



# Status Summary 2024: Road Safety Risk Factors

Bloomberg Philanthropies Initiative for Global Road Safety

## MOMBASA, KENYA



**JOHNS HOPKINS**  
BLOOMBERG SCHOOL  
of PUBLIC HEALTH

**International  
Injury Research Unit**

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

The following report highlights results from an ongoing study that captured observations of speed as a risk factor.\* The results are based on data collected between December 2022 and August 2024.

\*The study observed helmet use and seat-belt and child restraint use and shared the findings in the 2023 Status Summary Report.

**Speeding among all observed vehicles was high**



**The mean speed among speeding vehicles was high**



**Speeding was highest among SUVs**

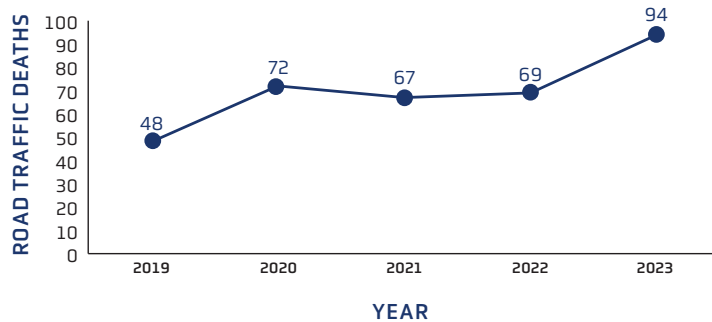


**Speeding was common on weekends compared with weekdays**

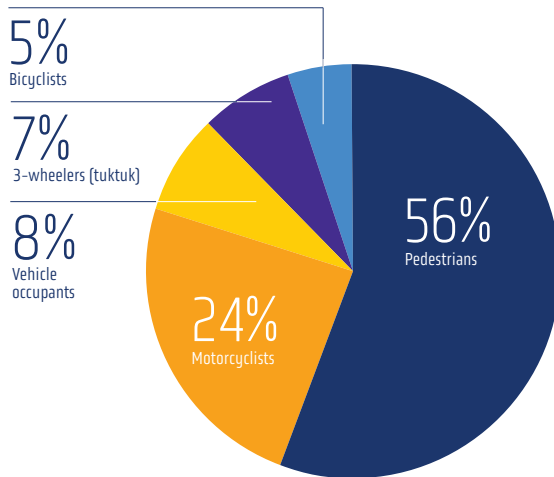


# Road Traffic Fatalities in Mombasa

## Road traffic fatalities increased in 2023



## Deaths by road user, 2023



**Vulnerable road users** (pedestrians, motorcyclists, 3-wheelers, and bicyclists) accounted for 92% of reported road traffic fatalities in 2023.

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

## Recommendations

### Police and Law Enforcement Agencies

- Enhance enforcement of speed limits across the city, throughout the week, focusing on:
  - SUVs.
  - Motorcycles.
  - Pickups/light trucks.
  - Sedans/saloons.
- Make enforcement operations regular, visible, and widespread.
- Implement a maximum speed limit of 30 km/h on roadways in designated areas where motorized traffic mixes with pedestrians and cyclists, and 50 km/h in urban areas.

### National Transport and Safety Authority (NTSA)

Kenya National Highway Authority (KeNHA)

Kenya Urban Roads Authority (KURA)

Kenya Rural Roads Authority (KeRRA)

County Government of Mombasa (CGM)

Department of Transport and Infrastructure (DTI)

Department of Lands Housing and Urban Planning (DLUP)

- Implement speed-calming measures, such as bumps, rumble strips, safe speed signage, and designation of low-speed areas to protect vulnerable road users.
- Coordinate mass-media campaigns with enforcement efforts, focusing on:
  - Speed reduction and the consequences of speeding, aligned with the messaging of the December 2024 mass-media campaign.

# Speed in Mombasa

Higher speeds lead to a greater risk of a crash and a higher probability of serious injury. An increase of 1 km/h in mean 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.



