



Status Summary 2024: Road Safety Risk Factors

Bloomberg Philanthropies Initiative for Global Road Safety

ADDIS ABABA, ETHIOPIA



JOHNS HOPKINS
BLOOMBERG SCHOOL
of PUBLIC HEALTH

International
Injury Research Unit

Beginning in 2015, the Johns Hopkins International Injury Research Unit, through the Bloomberg Philanthropies Initiative for Global Road Safety, has been conducting observations in Addis Ababa to reduce road injuries and fatalities.

The following report highlights results from an ongoing study that captured observations of speed as a risk factor.* These results are based on data collected between December 2020 and September 2024.

*The study observed helmet use and seat-belt and child restraint use and shared the findings in the 2022 Status Summary Report.

Note: Prior to October 2017, legal speed limits in Addis Ababa were assigned according to the road type. Legal speed limits range from 30 km/h to 70 km/h and vary by road type and vehicle type since the 2017 speed limit amendment. Specifically, legal speed limits specify a lower speed limit for heavy vehicles and three-wheelers on arterial roads. Despite the change in legislation, the legal speed limits are not enforced in Addis Ababa and the enforced speed limits consider the previous iteration of speed limits that vary only by road type.

Speeding among all observed vehicles was very high



The mean speed among speeding vehicles was high



Speeding among motorcycles was very high

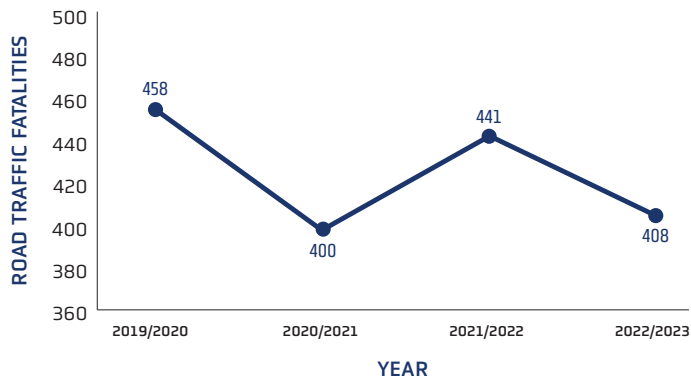


Motorcycle speeding was most common on weekends

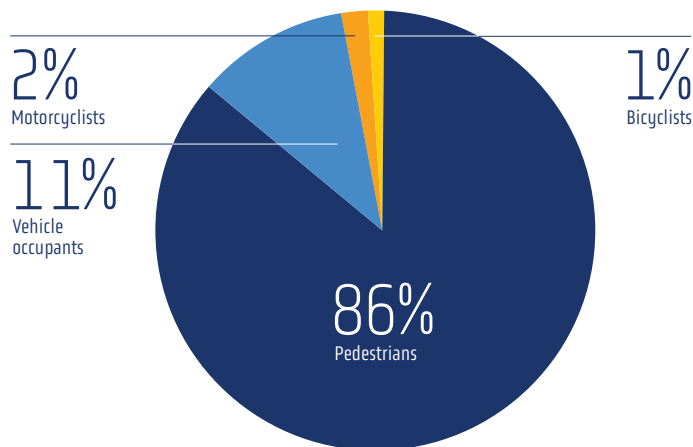


Road Traffic Fatalities in Addis Ababa

Road traffic fatalities have decreased since 2021/2022



Deaths by road user, 2022/2023



Vulnerable road users (motorcyclists, pedestrians, and bicyclists) accounted for 89% of the reported road traffic fatalities in 2022/2023.

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

Recommendations

Addis Ababa City Police Commission

- Enhance enforcement of:
 - Speed limits across the city, by road type and vehicle type.
- Make enforcement operations regular, visible, and widespread.

Addis Ababa City Transport Bureau and Addis Ababa City Administration Traffic Management Authority (TMA)

- Implement a maximum speed limit of 30 km/h on roadways in designated areas where motorized traffic mixes with pedestrians and bicyclists, 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.

Ethiopian Broadcasting Corporation (EBC), Fana Broadcasting Media (FBC) and private media houses

- Coordinate mass-media campaigns with enforcement efforts, focusing on:
 - Speed reduction and the consequences of speeding, aligned with the messaging of the November 2022 and January 2024 mass-media campaigns.

