

PEDESTRIAN ROAD SAFETY ACTION PLAN FOR THE ACCRA METROPOLITAN ASSEMBLY

2018 - 2022

DECEMBER 2017



FOREWORD



Pedestrian fatalities within the Accra Metropolitan Assembly (AMA) have increased over the last three years. Between 2013 and 2015, pedestrian deaths as a proportion of all traffic deaths increased by 9%, while car occupant deaths fell by the same proportion. A number of factors contribute to this, and it is imperative that there is a collaborative and strategic plan to arrest this situation. A plan that all actors will adhere to [in order] to reverse such unfortunate statistics.

My vision is to create a safe, smart, sustainable and resilient modern city. One of the objectives set to achieve this vision is to reduce traffic fatalities and save lives

through the provision and implementation of a Pedestrian Safety Action Plan. By providing a safe walking environment, mobility will increase, lives will be saved and economic activity will increase due to improved access to various opportunities. This plan, developed with the support of our partners from the Bloomberg Initiative for Global Road Safety, AMEND Road Safety Ghana and other local stakeholders, will be coordinated by the Accra Metropolitan Assembly with the co-ownership of the Department of Urban Roads, Ghana Highway Authority and the National Road Safety Commission. It will also involve other stakeholder agencies such as the Ghana Police Service and other Non-Governmental Organisations. The Plan will also support the implementation of Ghana's National Road Safety Strategy III and its current action plans.

As part of this plan, specific interventions, key stakeholder support, and an implementation scheme with timelines have been developed. This has the potential for other collaborative efforts to address specific aspects of the pedestrian safety challenge that the city of Accra faces.

Let us all challenge ourselves to enhance pedestrian safety within the city because irrespective of the different trips we undertake, we are all at one point or the other, PEDESTRIANS.

A handwritten signature in blue ink, appearing to be 'MS', enclosed within a circular flourish.

.....
Hon. Mohammed Adjei Sowah,
Mayor of Accra.

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LIST OF ABBREVIATIONS AND ACRONYMS

AMA	Accra Metropolitan Assembly	HGV	High Goods Vehicle
BIGRS	Bloomberg Initiative for Global Road Safety	iRAP	International Road Assessment Program
BRRI	Building and Road Research Institute	MTDD	Motor Traffic and Transport Department
CBD	Central Business District	NRSC	National Road Safety Commission
CSCI	Composite Street Connectivity Index	OECD	Organization of Economic Cooperation and Development
DUR	Department of Urban Roads	UN	United Nations
GA	Greater Accra	WHO	World Health Organization
GHA	Ghana Highway Authority	WRI	World Resources Institute

INTRODUCTION

Walking is an integral form of transport for many, if not most in Ghana, including Accra. Yet walking, as a mode of transport often is not prioritised as compared to the other modes of transport in city planning, street and road design, and particularly road safety. In Ghana, traffic deaths take the lives of about 1,800 people annually, with over 40 percent of these deaths being pedestrians¹. Pedestrians are vulnerable road users, meaning they are easily susceptible to serious injury or death in traffic crashes.

Accra's most populous and central municipality, the Accra Metropolitan Assembly (AMA) has an estimated 1.99 million residents². According to the National Road Safety Commission (NRSC), the number of reported traffic fatalities in the AMA was 217 in 2015, giving a traffic fatality rate of 13 fatalities per 100,000 residents³. The actual traffic fatalities may be much higher when considering underreporting and deaths occurring within 30 days after the crash⁴. Nevertheless, the NRSC data indicates that within the AMA,

pedestrians accounted for 64 percent of reported traffic fatalities in 2015 and 69 percent of fatalities between 2011 and 2015. Children are particularly vulnerable. In Accra, walking-only trips make up over 10 percent of all trips, and when additional walking trips such as those connecting to public transport are taken into account, over 70 percent of trips involve some walking⁵. Walking is the main, and perhaps only way for residents to access public transport, mostly trotros. However, as the data shown in this report indicates, there is often little or no infrastructure provided for pedestrians, and the average vehicle speed in the city is over 70km/hr⁶. At this speed, a collision between a vehicle and a pedestrian is likely fatal for the person walking⁷. The Accra Metropolitan Assembly seeks to make a safe and sustainable city, as well as one that provides quality public spaces. Reducing the exposure to risk by improving pedestrian spaces and managing speeds could rapidly improve pedestrian safety and reduce fatalities in the AMA. Providing a

¹ Road Traffic Crashes in Ghana: Statistics 2015, Ministry of Transport, National Road Safety Commission (NRSC), Building and Road Research Institute (BRRI), 2016, p.30

² Accra Metropolitan Assembly Department of Planning, 2017.

³ City Data Compilation: Accra, Bloomberg Initiative for Global Road Safety, May 2017. Prepared by Johns Hopkins University based on traffic collision data from the NRSC and BRRI and population data from the Population and Housing Census. This system involves visits by BRRI staff to police stations to extract data from police crash report files onto standardized data collection forms, and entry into an electronic data management system.

⁴ For instance, the WHO has estimated that traffic fatalities for Ghana may be 300 percent higher than those reported.

Global Status Report on Road Safety, World Health Organization (WHO), 2010, p.138

⁵ Lives Saved Report, 2017, Bloomberg Initiative for Global Road Safety. Prepared by WRI

⁶ Monitoring and Evaluation Round Three Report, Bloomberg Initiative for Global Road Safety, July-August 2016

⁷ OECD. 2006. Speed Management. Organization of Economic Cooperation and Development and European Conference of Ministers of Transport.

safe walking environment will save lives and help Accra grow as a sustainable city as neighbourhoods develop to provide mobility and access to opportunities for residents.

For this reason, the Accra Metropolitan Assembly is initiating a Pedestrian Safety Action Plan described in this report. The plan was prepared and acts as an action plan for the myriad agencies involved in safety in the AMA, including the Accra Metropolitan Assembly, the Ministry of Roads and Highways through the Department of Urban Roads and Ghana Highways Authority, and the National Road Safety Commission (NRSC), in addition to the Police MTTD, the AMA Department of Education, Department of Health and others.

The plan was coordinated and led by the Accra Metropolitan Assembly, through the Mayor's office and the AMA Department of Transport. This plan is also aligned with and supports the Ghana National Road Safety Strategy III and its current Action Plans.

A Safe System for Road Safety in the AMA

The Accra Pedestrian Action plan embraces a strategy to road safety known as safe systems. The safe systems approach is centred on the following basic principles:

- Traffic fatalities and injuries should not be an acceptable outcome of the mobility system
- Human beings will make errors, and the mobility system should be designed to be “forgiving” of this – to reduce the chance for a traffic collision to happen, and the severity if it does
- The people who regulate, design and

operate the mobility system have a responsibility to create a forgiving system that provides safe infrastructure and vehicle speeds for all types of road users

- People walking, bicycling and riding motorcycles are the most vulnerable users of the road and special consideration must be given to their needs
- An integrated approach to safety should proactively address safety in all elements of the mobility system through a variety of different means.

All road user's lives are important, and improving a whole set of issues in Accra will be necessary to eliminate traffic deaths from city streets over the long term. An integrated approach which coordinates enforcement, planning and street design, education for both road users and mobility system operators, and use of data to inform and evaluate interventions is more likely to have a fast and long term impact on reducing fatalities and serious injuries than a focus on education or enforcement activities in isolation.

This plan is an initial step towards addressing the needs of the most vulnerable group on the city's roads. However, efforts to improve pedestrian safety, such as speed reduction, traffic calming, improved enforcement and other actions contained in the report, will support the improvement of safety for all road users.

One of the key constructs of a safe systems approach to traffic safety is the need for a lead agency, as well as institutional coordination. In Accra, there is a need among the different agencies responsible for roads and safety to come together to address the road safety problem. It is one of the main

reasons for creating this plan, and within it, a framework for agency coordination is addressed.

In addition to this, the NRSC has a National Road Safety Strategy III (2011-2020) which has a corresponding action plan (2015 – 2017) detailing the following pillars.

Pillar 1: Improved Road Safety

Management: Encourage the creation of multi-sectoral partnership under the leadership of the NRSC to implement NRSS III.

Pillar 2: Safer Roads and Mobility:

Enhance the safety of all road users, especially the vulnerable like pedestrians, cyclists, children and the physically challenged on national and local road networks.

Pillar 3: Safer Vehicles: Ensure sustainable enforcement of vehicle standards and encourage use of improved technology

Pillar 4: Safer Road Users: Develop and implement coordinated and comprehensive programmes and activities to improve road user behaviour.

Pillar 5: Post Crash response: Improve responsiveness to post-crash emergencies and also enhance the capability of the National Health Care delivery system to provide appropriate emergency treatment and long term rehabilitation for crash victims.

