



Status Summary 2023: Road Safety Risk Factors

Bloomberg Philanthropies Initiative for Global Road Safety

**D A N A N G ,
V I E T N A M**



JOHNS HOPKINS
BLOOMBERG SCHOOL
of PUBLIC HEALTH

**International
Injury Research Unit**

Beginning in 2023, the Johns Hopkins International Injury Research Unit, through the Bloomberg Philanthropies Initiative for Global Road Safety, has been conducting observations in Da Nang 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 results are based on data collected in March 2023.

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

Speeding was high among all observed vehicles



23%

Correct helmet use was low among all motorcyclists



76%

Seat-belt use among all occupants > 12 years old was low



61%

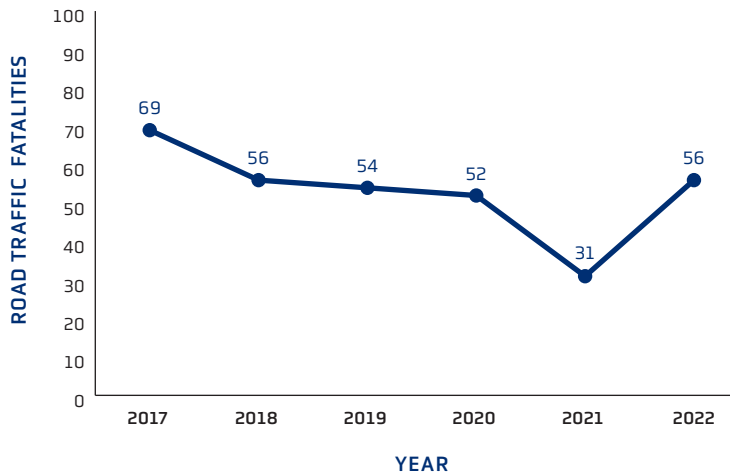
Prevalence of child restraints use among children less than 12 years old was very low



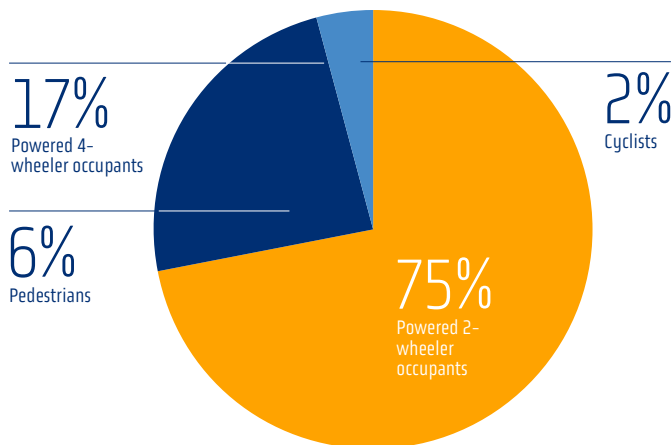
10%

Road Traffic Fatalities and Injuries in Da Nang

Road Traffic Fatalities



Deaths by road user, 2021



Note: Data from existing sources was used for the outcome data indicators. Pedestrian deaths are not reported. Police crash data systems are prone to underreporting.

Recommendations

Da Nang Department of Transportation, Da Nang Traffic Safety Committee, Da Nang Traffic Police, Relevant Units and Departments

- Implement visible automated speed cameras and digital speedometers to remind drivers of the speed of their vehicles.
- Increase enforcement of:
 - Correct helmet use among all motorcyclists, particularly among passengers.
 - Child-restraint use among children under 12 years old.
- Collaborate with local government on conducting mass-media campaigns or workshops to reinforce road safety information.
- Implement a maximum speed limit of 30 km/h on roadways where motorized traffic mixes with pedestrians and cyclists, and 50 km/h in urban areas.
- Implement mass-media campaigns in combination with increased enforcement on
 - Correct helmet use.
 - Speed monitoring.
 - Seat-belt and child restraint use.

Speed in Da Nang

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.



23% of all observed vehicles were speeding with a mean speed of 37 km/h.



Trucks/large trucks and motorcycles had the highest prevalence of speeding at 29%, 23%, and 32% exceeding the posted speed limit respectively.



Other vehicle ownership types had the highest prevalence of exceeding the posted speed limit at 30%, followed by ride-share at 16%.



