommendations

For Chattogram Metropolitan Police:

- Enhance enforcement of correct helmet use among all motorcyclists, with a focus on passengers and on weekends.

For Chattogram City Corporation and Bangladesh Road Transport Authority:

- Develop mass media campaigns that are coordinated with and complement enhanced enforcement efforts.

Seat-Belt and Child Restraint Use in Chattogram

Seat-belts and child restraints play a significant role in reducing the severity of injuries in the event of a crash; they reduce mortality by 50% in crashes in which motorists, passengers (including rear-seat passengers), and children would otherwise die. Children in front seats have a 40% higher road traffic injury risk than children in rear seats.



Seat-belt use among all occupants was low (15%), and almost non-existent among passengers (3%).



Seat-belt use was much lower among drivers of heavy vehicles (3%) compared with drivers of light vehicles (24%).



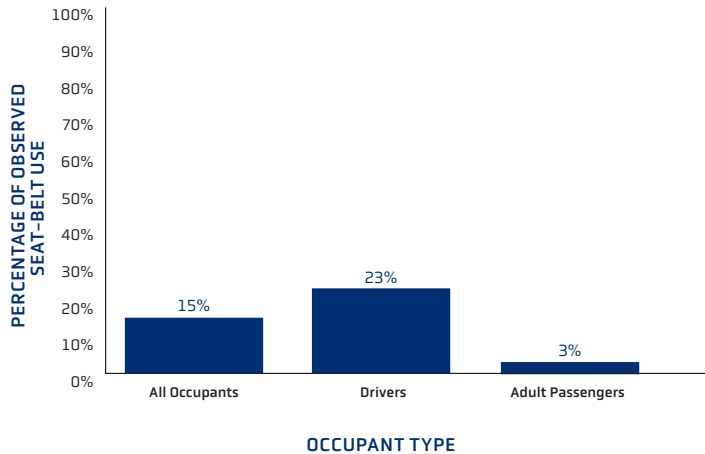
Child restraint use was non-existent at 0%.



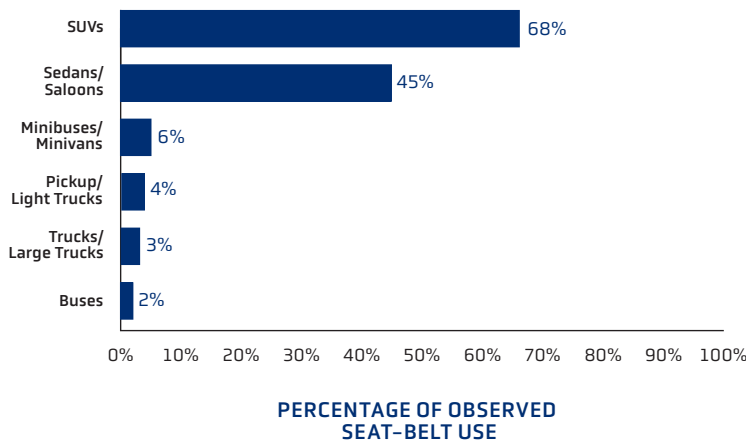
Seat-belt use was almost non-existent among occupants of commercial vehicles (3%).

Key Findings on Seat-Belt and Child Restraint Use in Chattogram

Efforts are needed to enhance enforcement and implement mass media campaigns to increase seat-belt use among all occupants, beginning with drivers



Efforts are needed to increase seat-belt use among drivers of heavy vehicles



Recommendations

For Chattogram Metropolitan Police:

- Enhance enforcement of seat-belt and child restraint use, particularly among occupants of heavy and commercial vehicles.

For Chattogram City Corporation and Bangladesh Road Transport Authority:

- Implement mass media campaigns that highlight the importance of seat-belt and child restraint use in addition to other harm reduction measures.
- Coordinate mass media campaigns with enhanced enforcement efforts.
- Advocate for a national child restraint law in line with global best practices.



People are safely crossing the road using the pedestrian-friendly infrastructure at Halishahar, Chattogram.
Photo: M. Hasan

METHODS

Since 2022, the Johns Hopkins International Injury Research Unit has partnered with the Centre for Injury Prevention and Research, Bangladesh, to conduct roadside observations. The methods for these findings were developed by the Johns Hopkins International Injury Research Unit and implemented in collaboration with the Centre for Injury Prevention and Research, Bangladesh. This report provides results from observational surveys that represent population-level (citywide) prevalence of important road safety risk factors—speed, helmet use, and seat-belt and child restraint use—at baseline, followed by additional observations of speed to show changes over time. For helmet use, there were 40,415 observations at baseline; for seat-belt and child restraint use, there were 45,431 observations at baseline; and for speed, there were approximately 129,824 observations, including baseline and one additional speed observation survey.

Fifteen observation sites were randomly selected, conditional on the safety of observers. A standardized protocol was used with vehicles selected for observation in a systematic quasi-random fixed sequence. It is known that speeding is likely to be higher during the late night/early morning hours, but observations were performed

between 7:30 a.m. and 7:00 p.m. on both weekdays and weekend days. The methods were designed to estimate citywide prevalence and cannot provide insights into interventions conducted in specific locations in the city. The data management team at Johns Hopkins International Injury Research Unit reviewed and cleaned the data to produce the analyses available in this report.

ACKNOWLEDGMENTS

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Round 1–2 Project Report on Road Safety Risk Factors in Chattogram, Bangladesh, 2022. Baltimore: Johns Hopkins International Injury Research Unit; 2023.