Traffic Crashes and Transport in Accra

1. SCOPE

This section presents an analysis of the data that is available, to demonstrate the importance of taking road safety action focused on pedestrians⁸. It includes fatality data from the NRSC, data on the key risk factor for pedestrians of speed prepared by Johns Hopkins, an evaluation of the safety level for pedestrians on key roads by the International Road Assessment Program (iRAP), and a street connectivity evaluation from UN-Habitat as well as information on public transport and private vehicle fleets. Where AMA specific data was not available, data from Greater Accra or Ghana as a whole has been substituted. In addition, where specific data was not available, the plan draws upon research on where traffic fatalities and serious injuries typically take place in cities, and what groups, such as children, may be vulnerable. The data presented here makes the case for action to provide safer roads for people walking in the AMA. Further data such as additional road evaluations from iRAP, traffic volumes, school locations and public transport rates will be used to inform individual interventions identified in this plan.

The target area for this Action Plan is the Accra Metropolitan Area (AMA) which falls under the jurisdiction of the Mayor of Accra and the Accra Metropolitan Assembly. The AMA has an estimated population of 1.99 million people and an area of 137km² in a continuous urban and suburban area. It is distinct from Greater Accra Region (GA), one of Ghana's 10 administrative regions, which has a population of 2.9 million people and an area of 3,245km². The GA

⁸ The Action Plan recognizes that the quality of data is variable and may be significantly under reported. Even so, it provides valuable context to give a broad view of the safety status of people walking in the AMA, the risks they face and the difficulty in avoiding these risks, and the urgent need to address these through the provision of pedestrian infrastructure and speed control.

encompasses smaller towns and rural areas as well as the AMA (Figure 1). Over recent years the boundaries of the AMA have been adapted, and for this reason differences are noted between recently published road safety data and older data. Wherever possible, data is provided for the AMA in accordance with its current boundaries. The Greater Accra (GA) region is another common area of delineation for statistics. Data is sometimes provided based on this area when not available for the AMA.



Figure 1. Map showing the Accra Metropolitan Area and Greater Accra Region

The Pedestrian Action Plan in relation to the National Road Safety Action Plan

Through its focus on improving pedestrian safety in the AMA through targeted interventions, this Plan is aligned with and supports the Ghana National Road Safety Strategy III (NRSS III) and its current Action Plan, which has a stated focus on pedestrian safety improvement. The NRSS III covers the period 2010-2020 and aimed to halt growth in road traffic fatalities and injuries by 2015, and then reduce it by 50 percent by the end of 2020, through directions and policy actions. This is in accordance with the UN Global Plan for the Decade of Action for Road Safety 2011-2020⁹. The current Action Plan for the NRSS III for the period 2015-2017 has the objective “to give high priority to pedestrian safety, passenger safety, motorcycle safety and heavy goods vehicle safety interventions.” Like this Plan for the AMA, it highlights the fact that “road users with the largest share of fatalities are pedestrians...” It also notes that “it is apparent that any effective strategy for fatality reduction in urban areas would have to aim largely at providing safer pedestrian crosswalk facilities.” In its summary of activities, the Action Plan states that “the key areas of pedestrian safety addressed in the Action Plan involves the installation of traffic calming measures, provision of pedestrian safety facilities such as crossing aids, guard rails etc and education both for the public and personnel of the MTTD [Motor Traffic and Transport Department].”¹⁰

2. WALKING TRIPS IN THE AMA

Even though AMA specific data was not available, it is reported that walk-only trips within the Greater Accra Region is 12 percent of all travels. In addition, public transport trips make up 62 percent of journeys¹¹. As these tend to begin and end with a connection on foot, this indicates that over 70 percent of the AMA’s residents probably walk for at least some part of their daily travel (Figure 2). Over 21,000 people have a sight-related disability and over 10,000 people have a physical disability¹², which may present them with even greater challenges for safety and mobility. Furthermore, 11 percent of the population are under five (5), while nearly one third (28 percent) of the population percent are of school going age; 5-19¹³. According to the WHO, “...child pedestrians are among the most vulnerable road users in sub-Saharan Africa. This is because, compared to their school-going peers in other regions, they are more likely to walk to school, and do so over long distances on roads that put them in dangerous proximity to traffic.”¹⁴ Traffic fatalities are in the top five causes of death for children over five years old in many African countries¹⁵. One study found that 90 percent of children in Accra walk to school, most of them are unsupervised by adults (Figure 3)¹⁶. This results in a high exposure to risk amongst children. Another study found that road traffic injuries are a major cause of childhood disability in the Greater Accra region¹⁷.

⁹ National Road Safety Strategy III, National Road Safety Commission, Ghana, 2011

¹⁰ Action Plans of the National Road Safety Strategy III, National Road Safety Commission, Ghana, 2015-2017

¹¹ Lives Saved Report, 2017, Bloomberg Initiative for Global Road Safety. Prepared by WRI

¹² Population and Housing Census, District Report: Accra Metropolitan, 2010, p.42

¹³ Ibid, p.15

¹⁴ Global Status Report on Road Safety, World Health Organization (WHO), 2015, p.51, citing Guerrero et. Al.

¹⁵ Step Change: An Action Agenda on Safe Walking for Africa’s Children, Amend and FIA Foundation, 2016, p.2

¹⁶ Step Change: An Action Agenda on Safe Walking for Africa’s Children, Amend and FIA Foundation, 2016, p.13, citing Observational Survey in four African Cities, Amend, 2016

¹⁷ Guerrero A, Amegashie J, Obiri-Yeboah M, et al Paediatric road traffic injuries in urban Ghana: a population-based study Injury Prevention 2011;17:309-312.

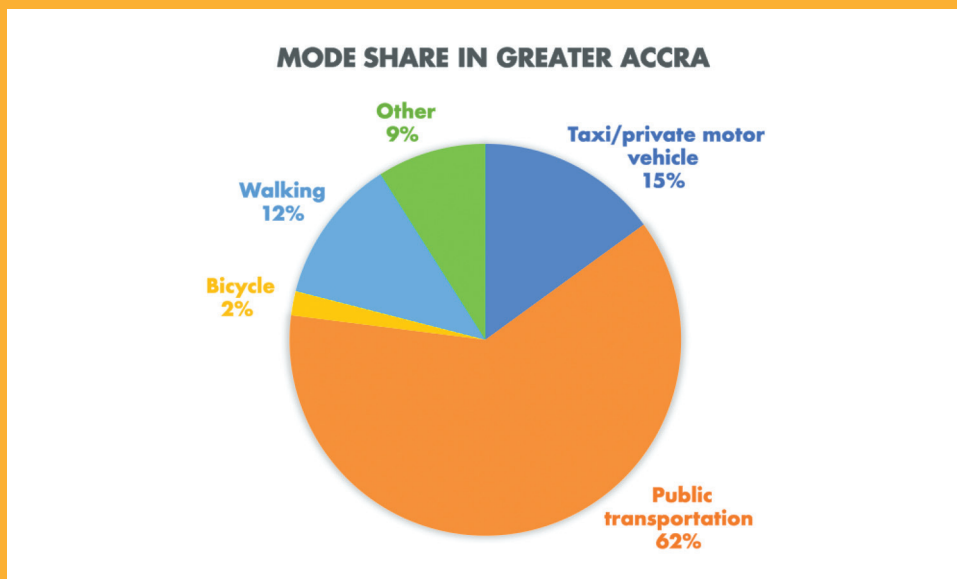


Figure 2.
Mode Share in the Greater Accra Region

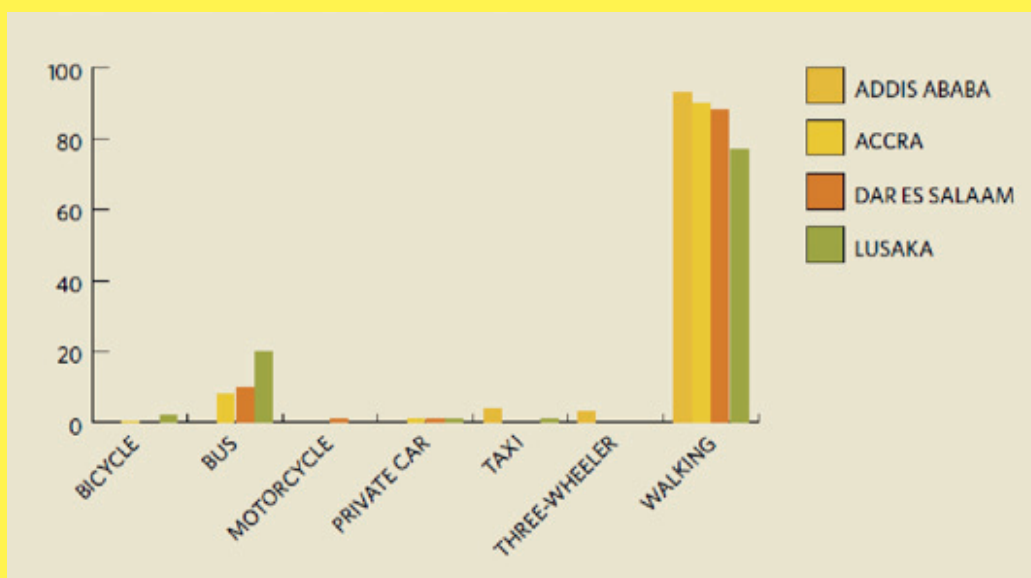


Figure 3.
How Children Travel to School in African Cities, 2016.
Source: Amend and FIA Foundation, 2016. Observational survey in four African Cities

