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Road Safety Performance Review Uganda



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Foreword

Every year, nearly 1.25 million people are killed and up to 50 million people injured on the world's roads. In 2010, the General Assembly of the United Nations proclaimed a Decade of Action for Road Safety (2011–2020). The goal of the Decade is to stabilize and then reduce the forecast level of road traffic deaths around the world.

The Decade reached its mid-term review in 2015, with relatively little observed change in the number of global annual road traffic deaths. It is within this context that in 2015 the Secretary-General of the United Nations appointed his first-ever Special Envoy for Road Safety.

I am honoured to serve in this role and help to mobilize sustained political commitment towards making road safety a priority, to advocate for and raise awareness about the United Nations road safety legal instruments, to share established road safety good practices, and to advocate for adequate funding.

Strides have been made at the global level, with the inclusion of road safety in the Sustainable Development Goals: target 3.6, to halve the number of road injuries and deaths by 2020; and target 11.2, to provide access to safe, affordable, accessible and sustainable transport systems for all by 2030. In 2016, the General Assembly adopted resolution A/RES/70/260 on improving global road safety, in which it encourages member States to take stronger measures to achieve the road safety related targets of the Sustainable Development Goals.

To support Member States most affected by road traffic fatalities, and adapting from the United Nations Development Account 9th tranche project "Strengthening the national road safety management capacities of selected developing countries and countries with economies in transition", I am strongly supporting road safety performance reviews in Africa.

The project aims to assist developing countries and countries with economies in transition in strengthening their road safety management system capacities and improving their national road safety records. While the African region has some of the lowest levels of motorization in the world, it has the world's highest estimated road traffic fatality rate, at 26.6 road deaths per 100,000 population.

Uganda was selected as one of two pilot countries in the region for the road safety performance reviews, which are carried out in partnership with the United Nations Economic Commission for Europe and the United Nations Economic Commission for Africa. The countries are selected at the request of their Governments, as well as based on needs and on Governments' commitment to take action on improving road safety performance records and implementing United Nations road safety legal instruments.

A national team of experts, with contribution from stakeholders, conducted a review of the road safety situation in Uganda and have produced a report on their findings and are submitting recommendations for government consideration.

It is my hope that this initiative will lead not only to actions by the participating Governments but that it will also inspire greater priority to be given to road safety across the region.



Jean Todt
United Nations Secretary-General's Special Envoy for Road Safety

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Abbreviations

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CISCOT	Civil Society on Transport
DOA	Decade of Action for Road Safety 2011-2020
EAC	East African Community
EMS	Emergency Medical Services
FIA	Federation Internationale de l'Automobile
FSI	fatalities and serious injuries
GDP	gross domestic product
HGV	heavy goods vehicle
HMIS	Health Management Information System
IoV	Inspector of Vehicles
iRAP	International Road Assessment Programme
KMA	Kampala Metropolitan Area
JEVIC	Japan Export Vehicle Inspection Center
KCCA	Kampala Capital City Authority
MoH	Ministry of Health
MoWT	Ministry of Work and Transport
NEMA	National Environment Management Authority
NGO	non-governmental organization
NRSC	National Road Safety Council
PSV	public service vehicle
RCDS	Road Crash Data Systems
RS	road safety
RSPR	Road Safety Performance Review
TSDP	Transport Sector Development Programme
TLB	Transport Licensing Board
TMEA	Trade Mark East Africa
TRSA	Transport and Road Safety Act
UHVI	Uganda Helmet Vaccine Initiative
UNECE	United Nations Economic Commission for Europe
UNRA	Uganda National Roads Authority
UPF	Uganda police force
URF	Uganda Road Fund
WHO	World Health Organization

Preface

The Government of Uganda, represented by the Ministry of Works and Transport, requested support from the United Nations Secretary-General's Special Envoy for Road Safety¹ to prepare a Road Safety Performance Review (RSPR) for Uganda. The review forms part of a global initiative aimed at assisting governments in identifying the most critical road safety priority needs and offering recommendations. The review was implemented in four phases:

- **Phase I:** A preparatory mission to Uganda took place in May 2017 comprising both the United Nations Economic Commission for Africa (UNECA) and the United Nations Economic Commission for Europe (UNECE). Road safety priority areas were agreed and the time schedule established. A team of national consultants was engaged to undertake the review process in July 2017.

The identified priority areas the team focused on were: road safety management; infrastructure for protection of vulnerable road users in urban areas (quality of existing standards); driver training and testing; enforcement of traffic rules; road crash database; and post-crash care response and coordination system.

- **Phase II:** Following the approval of the inception report, the national team² proceeded to conduct fact-finding activities and consultations to assess the road safety situation in Uganda and produced the draft report.
- **Phase III:** The draft report was submitted for review to the Government of Uganda, stakeholders and UNECE/UNECA. During the validation workshop,³ which was held in Kampala on 17 October 2017, the national team discussed the report, focusing on the current situation, findings and recommendations.
- **Phase IV:** The recommendations, with suggested amendments from the stakeholders, including comments and peer review from UNECE and UNECA, have been incorporated in this final report.
- **Phase V:** Official launch of the Road Safety Performance Review and capacity-building support offered to the Government.

¹ The Minister of Works and Transport formally requested support.

² The team of consultants included Dr. Eng. Andrew Grace Naimanye, Eng. Racheal Nganwa, Ms. Mable Nakitto Tomusange and Mr. Paul Kwamusi.

³ Annex 2 provides the list of the participants at the validation workshop.

Executive Summary

This first United Nations Road Safety Performance Review for Uganda has established that the magnitude of the road safety challenge is serious and has unfortunately failed to attract the necessary attention for appropriate interventions. At present, Uganda seems highly unlikely to achieve the goals of the United Nations Decade of Action for Road Safety, of stabilizing and reducing the forecast level of road fatalities by 2020.⁴ On the contrary, unless effective interventions are implemented, road crashes are likely to increase and even double within the next ten years.

In the last decade alone, recorded road crash fatalities rose from 2,597 to 3,503 in 2016 representing a growth of 25.9%.⁵ The accident severity index is 24 people killed per 100 road crashes. On average, Uganda loses 10 people per day in road traffic crashes, which is the highest level in East Africa.⁶ The overall annual cost of road crashes is currently estimated at approximately UGX 4.4 trillion (\$1.2 billion), representing 5% of Uganda's gross domestic product (GDP).⁷

Within this challenging context, road safety culture and attitudes in Uganda are declining to the detriment of the safety of road users. This is largely due to weak leadership for road safety, declining priority of allocation of resources and diminishing capacity for road safety interventions, mainly driven by consistently low commitment to road safety matters, reduced interest of development partners in road safety, non-participation of crucial stakeholders in road safety, and private sector and civil society's reduced interest and lacklustre actions to mitigate the challenges.

Whereas there are efforts by the Government to address road safety, the country lacks a national focus. Even though there is a national policy in place,⁸ there is no mechanism to ensure its implementation. Several challenges also exist in institutional management functions regarding coordination, legislation, funding and resource allocation, promotion, monitoring and evaluation, research and knowledge transfer, design and infrastructure issues, compliance with safety standards, and emergency medical services.

Road safety statistics show that urban areas have a big road safety challenge due to the high volumes and nature of transport operations. For example, in 2016, despite the fact that the Kampala city road network accounted for about 50% of the total number of crashes and 22% of all fatal crashes,⁹ the city lacks a major road safety programme. Also, road corridors such as the Northern corridor (which is the main route of transit traffic from Kenya to Rwanda and eastern Democratic Republic of Congo) have a poor road safety record.

Although the country has a robust regulatory transport framework in place, various challenges compromise the implementation of such policies and regulations, leading to inefficient service provision. The entire country and, in particular, Kampala city, is served by an unregulated public transport system, with most of the vehicles in poor mechanical condition, coupled with poor driving skills that contribute to road crashes. Most vehicles operate largely outside the transport regulatory framework.

Given the severe road safety challenges, most road safety stakeholders believe that there is minimal commitment from both political and technical leadership at central and local government levels. Even though national road safety targets exist, there is no agreed nationally set final, intermediate outcome or output target. All local governments and education sectors do not participate in the current road safety efforts in the country.

Uganda does not have an up-to-date framework for monitoring and evaluating road safety on a regular basis as required by the African Action Plan for the Decade of Action for Road Safety, nor a practice of working towards a national road safety strategy.

The National Road Safety Council exists within the Ministry of Works and Transport but is structurally underfunded and under-resourced in terms of human resources and the institutional setting to coordinate road safety efforts effectively.

⁴ General Assembly resolution A/RES/64/255.

⁵ Analysis of annual traffic and road safety reports.

⁶ Annual Traffic and Road Safety Report 2016

⁷ Based on the estimation of 5% of the gross domestic product.

⁸ National Road Safety Policy, Ministry of Works and Transport.

⁹ Annual Traffic and Road Safety Report 2016.

Uganda also missed an opportunity to set up a lead agency as it had secured funding for the same from development partners in 2012.¹⁰ The decision to create a lead agency was deferred by the Government and the preferred approach was to strengthen the National Road Safety Council. Albeit this directive is yet to be implemented.

The current Road Safety Performance Review has established that whereas Government has a strong commitment to improving road infrastructure with the aim of stimulating economic and social development, this commitment should be extended to road safety promotion given the high cost to the economy resulting from road crashes. Road safety has not benefitted from the increased funding of the transport sector, which in recent years has been in the range of 18.7% of the national budget.¹¹ Instead, for several years road safety allocations have remained at less than 1% of the transport budget. As a result, the lack of improvement in road infrastructure provision is likely to have contributed to increased road fatalities and injuries.

The road crash data management system in Uganda is poor and below generally accepted international standards. The road crash data system (collecting, analysing and usage) are not well aligned. The Road Crash Data Systems (RCDS) project, which cost UGX 7 billion (\$2 million) and had reached 75% completion,¹² stalled as a result of the cancellation of the Transport Sector Development Programme (TSDP). However, efforts by the Government to complete the project are yet to materialize.

Uganda's road infrastructure is generally unsafe. Most of the roads are single carriageway without a median, many with steep shoulders and with few opportunities for overtaking, resulting in many head-on collisions. And most roads lack facilities for non-motorized users. There is inadequate land-use planning, with numerous examples of unsafe accesses to the highway. Road safety engineering knowledge within the responsible government agencies at national, municipal and local level is very limited. There is no deliberate and systemic road safety engineering work and road safety audits are not regularly undertaken as appropriately qualified and experienced staff are lacking. As road safety is often considered to be of secondary importance by those designing new road projects or those maintaining the roads, there is an urgent need for technical assistance in road safety aspects.

Not being a vehicle manufacturing country, Uganda relies on imports for its fleet. Up to 90% of the fleet imported are cheap used vehicles,¹³ particularly from Asia. Mandatory vehicle inspection was suspended over 20 years ago and the effort to re-introduce inspection has met resistance from different circles in the country, including from the political leadership.¹⁴ The Government contracted SGS (Société Générale de Surveillance), which has introduced automated vehicle inspection. Four centres are operational, but with limited usage.

Uganda is yet to optimize the public road safety awareness programmes. The main event championed by the Government is the annual National Road Safety Week.¹⁵ There is opportunity to strengthen both the child¹⁶ and youth safety programmes, which could contribute towards greater road safety awareness.

The driver licensing system (training, testing and certification) needs to be urgently improved. Currently, driving standards in Uganda are of poor quality, with driver behaviour leading to a large number of accidents.

The enforcement of traffic rules is one of the main strategic efforts to improve road safety. The police enforce the traffic laws largely based on roadside checks and speed management operations. Traffic rules are well established and provided for under the Traffic Act¹⁷ but despite police efforts, enforcement activities are not yet sustainably deterring unsafe behaviour: e.g. speed, alcohol and non-seat-belt use.

The recent traffic operation code named Fika Salama has shown that efforts to increase enforcement can be effective, as this led to a decline in poor driver behaviour during its implementation.

The enforcement function needs to be strengthened by addressing the political challenges encountered during the enforcement of traffic rules.

The ubiquitous challenges in the implementation of traffic rules¹⁸ are further exacerbated by the traffic police operating with just 40% of staff. The severe manpower shortage has compromised effective enforcement of traffic rules. Furthermore, the force

¹⁰ Transport Sector Development Programme, World Bank, UK AID.

¹¹ Background to the budget, 2016/17.

¹² Final Pilot Main Report, MoWT, 2015.

¹³ Uganda Motor Industry Association Report.

¹⁴ Hon. Senyonga MP (Mukono Municipality) petitioned the Speaker of Parliament in regard to the procurement of the Contractor (SGS). Parliament has since instituted a Committee to investigate the matter. A report is yet to be issued.

