

ACCRA

ROAD SAFETY REPORT

2021



Bloomberg
Philanthropies

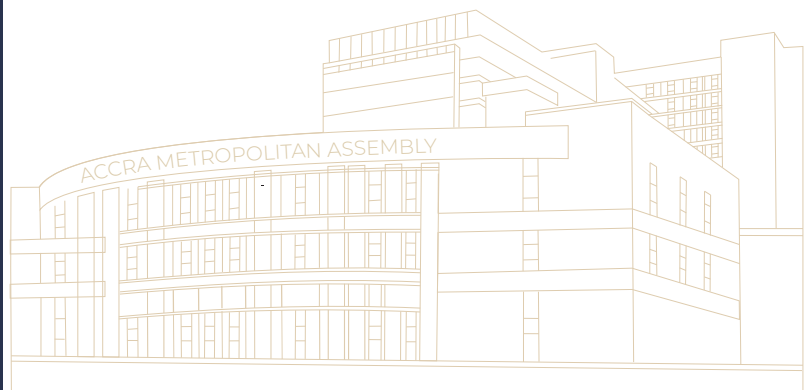
 Vital
Strategies

ACCRA

January 2023



**Johns Hopkins
International Injury
Research Unit**



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PREFACE



Hon. Elizabeth Sackey

Mayor of Accra

Road crashes remain one of the major causes of serious injuries and deaths in Ghana. The consequences of road deaths, and the costs of treatment and rehabilitation for severely injured victims, should be a major concern for city administrators, road safety agencies and public health professionals. Improving road safety outcomes will require a concerted effort that is based on evidence-led interventions.

This updated report provides information on road crashes, deaths and injuries in Accra for 2021. It also identifies the characteristics of vulnerable road users and the risk periods and locations in the city. The findings from the report are intended to guide planning and decisions of road safety stakeholder organisations in the city to improve outcomes.

I expect the contributions at the city level to augment national efforts to prioritize and address road traffic crashes as a public health issue.

Thanks to Bloomberg Philanthropies, Vital Strategies and all local and external partners for their ongoing support to ensure that the city's roads are safe for all road users.

ACKNOWLEDGEMENTS

This report, the fourth Accra road safety report, uses 2021 police crash data as the main source. The goal of these annual reports is to provide ongoing reporting on road crash outcomes in the city and to plan and monitor road safety interventions.

Several local and external partners contributed to sections of the report. Crash data were obtained from the Motor Traffic and Transport Department (MTTD) of the Ghana Police Service. National Service and National Builders Corps (NABCO) fellows at the AMA Data Unit supported data collection at police stations. Vital Strategies provided technical support for the production of this report. Johns Hopkins International Injury Research Unit (JH-IIRU) provided data on the behavioural risk factors presented in the report.

Ebenezer K. Baidoo, the BIGRS Road Injury Surveillance Coordinator in Accra, coordinated data collection directly from city police stations, performed data analysis, and drafted the report. Dr. Raphael Awuah, the Regional Technical Advisor for Africa on Road Injury Surveillance, and Dr. Sara Whitehead, the Global Lead for Road Injury Surveillance System Strengthening – both from Vital Strategies – supervised data collection and analysis, review and publication of the report.

The BIGRS team in Accra – Osei Kufuor (Initiative Coordinator), Ing. Samuel Boamah Danquah (Road Design and Transportation Coordinator), Mavis Obeng-Mensah (Communications Coordinator), and Joshua Mensah (Enforcement Liaison and Administrative Coordinator) provided content for sections of the report. Nation Builders Corps (NABCO) and National Service fellows at the AMA Data Unit also assisted data collection, entry and cleaning of the road injury crash data.

Special thanks go to Bloomberg Philanthropies, Vital Strategies, JH-IIRU, MTTD of the Ghana Police Service and National Road Safety Authority.



Executive Summary

Knowledge about the severity and risks of road traffic deaths and injuries facilitates the implementation of context-specific and appropriate interventions. This report presents information on crashes, deaths and injuries from road traffic collisions in the Accra metropolitan area during 2021, using data from police records. The report also presents information on victim characteristics to identify those most vulnerable to severe road crashes. An assessment of behavioural risk factors for road injuries in Accra is also presented in the report. Data were sourced from police crash reports and observational studies on road injury risk factors.

Findings show that the number of reported road traffic crashes in Accra rose from 1,774 in 2020 to 1,808 in 2021 – a 2% increase. However, road traffic deaths declined from 136 in 2020 to 123 in 2021 – a 9% decrease. Deaths per 100,000 population also dropped from 6.3 in 2020 to 5.4 in 2021.

Vulnerable road users – pedestrians, motorcyclists, and cyclists – made up 80% of road traffic deaths in 2021. Males accounted for more than 70% of road traffic deaths and serious injuries. The highest proportion of deaths was recorded among victims aged 20 to 29 years.

Several locations emerged as high risk for fatal crashes. Among them were the Opeibea intersection, Lapaz intersection, North Dzorwulu intersection, Hansonic junction, Kawukudi intersection and George Walker Bush Highway (N1).

Findings from the road injury risk factor observational studies showed a 51% prevalence of speeding in Accra in the most recent rounds of assessment in 2022.



HIGHLIGHTS



80%

of the reported road traffic deaths in 2021 were among vulnerable road users.



83%

of the reported deaths was among males.



The highest number of deaths in 2021 occurred among those aged **20 to 29 years old**



The highest number of reported road traffic deaths occurred following crashes between **6 p.m. and 10 p.m.**



53%

of road traffic deaths occurred from crashes on weekends.



Top 5 fatal crash intersections

1. Opeibea intersection
2. Lapaz intersection
3. North Dzorwulu intersection
4. Kawukudi intersection
5. Hansonic intersection

Top 5 fatal crash corridors

1. Apenkwa overhead - Dimples roundabout
2. Akweteyman - Lapaz
3. Airport junction - North Dzorwulu intersection
4. Abeka junction - Total Station (J.A. Kufuor Avenue)
5. Hansonic - Kaneshie First Light

List of Abbreviations

AMA	Accra Metropolitan Assembly
BIGRS	Bloomberg Philanthropies Initiative for Global Road Safety
BRANY	Biomedical Research Alliance of New York
BRRI	Building and Road Research Institute
COVID	Coronavirus Disease
DVLA	Driver and Vehicle Licensing Authority
ERC	Ethics Review Committee
GHS	Ghana Health Service
GSS	Ghana Statistical Service
iRAP	International Road Assessment Programme
JH-IIRU	Johns Hopkins International Injury Research Unit
KBTH	Korle Bu Teaching Hospital
LMIC	Low- and Middle-Income Countries
MIC	Middle-Income Countries
MTTD	Motor Traffic and Transport Department (Ghana Police Service)
NABCO	Nation Builders Corps
NRSA	National Road Safety Authority
PSA	Public Service Announcement
QGIS	Quantum Geographic Information System
SBER	Social Behavioural and Education Research
UPSA	University of Professional Studies and Administration
WHO	World Health Organisation
WRI	World Resources Institute

Introduction

Deaths and injuries from road crashes remain a serious global problem, especially in developing countries¹. Low- and middle-income countries account for 93% of road traffic deaths¹. Additionally, the burden of road traffic deaths is disproportionately high among low- and middle-income countries relative to their population size and the number of motor vehicles in operation¹.

Countries in Africa have higher rates of road traffic deaths compared to the rates worldwide and in other global regions, with 27 deaths per 100,000 population in 2019 compared to 17 deaths per 100,000 population globally.

In Ghana, the estimated number of road deaths in 2019 was 7,808, and death rate was 25.6 per 100,000 population².

The burden of road traffic crashes poses a serious public health, social and economic problem at all levels of society — especially as a majority of those who perish from road traffic crashes are young people in their prime working to make a living and support their families.

Without the implementation of data-driven interventions, road traffic deaths and injuries are likely to increase, given the rise in motorisation in LMICs³. If current global trends continue, road traffic injuries are projected to become the fifth leading cause of death by 2030⁴.



Purpose of report

It is important to know the extent and risk of deaths and injuries from road traffic crashes when implementing context-specific and evidence-based interventions. This report presents information on crashes, deaths and injuries from road traffic crashes in the Accra Metropolitan area for 2021, using data from police records. It is an update of three previous reports covering the period from 2011 to 2020. Crash data with coordinates were analysed to produce heat maps showing the distribution of fatal and serious-injury crashes in the city. The report also provides information on road-user risk behaviours and implemented actions to improve road safety in Accra.

Data sources and systems

Police crash records are the main official source of road traffic crash data in Ghana. An adapted version of the Building and Road Research Institute (BRRI)/Ghana Police Service data form was used by personnel at the AMA Data Unit to extract data from narrative police crash reports.

Narrative description and sketch of the crash location in the police reports were used to generate the crash coordinates. Quantum Geographic Information System (QGIS) software was then used to analyse the geolocation data to produce the maps in this report.

Data on risk factors for road injuries were assessed by observation by Johns Hopkins University International Injury Research Unit (JH-IIRU).

Definitions

Definitions in this report are based on the definitions used by NRSA, the agency responsible for overseeing road safety in Ghana.

Road traffic crash

A crash resulting in injury, death or property damage that involves at least one vehicle on a public road.

Crash severity: fatal

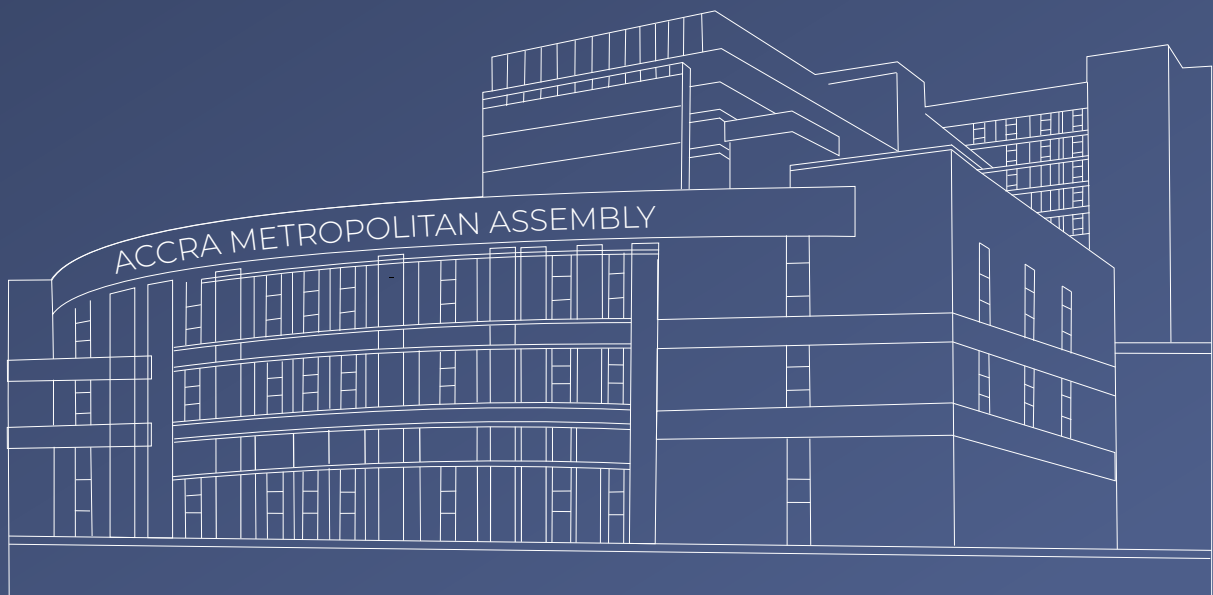
A crash in which at least one casualty dies immediately or within 30 days of the incident.

Crash severity: serious injury

A crash resulting in at least one person being admitted in hospital as an inpatient for more than 24 hours.

SECTION 1

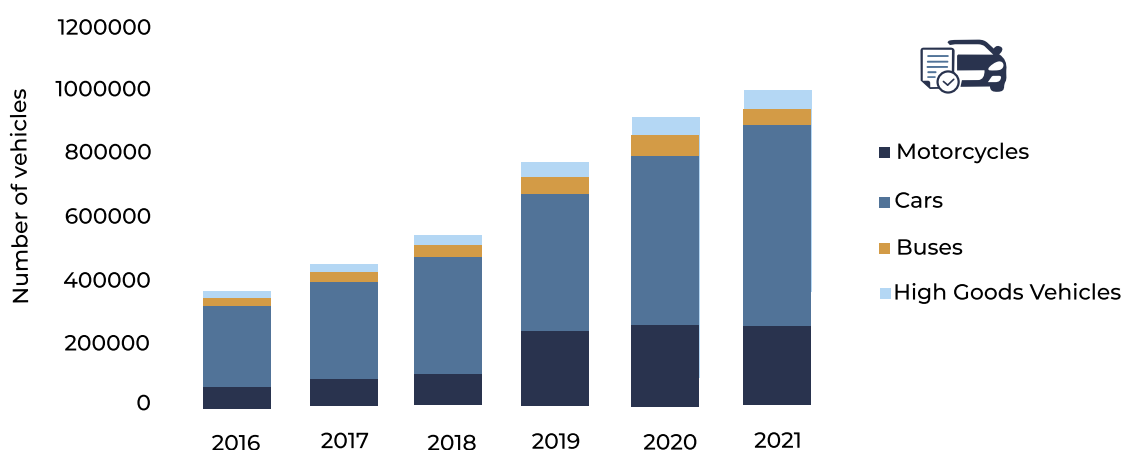
Road crashes, deaths and serious injuries in Accra, 2021



Number of registered vehicles

The total number of registered vehicles at the Accra office of the Driver and Vehicle Licensing Authority (DVLA) for 2021 was 1,006,886. The highest proportion (63%) of registered vehicles were cars/SUVs/pickups (Figure 1). The number of registered vehicles has increased by 169% between 2017 and 2021.

Figure 1. Estimated number of registered vehicles in Accra 2016-2021



Number of registered vehicles from the DVLA office in Accra.

Road crashes, deaths and serious injuries

The number of reported fatalities dropped by 10% from 2020 to 2021 (Figure 2), even though overall crashes increased by 2% in the same period (Figure 3).

Figure 2. Trend of road deaths, serious injuries and minor injuries, 2011-2021

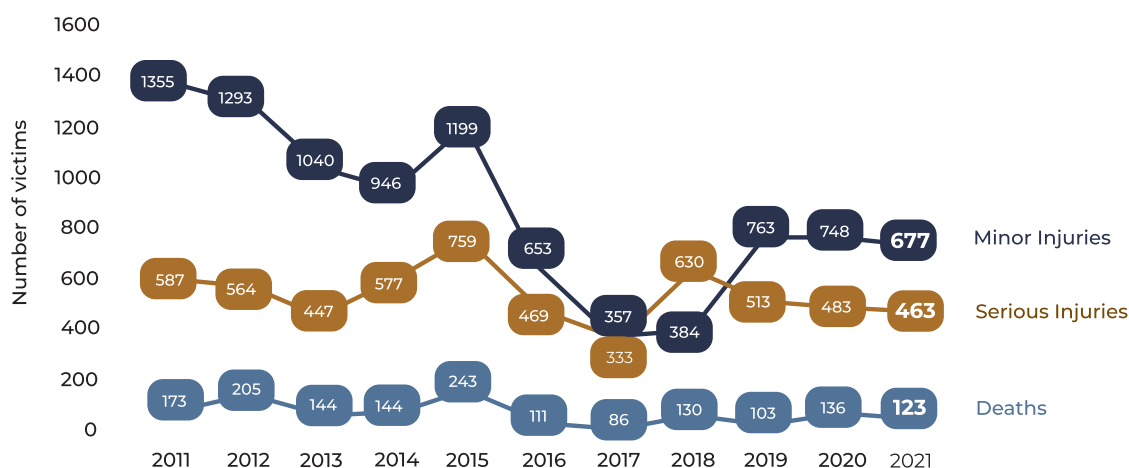
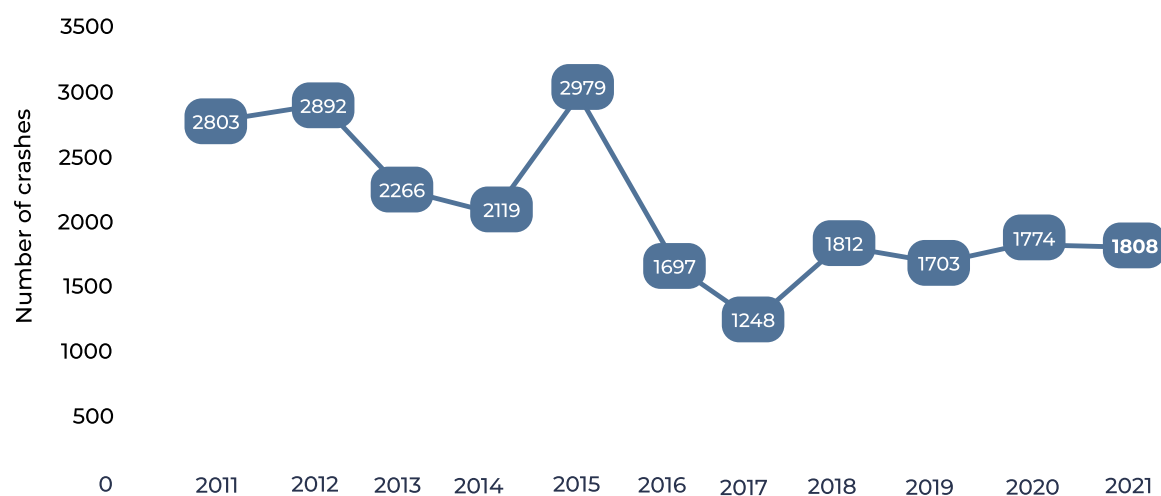


Figure 3. Road crash trend in Accra 2011-2021



The death rate per 100,000 population for 2021 was 5.4 compared to 6.3 in 2020 (Figure 4).

Figure 4. Road traffic death rate, 2016-2021



Deaths by road user type

Deaths among vulnerable road users – pedestrians, bicyclists, and motorcyclists – accounted for 80% of road fatalities in 2021 (Figure 5). Pedestrians constituted 58% of the reported deaths (Figure 6). This is a typical urban pattern and reinforces the need to prioritize the safety of pedestrians and other vulnerable road users.

