# SUMMARY REPORT

## COMPARISON IN SELECTED AFRICAN UNION COUNTRIES

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List of Abbreviations

AU    African Union
BAC   Blood Alcohol Concentration
CoR   Certificate of Roadworthiness
CITA  International Motor Vehicle Inspection Committee
GDP   Gross Domestic Product
GNI   Gross National Income
KPA   Key Performance Area
KPI   Key Performance Indicator
KRA   Key Regional Area
IRAP  International Road Assessment Program
IRF   International Road Federation
SPI   Safety Performance Indicators
IR    Inception Report
ISO   International Standards Organization
NaTIS National Traffic Information System of South Africa
NTSA  National Transport and Safety Authority in Kenya
ONASER Office National de la Sécurité Routière
PPP   Purchasing power parity
RS10  Road Safety in 10 countries
RSD   Road Safety Department
RSMCR Road Safety Management Capacity Review
SANS  South African National Standard
SSATP Sub-Saharan Africa Transport Policy Program
UN    United Nations
UNECA United Nations Economic Commission for Africa
UNICE United Nations Economic Commission for Europe
VRU   Vulnerable Road Users
WHO   World Health Organization
1 Executive Summary

This summary report is one of the key activities of the task 5.1 of the WP5. It was written starting from the analysis of the Inception Reports (IRs) of the 5 selected African countries: Burkina Faso, Cameroon, Kenya, South Africa and Tunisia. The main aim is to provide a first overview of relevant road safety and traffic management issues which are common to the whole continent or to one of the five African regions and, based on the information included in the IRs, a more detailed analysis of the five selected countries to understand the specific or common road safety issues.

Analysis of road accident data in Africa. Road accidents are among the leading causes of fatality, especially in the African Region, where the situation is getting worse. Fatality rates are increasing for most of the countries, with the exception of Chad, Namibia and South Africa. Fatality rates differ considerably when comparing data from official country statistics with fatality rates estimates from WHO (WHO, 2013). In the first case, 80% of values fall within 27 and 181 fatalities per million inhabitants, while considering WHO estimates values are much higher, ranging from 225 and 322 fatalities per million inhabitants. Based on the data source considered, the conclusions that can be drawn differ quite substantially. In general, the higher the gap between the two sources the lower the reliability of data, undermining the use of road accident data for road safety purposes.

Economic growth inevitably stimulates the growth of motorization levels. While most of African countries are low-income countries with low motorization levels, we may also expect that motorization will increase in the years to come, thus the exposure to accident risk. Economic development may also affect the investments in safety by governments and road users. Usually, in low income countries an increase in GNI per capita is related to more mobility and thus a higher fatality rate, while in high income countries an investment in road safety (i.e. an increase in GNI per capita) results in a decrease in fatality rate. By analysing this relationship between fatality rates and GNI per capita, it seems that most of African countries are placed close to the turning point, where an increase in GNIpc leads to a decrease in fatality rate.

According to the results pointed out from Inception Reports, it was possible to outline some leading causes of road accidents in five selected countries which relate to human behaviour, mechanical failure due to ageing vehicles and poor road conditions. Regarding the characteristics of road accidents, most of them take place in urban area. Outside urban area the most serious road accidents occur because of inappropriate speeding and the mix of different types of road users.

Data collection and use. Even if the majority of countries regularly investigate and record road accidents, road accident data are likely to be underestimated in Africa. Based on the investigated countries major problems are: a missing common definition of road fatality, in agreement with the international definition, the willingness to cooperate with the accident data collector, a lack of data transfer to the central agency managing the database.
Road safety strategies. There are relevant differences in how road safety is planned and managed at local and central levels in each country. Considering the framework adopted for undertaking road safety management capacity reviews within SaferAfrica project, a road safety lead agency should be mandated to promote road safety, set strategies and targets for road safety improvement, and perform the seven institutional management functions that produce road safety interventions: Results focused approach, Coordination, Legislation, Funding and resource allocation, Promotion, Monitoring and evaluation, Research and development. However, it can be said that a lead road safety agency, if established, is frequently missing the legal power and/or dedicated financial and human resources to be effective in defining a comprehensive national road safety strategy and coordinating responsible stakeholders for its implementation. According to the IRs, a national road safety strategy seems to be adopted only in three of the five countries, namely: Burkina Faso, Cameroon and South Africa.

Road users. According to WHO, there are five main behavioural risk factors for road traffic injuries: speed, driving under the influence, failure to use motorcycle helmets, seat-belts and child restraints (WHO, 2015). In several countries laws relating to one or more of the five key behavioural risk factors are missing. Regarding speed limit laws, these are present in all the 5 countries (with related limits) but drivers rarely respect them and rather speeding is one of the main causes of road accidents. Regarding the driving under the influence of alcohol or drugs each of the 5 countries has a law that regulates it with their respective limits; only Burkina Faso seems not to have a law that regulates driving under the influence of drugs. Finally, regarding the laws of helmet, seat belts and child restraints (see table 8.5) each of the 5 treated countries has a law that regulates these aspects, except for child restraint law, which is present only in Burkina Faso.

Vehicles. There are big differences in the distributions of vehicle fleet by type in the 5 countries. For instance, in Kenya the percentage of passenger cars is more or less the same as that of two-wheeled vehicles (35-40%), while in Burkina Faso there is a great prevalence of two-wheeled vehicles (more than 80%). Some countries (Kenya, Burkina Faso and South Africa) have regulations on the safety standards of the vehicles in use, but the standards are limited, and the regulations are weakly enforced (AfDB, 2013). Mandatory vehicle inspections are present in all countries however, these seem not to be carried out periodically (as established by law) and in some cases, not all vehicles are required to be submitted to them.

Roads. Factors affecting infrastructure safety can be related to road planning and design, construction (e.g. work zone) and maintenance procedures. In all the 5 countries most of the roads are not paved and, in some countries, like Cameroon and Tunisia, the paved roads are in poor condition. The existent of these problems, together with the lack of maintenance, signage, lighting and design errors, imply that in these countries the roads are not safe and characterized by a high risk of road accidents.
Emergency services and post-crash care. The quality and coverage of the existing medical services are one of the biggest obstacles to an adequate post-crash care. Recommendations to improve emergency care can include the development of a digital trauma registry, the introduction of trauma training for healthcare workers and the development of trauma teams.
2 Introduction

The SaferAfrica project aims at establishing a Dialogue Platform between Africa and Europe focused on road safety and traffic management issues.

The platform will work at two levels. A decision-making level, run by a Management Board with Working Groups addressing specific topics. The Management Board will be constituted of prominent institutions like the European Commission, the African Union Commission, International Financial Institutions, and Regional Economic Communities. The technical level will involve government and research institutions, international and stakeholders’ organizations (e.g. NGOs), with a balance between African and EU partners. The Dialogue Platform is intended to constitute a stable body, able to orient road safety policies beyond the project end as well as facilitate activities during the project.

The project activities will be oriented to the “Safe System” approach and grouped in four pillars: Road Safety Knowledge and Data; Road Safety and Traffic Management Capacity Review (which is the focus of this report); Capacity Building and Training; Sharing of Good Practices. These have been specifically identified to be aligned with the mid-term review of the African Road Safety Action Plan.

The activity of the Platform will also focus on the reinforcement of the endogenous African capabilities through the dissemination of EU know-how. In addition to Twinning Programs, different training activities will be identified and carried out. Local contexts will be taken into account and studies on specific risk factors as well as transferability analysis of measures already tested elsewhere will be conducted.

2.1 Background

According to the Global Status Report on Road Safety 2015 (World Health Organization 2015), “road traffic injuries claim more than 1.2 million lives (worldwide) each year and have a huge impact on health and development”. Given population and registered vehicle data it is evident that road fatalities are disproportionately represented in especially low and, to a lesser extent, middle income countries (Figure 1). Despite significant efforts and actions implemented over the world, road accidents are a leading cause of death among young people, and the main cause of death among those aged 15–29 years. Without further, effective
action the World Health Organization forecasts that road traffic injury will be the 7th leading cause of death for all by 2030.

The economic impact heavily burdens national economies and households. Moreover, significant differences appear between countries. Data suggest that road fatalities and injuries in low- and middle-income countries are estimated to cause economic losses of up to 5% of GDP. The situation in high-, middle- and low-income countries is highly disproportionate, with low- and middle-income countries accounting for 82% of population and 90% of road fatalities, but only for 54% of registered motorized vehicles.

The risk of a road fatality varies significantly by region (Figure), and the disparity in road safety results is increasing. (World Health Organisation 2013, World Health Organisation 2015). Using WHO regions, there has been a further deterioration in road fatality rates in the WHO Africa region from 24.1 fatalities per 100,000 population in 2010 to 26.6 fatalities per 100,000 in 2013. Over the same period, there was a further improvement in road fatality rates in the WHO Europe region from 10.3 fatalities per 100,000 population in 2010 to 9.3 fatalities per 100,000 in 2013. Road trauma in Africa is projected to worsen further, with fatalities per capita projected to double over the period 2015-2030, while fatalities per capita are projected to decline by around 20% for HIV/AIDS and...
malaria (Small and Runji. 2014). This Euro-African initiative comes at a critical time to arrest and reverse these projections.

The last estimation of WHO accounts for about 270,000 road fatalities in Africa. The problems are huge and caused by a number of factors which are complicated to manage. Typical issues (World Health Organisation 2015) include weak institutional management systems, the poor safety quality of road infrastructure and vehicles, the absence of or inefficiency of emergency medical systems, insufficient deployment of modern traffic management systems, inadequate legal and regulatory framework, weak enforcement of safety measures, lack of trained staff, and unsafe behaviour of road users (World Health Organisation 2015).

Years of road safety investment and capacity building by many European countries supported by important action from the European Commission, have led to significantly improved road safety conditions (Figure 3). Similarly, achieving the road safety performance of global leaders is unlikely to be attained overnight in Africa, but will necessitate long-term investment and capacity building in road safety management.

Europe could play an important role in supporting African countries in improving their road safety and traffic management conditions to achieve better performance.

Besides transferring and adapting to the local contexts the results of the European research and experiences, significant support can be provided by all the European road safety stakeholders for designing and implementing a Regional / African vision towards a paradigm shift in road safety management.

Several actions are already on-going and important policy documents (i.e. the African Road Safety Charter and the African Road Safety Action Plan 2020), led by the AU and supported by UNECA and SSATP, activities are already in place paving the way for road safety improvements.

A next and urgent step in support of these efforts is capitalising on the political commitment to build and enhance existing activity. The aims are to promote the adoption of effective road safety management and sound innovative solutions towards a long-term goal of safe mobility in Africa.

2.2 General scope and context of the SaferAfrica Project

The primary role of the Dialogue Platform will be to act as a high-level and high-powered body that can positively help to influence changes in the African regions. Its general goals are:

- Contributing to developing/designing actions related to the Action Plan (and, in particular, to its mid-term review) together with individual African countries/organisations.
- Assessing progress toward the goals of the Action Plan and, based on assessments of the solutions adopted by various countries, releasing recommendations.
- Increasing the endogenous capacities of African countries.
Fostering the adoption of the principles of the Safe System approach, in which all elements of the road transport system are defined in an integrated way, with the aim of ensuring crash energy levels below what would cause fatal or serious injury.