Table 1. Traffic fatalities and injuries, AMA, 2011-2015¹⁸

	2011	2012	2013	2014	2015
Fatalities	179	205	146	144	217
Injuries	2012	1868	1495	1530	1749
Fatality rate	10.8	12.3	8.8	8.6	13.0

3. TOTAL FATALITIES AND FATALITIES BY ROAD USER TYPE IN THE AMA

Table 1 shows that reported traffic fatalities and injuries in AMA between 2011 and 2015 were variable. While they do not demonstrate any clear trend, it is important to note that in 2015, fatalities were the highest they have been since 2011, the baseline for the Decade of Action on Road Safety, and injuries were higher than any year apart from 2012. An analysis of all traffic fatalities and serious injuries for 2011 to 2015¹⁹ in the AMA found that on average people walking made up nearly three quarters of fatalities (69 percent) and half of serious injuries (50 percent) (Figures 4 and 5). Furthermore, between 2013 and 2015, pedestrian deaths as a proportion of all traffic deaths increased by nine (9) percent, while car occupant deaths fell by the same proportion²⁰. This is likely the result of education and enforcement efforts to increase car occupant safety through increased seatbelt use. This shows the impact that targeted actions to improve

safety for specific road user groups can have in a relatively short period of time, but also demonstrates the need and opportunity to save additional lives by focusing attention on the road safety needs of people walking. The average proportion of deaths for countries in sub Saharan Africa is 39 percent. Based on this, streets in Africa are considered some of the most dangerous in the world for pedestrians²¹. Comprising 64 percent of fatalities in the AMA and 46 percent of fatalities in Ghana, pedestrians are overrepresented even when compared to other African countries.

¹⁸ City Data Compilation: Accra, Bloomberg Initiative for Global Road Safety, May 2017. Prepared by Johns Hopkins University based on traffic collision data from the NRSC and BRRI and population data from the Population and Housing Census.

¹⁹ City Data Compilation: Accra, Bloomberg Initiative for Global Road Safety, May 2017. Prepared by Johns Hopkins University based on traffic collision data from the NRSC and BRRI and population data from the Population and Housing Census.

²⁰ Road Traffic Crashes in Ghana: Statistics 2015, Ministry of Transport, National Road Safety Commission (NRSC), Building and Road Research Institute (BRRI), 2016.

²¹ Global Status Report on Road Safety, World Health Organization (WHO), 2015, p.8

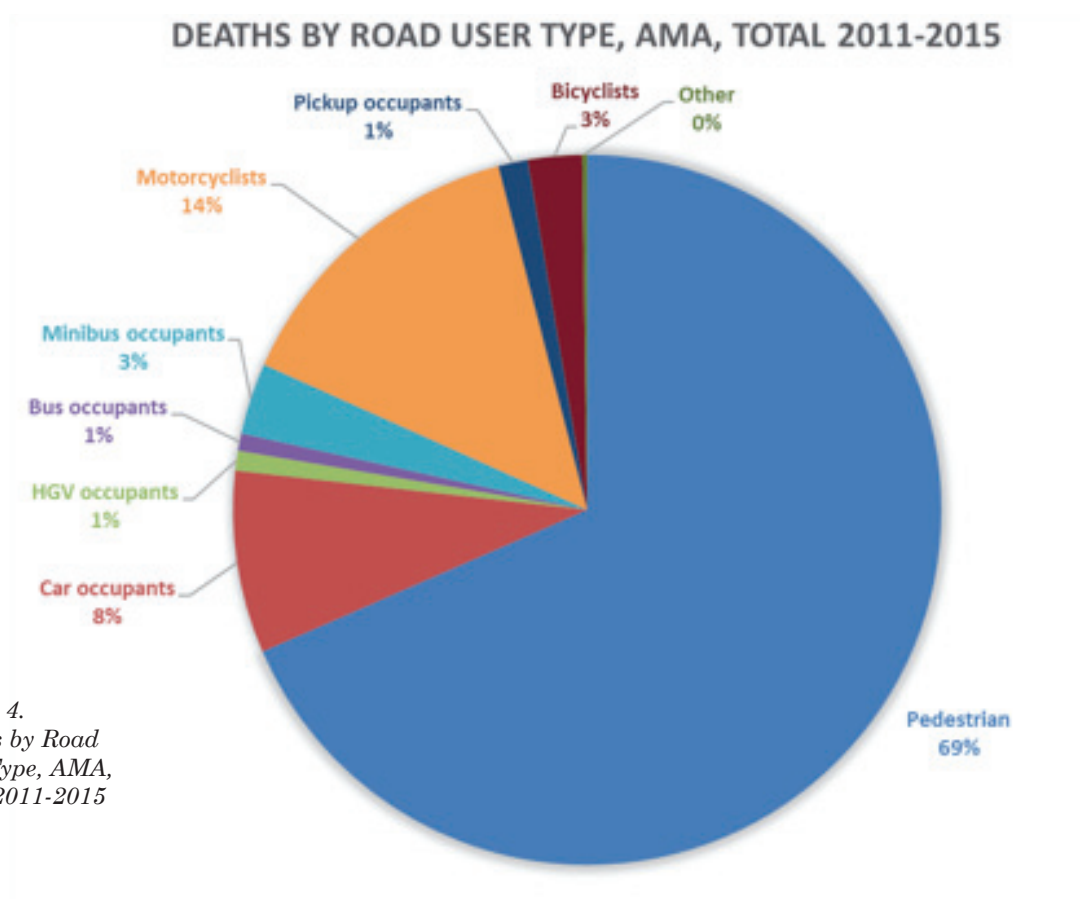


Figure 4.
Deaths by Road
User Type, AMA,
Total 2011-2015

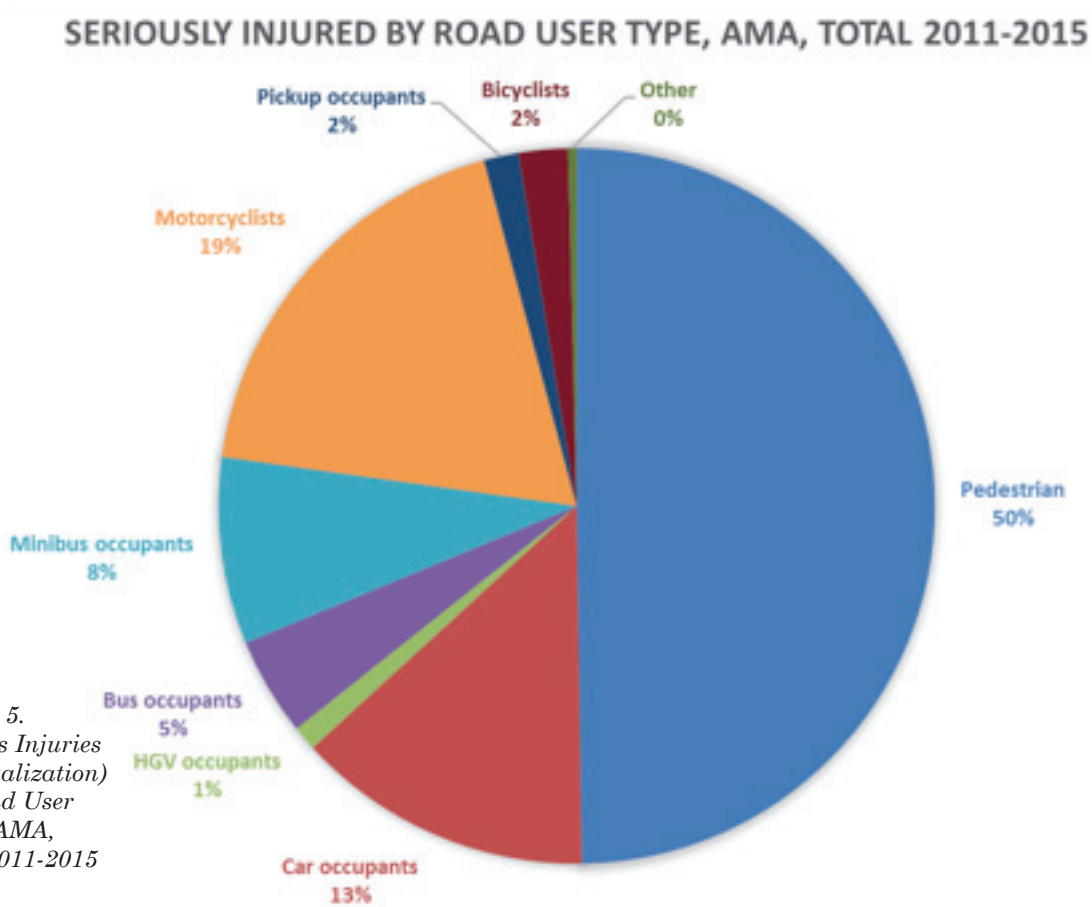


Figure 5.
Serious Injuries
(hospitalization)
by Road User
Type, AMA,
total 2011-2015