Figure 5. Deaths by road user type, 2016-2021

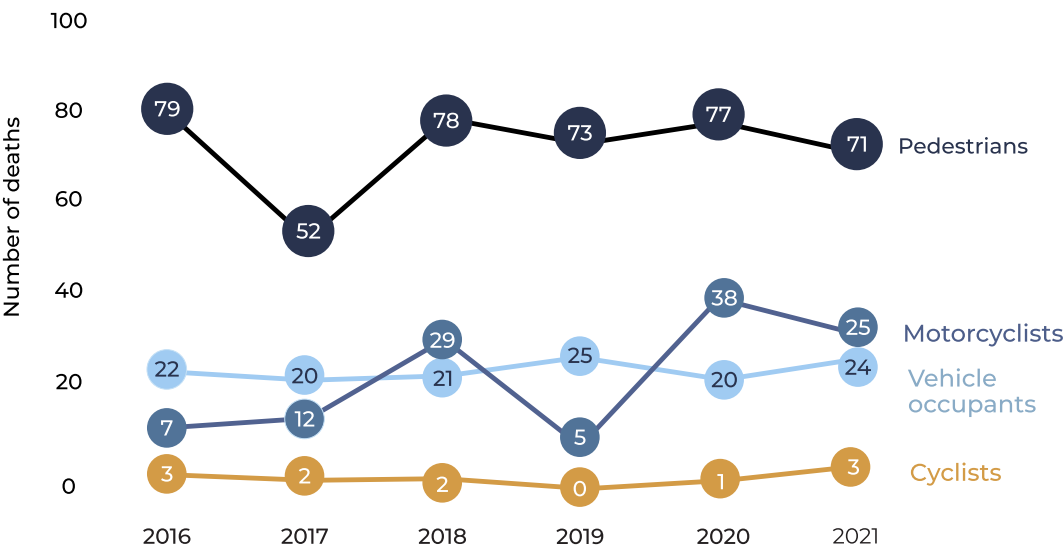
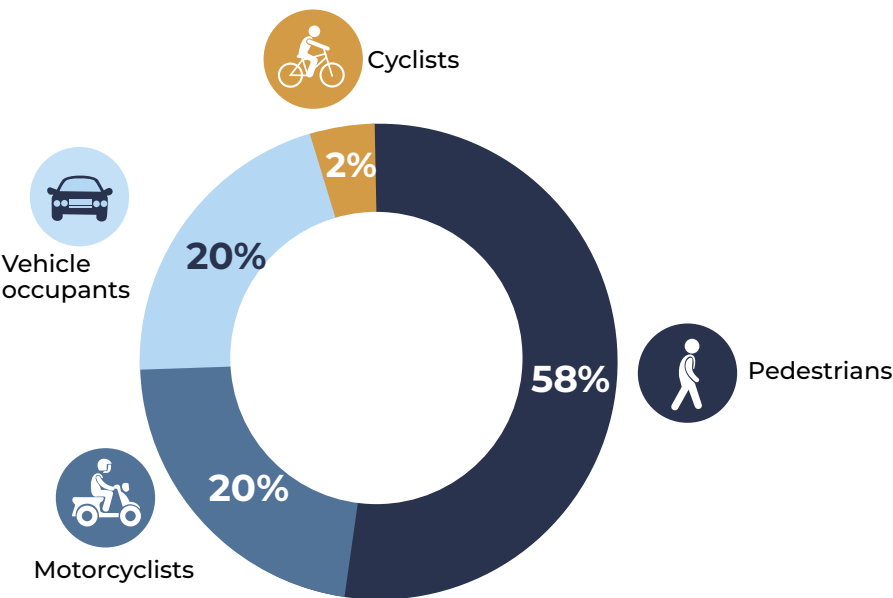


Figure 6. Percentage distribution of deaths by road user type, 2021



Serious injuries by road user type

Similarly, the majority of serious injuries in 2021 were among vulnerable road users (Figure 7). The percentage distribution of serious injuries by road user type in 2021 is shown in Figure 8.

Figure 7. Serious injuries by road user type, 2015-2021

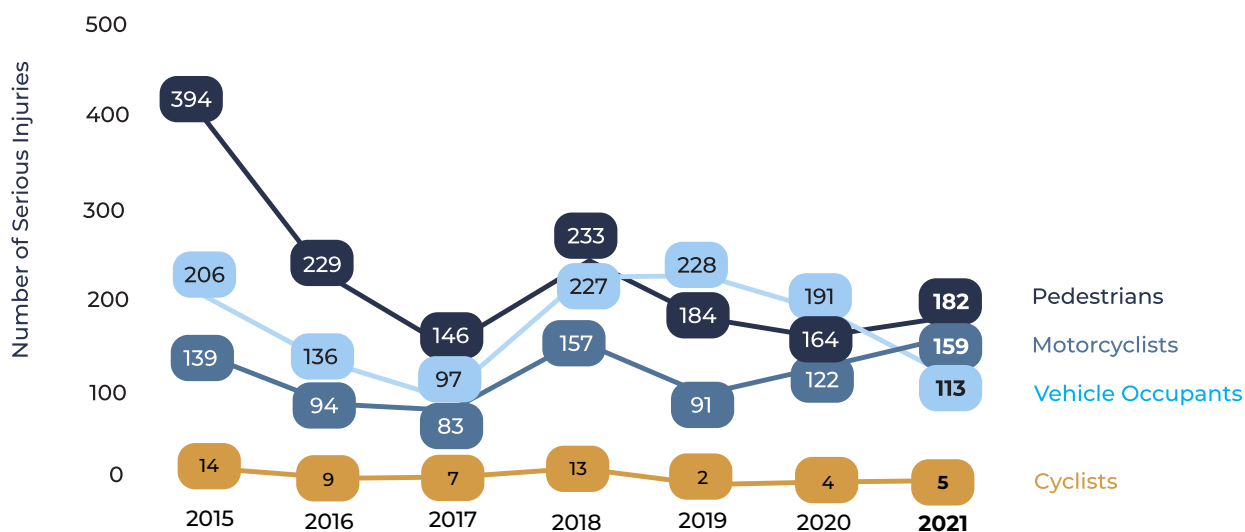
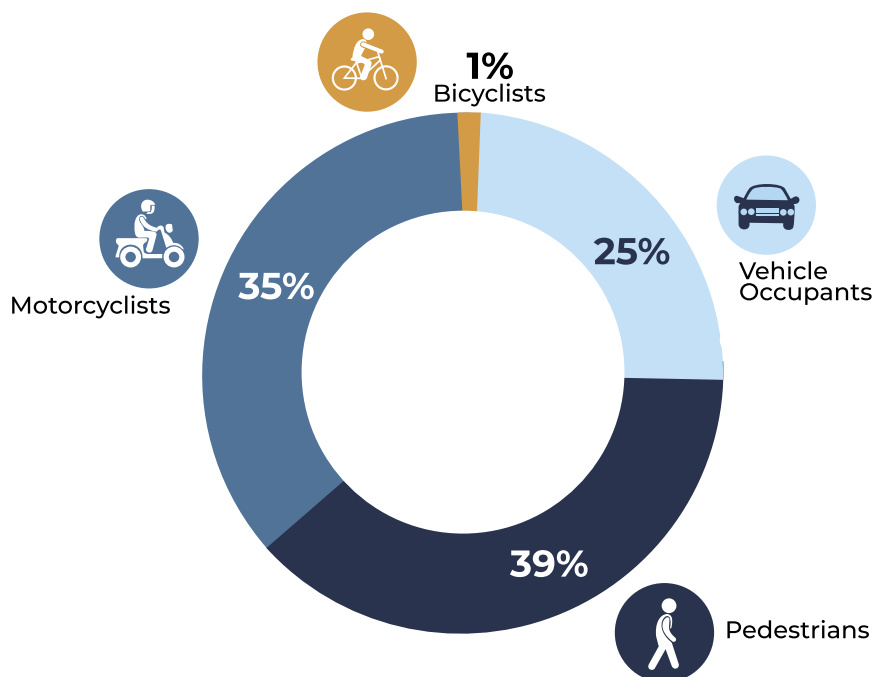


Figure 8. Percentage distribution of serious injuries by road user type, 2021



Deaths and serious Injuries by sex

The highest proportion (83%) of the reported deaths in 2021 was recorded among males (Figure 9). This could be attributed to risky road-user behaviour observed among men^{5,6}. More than half of seriously injured victims in 2021 were males (Figure 10). These figures are consistent with global patterns.

Figure 9. Deaths by sex, 2021

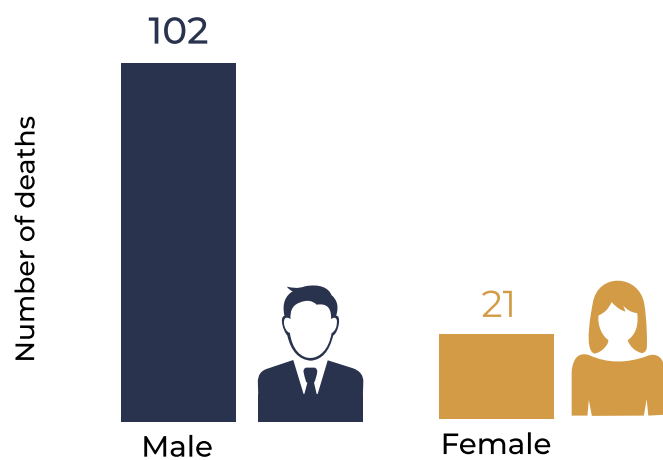
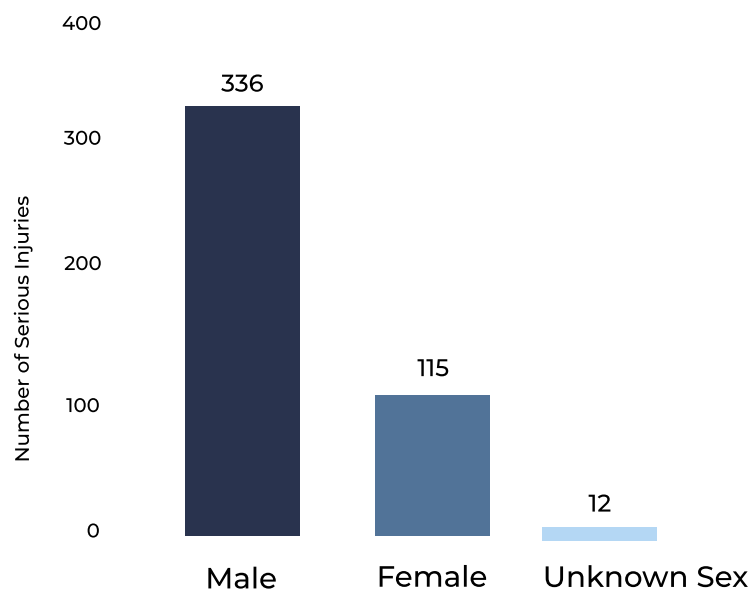


Figure 10. Serious injuries by sex, 2021



Deaths and serious injuries by age

The highest number of deaths and serious injuries in 2021 occurred among those aged 20 to 29 years old (Figures 11 and 12). A similar age distribution has been observed in traffic injury deaths and related hospitalizations in many countries in Asia and Africa⁷. Many of these victims are economically active, leading to a drop in household income and an increase in expenditure from the direct costs of injury treatment.

Figure 11. Deaths by age group, 2021

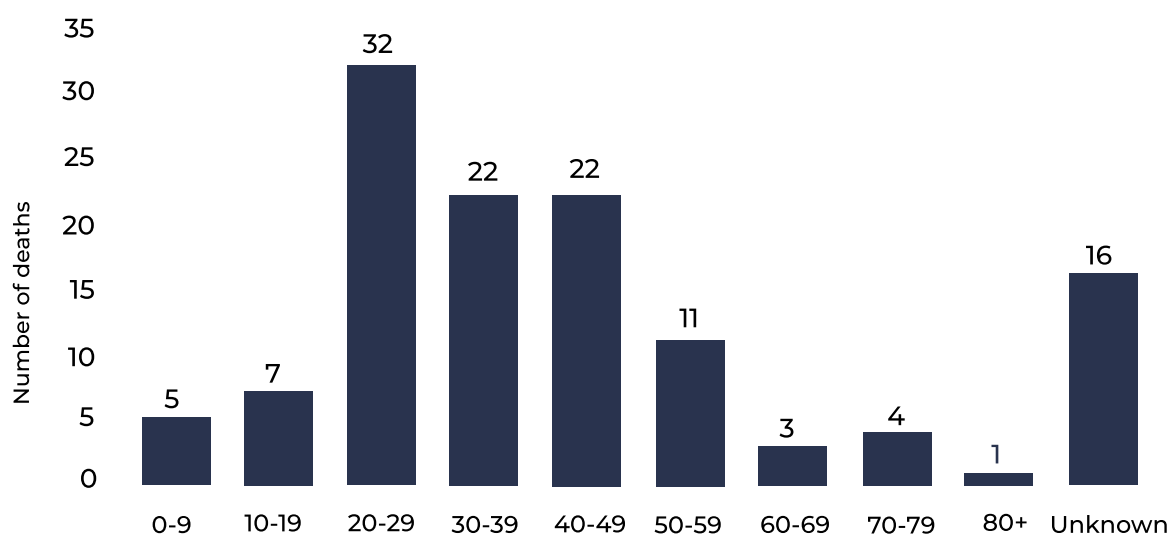
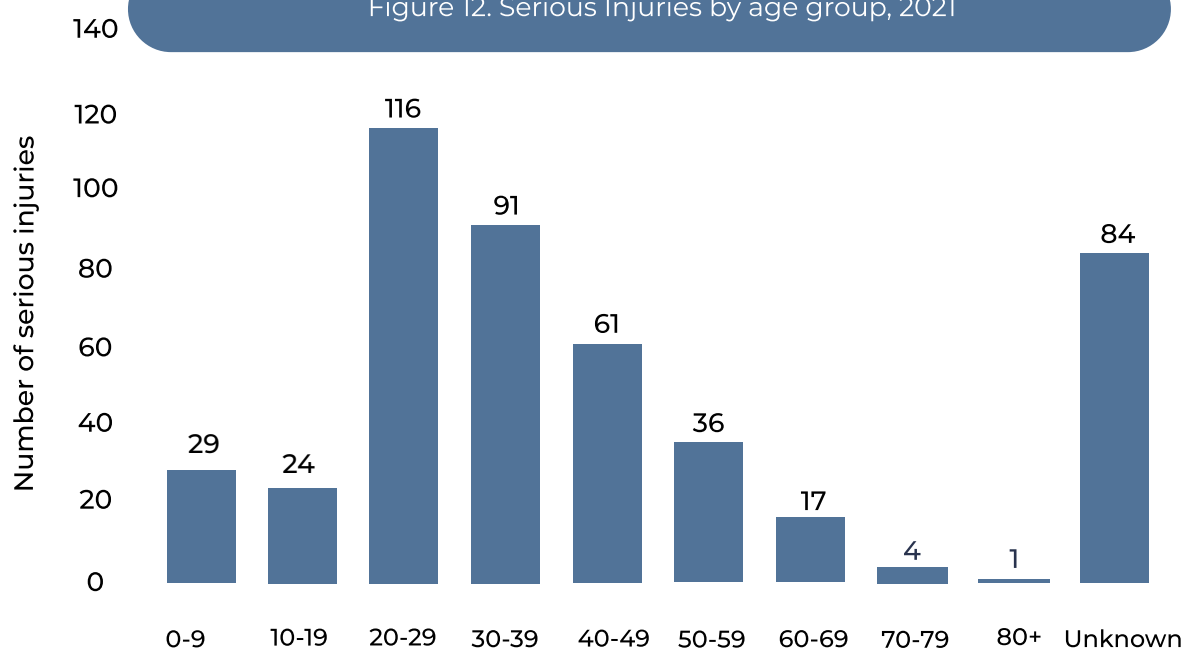


Figure 12. Serious Injuries by age group, 2021



Death rates by age group and sex is presented in Figure 13. In 2021, the highest death rate for males was recorded among those aged 40–49 and 70–79 years (18.1 per 100,000 and 22.4 per 100,000 population respectively). For females, the highest death rate was recorded among those aged 20–29 and 30–39 years (1.8 per 100,000 and 1.7 per 100,000 population respectively). Figure 14 shows serious injury rates by age and sex.

Figure 13. Death rate by age and sex. 2021

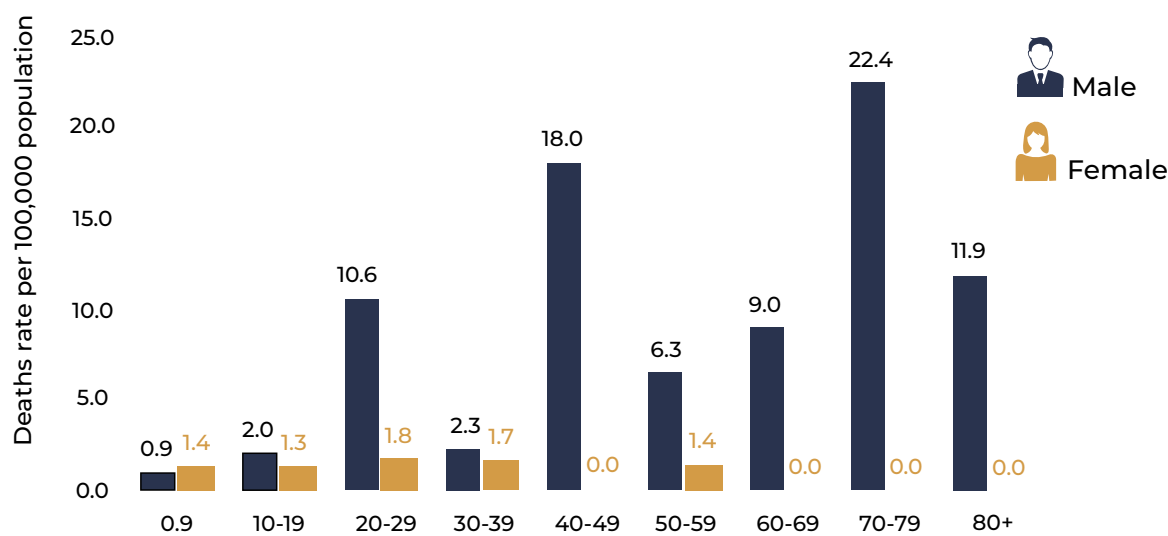
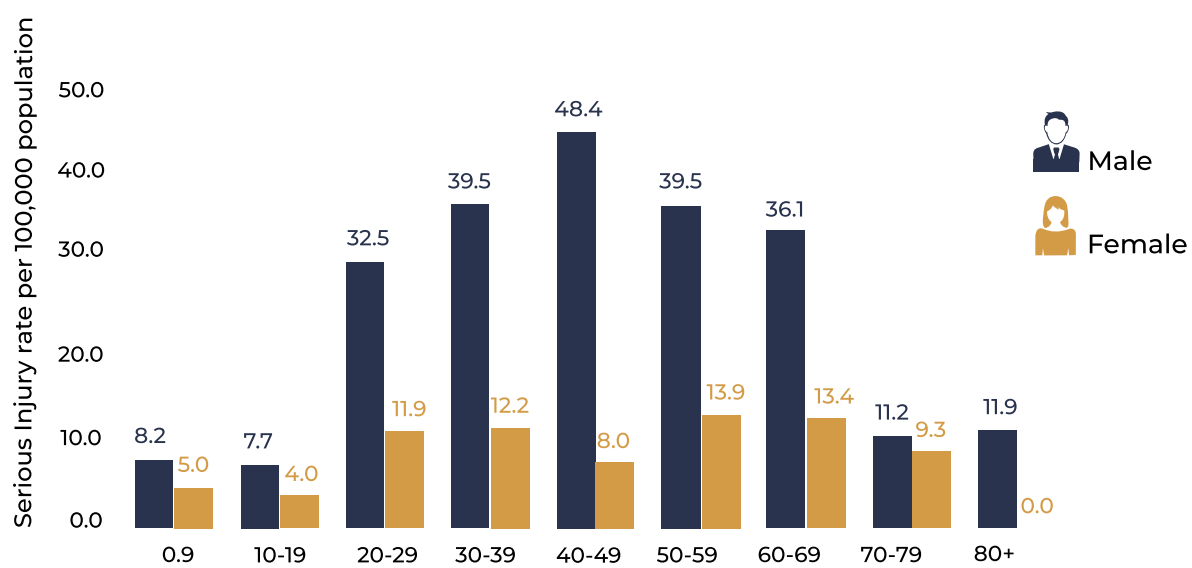


Figure 14. Serious injury rate by age and sex, 2021



Crashes and deaths by time of day

In 2021, a higher number of crashes occurred between noon and 6 p.m. (Figure 15). The highest number of deaths occurred following crashes from noon to 2 p.m. and 8 to 10 p.m. (Figure 16). This pattern of road deaths has been persistent in the last five years^{8,9}. These findings can be used by the police in deploying officers for enforcement of the risk factors and traffic control in the city.