This approach is recommended to all countries, irrespective of their socioeconomic status, by the leading international organisations concerned with road safety and development and is supported in good practice by a long-term *Towards Zero* or *Vision Zero* goal.

The actions and studies that will be carried out in the SaferAfrica project related to road safety and traffic management are:

- Conducting capacity reviews;
- Data collection and evidence gathering;
- Analysis of specific risk factors;
- Assessment of specific problems and mapping of critical areas;
- Analysis of road safety assessment methodologies;
- Analysis of road safety management systems;
- Set up of methodologies and tools for targeting and measurement of future progresses;
- Development and implementation of training programmes;
- Definition of research and innovation needs.

SaferAfrica has been organised into nine work packages (see Figure 1.2).

*Figure 1.2 - SaferAfrica Work Packages*
One of these (WP 5) deals with road safety and traffic management capacity reviews and is the focus of this report. The capacity reviews will play a leading role in this initiative, and its results will influence the actions required to implement the Safe Systems approach.

For more details the reader is referred to the SaferAfrica website for information regarding the other work packages (http://SaferAfrica.eu), the Dialogue Platform and other project activities.
3 Outline of Work package 5 – Road safety and traffic management capacity reviews

The overall objectives of a road safety and traffic management capacity review, based on engagement with senior management of the key agencies, are to:

- systematically assess the state of road safety and traffic management
- summarise the strengths and weaknesses of institutional capacities to significantly improve road safety results
- reach consensus amongst the key agencies about next steps, and sustainable activities
- fundamentally improve road safety and traffic management by proposing a long-term headline Safe System strategy and a project concept for activity to launch it.

Given the scope of SaferAfrica generally and WP5 specifically, it is not feasible to involve all African countries in all Regional Economic Communities and especially not possible to conduct detailed capacity reviews in all of the countries on the continent. For the purpose of the SaferAfrica project, five countries representing the main geographic areas of Africa have been selected to be reviewed on the basis of the Road Safety Management Capacity Review (RSMCR) assessment framework outlined in the World Bank guidelines (based on Bliss and Breen 2009, see Appendix A). The countries are:

- Cameroon
- South Africa
- Kenya
- Burkina Faso
- Tunisia

3.1 WP5 objectives

The original project proposal defined the following primary (Short term) objective for WP5 which was to review the state of road safety and traffic management in selected African countries with a view to obtain a deeper understanding of underlying problems and together with African partners to develop sustainable and effective remedial road safety plans for countries in Africa.

The primary objective can be reformulated into the following enabling objectives for each of the 5 selected African countries:

- To analyse the efficacy of current road safety management systems.
- To assess and, where necessary, to propose suggestions for improvements to road safety management systems relating to the institutional management framework (including monitoring and evaluation systems, intervention strategies and results expressed as goals and targets).
To develop and propose relevant legislative and organisational reforms in order to systematically improve road safety management in general and to prevent and reduce fatalities and serious injuries in road accidents.

To develop and identify key performance indicators (KPI) and key result areas (KRA) and to incorporate these as part of a (revised) road safety strategy and action plan/project.

To develop and incorporate Safety Performance Indicators (SPI) as part of the road safety goal setting and monitoring process.

From the outset of the SaferAfrica project it has become clear that the project strives to achieve close cooperation in the area of road safety between the countries of Africa and Europe, initially through collaboration between SaferAfrica and individual African countries and ultimately through collaborative efforts between the EU and the African Union as the representative bodies.

WP5 of the SaferAfrica project involves capacity reviews of road safety and traffic management at the country level. The aim will be to systematically assess the state of traffic and road safety management in the selected five countries and with a view towards developing remedial and sustainable programs and actions to fundamentally improve traffic and road safety management in those countries. The WP5 outputs will contribute to fine-tuning the activities of other WPs, particularly WP4 and WP6 (see http://SaferAfrica.eu/). To achieve these aims 5 tasks will be carried out, namely:

- Task 5.1: Scoping of road safety actions and legislation
- Task 5.2: Road safety and traffic management capacity reviews
- Task 5.3: Specification of Safe System projects
- Task 5.4: Studies on National Road Safety Agencies
- Task 5.5: Studies on the standardisation of vehicles and road infrastructures

The following sections will provide a brief overview of the tasks. For more detail the reader is referred to the SaferAfrica website (http://SaferAfrica.eu/)

3.2 Task 5.1 Scoping of road safety actions and legislations

This task entails the process of selecting countries for the RSMCR and to conduct an initial scoping study of road safety and traffic management practices in each country. The primary output from this task are five country specific Inception Reports (IR), of which this report is one, which will be prepared as a reference document for the review teams and the high-level persons they are going to interact with in each country. The IR serve as a basis to initiate discussions on road safety management and to develop a deeper understanding through discussions and interviews with stakeholders on all the underlying issues. The relevant IR will be made available to all stakeholders involved in the RSMCR in each of the five countries. Task 5.1 has 6 primary activities, namely:

a) Defining selection criteria for selecting countries for the capacity reviews;
b) Benchmarking road accident trends in African countries and regions;
c) Literature review of road safety management in 5 African countries;
d) Analysis of RSM and initial comparison;
e) Preparation of 5 country specific Inceptions Reports;
f) Summary report comparing road safety in the 5 selected African countries;

Task 5.1 will focus on comparing the road safety management practices, (vehicle and road design) standards and (traffic) legislations of the selected 5 African countries. For comparative purposes a number of EU countries may be included although the added benefit of doing this will need to be established (a basis for providing this comparison could be the Sunflower project or an ITF project on benchmarking in Latin American countries which is currently being carried out). The final output of this task will be a summary report providing a comparison of key road safety and traffic (management) data for the selected African countries.

3.3 Task 5.2: Road safety and traffic management capacity reviews

This task will realize pilot activities aimed at conducting RSMCR by reviewing and analysing (the development of) road safety and traffic management in the five selected countries (see 2.1). The RSMCR will be conducted by review teams drawn from the SaferAfrica project team and assisted by two internationally recognised experts (Martin Small and Jeanne Breen). To ensure that the reviews take place according to international best practice, this task will explicitly follow an approach based on the World Bank Global Road Safety Facility Road Safety Management System Framework (Bliss and Breen 2009), as outlined in ISO 39001:2012 (E) (ISO 2012), and be related to policy frameworks such as Sustainable Safety (Wegman, Dijkstra et al. 2005, Wegman and Aarts 2006) and Vision Zero (Tingvall and Haworth 1999), known generically as Safe System (ITF 2016). Furthermore, recommendations on road safety management provided by important EC-funded projects (e.g. DaCoTa, in which most of the project partners were involved (DaCoTA 2012) will be considered. Importantly, international experiences and, specifically, experiences related to the institutional framework of policy making and the relationship between road safety policy and science, will be considered in this process.

The outcomes of this task will be documented in a report describing the current situation of road safety and traffic management in each reviewed country (i.e. a status quo analysis).

The primary activities anticipated for task 5.2 are:

a) Preparation of RSMCR (identifying what is known, preparing and finalising the assessment framework and planning the reviews);
b) Capacity reviews (incl. Data review) in 5 selected countries (applying the assessment framework; interviews and discussions);
c) Gap analysis (analysing the results and comparing current practice with best practice);
d) Development of strategic initiatives (based on (c), develop remedial action plans; management plans and KPI, financial plans and forecasts; legislative framework etc.);

The output of this task will comprise a capacity review report for each selected African country and, as described above, the definition of a high-level long-term investment strategy in its establishment, growth and consolidation phases.

3.4 Task 5.3: Specification of Safe System projects

Based on the results of the reviews, Task 5.3 will serve to develop and prioritize specific future implementation projects for each of the selected countries, considering the project concept defined in the capacity review. These projects will form an initial basis for the Twinning Program. This will help to accelerate the transfer of road safety knowledge and to strengthen the capacity of entities in order to rapidly produce results that provide benchmark measures for dimensioning a roll-out program. These projects will be an integral part of Task 5.3.

Task 5.3 will propose detailed short-term improvement plans (in the form of Terms of Reference) for ten projects per selected country. These projects will be remedial in nature, will address high-priority projects (possibly Key Performance Areas or KPA's) and will be able to demonstrate high potential gains within current administrative and legislative frameworks (i.e. projects requiring longer term amendments to standards, legislations and regulations will be excluded). In addition, Task 5.3 will indicate which immediate enabling actions will need to be undertaken to overcome legislative, regulatory, organizational, institutional and other barriers that may prevent measures or actions from being implemented. These will be further developed in Tasks 5.4 and 5.5.

Task 5.3 entails the following activities:

a) Prioritise and develop (small) improvement projects in selected countries (10/country, only minor barriers);

b) Prepare terms of reference (remedial projects);

c) Define legislative, regulatory, organizational, financial and institutional barriers;

d) Develop short to medium term strategy (input to 5.4 and 5.5) to overcome barriers.

3.5 Task 5.4 Studies on National Road Safety Agencies

Based on the outputs of primarily the capacity reviews, Task 5.4 will build upon the African guidelines for establishing and strengthening national road safety agencies and will produce concrete, country-specific recommendations for the improvement or creation of national agencies responsible for road safety and traffic management.

The African guidelines for establishing and strengthening national road safety agencies (Small and Runji. 2014) will be further developed to establish country-specific organisational and coordinating models and structures. These will include a management model and staffing requirements for Road
Safety Agency (including the composition of the board and a profile of senior management), as well as guidelines for the national coordinating structures. Given the elaborated guidelines for a national road safety agency and the proposed new organisational structure, an estimate of the annual operating budget will be developed.

The above provides an outline of an ideal organisational framework for establishing Road Safety Agencies. However, current legislative, financial and other constraints may prevent its introduction, thus creating a need for re-assessment and further addressing of these topics. These include:

- Legislative/regulatory impacts;
- Funding/financial impacts;
- Management impacts;
- Staffing impacts;

Once the assessment is completed, follow-up discussions with stakeholders in each of the countries will be held to test the feasibility of the new work procedures, data and data collection methods, tasks and responsibilities. The discussions will also explore the possibility of amending current practices to fully accommodate the various elements of the framework.

The following activities are anticipated:

a) Develop country specific recommendations for creating/improving lead road safety agencies in the 5 selected African countries;
b) Develop African road safety and traffic management framework for lead agencies and refine African guidelines;
c) Develop organisational model for road safety and traffic management assessments.

### 3.6 Task 5.5 Studies on the standardization of vehicles and road infrastructure

Based on the outputs of the capacity reviews, specific studies will be developed to produce recommendations for (fostering) the adoption of regional or even continental (African) standards for vehicles and road infrastructure through the improvement/integration of current legislation.

The UNECE World Forum for the Harmonization of Vehicle Regulations (i.e. the unique worldwide regulatory forum) will be considered and incorporated into this task so that country legislation can, in future, be integrated into the global regulatory environment such that key standards are given legal and practical effect. The harmonization of road design standards across regions and countries may prove more challenging although there is sufficient basis to provide a safe systems design philosophy taking into account regional and country specific issues. A uniform method for assessing these can be found through assessment programmes such as IRAP.
The roles of CITA and IRF, respectively, for the standardization of vehicles and road infrastructures will be central for this task.