¹⁵ Road safety week is held annually in December.

¹⁶ The Ministry of Works and Transport developed a child safety curriculum but it is not in use.

¹⁷ Traffic and Road Safety Act 1998 and related regulations.

¹⁸ Directorate of Traffic and Road Safety, Uganda police, 2017.

Executive Summary

has severe logistic challenges including lack of speed guns and patrol vehicles. Efforts by the Government for the police force to retain the earnings from traffic fines have not yielded the expected results, although about \$4.1 million was collected in 2016.¹⁹

Given its high road-crash rate, Uganda requires a robust emergency response and care system to address the high number of road injury cases. Post-crash response and care in Uganda is poor, particularly on up-country roads. However, the Government is setting up a national ambulance service to improve the pre-hospital care. There are challenges in regard to post-crash data and its quality, as well as in concerning underreporting of crashes.

Recommendations

The Government of Uganda should address the capacity constraints of the relevant institutions engaged in road safety management so that they can address the severe road crash challenge. In addition, the Government's prioritization of road safety efforts should focus on the provision of technical assistance, and financial and political commitment to optimize the benefits of the investment made in the development of the road transport infrastructure. Detailed recommendations are set out in chapter 7 of this report.

¹⁹ Annual Traffic and Road Safety Report, 2016.

Chapter 1 – Introduction

1.1 Introduction

This is the first United Nations Road Safety Performance Review for Uganda, supported by the United Nations Secretary-General's Special Envoy for Road Safety. It assesses the progress made by Uganda in managing its road safety performance with respect to the United Nations Decade of Action for Road Safety and the interventions in place to address road safety.

The purpose is to guide the Government of Uganda and United Nations partners in enhancing national road safety management capacity and identifying the most critical road safety aspects based on the priority areas identified. It also aims at helping Uganda to raise public awareness of road safety issues and advocate for ambitious road safety targets and specific measures to meet them.

The review examines the following five priority areas:²⁰ (a) road safety management, (b) infrastructure, (c) driver training, testing and enforcement of traffic rules; (d) road crash database and (e) post-crash care.

1.2 Study approach

This study commenced with preliminary activities of reviewing literature on road safety in Uganda, as well as regional and global road safety documents. An assessment of government and other stakeholder initiatives in the country was also undertaken. The main focus was on the agreed priority areas.

Key informant interviews and discussions were held with stakeholders from the public sector (including ministries, departments and agencies), private persons and civil society. The list of persons interviewed is attached as annex 3.

This study was carried out under the guidance of the Project Implementation Team, which comprised staff from UNECA, UNECE, the secretariat of the United Nations Secretary-General's Special Envoy for Road Safety, the Ministry of Works and Transport, and national consultants.

1.3 Country background: Uganda

Uganda covers an area of 241,000 square kilometres and is a member of the East African Community (EAC), together with Kenya, the United Republic of Tanzania, Rwanda, South

Sudan and Burundi. It shares borders with Kenya, South Sudan, the Democratic Republic of Congo, the United Republic of Tanzania, and Rwanda and has an estimated population of 41.49 million (2016).²¹ It is classified as a low-income country.²² Uganda is a transit country for goods and services to eastern Democratic Republic of Congo, South Sudan, Rwanda and Burundi from the seaports of Mombasa and Dar-es-Salaam.

1.4 Transport sector

Uganda Vision 2040 emphasizes the urgent need for an integrated transport infrastructure network to be put in place to spur the country's economic growth. It states that efficient transport infrastructure and services ease domestic and international trade and contribute to national integration.

Road transport accounts for over 90% of cargo freight and passenger movement and is a principal driver of economic growth.²³ The transport sector's contribution to total gross domestic product (GDP) was estimated at 2.8% in the financial year 2014/15.

The second National Development Plan II (NDP-II) recognizes infrastructure as one of the development fundamentals required to reach the middle-income status target by 2040. This has been reflected in financing by the Government and by donors, where close to 17% of the budget for the financial year 2017/18 was allocated to the Works and Transport Sector.

In Uganda, the rate of motorization has doubled from an estimated 635,556 vehicles in 2010 to an estimated 1,228,425 in 2014. Currently, there is an estimated motorized traffic of 8,500 million vehicle-km per year from 3,755 million vehicle-km in 2003,²⁴ 80% of which is on the National Roads Network.

Traffic congestion in Kampala is heavy.²⁵ In recent years there have been efforts to set up a bus rapid transport system and light rail for Kampala city, although these transport modes are yet to be realized. Rising traffic congestion has led to passengers preferring to use boda bodas, which are unsafe and unregulated. Commercial motorcycles issues are discussed in chapter 4.

²¹ Population estimates 2016. Source, Uganda Bureau of Statistics.

²² GDP per capita is \$701 as of 2016/17. Source, Uganda Bureau of Statistics.

²³ Annual Sector Performance Report for FY 2016/17, Ministry of Works and Transport.

²⁴ Road maintenance in Uganda –Challenges and way forward, 13th Joint Transport Sector Review workshop, 14 September 2017.

²⁵ Congestion is considered as a major concern to city road users of all categories according to Road user satisfaction survey 2016.

²⁰ As agreed upon by stakeholders in the project preparatory phase.



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1.5 Legal framework

Road transport legislation in Uganda includes the Traffic and Road Safety Act 1998, which regulates registration and licensing of motor vehicles, and established the Transport Licensing Board (TLB) and the National Road Safety Council (NRSC). The review of the Traffic and Road Safety Act 1998 is ongoing and significant progress has been made in strengthening traffic regulations.²⁶

Key transport sector documents include the Draft Transport Policy and the National Transport Master Plan.

There is also a Uganda National Roads Authority Act, 2008, which established the Uganda National Roads Authority (UNRA), which is responsible for developing and managing the national road network; and the Uganda Road Fund Act 2008, which established the Uganda Road Fund (URF) to finance the routine and periodic maintenance of public roads, as well as road safety.

The country is involved in global development processes towards achieving the targets of the United Nations Decade of Action for Road Safety and of the Sustainable Development Goals. In addition, Uganda is a contracting party to the Convention on Road Traffic and Protocol on Road Signs and Signals, 1949.

It is, however, not party to the following six additional United Nations core road safety legal instruments:

- 1968 Convention on Road Traffic
- 1968 Convention on Road Signs and Signals
- 1958 Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts

- 1997 Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles
- 1998 Agreement concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts
- 1957 Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

Uganda would greatly enhance its safety performance if it became a contracting party to these legal instruments.

Uganda's membership in the African Union involves several transport and sustainable development commitments, as well as other international obligations in different areas. Uganda is yet to ratify the African Road Safety Charter. It is important that Uganda becomes a contracting party to the Road Safety Charter as it is critical in achieving the aspirations of Agenda 2063,²⁷ which comprises a strategic framework for the socioeconomic transformation of the continent over the next 50 years.

1.6 Road safety actors

The main ministries that have a role to play in road safety are: Works and Transport; Internal Affairs; Local Government; Education and Health. The private sector and civil society are key stakeholders who participate in road safety. The full list of stakeholders is attached as annex 4.

The Ministry of Works and Transport is the lead Ministry responsible for road safety, which is operationalized through the National Road Safety Council (NRSC) – a statutory body under the Department of Transport Regulation and Safety. Other agencies of the Ministry responsible for road safety are TLB, UNRA and URF.

²⁶ During the 2017 National Road Safety Week 2017, a stakeholders' workshop was held to discuss the proposed Act.

²⁷ Agenda 2063: The Africa we want. African Union, 2013.

Chapter 2 – Road safety management

2.1 Introduction

This chapter discusses the road safety management processes in the country and provides the road safety trends, road safety management and the country response to the Decade of Action Plan 2010-2020.

2.2 Road safety trends

In recent years, road safety statistics show that road crashes are on the rise, as explained in the sections below:

2.2.1 Fatal crashes

Fatal crashes rose from 500 in 1991 to 3,503 in 2016,²⁸ representing a seven-fold increase over a period of 25 years. In the last decade alone, road crashes rose from 2,597 to 3,503 in 2016 representing a growth of 25.9%.²⁹ In the last decade, road crashes had generally stabilized below 3,000 fatalities but in 2014 they started increasing. For instance the annual fatalities increased from 2,845 to 3,224 representing an increase of 13.3%; furthermore, between 2015 and 2016, fatalities increased from 3,224 to 3,503 representing an increase of 8.7%. Pedestrians have consistently represented about 40% of these fatalities.³⁰

2.2.2 Serious crashes

Serious injuries resulting from road crashes³¹ increased from 13,576 in 2007 to a peak of 15,854 in 2010, then falling to 12,754 in 2013.³² Motorcyclists and passengers of motor vehicles continue to account for the highest number of people seriously injured – accounting for 25% and 45% respectively.³³

2.2.3 Pedestrian vulnerability

Pedestrians are the most vulnerable category of road users constituting 40% of the number of persons killed in 2016, equivalent to some 1,384 pedestrians.³⁴ Children, particularly those of school going age, are a group very vulnerable to road

crashes, although the current data system does not specifically highlight this issue.³⁵ In urban areas, particularly Kampala and along the highways, motorists severely endanger the lives of pedestrians due to drivers frequently utilizing the road shoulders without any regard for pedestrians, thereby increasing further the risk of pedestrians being injured in road crashes.

2.2.4 Passenger vulnerability

In 2016, passengers of motor vehicles were another vulnerable road user group, accounting for up to 20.1% of the fatalities.³⁶ Most people in Uganda use the poorly regulated and unsafe public transport system to move around, and this includes commercial motorcycles.³⁷

2.2.5 Motorcycle-related crashes

In recent years, motorcycle crashes have been the highest growing crash type.³⁸ The motorcycle taxi use could arguably explain the increase in injuries attributed to powered two-wheelers. Motorcycle fatalities between 2011 and 2016 doubled from 570 deaths to 1,170 deaths, representing a 51.3% increase in the five-year period. In 2015 alone, 5,543 riders were seriously injured.³⁹

2.2.6 Kampala city

In the last decade, Greater Kampala metropolitan area⁴⁰ has contributed to half of all road crashes in Uganda, with 22% of fatal crashes occurring in the city.⁴¹ However, in 2016 this figure fell to 44% of all crashes and to 19% of all fatalities occurring in the city. The police report attributes this high crash rate mainly to reckless driving and congestion.⁴²

2.2.7 National road corridors

Many fatalities and serious injuries along the national roads network are registered by the police as head-on collision crashes.⁴³ The road corridors are risky with several crash hot spots

²⁸ Analysis of annual traffic and road safety reports, Uganda police.

²⁹ Ibid.

³⁰ Ibid.

³¹ Serious injuries are seen as injuries that necessitate the victim to be admitted in a health facility.

³² Annual Traffic and Road Safety Report 2013, Uganda police.

³³ Analysis of annual traffic and road safety reports, Uganda police.

³⁴ Annual Traffic and Road Safety Report 2016, Uganda police.

³⁵ Health Management Information System, data show below or above 5 years.

³⁶ Analysis of Annual Traffic and Road Safety Reports, Uganda police.

³⁷ Dr. Chris Mayora, The Economics of Traffic Crimes, 2017.

³⁸ Investigating the impact of motor cycle's growth in Africa: Case study of a few Selected Cities, SSATP, World Bank, 2007.

³⁹ Analysis of Annual Traffic and Road Safety Reports, Uganda police.

⁴⁰ National Transport Policy, Ministry of Works and Transport, June 2017.

⁴¹ Annual Traffic and Road Safety Report, 2016, Uganda police.

⁴² Ibid.

⁴³ Ibid.

recognized by fleet operators⁴⁴ that require remedial measures to improve road safety. Most of the national roads network comprises two-way single carriageways, with no median to separate opposing traffic flows. The Northern Corridor (Malaba/Busia-Tororo-Jinja-Kampala-Masaka-Mbarara-Katuna; Tororo-Lira-Kamdingi-Pakwach-Arua; and Kampala-Gulu Highway) in particular has the highest fatalities compared with other roads. In 2016 for instance; the Masaka-Kampala corridor recorded over 200 fatalities over a distance of 120kms,⁴⁵ making it one of the riskiest roads in Uganda that year.

2.3 Road crash data management in Uganda

2.3.1 Introduction to road crash data systems

The road crash data management system in Uganda is poor and requires improvement. For instance the police data and that of the health sector are not well aligned and there is no coordination between the two agencies.

The police and the Ministry of Health do not share data on a regular basis. There is no national trauma registry system that could support and supplement police data specifically checking on underreporting.