Figure 15. Crashes by time of day, 2021

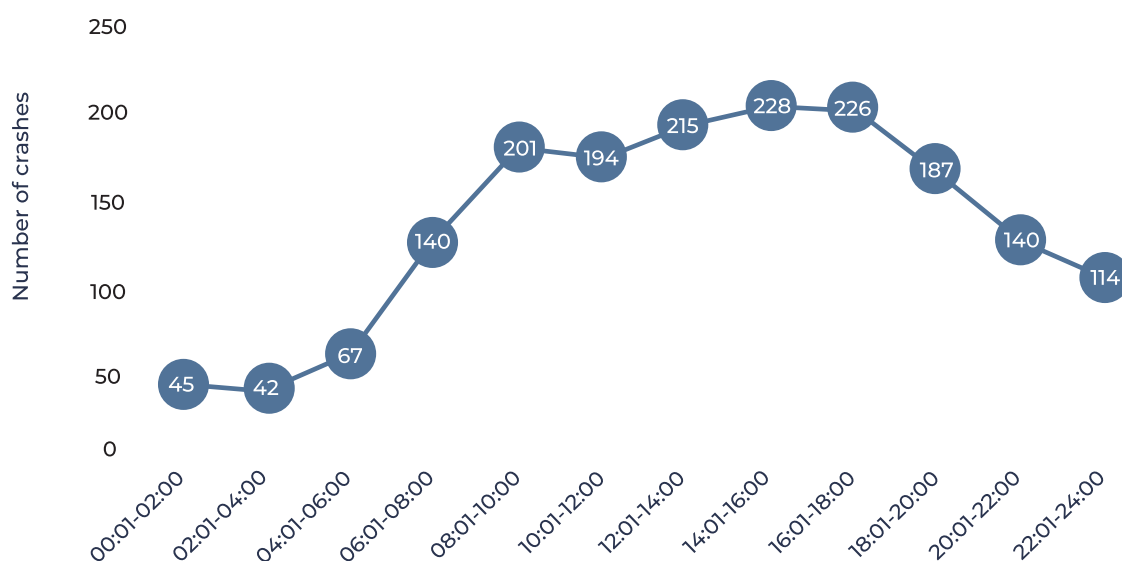
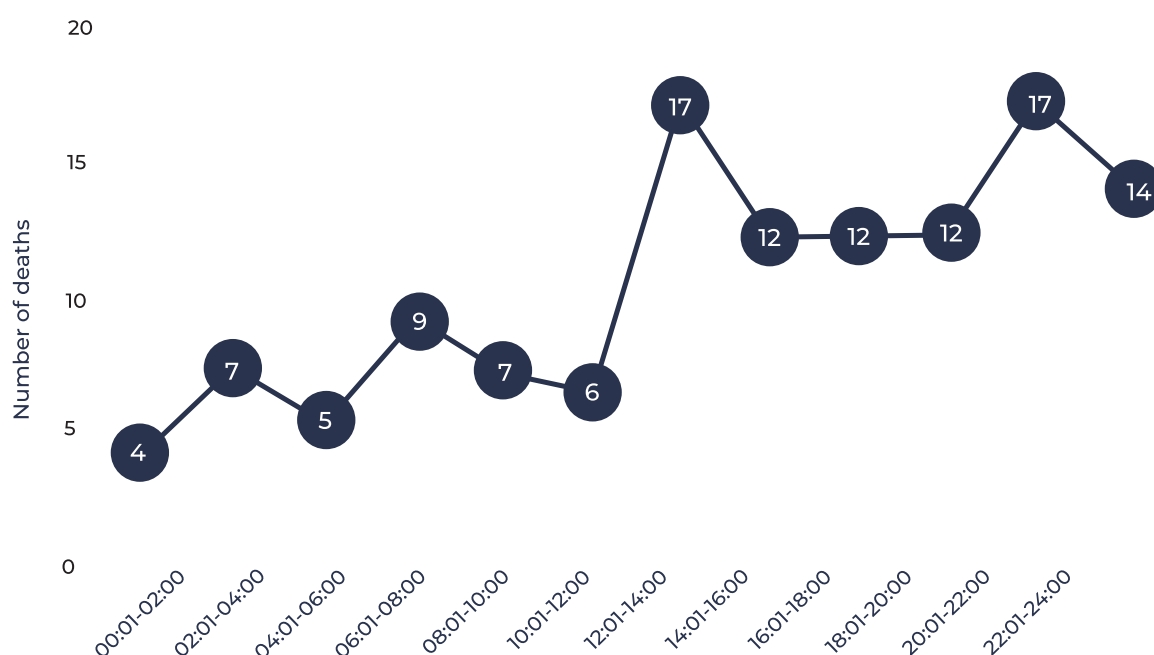
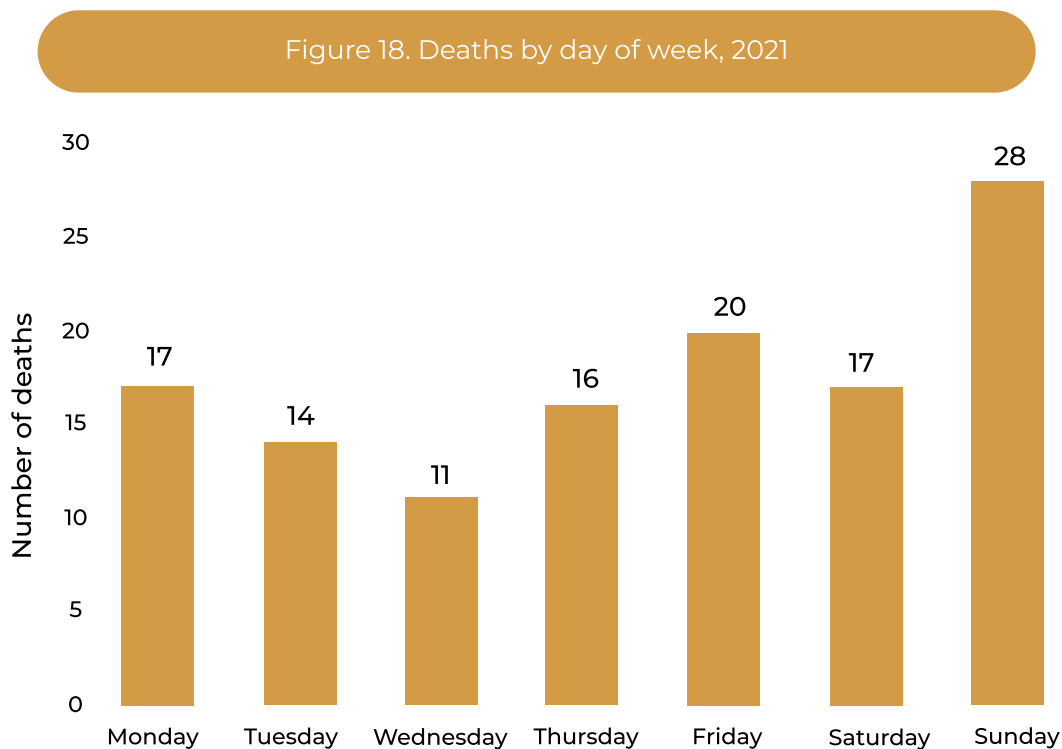
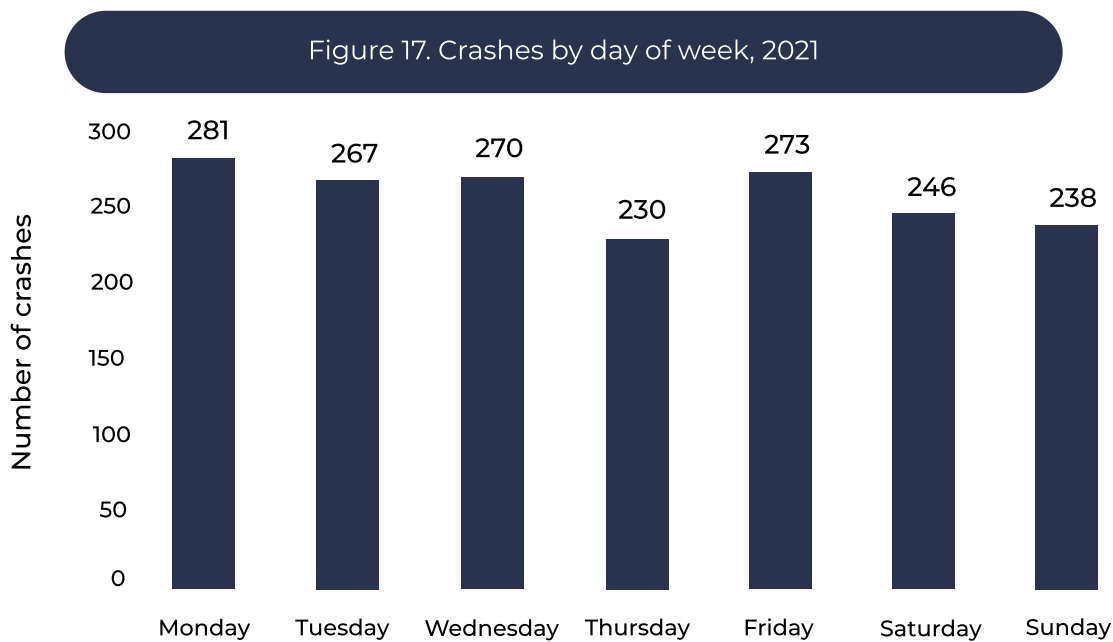


Figure 16. Deaths by time of day, 2021



Crashes and deaths by day of week

There was no observed pattern for crashes by day of week (Figure 17). However, weekends (Friday to Sunday) accounted for more than half of the reported fatalities in 2021 (53%) (Figure 18). This pattern has been consistent in Accra since 2016 ^{8,9} and may be associated with speeding, drink driving and/or reduced police enforcement on weekends. These findings can inform police operational staffing and planning for risk-factor enforcement.



Deaths by day of week and time of day

Deaths by day and time of week from 2019 to 2021 are presented in Table 1. The findings reinforce the need for enforcement focusing on road injury risk factors (such as speeding, drink driving, non-use of helmet and seat-belt/child-restraints) to be intensified on weekends (Friday to Sunday).

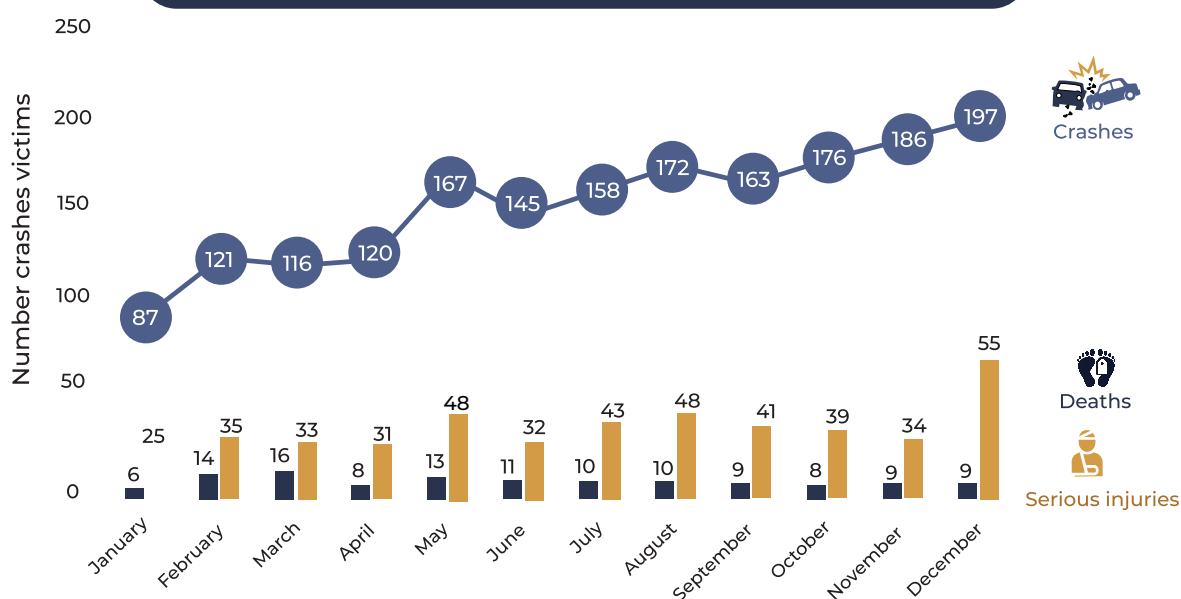
Table 1. Deaths by day of week and time, 2019 – 2021

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
00:00 - 04:00	3	0	2	4	4	4	4
04:01 - 08:00	6	8	8	5	5	13	8
08:00 - 12:00	6	8	4	6	12	6	9
12:01 - 16:00	11	10	11	7	15	8	14
16:01 - 20:00	8	15	5	9	7	11	14
20:01 - 24:00	15	4	8	14	14	13	23
Total	49	45	38	45	57	55	72

Crashes, deaths and serious injuries by month

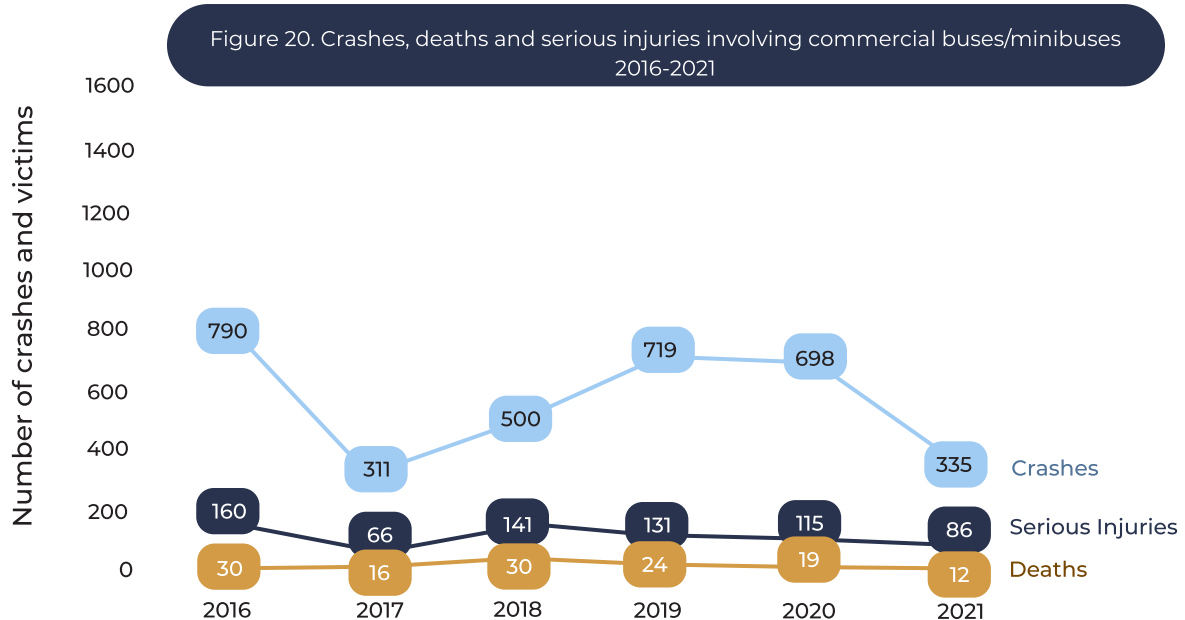
The distribution of crashes, deaths and serious injuries by month showed no seasonal pattern in 2021 (Figure 19). However, crashes were reported most frequently in the fourth quarter of the year (October to December). A similar pattern was observed in 2019 and 2020⁹.

Figure 19. Crashes, deaths and serious injuries by month, 2021



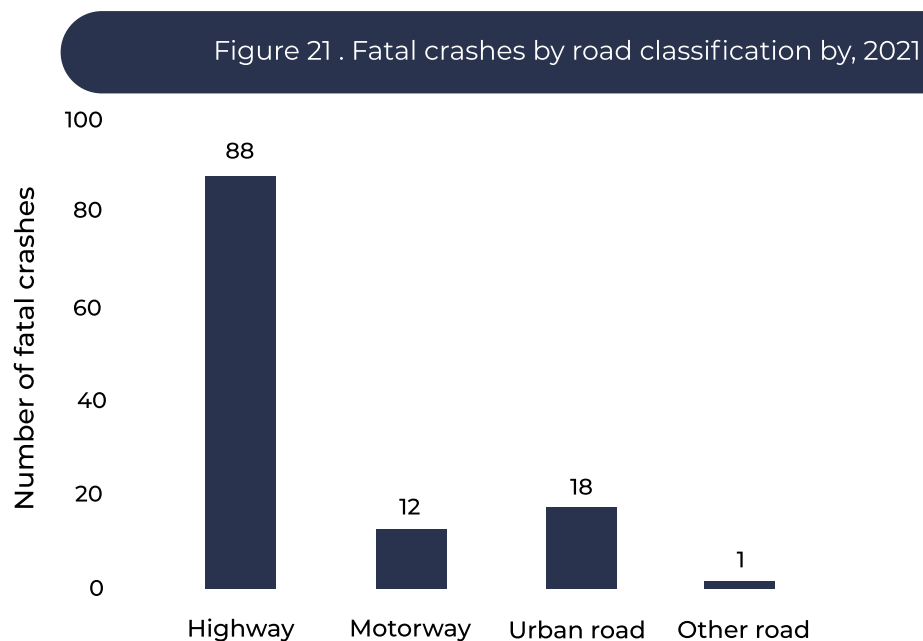
Crashes, deaths and serious injuries involving commercial buses/minibuses

No clear trend has been observed since 2016^{8,9} in the number of reported crashes, deaths and serious injuries involving commercial buses and minibuses (popularly referred to as “trotro”) (Figure 20).