This task follows Tasks 5.2 and 5.3 and will develop enabling project plans (Terms of Reference) and strategies to address legislative, regulatory, organisational, institutional and other constraints.

The following tasks are anticipated:

a) Consolidation of capacity review and literature results;
b) Assessment of regional and (5) selected country vehicle and road design (and safety) standards and legislation;
c) Comparison with international standards and recommendations to improve conformity and uniformity;
d) Development of strategies to facilitate implementation of the most promising and least impeded steps;
e) Drafting of enabling project plans.
4 Methodology and aim

This summary report is one of the key activities of the task 5.1 of the WP5. It was written starting from the analysis of the Inception Reports (IRs) of the 5 selected African countries, i.e. Burkina Faso, Cameroon, Kenya, South Africa and Tunisia.

Apart from serving as tools to manage expectations, the Inception Reports provide initial comparisons and expand on the evaluation methodologies. They ensure that, for each country selected for review, the project team and relevant stakeholders share a common understanding of the road safety and traffic management problems. Furthermore, the IRs clarify how the project and its related evaluations will be conducted and how the expected outcomes could contribute to resolving these problems. The information used to produce the IRs is necessary to provide an initial background as to how (and if) problems (e.g. risk factors) are treated in the selected countries and to allow for cross-country comparisons related to institutional management, interventions and results.

The aim of this summary report is to provide a first overview of relevant road safety and traffic management issues which are common to the whole continent or to one of the five African regions and, based on the information included in the IRs, a more detailed analysis of the five selected countries to understand the specific or common road safety issues.

The report is divided in two main sections.

In the first section, the results from a broad road accident analysis in African countries are reported. The main aim of the analysis is to highlight high level risk factors, both by country and by region. To this end, a number of indicators were taken into account to understand: trends, differences among countries and regions, existing (if any) relationships among these indicators. In particular, the following indicators were considered:

- Road accident fatality rates
  - Fatalities per 1 000 000 population for 2010 and 2013 based on WHO estimates (WHO, 2013; WHO, 2015)
  - Fatalities per 1 000 000 population for 2010 and 2013 based on official national statistics (WHO, 2013)
  - Fatalities per 10 000 motor vehicles for 2013 based on WHO estimates (WHO, 2013; WHO, 2015)
  - Fatalities per 10 000 motor vehicles for 2013 based on official national statistics (WHO, 2013)
- Motorization rate
  - Vehicles per 1,000 pop. for 2013 (WHO, 2015)
- Gross national income (GNI) per capita (WHO, 2013)
• Government expenditure on health per capita (PPP int. $) (WHO, 2010)

A more detailed analysis is also performed in the selected five countries, highlighting the characteristics of the road accidents in those countries and the main risk factors as reported in the IRs.

The second section examines more detailly the five selected countries. A comparison among the 5 countries is undertaken, based on the 5 pillars of the “African Road Safety Action Plan 2011-2020” (UNECA, 2011). The comparisons concerned the following aspects:

• **Pillar 1: Road Safety Management:**
  - Accident data collection, analysis, responsible authorities, processes and related issues for each selected country;
  - Road safety strategies, organizations responsible for road safety, existence or not of road safety targets, availability of a road safety national strategy or action plan;

• **Pillar 2: Safer roads and mobility:** extension and characteristics of the road network, managing authorities and related tasks;

• **Pillar 3: Safer vehicles:** fleet sizes, manufacture limits and standards, installation of devices and inspection standards;

• **Pillar 4: Safer Road Users:** methods of acquisition and typologies of driving licenses (with related issues), traffic legislation concerning speed limits, drink/drug driving, helmet/seat belt/child restraint use;

• **Pillar 5: Post-crash response:** current situation and weaknesses of the emergency services and first aid.

Starting from the analysis of all the components, once common issues and practices and the differences between the various countries are identified, considerations can be made on efficacy of current road safety management systems.
5 Analysis of road accident data in Africa

Road accidents are among the leading causes of fatality, especially in the African Region. Indeed, the number of road accidents and fatalities have been increasing over the last three decades\(^1\).

As stated in the *Global status report on road safety (WHO, 2015)*, it was estimated that in Africa there was a steady increase in fatality levels in 2006 up to a peak of 330 fatalities per 1,000,000 population, while for the year 2013, the African Region had the highest fatality rate from road accident worldwide at 266 per 1,000,000 population.

However, it should be noted that these numbers are based on an estimation because of the lack of a reliable data collection system and underreporting issues in this region. For this reason, in the following paragraph a comparison between fatality rate estimates and official country fatality rate statistics will be shown. Focus will be made on selected country representatives of each African Region (Kenya, Burkina Faso, South Africa, Tunisia and Cameroon).

5.1 Road accident fatality rates by African countries

In this paragraph road accident fatality rates (estimated and reported) are analysed for African countries and for different years (2010 and 2013). In particular, Fig. 5-1 shows the trend of road accident fatality rates in 2010 and 2013 in African countries based on WHO estimation data.

The figure exhibits that 44 countries (out of 47\(^2\)) had an increased in fatality rates from 2010 to 2013 meanwhile, only 3 countries showed a decrease (Chad, Namibia and South Africa). This scenario indicates that reaching the 50% road accident reduction target sought by the African Road Safety Action Plan by 2020 is very challenging for Africa.

Of the 5 countries chosen as representatives of African Region, South Africa was one of the 3 countries that recorded a decrease (-8.75%), whereas Tunisia, Cameroon, Kenya and Burkina Faso had a huge increase in fatality rates from 2010 to 2013.

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\(^2\) Libya and Djibouti have not been included due to missing data for year 2010.
Fig. 5-1 Comparison of WHO estimated fatality rates per million population by countries for the year 2010 and 2013

A similar figure (Fig. 5-2) shows a comparison between WHO estimated fatality rates and official country fatality rates for the year 2013. In the first case, 80% of values fall within 27 and 181 fatalities per million inhabitants, but when considering WHO estimates values are much higher, ranging from 225 and 322 fatalities per million inhabitants.

For many countries, the WHO estimates are much higher than the official reported country data, pointing out a potential underreporting in the fatality data. For instance, in Burkina Faso and Kenya the difference between the two values is more than a factor 4. In Somalia, Central African Republic, Congo, Dem. Republic the difference is higher than a factor of 13.

In other countries like Botswana and Angola the difference between estimates and official data is small, while for South Africa, Libya and Djibouti the official value is even bigger than the estimated value.
5.2 Road accident fatality rates by African region

In this paragraph road accident fatality rates (estimated and reported) are analysed for African regions and they refer to 2013 only. Moreover, each country is confronted with the relative situation at the regional level.

The classification of African countries by regions is based on United Nations country grouping\(^3\) (Table 5-1).

\textit{Table 5-1 African countries by geographical regions}

<table>
<thead>
<tr>
<th>Eastern Africa</th>
<th>Central Africa</th>
<th>Northern Africa</th>
<th>Southern Africa</th>
<th>Western Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>Angola</td>
<td>Algeria</td>
<td>Botswana</td>
<td>Benin</td>
</tr>
<tr>
<td>Comoros</td>
<td>Cameroon</td>
<td>Egypt</td>
<td>Lesotho</td>
<td>Burkina Faso</td>
</tr>
<tr>
<td>Djibouti</td>
<td>Central African Republic</td>
<td>Libyan Arab Jamahiriya</td>
<td>Namibia</td>
<td>Cape Verde</td>
</tr>
<tr>
<td>Eritrea</td>
<td>Chad</td>
<td>Morocco</td>
<td>South Africa</td>
<td>Cote d'Ivoire</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Congo (Brazzaville)</td>
<td>Sudan</td>
<td>Swaziland</td>
<td>Gambia</td>
</tr>
</tbody>
</table>

\(^3\) "Standard Country or Area Codes for Statistical Use". Series M, No. 49
Fig. 5-3 shows the comparison in fatality rates at a regional level based on official statistics and WHO estimates for the year 2013. Countries with no data both for official statistic and WHO estimates (Burundi, Comoros, Equatorial Guinea, South Sudan, Liberia) are excluded in the regional total values and in the following analysis by each Region.

Based on the data source considered, the conclusions that can be drawn differ quite substantially. The official statistics show that Northern and Southern Africa have a fatality rate higher than the African average, unlike WHO estimated values that are closer to the African average for all Region. The widest differences between reported and estimated data are observed in Central and Western African regions. These regions are also those with the highest fatality rates according to WHO estimated rates.

In general, the higher the gap between the two sources the lower the reliability of data, undermining the use of road accident data for road safety purposes. This aspect highlights the need to fill these gaps as soon as possible especially in these African regions. In any case, country comparison should be interpreted with highest care, especially where this gap is remarkable.
The **Northern African Region** shows the highest fatality rate in official statistics and the lowest gap between reported and estimated data. This would suggest a more reliable crash statistics in those countries with respects to other African regions. However, after giving a closer look at the national fatality rates (Fig. 5-4) an outlier is recognizable: **Libya**. The reported fatality rate in this country (702 fatalities per million population) was more than twice higher than the estimated value (337). By removing Libya in the calculation of the regional averages, the reported regional fatality rate becomes exactly the half of the estimated regional value.

Tunisia was the country with the second highest fatality rate in both estimated and reported data, recording values very close to the regional average. The lead country was Libya with a fatality rate in reported data 4 times higher than the regional average. Egypt performed the best in Northern Region with about 120 fatalities per 1,000,000 population. Egypt performed well also in data reliability, with the shortest gap between reported and estimated data in the Region, followed by Tunisia.
If we look at estimated data in Eastern Africa (Fig. 5-5), the worst performing country was Malawi with 350 fatalities per 1,000,000 population followed by Tanzania and Rwanda with respectively 329 and 321 fatalities per 1,000,000 population. Concerning official data, countries with higher fatality rates are Zimbabwe, Zambia and Mauritius, with values very close to the Regional average. Seychelles and Mauritius are the countries with the recorded data closest to the estimated ones (with difference smaller than 13%).

The representative country chosen in Eastern Africa (Kenya) has an estimated fatality rate higher than the regional mean, whereas for reported fatality rate it has a value lesser than it.
In **Western and Central Africa**, at Fig. 5-6 and Fig. 5-7, we can see that many countries (15 out of 23) have WHO fatality rate estimates higher than about 274 fatalities per 1.000.000 population. Considering official statistics in Western Africa at Fig. 5-6, values are for all countries very close to the regional average (54 fatalities per 1.000.000 population). Ghana and Cape Verde are the countries with the shortest gaps between recorded and estimated rates, however the estimated values result to be twice the recorded ones.

Burkina Faso, as regional representative country, results to be the worst performing of the Region both for WHO estimates (300 fatalities per 1.000.000 population) and official data (83 fatalities per 1.000.000 population).
In Central Africa (Fig. 5-7), the gap between the estimated and official data is quite relevant, the estimated value is more than three times the recorded one. If we consider the estimates data, the worst performer of Central Africa region are Republic of Congo and the Central African Republic which record an average of 328 fatalities per 1.000.000 population. The same countries are the best performer when considering recorded data. Angola and Sao Tomé and Principe are the countries with the recorded data closest to the estimated ones (differing in percentage by 13% and 72% respectively).

