

Road Safety in Africa: A Literature Review

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The most recent *Global Status Report on Road Safety* by the World Health Organization (2015) highlights Africa as the region with the highest rate of traffic fatalities – 26.6 per 100,000 people – and the lowest rate of motorization.¹ As motorization continues to increase, it is reasonable to assume that the fatality rate will also increase unless road safety measures are drastically improved (WHO 2015).

Currently, cyclists and pedestrians makeup 43% of road traffic fatalities in Africa, and as motorcycles become more popular as another relatively affordable means of transport, motorcycle fatalities are also on the rise (WHO 2015). Road traffic injuries and fatalities in Africa are more likely to affect the poor and vulnerable who use walking, cycling and public transport for the majority of their mobility needs, making road safety a social justice issue as well as a public health and safety issue (Azetop 2010; Bazebah 2013). Furthermore, non-fatal injuries often leave a person unable to work for a time and require expensive medical attention, creating an economic burden on top of physical and emotional trauma. Recent work by the World Bank (2017) estimates the macroeconomic gain from reducing injuries and deaths from road crashes in five Low and Middle Income countries (LMIC), one of which is Tanzania. The causes for road crashes are complex and interdependent. Research in African countries has investigated driver behavior (speeding (Afukaar 2003), reckless driving (Schietekat and Booysen 2013)), infrastructure (poorly paved roads (Santani et al 2015), insufficient street lighting (Aidoo et al 2013)), emergency care (Lagarde 2007, Shaw et al 2017), and the regulatory environment (WHO 2015). Research about potential interventions to improve road safety includes the use of helmets for motorcyclists (Bachani et al 2012), rumble strips and speed bumps to reduce speeding (Afukaar 2003; Aidoo et al 2013), community awareness and safety training (Zimmerman et al 2015), and street design and lighting (Aidoo et al 2013).

Safe Systems Approach in Africa

Although no African countries have explicitly implemented a Safe Systems approach to road safety, some recent projects exhibit Safe Systems principles. One such project was a collaboration between the Global Designing Cities Initiative and the City Government of Addis Ababa (Global Designing Cities Initiative 2017). Using paint, planters and bollards, the design team reorganized a busy intersection, reclaiming 2,000 m² to create a safer crossing for pedestrians by expanding corners and medians (see Figure 1 Interim Design of LeGare intersection Addis Ababa (Source: Global Designing Cities Initiative 2017).Figure 1).² In another project, the Institute for Transportation and Development Policy (ITDP) and UN HABITAT are “reclaiming space for pedestrians” in Ruiru, Kenya. The proposal resulting from their participatory workshop included “dedicated facilities for pedestrians and cyclists” and “the implementation of traffic calming measures” (ITDP n.d.). These projects are illustrative of the Safe Systems principle of comprehensive street designs that focus on the needs of the most vulnerable road users.

¹ For all countries except Egypt, Mauritania, and South Africa, road fatalities are estimated using a statistical model. For a detailed explanation of WHO methodology by country see:

http://violence_injury_prevention/road_safety_status/2015/methodology/en/index.html

² This project was funded through the Bloomberg Initiative for Global Road Safety (BRIGS).

International Actors

Several international agencies have made reducing road fatalities a key target in recent years. As these agencies influence a significant amount of aid and investment in Africa, their policy aims are indicative of international attention. The Sustainable Development Goals, created by the United Nations in 2015, reference road safety in two of the 17 goals – goal 3 which includes the target to “halve the number of global deaths and injuries from road traffic accidents” and goal 11 which includes the target to “provide access to safe, affordable, accessible and sustainable transport systems for all” (United Nations n.d.). The UN General Assembly designated 2011 – 2020 as the Decade of Action for Road Safety, with the aim to “save millions of lives by building road safety management capacity; improving the safety of road infrastructure; further developing the safety of vehicles; enhancing the behaviour of road users; and improving post-crash response” (WHO n.d.). The International Federation of Red Cross and Red Crescent (IFRC) Societies created the Global Road Safety partnership to “bring together governments and governmental agencies, the private sector and civil society to urgently address road safety issues” (IFRC n.d.). IFRC national societies also participate in road safety response (ambulance services) and prevention (safety training).

The Global Road Safety Facility, led by the World Bank, funds internal and external efforts to understand and reduce road traffic injuries and fatalities in low- and middle-income countries (World Bank n.d.). Foundations like Bloomberg Philanthropies and the World Resources Institute (WRI) also fund road safety research and interventions in collaboration with local government and NGOs.