**Speeding among all observed vehicles was high (23%).**



**Speeding was more frequently observed among SUVs (31%), pickups/light trucks (30%), sedans/saloons (27%), and motorcycles (27%) compared with other vehicle types.**



**Speeding was higher on roads partially accessible to pedestrians (25%) compared with roads freely accessible to pedestrians (21%).\*\***



**Applying the global recommendation of 30 km/h for local and collector roads and 50 km/h for arterial roads, 91% of the observed vehicles were traveling at unsafe speeds on local and collector roads.**

## 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.

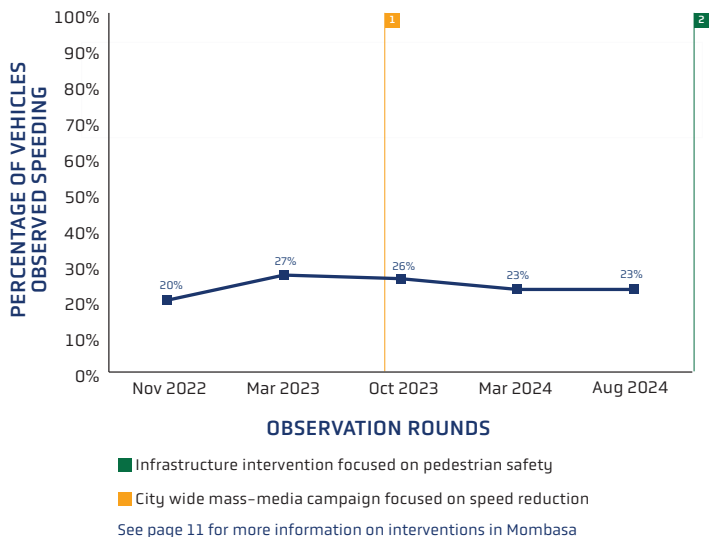
These roads provide less mobility than arterials at lower speeds and for shorter distances.

Note: These are not terms used in legislation in Kenya but are descriptions based on international typologies.

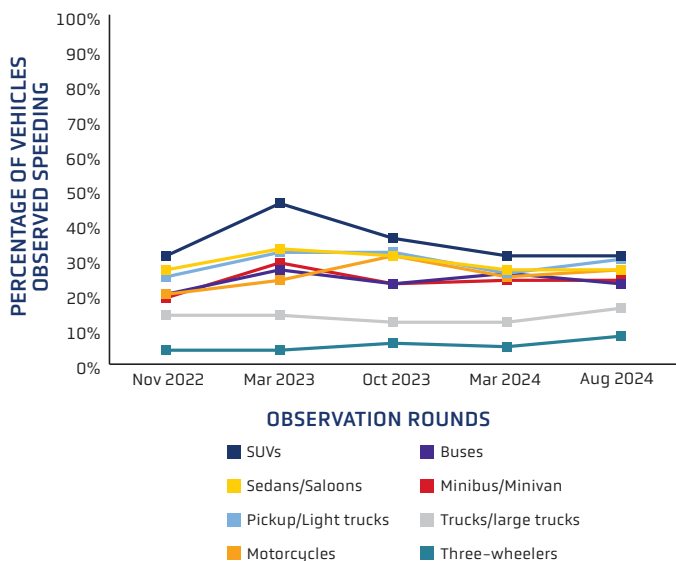
\*\*Roads with partial access to pedestrians are roads where pedestrians have limited access to the road. For example, limited number of direct accesses, such as main roadways with frontage or service roads running parallel.

# Key Findings on Speed in Mombasa

Since November 2022, speeding remains high, at or above 20% in Mombasa



Speeding was more common among SUVs, sedans/saloons, pickups/light trucks and motorcycles, highlighting the need for focused enforcement efforts



# Recommendations

## Police and Law Enforcement Agencies

- Enhance enforcement of speed limits, focusing on:
  - SUVs, sedans/saloons, pickup/ light trucks, and motorcycles.
  - Roads with partial access to pedestrians.

**National Transport and Safety Authority (NTSA)**  
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**Department of Transport and Infrastructure (DTI)**  
**Department of Lands Housing and Urban Planning (DLUP)**

- Implement a maximum speed limit of 30 km/h on roadways in designated areas where motorized traffic mixes with pedestrians and cyclists, and 50 km/h in urban areas.
- Implement speed-calming measures, such as bumps, rumble strips, safe speed signage, and designation of low-speed areas, to protect vulnerable road users (pedestrians, motorcyclists, 3-wheelers, and bicyclists).

**National Transport and Safety Authority and Communication Department,**  
**County Government of Mombasa**

- Coordinate mass-media campaigns with enforcement efforts, focusing on:
  - Speed reduction and the consequences of speeding, aligned with the messaging of the December 2024 mass-media campaign.
  - Monitor and evaluate all enforcement activities and existing mass-media campaign to assess their continuous effectiveness.