4. iRAP STAR RATINGS FOR PEDESTRIANS

iRAP, the International Road Assessment Program, reviews roads and issues a star rating of 1-5 stars based on the safety level and mode of travel. “Star Ratings are based on road inspection data and provide a simple and objective measure of the level of safety which is ‘built-in’ to the road for vehicle occupants, motorcyclists, bicyclists and pedestrians. Five-star roads are the safest while one-star roads are the least safe.”²² In the AMA, three main roads have been evaluated so far – portions of the N1, N4 and N6 inside the AMA (Tetteh Quarshie – Mallam, Central Business District to Adenta, Cocoa Marketing Board - Amasaman, respectively). These roads were selected because they are key corridors in the city with high traffic volumes, high collision rates (particularly the N1) and high public transport rates (particularly the N4 and N6). The iRAP ratings found very poor conditions for pedestrians on these roads, reflected in a rating of only 1-2 stars. Currently, of the 110km of roads evaluated, 65 percent are only rated one (1) or two (2) stars, 26 percent are rated three (3) stars, less than 10 percent are four stars, and none are five (5) stars (Table 2 and Figure 7). Conditions for vehicle occupants are somewhat better as 50 percent of evaluated roads are three (3) stars (Table 3 and Figure 6). This indicates that people walking on these roads have little or no provision for their safety more than half of the time.

In lieu of more detailed georeferenced crash data for the AMA, iRAP data can be used to identify areas for intervention, and anticipate and evaluate results. Following the iRAP review, a team from the BIGRS programme inspected the corridors and proposed specific improvements for sections of the corridor, such as traffic calming through street design, footpath provision or upgrades, street lighting, signalised pedestrian crossings, and pedestrian refuge islands in the middle of the street. The report detailing these proposals is currently under discussion by AMA officials with the road agencies for implementation.²³ Figure 8 and Table 2 show the impact in safety in terms of improved star ratings if these countermeasures are implemented. Nearly 70 percent of these roads would offer a four (4) or five (5)-star level of safety.

²² International Road Assessment Program (iRAP): www.irap.org

²³ iRAP. Star rating roads for safety: Accra report, 2016.

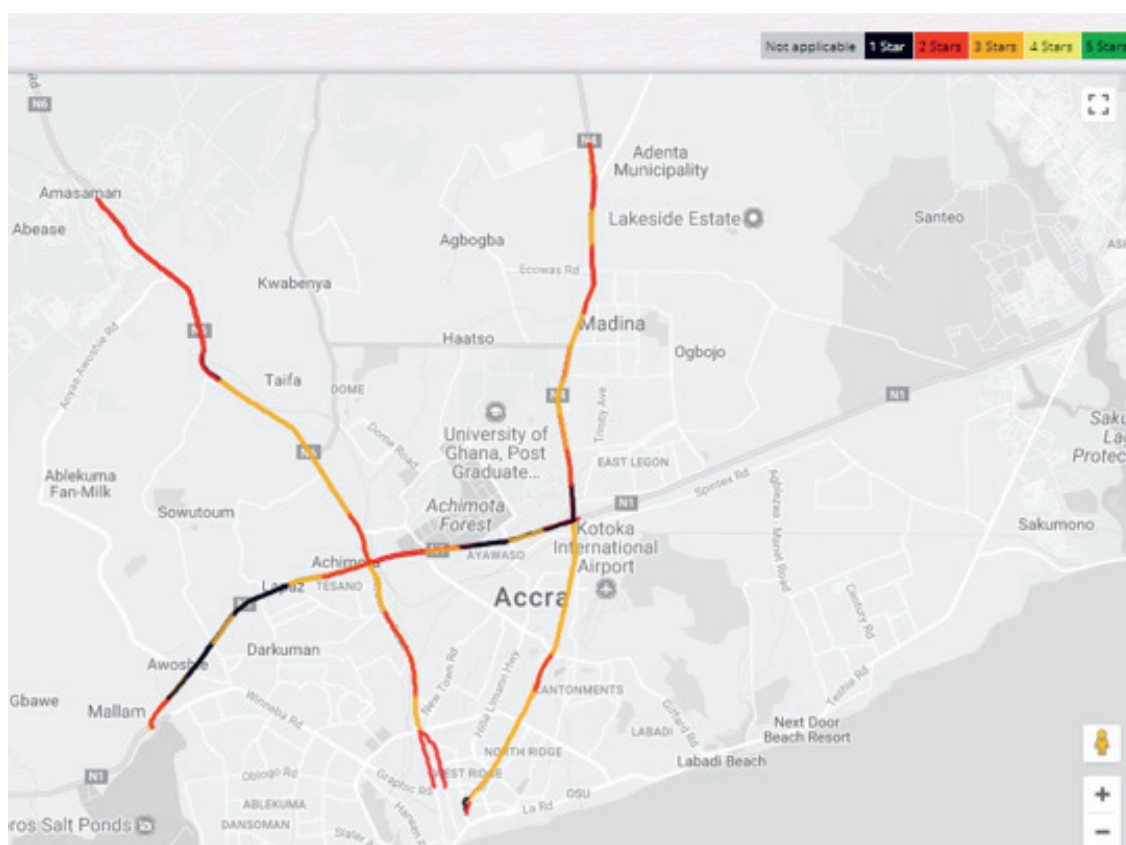


Figure 6. Map of Star Ratings for Vehicle Occupants on Surveyed Roads in AMA

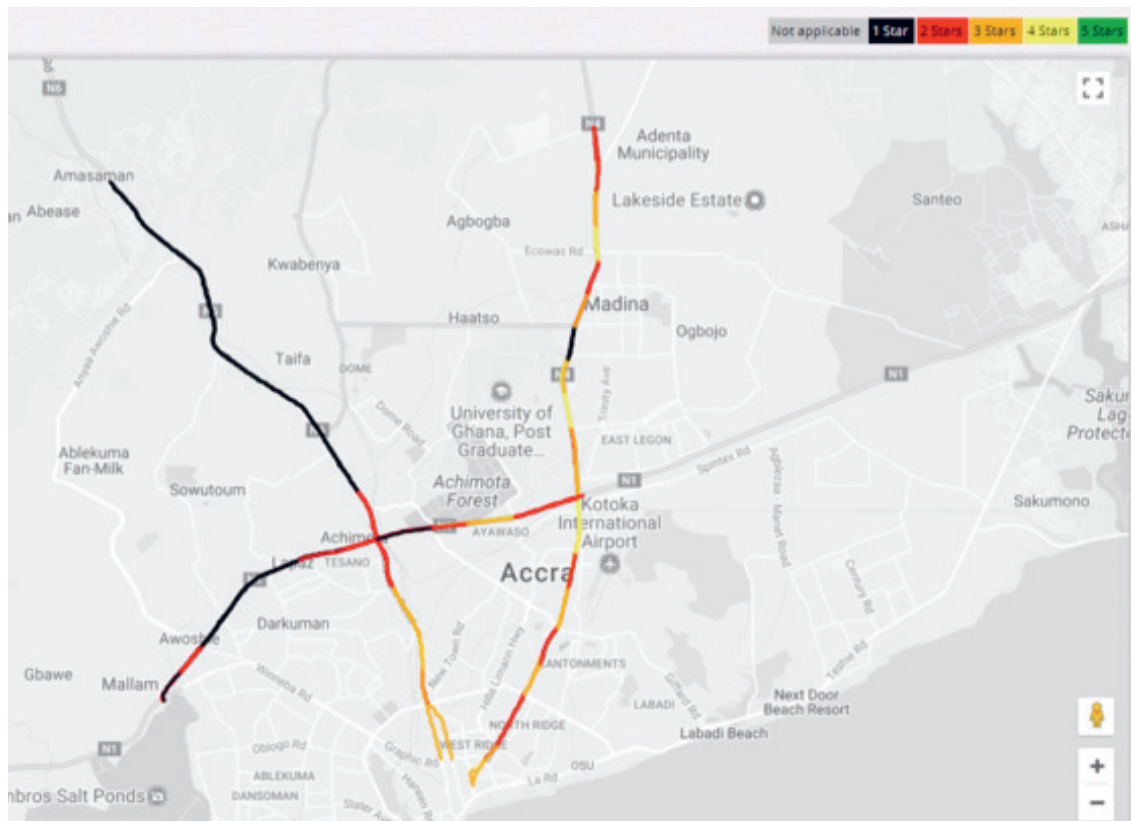


Figure 7. Map of Star Ratings for Pedestrians on Surveyed Roads in AMA (current/before countermeasure implementation)