Speeding prevalence was highest on Monday (48%) and Wednesday (57%).

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.

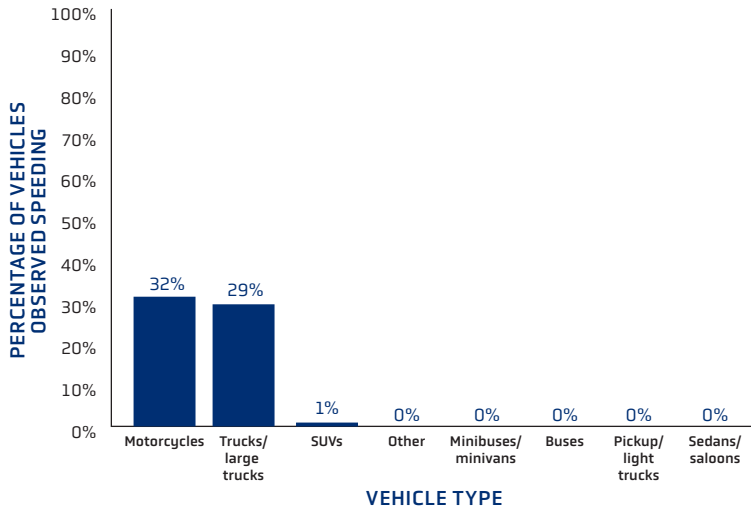
Local road: These roads provide limited mobility and are the primary access to residential areas, businesses, farms, and other local areas.

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.

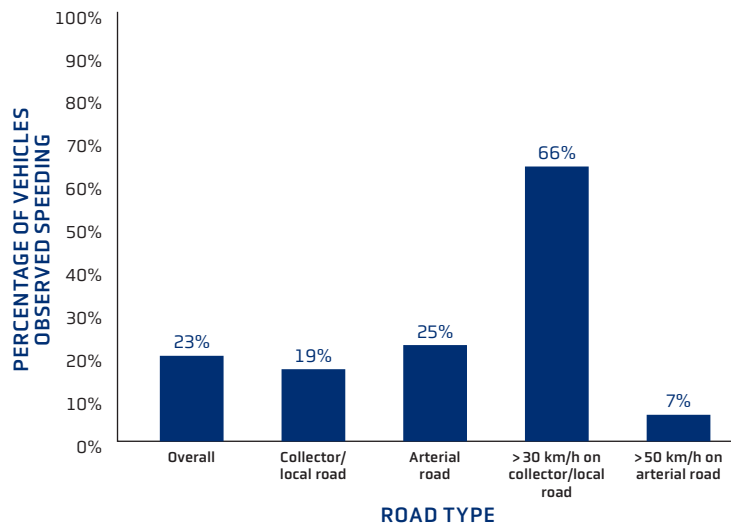
These roads provide less mobility than arterials at lower speeds and for shorter distances.

Key Findings on Speed in Da Nang

Trucks/large trucks and motorcycles had the highest prevalence of speeding



Speeding above the recommended speed limit was higher on local and collector roads



Recommendations

Da Nang Department of Transportation, Da Nang Traffic Safety Committee, Da Nang Traffic Police, Relevant Units and Departments

- Increase enforcement of speed limits, particularly among:
 - Trucks/large trucks, and motorcycles.
 - Arterial roads.
 - Vehicle ownership types other than commercial, taxi, and ride-share.
- Implement visible automated speed cameras and digital speedometers to remind drivers of the speed of their vehicles.
- Implement mass-media campaigns in coordination with enhanced enforcement of speed limits to increase awareness of speed as a major risk factor for road traffic injuries, focusing on high-risk groups, including motorcyclists and pedestrians.
- Implement speed-calming measures, such as speed bumps and rumble strips on roads with more vulnerable road users.

Helmet Use* in Da Nang

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.



Overall helmet use was high (96%), correct helmet use was lower (76%) among all motorcyclists.



Correct Helmet use was lower on arterial roads (75%) compared with local and collector roads (80%).