According to the most recent WHO report on road safety (WHO, 2015) that approximates the number of road fatalities in Cameroon between 5 035 and 7 236 in 2013, the fatality rate results to be close to the regional average (approximately 276 fatalities per 1.000.000 population).
Fig. 5-7 Comparison of WHO fatality rate estimates for countries in Central Africa and for Central Africa in total for the year 2013

All countries of Southern Africa Region (Fig. 5-8) have an estimated fatalities rate higher than 200 fatalities per 1,000,000 population. South Africa results to have a low level of under reporting, unlike other regional countries that have an unstable rate of registration of fatalities. Indeed, the difference between estimated and official fatality rates for South Africa is just 8 fatalities per 1,000,000 population (3%).

Fig. 5-8 Comparison of WHO fatality rate estimates for countries in Southern Africa and for Southern Africa in total for the year 2013
5.3 Fatality rates and motorization rate

The motorization rate can be considered as a surrogate measure of accident risk exposure. Fig. 5-9 shows the motorization calculated as the number of vehicles (motorized 2 and 3 wheelers inclusive) per population. The average level of motorization in Africa is 54 vehicles per 1,000 inhabitants. Motorization ranges from 2 in Sao Tome and Principe and Togo to 310 in Libya.

![Figure 5-9: Number of vehicles per 1000 population, 2013](image)

Economic growth inevitably stimulates the growth of motorization levels. This is confirmed for African countries by Fig. 5-10, showing a high level of correlation between motorization and gross national income per capita (GNIpc) in 2013. The higher the GNIpc the higher the motorization level is. Since motorization is a proxy of exposure to accident risk, a positive relation between GNI per capita and fatality rate (in terms of fatalities per population) is also expected. For African countries, we may also expect that motorization will increase in the years to come, thus the exposure to accident risk.
5.4 Fatality rates and income growth in Africa

It is expected that economic performance affects the fatality rate. In his study, Koornstra (2007) illustrated that the potential relationship between growth of per capita income (GNI) and fatality rates can be explained by an inverted U-curve (Fig. 5-11). Beyond the positive relationship shown in the previous chapter with risk exposure, there is a further negative relationship. In fact, the economic performance may also affect the fatalities per motor vehicle, because the availability of more resources allows road authorities and road users to spend more money on safety. Based on this, on the left part of the curve the first relationship is dominant, while on the right part, after a turning point (identified by a GNIpc of 5,000 US$), the second relationship is prevalent.
The relationship between income (as expressed by pcGNI) and fatality rate in African countries have been studied taking into account both official and estimated statistics. Some outliers were removed from the analysis to have an evaluation more feasible of the GNI influence.

In all the African countries GNIpc is lower than $15,000$ thus it is expected that most of the countries are located on the crest of the inverted U-curve. In Fig. 5-12 it is illustrated the level of fatality rates by countries’ income in the year 2013. The majority of the countries is classified as a low income or lower-middle income country. Seychelles is the only country belonging to the high-income group. It has the lowest level of fatality rate within all income groups (86 fatalities per 1,000,000 population).
There is a low level of correlation between the official data and the income level. The black line in Fig. 5-12 Distribution of WHO estimated number of fatalities per 100,000 population in African countries by income for the year 2013 represents a best fit of a linear function to the data ($R^2 = 0.2$). Apparently, it seems that countries with a low growth income are more virtuous in terms of fatality rates compared to countries with high income. A second curve (with a parabolic shape) was...
fitted based on a polynomial function (degree 2). In this case, a better fit to data and a U-shape closer to Koornstra model is reached. This would mean that most of the African countries are in a stage where an increase in GNI per capita is related to more exposure and thus a higher fatality rate. However, by comparing the two curves, the value corresponding to the crest of the fitted model is much lower than the crest value in Koornstra model (approximately halfway). This suggests a potential under-reporting issue.

Fig. 5-13 Relationship between GNI per capita and WHO reported number of fatalities per 100,000 in African countries for the year 2013

On the contrary, there is a significant relationship between WHO estimated values and the GNI ($R^2 = 0.63$). The strength of this relationship is likely to be due to the way used by WHO to estimate road fatalities in a country (i.e. GDP and vehicles per capita are covariates considered in the WHO regression models). Nevertheless, results also agree with Koornstra model. Countries with low growth income have higher fatality rates, and their values are similar to the crest value in Koornstra model. Based on this relationship, most of African countries are placed close to the turning point, where an increase in GNIpc leads to a decrease in fatality rate.
5.5 Expenditure on health and Road Accident Fatality Rates

Health financing is a vital component of health systems. At higher income levels, governments tend to mobilize more resources which result in an increase in road safety investments and consequently to a decrease in fatality rates. It becomes clearer if we look at the correlation between government expenditure on health per capita and WHO estimated fatality rates (Fig. 5-15). Even though the relationship between the two variables is not very strong, it seems obvious that in countries where government is unwilling to make efforts in terms of mobilizing resources, fatality rates always trend upwards. According to WHO data, countries with the highest levels of per capita health expenditure are: Algeria, Botswana, Equatorial Guinea, Gabon, Mauritius, Seychelles, South Africa, Swaziland.

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4 Global Health Expenditure Database, [http://apps.who.int/nha/database](http://apps.who.int/nha/database)
Likewise, in the GNI per capita case, considering the WHO official fatality rates (Fig. 5-16), it seems that the relationship is backwards. Countries where government spend less money on health record lower fatality rates than countries with higher health expenditure.
5.6 Road accidents characteristics and risk factors in Burkina Faso, Kenya, Tunisia, Cameroon and South Africa

As shown in previous paragraphs accident data are often incomplete, and it is unknown what proportion of road accidents have been reported and recorded in official database used, in particular for the analysis of each regional representative country chosen. However, according to the results pointed out from countries’ inception reports, it is possible to outline the leading causes of road accidents.

5.6.1 Road accident characteristics

According to data examined within the IRs, leading causes that bond the 5 investigated countries are related to human behaviour, mechanical failure due to ageing vehicles and poor road conditions. For example, in Cameroon, based on police accident data (Baia et al., 2017), percentage of poor road user behaviour is 70%, issues about vehicle failure is 20%, while problems caused by poor road infrastructure is 10%.

Location. Regarding the characteristics of road accidents, most take place in urban agglomerated areas. For example, in Burkina Faso, the 80% of road accidents occurred in the city of Ouagadougou (particularly in the city center) and Bobo-Dioulasso, while in Tunisia the 60% of road accidents took place in the city of Tunis, Ben Arous, Sfax and Nabeul.

![Fig. 5-16 Relationship between Government expenditure on health per capita and WHO reported number of fatalities per 100,000 population in African countries for the year 2013.](image)
Whilst urban areas are the main places where road accidents occur based on available data, it is also true that the road accident severity is significant in inter-urban areas due to over speeding and an important mix of different types of road users.

According to the Kenyan National Police in 2013, majority of fatalities in the country involved pedestrians (47%). This is a pattern common to most African countries where this proportion is in many cases significantly higher.

**Transport mode.** Apart from the high proportion of fatalities among pedestrians, occupants of vehicles and light vehicles are also a high-risk group. For example, in Kenya, this user group account for 34% of fatalities, followed by cyclists with 14% and riders of motorized two or three wheelers with 5% fatalities. From these data it is evident that almost two thirds of the fatalities in the country (61%) involve Vulnerable Road Users (VRU).

It is necessary to clarify that the distribution of fatalities by users depends on the modal share in each country. Indeed, the statistics in Burkina Faso are different from Kenya: the high-risk users are powered two wheelers with 86% fatalities, followed by pedestrian (6%) and bicycles (5%). Cars, trucks and three wheelers each account for 1% fatality. These figures look somewhat strange and worth further reviewing within the Capacity Review.

**Gender.** The distribution of fatalities by gender and age group is quite similar in each country. In South Africa about 77% of all fatalities involve males while females account for 24%. The distribution of fatalities by road user groups is as follows: drivers account for 28%, passengers 37%, pedestrians 33% and others 2%. Considering this distribution for males and females: for drivers: 93% are males while 7% are females, for passengers: 37% are females while 63% are males and for pedestrians: 23% are females while 77% are males. As such, the road safety problem in South Africa is predominantly a ‘male problem’.

**Age.** About 60% of all fatalities occur within the age group of 20-44 years of age, 18% occur within the younger age group less than 20 years of age, 20% occur within the age group of 45-64 years of age, and the rest of the fatalities (4%) occur among those over 65 years of age. In Burkina Faso males in the age group of 29 years account for 66% of fatalities, while in Kenya the predominant age groups involved in fatalities are people between 20 and 44 years of age, with a peak in fatalities within the age group of 30 and 34 years. This last group is considered of high risk due to factors such as driving over the speed limits, alcohol consumption or higher frequency of trips. Furthermore, 65% of the fatalities in the country in 2013 were males and 35% females.

### 5.6.2 Risk factors

Considering human beings in the 5 countries, features that influence social behaviour relate to the following:
- Speeding
- Driving under the influence of alcohol
- Non-use of seat belt or helmet.

**Speeding:**
Speeding is considered as one of the main risk factors in all of the 5 countries. Kenya has a national law for speed limits that can be modified by local authorities. The speed limits are 50 km/h for urban roads, 100 km/h for rural roads and 110 km/h for highways. However, approximately 43% of the drivers seem to drive over the speed limit. Although the speed limit in urban areas is 50 km/h, speeds of 90 km/h are often reached.

The enforcement of the current speed limits is rated with a 6 on a scale from 0 to 10 (WHO, 2015), and most of the drivers drive above the speed limits. RS10 (WHO, 2012) made recommendations to reduce speeding in Kenya through the use of marketing campaigns, increased enforcement, increased penalties for speed violations, reducing the speed limits in specific areas such as around schools and increasing coverage of speed related issues in the media.

**Alcohol:**
With the exception of Tunisia, driving under the influence of alcohol is considered a recurrent risk factor. In South Africa it is estimated that blood alcohol levels above the legal limit is involved in more than 50% of all fatal road accidents, while at the same time the prevalence of blood alcohol levels above the legal limit in traffic is rather low, only a few percent. The Medical Research Council in South Africa estimated that around 57% of drivers and 58% of pedestrians who are fatally injured in road accidents have some level of alcohol in their blood with average levels greatly exceeding the BAC limit of 0.05 g/ml.

**Seat belt and helmet use:**
Another important factor highlighted in the IRs concerns the wearing of seat belt and helmet. In certain African countries such as South Africa, and Kenya matatus\(^5\) vehicles have been known to be modified by adding extra seats. These seats are generally not mounted to the chassis and are not safe in the event of a collision. Although not reported, this may also be a problem in Kenya since this form of public transport is common in Central and Southern Africa. Manufacturer provided seat belts are generally in place although these are seldom worn by passengers.

Furthermore, comparing South Africa with other countries, seat belt wearing rates are low. Whereas wearing rates of more than 95% are rather common in high-income countries, in South Africa wearing rates are less than 70%, higher for front seats than for back seats and extremely low for child restraints.

\(^5\) mini-buses with space for 14 passengers and a driver used as taxi’s
(see, for example, a letter from 2011 to the editor of the South African Medical Journal from Kings indicating that in a pilot study only 3% of all children were adequately restrained).