The Health Management Information System (HMIS) data indicate that the public health system is overwhelmed with road traffic crashes, which are listed among the top 10 leading causes of hospital deaths in the country. In 2014/2015, road injuries were the fourth leading cause of hospital deaths, and more than 50 per cent of those deaths were from crashes.⁴⁶

Whereas, the Uganda Revenue Authority (URA) has data on vehicle imports from vehicle registration, the provision of driving permits, and other related data sources, there is an absence of harmonized and clean computerized vehicle and driver registries that can be accessed by the police and other stakeholders.

Such a system would need to be put in place to enable the harmonization of vehicle and driver registration to further support data management and data-led interventions for promoting road safety.

2.3.2 Establishment of the Road Crash Data Systems project in Uganda

The Road Crash Data Systems (RCDS) project in Uganda was drawn up through cooperation between the Government and the World Bank. The objective was to improve road crash data collection, analysis and utilization for data-led interventions.

The project, which cost UGX 7 billion (\$2 million) was nearing completion⁴⁷ but stalled following the cancellation of the Transport Sector Development Programme (TSDP). The plan is to procure a consultant to complete it.

The database was to serve the various road safety stakeholders (National Road Safety Council (NRSC), Uganda National Roads Authority (UNRA), Kampala Capital City Authority (KCCA), Ministry of Works and Transport (MoWT), health service providers, insurance companies, local government agencies, Ministry of Education and Sports (MoES) civil society organizations, transport associations, etc. The system could have been used as a management information system to inform decision-making in road safety management.

2.3.3 Way forward for the Road Crash Data Systems project

The Government is committed to reviving the project. The outstanding phase of this project is the rollout and provision of technical support and management. An estimated \$674,981 is required for the final roll-out of this project. Only 40% of the amount has been included in the 2017/18 budgetary funding.

Another challenge is the institutional setting in regard to the absence of the road safety authority that had been envisaged to host the RCDS. Some recommendations have been made on the revival of the RCDS, given the challenges that the RCDS team experienced while implementing the project.

2.4 Uganda's performance during the Decade of Action for Road Safety

Uganda is highly unlikely to reach the goals of the United Nations Decade of Action for Road Safety – of stabilizing and then halving the road crashes by 2020. In 2010, the road crash fatalities were 2,954. Road crashes that had subsequently stabilized at a high annual road crash fatality of 3,000 lives have risen in recent years to 3,503, representing an increase of 8.7%.⁴⁸ This is contrary to what was set out in the national road safety policy of reducing road traffic fatalities to a maximum of 1,400 fatalities by the year 2017. Uganda has been active⁴⁹ in international forums on road safety where international decisions and targets are set. Since 2010 it has been attempting to implement the African Road Safety Action Plan 2011-2020, which aligns to the Decade of Action with the following five pillars: road safety management; safer roads and mobility; safer vehicles; safer road users and post-crash care and response; plus an additional pillar that focuses on rural transport safety.

⁴⁴ National Road Safety Policy quotes a RSISTAP study that identified 33 black spots in Kampala and Shell Uganda Black spot map showing over 200 black spots on the Uganda road network.

⁴⁵ AFP TV news documentary on road safety, 2016.

⁴⁶ Analysis of injury data derived from the Health Management Information System data.

⁴⁷ Final Pilot Main Report, MoWT, 2015.

⁴⁸ Analysis of annual traffic and road safety reports.

⁴⁹ At the United Nations Ministerial Conference in Moscow in November 2009, for instance; the former Minister of Works and Transport chaired a session on behalf of the African Ministers of Transport.

Chapter 3 – Infrastructure

3.1 Introduction

Safe design of the road environment needs to be accorded more focus if Uganda is to have a visible and high impact reduction in fatalities and serious injuries (FSI). Safe roads are those designed to reduce the likelihood of crashes occurring and to be forgiving when they do occur. Roads designed to reduce crash likelihood are those that allow the users to process information on the use of facilities and to make appropriate decisions in a timely manner.⁵⁰

As humans are fallible, the road infrastructure in Uganda can be unforgiving in situations when road users make errors. The recent redevelopment of the road infrastructure nationally has implicitly led to higher operating speeds resulting in increased severity of injury when crashes occur.

The road environment should be well defined and comprehensible to all road users in order to minimize road crashes.

As motorization increases, road crash incidents are likely to increase; translating into lost productivity, medical expenses, grief, and a considerable drain on the economy. Even when new road construction or rehabilitation projects incorporate road safety features into their design, there are often challenges in implementing the safety elements during the construction and road maintenance phases, such as insufficient funds, lack of consideration for vulnerable road users, or project overruns.

Most roads in Uganda are single carriageway two-way roads with few opportunities for safe overtaking, which has been reported by police as the leading cause of loss-of-control and head-on collisions.

There is low enforcement of land-use planning regulations with numerous examples of unsafe accesses to the highway.⁵¹ Most urban centres fail to recognize the frailty of the Vulnerable Road User (VRU), although this user type is the dominant mobility mode in these environments.

3.2 Review of the road infrastructure

The public road asset is 140,000 km,⁵² categorized as 20,500 national roads (4,257 km paved, 16, 250 km under

management of UNRA; 2110 km (580 km paved, 1520 km unpaved) city roads under KCCA; 30,000 km district roads under 121 district local governments; 3,800 km urban roads under 41 municipalities; 7,700 km urban roads under 214 town councils and an estimated 60,000 to 80,000 km of community access roads under the 1,155 sub-counties.

Some roads are poorly maintained in terms of surface quality, markings and signs, all of which contribute to crashes. Road maintenance backlog challenges still exist despite the creation of institutions such as the Uganda Road Fund. There are also capacity issues that hinder timely and routine maintenance.

To further compound the challenges of poor road conditions, there is the growing issue of increased axle load violations. For example, on average in 2015, the percentage of overloaded trucks was 3.7% compared with 2.1% in 2014.⁵³

Although there have been improvements in recent years, the speed limit signage is still limited on the road network and usually vandalized as scrap metal. In some cases, the road function, speed limit and road layout are not well matched in the road classification system with developments coming up adjacent to rehabilitated sections of the road network impacting on the functionality of the road system. The urban network in particular, is imposing high risks especially for pedestrians who comprise the majority of road user deaths.

Road safety engineering knowledge in the responsible government agencies is generally lacking, causing the design and construction of safer roads to be of secondary importance. Though road safety units have been established in some road agencies, they are not adequately resourced to address unsafe sections on the roads on a regular basis. This recommendation for adequately resourced road safety units had been made to the Government in previous studies.⁵⁴

In the urban areas, many roads are so narrow and saturated with traffic that some motorists have resorted to driving on road shoulders. In the same manner, roadside parking has made pedestrian and cyclist accessibility inoperable and dangerous due to weak enforcement measures and poor safety culture. There is a need to prioritize the installation of infrastructure that protects vulnerable road users, given

⁵⁰ iRAP Uganda, 2010 Technical Report.

⁵¹ Road design manuals, Ministry of Works and Transport, 2010.

⁵² Ministry of Works and Transport.

⁵³ Annual Sector Performance Report for FY 2016/17.

⁵⁴ Uganda Road Safety Capacity Management Review, World Bank, 2009.

that walking and cycling are the most common modes of transport.

Based on observations conducted during the course of this study in a majority of the locations where pedestrian facilities have been provided, the quality of footpaths shows that these facilities are not receiving the warranted care, with irregularities, holes and obstructions that have appeared over the years.

In many instances, footways are obstructed, forcing pedestrians to squeeze past the obstructions or go onto the roadway. Footways are frequently occupied by the traders who own adjacent shops, by other vendors on the pavement, by parked cars, by motorcyclists and by informal businesses that have established themselves on the pedestrian infrastructure.

3.2.1 Condition of road infrastructure in 2010 - National

In 2010, an iRAP assessment⁵⁵ was made of 2,380 km of the Ugandan National Roads Network and 92 km of the Kampala city centre roads. It provides important insights into the safety

⁵⁵ iRAP Uganda, 2010 Technical Report.

performance, particularly the safety protection afforded to different road users.

On the whole, the 2010 survey showed that 17% of the 2,472 km road network and 34% of the same network attained a 3-star⁵⁶ or better safety rating for vehicle occupants and pedestrians respectively. Cyclists and motorcyclists achieved 4% and 14% at 3-star or better, respectively.

In the 2010 iRAP survey, 83% of the road length surveyed by iRAP is only 1 or 2 (black or red) star safety rated for vehicle occupants.

The iRAP methodology, which employs the principles of the Safe System approach, recommended a number of cost-effective countermeasures to be implemented. For the 2010 assessment, iRAP developed a Safer Roads Investment Plan (SRIP) over a 20-year period to enable a phased implementation of countermeasures for the enhancement of safety of infrastructure. The top five recommendations based on low cost high impact are illustrated in table 3.2.

⁵⁶ Ibid. The Star Rating Scores (SRS) express the safety capacity of a road section on a 5-star scale on which the best performing category is 5 star and the worst is 1 star, so that a 5-star road means that the probability of a crash occurrence, which may lead to death or serious injury, is very low.

Table 3.1 Star ratings - National Roads Network - baseline situation 2010.

Star ratings	Vehicle occupant		Motorcyclist		Pedestrian		Bicyclist	
	Length (km)	Percentage	Length (km)	Percentage	Length (km)	Percentage	Length (km)	Percentage
5 stars	-	-	-	-	-	-	-	-
4 stars	222	9	124	5	-	-	-	-
3 stars	198	8	222	9	840	34	99	4
2 stars	791	32	519	21	1 632	66	1 384	56
1 star	1 261	51	1 434	58	-	-	915	37
N/A	-	-	173	7	-	-	74	3
Totals	2 472	100	2 472	100	2 472	100	2 472	100

Table 3.2 Top Five Countermeasures Of High Benefit/Cost Ratio From 2010 Nationwide Assessment

Countermeasure type	Sites / length	Estimated cost (20 years) Millions of dollars	FSI saved (20 years)	Value of safety benefit (20 Years) Millions of dollars	Cost per FSI saved	BCR
Pedestrian footpath	588 km	\$7	19 810	\$184.3	\$354	26
Shoulder widening	1 366 km	\$14.2	36 170	\$336.6	\$393	24
Central hatching	2 340 km	\$13.6	28 440	\$264.6	\$477	20
Bicycle facilities	358 km	\$2	3 830	\$35.7	\$524	18
Intersection delineation	315 sites	\$2.6	4 650	\$43.3	\$567	16

Map Of Vehicle Occupant Safety Star Ratings



3.2.2 Condition of road infrastructure in 2010 – Kampala and surrounding areas

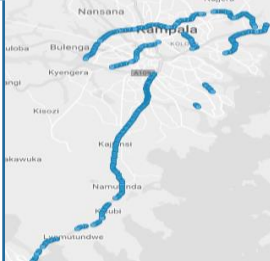
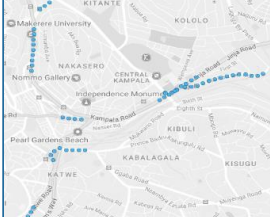

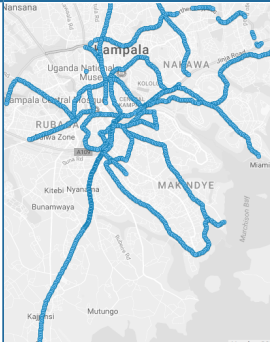
At the city level, including key routes on the outskirts of the city, there is an urgent need to focus on improving the road network’s safety protection for pedestrians. The 2010 iRAP assessment shows that 24% of the 185 km assessed achieved a 3-star or better safety performance for motor vehicle occupants. Approximately 1% of the road network results in a 3-star or better for pedestrians.

Armed with this baseline information, the top 10 countermeasures proposed in 2010 against the developments in infrastructure across the country since have been reviewed. In addition, an iRAP assessment was carried out of the same road network in Kampala and surrounding areas in August/September 2017 to determine how Kampala’s city agencies have progressed in developing infrastructure to minimize road crash victims.

Implementation of some of the proposed top 10 countermeasures has been undertaken in Kampala city. Table 3.4 illustrates the countermeasures where some activities have been implemented.