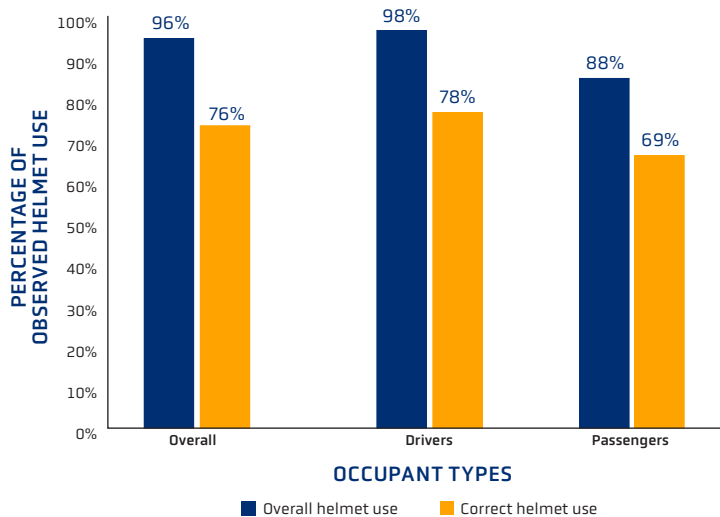
Correct helmet use among motorcycle passengers was lower (69%) compared with drivers (78%).



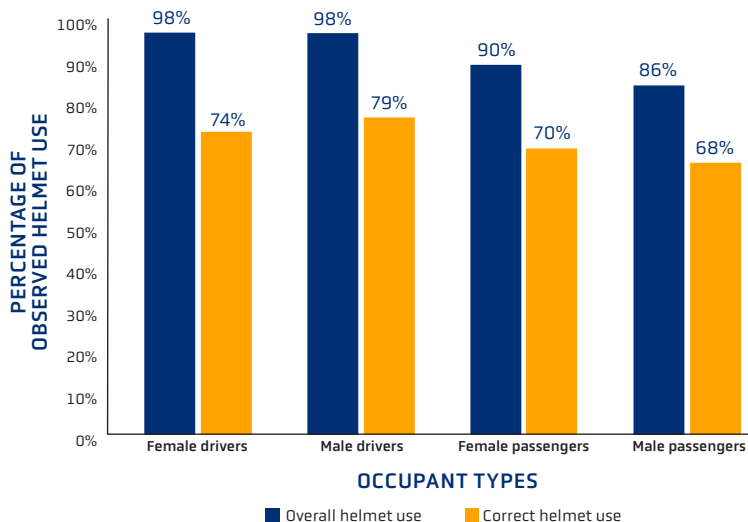
Overall and correct helmet use were both low among male passengers.

Key Findings on Helmet Use in Da Nang

Correct helmet use was still low despite the high rate of overall helmet use, especially among passengers



Helmet enforcement should focus on passengers regardless of sex, as females and males had similar prevalence of correct use



Recommendations

Da Nang Department of Transportation, Da Nang Traffic Safety Committee, Da Nang Traffic Police, Relevant Units and Departments

- Increase enforcement of correct helmet use among all motorcyclists with a particular focus on passengers regardless of sex.
- Implement mass-media campaigns in coordination with enhanced enforcement of correct helmet use.
- Advocate for enforcement of penalties and fines for driving without wearing a helmet correctly.

Seat-Belt and Child Restraint Use in Da Nang

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.



Overall seat-belt and child restraint use was low at 61% and 10%, respectively.



Drivers of buses (73%) were most likely to use seat-belts.



Seat-belt use was higher among drivers (69%) compared with passengers (36%).



Female passengers (40%) had a higher prevalence of seat-belt use compared with male passengers (34%).