Helmet use is difficult to be assessed. In Kenya, even though there is a law regarding use of these passive systems for both drivers and passengers of motorcycles, helmets are not required to be fastened and hardly enforced (the helmet usage enforcement is rated with a 4 on a scale from 0 to 10 according to WHO, 2015). In Kenya, the RS10 (Road safety in 10 countries) project goal (WHO, 2012) was to increase the helmet use rates by using marketing campaigns, increase the coverage of helmet-related problems in the media, increase the helmet usage enforcement and match helmet standards to international standards. In Kenya helmet standards are set by the Kenya Bureau of Standards\(^6\). Moreover, looking at data in two different districts in Kenya (Thika and Naivasha) between 2010 and 2014, results showed that only 36% of motorcyclist used a helmet while riding. The proportions are even lower among passengers of motorcycles; just 3% of the passengers used a helmet. Motorcyclists recognized that wearing a helmet could save their lives in case of a road accident, but its use was inconvenient or uncomfortable.

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\(^{6}\) UN Regulation ECE 22 defines the safety requirements for helmets.
6 Data collection and use

In general, a data collection system can be characterized by three main elements: a data collection process (a set of activities or phases carried out for surveying purposes), the data collection techniques and tools, the actors responsible for carrying out the operations planned in the process.

Usually a road accident data collection process involves two steps:

- On site data collection;
- Centralizing and storing collected data from different sources for dissemination and road safety management purposes.

Alongside these two phases there may be intermediate steps that can change the quality, format and content of the data collected. These steps concern, for example: the coding and standardization of data, the transfer of data to a nationwide database, the control and verification of the quality of the data collected.

One or more actors may be responsible for the aforementioned steps and the performance of the tasks envisaged at each stage of the process is supported by specific procedures and tools. The following two paragraphs address respectively: the main actors involved in data collection and the data collection process for the five investigated countries.

In many cases, crash analysis requires important funding and expert knowledge. Lack of means, time or skills to undertake crash investigations lead to wrong conclusions.

6.1 Responsible authorities

Responsibility for (on-site) accident data collection. Usually different authorities are responsible for on-site data collection and centralization (Table 6.6-1). According to the IRs, in the five investigated countries there are two or more actors responsible for on-site accident data collection. Usually, these are: The Police or National Police (Burkina Faso, Cameroon, Kenya, South Africa, Tunisia) and the National Guard/Gendarmerie (Burkina Faso, Cameroon, Tunisia). In South Africa Provincial Traffic Authorities, Metropolitan and local authorities are also committed to the process. In Burkina Faso and Tunisia, the Ministry of Transport and the Ministry of interior also seem to be involved in the process, even if their roles have not been specified. The only country among the five where data collection is performed by only one actor is Kenya (only National Police is involved).

In Cameroon and Tunisia, the involved actors have responsibility to investigate road accidents on a specific road network, differentiating by urban roads and the intercity/highway road network.

Responsibility for centralization of data. With regards to a central database and the responsibility for collecting and centralizing data, many differences are observed. In Cameroon, at present there is
no such a body, this role is covered by the Gendarmerie, however Police data are missing. In South Africa and Tunisia, a dedicated government agency is in charge, while in Kenya the responsibility is directly that of the Ministry of Roads and Public Works. In Burkina Faso no information was found about the responsible agency.

Table 6.6-1 Actors responsible for accident data collection in the investigated countries (Source: SaferAfrica Inception Reports)

<table>
<thead>
<tr>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsibility for (on-site) accident data collection</td>
<td>Police, National Guard/Gendarmerie, the fire brigade, Ministry of Transport (MoT)</td>
<td>National Gendarmerie on the intercity road network, National Police on urban roads</td>
<td>South African Police Services (SAPS), Provincial Traffic Authorities, and Metropolitan and local authorities.</td>
<td>Police (operating in urban area), National Guard of Traffic (operating in suburban areas and highways), the Ministry of the Interior</td>
</tr>
<tr>
<td>Responsibility for centralization of data</td>
<td>Not known</td>
<td>The current road safety performance statistics (outcomes) are primarily based on data centrally recorded by the National Gendarmerie.</td>
<td>Ministry of Roads and Public Works.</td>
<td>ONSR (Observatoire national de sécurité routière (Ministry of home affaires)).</td>
</tr>
</tbody>
</table>

6.2 Data collection process and related issues

Data collection process. In general, data are collected locally by one (in Kenya) or more actors and transferred to the agency/body that should be responsible for managing the overall process and storing the data. There are obvious differences between the systems and all have certain shortcomings. In Burkina Faso this process is manual, but probably this is the case in other countries like Kenya. In Tunisia and Cameroon, it seems data are periodically summarised according to a form (not clear if the form is digital or paper based) and transferred. In South Africa a “faster” procedure is put in place for fatal road accidents, the other road accidents follow a “slower” process.

Centralization and data storage. A centralised database exists in Tunisia and South Africa. In Burkina Faso and Cameroon, a unique road accident data system is missing, but its implementation is planned.
In Kenya all data are sent to the Ministry of Roads and Public Works, but it is not clear if they are digitally recorded on a database.

**Data quality.** Under-reporting seems to be common and a major issue. This is mostly due to the fact that a common definition of road fatality, in agreement with the international definition, is missing or not commonly adopted in several countries. A major issue in South Africa is the willingness to cooperate with the accident data collector, coupled with a lack of data transfer to the central agency managing the database. According to the IRs, published reports with information on road accident statistics reveal abnormal values, gaps and errors in accident data. The road accident location is also poorly captured or missing. This creates major problems for road authorities, for example in identifying high-risk locations and patterns of road accidents.

**Dissemination and use of data.** Burkina Faso and Tunisia periodically publish road accident statistics. This data is used for analysis purposes to support the definition of policies. In Kenya, the Ministry of Roads and Public Works use the data to develop work plans to improve road safety at black spots and dangerous locations on roads. In Cameroon data seems not to be used. No information is available about use and publication of data from the South Africa IR.

<table>
<thead>
<tr>
<th>Data collection process</th>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
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<tbody>
<tr>
<td>At present road accident registration is still done manually. Data collection involves road accidents of all severities (also property damage only road accidents).</td>
<td>Basic information collected by National Gendarmerie is sent to the Office of the Road Traffic (BCR) of the National Gendarmerie. A summary of each road accident collected by National Police is sent monthly to Délégation Générale à la Sécurité Nationale (DGSN).</td>
<td>National Police sends a crash report form with the road accident data to the Ministry of Roads and Public Works.</td>
<td>The NFAIC (National Fatal Accident Information Centre) is a quick (within 24 hour) response procedure for registering fatal road accidents. Based on this data, reports are compiled on fatal road accidents and made available to relevant stakeholders. The NAR (National Accident Register) gathers information on</td>
<td>Data collection is done systematically every week. Both the Traffic Police and the National Guard of Traffic draw up weekly summary reports. These are forwarded to the Regional Police District (or the National Guard District). The latter gathers all the figures received from the different traffic police centers. A monthly report is</td>
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<tr>
<td>Burkina Faso</td>
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<tr>
<td><strong>Centralization and data storage</strong></td>
<td>The agency responsible for centralizing road accident data is unknown. A new system (BAAC software) is expected.</td>
<td>Currently Cameroon has no reliable database on road accidents and there is no centralised information system. Each organisation dealing with road accidents has developed their own registration system.</td>
<td>Ministry of Roads and Public Works collects all road accident data.</td>
<td>The RTMC has developed two ways to register data: the NFAIC and the NAR, but it seems stakeholders have some reluctance to send data to RTMC. Furthermore, fragmented systems operate across the country.</td>
<td>The ONSR gathers all the monthly data from the different governorates and establishes the national statistics of road accidents.</td>
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<tr>
<td><strong>Data quality (definitions, variables ...)</strong></td>
<td>No common agreed definition of &quot;road fatality&quot;. (both &quot;a dead person on the spot&quot; and &quot;any person who died within 24 hours&quot; are considered). Road accident registration is not yet computerized, and the system faces other problems such as: lack of staff, lack of training and limited financial resources.</td>
<td>There are obvious differences between the two systems and all have certain shortcomings. In particular the Police data (as recorded on crash report forms) reveal gaps and errors (e.g., omissions, misinterpretation of a choice, wrong choices, typing errors etc.).</td>
<td>The fact that the only available road accident data in the country is registered by the police means that the number of actual road accidents could even be higher than what is recorded. That is due to the fact that, in some cases, the police do not receive a report of the road accident, especially when Vulnerable Road Users (VRU) are involved or when road users are</td>
<td>It is not entirely clear if and how the international definition of a road fatality (death within 30 days after the road accident) is applied in practice. Poor road accident location within the crash reports (often missing). Completeness, accuracy, consistency and reliability are questionable. A substantial underreporting exists when using RTMC-data.</td>
<td>The central database records data from the summary reports, containing information on the number of road accidents, injuries and victims, characteristics of the users involved, location of road accidents, road accident factors, etc. However, a sufficient level of detail is missing. The reliability of road accident location is often questioned.</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>Cameroon</td>
<td>Kenya</td>
<td>South Africa</td>
<td>Tunisia</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
<td>-------</td>
<td>--------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td><strong>Dissemination and Use of data</strong></td>
<td>ONASER, one of the bodies in charge of road safety in Burkina Faso, regularly publishes road accident statistics that are subsequently used to develop road safety policies, programs and campaigns. These reports also provide insight into the limitations in terms of quality and reliability of the current registration system.</td>
<td>Whether data on urban road accidents is accessed via the National Police or the hospitals, the quality of the rough data is not reliable enough to use for road safety analyses.</td>
<td>The RTMC acknowledges the quality problems of their road accident data and have recently started a project, the Crash Information Management System (CIMS), to solve these problems.</td>
<td>because of a lack of local means.</td>
<td></td>
</tr>
</tbody>
</table>

National data on injury accidents are published on the official website of the Tunisian Ministry of the Interior. The annual report is the only official publication. This document is available to the public and stakeholders involved in road safety.
7 Road safety strategies

The SaferAfrica assessment framework tries to seek if a “long-term, towards zero goal for the prevention for fatalities and serious injury” has been formally adopted and if quantitative road safety targets have been set in projects, national strategies, programmes and plans for 1) Final outcomes, 2) Intermediate outcomes, 3) Intervention outputs.

In this chapter we are going to explore the following in the investigated countries:

- the organization(s) responsible for road safety in a country,
- existing long term and time-limited quantitative road safety targets.
- the availability of a road safety national strategy or action plan.

7.1 Road safety Lead Agency

Considering the framework adopted for undertaking road safety management capacity reviews within SaferAfrica project, a road safety lead agency should be mandated to promote road safety, set strategies and targets for road safety improvement, and perform the seven institutional management functions that produce road safety interventions: *Results focused approach, Coordination, Legislation, Funding and resource allocation, Promotion, Monitoring and evaluation, Research and development.*

A road safety lead agency or a “de facto” lead agency seems to be present in four out of five investigated countries (Table 7-1). In Tunisia, at the national level, the Ministry of Transport oversees the strategic planning of the transport system and the design of road infrastructures (including road safety aspects). However, it seems no specific Ministry or government department has a clear mandate and budget specifically addressing the institutional road safety management functions. Various public authorities are in charge of different road safety related activities but there is a lack of coordination among these road safety stakeholders.