Table 3.3 Situation on 185 km in Kampala and surrounding areas, 2010

Star ratings – City Road Network – baseline situation 2010								
Star ratings	Vehicle occupant		Motorcyclist		Pedestrian		Bicyclist	
	Length (km)	Percentage	Length (km)	Percentage	Length (km)	Percentage	Length (km)	Percentage
5 stars	-	-	-	-	-	-	-	-
4 stars	-	-	-	-	-	-	-	-
3 stars	44	24	9	5	1	1	-	-
2 stars	73	40	75	41	18	10	22	12
1 star	59	32	92	50	157	85	154	84
N/A	9	4	9	4	9	4	9	4
Totals	185	100	185	100	185	100	185	100

Table 3.4 Countermeasures where some activities have been implemented		
Countermeasure	Location	Action undertaken
Pedestrian footpath		Pedestrian footpaths have been provided along 37 km of the surveyed road network. Additional pedestrian footpaths have been provided in a number of even more cost-effective ways, such as enforcing parking regulations and clearing street vendors from the footways.
Central median barrier		Some central medians have been installed along the newly rehabilitated road sections. Beautification exercises along the main roads in Kampala city have also seen central islands becoming more effective as pedestrian refuges.
Delineation		Road markings have been installed at a number of rehabilitated road sections, especially within the city centre. This is only apparent where major road works have been undertaken.
Traffic calming		Traffic calming has been introduced at numerous locations throughout the city. Rumble strips and road humps have been installed.

3.2.3 Condition of road infrastructure in 2017 – Kampala and surrounding areas

As part of this review, detailed road inspections were carried out along the 185 km road network in the Kampala city centre and its suburbs. During these inspections, 52 different design features known to influence the likelihood and severity of crashes were considered and these attributes recorded.

Star ratings of the relative safety of specific road sections are determined through the iRAP VIDA tool, based on the findings during the road inspection and data collection phases. The VIDA tool analyses the attributes using a series of standard routines, with bespoke analysis performed on sections of particular interest to the user.

The risks identified are linked to countermeasures known to reduce crashes, and VIDA produces Safer Roads Investment

Plans highlighting what countermeasures are cost effective to address a particular risk, including the life costs of each countermeasure and the impact on fatalities and serious injuries.

From the 2017 assessment, the 185 km of road network, rated as illustrated in table 3.5:

Little progress that has been made in terms of safer infrastructure between 2010 and 2017. For motorized transportation, there has been no change in the kilometres of 1-star roads. However, there has been a small improvement in 2-star roads becoming 3-star roads and a commendable slight move into the 4-star range. For non-motorized transport (NMT), there has been a slight improvement in 1-star roads moving to 2-stars. However, there are still no roads rating 3-star or better for NMT.

Improvements in vehicle occupant star ratings can be attributed to the following activities on some of the roads:

Table 3.5 Rating of 185 km of road network from the 2017 iRAP assessment

Star ratings for the city road network								
Star ratings	Vehicle occupant		Motorcyclist		Pedestrian		Bicyclist	
	Length (km)	Percentage	Length (km)	Percentage	Length (km)	Percentage	Length (km)	Percentage
5 stars	-	-	-	-	-	-	-	-
4 stars	1	1	-	-	-	-	-	-
3 stars	46	25	9	5	1	1	-	-
2 stars	71	38	75	41	25	14	23	3
1 star	59	32	92	50	150	81	153	83
N/A	9	4	9	4	9	4	9	4
Totals	185	100	185	100	185	100	185	100

- Improvement in pavement quality.
- Widening of some road links to increase capacity and enable recovery in loss-of-control situations.
- Widening of some junctions to increase capacity.
- Improved directional road markings especially where junction re-alignments have taken place, enabling drivers to get into the right lane earlier, thus minimizing conflicts between vehicles when decisions are made late.
- Physical separation of vehicles travelling in opposite directions by widening central reserves or installing physical medians along roads thus minimizing loss-of-control situations and head-on collisions.
- Clearing roadsides and protecting road reserves from encroachers, resulting in less roadside friction and more visibility.

The lack of improvement to the star rating on the risk factors affecting motorcycles can be attributed to little work having been done to the infrastructure to facilitate this mode of transportation. When looking at the Star Rating Scores – from which the Star Ratings are derived – there has been some reduction in risk to motorcycle users, though not enough to improve the Star Rating. With the use of motorcycles on the rise in the last 7 years by the increase in boda boda use and motorcycle courier/delivery services, the situation could have been relatively worse. However, the improvements in the road environment as a whole may have some impact on the fact that the risk to motorcyclists has not become worse.

The use of bicycles in the city did not grow substantially between 2010 and 2017.⁵⁷ However, this mode is used to a larger extent in the rural areas and cyclists can be seen in relatively large volumes

along the National Roads Network. That said, the Government's NMT policy proposes the promotion of walking and cycling and therefore it is recognized that the implementation of cycle facilities in urban centres is likely to encourage this modal shift, with more people opting for the more environmentally sustainable and healthier mode of transport.

The same goes for the pedestrian star ratings. The small improvement in pedestrian star ratings is possibly due to the activities that have been undertaken on the roadways to improve visibility through street lighting and improvements at junctions.

In general, on the intercity roads (National Roads Network), the driving lanes have been widened to meet the recommendations of the African Union's Trans-African Highways specifications of 3.5 m lanes and 2 m shoulders⁵⁸. One of the expected benefits resulting from the implementation of this recommendation is the improvement in pedestrian safety through the provision of a wider refuge from errant vehicles.

However, the benefits of the wider shoulders in the protection of VRU can also be impacted by the wider lanes, which encourage faster driving. The impact of this is that where there is loss of control, the roadsides are inadequate to protect the VRU resulting in collisions with more grave consequences. There is therefore a need to consider the protection of pedestrians on these high-speed roads without compromising the mobility of and purpose of the routes. This could be done in a number of ways, such as segregating NMT by the provision of infrastructure that protects them from the high-speed environment and/or re-classifying the routes in recognition of the NMT usage and therefore lowering the speeds on these routes.

⁵⁷ First Africa Bicycle Information Organisation (FABIO).

⁵⁸ Basic Guidelines for Road Classification and Standards on Trans-African Highways, Annex II.

In the urban centres, there has been more emphasis on the provision of pedestrian footpaths as reflected by the results of the 2017 iRAP survey: there is an increase in useable footpaths in and around the city. Some footpaths were rehabilitated simply by removing street vendors who occupied footways with their merchandise. Similarly, there has been a drive to eliminate illegal parking especially on footpaths in the city centre. This has had a positive impact on the infrastructure for pedestrians at a low cost of implementation. It is also noted that the beautification activities in the city centre have enabled more pedestrian refuges both along the footpaths and when crossing.

The installation of pedestrian at-grade crossing points along high speed roads has been seen to result in a high number of pedestrian related crashes at these locations. A case in point is the frequent number of road crashes at pedestrian crossings along the Entebbe Road.⁵⁹ Local communities have cited the presentation of the crossings as a place that is safe to cross however none of these crossings have adequate signage to warn the driver of their existence. This creates a false sense of safety for pedestrian while no physical measures are in place to force drivers to slow down and yield to pedestrians waiting to cross. However, for the last three years, road crashes along the Entebbe road have reduced slightly due to the increased visibility and enforcement efforts by the Uganda police force.

Uganda has invested heavily in road development, however, road infrastructure is still being designed with the major focus on motor vehicle mobility as shown by the iRAP study of 2010. Pedestrian crossing facilities are not sufficient or optimal as they are far apart resulting in pedestrians crossing at inappropriate locations risking being struck. The majority of traffic signals are inefficient and are often over-ridden by traffic police – who do not put into consideration the need for pedestrian movements at these locations.

Although some road safety audits are incorporated in road network planning, designs and construction, they are carried out in an ad hoc and random manner. Uganda has a Road Safety Audit Manual but audits are not being undertaken in a consistent manner or process. In some cases when audits are carried out, there are hardly adequate resources and commitments to take the remedial action, rendering the well-intentioned purpose of the audit less effective. There is no measure of the impact of the implemented initiatives apart from by the intervention of civil society and community programmes.

Black spot studies have not continued at the same pace as the development of the road network in Uganda. Some attempt to resolve the early identified black spots have been undertaken however, new ones being created by the new roads are not being monitored or countermeasures being installed to relieve the burden on these new locations. Recommendations from studies undertaken by civil society in Uganda on black spots

along specific corridors have been largely shelved, with no signs of implementation.⁶⁰

As part of the development planning for the city's roads, safety countermeasures that could be implemented gradually over the next 10 years have been developed. These are listed in chapter 7.

3.3 Infrastructure policies and standards

The Uganda National Road Safety policy outlines the policy objectives, actions and outcomes to address the improvement of road safety for all road users.

Uganda has a Non-Motorised Transport (NMT) policy, which outlines the policy objectives, actions and outcomes to address the improvement of road safety for vulnerable road users. The policy⁶¹ provides guidelines to promote cycling and walking as sustainable means of transport and sets out to redress the lack of safety for NMT through the achievement of the following objectives:

- Increased acknowledgment and consideration of walking and cycling in transport, planning, design, and provision of safe infrastructure for pedestrians and cyclists.
- Resources for walking and cycling being mainstreamed in agencies' financial planning.
- The development and adoption by all agencies of universal design standards that provide for access to all sectors of the community.
- An improvement in regulation and enforcement to enhance safety for pedestrians and cyclists.

Although Uganda has been one of the first African countries to establish an NMT policy (2012), to date, the implementation of the NMT Policy is lacking as the Government, through the Ministry of Works and Transport, is yet to develop the guidelines that operationalize the NMT policy.

In 2010, the Government updated the road design manuals that conform to international standards,⁶² taking into consideration most of the road safety aspects and best practices. There are currently ongoing efforts to update the manuals further. Unfortunately, it has been observed that in some locations where roads are rehabilitated the installations of physical infrastructure that does not meet the requirements. This can be attributed to inadequate supervision of construction works to ensure that the set standards are met. It has been known that in some instances where the project exceeds its allocated

⁵⁹ Uganda police crash data 2012–2016.

⁶⁰ Blackspots along the Northern Corridor, 2014, by Safe Way Right Way.

⁶¹ Non-Motorised Transport policy (2012).

⁶² Road and Bridge Works, Ministry of Works and Transport, January 2010.

budget, it is the safety measures that are often removed from the programme.

On national and city roads, including those in urban town councils and municipalities; there is inadequate road signage. Where signs do exist, they are often in poor condition.

Indeed, reflective road signs tend to be stolen from road sides and sold as scrap metal.

The MoWT has a road signs and markings manual⁶³ in place; however, the reality is that signs are sometimes not

placed in accordance with the guidance. Occasionally, the signs placed are not to the Ugandan standards and can cause confusion and/or even result in road users ignoring the signs altogether. It is key that the standards be adhered to in order to enable consistency and ease of recognition by road users therefore aiding in good driving behaviour, better judgement of the road environment and support for enforcement efforts.

It has been noted that Uganda fails to comply with some of the requirements of the 1949 Convention on Road Traffic (Convention on Road Traffic, of 19 September 1949, Protocol on Road Signs and Signals, of 19 September 1949) as highlighted in table 3.6.

⁶³ Road Sign and Marking Manual, Ministry of Works, Housing and Communications, 2004.

	International Agreement (1968 Convention on Road Signs and Signals)	Uganda standards	Implemented	Recommendations
Road markings	Road markings should be of non-skid material and should not protrude more than 6 mm above the level of the carriageway.	<i>DO NOT COMPLY:</i> The continuous or broken lines used should be of durable water-borne paint and have a thickness greater than 15 mm above the level of the carriageway.	Road markings implemented do not conform with the international Agreement. The lifespan of the road markings is less than two years and the markings are rarely maintained.	Uganda should amend its standards to reflect the requirements of the international Agreement. Use of 15 mm thick paint may cause retention of water, limiting its skid resistance properties.
	If reflectors are to be used on the road, they should be no more than 2.5 cm in thickness.	<i>COMPLY:</i> If reflectors are to be used on the road, they should be approx. 1.8 cm in thickness.	Where road studs are installed, their thickness ranges within the Ugandan standard and the international Agreement.	Better monitoring of installations should ensure studs are within the requirements of the international standard
	Triangle yield markings on roads should be between 0.4 and 0.6 m in width and 0.6 and 0.7 m in height. Any square (cyclist crossing) markings should be between 0.4 and 0.6 m in length and 0.4 and 0.6 m in width.	No specification identified.	Signs on the road pavement are currently not installed in Uganda.	Address this issue in the Ugandan standards and consider using road markings to inform drivers to yield or give way.
	The distance between any stop lines and any words on the road should be between 2 and 25 m. The words should be elongated and at least 2.5 m high.	No specification identified.	Words on the road pavement are currently not installed in Uganda.	Address this issue in the Ugandan standards and consider using road markings to provide drivers with information in place of or complementary to signs.
	Arrow markings should not be less than 2 m in length.	No specification identified.	Arrow signs are usually used but often at less than 2 m in length. An example is at the Kakoba roundabout in Mbarara.	Address this issue in the Ugandan standard and ensure that implementation meets this standard.
Transverse rumble strips	They should be between 15 and 25 mm.	Warning is not necessary when placing them. They should be placed a distance of between 30 and 50 m before a hazard and should be well painted. They are to be 10 to 15 mm high and at intervals of between 0.5 and 1 m.	Rumble strips are implemented at varying standards and are often out of Spec in accordance with the Design Manual. In most cases they meet the international Agreement and not the national standard.	Align the national standard and the international Agreement and ensure implementation meets the requirements.