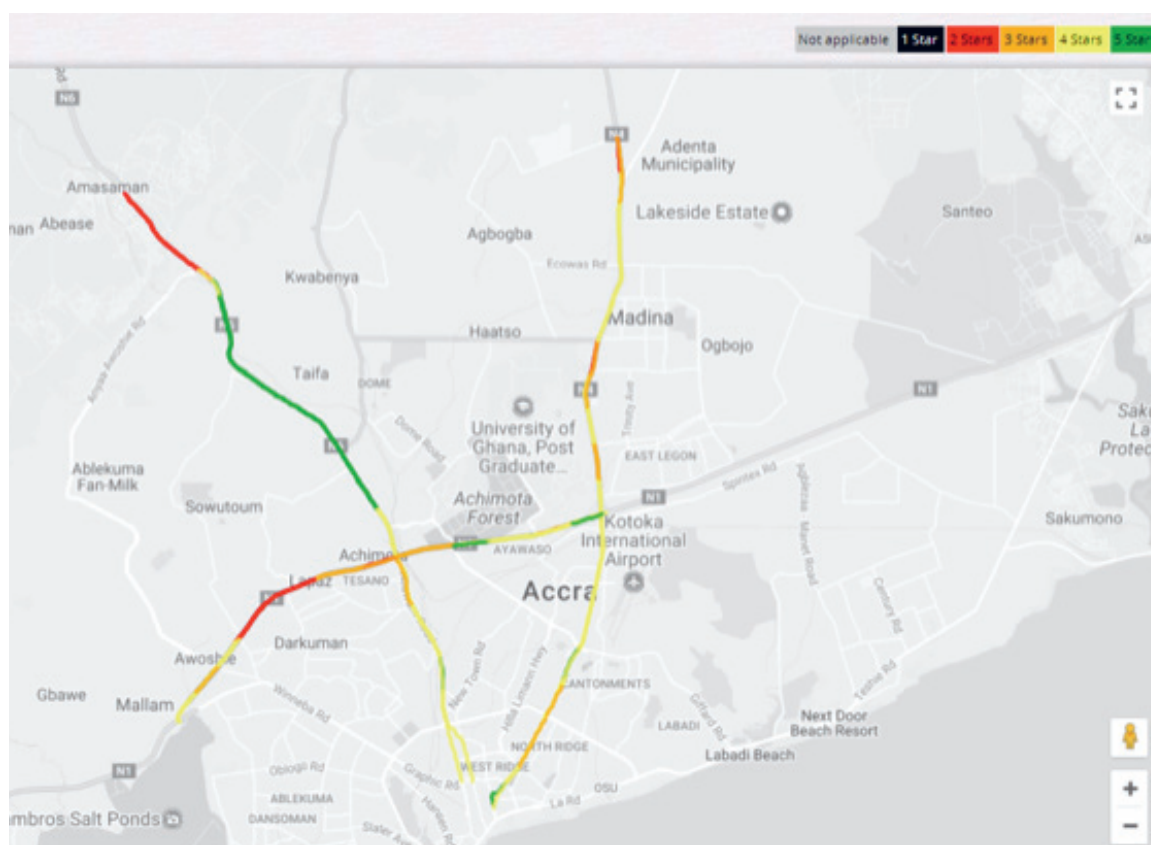


Figure 8. Projected Map of Star Ratings for Pedestrians on Surveyed Roads in AMA after Countermeasure Implementation

Table 2. Table of Projected Star Ratings for Pedestrians and Vehicle Occupants on Surveyed Roads in AMA (before and after countermeasure implementation)

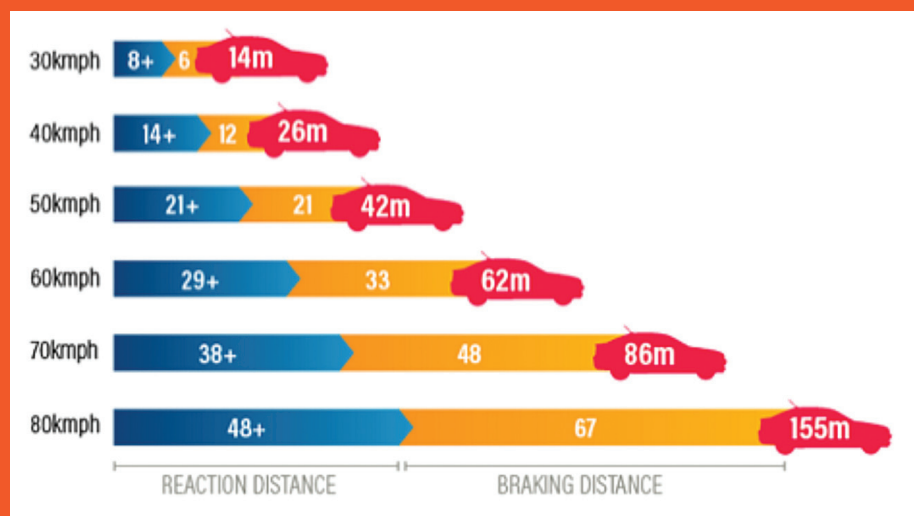
	Pedestrian				Vehicle Occupant			
	Before Countermeasure implementation		Estimated after proposed countermeasures		Before Countermeasure implementation		Estimated after proposed countermeasures	
Star Ratings	Length (km)	Percent	Length (km)	Percent	Length (km)	Percent	Length (km)	Percent
5 Stars	0.00	0.00	21.40	19.44	0.00	0.00	7.90	7.18
4 Stars	9.10	8.27	54.10	49.14	0.40	0.36	26.90	24.43
3 Stars	28.90	26.25	19.30	17.53	55.10	50.05	63.10	57.31
2 Stars	34.20	31.06	15.30	13.90	39.80	36.15	4.80	4.36
1 Star	37.90	34.42	0.00	0.00	14.80	13.44	7.40	6.72

5. VEHICLE SPEEDS IN THE AMA

Vehicle speed is one of the key risk factors for people walking. The speed of a vehicle has an impact on a driver's peripheral vision as well as how much time they have to react and to bring a vehicle to a stop, all of which increase the potential for crashes to occur at higher speeds. Speed also affects the severity of injury if a collision does occur, and the likelihood of survival (Figures 9 and 10). Research by Johns Hopkins University observed 69 percent of vehicles traveling over the speed limit in the AMA²⁴. It found that average speeds are over 70km/hr (74km/hr in the weekend and 72km/hr on weekdays). As shown in Figure 10, if a person is hit by a vehicle traveling at that speed, they have almost no chance of survival. It is also

worth noting that "...when disaggregated by vehicle type, private vehicles were found to be the leading type of vehicle with 71 percent exceeding the posted speed limit." The AMA context correlates with research which found that more than 50 percent of traffic crashes in Ghana could be attributed to speed²⁵. Furthermore, exposure to the risk of traffic collisions is rapidly increasing because of the rapid increase in Ghana's vehicle fleet. Between 1991 and 2015, "the estimated population of registered vehicles increased by 1462 percent" in Ghana, more than 17 times the population increase during the same period²⁶. Anecdotal evidence would suggest most of these vehicles are concentrated in the AMA and Greater Accra Region.