Fatal crashes by road classification in Accra

Figure 21 shows fatal crashes by road classification type. The highest number of incidents occurred on highways. This is a reflection of higher vehicular speeds, increasing the risk for vulnerable road users.



Crashes and deaths on major highways in Accra

The number of reported crashes on the N1 increased dramatically after 2018 (Figure 22). Recorded deaths also increased substantially after 2018, with a small 4% decrease from 2020 to 2021 (Figure 23).

Figure 22. Crashes on major national highways, 2015-2021

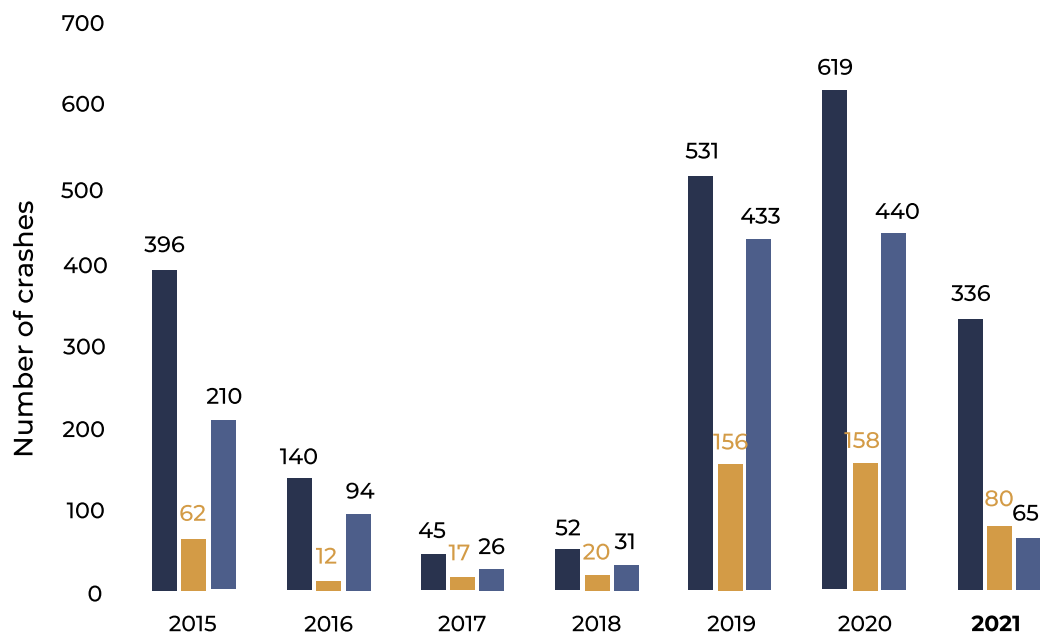
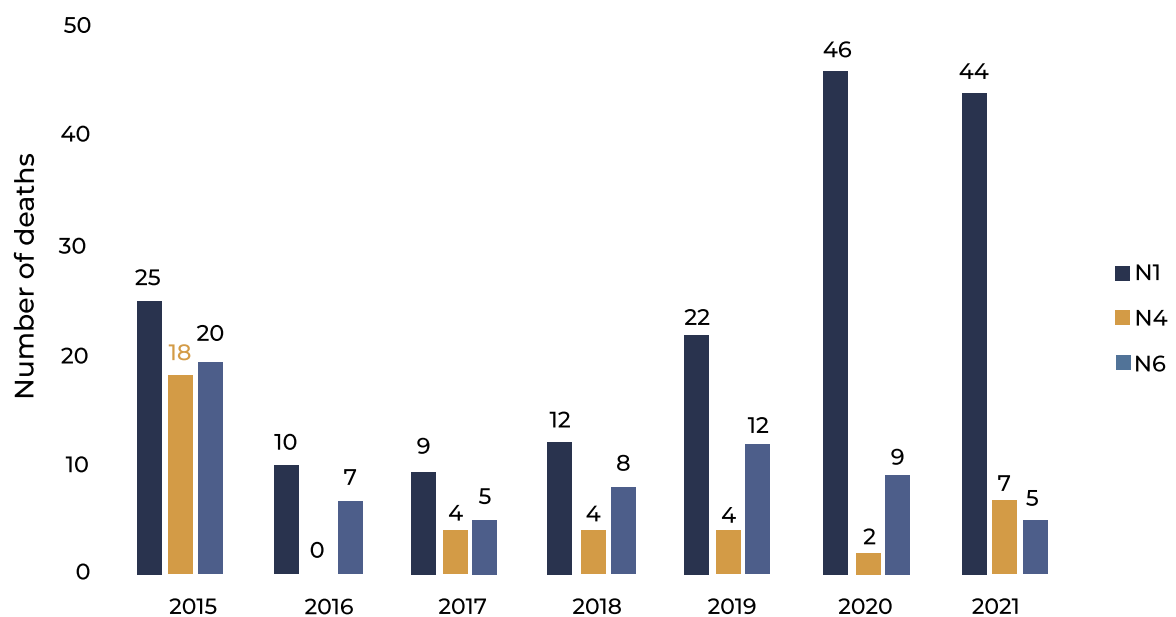


Figure 23. Deaths on major national highways, 2015-2021



Deaths by road user and colliding vehicle type

Table 2 below shows the correlation between deaths by road user type and colliding vehicles from 2019 to 2021. Deaths among pedestrians were most frequently caused by cars and pickups (47%). Buses/ minibuses and motorcycles were the colliding vehicles in 22% and 16% of pedestrian deaths respectively.

Table 2. Deaths by road user and causal vehicle type, 2019 - 2021.

Victim	Causal vehicle						Total
	Car/pick-up	Bus and minibuses	High goods vehicle	Motorcycle	Single vehicle crash	Unknown vehicle	
Car and pick up occupants	18	3	8	3	8	3	43
Bus and minibus occupants	7	2	3	1	4	0	17
High goods vehicle occupants	1	1	4	0	0	2	8
Motorcyclists	18	10	11	3	22	4	68
Cyclists	1	0	3	0	0	0	4
Pedestrians	103	48	15	35	0	20	221
Unknown	0	0	0	0	1	0	1
Total	148	64	44	42	35	29	362

High risk corridors and intersections

Analysis of crash locations is a critical input for road safety decision-making by identifying high risk locations where interventions should be prioritised^{10,11}. As a spatial visualisation tool, heat maps show the distribution and intensity of point data within an area of interest^{12,13}.

Using a three-year (2019, 2020 and 2021) geocrash dataset, heat maps were produced to show all crashes (Figure 24), fatal crashes (Figure 25), serious injury crashes (Figure 26) and pedestrian fatal and serious injury crashes (Figure 27). A point map shows the location and number of deaths recorded among motorcyclists (Figure 28). Figure 29 shows the high-risk fatal crash corridors in the city.

The top ten high-risk fatal crash spots and corridors are presented in Table 3 and 4 respectively. These locations should inform priorities for road infrastructure maintenance, intersection design interventions and enforcement operational planning.

Table 3. Top ten high-risk fatal intersections, 2019 to 2021

No.	Name of intersection/junction	Number of deaths
1	Opeibea intersection along the Liberation Road	7
2	Lapaz intersection along the N1	7
3	North Dzorwulu intersection along the N1	7
4	Kawukudi intersection along Olusegun Obasanjo Highway	4
5	Hansonic junction along Dr Busia Highway	4
6	Masalachi junction (Nima) along Dr Hilla Limann Highway	4
7	Vodafone junction along J.A. Kufuor Avenue	4
8	Kwashieman intersection along the N1	3
9	Okponglo intersection along the N4	2
10	UPSA junction along the N4	2

Death statistics in these locations are based on the geocoded crash data from 2019 to 2021. A 100m intersection radius was applied.

Table 4. Top ten high-risk fatal crash corridors (deaths per km), 2019 to 2021

No.	Name of Corridor	Number of deaths	Length of corridor (km)	Deaths per km
1	Apenkwa overhead - Dimples roundabout (N1)	21	1.9	11
2	Akweteyman - Lapaz (N1)	21	2.2	9.5
3	Airport junction - North Dzorwulu intersection (N1)	14	1.5	9.3
4	Abeka junction - Total Filling Station (J.A. Kufuor Avenue)	9	1.2	7.5
5	Hansonic - Kaneshie First Light (Dr. Busia Highway)	8	1.5	5.3
6	Okponglo - Shiashie (JJ. Rawlings Avenue - N4)	8	1.6	5
7	Hilla Liman Highway (Kanda Highway)	12	2.5	4.8
8	Motorway tollbooth - Tetteh Quarshie interchange (N1)	20	4.5	4.4
9	Abrantie (Lapaz) - Kwashieman (N1)	8	2.4	3.3
10	GBC first bus stop - STC Yard (Ring Road Central)	11	3.6	3

Death statistics in these locations are based on the geocoded crash data from 2019 to 2021.

Figure 24. Heat map of all crashes, 2019 to 2021

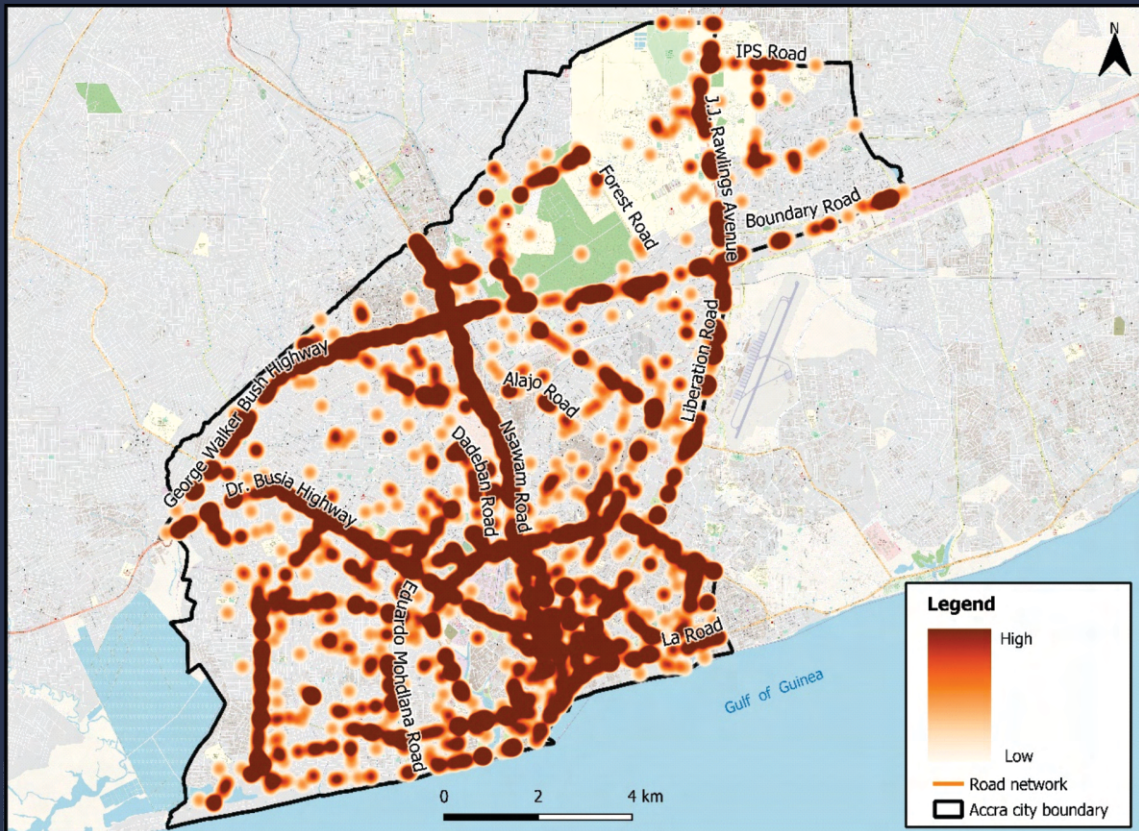


Figure 25. Heat map of fatal crash locations, 2019 to 2021

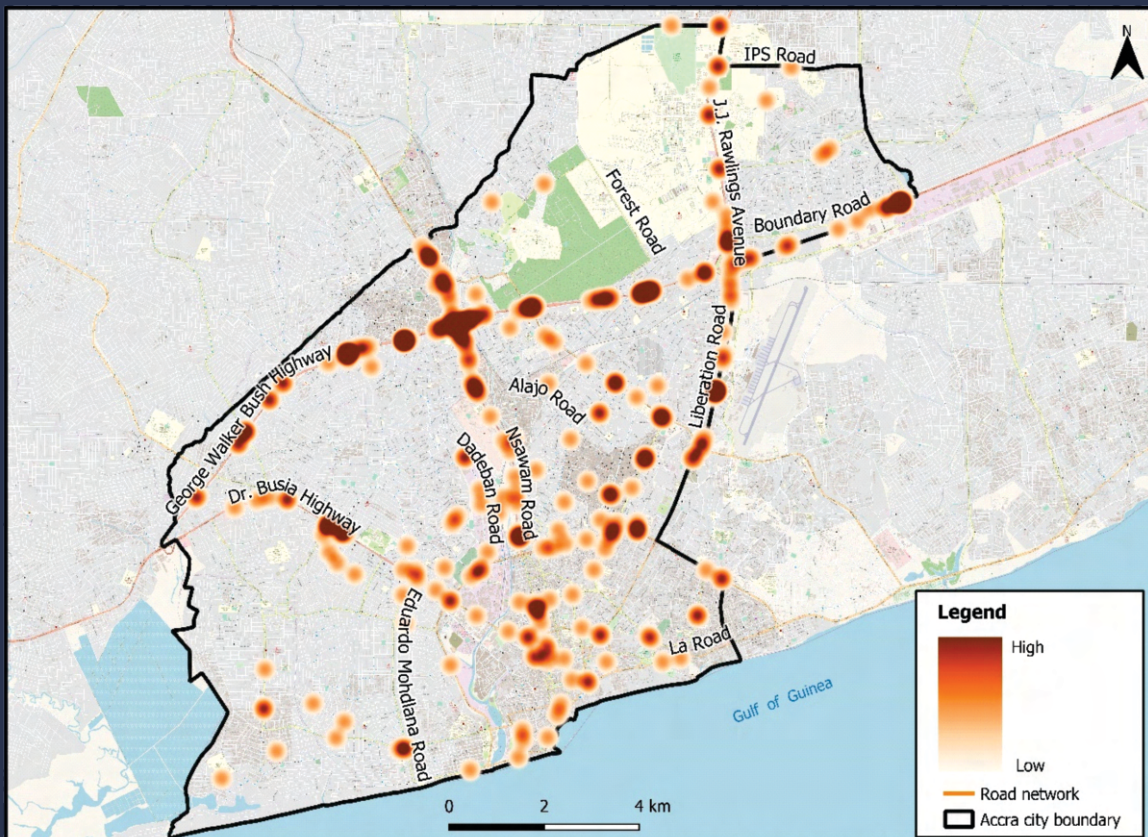


Figure 26. Heat map of serious injury crash locations, 2019 to 2021

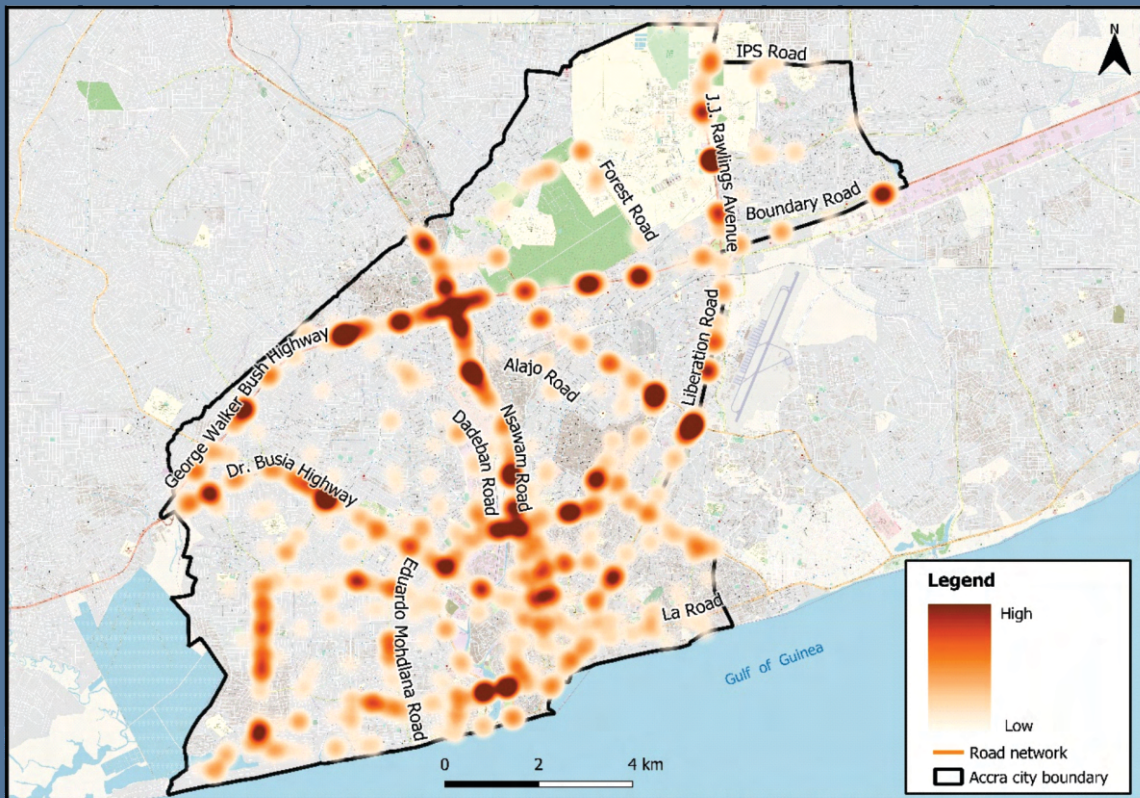


Figure 27. Heat map of pedestrian fatal and serious injury crash locations, 2019 to 2021