Chapter 4 – Vehicles

4.1 Introduction

Not being a vehicle manufacturing country, Uganda relies mainly on imports from Asia for its fleet.⁶⁴

4.2 Pre-importation inspection

Most (95%) of the fleet are relatively inexpensive used vehicles⁶⁵ imported from Asia. Currently, Uganda poses no restriction on the age of vehicles that can be imported, as distinct from other countries in the East African region. There is a pre-import verification of conformity implemented by the Uganda National Bureau of Standards through the Japan Export Vehicle Inspection Center (JEVIC) for used vehicles.

4.3 In-country vehicle inspection

Mandatory vehicle inspection in the country was suspended over 20 years ago. Corruption was cited as the reason for the suspension of the exercise in the 1990s. The Government is committed to outsourcing motor vehicle inspection⁶⁶ and to this effect contracted SGS (Société Générale de Surveillance), which has introduced automated vehicle inspection. Four centres⁶⁷ are already conducting these inspections.

The effort to re-introduce the inspection regulation has met resistance from different circles in the country, including from the political leadership.⁶⁸

4.4 Public transport services

In the 1990s – in line with the liberalization policy – the Government disengaged from the provision of transport services. The provision of public transport services was left to the private sector, with government playing a regulatory role. The Government concentrated on the provision of the road infrastructure, as well as the provision of the policy and regulatory framework to manage the transport services. Since

1998, several transport regulations have been enacted to ensure that public transport services are efficient.⁶⁹

Over time, the public transport function has not only been growing but has also evolved. The decision by the Government to stop providing public transport services has led to the emergence of the private sector controlled transport system and the mode of transport shifted from high-capacity buses to minibuses.⁷⁰

Despite the existence of a robust transport regulatory framework, the provision of transport services remains inefficient, unreliable and characterized by unregulated public transport⁷¹ – particularly motorcycles taxis, poor road user behaviour and inefficient fleet transport services. The transport regulatory framework is shared by various agencies, which have different agendas and mandates.

4.5 Motorcycle taxis

Several studies have confirmed that there is a high growth rate of motorcycles in Uganda.⁷² Since 2000, commercial motorcycles (boda boda) emerged as one of the significant public transport services particularly in urban areas. In Kampala, motorcycle taxi growth⁷³ was projected to have grown 58.7% per annum since 2007, and by 2014 there were about 405,124 from the 15,979 motorcycles in Kampala in 2007. This evolution is in response to the urban mobility needs where motorcycles have gained relevance as they provide a low-capacity transport mode for both urban and rural people.

The factors that have favoured their growth include poor public transport services, liberalization, availability of cheap new and used motorcycles from Asia, credit facilities from persons and banks, poor road infrastructure, waiving of local government tax on motorcycle.

The growth has had both positive and negative impacts. The main positive impacts are the demand for the service by users, thereby filling the gap of public transport needs; employment creation; and a source of revenue for the Government.

⁶⁴ Data from Uganda Motor Industry Association.

⁶⁵ National Road Safety Policy, Ministry of Works and Transport, June 2017.

⁶⁶ Ibid.

⁶⁷ The operational centres include Matuga, Nabbingo, Namulanda and Mbalecentres.

⁶⁸ Hon. Muyanja Senyonga MP (Mukono Municipality) petitioned the Speaker of Parliament in regard to the procurement of the Contractor (SGS). Parliament has since set up a Committee to investigate the matter. A report is yet to be issued.

⁶⁹ Traffic and Road Safety Act 1998, Uganda Printing and Publishing Ltd, 1998.

⁷⁰ Draft Transport Sector Policy and Strategy Paper, Ministry of Works, Housing and Communications, 2002.

⁷¹ Speech by former Chairman, NRSC, during the National Road Safety Week, December 2015.

⁷² Growth of motorcycle taxis in African Cities, SSATP, World Bank, 2008.

⁷³ Investigating the impact of motorcycle growth in Africa: Case study of a few selected cities, Uganda case study, SSATP, December 2007.

The negative factors of the growth were found to include congestion of the city, inadequate infrastructure, decline of demand for Special Hire Taxi business, road safety challenges, crime among the motorcyclists, health-related challenges, and environmental consequences.

Governance of motorcycle taxis has remained a challenge,⁷⁴ with the motorcycle taxi being a highly unregulated mode of travel.

4.5.1 Motorcycle helmets

With the fast-growing population of two wheelers, particularly commercial motorcycles, Uganda enacted a mandatory helmet law for motorcyclists and passengers in 2004 to reduce the severity of motorcycle-related traffic injuries.⁷⁵ However, a quick inspection of the roads indicates poor observance of the law by the cyclists and minimal enforcement by the police. The Injury Control Centre Uganda (ICC-U) and Uganda Helmet Vaccine Initiative (UHVI) in the past decade have conducted studies on helmet use among commercial motorcyclists in Kampala.

According to the ICC-U, the prevalence rate for riders' ranges was between 30.5% and 50.0%, while helmet ownership is 70%. That prevalence rate is low compared to the ever-increasing motorcycle related injuries seen in Uganda health facilities. Evidence has shown that, the proper helmet use reduces the risk of severe head injuries by as much as 70%, and risk of death by up to 40% in the event of a crash.⁷⁶

4.5.2 Vehicle data

URA collects data on vehicle imports and driver details due to provision of driving permits and related data. There is a lack of coordinated computerized vehicle and driver registries

at national levels that can be accessed by the police⁷⁷ and other stakeholders. A system should therefore be set up to harmonize vehicle and driver registration data, as well as build capacity for data management on road safety.

4.6 Transport of dangerous goods

In Uganda, transport of dangerous goods is not given the attention it deserves and usually dangerous goods are transported just like any other goods.⁷⁸ There is no additional training that the driver transporting dangerous goods must undertake before being allowed to transport or deal and handle hazardous or dangerous goods. Currently, the national laws are silent on the requirements, for example to transport dangerous goods, the truck driver is not required to have specialized training or licence.

With the development of the oil and gas industry in Uganda, the National Environment Management Authority (NEMA) has started issuing licences for transporting hazardous waste products.⁷⁹ Drivers of dangerous goods possess the basic specialized driving permit. However, stakeholders in international fuel companies⁸⁰ enforce international regulations on dangerous goods based on the United Nations regulations on movement of dangerous goods through self-regulations.⁸¹ The driver induction course,⁸² in addition to training in defensive driving, also includes four modules on oil product knowledge that equips a driver with knowledge and skills relating to transporting fuel. The module covers the risk, danger and proper handling of the fuel products.

Apart from fuel products, the reviewers were not able to establish the transport procedure of other hazardous products as listed in the Dangerous Goods Identification System.

⁷⁴ National Road Safety Policy, Ministry of Works and Transport, June 2017.

⁷⁵ New Traffic Regulations, 2004.

⁷⁶ Liu B. et al. Helmets for preventing injury in motorcycles riders. The Cochrane database of Systematic Reviews, 2005, Issue 4.

⁷⁷ Interview with Dr. Kasiima, Director of Traffic and Road Safety, Uganda police.

⁷⁸ Interview with Mr. Kinene, Chairman, Regional Lorry Drivers Association.

⁷⁹ Epsilon is a company that has been licensed to transport dangerous waste products by NEMA.

⁸⁰ Road safety coordinator, Vivo Energy Uganda Limited.

⁸¹ Vivo Energy (Shell) implements a 16-module training programme and some of the modules are related to product handling.

⁸² 16 module defensive driving course.

Chapter 5 – Road user behaviour

5.1 Introduction to behaviour issues

This chapter reviews three behaviour priority issues: road user behaviour; driver training and testing; and enforcement of traffic rules. It includes discussion on the institutional setting into which these are being implemented.

5.2 Road user behaviour

Generally, there is a severe road safety awareness⁸³ backlog in the country. There is no sustainable evidence based awareness programme and generally there are few awareness programmes for road safety in the country. Road safety awareness is extremely low, with no sustainable public media campaign except during the annual road safety week. Many stakeholder organizations (civil society) that were active in road safety awareness work at the beginning of the Decade of Action are currently inactive,⁸⁴ particularly due to lack of financial resources and technical support. However, some private-sector players are undertaking some media campaigns, which are limited, given the inadequate intervention from the responsible organs.⁸⁵

In addition, child and youth safety programmes are also limited, despite the development of a national schools road safety curriculum in 2004 which has yet to be implemented. The absence of such programmes means that the future motoring community will miss out on a strong road safety foundation, in addition to currently being unaware of proper use of the road at a young age.

The need for awareness was clearly seen when the police force and its partners were successful in reducing road crashes using an operation called “*Fika Salama*” which has improved discipline among road users on the Kampala-Masaka road.

5.3 Review of driver training

Driving standards in Uganda are of poor quality and do not meet internationally accepted standards required for driving⁸⁶.

The driver licensing system (training, testing and certification) is dysfunctional, needs to be improved. As a result, driving standards in Uganda are of poor quality and need urgent improvement⁸⁷.

The formal training that is given at driving schools largely addresses the practical manoeuvring of the vehicles and does not follow the training processes as specified in the national learner driving curriculum.

Driver instructors, being products of the same system, have tailored their training process to pass the ineffective driver testing procedure which covers reverse or box parking for practical test and road signs for theory test. The rest of the training, including the theoretical training aspects, is not covered, weakening the quality of the training.

Whereas the development partners were crucial in supporting the development of training curriculum and manuals⁸⁸, there is limited support of the partners in the rolling out and support in the driver training and testing area yet such support would go a long way in improving the standards of driver training and testing area. In addition, there is need for technical assistance in area.

Training and accreditation systems in Uganda for driving instructors are yet to be undertaken.⁸⁹ In addition, there is an absence of a formal driving school inspectorate which would assist in regulating driving schools in the country.

Enforcement of driving standards and regulations⁹⁰ in the country is minimal. There are capacity constraints within Government, leading to weak implementation of traffic laws and regulations relating to driver training and testing.

There is no graduated driver licensing system and a system for reduction of points on a driving permit. This means that once one gets a permit at 18 years of age, a person is entitled to it for the rest of their life unless a court cancels it. The Government is planning to put in place appropriate regulations for a point system.⁹¹

Driver training is also limited by some developmental challenges like the high illiteracy levels.⁹² Many potential

⁸³ The Tweddeko Campaign is the road safety campaign covered in the media.

⁸⁴ The Road Safety Awareness Committee (RSAC) used to coordinate the awareness efforts but is currently not active.

⁸⁵ Vivo Energy Uganda is running a media campaign dubbed *Tweddeko on NTV aimed* at safe driving for motorists.

⁸⁶ Uganda Road Safety Management Capacity Review, 2010, GRSF, World Bank.

⁸⁷ Ibid.

⁸⁸ Development partners, particularly the World Bank and DANIDA, supported the development of the materials.

⁸⁹ It is a requirement to license a school and an instructor but no instructor training is undertaken.

⁹⁰ Driving school and driving instructor regulations are in place but not effectively implemented.

⁹¹ This is being proposed in the new Traffic and Road Safety Act.

⁹² Interviews with the driver instructors.

learners shun the theoretical training for this reason and are interested in the practical training which is “hands on”.

The driver training and testing is compromised by the existence of counterfeit driving licence processes.⁹³

The Government has put in place measures to deal with the counterfeiting, by introducing computerized driving permits. These plastic cards have several security features to deter forgery. In addition, the permit supplier has equipped the police⁹⁴ with tablets connected to the central database to help identify forged permits.

In addition, bribery can be found in the process of driving permit acquisition.⁹⁵ There are drivers who skip both the entire training and testing process and opt for acquiring and use of counterfeit driving permits.

5.3.1 Institutional setting of driver training

A standardized driver training programme (curriculum and manuals) that was developed by the Government for learner drivers in 2008⁹⁶ and for motorcycles, buses and heavy goods vehicles in 2014⁹⁷ has not been rolled out to date.

In addition to the above developments, a national driver instructor curriculum was developed by the Government in 2004 for driving instructors. However, this curriculum has never been rolled out and is not in use.