Another aspect not always clear (at least from the information available) is which organization is acting as the road safety lead agency in a country. This is the case of Burkina Faso, where two organizations seem to have the road safety leadership. The first one is the *National Council for Road Safety*, as it adopted the national strategy. The second one is the "Office National de la Sécurité Routière“ (ONASER) which seems to have various important duties like the definition of programs of activities on the basis of the strategic axes of the national plan and the coordination of the road accident data collection in Burkina Faso.

Furthermore, another issue found in these countries seems to be the lack of appropriate financial and human resources for these bodies to act properly. Based on the underlying institutional framework, a lead agency can be established and organised in various forms. Small & Runji, (2014) identified three different organizational forms of African lead agencies:
1. A Coordinating Committee comprising representatives from key stakeholders.

2. Lead agency function within government department (e.g. within a Ministry of Transport).

3. Autonomous lead agency for road safety.

The first form is easier to set up but typically shows a weak accountability mechanism. The second form can be very effective but could be prone to shape the road safety problem as a policy, regulatory, infrastructure or enforcement issue depending on the specific perspective of the involved government department. The last one relies on “an agency having a robust legislative framework, sufficient leadership and technical capacity to gain respect and input from operational agencies” (Small & Runji, 2014).

Burkina Faso seems to fall under the first case if we consider the National Council for Road Safety, as the lead agency, while if we look at ONASER, the third form seems a better match. The third organizational form can also be recognized for South Africa and Kenya, while the second form applies to Cameroon, where a dedicated department, the Road Safety Department (RSD), has been established to specifically address the road safety issue.

Considering the overall organizational road safety framework, the picture highlighted by the IRs needs to be completed by further investigations. To this end, it is important to identify which are the key stakeholders for improving road safety, how different tiers of government are considered to make their contribution, and how different functions/tasks/roles are or should be coordinated by the lead agency.

Table 7-1 Road safety lead agency in the investigated countries (Source: SaferAfrica Inception Reports)

<table>
<thead>
<tr>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS lead agency</td>
<td>Not clear, it seems the “Office National de la Sécurité Routière” (ONASER) is one of the bodies in charge of road safety in Burkina Faso, while the Conseil National de la</td>
<td>The Ministry of Transport has the overall responsibility for road safety and has established a Road Safety Department (RSD) to address the issue.</td>
<td>The National Transport and Safety Authority in Kenya (NTSA) with the main goal to assess road transport and road safety in Kenya and implement policies.</td>
<td>The Road Traffic Management Corporation, a state-owned Government agency, is a partnership between the different tiers of Government.</td>
</tr>
</tbody>
</table>
Relevant issues

| Sécurité Routière adopted the National strategy. | The RSD is a sub-department in the Ministry's Road Transport Department, which limits its mandate. | There is a need to have funding for road safety programmes | Absence of interdepartmental body acting under the Prime Minister |

### 7.2 Road safety targets and strategy

One of the main responsibilities of the Lead Agency is the development and management of an agreed road safety strategy with specific road safety goals. The chapter investigates the presence and main characteristics of a national road safety strategy in the addressed countries. Existing quantitative long-term road safety targets and planned policies are described and compared.

According to the IRs, a national road safety strategy seems to be adopted only in three of the five countries, namely: Burkina Faso, Cameroon and South Africa (Table 7-2). The information available on the various IRs is not so exhaustive, nevertheless, some differences can be highlighted. The first difference pertains to the period over which the strategy applies. In Cameroon the national action plan is based on a five years period, in Burkina Faso it is a period of 10 years and in South Africa, it has recently been defined for a 15 years period. Another aspect pertains to its link to the Decade of Action for Road Safety 2011-2020. Burkina Faso and South Africa have national strategies that are inspired by the Decade of Action while Cameroon’s strategic plan does not mention it, since the most recent plan was defined in 2009. Finally, only Burkina Faso seems to have a clear specification of quantitative targets in terms of road accidents (-50% by 2020) and fatality reduction (-25% by 2020).

A national strategy seems to be missing in Kenya and Tunisia. However, in Kenya the existing Lead Agency has identified a number of road safety issues and defined related policies to address them. In Tunisia a road safety plan is not mentioned.

Unfortunately, besides Burkina Faso, information about the main policies building the national strategy are missing. The Burkina Faso strategy is organised to encompass 79 activities grouped in five pillars and cross-cutting issues.
Table 7.2 Road safety national strategies in the investigated countries (Source: SaferAfrica Inception Reports)

<table>
<thead>
<tr>
<th>Country</th>
<th>National Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>A national road safety action plan 2011-2020 was adopted by the National Road Safety Council on July 26, 2011. It is a multisectoral plan with the national goal of halving the number of road accidents and a 25% reduction in the number of people killed by 2020. Burkina Faso’s National Plan is inspired by the Decade of Action for Road Safety 2011-2020.</td>
</tr>
<tr>
<td>Cameroon</td>
<td>The most recent strategy dealing with road safety is the “Development of a National Strategy for Road Safety” which set out an action plan for the period 2009-2014. The priority short term action plan is reviewed annually.</td>
</tr>
<tr>
<td>Kenya</td>
<td>No specific reference to a national strategy, however a number of road safety issues and related policies have been defined by the NTSA.</td>
</tr>
<tr>
<td>South Africa</td>
<td>South Africa has adopted the Safe System approach advocated by the plans outlined in the United Nations Decade of Action for Road Safety 2011-2020. The Department of Transport recently published a new national road safety strategy, covering the period 2016-2030.</td>
</tr>
<tr>
<td>Tunisia</td>
<td>There is no reference to a road safety strategy in the IR</td>
</tr>
<tr>
<td>Main policies</td>
<td>This plan, which aims to reduce road accidents by 50% by 2020, has five pillars and cross-cutting issues around which 79 activities are organized to achieve 15 expected results.</td>
</tr>
</tbody>
</table>
8  Road Users

8.1  Driver licences

There are several aspects of driver licensing having an impact on road safety. These are, for instance, the age at which one can start practicing and acquire a driving licence, health requirements, the characteristics of formal driver training, the presence and characteristics of a driving test, etc.

This section explores the driver’s licence typologies and licensing characteristics in the investigated countries. The following aspects were investigated:

- Requirement of training for driver licensing
- Driver training provider
- Standardization of drivers training curriculum
- Provisions of legislation for learners to use roads
- Type of driver test required for driver licensing
- Standardization of drivers testing
- Categorization of driving license by vehicle types
- Requirement of passing a test for license renewal
- Types of licenses and age limits

It should be noted that not all the information was available in the IRs for all countries. When missing, a desk search aimed at retrieving the information was undertaken. In some cases, the IRs also provided some details on the existing operational issues in the driving licence system of a country, these were also considered in the analysis.

The tables 8.1 and 8.2 show the methods used to acquire driving licenses and the existing types of licenses and requirements in the 5 countries. Driver licensing is regulated in all five countries. The exhibits show that to acquire a driving license a theoretical and practical standardized driving test is mandatory in all the five countries. However, it seems that no test is required to renew the driving license in all the five countries. This could be a problem especially for older drivers who experience elevated risk of road accident involvement.

In general, a theoretical and practical driving training is also mandatory. In Burkina Faso, no theoretical training seems to be required. Usually, training is performed on the road (i.e. within traffic). In addition, driving away from traffic is compulsory in Cameroon and Burkina Faso. However,
among the five countries, only Burkina Faso seems to have a standardized national driver training curriculum.

**Tab. 8.1 Driver’s licence training and testing in the investigated countries (Source: SaferAfrica Inception Reports and African Development Bank (2013))**

<table>
<thead>
<tr>
<th>Requirement of training for driver licensing</th>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical away and within traffic</td>
<td>Theoretical and practical away and on the road</td>
<td>Theoretical and practical within traffic</td>
<td>Theoretical and practical on the road</td>
<td>Theoretical and practical on the road</td>
<td></td>
</tr>
<tr>
<td>Govt, Pvt, Schools</td>
<td>Schools</td>
<td>Pvt., Schools</td>
<td>Govt, Pvt., Schools</td>
<td>Pvt., Schools</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>-</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Provisions of legislation for learners to use roads</td>
<td>Yes, after initial training</td>
<td>Yes, after initial training</td>
<td>Yes, after initial training</td>
<td>Yes, after initial training</td>
<td></td>
</tr>
<tr>
<td>Yes, after initial training</td>
<td>Yes, after initial training</td>
<td>Yes, after initial training</td>
<td>-</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Type of driver test required for driver licensing</td>
<td>Theoretical, practical away and within traffic</td>
<td>Theoretical and Practical on the road</td>
<td>Theoretical and Practical on the road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theoretical and practical (first on designated driving test circuit, then on the road)</td>
<td>Theoretical and Practical on the road</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Yes, after initial training</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Requirement of passing a test for license renewal</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
While in some countries the license management system is well regulated (e.g. South Africa with the NaTIS system), in other countries this is not the case. A significant problem concerns driving schools and the process of obtaining driving licenses.

The driving license of all countries surveyed is categorized by vehicle types. The minimum age of driving a car is 18 years old, for a motorcycle 16 (Burkina Faso and Kenya) or 17 years old (South Africa)

In Cameroon, taxi motorcycles are a cheap and popular form of commuter transport, but a large proportion of the drivers are not legally licensed to operate these vehicles. This due to the lack of standardised and accredited driving schools for motor taxi drivers. The same problem concerns the obtainment of driver licence by truck drivers that is not well regulated. For these reasons, there are frequent cases of illegal driver licences.

In Burkina Faso there are a number of relevant issues concerning the driver training system. According to the IR the teaching in driving schools leave much to be desired, teaching aids are absent, obsolete or unsuitable, the importance of the rules and the motivation for regulation is not taught to the students and there is no support for practical training. Regarding teachers and examiners training the problems are low level of participants, limited training time and limited resources available. Consequently, the image of driving schools and examiners is generally negative in the population and they are considered not competent. Furthermore, many people prefer to buy a driving license in the black market, despite the risk of imprisonment and fines.

In relation to these critical issues the various country governments should implement (some of them already did it, like South Africa and Cameroon) a centralized system for the control and management of driving licenses.