Figure 9.
Stopping Times
Required for a
Vehicle at Differ-
ent Speeds^{27,28}



²⁴ Monitoring and Evaluation Round Three Report, Bloomberg Initiative for Global Road Safety, July-August 2016

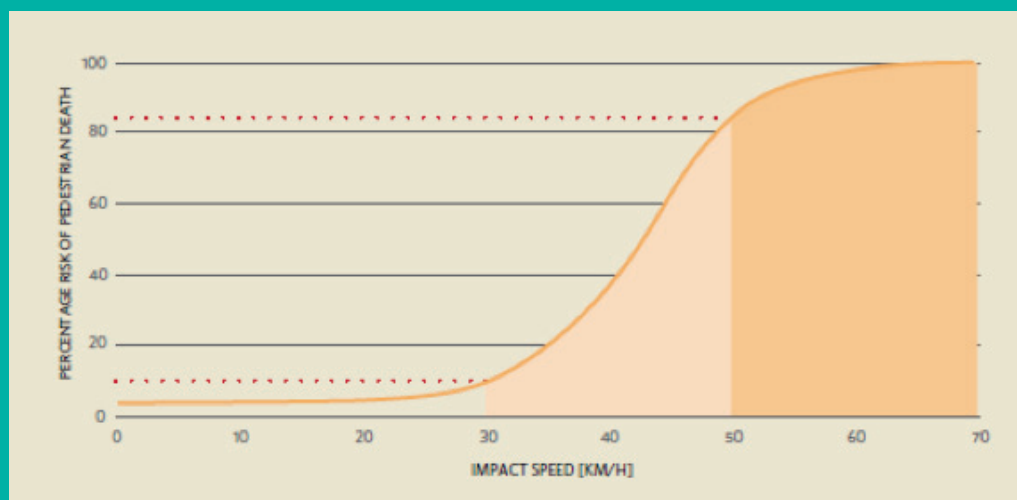
²⁵ Afukaar. 2003. Speed Control in developing countries: issues, challenges and opportunities in reducing road traffic injuries, Injury Control and Safety Promotion, Vol 10, Issue 1-2, 2003, pp77-81

²⁶ Road Traffic Crashes in Ghana: Statistics 2015, Ministry of Transport, National Road Safety Commission (NRSC), Building and Road Research Institute (BRRI), 2016, p.30

²⁷ Note: Distances are typical distances. The total stopping distance also depends on the thinking distance, road surface, weather condition and age/condition of the vehicle.

²⁸ Cities Safer by Design: Guidance and Examples to Promote Traffic Safety through Urban and Street Design. Welle, B., Liu, Q., Wei, L., Adiazola-Steil, C., King, R., Sarmiento, C., and Obelheiro, M. World Resources Institute, 2015.

Figure 10.
Percentage
Risk of Pedes-
trian death at
Different
Impact Speeds ²⁹



6. OTHER RELEVANT DATA

Street Connectivity in Accra's city core

Table 3. Indicators of Street Connectivity in Accra's City Core³⁰

Proportion of Land allocated to streets in urban core (%)	Length of street network (Km) and % paved (2008)	Street Density in urban core (Km/Km ²)	Intersection Density in urban core (#/Km ²)	Composite street connectivity index (CSCI)
11.1 ³¹	2,355, 50 percent paved	10	38.4	0.287

According to an assessment of street connectivity carried out by UN-Habitat, Accra is classified as a city “with low levels of land allocated to streets in the city core (less than 15 per cent)”, and a low street connectivity index (Table 3). “Cities with a CSCI of below 0.400: Cities in this group have very poor street connectivity due to low levels of land allocated to streets, low street

density and low intersection density. Their CSCI is less than half the highest level of the CSCI, which is one (1)”³². The implication of this for pedestrian safety is that people walking have few choices about which streets to travel on, and cannot easily avoid high traffic volume or high-speed streets by taking an alternative, but similarly direct route.

²⁹ OECD. 2006. Speed Management. Organization of Economic Cooperation and Development and European Conference of Ministers of Transport.

³⁰ UN Habitat. 2013. Streets as Public Spaces and Drivers of Urban Prosperity, p71, 107. Using data from UN-Habitat, Global Urban Indicators Database 2013

³¹ Anything below 15% is considered 'low'.

³² Streets as Public Spaces and Drivers of Urban Prosperity, UN-Habitat, 2013, p.109.

Cities have been classified and analysed based on the values of their CSCI. These cities have been grouped as follows: 1. Cities with a CSCI equal to or above 0.800; 2. Cities with a CSCI of between 0.600 and 0.800; 3. Cities with a CSCI of between 0.500 and 0.600; 4. Cities with a CSCI of between 0.400 and 0.500; 5. Cities with a CSCI below 0.400.

Public Transport

Data is not available on how many pedestrian injuries and fatalities involve trotros. However, the Accra mobile map of trotro routes shows that many roads are heavily trafficked by trotros, which indicates that people are boarding, alighting and waiting all along them (Figure 11).

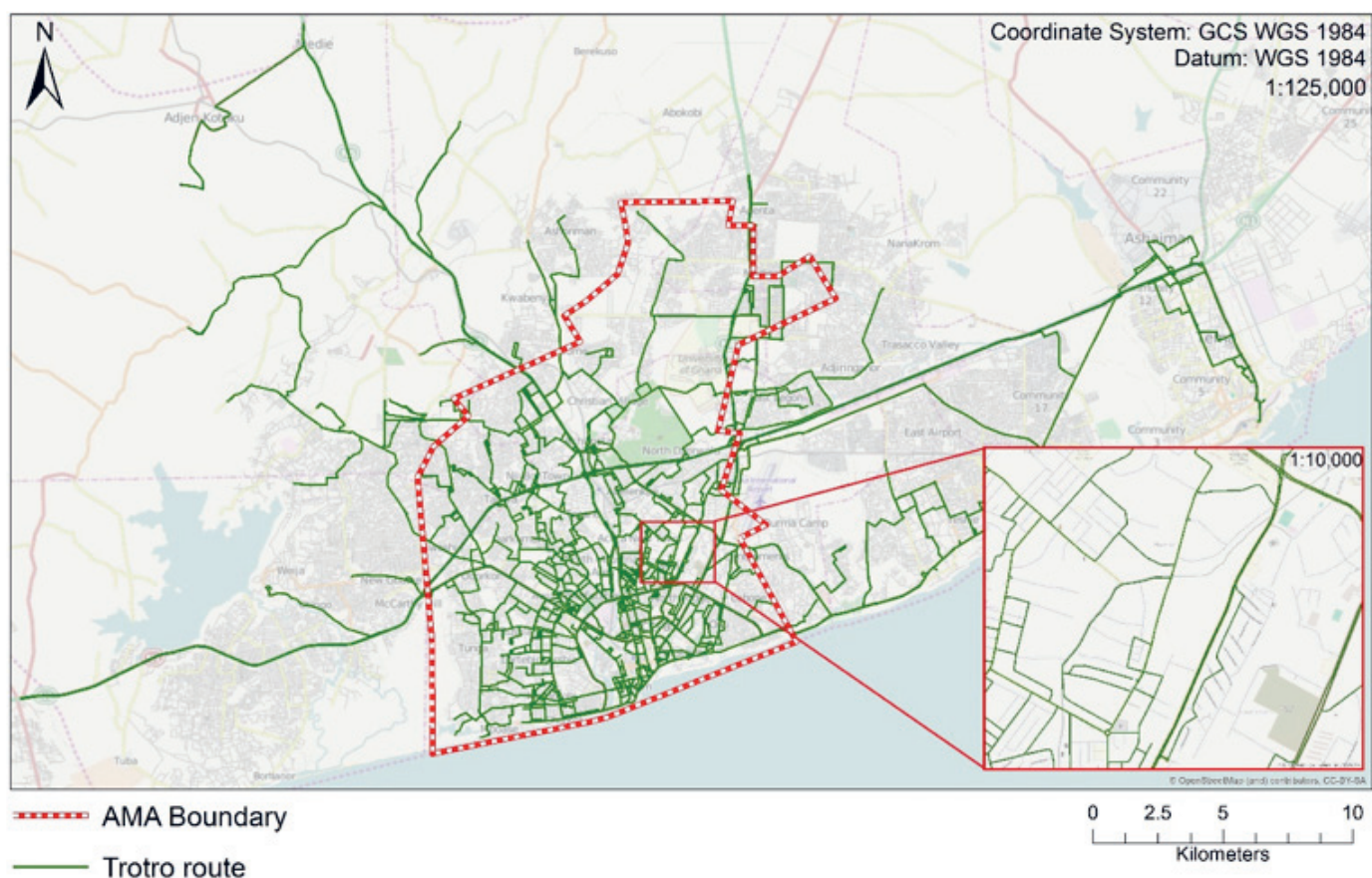


Figure 11. Accra's Jitney (Trotro) Network, AMA Department of Transport, 2015

In 2013, taxis accounted for approximately 25 percent of public and intermediary transport, trotros (small buses) and medium buses accounted for 35 percent and the remainder by larger buses. “The passenger transport vehicles are generally old and badly maintained, while trips are associated

with long passenger walking, waiting and travel times. Poorly maintained vehicles hold implications for the safety of the travelling public, as well as traffic accidents.³³” Adding to the risk presented by these vehicles, passenger buses are currently unscheduled and may stop unpredictably to pick up

³³ Quarterly progress report of the AMA department of transport, 2013

additional passengers, although there are designated pick up and drop off points.