5.3.2 Regulations relating to driving schools

Overall, there are good regulations in place to promote the driver training and testing⁹⁸ processes established by the Government. The regulations are directly related to facilitating both driver training and testing. The Government has been licensing and inspecting the driving schools as a measure to improve driving standards. In this respect, MoWT inspected 79 driving schools during the financial year 2016/17.⁹⁹

The Government has no reliable system to collect data on driver instructors and schools,¹⁰⁰ and does not supervise effectively their operations to ensure that minimum standards

are attained. There are no regular returns of data on the number of students that are taught and their pass rates.

5.3.3 East African Community heavy goods vehicles curriculum

An East African Community (EAC) curriculum for heavy goods vehicles (HGV)¹⁰¹ and commercial buses exists and has been ratified by the EAC Member States. In Uganda, one project¹⁰² has started, using the EAC curriculum as an effort to improve HGV standards.

5.3.4 Driver training for heavy goods vehicles and public service vehicles

Training for large commercial vehicles (freight and passenger) is minimal, with few established HGV driver training institutions.¹⁰³ Many fleet drivers depend on peer or self-learning methods and usually graduate from being marshallers (turn men) into drivers. In this case, the driver misses out on the crucial theoretical orientation of the training where most safe driving skills are taught.

There is no specific training for professional public transport operator drivers.¹⁰⁴ Moreover, public service drivers acquire the ordinary driver licence and no further training is given to them to drive these vehicles.

5.4 Review of driver testing

5.4.1 Summary of driver testing performance in Uganda

Driver testing standards in Uganda need to be improved.¹⁰⁵ The objective of the driver examination is to segregate competent from incompetent drivers. Those who fail the examination should re-train and should be prohibited from driving.¹⁰⁶

The current driving test is ineffective for the following reasons: lack of consistency, inadequate examiner training, absence of a clear standard of competence and limited content of the test.¹⁰⁷ As a result, many drivers pass, although they lack the skills, knowledge or attitudes necessary to drive safely in the various traffic conditions.¹⁰⁸

⁹³ Uganda Road Safety Management Capacity Review, 2010, GRSF, World Bank.

⁹⁴ FaceTechnology (Pty) Ltd.

⁹⁵ Interview with the driving school instructors.

⁹⁶ PROME Consultants undertook the learner driver curriculum and manual development.

⁹⁷ Integrated Transport Systems Limited undertook the curriculum and manual development.

⁹⁸ The Traffic and Road Safety (driving schools and driving instructors) regulations 2010 and Traffic and Road Safety Act (Driving tests) 2012 regulations.

⁹⁹ Annual Sector Performance Review Report 2016/17, Ministry of Works and Transport.

¹⁰⁰ The Transport Management Data System does not capture data on driving schools.

¹⁰¹ The contractor was Transaid but support was from TMEA, 2015.

¹⁰² Safeway Right way is operating a driving school using the EAC curriculum for HGV.

¹⁰³ Interview with driving instructors.

¹⁰⁴ Ibid.

¹⁰⁵ National Road Safety Policy, Ministry of Works and Transport, June 2017.

¹⁰⁶ Curriculum for Medium/ Heavy Goods Vehicle drivers, Ministry of Works and Transport, October 2014.

¹⁰⁷ Driver training and testing manuals, Ministry of Works, Housing and Communications, 2004.

¹⁰⁸ The driver test regime developed by the Government in 2008 is not being followed in the testing process.

A medical examination for good physical, eye and mental health must be passed in order to take a driving test.¹⁰⁹ However, in practice there are challenges to verify a signed medical form when presented before undergoing a driving test because the system is still paper based.

5.4.2 Institutional setting of driver testing

In Uganda, driver testing is carried out by the police. Test centres¹¹⁰ are located in Kampala, Jinja, Lugazi, Mbale, Tororo, Lira, Gulu, Arua, Mbarara, Masaka, Kabale and Fort Portal. Cases of examiner bias are usually reported.¹¹¹ The Government should also consider the possibility of a computerized driver testing process in order to eliminate examiner bias.

There is sufficient law in place for enabling effective driver testing in the country.¹¹² However, the current driving test procedure does not follow the provisions of the legal documents; for instance, the use of test routes and the use of the driving testing regime¹¹³ and question bank.

It is recommended that the Government should roll out an effective driver testing process in order to achieve a standardized examination procedure.

5.5 Enforcement of traffic rules and regulations

5.5.1 Introduction to enforcement of traffic rules

Enforcement of traffic rules is shared amongst a few agencies in Uganda. The main enforcement of traffic rules is by the traffic police and UNRA for axle load control and road reserve rules; and traffic wardens under local authorities also enforce traffic regulations and by-laws.

5.5.2 Review of traffic enforcement performance

In Uganda, enforcement of traffic rules is done by the police. It is one of the main approaches to manage road crash challenges in the country.

There is a need for stakeholders to support the police in its enforcement role by addressing the issues that take much of the police enforcement resources and time. For instance

about half of the entire traffic police force¹¹⁴ is now involved in the traffic flow management function in Kampala city. Yet such challenges could be addressed using infrastructural measures. In addition, the existence of a functional emergency ambulance service would relieve the police of its current post-crash intervention role.¹¹⁵

The enforcement role operates in an environment where other stakeholders are actively involved in promotion of road safety, like awareness among others. In this way, enforcement of traffic rules is usually the last function of the regulatory chain.¹¹⁶ This regulatory chain involves standards, inspection, certification, and then enforcement. Usually, traffic police enforcement should target the small number of road users who do not comply with road rules and regulations. Unfortunately, driving standards are poor and this implies that the police have to deal with a large number of non-compliant drivers. As a result, the police force is overwhelmed by a high number of defiant, non-compliant and usually ignorant drivers who do not comply with the regulations.

Furthermore, the enforcement function has been weakened by politicizing traffic rules enforcement.¹¹⁷ There are vested interests particularly in the public transport and fleet operators that compromise the effective implementation of traffic rules.

Despite the critical enforcement functions, the Directorate of Traffic and Road Safety is operating at 40% of its expected number of staff¹¹⁸ due to limited manpower. It was earmarked to have 3,400 personnel in 2013 but in 2017 only had 1,300. As a result, staff are overworked and some of the Directorate's operations have been deferred.

The Directorate has a challenge of limited training and capacity-building programmes; for instance, traffic police have not undergone the training and capacity-building programmes¹¹⁹ that involved capacity enhancement of the police force; yet it has specialized sections like traffic crash investigations and crash data management. As a result, many enforcers are not well trained to cope with the work demands.

Even though the Directorate is one of the leading generators of Non-Tax Revenue in terms of traffic fines of over UGX 14,806,320,000 (\$4.1 million) in 2016,¹²⁰ it has not been allocated new vehicle fleet to police the roads and to enforce the traffic rules for a long time. Indeed, the police lack logistics and equipment to enable them to operate efficiently. In the past, the traffic police directorate has had to depend on donations from some civil society organizations for key enforcement

¹⁰⁹ Traffic and Road Safety Act (driving test and special provisions for drivers of public service vehicles and goods vehicles regulations), 2012.

¹¹⁰ In some cases, the inspector of vehicles can undertake a driving test elsewhere, especially for motorcycle riders.

¹¹¹ Interview with driving examiners.

¹¹² Traffic and Road Safety (Driving Tests and Special Provisions for Drivers of PSV and Goods Vehicles), 2012.

¹¹³ Developed by PROME Consultants on behalf of the Ministry of Finance, Planning and Economic Development, with support from the Government of Denmark.

¹¹⁴ Interview with the Director, Directorate of Traffic and Road Safety.

¹¹⁵ The police force is the main source of rescue of crash victims in Kampala.

¹¹⁶ Inception Report, Review of Traffic and Road Safety Act, Project Planning & Management Ltd, in association with Planet SA and KLC Law Firm.

¹¹⁷ Interview with the Director, Directorate of Traffic and Road Safety.

¹¹⁸ Data from Directorate of Traffic and Road Safety, Uganda police

¹¹⁹ Justice, Law and Order Sector (JLOS) project.

¹²⁰ Annual Traffic and Road Safety Report, 2016.

equipment. The police force has, however, recently (2016) procured 20 speed guns.

Punishment of repeat traffic offenders and cancellation of driving licences is not carried out due to capacity challenges and a weak judicial system coupled with poor data management. As a result, the driver behaviour particularly for repeat offenders is poor.

The public perception of the traffic police as corrupt is rife and many officers have been implicated in corruption scandals. The police leadership has taken a strong stand, which has led to the removal of up to 700 officers from the Directorate in recent years.¹²¹

The police and its partners were successful in reducing road crashes using an operation called *Fika Salama* but the crashes have since increased following the reduction of the enthusiasm and funding for the operation. Operation *Fika Salama* was introduced in August 2016¹²² to curb the rising number of crashes along major highways, with specific emphasis on the Kampala-Masaka road. This is a joint operation of UNRA and MoWT. It has greatly improved discipline among road users on that road.

Enforcement goals are successful in the short term, but coordination and funding are also important for effective enforcement. There is a need to integrate enforcement with road safety awareness for better compliance results.

There is no effective safety enforcement of traffic laws during night hours except for a few road corridors thereby increasing

the risk of road users in the night. For enforcement to be effective, it has to be sustained throughout the day and night.

5.5.3 Institutional setting of enforcement of traffic rules

Enforcement of traffic rules is carried out by the Directorate of Traffic and Road Safety in the Uganda police force.

5.5.4 Modes of enforcement of traffic rules

Traffic police enforce the traffic laws using the general deterrence and specific deterrence approaches: which aims to influence a potential traffic offender through 'fear' of detection and the consequences to avoid offending. For general deterrence to be effective, there must be three elements: perceived risk of detection, severity of punishment, and immediacy of punishment. The higher the perceived risk of detection, the less likely a road user is to commit an offence. In addition, a specific deterrence objective is to encourage an apprehended offender to avoid re-offending.

5.5.5 Way forward on enforcement

There are several challenges that affect enforcement of traffic rules in the country that have been highlighted. However, if there is increased awareness of the road users, proper driver training processes and other structural management issues, the enforcement of the traffic rules would become much more easier. There is need to strengthen enforcement through technical assistance, capacity-building and supplies provision.

¹²¹ Information from the Directorate of Traffic and Road Safety.

¹²² Annual Traffic and Road Safety Report, 2016.

Chapter 6 – Post-crash care

6.1 Introduction

Given the high road-crash rate in Uganda, the country requires a robust emergency care system to address the high road-injury burden. Unfortunately, post-crash care in Uganda is poor and under-developed. Although efforts are being made by the Government to set up a national ambulance service, the service has not yet been rolled out on the main road corridors. As a result, management of crash scenes is poor, as transport of victims is commonly provided by police personnel using trucks designed for other police duties. While there have been some efforts toward training police in first aid, it is not a robust practice. The victims are then delivered to health centres, which lack emergency facilities and personnel. There is no national formal pre-hospital care system in Uganda.

In addition, within the health sector, road injury prevention does not receive the appropriate attention it deserves considering the huge number of road crashes. This chapter reviews the post-crash care and management both pre-hospital based and hospital based.

6.2 Review of emergency care in Uganda

6.2.1 Pre-hospital care

Currently, Uganda does not have a national formal pre-hospital care system and while available data on outcomes in hospital emergency care may be limited, it is evident from the concerns and observations of various emergency unit personnel¹²³ and the public that such a service is a vital necessity urgently needed to complement the emergency department efforts to save lives and prevent disability. This is because outcomes of hospital management of emergencies are dependent on the pre-hospital care and thus the condition of the patient on arrival at the emergency department.¹²⁴

Uganda has no lead government agency to manage and coordinate pre-hospital care services. It has no clear policy and management plan for pre-hospital care providers and actors – this includes defined national minimum standards for ambulances, facilities, personnel and equipment.

The Uganda National Ambulance Services (UNAS) was piloted in the Kampala Metropolitan Area (KMA) supported by the Uganda police force.¹²⁵ UNAS has transitioned into an Emergency Medical Services (EMS) department under the Ministry of Health to manage both pre-hospital and facility-based emergency care services. This provides a promising governance mechanism for facilitating the development of this critically needed system. The first responders at a road crash are not well trained in first aid and are ill-equipped to support crash victims. Currently, pre-hospital care is given on a voluntary basis, by police, drivers, community people, and by bystanders near crash scenes in case of road traffic crashes.

Some research studies conducted in Uganda have shown that the majority of trauma victims could be dying during the pre-hospital stage due to lack of EMS. For instance in 1998, a study describing the pattern of injuries seen in five major hospitals in Kampala revealed that pre-hospital emergency service was urgently needed to save the injured that would otherwise die or have permanent disability as a result of its absence.¹²⁶

The transportation and rescue services at crash scenes are inadequate and inappropriate. Many injured victims arrive at health facilities by any means of transport possible such as the motorcycle taxi (boda boda), police trucks and private cars. Fewer than 5% of the victims arrive by ambulance.¹²⁷ According to the Ministry of Health, Uganda has enough ambulances but all that is needed is proper coordination and ambulance equipment. Many patients arrive after the “golden hour”, that is the first hour after the injury has occurred, after which the severity of the injury escalates.