Speed in Addis Ababa

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.



44% of observed vehicles were exceeding the enforced speed limit.



Speeding above the enforced speed limit was more frequently observed among pickups/light trucks (49%), SUVs (47%), and motorcycles (46%).



Speeding was 2.5 times more likely to be observed on arterial roads compared with local and collector roads.



Speeding was 1.3 times more likely on weekends compared with weekdays.



Speeding was higher on roads partially accessible to pedestrians (60%) compared with roads freely accessible to pedestrians (45%).**

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.

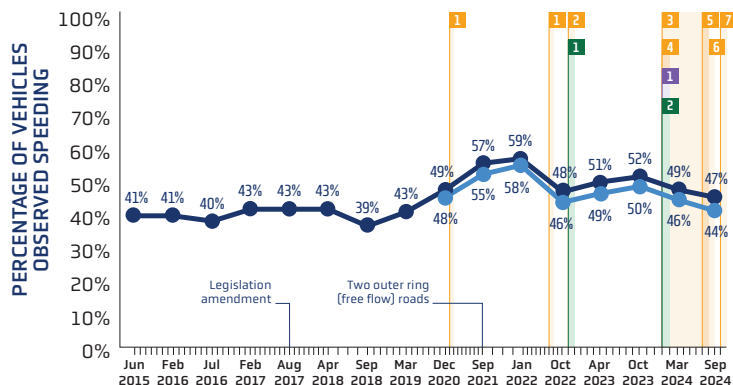
Collector road: These roads collect traffic from local roads and connect to arterial roadways. They penetrate neighborhoods and communities, collecting and distributing traffic between neighborhoods and arterial roads. Collector roads are shorter than arterial but longer than local roads.

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

**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 Addis Ababa

Despite a decreasing trend, speeding remains high in Addis Ababa, highlighting the need for enforcement efforts



OBSERVATION ROUNDS

■ Percentage above legal speed limit ■ Percentage above enforced speed limit

Enforced speed limits range from 30 km/h to 70 km/h and vary by road type:

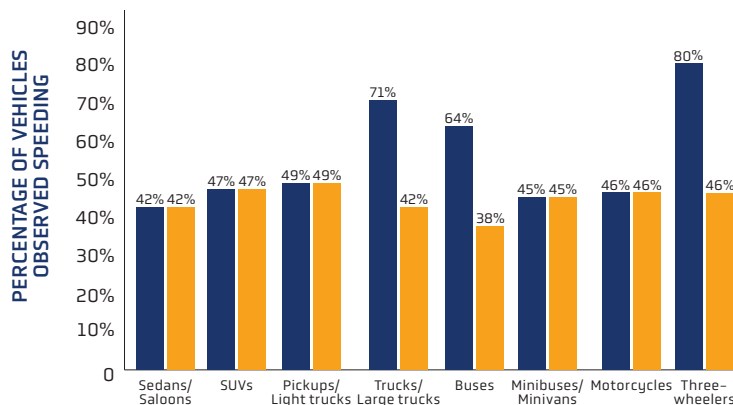
- Arterial roads: 50 km/h to 70 km/h
- Collector/distributor/local roads: 30 km/h to 40 km/h

Legal speed limits range from 30 km/h to 70 km/h and vary by road type and vehicle type since the 2017 speed limit amendment:

- Arterial roads: 40 km/h to 70 km/h
- Collector/distributor/local roads: 30 km/h to 40 km/h

See page 11 for more information on interventions in Addis Ababa.

Trucks/large trucks, buses and three-wheelers have higher percentages of speeding based on legal speed limits compared with enforced speed limits



VEHICLE TYPES

■ Above legal speed limits ■ Above enforced speed limits

Recommendations

Addis Ababa City Police Commission

- Enhance enforcement of speed limits based on current legal speed limit applicable to all vehicle types and road types, particularly during weekends, with a specific focus on:
 - Arterial roads.
 - Roads with partial pedestrian access.