Tab. 8.2 Driver’s licence typologies in the investigated countries (Source: SaferAfrica Inception Reports)

<table>
<thead>
<tr>
<th>Country</th>
<th>Licence typologies</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category A: motorcycle with or without a sidecar (125cc or more)</td>
<td>Minimum age is 16 years old</td>
<td></td>
</tr>
<tr>
<td>Category A1: moped with or without sidecars, motorized tricycles and quadricycles</td>
<td>Minimum age is 14 years old</td>
<td></td>
</tr>
<tr>
<td>Category B: vehicles: - for the carriage of passengers and including, in addition to the driver's seat, a maximum of eight seats; - for the transport of goods with a total weight at full load not exceeding 3500kg</td>
<td>Minimum age is 18 years old</td>
<td></td>
</tr>
<tr>
<td>Vehicles in this category may be coupled to a trailer whose total weight does not exceed 750kg</td>
<td>Minimum age is 18 years old</td>
<td></td>
</tr>
<tr>
<td>Category C: motor vehicles used for the transport of goods and whose gross weight exceeds 3,500kg.</td>
<td>Minimum age is 18 years old</td>
<td></td>
</tr>
</tbody>
</table>
### Burkina Faso

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Minimum age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D</strong></td>
<td>Motor vehicles carrying more than eight people (one child under the age of 10 corresponds to half a person, provided the number of children does not exceed ten) or, in addition to the driving seat, more than eight seats.</td>
<td>21 years old</td>
</tr>
<tr>
<td><strong>E</strong></td>
<td>Motor vehicle of category B, C or D coupled to a trailer whose total weight exceeds 750kg.</td>
<td>18/21 years old (depending on the towing vehicle)</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>Vehicles of category A, A1 or B driven by disabled persons and adapted specifically to their disability.</td>
<td>14, 16 or 21 years old</td>
</tr>
<tr>
<td><strong>BCD</strong></td>
<td>Special vehicles, agricultural tractors, agricultural machines, tractors, etc. Vehicles in this category may be coupled to a trailer whose total weight does not exceed 750kg.</td>
<td>21 years old</td>
</tr>
</tbody>
</table>

### Cameroon

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Minimum age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>Motorcycles and mopeds.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>Motors-cars having not more than nine seats, including driver's seat or goods vehicles whose maximum authorized weight does not exceed 3,500kg.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>Goods vehicles whose maximum authorized weight exceeds 3,500kg. Light trailer whose maximum authorized weight does not exceed 750 kg may be attached to vehicles of this category.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>Vehicles with seating for more than nine passengers. Light trailers whose maximum authorized weight does not exceed 750 kg may be attached to vehicles of this category.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>E</strong></td>
<td>Vehicles of categories B, C and D with which the driver is entitled to draw a trailer whose maximum authorized weight exceeds 750 kg.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>Vehicles referred to in category B specially equipped for being used by handicapped drivers.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>G</strong></td>
<td>Agricultural tractors, public works vehicles or industrial vehicles.</td>
<td>18 years old</td>
</tr>
</tbody>
</table>

### Kenya

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Minimum age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E</strong></td>
<td>Light vehicles.</td>
<td>16 years old for motorcycle</td>
</tr>
<tr>
<td><strong>B, C and E</strong></td>
<td>Light vehicles and heavy vehicles with commercial purposes.</td>
<td>18 years old for other vehicles</td>
</tr>
<tr>
<td><strong>I</strong></td>
<td>Articulated motor vehicles.</td>
<td>18 years old</td>
</tr>
</tbody>
</table>

### South Africa

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Minimum age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A1</strong></td>
<td>Motorcycle without sidecar up to 125cc.</td>
<td>17 years old</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>Motorcycle with or without a sidecar exceeding 125cc.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>All motor vehicles not exceeding 3500kg.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>Ca</strong></td>
<td>All non-articulated motor vehicle between 3500 and 16000kg.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>All non-articulated motor vehicles exceeding 16000kg.</td>
<td>18 years old</td>
</tr>
<tr>
<td><strong>EB</strong></td>
<td>Light motor vehicle with trailer with a gross combination mass up to 3500kg or vehicles towing</td>
<td>18 years old</td>
</tr>
</tbody>
</table>
one another (combination of a motor vehicle not exceeding 3500 kg and a minibus, bus or goods vehicle with a GVM less than 3500kg

**Code EC1:** Articulated vehicles between 3500 and 16000kg

**Code EC:** Articulated vehicles over 16000kg

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**Professional driving permit (PrDP):**

- **Category G:** for goods vehicles over 3500kg and breakdown vehicles
- **Category P:** for category G vehicles and also buses and mini-buses (vehicles used for conveying fare-paying passengers and vehicles that are designed to carry 12 or more people)
- **Category D:** for category G and P vehicles and also goods vehicles over 3500kg carrying dangerous goods and those to which SABS 1398 or 1518 apply (basically tankers).

Minimum age is 18 years old

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Applicants must undergo a full medical examination, not having been convicted for a violent offence or found guilty for serious traffic offences; are certified by certain professional bodies.

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**Tunisia**

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Tunisia

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8.2 Traffic legislation

Traffic legislation includes a number of acts and regulations. The effects of traffic legislation on the number of road accidents depend on the risky behaviour addressed and by the regulation and the level of compliance with the legislation. According to WHO, there are five main behavioural risk factors for road traffic injuries: speed, driving under the influence, failure to use motorcycle helmets, seat-belts and child restraints (WHO, 2015). In several countries laws relating to one or more of the five key behavioural risk factors are missing.

The report investigates the presence and characteristics of a law regulating the five risky behaviours in each country:

- **National speed limit law**
  - Max urban speed limit
  - Max rural speed limit
  - Max motorway speed limit
  - Local authorities can modify limits

- **National drink–driving law**
  - BAC limit – general population
  - BAC limit – young or novice drivers
  - Random breath testing carried out

- **National drug–driving law**

- **National motorcycle helmet law**
  - Applies to drivers and passengers
- Law requires helmet to be fastened
- Law refers to helmet standard
- National seat-belt law
  - Applies to front and rear seat occupants
- National child restraint law

Tables 8.3 – 8.4 – 8.5 provide information regarding the presence (or not) of laws on speed limits, driving under the influence of alcohol or drugs, use of a helmet, safety belts and restraint systems for children in the 5 selected countries.

Regarding speed limit laws, these are present in every country (with related limits) but drivers rarely respect them and rather speeding is one of the main causes of road accidents. Moreover, in several African countries, like Cameroon and South Africa, an urban speed limit of 60 km/h is permitted. This limit is high if we consider the fact that most unprotected road users survive if hit by a vehicle at up to only 30 km/h.

In all countries this problem emerges and actions to counter it is needed for example road safety campaigns, increased enforcement, increased penalties for speed violations, reducing the speed limits in specific areas such as around schools and increasing coverage of speed related issues in the media. In some countries (like Kenya and Burkina Faso) the government implemented a policy to realize these actions geared at reducing driving speed. The results were positive with an increase in compliance with the speed limits. It would be appropriate for the other countries to implement targeted actions to reduce one of the most frequent causes of road accidents in Africa.

Tab. 8.3 Traffic legislations regarding speed limits in the investigated countries (Source: WHO)

<table>
<thead>
<tr>
<th>Item</th>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>National speed limit law</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Max urban speed limit</td>
<td>50 Km/h</td>
<td>60 Km/h</td>
<td>50 Km/h</td>
<td>60 Km/h</td>
<td>50 Km/h</td>
</tr>
<tr>
<td>Max rural speed limit</td>
<td>90 Km/h</td>
<td>110 Km/h</td>
<td>100 Km/h</td>
<td>100 Km/h</td>
<td>90 Km/h</td>
</tr>
<tr>
<td>Max motorway speed limit</td>
<td>No</td>
<td>-</td>
<td>110 Km/h</td>
<td>120 Km/h</td>
<td>110 Km/h</td>
</tr>
<tr>
<td>Local authorities can modify limits</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Regarding the driving under the influence of alcohol or drugs each of the 5 countries has a law that regulates it with their respective limits; only Burkina Faso seems not to have a law that regulates driving under the influence of drugs.

The blood alcohol concentration (BAC) limit is set as 0.8 g/ml in Cameroon and Kenya. In South Africa and Tunisia, the limit is lower (0.5 g/ml). There is no distinction in BAC limits between road users at risk like young drivers or novice drivers and the general population. In Burkina Faso, the law regarding blood alcohol limits for drivers was recently adopted (April 2017). Information on the limits are not available but it seems that the acceptable blood alcohol level is more restrictive for: young drivers, professional drivers, examiners and driving instructors.

Even drink driving is one of the main causes of road accidents in the 5 treated countries. For example in a South African study it was estimated that in more than 50% of all fatal road accidents blood alcohol levels above the legal limit was involved. Furthermore around 57% of drivers and 58% of pedestrians who are fatally injured in road accidents have some level of alcohol in their blood with average levels exceeding the BAC limit. In some countries (e.g. Kenya) a factor that aggravates this problem is lack of alcohol tests performed by the police on the national roads. In many countries like Cameroon and Burkina Faso awareness campaigns are regularly conducted to treat specific road safety problems (e.g. drink/drug driving) with the help of supports like TV, Radio, flyers and posters. These actions are useful for educating populations and should be included (as is the case in some countries) in primary and secondary school programs. However, in some cases road safety campaigns are not aligned with effective law enforcement which is the situation in Burkina Faso where there is poor coordination between road safety campaigns and police officers.

Tab. 8.4 Traffic legislations regarding drink/drug driving in the investigated countries (Source: WHO)

<table>
<thead>
<tr>
<th>Item</th>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>National drink–driving law</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>BAC limit – general population</td>
<td>-</td>
<td>≤ 0.8 g/ml</td>
<td>≤ 0.8 g/ml</td>
<td>≤ 0.5 g/ml</td>
<td>≤ 0.5 g/ml</td>
</tr>
<tr>
<td>BAC limit – young or novice drivers</td>
<td>-</td>
<td>≤ 0.8 g/ml</td>
<td>≤ 0.8 g/ml</td>
<td>≤ 0.5 g/ml</td>
<td>≤ 0.5 g/ml</td>
</tr>
<tr>
<td>Random breath testing carried out</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Finally, regarding the laws of helmet, seat belts and child restraints (see table 8.5) each of the 5 treated countries has a law that regulates these aspects, except for child restraint law, which is present only in Burkina Faso.

Passive safety systems are very important to reduce injury and mortality risk in road accidents but unfortunately in African countries they are rarely used. For example, in Kenya a typical problem is represented by “Boda Boda” that are light motorcycles modified to carry a rider and more than one passenger and are used as “motorcycle taxis”. The main issue is that passengers generally do not wear helmets or, if they do, they use low quality helmets or wear them incorrectly. In Burkina Faso during the years several decrees followed on the use of the helmet, until 2006 when the helmet integration was imposed together with the equipment of the powered two wheelers during their sale. In the same year, the general characteristics of the helmets and the conditions and procedures for the approval were established. Despite this, the law is not well applied such as the homologation procedure of the helmets. The main consequence is that wearing a helmet is currently an exception in Burkina Faso (and in other countries).

Like the failure in the use of helmets, another problem pertains to the use of safety belts and child restraints, which are not widely used in all 5 countries. In South Africa, for example, wearing rates are less than 70% and extremely low for child restraints (a pilot study indicating that only 3% of all children were adequately restrained). To improve the situation, first of all it would be necessary to establish laws on child restraints (absent in almost all countries) and enforce those already present on the use of helmets and seat belts. To achieve this, targeted awareness campaigns and more enforcement actions conducted by the police should be implemented especially in low-income areas (most problematic).