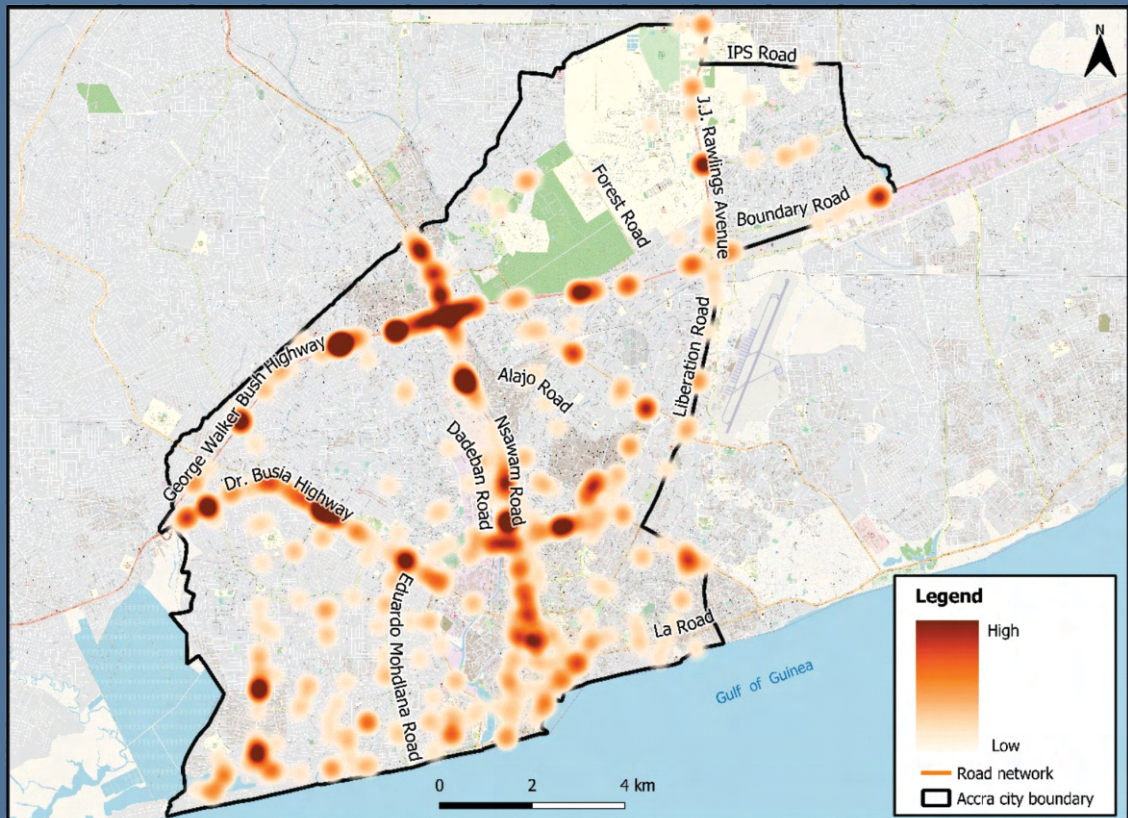


Figure 28. Point map of motorcycle fatal crash locations, 2019 to 2022

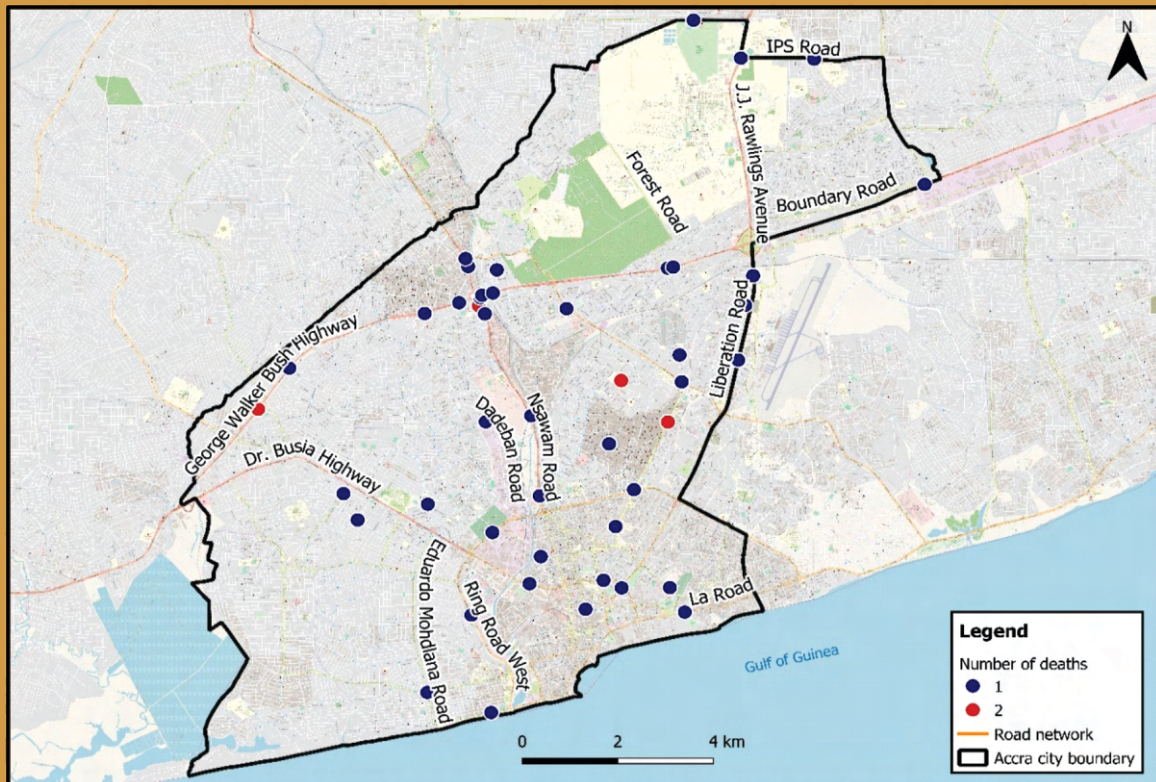
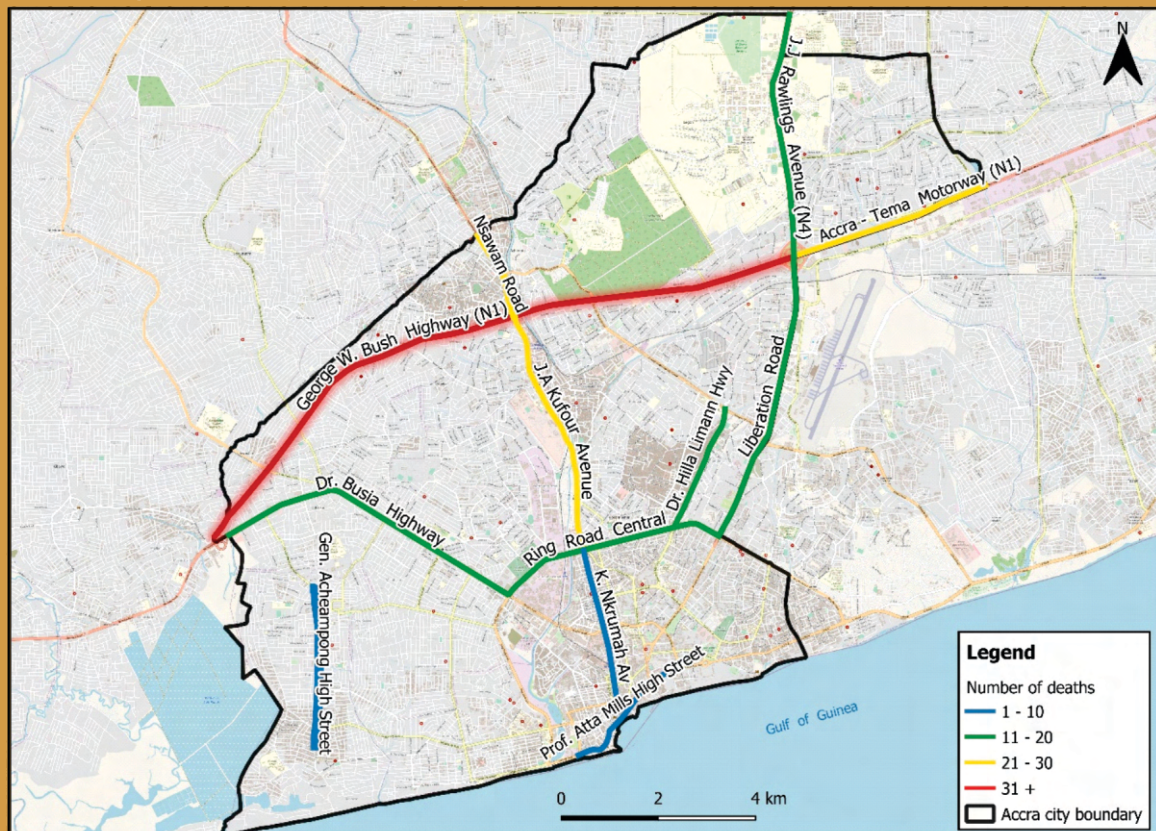
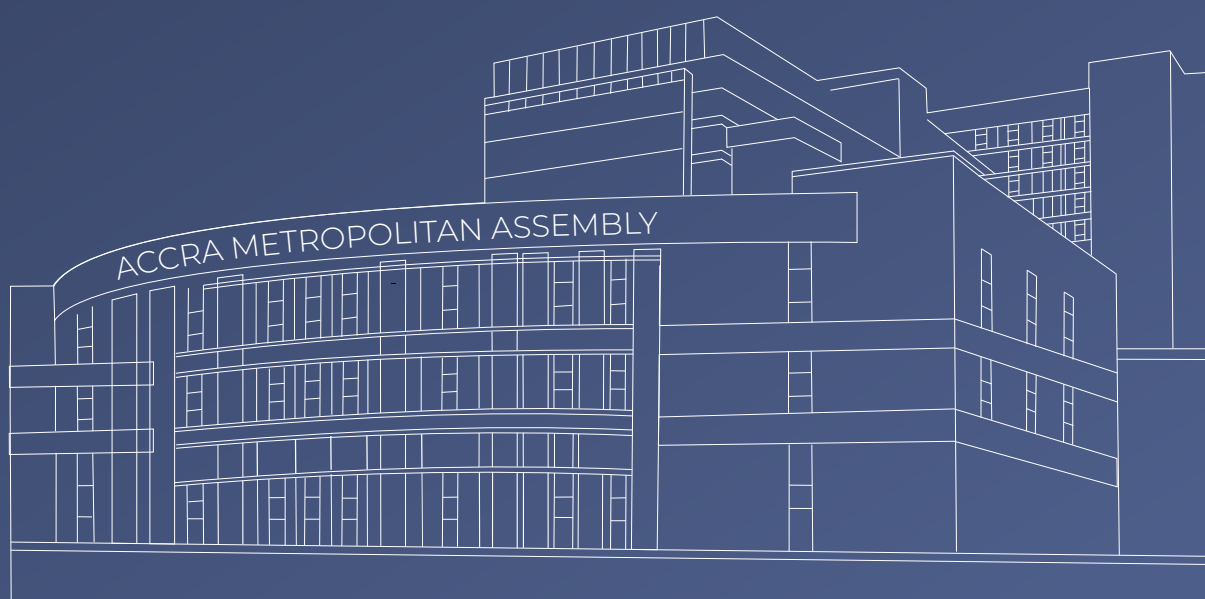


Figure 29. Map showing high-risk fatal crash corridors, 2019-2021



SECTION 2

Retrospective assessment of road traffic deaths and serious injuries in three referral hospitals in Accra, 2020–2021



A retrospective study was conducted to collect road traffic fatality and serious injury data from three major tertiary health facilities that provide post-crash care support to the most severely injured patients, in order to describe the epidemiologic profile of those fatally injured and to provide a basis for re-estimation of road traffic mortality in Accra.

The study was conducted at the Accident Centre and Mortuary Department of Korle Bu Teaching Hospital (KBTH); the Accident and Emergency Department of Greater Accra Regional Hospital (also referred to as Ridge Hospital); and the Trauma Surgical Emergency Unit and Mortuary Department of 37 Military Hospital. In all participating hospitals, the study included patients who reported to the hospitals from January 1, 2020, to December 31, 2021, with injuries related to a road traffic crash and were admitted at these health facilities and either discharged or died; or patients who died at the scene of a crash and were transferred to the hospital mortuary.

In total, there were 3,385 cases of road crash casualties at the three health facilities from 2020 to 2021. Of these, 3,115 casualties on admission were discharged, while 270 cases resulted in deaths (Figure 30). Of the total, 36% occurred within the boundary of Accra (Figure 31); for another 21%, the crash location was unknown.

Figure 30. Injuries and deaths at three major referral hospitals in Accra, 2020-2021

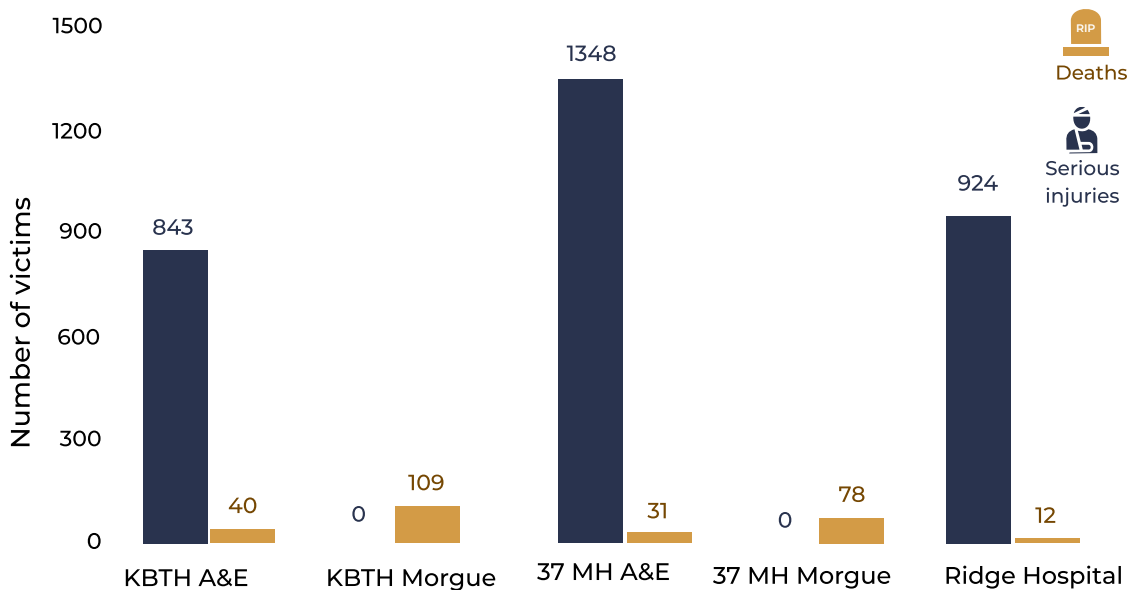
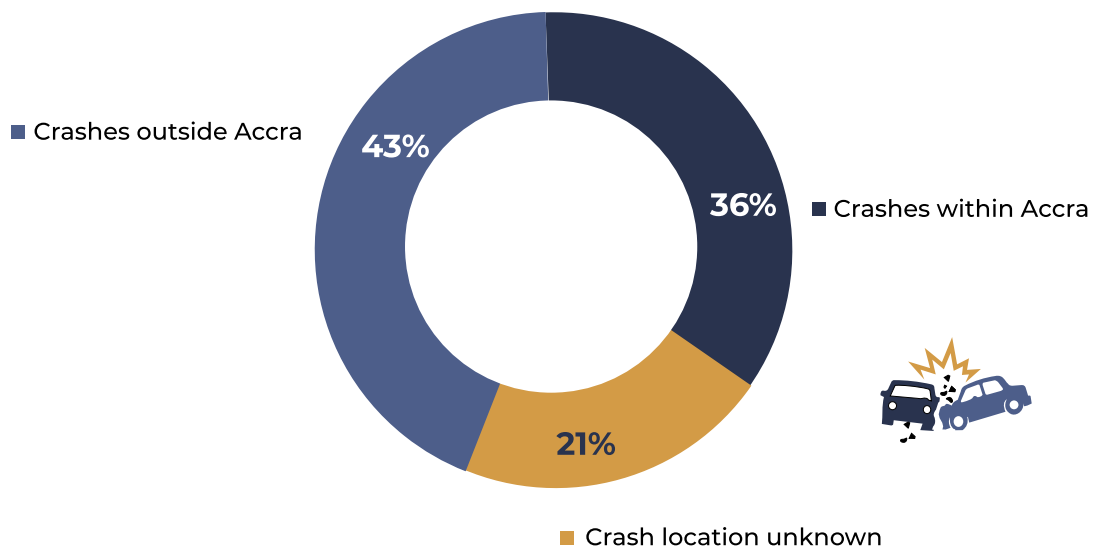


Figure 31. Proportion of hospital deaths from crashes within and outside Accra, 2020-2021



Hospital deaths and injuries by road user type

Hospital data on road traffic deaths and injuries by road user type showed a similar pattern to police records. The highest proportions of hospital-reported deaths and injuries were among vulnerable road users – pedestrians and motorcyclists (Figures 32 and 33).

Figure 32. Hospital deaths by road user type, 2020-2021

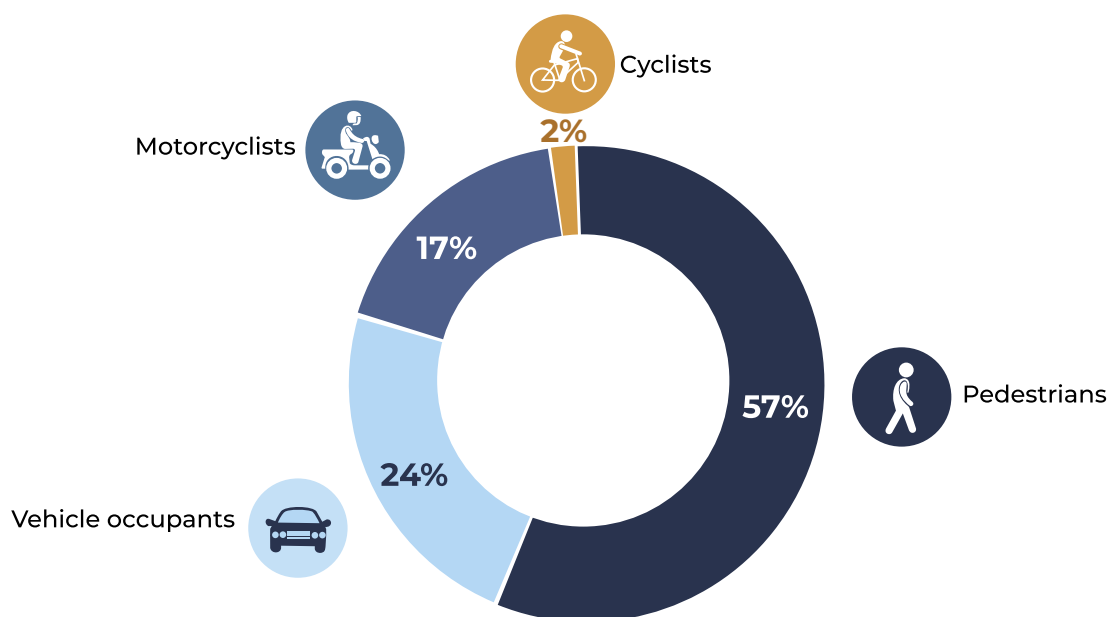
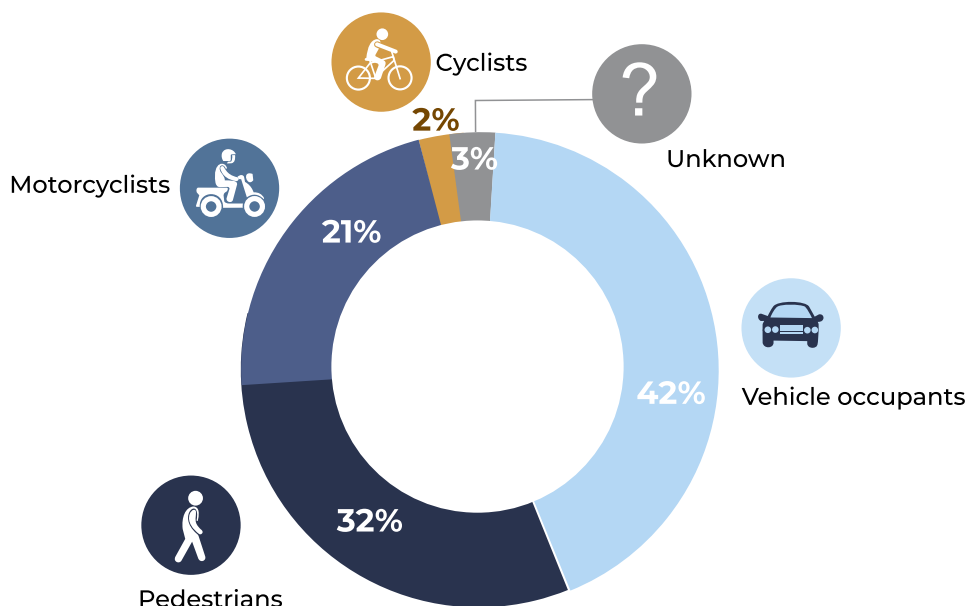


Figure 33. Hospital injuries by road user type, 2020-2021



Linkage of police crash reports and retrospective data from three referral hospitals in Accra, 2020 – 2021

Background

Police crash reports are the primary source of many city or national data systems for road injuries and deaths, however, there are significant limitations¹⁴. Underreporting is common and is usually higher for vulnerable road users like pedestrians, cyclists and motorcyclists¹⁵. To generate a more realistic estimate of road injuries and deaths, the World Health Organization (WHO) recommends using at least two independent data sources, including at least one health-sector source¹⁶.