7. IMPLICATIONS OF THE DATA

The combined outcome of this is that many people in the AMA, including most children of school going age, are walking on roads with poor or absent pedestrian provisions, heavy traffic volume and dangerously high speeds, a potentially fatal combination. Furthermore, because of poor street connectivity and the prevalence of trotto routes on major roads, the highest risk roads also carry high volumes of pedestrians who do not have the option to avoid these areas. Due to high rates of walking and public transport use, the stress and danger of this situation impacts most people daily. Changing this is possible, and the impacts of a concerted effort to improve road safety have already been seen in Ghana. For example, action to reduce speed on the Accra – Kumasi Highway more than halved fatalities on that road per a 2003 report on pattern of road traffic injuries in Ghana³⁴. Targeting pedestrian safety in the AMA would not only have an impact on a large proportion of the population's daily travel, but especially on children's ability to get to school safely.

Many evidence based measures are proven to improve pedestrian safety, particularly traffic calming, speed reduction, pedestrian walkways and crossings, and intersection design³⁵. Actions to implement such measures in the AMA as well as the coordination, education, regulation and enforcement to complement them are outlined in the following sections.

³⁴ Pattern of road traffic injuries in Ghana: Implications for control. Afukaar FK, Antwi P, Oforu-Amaah S., 2003

³⁵ Cities Safer by Design: Guidance and Examples to Promote Traffic Safety through Urban and Street Design. Welle, B., Liu, Q., Wei, L., Adriaola-Steil, C., King, R., Sarmiento, C., and Obelheiro, M. World Resources Institute, 2015.

PEDESTRIAN SAFETY ACTION PLAN

The Pedestrian Action Plan will be carried out by the Accra Metropolitan Assembly, with the Chief Resilience and Sustainability Advisor (Office of the Mayor) who also doubles as the City Lead on BIGRS, as chair

of the project. The project will encompass various activities by different parties and will be aided by consultants. The timeframe for implementation is five (5) years, 2018-2022. This section summarizes the methodology employed to develop the plan, presents the pillars for action, the specific actions determined under each pillar, and information about the coordination required to implement the plan.

METHODOLOGY:

Planning	Research	Stakeholder Engagement	Preparation of Plan	Launch and Implementation
Planning started with a kick off meeting with all stakeholders to discuss essence of the plan. Stakeholders contributed to defining the features of the plan, including the identification of the Pillars for Pedestrian Safety.	Mobility and road safety literature on elements such as pedestrian knockdown data, crash data, traffic mode share, and speeds on AMA roads was reviewed, and additional data needs were identified.	One-on-one discussions with stakeholders were conducted to establish the various activities they were willing and able to contribute towards the implementation of the Action Plan. Further data research and analysis was undertaken to fill information gaps.	A summary of key actions was compiled and the draft was reviewed together with all stakeholders in a joint meeting. Feedback from stakeholders was incorporated and a final plan was completed.	The Action Plan was launched in December 2017. The implementation period for the actions committed to by the stakeholders is five years, 2018 - 2022.

COMMITMENTS TO REDUCING PEDESTRIAN FATALITIES

The agencies listed in this plan have committed to work with stakeholders to implement the actions outlined over the next five years, starting in 2018. The actions are grouped under the pillars explained below.

PILLARS FOR PEDESTRIAN SAFETY IN THE AMA

The following pillars for pedestrian safety in the AMA provide a set of categories of key importance for improving safety and saving lives. They were developed based on stakeholder consultation and data analysis. The pillars are closely interrelated and complementary. Together they form an integrated approach to improving safety for people walking in the AMA through a combination of many different types of intervention.

1. Foster safety for pedestrian crossings at junctions and on main roads

- Improve the design of high-crash locations, particularly the most dangerous junctions.
- Improve safety along key corridors where pedestrian fatalities are occurring, based on data or through surrogate measures such as iRAP analysis, traffic and pedestrian volume, and vehicle speed.
- Improve safety where pedestrian volumes are high and safe pedestrian spaces will improve quality of life and economic vitality.

2. Make streets more walkable

- Provide pedestrian walkways on main roads as well as on key neighbourhood streets.

- Improve access to public transport facilities and corridors.

3. Manage public street space for pedestrian safety

- Undertake coordination of enforcement actions to ensure safe movement of pedestrians on sidewalks and public spaces without undue interruption from vendors, hawkers, advertising, banners, illegally parked vehicles and other obstructions.

4. Make the journey to school safe

- Improve safety around school entranceways, surrounding streets and common routes taken by children.
- Integrate existing school programmes on safety into the action plan.

5. Ensure safe speeds for pedestrians

- Begin a speed management programme that prioritizes pedestrian safety through enforcement, speed limit review and the introduction of low speed areas, and monitors the impacts through data collection.

6. Rethink the city to favour pedestrian safety

- Revise existing city plan and road designs to favour pedestrian safety

7. Engage the public and road system designers to improve pedestrian safety and awareness

- Provide training to stakeholder agencies on street design that prioritizes safety. Pilot car free days on selected roads.
- Undertake public education on why improvements to pedestrian safety are necessary, and what citizens can do to support this.

SPECIFIC ACTIONS

This section lists the specific measures to be taken in the near-term to improve pedestrian safety in the AMA, grouped in terms of the pillars. These follow the safe system approach outlined earlier in the document.

Pillar 1: Foster safety for pedestrian crossings at junctions and on main roads

ACTIVITIES	RESPONSIBLE STAKEHOLDERS	YEAR OF COMPLETION
Conduct a design transformation, either through permanent measures or temporary treatments, on 2 intersections by 2021 and seek to scale this to an additional 10 intersections based on the results of the initial projects. These improvements can include reducing crossing distances, increasing median widths, speed reduction, etc.	GHA, DUR, AMA	2021
Improve signal timings and phasing at 20 intersections by 2020	DUR, AMA	2020
Drop down kerbs at a minimum of two major junctions each year for the next three years	DUR, AMA	2020
Install reflective studs at three critical locations per year	DUR, GHA, AMA	2022
Replace at least one kilometre of damaged guardrails per year	DUR, GHA, AMA	2022
Implement improvements on the city's main roads where the pedestrian star rating is below three (Tetteh Quarshie – Mallam, Cocoa Marketing Board - Amasaman, Central Business District to Adenta). Achieve 50 percent of these improvements by 2022 (Refer to iRAP/WRI report for specific recommendations) <i>Note: A 125km network level assessment will be undertaken and the accompanying report will be available in 2018. Pedestrian related recommendations identified in this report should be included in the above implementation.</i>	DUR, GHA, AMA	2022
Deploy police at major road intersections (La Paz, Nyamekye, Fiesta Royale, Nkrumah Circle and Tetteh Quarshie) to assist pedestrians and facilitate safe pedestrian crossing	Police MTTD, AMA	2018
Identify a minimum of 20 key locations per year that require (re) marking of pedestrian crossing. Liaise with other organisations for implementation.	NRSC, AMA (DUR), GHA	2022

Pillar 2: Make streets more walkable

ACTIVITIES	RESPONSIBLE STAKEHOLDERS	YEAR OF COMPLETION
Build pedestrian walkways on one kilometre of streets per year for the next five years.	DUR, Amend, AMA	2022
Maintain and manage two kilometres of existing walkways in the next two years by removing debris, advertising posts, kiosks, and construction materials	AMA (City guards, waste management), DUR	2018 and beyond
Establish an inventory of where pedestrian pavement is provided or missing	AMA Department of Transport	2019
Develop a mobility management map for Accra road corridor (Okaishie) by end of 2018	AMA Department of Transport	2018
Establish the walkability index of selected corridors before and after decongestion (La Paz and CBD) - determine how fast a person can walk through a particular corridor	AMA Department of Transport	2020
Create a map showing proposed pedestrian only routes along certain identified corridors	AMA Department of Physical Planning	2020

Pillar 3: Manage public street space for pedestrian safety

ACTIVITIES	RESPONSIBLE STAKEHOLDERS	YEAR OF COMPLETION
Enforce compliance of by-laws on obstruction of walkways and sanction traders/vendors who engage in unauthorised use of pedestrian walkways at these locations (CBD, Kwame Nkrumah Circle, La Paz, Tetteh Quarshie, Kaneshie)	Police, AMA City Guards, AMA Metro Health.	2022
Develop maps showing planned roads and walkways and ensure that all spaces reserved for pedestrian walkways are protected for development	AMA Department of Physical Planning	2019
Develop a map showing the most significant points of pedestrian interactions, to facilitate decongestion of pedestrian walkways	AMA Department of Transport	2018
Mobilise and engage those who obstruct walkways to help them understand the effects of their actions - Carry out a pilot programme within two sub metros (La Paz and CBD) by the end of 2018	AMA Department of Health, AMA City Guards	2018