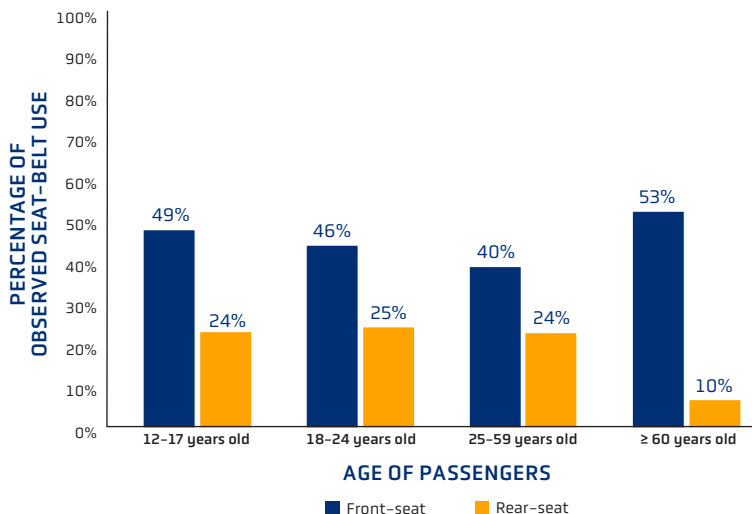
Front-seat passengers (41%) had two times higher seat-belt and child restraints use rate compared with rear-seat passengers (23%).



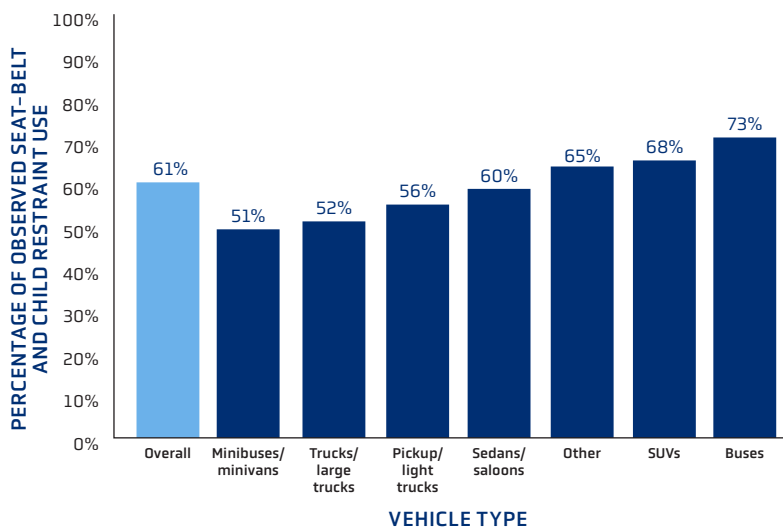
Female and male drivers had same prevalence of seat-belt use (69%).

Key Findings on Seat-Belt and Child Restraint Use in Da Nang

Rear-seat passengers had much lower seat-belt use compared with front-seat passengers at all ages



Percentage of seat-belt use was highest among buses and was the lowest among minibuses/minivans



Recommendations

Da Nang Department of Transportation, Da Nang Traffic Safety Committee, Da Nang Traffic Police, Relevant Units and Departments

- Increase enforcement campaigns targeting seat-belts use on both drivers and passengers, with a specific focus among rear-seat passengers.
- Enforce and advocate for penalties for not using seat-belts and child restraints.
- Collaborate with local government on conducting mass-media campaigns or workshops to reinforce the importance of seat-belts and child restraints use.
- Develop and hold hard-hitting media campaigns to promote seat-belts use among both passengers and drivers, especially for three-wheelers.



Data collectors using a radar gun to conduct speed observations in Da Nang, Vietnam.

METHODS

Since 2023, the Johns Hopkins International Injury Research Unit has partnered with the Hanoi University of Public Health 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 Building and Hanoi University of Public Health. This report provides results from observational surveys that represent population-level (citywide) prevalence of important road safety risk factors – speed, helmet use, seat-belt and child restraint use– at baseline. In the baseline observation (March 2023), for speed, there were 101,365 observations; for helmet use, there were 90,555 observations; and for seat-belts and child restraints use, there were 52,790 observations.

Observation sites were randomly selected, conditional on the safety of observers. 12 observation sites were randomly selected to capture the prevalence of risk factors that could be attributed to either implementation of targeted interventions or secular trends. For each risk factor, a standardized protocol for data collection was

implemented. All risk factors were observed by selecting vehicles in a systematic quasi-random fixed sequence for two weeks in 12 observation sites of the city.. Observations were performed between 7:00 a.m. and 7:00 p.m. on both weekend days and weekdays. 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 perform the analyses available in this report.

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CONTACT: jhsph.iiru@jhu.edu

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REPORT
PREPARED BY:

Bloomberg
Philanthropies

Initiative for Global
Road Safety

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BLOOMBERG SCHOOL
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