Addis Ababa City Transport Bureau and Addis Ababa City Administration Traffic Management Authority (TMA)

- Implement a maximum speed limit of 30 km/h on roadways in designated areas where motorized traffic mixes with pedestrians and bicyclists, 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.

Ethiopian Broadcasting Corporation (EBC), Fana Broadcasting Media (FBC) and private media houses

- Coordinate mass-media campaigns with enforcement efforts, focusing on:
 - Speed reduction and the consequences of speeding, aligned with the messaging of the November 2022 and January 2024 mass-media campaigns.
- Monitor and evaluate all enforcement activities and existing mass-media campaigns 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

P₈₅: 74 km/h

% change: 6% decrease

Speeding ↓

Accra

Prevalence: 44%

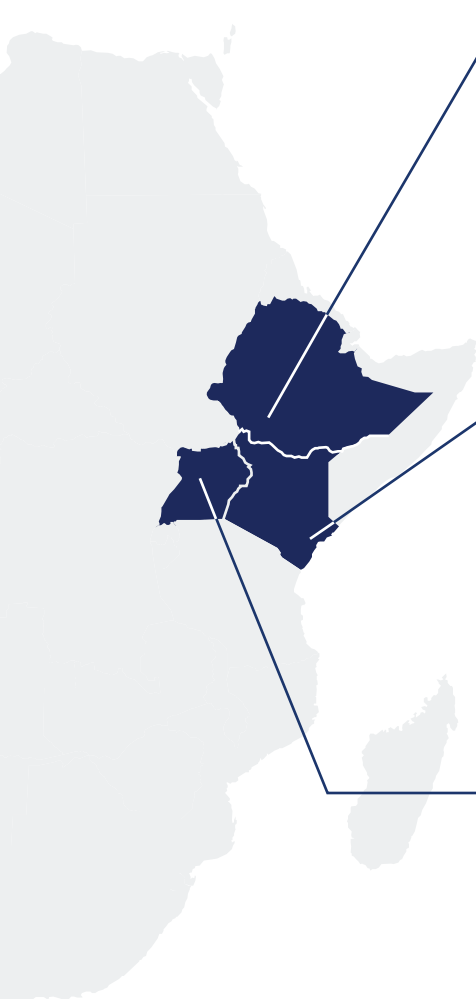
Mean speed: 71 ±15 km/h

Median speed: 68 km/h

P₈₅: 88 km/h

% change: 10% decrease

Speeding ↓



Addis Ababa

Prevalence: 47%

Mean speed: 56 ±14 km/h

Median speed: 56 km/h

P₈₅: 69 km/h

% change: 4% decrease

Speeding ↓

Mombasa

Prevalence: 23%

Mean speed: 58 ±7 km/h

Median speed: 56 km/h

P₈₅: 64 km/h

% change: 0% change

Speeding =

Kampala

Prevalence: 7%

Mean speed: 57 ±6 km/h

Median speed: 55 km/h

P₈₅: 62 km/h

% change: 75% increase

Speeding ↑

Speed Among Motorcycles in Addis Ababa

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

¹ 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>.

² 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.



Among all observed motorcycles, 46% were exceeding the enforced speed limit.



The mean speed among speeding motorcycles was high (53 km/h).



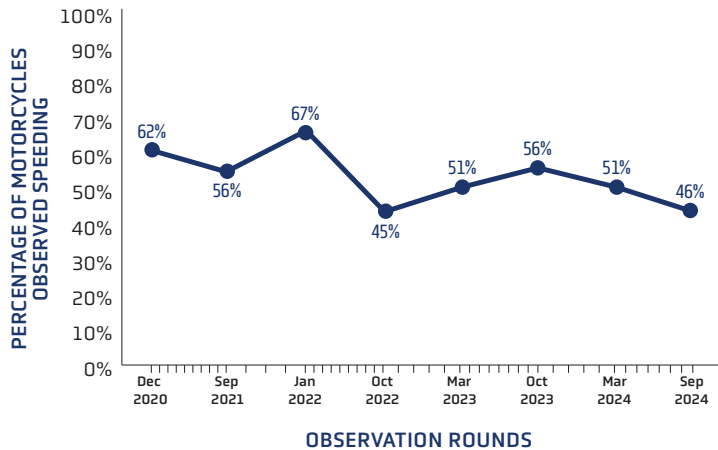
Speeding among motorcycles was more common on weekends (54%) compared with weekdays (44%).