# Speeding in African Cities (2024)

## Guidance notes:

**Prevalence:** The % of speeding from the latest round of observational data on speeding.

**Mean speed:** Mean and standard deviation of speed in km/h from the latest round of observational data on speeding.

**Median speed:** Median speed in km/h from the latest round of observational data on speeding.

**% change:** Magnitude and direction of change in the prevalence of speeding between the last two rounds.

**Speeding:** The arrow indicates the change in direction between the last two rounds of speed observations.

## Kumasi

Prevalence: 30%

Mean speed: 63 ±11 km/h

Median speed: 60 km/h

P<sub>85</sub>: 74 km/h

% change: 6% decrease

Speeding ↓

## Accra

Prevalence: 44%

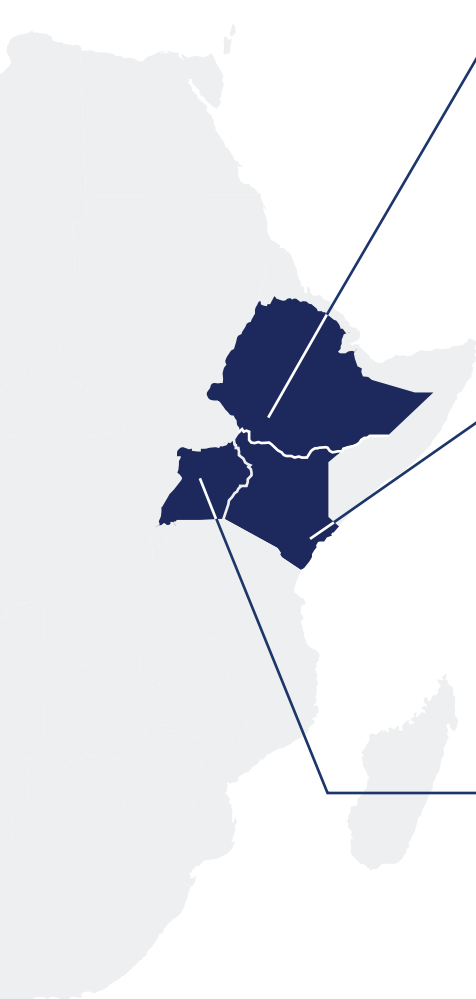
Mean speed: 71 ±15 km/h

Median speed: 68 km/h

P<sub>85</sub>: 88 km/h

% change: 10% decrease

Speeding ↓



### **Addis Ababa**

Prevalence: 47%

Mean speed: 56 ±14 km/h

Median speed: 56 km/h

P<sub>85</sub>: 69 km/h

% change: 4% decrease

Speeding ↓

### **Mombasa**

Prevalence: 23%

Mean speed: 58 ±7 km/h

Median speed: 56 km/h

P<sub>85</sub>: 64 km/h

% change: 0% change

Speeding =

### **Kampala**

Prevalence: 7%

Mean speed: 57 ±6 km/h

Median speed: 55 km/h

P<sub>85</sub>: 62 km/h

% change: 75% increase

Speeding ↑

# Speed Among Motorcycles in Mombasa

Globally, around 30% of all road crash deaths involve powered two- and three-wheeled vehicles.<sup>1</sup> Powered two-wheelers or motorcycles are a dominant mode of transportation in low- and middle-income countries, including within the African region.<sup>1,2</sup> This is because of their compact size, fuel efficiency, and easy maneuvering during traffic congestion.<sup>2</sup> However, data on motorcycle use and speeding trends in a specific city is limited.

<sup>1</sup> World Health Organization. (2022, October 10). New global guidelines to curb motorcycle crash deaths. Retrieved from <https://www.who.int/news/item/10-10-2022-new-global-guidelines-to-curb-motorcycle-crash-deaths>.

<sup>2</sup> Ospina-Mateus, H., Quintana Jiménez, L. A., Lopez-Valdes, F. J., & Salas-Navarro, K. (2019). Bibliometric analysis in motorcycle accident research: A global overview. *Scientometrics*, 121(2), 793–815.