Road traffic injury data from health facilities are therefore needed to re-estimate road injuries and deaths and to better describe the types and severity of injuries¹⁷. These data can also inform public health decision-making and road crash preventive measures.

In Ghana, existing data sources such as insurance records and the civil registration and vital statistics system are not reliable or readily available. Therefore, hospital records on road crash victims were matched to police crash records for the same period to obtain a more reliable fatality estimate. Previous studies have linked police and hospital data sources to re-estimate road crash fatalities in Accra¹⁸ and Ghana¹⁹. These studies suggested that the number of road traffic fatalities was about 2.7 times higher than official police-reported figures¹⁸.

Methodology

Ethical approval

Ethical approval was provided by the Institutional Review Board of KBTH, the Ghana Health Service–Ethics Review Committee (GHS-ERC), 37 Military Hospital Institutional Review Board and Ethics Advisory Group and the BRANY SBER Institutional Review Board on behalf of Vital Strategies.

Data analysis

Manual linkage to police fatal crash records was performed after the hospital chart abstractions were completed. Deaths due to crashes occurring outside Accra were excluded. Matching variables included name (allowing for spelling variation), date of crash or date of presentation to hospital (+/- two days), age and sex.

A capture-recapture approach was applied to estimate the number of road fatalities in Accra. Capture-recapture is an approach for providing estimates of an event based on cases that are captured by discrete data sources²⁰. The technique has been applied to a variety of epidemiological studies²¹, including road traffic morbidity and mortality^{22,23}. The capture-recapture approach in this study employed the use of the Chapman estimator²⁴. Data entry and analyses was completed at the AMA Data Unit.

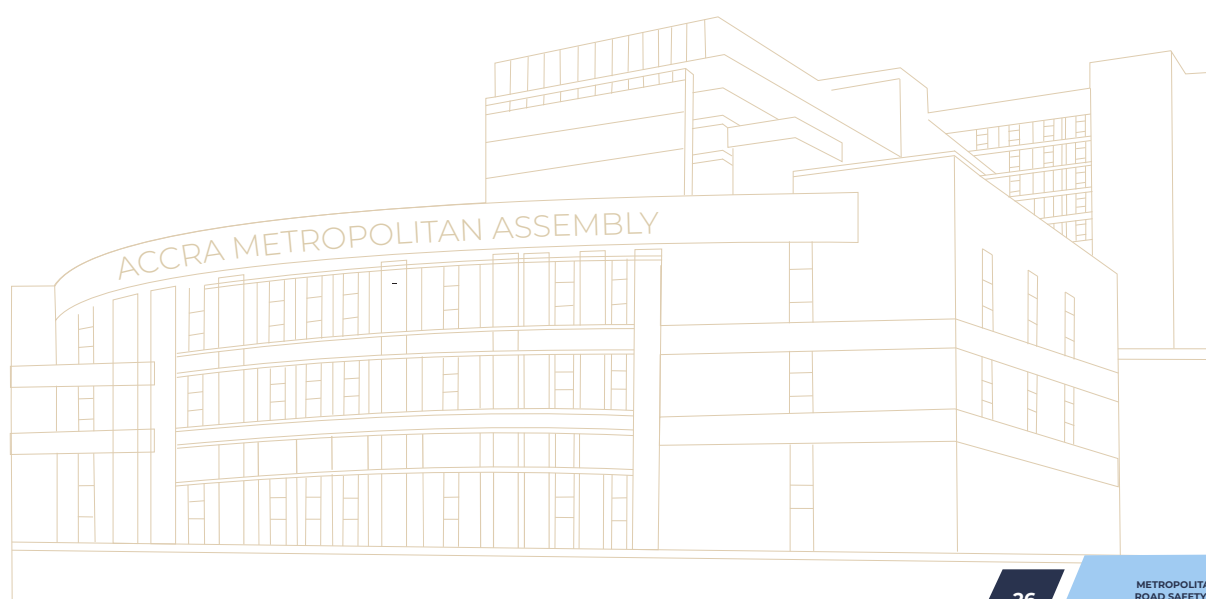
Results

From January 1, 2020 to December 31, 2021, the total number of road traffic deaths at the three hospitals was 270. Of these, 98 occurred within the AMA boundary and 116 outside the boundary, with the remaining 56 from unknown locations. The linkage and capture-recapture analysis included only those deaths in hospital records that followed crashes documented to have occurred in Accra.

A total of 45 cases in hospital records were linked to police records, yielding a 17% matching rate of police records. Table 5 shows the characteristics of victims of road deaths from police records only, hospital records only and linked cases.

Table 5. Characteristics of road traffic deaths in police only, hospital only and linked police data sets

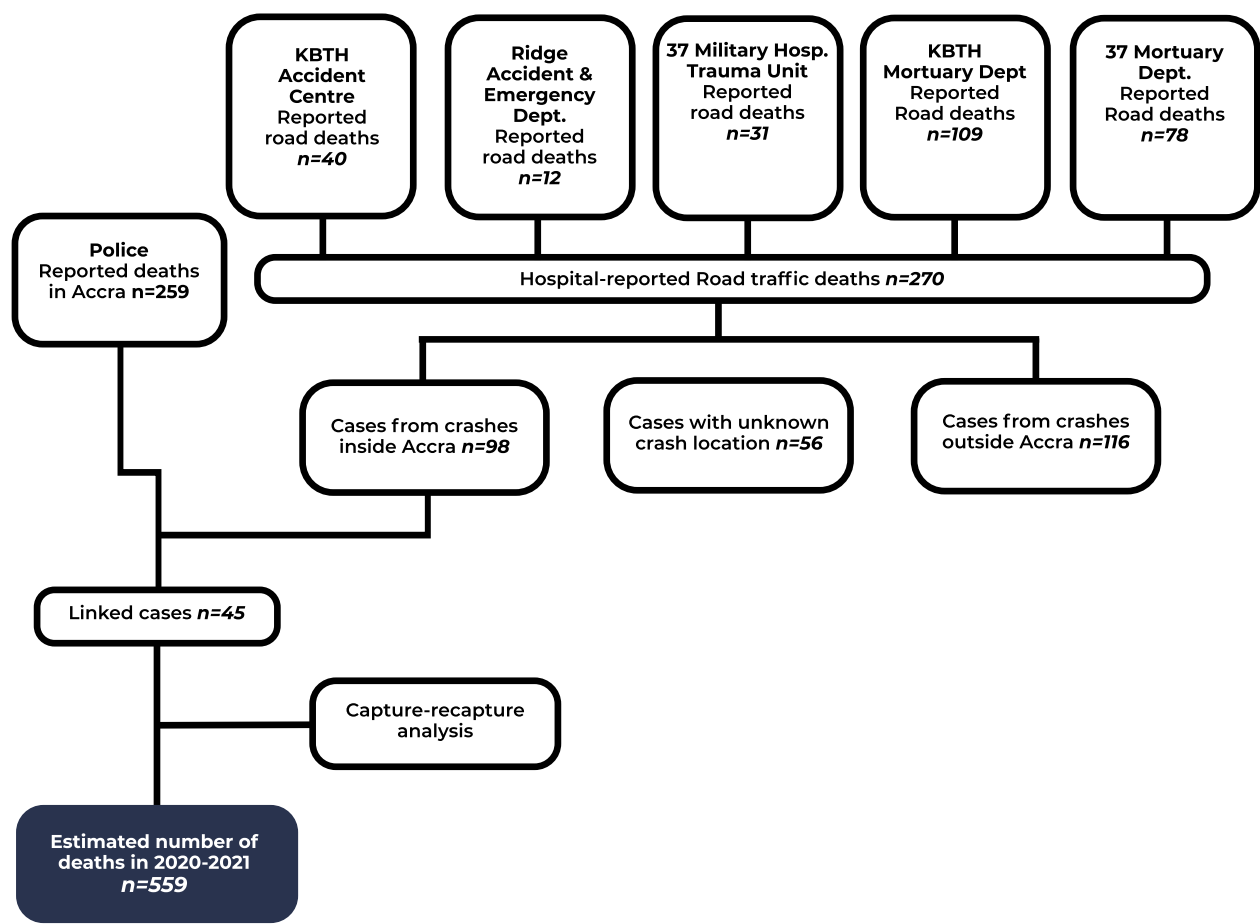
Characteristic	Police only		Hospital only		Linked		Estimated deaths (95% CI)
	n	%	n	%	n	%	
Total	259	100	98	100	45	100	559 (450 - 668)
Sex							
Male	221	85.3	80	81.7	37	82.3	472 (370 - 574)
Female	38	14.7	18	18.3	8	17.7	81 (45 - 117)
Age group							
0-19	29	11	11	11.2	7	15.6	44 (28 - 60)
20-39	113	44	49	50	24	53.3	227 (170 - 284)
40-59	66	25	28	28.6	12	26.7	148 (91 - 205)
60+	12	5	8	8.2	2	4.4	50(0 - 103)
Missing	38	14.7	0	0	0	0	38(-)
Road user type							
Motorcyclist	63	24	35	35.7	15	33	143 (96 - 190)
Vehicle occupant	44	17	18	18.4	10	22	77 (50 - 104)
Pedestrian	148	57	43	43.9	20	45	311 (219 - 403)
Other/Unkown	4	2	2	2	0	0	14 (-)



Results

Figure 34 shows a flow chart of reported road traffic deaths in Accra from both hospital and police records. Using the capture-recapture analysis, the estimated number of road deaths in Accra for 2020 and 2021 was 559 (12.6 deaths per 100,000 population).

Figure 34: Flowchart of reported road traffic deaths in Accra, 2020 - 2021



Discussion and comparison to the previous retrospective assessment

Data on casualties from road traffic crashes in the three trauma hospitals in Accra showed a similar pattern of deaths by road user group type reported by the police for 2020 and 2021.

The findings of the capture-recapture analysis suggest an underreporting of road traffic deaths in Accra particularly for vulnerable road users. Fatalities are estimated to be 2.1 times higher than police reports. This is somewhat lower but comparable to the previous assessment in Accra, which suggested that there were 2.7 times more road traffic deaths than official police reports¹⁸.

The findings reinforce the importance of linking multiple data sources to generate a more accurate estimate of the burden of road traffic deaths to inform planning and implementation of interventions in the health, transport, and enforcement sectors to reduce deaths and injuries from road traffic crashes.

Limitations

The study covered a limited geographical zone; therefore, extrapolating these estimates to other cities in Ghana should be done cautiously.

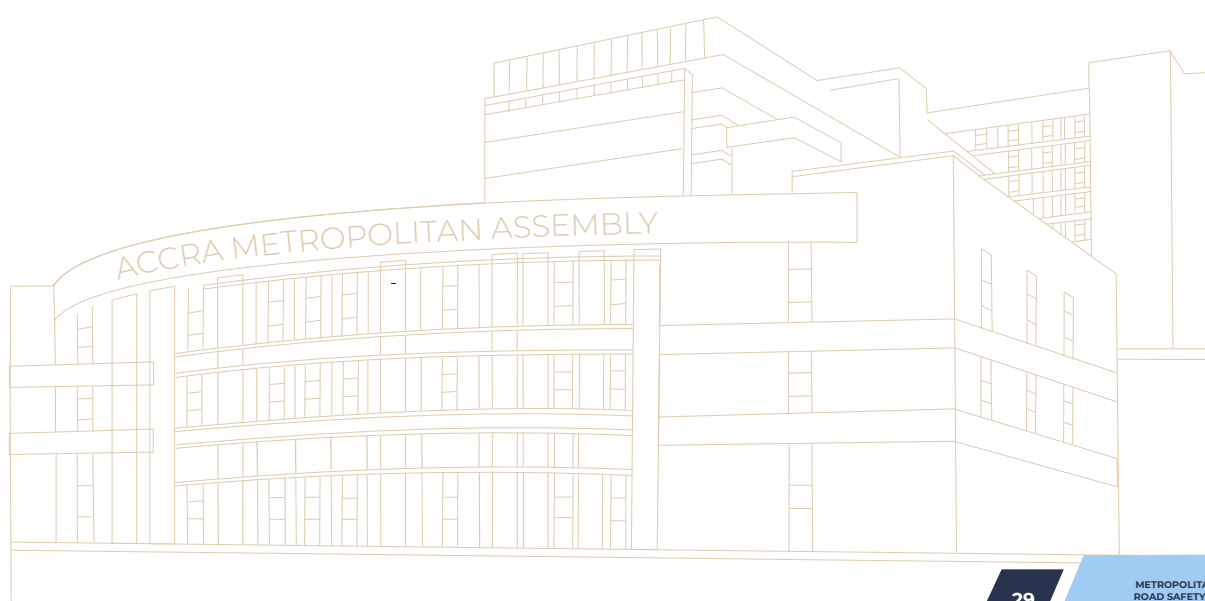
In addition, the process of checking for eligible cases varied among the three hospitals due to differences in documentation and storage of data, which may have led to some cases being missed. The proportion of unknown crash locations in hospital records was significantly higher than in the previous assessment. By excluding these cases, our estimation is a conservative estimate of mortality. If a nontrivial proportion of these unknown-location cases were in Accra, the estimation would be significantly higher, as the estimation method is very sensitive to the quality of case matching.

Conclusions and recommendations

Under reporting of road traffic deaths in police records underscores the importance of using complementary data sources to get better estimates of deaths to improve outcomes, and suggests that there are at least twice as many road traffic deaths annually in Accra than official statistics reflect.

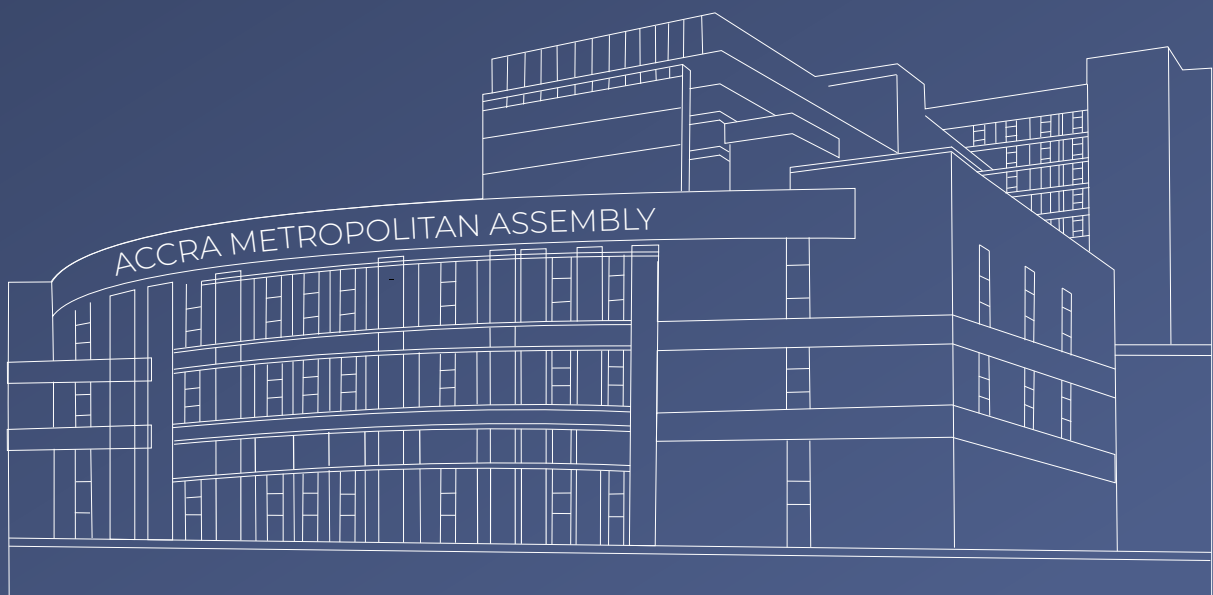
The following recommendations are meant to improve data collection systems and data linkage processes and ensure that quality data is used to drive road-safety interventions.

- Improve data collection systems in trauma hospitals in Accra to facilitate the documentation of reliable, standardized, accurate data for analysis, planning and decision-making. This would improve surveillance data quality and provide additional information on the burden of road deaths and injuries.
- Police and hospital staff should consider documenting a unique identifier (e.g., national identification number) of victims/patients if available to improve data linkage processes and facilitate analyses and reporting.
- Linkage of hospital and police data should be periodically done to assess the level of underreporting of official crash records and to get realistic estimate of the number of victims who are fatally or seriously injured in road crashes, since the burden of road crashes has significant social and economic implications at the individual, household, institutional and national levels.
- Road infrastructure enhancement, enforcement, education and other essential interventions to improve road safety should focus on groups who are most vulnerable of death or injury in road crashes using multiple data sources – both hospital and police records.



SECTION 3

Behavioural risk factors of road crashes in Accra



As part of the global road safety surveillance activities, Johns Hopkins International Injury Research Unit (JH-IIRU) conducts observational surveys on selected road corridors in the city. The main goal of these studies is to assess the prevalence and trends of key road injury behaviours – speeding, helmet use, seat-belt use and drink driving. Due to COVID-19, drink driving was not assessed in the most recent survey. Helmet and seat-belt use was not assessed in the most recent round of observations. Standardized observational protocol and data collection materials were used in the studies. The latest findings in Accra are presented below.