Innovative Approaches

Perhaps because of the extremity of the road safety situation in most African countries, the region has produced innovative approaches to researching road safety. Habyarimana and Jack (2009) tested the use of stickers in *matatus* (semi-formal buses) in Nairobi, Kenya that encouraged bus riders to speak out about their safety when the driver was being unsafe. For the period of their intervention they found a reduction of one-half to two-thirds in insurance claims for accidents which indicated, in their interpretation, a reduction of accidents. Also in Kenya, Mungai and Samper (2013) collected personal experience narratives (PEN) about passengers’ experiences of dangerous or threatening episodes on Nairobi’s *matatus*. This qualitative research adds a new dimension to road safety, bringing in the individual’s experience of such common occurrences as “accidents, reckless driving, overcrowding,” labeled by the researchers as “Business as Usual” narratives, and expanding to include threatening behavior experienced during travel such as “stories of sexual harassment, pickpocketing and getting conned for the fare” (Mungai and Samper 2013, 53). In South Africa, Schietekat and Booysen (2013) used data from vehicle tracking devices to identify unsafe driving – including speeding, harsh breaking and swerving – by minibus *taxis* (semi-formal buses). Finally, IBM Research created a crowdsourcing mobile application, CommuniSense, to collect data on the conditions of roads in Nairobi, with the goal of identifying road stretches that most needed improvements (Santani et al 2015). Such innovative approaches to road safety research show that despite the region’s notoriety for the highest fatalities rates, Africa can be a leading example from which other world regions can take inspiration.

Future Directions for Research

The 2015 *Global Status Report on Road Safety* (WHO) has factsheets for 43 countries in Africa that summarize the latest legislation and policy efforts to improve road safety (for example see

Figure 2 which shows the status of seat belt laws across the continent). These summaries show that road safety in Africa is not a monolith, that the legal, infrastructural, and political situations vary in ways that vary the status of road safety and the commitment to improving it. However, academic research is concentrated among a smaller group of countries, leaving many unexamined. For example, a summary of research that quantifies road fatalities in Africa between 1980 and 2015 (Adeloye et al 2016) finds 39 studies that cover only 15 countries. Figure 3 shows the distribution of these studies, exposing an even tighter concentration of work on Ghana, Nigeria, South Africa and Tanzania. Thus, many of the issues and approaches earlier mentioned can be explored in new contexts and contribute greatly to a better collective understanding of road safety in Africa.

Figures

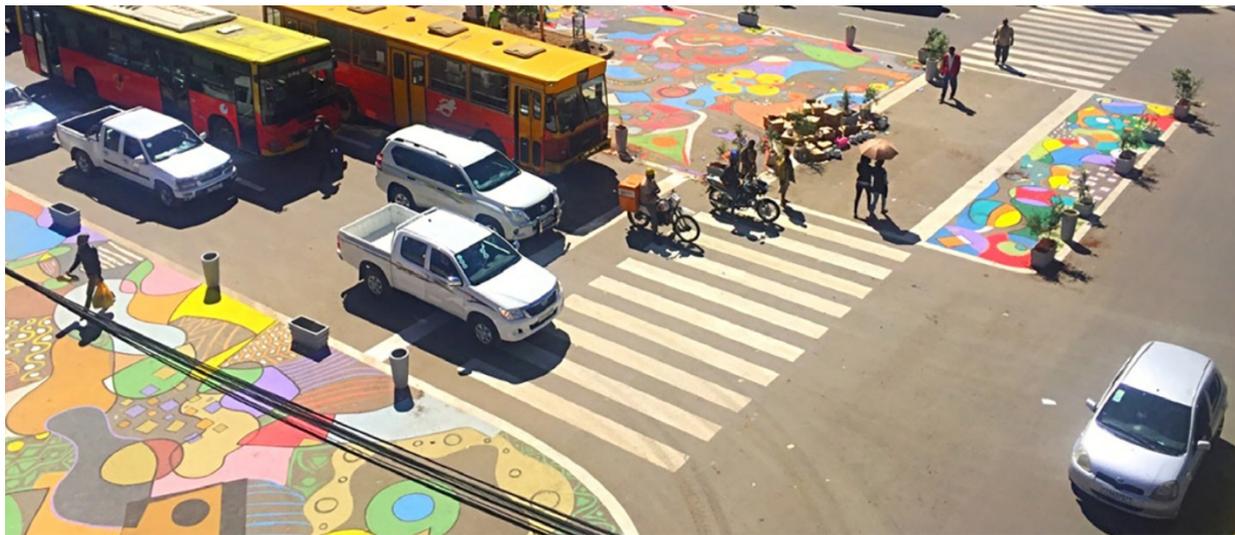


Figure 1 Interim Design of LeGare intersection Addis Ababa (Source: Global Designing Cities Initiative 2017).