Uganda has no national emergency access telephone number and there is a poor communication system for emergencies as there is no common access number where citizens can call. The telephone number ‘999’ was used earlier but currently has limited linkage to services. There are efforts to partner with communication companies through the Uganda Communication Commission to establish the three-digit number ‘912’. This will be used to handle emergencies throughout the country and meet the best practice of a 3-digit telephone access number.¹²⁸

¹²³ Nansamba C., Aeron.T., Lett R. (2005). Emergency capacity at health facilities in Kampala- Uganda. *East and Central Journal of Surgery*.

¹²⁴ Mock C. et al. Trauma outcomes in the rural developing world: comparison with an urban level trauma center. *The Journal of Trauma* 199, 35:518-523.

¹²⁵ UNAS Stakeholder Workshop Report, 2014.

¹²⁶ Kobusinge OC., Guwatudde D., Owor S., Lett R. Citywide trauma experience in Kampala, Uganda: a call for intervention. *Injury Prevention* 2002 June; 8(2):133-136.

¹²⁷ ICCU Hospital Surveillance Report, 2010.

¹²⁸ WHO Emergency Care System Assessment report on Uganda 2017.

There is poor coordination of ambulance service providers, both public and private. Most public ambulances provide inter-facility services rather than support communities through crash scene pickups. The private ambulance services are neither accredited nor do they have national standards to follow; therefore they determine the service that they provide. Training for their staff is minimal and follows no national curriculum.

Furthermore, Uganda lacks a formal training or certification for pre-hospital care providers (medical doctors, nurses and technicians). While some private ambulance services such as St. John Ambulance and Uganda Red Cross Society have their own training programmes, there is no coordinated and approved system for training.

Consequently, there is no systematic pre-hospital care data collection for emergencies and crash victims. If there are any data from police, these are not integrated into the health data collection systems, implying policy and management plan incoherencies for pre-hospital care providers and actors in the country.

6.2.2 Facility-based care

In Uganda, there is no coordination between pre-hospital care providers and facility-based care providers.¹²⁹ Under best practice, communication through call centres and dispatch centres would trigger preparation for victims from the rescue scenes to the facilities.¹³⁰ These kinds of interventions do not happen in Uganda, as facilities are not prepared for emergencies.¹³¹

There is no systematic EMS data collection at health facilities. Data collected through the HMIS for the Ministry of Health are not integrated into other data collection sources, lack EMS data points and do not allow for disaggregation.

The country has inadequate rehabilitation services in health facilities. The few that exist are grossly under-resourced, with limited staffing, equipment, supplies and funding.

There are limited capacities (human, equipment, supplies) in emergency departments in national and regional referral hospitals, yet these have high volumes of patients. Furthermore, there are no dedicated emergency units and rooms; nor core trauma teams at health centres. Available staffing is normally thin and not skilled to handle mass trauma. Thus the country has low capacity to manage emergencies concerning road injury. Moreover, Uganda has no recognized specialist cadre (physician) in emergency medicine.¹³² However, there are two training programmes in emergency medicine at Masters level in Mbarara University

of Science and Technology and in Nkozi University. The one at Makerere University Medical School is at the final stages of accreditation.

National evidence-based information on emergency medical services is limited. There are gaps in local literature relating to emergency services. Injury Control Center -Uganda a few years ago conducted much of the injury research¹³³ and provided evidence-based information supporting EMS. For instance through its research a trauma registry and injury surveillance system were initiated. And an injury severity tool called the Kampala Trauma Score was developed and evaluated. Capacity-building training sessions, such as the Trauma Team Training, were introduced in hospitals. Currently, Makerere University School of Public Health is conducting injury research, as well as building capacity for injury, trauma and disability (TRIAD programme).

6.2.3 Insurance services

Insurance is a risk transfer mechanism. An individual or organization agrees to pay a fixed amount of money (premium) and, in return, the insurance company agrees to meet any losses which may occur within the terms of the policy. There are two critical motor insurance policies that have a strong bearing on road safety: the comprehensive cover and the motor third party (MTP). Comprehensive insurance covers the damages for all vehicles involved and all persons injured or dead, while motor third party, which is compulsory by law, only covers the victims' (third party) treatment.

The insurance industry has done little to sensitize the population on insurance, thus contributing to widespread ignorance, particularly on the MTP insurance,¹³⁴ whose objective is to support some of the victims of road crashes. The insurance compensation and its processes are largely unknown and tedious.

The process can be costly – a case in point being the fees for the traffic police report (UGX 81,000, \$22) required by the police and for court purposes. The process is also laborious especially for claimants from upcountry who have to claim from Kampala head offices. Many Ugandans do not know or understand their right to compensation and hence do not make claims.

The insurance compensation payout is too low and inadequate to provide any substantial protection from financial ruin. The victim's pay-out is capped at UGX 1 million (\$274) per person per incident and at a UGX 10 million (\$2,740) maximum aggregate,¹³⁵ which is often too low to cover crash victims' expenses – particularly health bills.

¹²⁹ UNAS Strategic Report 2014.

¹³⁰ WHO Emergency Care System Assessment report on Uganda 2017.

¹³¹ UNAS Consultative Meeting 2014.

¹³² EMS care providers' association workshop report 2016.

¹³³ ICCU Decade Performance Report, 2006

¹³⁴ www.ira.go.ug/

¹³⁵ Uganda Insurers Association Agents Workshop Report 2016

Table 6.1 Summary findings from the WHO Emergency Care System Assessment of Uganda

Priority areas identified	Findings
<ul style="list-style-type: none"> • System organization, governance and financing 	<ul style="list-style-type: none"> • No lead agency to manage EMS (pre-hospital & facility based). • Inadequate financing for EMS. • No status report on EMS. • No legislation mandating access to initial emergency care without regard to ability to pay. • Limited access to EMS for both private and public health facilities.
<ul style="list-style-type: none"> • Emergency care data and quality improvement 	<ul style="list-style-type: none"> • Emergency care data (emergency presentations, management, and outcomes) not systematically gathered for use by the policy makers for system planning. • No data points on EMS in HMIS. • Limited emergency care data reported from scattered facility-based initiatives that are not integrated. • No capacity for linking case-based data across sources. • No standardized patient clinical forms for emergency care. • No national quality improvement programme for emergency care.
<ul style="list-style-type: none"> • Scene care, transport and transfer 	<ul style="list-style-type: none"> • No capacity of the community to provide initial care at emergency time. • No activated system to provide scene care. • No legal protection of good Samaritans who help at emergency scenes. • Training in first aid and first aid kits at scenes are limited. • No formal training or certification process for ambulance providers. • No single universal access emergency telephone number specific to health emergencies. • No communication system that allows on-scene clinical advice from facilities and from dispatch centres. • Only limited higher-level medical guidance for pre-hospital providers. • No protocols and guidelines for pre-hospital care providers. • No career education and certification pathway for pre-hospital care providers. • No framework for a professional body to handle pre-hospital care professionals.
<ul style="list-style-type: none"> • Facility-based care 	<ul style="list-style-type: none"> • The system for assessment and accreditation of health facilities does not include capacity for injury and emergency care. • Limited staffing, supplies and equipment for EMS. • No formal triage systems or dedicated non-rotating emergency care providers in place. • In some health facilities, no dedicated emergency units/departments/rooms.
<ul style="list-style-type: none"> • Emergency, disaster preparedness and security 	<ul style="list-style-type: none"> • No health facility requirement for disaster response plans for extraordinary events. • No formal security strategies or plans to protect staff and patients from possible violence in EMS.

Efforts are under way by the Government to amend the Motor Vehicle Insurance (Third Party Risks) Act, revising the minimum compensation from UGX 1 million (\$274) to UGX 5 million (\$1,370).

6.3 WHO Emergency Care System Assessment

In 2017, the Ministry of Health, in collaboration with the World Health Organisation (WHO), conducted a standardized WHO assessment of the emergency care system in Uganda.¹³⁶ Table 6.1 summarizes the findings, using the WHO Emergency Care System Assessment (ECSA) tool.

6.4 Institutional setting for emergency care

The Ministry of Health is responsible for service delivery and stewardship in the health sector. Both the public and the private sector play an important role in supporting

communities to improve their health. Within the public sector, there exist multiple players, namely: ministries of health, local government, defence, internal affairs, gender, labour and social development, which provide health services. Other ministries and departments also play a role in several aspects of health.

In 2014, the Ministry instituted a steering committee of stakeholders in EMS to start an ambulance service. UNAS was mainly a pilot community-based ambulance service working closely with the Uganda police force in the Kampala Metropolitan Area. UNAS uses the police call and dispatch centres during its operations. UNAS has been handling patient home picks, crash road victims, and hospital transfers.

The Ministry has developed a Health Sector Development Plan (HSDP) 2015–2020¹³⁷ that prioritizes “referral systems and ambulance services” as interventions for service delivery systems and is part of the Health Sector Strategic Investment Plan (HSSIP) that will help streamline health care.

St. John Ambulance and Uganda Red Cross Society provide ambulance services to Ugandans for free and occasionally at nominal fees. The Ministry’s ambulances in public health

¹³⁶ Implementation of the WHO ECSA for Uganda. 2017.

¹³⁷ Ministry of Health, Health Sector Development Plan 2015-2020.

facilities transport referral patients and on very few occasions rescue road crash victims.¹³⁸ The police force also support the crash victims by using their police trucks as means of casualty transportation and recently they have also acquired ambulances for emergency services.

The country also has private ambulance service providers, most of which are informal, with very prohibitive costs and operating mainly in urban and suburban areas, particularly in Kampala city. These include International Air Ambulance (IAA), African Air Rescue (AAR), and city Ambulance. There is no central pathway for training or accreditation, and in many cases these services provide transport only.

The Ministry presented a Bill to the Cabinet in 2016 for an autonomous agency to manage ambulance services, but the Bill was turned down. Instead, the Ministry was directed to create a department of EMS internally. This was approved and the EMS department has transitioned into a full-fledged Department within the Ministry. It is envisaged that the Department will coordinate all emergencies, including pre-hospital and facility-based ones.

6.4.1 Rehabilitation services in Uganda

Rehabilitation is a process defining measures that assist individuals who experience or are likely to experience disability to achieve and maintain optimal functioning in interaction

with the environment¹³⁹. Rehabilitation services are facility-based case services, which in Uganda are managed by the Department of Disability Prevention and Rehabilitation (DPR) in the Ministry of Health. DPR handles disability arising from injury, eye and ear diseases. The Uganda Demographic Health Survey (2006)¹⁴⁰ indicated that 20% of the population aged 5 years and above is disabled. The most common disabilities in Uganda include blindness (11.9%), physical disability at 57% of all disabilities, hearing impairment and deafness (15%), and others at 16%.

There are public and private rehabilitation service providers. For instance Comprehensive Rehabilitation Services Uganda (CORSU), Centre for Disability and Rehabilitation Uganda, which are both private, provide medical and social rehabilitation in forms of orthopaedic & plastic surgeries: nutritional rehabilitation, community based awareness and advocacy services.

Rehabilitation services in public health facilities have remained limited in services, inadequate resources, with limited staffing, equipment, supplies and funding. The people with disabilities who access these services have in addition suffered social and community marginalization. Government should support people with disabilities through establishing empowerment programmes for the marginalized victims of road traffic injuries and operationalize the articles of the Disability Act 2006 that deal with road crash victims.

¹³⁸ UNAS Consultative Meeting Procedures 2014.

¹³⁹ World Report on Disability, 2011.

¹⁴⁰ Demographic Health Survey, 2006.

Chapter 7 – Conclusions and recommendations

These recommendations are based on the findings of the review and on consultations with stakeholders, with UNECE, UNECA and WHO. Table 7.1 Outlines actions recommended to be undertaken by the Government to improve road safety.