Speeding

Globally, speeding remains the main risk factor for severe road crashes²⁵. Recent data for Accra shows that overall speeding has increased from 50% in 2021 to 51% in 2022 (Figure 35). Motorcycles top the list of vehicles observed to be speeding over the posted limit (Figure 36). A similar pattern was observed in 2019 and 2020⁹. This could be attributed to high patronization of motorcycle for commercial purposes — courier services and pillion rider destination-oriented trips during traffic congestion periods. Speeding among lightweight vehicles (sedans/saloon/SUV/4WD) increased in 2021 over the previous year.

Figure 35. Percent distribution of vehicles speeding over the limit

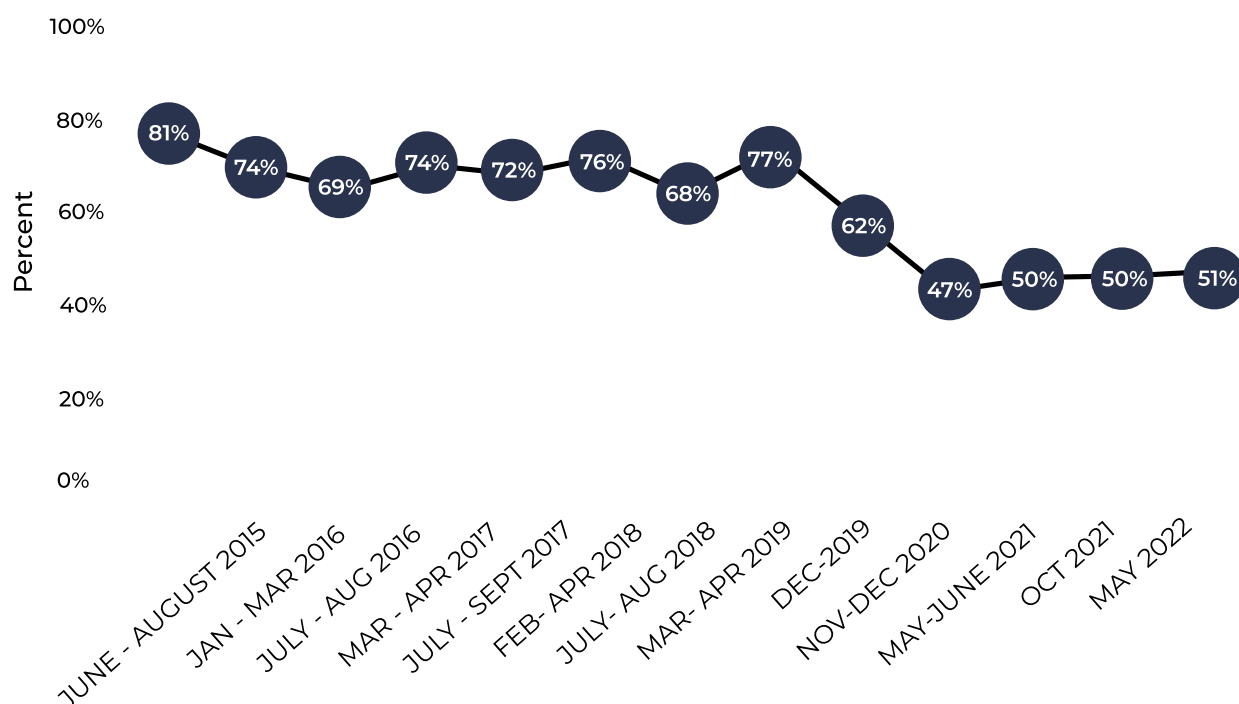
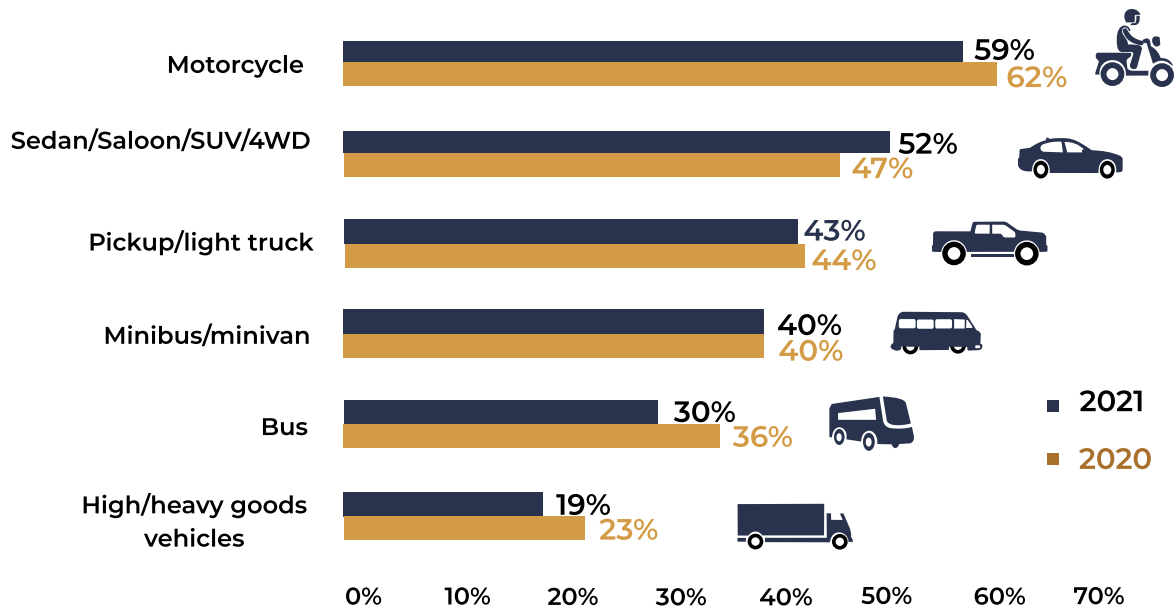


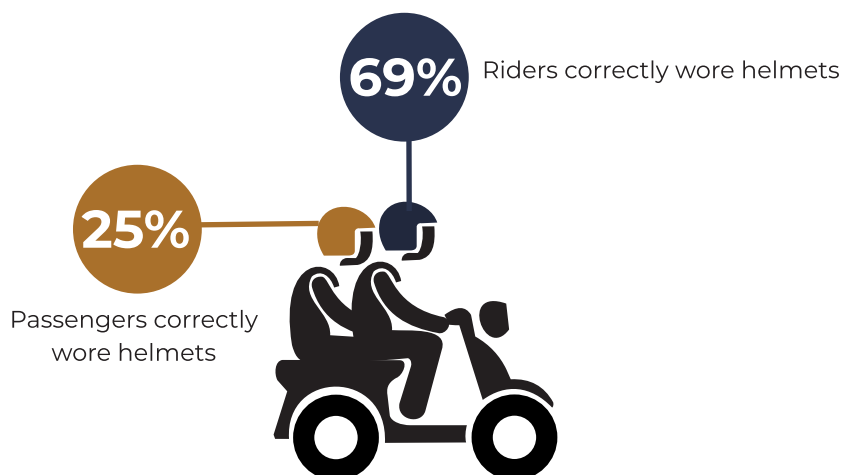
Figure 36. Observed speeding by vehicle type, 2020 - 2021



Helmet use

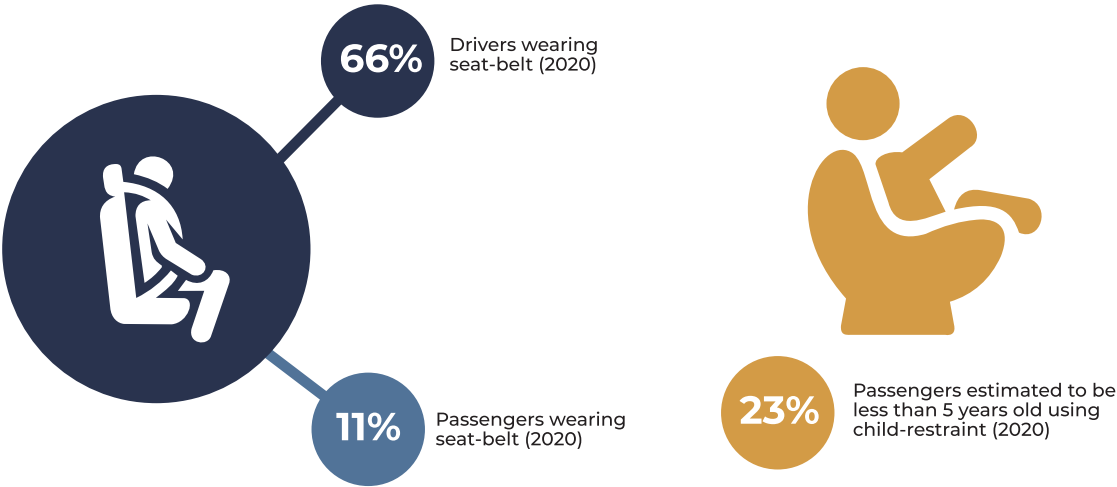
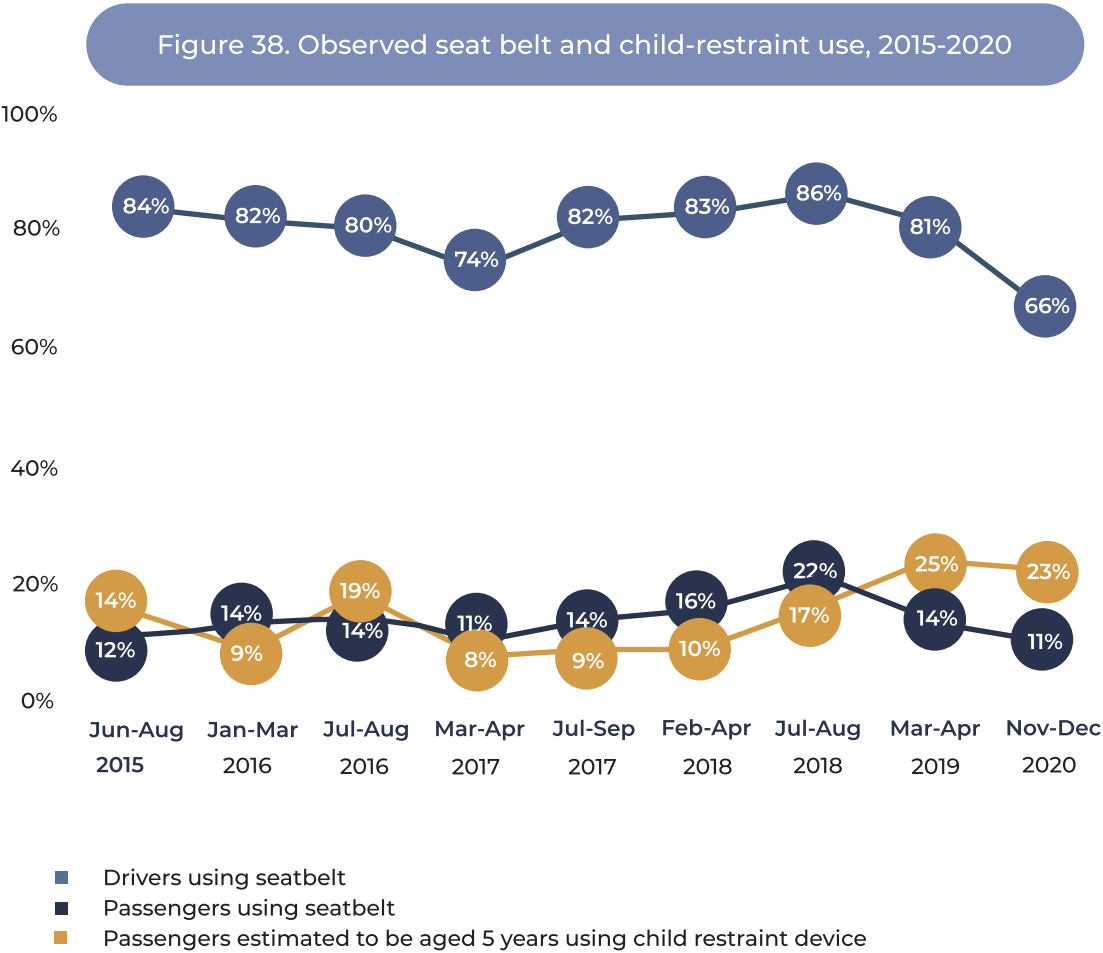
Correct use of a standardized helmet reduces the risk of head injury among motorcyclists in the event of a crash. Correct helmet use requires the complete wearing of helmet secured with a chin strap²⁶. Wearing an unfastened or loosely fastened helmet is regarded as incorrect use. Figure 37 shows the rate of correct helmet use in 2020.

Figure 37. Correct helmet use among motorcycle drivers and passengers, 2020



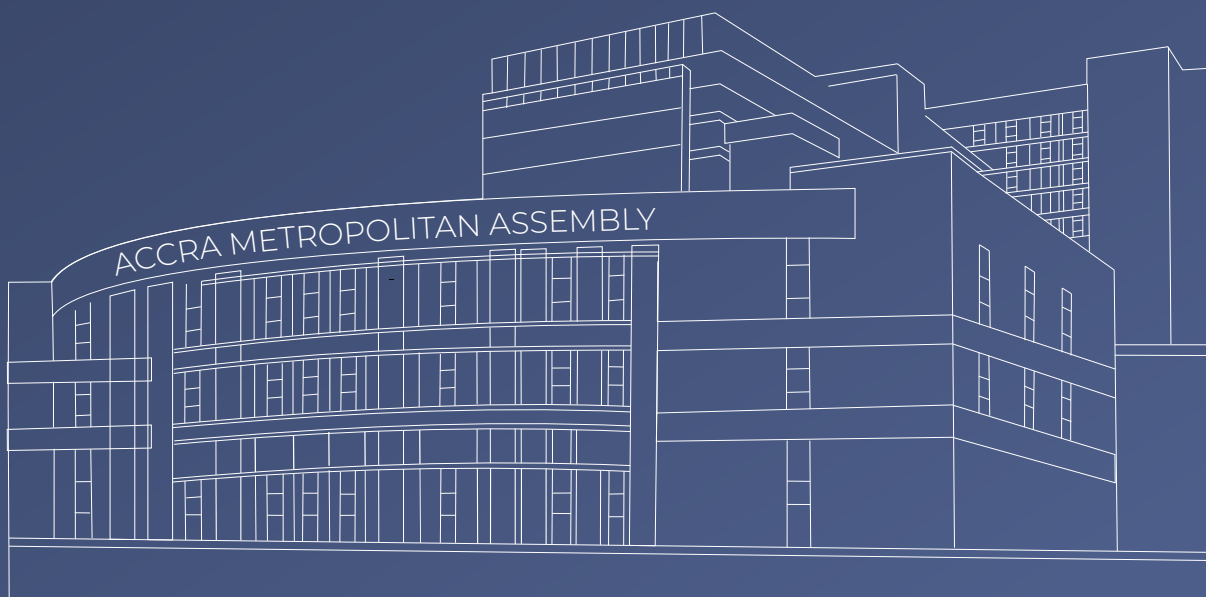
Seat-belt and child-restraint use

Seat-belt use among drivers and adult passengers has declined since August 2018, when the highest proportion of seat belt use was recorded (Figure 38).



SECTION 4

Selected implemented actions to improve road safety in Accra



Safer streets and mobility

Implementation status — iRAP/WRI assessments and inspections.

A speed inventory and road assessments were carried out on the N1 (between Tetteh Quarshie and Mallam) and on the N6 (between Apenkwa and Pokuase). This assignment, in collaboration with the World Resources Institute (WRI) and International Road Assessment Programme (iRAP), highlighted the absence of speed limit signs. 28 units of 50km/h and 2 units of 80km/h speed signs have so far been installed.



Collaboration with National Road Safety Authority

AMA collaborated with the National Road Safety Authority (NRSA) to deliver a three-day sensitisation workshop to train road safety inspectors to conduct specific road inspections and make recommendations for improvement.



Training session by Ing. Samuel Boamah Danquah

Speed Management

An ongoing effort by the road agencies to manage speeding has led to the construction of speed humps and the installation of related warning and mandatory signs in the city.



Safety Enhancement on The Nii Adja Kwao Road (London Market Street)

Under WRI's tactical urbanism programme, a detailed assessment has been undertaken to enhance safety on the 340km “Nii Adja Kwao Road/ London Market Street” in James Town, Accra. The proposed interventions are shown below, awaiting implementation.



-  Rumble strips
-  Raised pedestrian crossing
-  Intervention

Enforcement

The MTTD of the Ghana Police Service and the Metropolitan Guards received technical support from the Global Road Safety Partnership to improve enforcement activities, especially on speeding.