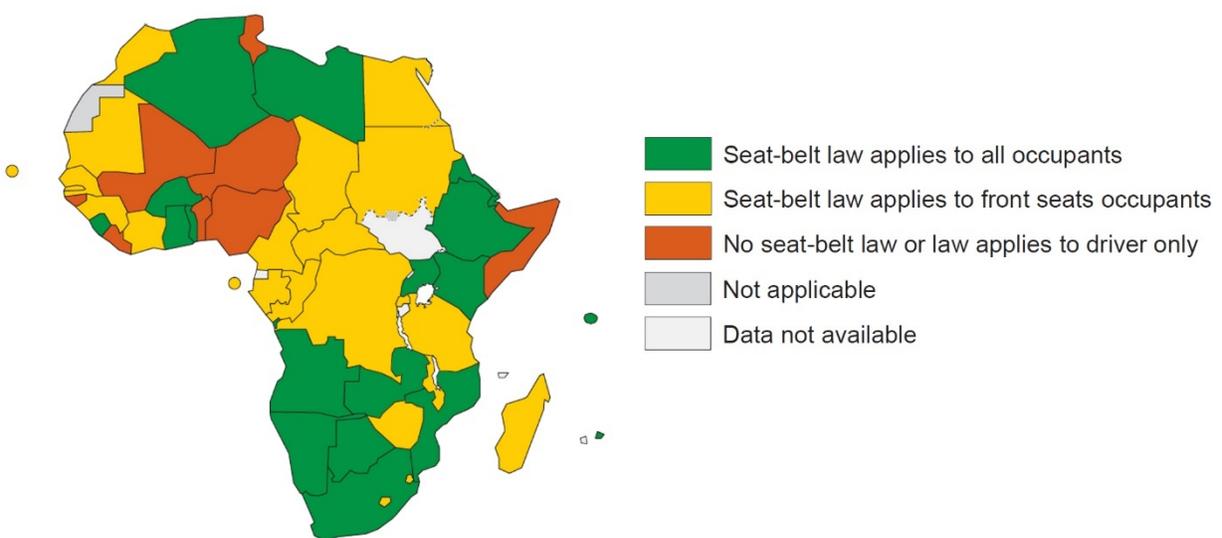


Figure 2 Seat-belt Laws by Country (Source: WHO 2015)

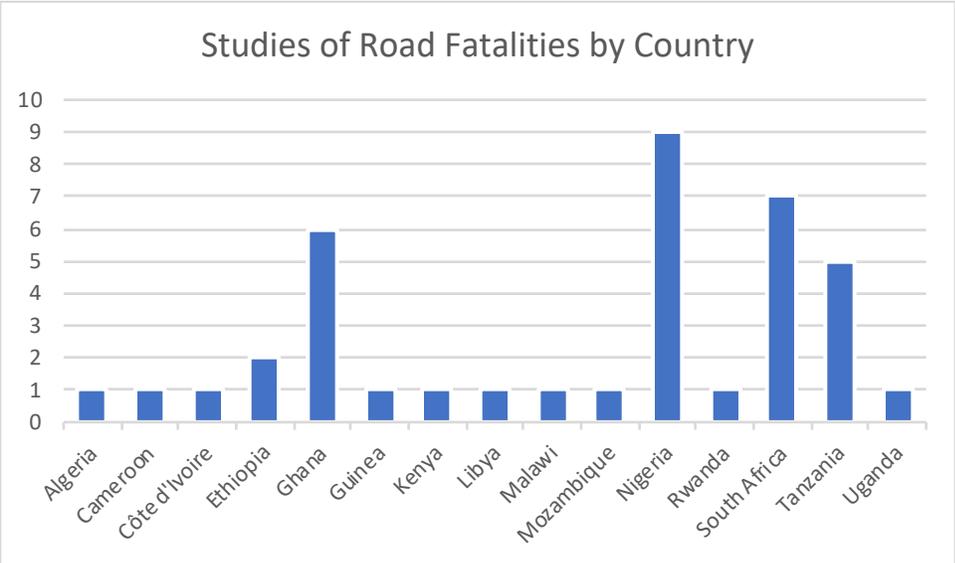


Figure 3 Studies of Road Fatalities by Country (based on Adeloje et al 2016)

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