Table 7.1 Strategic priorities and recommendations			
	Strategic Priorities	Recommended Immediate Actions	Responsible entities
Road Safety Management			
1	Accession to and implementation of the United Nations road safety conventions.	<ol style="list-style-type: none"> 1. Become contracting party to and implement the six United Nations road safety conventions. 2. Seek capacity-building support from the United Nations to implement the UN road safety conventions as necessary. 	Ministry of Transport and Works
2	Strengthen the technical and financial capacity of NRSC to better conduct the functions expected of a lead national road safety entity as well as raise political priority on road safety	<ol style="list-style-type: none"> 1. Advocate with Members of Parliament to increase financing to NRSC through the MoWT and ring-fencing [earmarked] for NRSC. (UGX 15 billion annually is estimated by NRSC to implement computerised driver testing system, maintenance of an injury surveillance system, mass sensitisation campaigns and road safety audits/infrastructure safety assessment). 2. Advocate for an appointment, at a very high political level, of an independent national champion dedicated to road safety. 	Ministry of Transport and Works, Parliament, Cabinet
3	Strengthen the traffic and road safety legislation.	<ol style="list-style-type: none"> 1. Expedite amendment of Traffic and Road Safety Act of 1998 to include priority areas: <ul style="list-style-type: none"> -- Enact traffic legislation and justice issues needed for an effective NRSC. -- Prioritize implementation of reduction in pedestrian injuries through enforcement. 2. Address identified deficiencies in the mandatory third party motor vehicle insurance scheme by expediting the amendment of the Motor Vehicle Third Party Insurance Act. 	Ministry of Works and Transport, Uganda Police, Ministry of Justice and Judiciary, Ministry of Finance, Planning and Economic Development
4	Establish and implement a road crash data base system	Urgently revive and complete the RCDS project and subsequently roll it out. (Necessary funds have been appropriated in the 2017/2018 and 2018/2019 budget cycles for roll-out. Additional funds should be included in the medium-term expenditure framework of Government to ensure sustainability).	Ministry of Transport and Works
Safer Infrastructure			
5	Improve implementation of road safety audits and assessments, especially in urban areas to address the safety of vulnerable road users.	<ol style="list-style-type: none"> 1. Ensure adherence to the MoWT 2004 road safety audit manual. This includes conducting capacity-building on road safety audits for all road works implementing agencies. 2. A national level road assessment program should be developed or formal cooperation between the Government and iRAP considered for assessments. 3. Implement the NMT policy through immediate development of NMT design manuals that account for the safety of vulnerable road users. 	Ministry of Transport and Works

	Strategic Priorities	Recommended Immediate Actions	Responsible entities
Safer Vehicles			
6	Improve vehicle safety through periodic and mandatory vehicle inspections	<ol style="list-style-type: none"> 1. Implement and enforce periodic technical inspection of all motor vehicles as contracted by the MoWT to SGS and ensure nationwide coverage of the program. (Increase coverage from the seven current fixed inspection stations). 2. Commence enforcement of requirement for Certificate of Fitness to be on the Road. 	Ministry of Transport and Works and Uganda Police
Safer Road User Behaviors			
7	Improve road safety education in primary schools	Re-launch / rollout of the Lower Primary (P1-P4) road safety education curriculum finalized in 2003 by National Curriculum Development Centre in Conjunction with Transport Research Laboratory and Uganda Road Accident Reduction Network Organisation.	Ministry of Works and Transport and Ministry of Education and Sports
8	Improve drivers training	Rollout the drivers instructors' curricula (2004) and driver examiner training programs (2008); Motorcycle, PSV and HGV Curricula and Manuals (2014) developed by Ministry of Works and Transport (Printing and distribution to licensed driving schools).	Ministry of Transport and Works
9	Improve drivers testing	Improve implementation of the Driver Testing Regulations developed by MoWT in 2012 and consider a computerised driver testing system to address issues with subjectivity in current testing process.	Ministry of Transport and Works and Uganda Police
Post-Crash Care			
10	Strengthen and expand EMS	<ol style="list-style-type: none"> 1. Finalise the EMS policy currently under development by Ministry of Health in line with WHO Guidelines. 2. Implement the WHO priority actions derived from the WHO ECSA tool (Annex 5). 	Ministry of Health, MoWT to be included on the National Task Force for development of the policy

Annexes

Annex 1: Top 10 most cost-effective countermeasures. Nationwide Road Network – Situation in 2017

Countermeasure type	Sites / length	Estimated cost (10 years) Millions of dollars	FSI saved (10 years)	Value of safety benefit (10 Years) Millions of dollars	Cost per FSI saved	BCR
Roadside safety hazard removal	60.9 km	\$0.8	5 988	\$42	\$134	52
Improve curve delineation	37 km	\$0.8	5 453	\$38.2	\$153	46
Traffic calming	164.6 km	\$4.0	19 990	\$119.1	\$223	30
Shoulder sealing	55.3 km	\$1.4	4 897	\$34.3	\$279	25
Central hatching	14.1 km	\$0.16	408	\$2.9	\$380	18
Central median barrier	7.6 km	\$1.9	4 445	\$31.2	\$422	18
Delineation	79.4 km	\$2.5	3 741	\$26.2	\$660	11
Pedestrian footpath with barriers	67.8 km	\$10.7	19 810	\$184.3	\$672	10
Street lighting pedestrian crossing	36 sites	\$0.9	552	\$3.9	\$1 464	5
Road surface rehabilitation	61.3 km	\$4.4	3 212	\$22.5	\$1 362	5

Annex 2: Attendance list for the RSPR validation workshop, 17 Oct 2017, Kampala

No.	Name	Title/affiliation
1	Jjuko Elias Y	District Engineer
2	Muzibira John Baptist	District Engineer
3	Mwesigwa Samuel D	District Engineer
4	Buyinza Joseph	District Engineer
5	Kiboma Michael	District Engineer
6	Ikaaba Fred	District Engineer
7	Kiryra Godfrey	District Engineer
8	Draku Anson Abamile	District Engineer
9	Olala Obong	District Engineer
10	Bongomin Patrick	District Engineer
11	Ssentamu Julius	District Engineer
12	Twinawe Bagamulinde	District Engineer
13	Atugonza Rameki	District Engineer
14	Joseph Ojambo Komakech	District Engineer
15	Sam Mwesigwa	District Engineer
16	Dr. Lugemwa Myers	NRSC
17	Barbara Mwanje	NRSC
18	Felix Odongkara	NRSC
19	Karaba Charles	NRSC
20	Mutenda John	TLB
21	Kibuuka Kharim	Acting Principal IoV/MoWT
22	Dr. Kasule Hafisa	WHO
23	Byamukama Jacob	KCCA
24	Cuthbert Isingoma	CISCOT
25	Tumwebaze Reuben	UNRA
26	Katunguka James	NRSC
27	Judith Karara	NRSC
28	Jane Karonyi	UNCCA
29	Rutarare Julius	NRSC
30	Eng. Kugonza Franklin	Police IoV
31	Dr. John Baptist Waniaye	MOH
32	Kaddu Francis	MoWT
33	Joel Wasswa	KCCA
34	Leonard Twesigwa	KCCA
35	Drate Ewi Christopher	District Engineer
36	Bananuka William	District Engineer
37	Opolot Isaac	District Engineer
38	Tom Damulira	District Engineer
39	Charles Ssebambulidde	Uganda Police
40	Claire Biribawa	Makerere School of Public Health
41	Sam Bambanza	CISCOT
42	Mary Twesigomwe	TLB
43	Muhangi Andrew	TLB
44	Otine Ronald	TLB
45	Patience Niwebine	TLB
46	Andrew Naimanye	Consultant
47	Racheal Nganwa	Consultant
48	Tomusange Nakitto Mable	Consultant
49	Kwamusi Paul	Consultant
50	Priti Gautam	United Nations
51	Jane Karonga	United Nations
52	Hon. Gen. Edward Katumba Wamala	Minister of State for Works

Annex 3: List of persons interviewed		
No.	Name	Designation
1.	Dr. Kasiima Stephen	Director, Traffic and Road Safety, Uganda police force
2.	James Katunguka	Safety Officer, National Road Safety Council
3.	Judith Karara	Safety Officer, National Road Safety Council
3.	Okuku Eric	Driver Instructor
4.	Mayega John William	Driver instructor
5.	Lameka Kazibwe	Driver Instructor
6.	Semuyaba Fredrick	Driver Instructor
7.	Cerinah Tugume	Communications Manager, Vivo Energy, Uganda
8.	Dennis Sengonzi	Safety Officer, Uganda Transport Agencies Ltd
9.	Olive K. Kobusingye	Head, TRIAD Project School of Public Health, Makerere University
10.	Joseph Kalanzi	Coordinator, Emergency Medicine Programme Makerere University College of Health Sciences
11.	Winstone Katushabe	Commissioner, Licensing and Road Safety, MoWT
12.	Ronald Amanyire	Secretary, National Road Safety Council, MoWT
13.	Edward Kizito	Senior Road Safety Officer, MoWT
14.	Maria Nkalubo	Principal Operations Officer, EMS Department, Ministry of Health
15.	Byron Kinene	Chairman, Regional Lorry Drivers Association

Annex 4: Road safety actors in Uganda

Sector	Agency	Activity	
Government	Parliament	Enactment of traffic rules	
	MOWT	Statutory instruments; traffic regulations	
		Policy regulation formulation	
	TLB		Public transport regulations
			Driving schools supervision
			Vehicle inspection
			Road safety promotion
	NRSC		Road safety promotion and awareness
			Advocacy for road safety policies
	URF		Resources for road maintenance
	UNRA		Enforcement of axle limits
	MOJ		Drafting of the regulations
			Prosecution of transport offenders
	KCCA		Traffic management
			Enforcement of laws by traffic wardens
	URA		Implementation of fiscal policy
			Driving licence issuance
	UNBS		Vehicle standard control
			Fuel standard and control
	MOLG (Local authorities)		Enactment of traffic byelaws
			Management of taxi and bus parks
	Police		Enforcement of traffic rules
Vehicle inspection			
Driving test function			
Traffic data collection			
Private sector	Transport associations	Management of operators	
		Conflict resolution	
		Driver control and organization	
	Industry-led regulation • Fleet companies (self-regulation)		HSSE standards
			Vehicle standards
Civil society	Safe Way Right Way	Advocacy and awareness	
	St John Ambulance	Post-crash care and awareness	
	Red Cross Uganda	Post-crash care and awareness	
	CISCOT Membership	Advocacy and awareness	

Annex 5: Priority areas for EMS identified through WHO ECSA tool

	Issue Description	Recommendations	Priority Actions
1.	Limited system organization, governance and finance.	The Government, through the Ministry of Health, should improve the organization, governance and financing of the EMS system.	The Government should expedite the National Health Insurance Scheme bill to include EMS. The Government should expand the scope and authority of the EMS department in the Ministry of Health to coordinate pre- and hospital-based care services. The Government should incorporate a dedicated funding stream for EMS within the Ministry's budget planning cycle. The Government should develop a national policy on EMS, and related guidelines should be prepared by the Ministry of Health. The Government should conduct a cost analysis of emergency medical care services.
2.	Limited and low quality emergency care data.	The Government should improve the quality of EMS data.	The Government should integrate and standardize all medical care data management procedures and create linkages. The Government should develop a strategic plan for EMS research.
3.	Poor scene care, transportation and transfer.	The Government, through the Ministry of Health and all related ministries, should ensure improved incident scene care, transportation and transfer.	The Government should develop a Good Samaritan law. The Government should establish a training and accreditation pathway for EMS professionals and service providers. The Government should develop a strategic framework for collaboration and partnership between all existing EMS service providers. The Government should establish a National Ambulance Call and Dispatch centre.
4	Limited facility-based care and services.	The Government, through the Ministry of Health, should improve the pre-hospital and facility-based emergency care.	The Government should establish dedicated emergency departments, units, and rooms with specialized personnel, equipment and supplies. The Government should seek international technical support for EMS.
5	Limited emergency and disaster preparedness and security.	The Government, through the Ministry of Health and related government agencies, should improve on emergency response and preparedness.	The Government should review existing documents at all levels of government structures to ensure EMS is incorporated. The Government should ensure that all its structures have disaster plans developed for EMS response.

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Road Safety Performance Review Uganda

Every year, as a consequence of road traffic crashes, more than 1.2 million people are killed globally, while another 50 million are injured. Approximately 90% of all road crashes occur in low- and middle-income countries.

Even though road safety is an important sustainable development issue, it is yet relatively underappreciated and greatly underfunded. Recognizing the need to support Member States in urgently addressing road safety challenges, two of the regional commissions of the United Nations initiated a project on road safety performance reviews to assist African countries in strengthening their national road safety management capacities and improving their national road safety records.

In practice, a Road Safety Performance Review assesses the current road safety situation, helps the Government to identify the most critical safety aspects and recommends actions to be taken. Based on the identified priority needs, capacity-building seminars and workshops are organized for national road safety stakeholders. The project thus raises general awareness of road safety issues by sensitizing experts as well as the public sector and non-governmental sectors, of the need to set ambitious road safety targets and to implement specific measures to improve road safety.

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