**Of all motorcycles observed, 27% were speeding.**



**The mean speed among speeding motorcycles was high (58 km/h).**



**Speeding among motorcycles was more common on arterial roads (30%) compared with local and collector roads (19%).**



**Speeding among motorcycles was 20% higher on weekends compared with weekdays.**

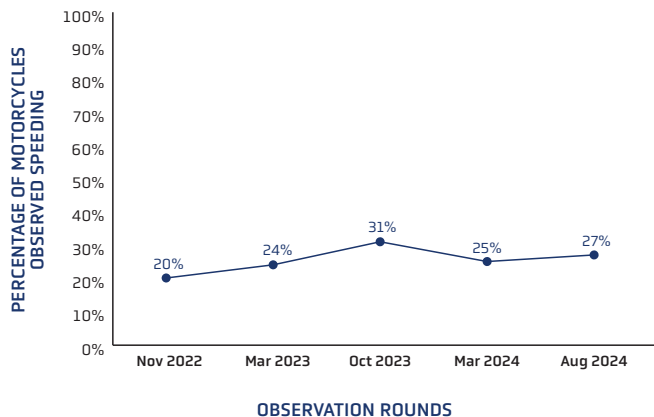


**Over 26% of the motorcycles observed speeding were traveling more than 10 km/h above the speed limit.**

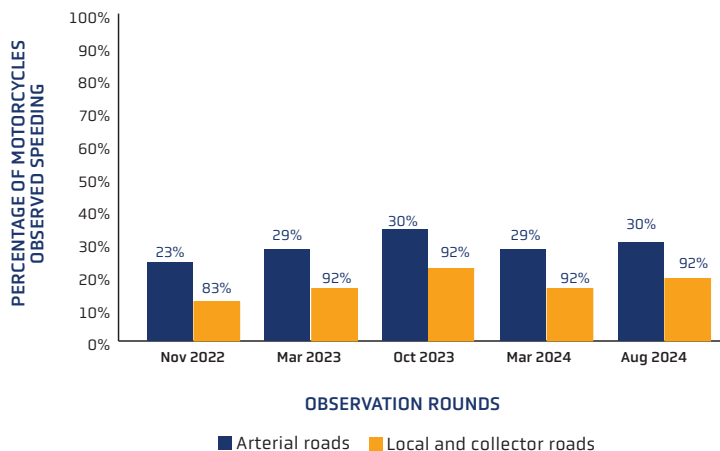


# Key Findings on Speed Among Motorcycles in Mombasa

Motorcycle speeding remains consistently high in Mombasa, highlighting the need for enforcement efforts



Speeding was consistently higher on arterial roads compared with local and collector roads



## Recommendations

### Police and Law Enforcement Agencies

- Enhance enforcement of motorcycle speed limits with a focus on weekdays, arterial roads, and roads with partially controlled pedestrian access.
- Enforce the use of reflective clothing by motorcyclists to avoid “looked-but-failed-to-see” crashes where car drivers misjudge the approaching speed of motorcycles.
- Make enforcement operations regular, visible, and widespread.

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- Implement low-speed zones for motorcycles in urban areas.\*\*\*
- Implement infrastructure and road design interventions to reduce speed and prevent motorcyclist injuries and fatalities, such as exclusive motorcycle lanes, horizontal markings on the road with adequate grip or skid resistance, divergence markings, and lane-based motorcycle waiting zones at intersections.

**National Transport and Safety Authority and Communication Department, County Government of Mombasa**

- Implement mass-media campaigns in coordination with enforcement efforts, focusing on the dangers of motorcycle speeding.

\*\*\*Traffic calming measures for four-wheeled vehicles are hazardous for motorcyclists. Speed control measures therefore need to allow motorcyclists to navigate the traffic calming measure safely.

World Health Organization. [2022]. Powered two- and three-wheeler safety: A road safety manual for decision-makers and practitioners (2nd ed.). Geneva.

Speed observations in  
Mombasa, Kenya



## SPEED INTERVENTIONS

- 1 Aug 2023 Infrastructure intervention by the County Government of Mombasa and Kenya Urban Roads Authority
- 2 Dec 2024 Mass-media campaign by Vital Strategies

## METHODS

Since 2022, the Johns Hopkins International Injury Research Unit has partnered with Innologic Solutions to conduct roadside observations. The methods for these findings were developed by the Johns Hopkins International Injury Research Unit and implemented in collaboration with Innologic Solutions. This report provides results from observational surveys that represent the population-level [citywide] prevalence of important road safety risk factors—speed, helmet use, and seat-belt and child restraint use. For speed, there were 351,506 observations (December 2022, April 2023, October 2023, March 2024, and August 2024); for helmet use, there were 30,529 observations (December 2022); and for seat-belt and child restraint use, there were 117,370 observations (December 2022 and April 2023).

Since Mombasa is a small city with a population size of approximately 1.3 million, convenience sampling methods were applied, and 12 observation sites were selected per risk factor to capture the prevalence of risk factors. For each risk factor, a standardized protocol for data collection was implemented. Observations were performed between 8:00 a.m. and 6:00 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 regional team and the data management team at Johns Hopkins International Injury Research Unit reviewed and cleaned the data to perform the analyses available in this report.

## ACKNOWLEDGMENTS

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