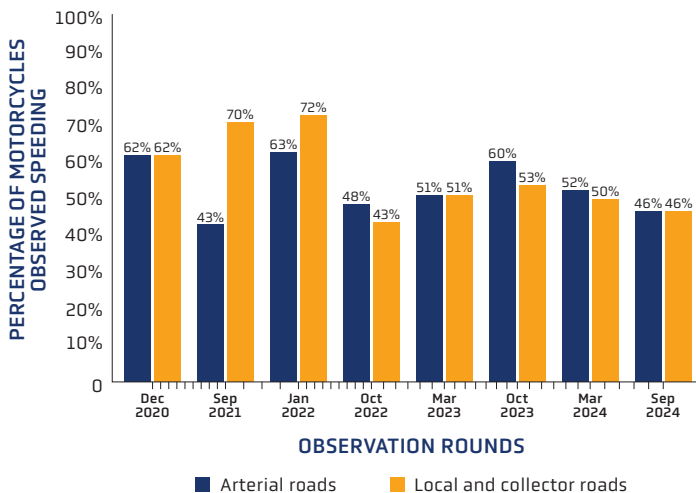
Over 41% of the motorcycles observed speeding were traveling more than 10 km/h above the enforced speed limit.

Key Findings on Speed Among Motorcycles in Addis Ababa

Despite the decrease, speeding among motorcycles remains very high



Motorcycle speeding on arterial roads was more common compared with local and collector roads



*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.

Recommendations

Addis Ababa City Police Commission

- Enhance enforcement of motorcycle speed limits with a focus on:
 - Weekends.
 - Arterial roads.
- 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.

Addis Ababa City Transport Bureau and Addis Ababa City Administration Traffic Management Authority (TMA)

- 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.

Ethiopian Broadcasting Corporation (EBC), Fana Broadcasting Media (FBC) and private media houses

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

Data collectors conducting speed observations in Addis Ababa, Ethiopia.



SPEED INTERVENTIONS

1 Jan 2021, Jul 2022 Infrastructure intervention by WRI & TMA
Traffic calming (speed humps)

2 Nov 2022 Infrastructure intervention by WRI, GDICI & TMA
Summit Low Speed Zone transformation

3 Jan–Jul 2024 Infrastructure intervention by WRI & TMA
Traffic calming (speed humps on two locations – 6 killo and Hana Mariam)

4 Jan 2024 Infrastructure intervention by Addis Ababa city Administration
Addis Ababa Corridor Development (over 50 km), wide walkway, cycle lanes, public plaza, parks, parking and other transport infrastructures.

5 Jul 2024 Infrastructure intervention by Addis Ababa city Administration
Second round of Addis Ababa Corridor Development (over 132 km)

6 Aug 2024 Infrastructure intervention by AACRA & TMA
Signalization of four intersections including German Square

7 Oct 2024 Infrastructure intervention by WRI & TMA
Traffic calming (speed humps on two fatal crash hotspot locations – Anfo area and Arsema)

1 Jan–Jun 2024 Enhanced enforcement by AAPC & TMA
Speed enforcement on 21 locations

1 Nov 2022 Mass–media campaign by Vital Strategies

2 Jan 2024 Mass–media campaign by Vital Strategies

■ Infrastructure intervention focused on pedestrian safety

■ Enhanced enforcement focused on speed reduction

■ City wide mass–media campaign focused on speed reduction

METHODS

Since 2015, the Johns Hopkins International Injury Research Unit has partnered with Addis Ababa University, School 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 Addis Ababa University, School of Public Health. This report provides results from twice-a-year cross-sectional observational surveys that represent population-level (citywide) prevalence of speed as an important risk factor, to show changes over time. Across the eight rounds of observations made in the current phase, over 565,000 observations have been made for speed.

Ten observation sites were selected randomly from the ten sub-cities in the Addis Ababa city administration, conditional on the safety of observers. Two additional outer ring roads were added in September 2021. A standardized protocol was used with vehicles selected for observation in a systematic quasi-random fixed

sequence. 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 regional team and 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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