Pillar 4: Make the journey to school safe

ACTIVITIES	RESPONSIBLE STAKEHOLDERS	YEAR OF COMPLETION
Provide current list of schools within AMA to assist in the implementation of low speed zones around 10 high risk schools	AMA Department of Education	2018
With assistance from school road safety clubs, engage with school children from 20 schools to identify challenges faced during their walk to school. This will aid in identifying design needs and develop infrastructure interventions	AMA Department of Education	2018
Implement traffic calming measures and low speed zones around 10 school zones within five years	DUR, Amend, AMA	2022
Implement at least five pedestrian crossing projects by 2020 (Donor-led initiatives)	Amend, Trotro Diaries, AMA	2020
Collect pedestrian knock down data from all schools in AMA to assist in School Area Road Safety Assessments and Improvements	AMA Department of Statistics, Amend	2020

Pillar 5: Ensure safe speeds for pedestrians

ACTIVITIES	RESPONSIBLE STAKEHOLDERS	YEAR OF COMPLETION
Intensify enforcement on speeding by using speed guns at strategic locations (including Tetteh Quarshie – Mallam, Cocoa Marketing Board - Amasaman, Central Business District to Adenta)	Police MTTD, AMA City guards	2022
Review speed limit policies for national highways to ensure they are following the national urban speed limit requirements.	NRSC, AMA, DUR, GHSA	2020
Conduct survey to identify corridors that require speed calming measures. Install speed calming devices on at least 30 percent of these identified locations by 2020	DUR, AMA	2020

Pillar 6: Rethink the city to favour pedestrian safety

ACTIVITIES	RESPONSIBLE STAKEHOLDERS	YEAR OF COMPLETION
Revise existing street plans to favour pedestrians and incorporate pedestrian safety in all designs commencing from 2018.	AMA Department of Physical Planning, DUR	2022
Within three years, establish a requirement that all road projects undergo a road safety audit that emphasises pedestrian safety	GHA, DUR, AMA	2020
Gather and interpret data to identify trends in pedestrian knock downs before, during and after the implementation of the action plan	AMA Department of Statistics	2022
Conduct a feasibility study to identify roads to be used for car free days by 2018. Pilot a car free day on one of the identified roads. Based on the results, institutionalise a regular car free day project by 2019	AMA Department of Transport	2019

Pillar 7: Engage the public and road system designers to improve pedestrian safety and awareness

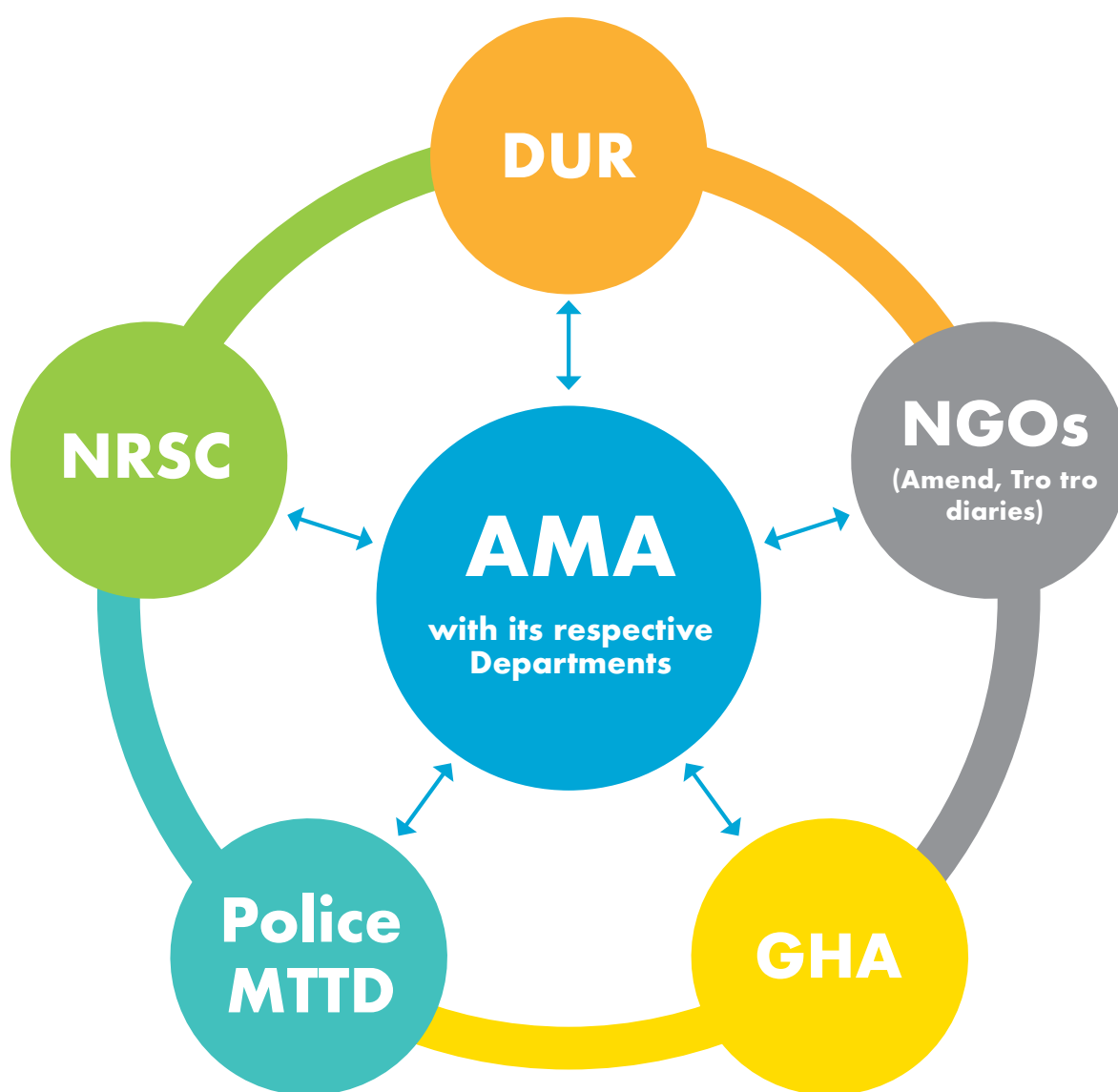
ACTIVITIES	RESPONSIBLE STAKEHOLDERS	YEAR OF COMPLETION
Conduct public education via weekly radio and TV programmes and at public transport terminals	NRSC	Continuous
Conduct monthly outreach programmes	NRSC	Continuous
Conduct monthly education on social media	Trotro Diaries	Continuous
Link officials to the public through question and answer sessions via Facebook live every quarter	Trotro Diaries	Continuous
Present quarterly reports to the Ministry of Roads and Highways based on the reported safety situation for specific recommendations to be considered.	NRSC	Continuous
Conduct road safety education in at least five (5) schools per year	Amend	2020
Establish a series of lectures and events (at least three (3) per year) to develop the vision of Accra as not just a walking city, but a walkable city	GHA, DUR, NRSC, AMA Department of Transport	2022
Develop a road safety mobile application for crowd sourcing crash details and reporting hazardous road situations	Trotto Dairies	2018

INSTITUTIONAL COORDINATION

New institutional mechanisms will be necessary to coordinate and monitor the implementation of the actions defined in this plan, and evaluate progress.

AMA: LEAD AGENCY FOR THE PEDESTRIAN SAFETY ACTION PLAN

The development and implementation of this plan is led by the Accra Metropolitan Assembly, through the Mayor's office and the AMA Department of Transport. The Chief Resilience and Sustainability Advisor (Office of the Mayor) is chair of the project, working in coordination with the AMA Bloomberg Initiative for Global Road Safety staff.



OFFICIAL ACTION PLAN WORKING GROUP

The following coordinating agencies have committed to specific actions through the stakeholder engagement process, and will require point persons for ongoing coordination:

- Accra Metropolitan Assembly Department of Transport
- Department of Urban Roads
- Ghana Highway Authority
- National Road Safety Commission
- Department of Education (AMA)
- Department of Health (AMA)
- Department of Physical Planning (AMA)
- Police – MTTD
- Trotro Diaries

MONITORING AND EVALUATION

The coordinating agencies will meet bi-annually under the auspices of AMA (The Mayor's Office) to discuss progress made and troubleshoot challenges. They will also be responsible for progress reports to be produced and circulated annually.

CONCLUSION

It has been established that pedestrian safety is key to road safety in the AMA as most people walk at least some part of their journey each day, and most people killed and injured are pedestrians. Many promising

actions have already been taken and this plan will serve to better coordinate them, scale up actions, and help to monitor impacts and share lessons learned

The actions identified here represent the outcomes of a participatory consultation process with many committed stakeholders. Over time this plan can both inform and become part of a wider road safety strategy for the AMA.



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