Road policing leadership training workshop



Data led enforcement training workshop



Speed enforcement training workshop



Road crash investigation and data collection workshop

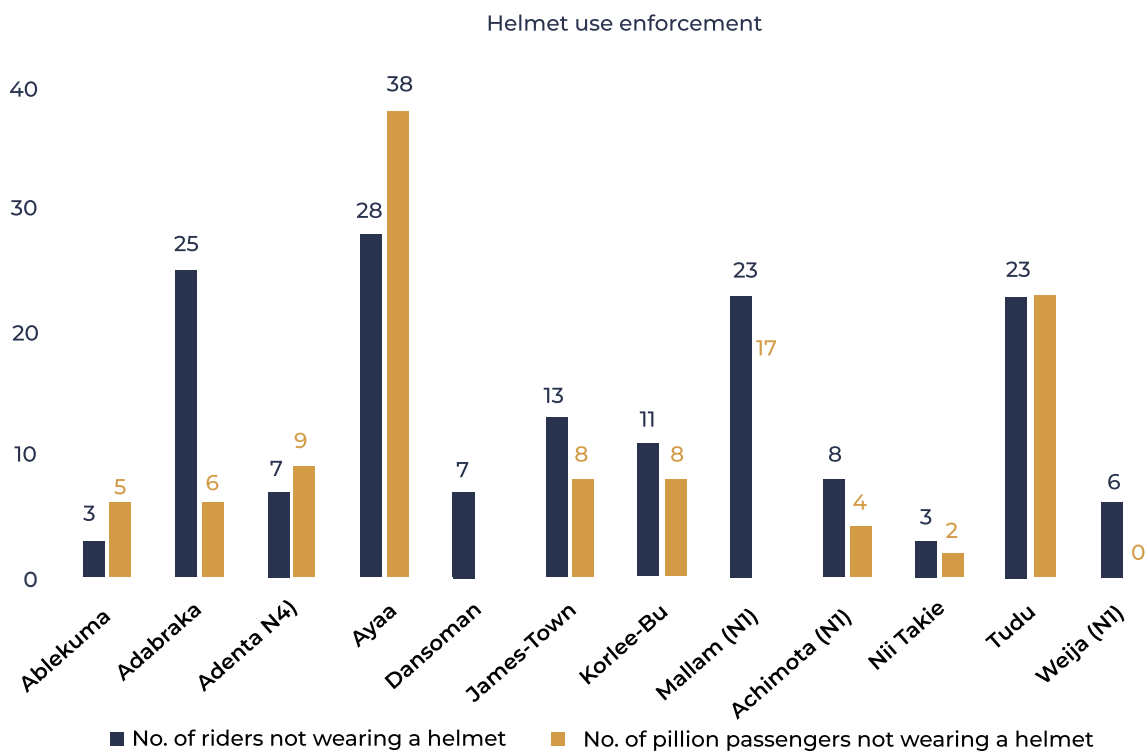
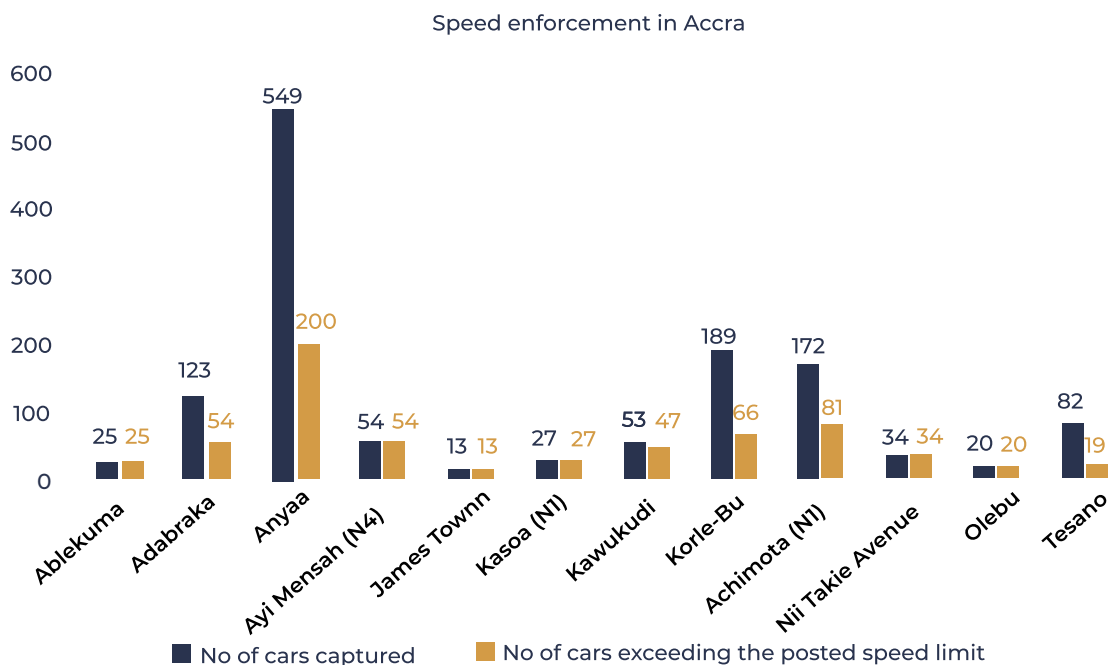


Speed enforcement along the N4 (Ayi Mensah)



Speed enforcement along George W. Bush Highway (N1)

The graphs show speed and helmet use enforcement activity conducted in Accra and its environs.



Communication

Mass media campaign

AMA/BIGRS in collaboration with the National Road Safety Authority embarked on a national mass media campaign focused on speeding. The campaign, called “The Surgeon,” targeted male drivers 18 to 29 years old.



Road crash victims remembrance day

The World Day of Remembrance for Road Traffic Victims was commemorated in Accra with a visit to the Greater Accra Regional Hospital (Ridge). Led by the Mayor of Accra, the team visited some road crash victims on admission at the hospital and donated groceries and hospital supplies to the victims.



The mayor and health staff interact with a road crash victim at Greater Accra Regional Hospital (Ridge)



The mayor donates care items to victims at Greater Accra Regional Hospital (Ridge)

Strategic Planning Meeting

A strategic planning meeting was held to offer stakeholders a platform to discuss road safety communication to emphasise speeding as a major risk factor for road crashes. The meeting's aim was to aid the strategic planning and implementation of the upcoming mass media campaign.



Journalist Training

As part of the launch of the mass media campaign, a workshop was held to train journalists on road safety reporting to enhance their skill on the subject.



News editors' forum

A discussion forum was held for news editors to discuss issues pertaining to road safety. The aim of this forum was for road safety stakeholders to meet with news editors to enlighten them on current road safety issues while providing answers to some questions from the news editors.

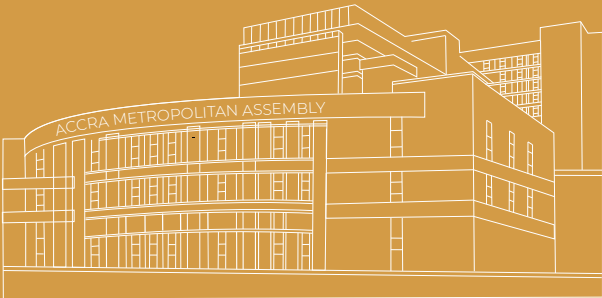


Road injury surveillance system strengthening



- Trained city personnel on:
1. Extraction of data from police crash records
 2. Identification of crash locations

Engagement with staff of three referral hospitals in Accra on the retrospective assessment of road traffic deaths and injuries. The study linked hospital records to police records to re-estimate the number of road traffic deaths in the city.



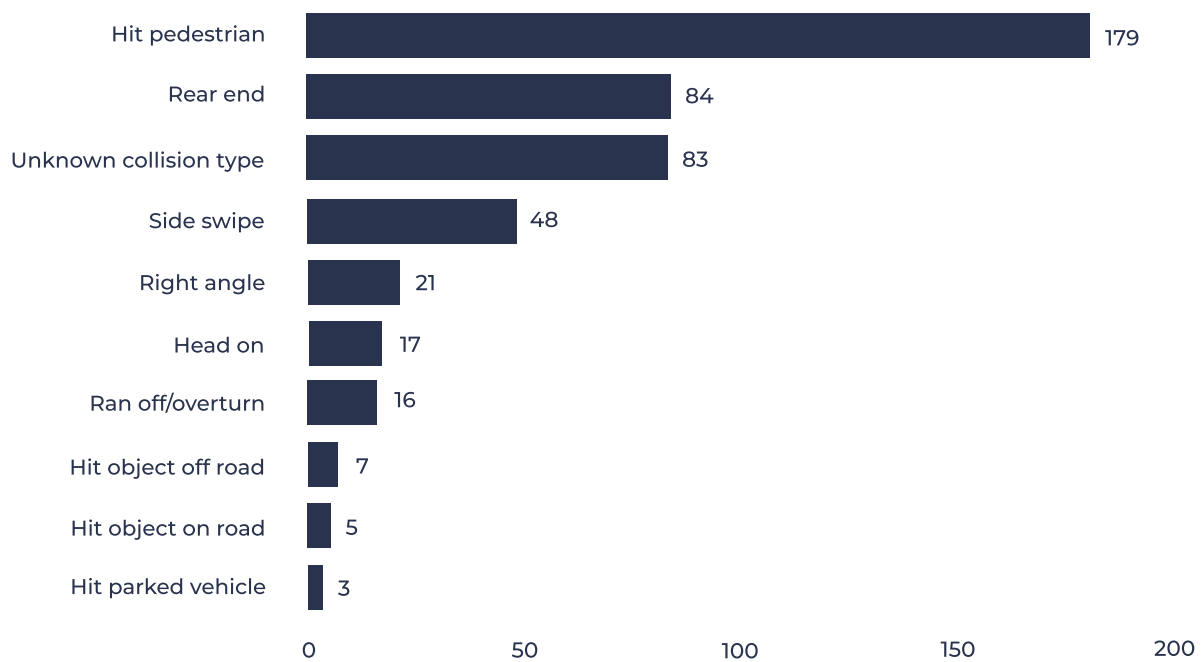
Reference

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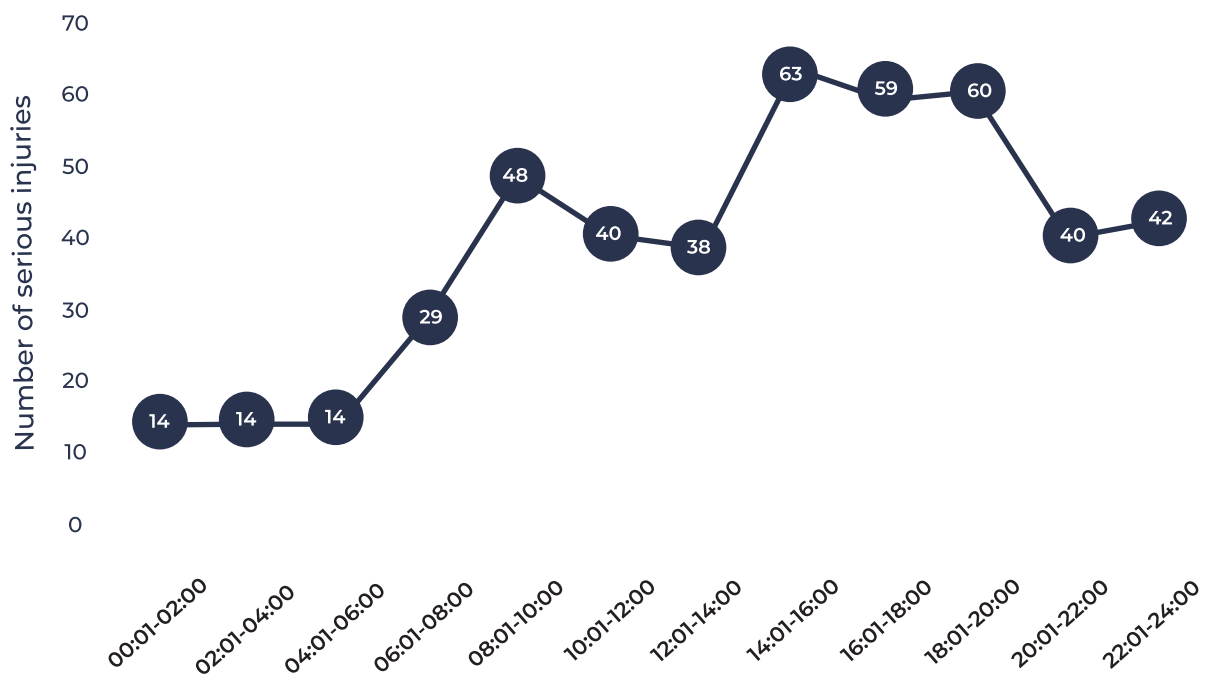
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Appendices

Appendix 1. Serious injuries by collision type, 2021



Appendix 2. Serious injuries by time of day, 2021



Appendix 3. Crashes and Serious injuries by day of week and time, 2021

Crashes by day of week and time, 2021*

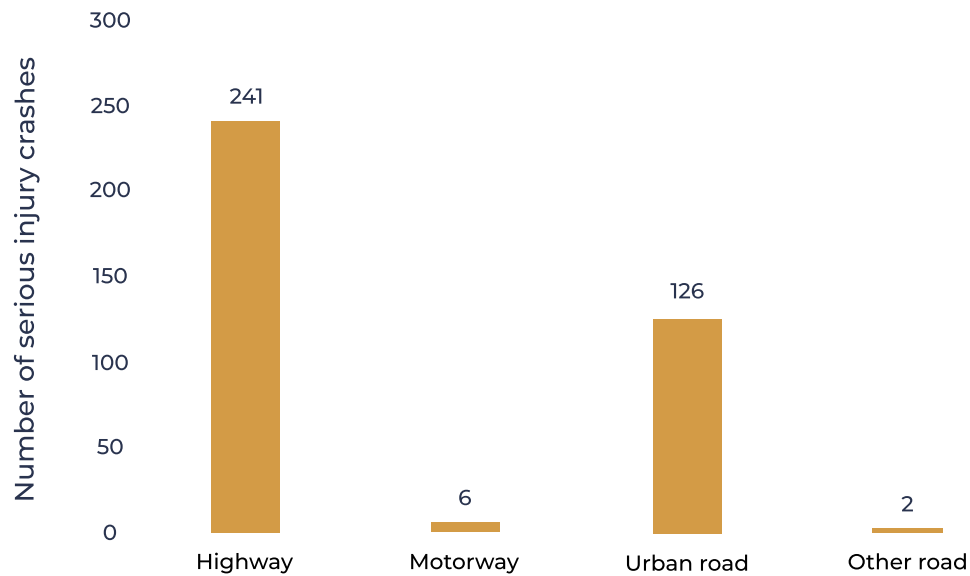
Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
00:01 - 04:00	11	6	7	19	9	23	12
04:01 - 08:00	31	25	35	24	38	31	23
08:01 - 12:00	71	70	65	49	55	43	42
12:01 - 16:00	82	69	65	48	65	51	61
16:01 - 20:00	55	71	60	59	66	47	54
20:01 - 24:00	30	26	36	31	39	48	44
Total	280	267	268	230	272	243	236

*Crashes without a timestamp are excluded from this table.

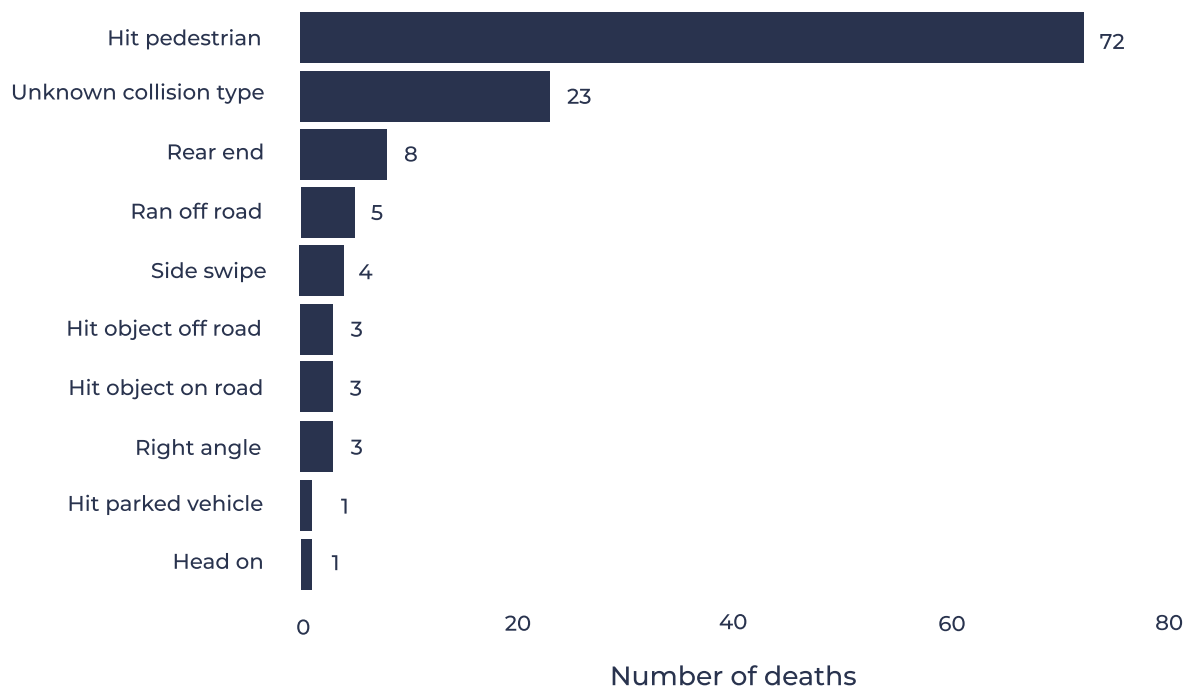
Serious injuries by day of week and time, 2021

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
00:01 - 04:00	7	1	3	5	1	8	3
04:01 - 08:00	6	6	8	5	8	8	2
08:01 - 12:00	19	12	11	10	16	4	16
12:01 - 16:00	21	12	9	11	21	9	17
16:01 - 20:00	14	14	16	24	18	17	16
20:01 - 24:00	9	9	20	9	6	14	15
Total	76	54	67	64	70	60	69

Appendix 4. Serious injury crashes by road classification type, 2021



Appendix 5. Death by collision type, 2021



GLOBAL PLAN

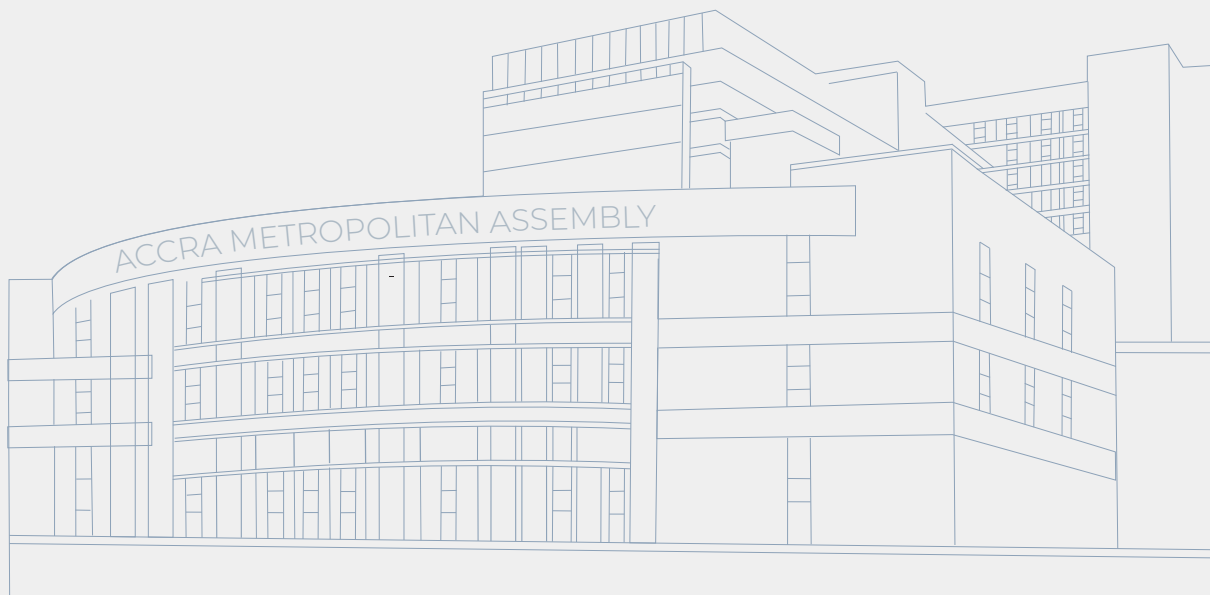
DECADE OF ACTION FOR ROAD SAFETY
2021-2030

UN General Assembly Resolution 74/299 declared a
Decade of Action for Road Safety 2021-2030,
with the target to reduce road traffic deaths & injuries

**BY AT
LEAST 50%** during that period

The **Global Plan** describes what is needed to achieve that target, and calls on governments & partners to implement an integrated

SAFE SYSTEM APPROACH





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