<table>
<thead>
<tr>
<th>National motorcycle helmet law</th>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to drivers and passengers</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Tab. 8.5 Traffic legislations regarding Helmet/Seat belt/Child restraint in the investigated countries (Source: WHO)
<table>
<thead>
<tr>
<th>Law requires helmet to be fastened</th>
<th>No</th>
<th>No</th>
<th>No</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law refers to helmet standard</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>National seat-belt law</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Applies to front and rear seat occupants</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>National child restraint law</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
9 Vehicles

Making certain safety features compulsory to vehicles requiring minimum safety features to new, used imported and in-use vehicles by applying i.e. UN 1958 and 1997 Agreements, supporting and enforcing vehicle maintenance with periodical and road-side inspection, ensuring safe vehicle modifications, lobbying manufacturers to provide standard safety features, prohibiting certain vehicles, campaigning among potential buyers to buy vehicles with higher safety ratings etc. are all actions that are supportive of the concept of safer vehicles.

In the five selected countries the distribution of vehicle fleet by type shows big differences (Fig. 9.1). Although in the countries like Tunisia, South Africa and Cameroon the presence of passenger cars is prevalent (60-70%), the same cannot be said for Kenya as for Burkina Faso. In Kenya the percentage of passenger cars is more or less the same as that of two-wheeled vehicles (35-40%), while in Burkina Faso there is a great prevalence of two-wheeled vehicles (more than 80%). Regarding vans and lorries, the countries with the highest percentages are Tunisia and South Africa (almost 30%). Slightly lower percentages of these types of vehicles are present in Kenya and Cameroon (about 20%). Burkina Faso has the smallest percentage for trucks vans and lorries (below 5%). Finally, regarding buses and motor coaches these are the type of vehicles with the lowest percentage in all five considered countries (3-5% in South Africa, Kenya and Cameroon, 1% in Tunisia and Burkina Faso).

![Distribution of vehicles in use by type of vehicle](image)

*Fig. 9.1 Vehicle fleet distribution by type (Source: WHO, 2015)*

The table 9.1 contains info about the vehicle fleet for each of the 5 selected countries and indicates the presence or not of standards related to the manufacture, installation of devices and inspections.
of vehicles. As can be seen, some countries (Kenya, Burkina Faso and South Africa) have regulations on the safety standards of the vehicles in use, but the standards are limited, and the regulations are weakly enforced (AfDB, 2013).

There are also mandatory vehicle inspections in all countries however, these seem not to be carried out periodically (as established by law) and in some cases, not all vehicles are required to be submitted to them (i.e. private passenger cars are exempted from periodical inspection in South Africa). As a result, an increasing number of vehicles on the roads no longer comply with the original safety standards and generally many vehicles are in poor conditions with serious consequences on road safety.

In relation to the mandatory technical inspection of vehicles, even if not respected as mentioned, more information is available for South Africa and Burkina Faso. In particular, in South Africa vehicles over 3500kg in mass are required to undergo an annual roadworthy inspection and be issued with a Certificate of Roadworthiness (CoR) before being allowed to continue being used on public roads; vehicles lighter than 3,500 kg are not required to have annual roadworthy inspections, only upon change of ownership; buses are required to be tested every 6 months. Vehicles are only allowed to operate on public roads if they are provided with a COR as set out by the National Road Traffic Act and South African National Standard (SANS). Also, in Burkina Faso the interval between the periodic inspections varies according to the vehicle category. The private cars must carry out a technical inspection every 12 months, vehicles for transportation of goods must be inspected every 6 months and passenger transport vehicles must be inspected every 3 months.

To improve the situation regarding the quality of vehicles on the roads of the considered countries, the national authorities should intensify the controls by the police on the roads and apply more severe penalties for the offenders. In this way, perhaps we would have greater respect for the laws and the established standards.

Another important contribution on road safety can come from insurance companies. In Tunisia, for example, insurance companies have decided not to insure commercial vehicles whose age exceeds 15 years, as well as old cars over 20 years old. In this way, insurance companies help to renew the fleet of vehicles and, therefore, to reduce the number of road accidents due to vehicle obsolescence. In any case, limiting the age of vehicles may have perverse effects in road safety that shall be carefully analysed.
Tab. 9.1 Standards regarding manufacture, installation of devices and inspections of vehicles in the investigated countries (Source: SaferAfrica Inception Reports and African Development Bank (2013))

<table>
<thead>
<tr>
<th>Item</th>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total registered vehicles for 2013</strong></td>
<td>1,545,903</td>
<td>443,018</td>
<td>2,011,972</td>
<td>9,909,923</td>
<td>1,735,339</td>
</tr>
<tr>
<td>Presence of vehicle import standard</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence of vehicle import limits on vehicle age</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence of vehicle manufacturing standard</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Presence of safety standards for vehicles in use</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence of vehicle age limit for roadworthiness</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Requirement of vehicles to have seatbelts fitted/installed</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence of mandatory periodic vehicle safety inspections*</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence of vehicle insurance regulation</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* The answer may not include all vehicle categories, especially motorcycles. More details on this are reported in Deliverable 3.1 "Evaluation of the African Road Safety Action Plan and recommendations" of SaferAfrica project.
10 Roads

Factors affecting infrastructure safety can be related to road planning and design, construction (e.g. work zone) and maintenance procedures.

The table 10.1 shows the extension of the road network and the managing authorities (with related tasks) for each country considered. For Cameroon there is no information concerning the authorities that manage the road network, while for Burkina Faso there is no information on the extent of this.

In all countries most of the roads are not paved and, in some countries, (like Cameroon and Tunisia) the paved roads are in poor condition due to the presence of holes, cracks, bumps, presence of objects, etc.

The existent of these problems, together with the lack of maintenance, signage, lighting and design errors, imply that in these countries the roads are not safe and characterized by a high risk of road accidents. Moreover, the situation of the roads appears to be the same for all the countries considered. The main obstacles to good management of road infrastructures seem to be human, financial and training resources. The question of financial resources remains central, because currently a fund dedicated to road safety is lacking in many African countries.
Tab. 10.1 Road network extension and managing authorities in the investigated countries (Source: SaferAfrica Inception Reports and African Development Bank (2013))
<table>
<thead>
<tr>
<th>Country</th>
<th>item</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Burkina Faso</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total network</td>
<td>15000 km (source: the CIA World Factbook)</td>
</tr>
<tr>
<td></td>
<td>Paved</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Unpaved</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Authorities and tasks</td>
<td>Agencies responsible for road infrastructure: road design and safety</td>
</tr>
<tr>
<td></td>
<td></td>
<td>standards</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ONASER (Office national de la sécurité routière): audit and inspection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>standards (manuals)</td>
</tr>
<tr>
<td><strong>Kenya</strong></td>
<td>Total network</td>
<td>160.886 Km</td>
</tr>
<tr>
<td></td>
<td>Paved</td>
<td>11.137 Km (6.9%)</td>
</tr>
<tr>
<td></td>
<td>Unpaved</td>
<td>149.689 Km (93.1%)</td>
</tr>
<tr>
<td></td>
<td>Authorities and tasks</td>
<td>Kenya National Highways Authority (KeNHA): management of national roads,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>including maintenance and development of those roads types;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kenya Rural Roads Authority (KeRRA): management, maintenance and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>development of rural roads;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kenya Urban Roads Authority (KURA): management, maintenance and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>development of urban roads, with the exception of those that are</td>
</tr>
<tr>
<td></td>
<td></td>
<td>considered national roads;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kenya Roads Board: this authority acts as a coordinator of the road</td>
</tr>
<tr>
<td></td>
<td></td>
<td>development and maintenance and as an advisor regarding road network</td>
</tr>
<tr>
<td></td>
<td></td>
<td>for the Kenyan Government, including funding;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kenya Wildlife Services (KWS): maintenance of roads in National Parks</td>
</tr>
<tr>
<td><strong>Cameroon</strong></td>
<td>Total network</td>
<td>50.000 Km (approximately)</td>
</tr>
<tr>
<td></td>
<td>Paved</td>
<td>5.000 Km (approximately 10.0%)</td>
</tr>
<tr>
<td></td>
<td>Unpaved</td>
<td>45.000 Km (approximately 90.0%)</td>
</tr>
<tr>
<td></td>
<td>Authorities and tasks</td>
<td>-</td>
</tr>
</tbody>
</table>
### South Africa

<table>
<thead>
<tr>
<th>Total network</th>
<th>750,000 Km (approximately)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved</td>
<td>158,124 Km (21,1%)</td>
</tr>
<tr>
<td>Unpaved</td>
<td>591,876 Km (78,9%)</td>
</tr>
</tbody>
</table>

**Authorities and tasks**

Department of Transport, South African National Roads Agency (SANRAL): roads design, build and maintenance standards (documents and manuals (i.e. South Africa Road Safety Manual – SARSMS))

### Tunisia

<table>
<thead>
<tr>
<th>Total network</th>
<th>26,110 Km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved</td>
<td>13,110 Km (50,2%)</td>
</tr>
<tr>
<td>Unpaved</td>
<td>13,000 Km (50,2%)</td>
</tr>
</tbody>
</table>

**Authorities and tasks**

- **Ministry of Transport (national level):** transport planning and road infrastructure design
- **Governorate (regional level):** road network planning and organization of regional infrastructures, roads lighting and cleaning
- **Municipality:** design of traffic plans consistent with regional and national plans, roads lighting and cleaning
- **Ministère de l’Equipement et de l’Habitat (MEH):** road network and sidewalks maintenance, installation of road signs

(Directions Régionales de l’Equipement et de l’Habitat (DREH) at regional level and municipalities at local level)
11 Emergency services and post-crash care

A significant proportion of traffic fatalities can be prevented by effective post-crash care, particularly in the time period immediately after a road accident occurs and the victim being admitted into hospital. Emergency response to these situations need to minimise the time to the scene of the road accident, provide the necessary and essential post-crash medical treatment and care, and get the victim to a suitable hospital with the necessary trauma care unit (road accident and emergency unit). In the African context it is reported that most of the road fatalities occur in the pre-hospital phase. Many African countries do not have adequate ambulance services or qualified trauma care staff to deal with road accidents. It is reported that less than 10% of the injured are actually transported by ambulance (Soro and Wayoro, 2017).

The Table 11.1 shows the presence or not of emergency and post-crash care services in the 5 selected countries. All of these have limited resources to deal with road accident victims. There are no dedicated trauma teams for road accidents and these are treated as any other emergency patients in hospitals which are equipped with emergency care or special trauma units. Furthermore, not all hospitals have these facilities (only in the main cities) nor do all ambulance services have specialised and trained trauma team personnel. In Tunisia the situation is slightly better than in other countries. Here emergency medicine has been taught in university hospital centres and various emergency medical services cover the country.

Recommendations to improve emergency care can include the development of a digital trauma registry, the introduction of trauma training for healthcare workers and the development of trauma teams. Keeping a registration of trauma cases in hospitals can help defining types of injuries, contributing risk factors and outcomes. A register can also be used to assess complications of care leading to an improvement of the quality of care service.
Tab. 11.1 Emergency and post-crash care services features in the investigated countries (Source: SaferAfrica Inception Reports and African Development Bank (2013))

<table>
<thead>
<tr>
<th>Item</th>
<th>Burkina Faso</th>
<th>Cameroon</th>
<th>Kenya</th>
<th>South Africa</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of emergency medical service regulation/procedure</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence of emergency medical service for road crash</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence of special emergency telephone number</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Coverage of emergency medical service</td>
<td>Main cities</td>
<td>Limited to ambulance services in urban areas &amp; hospitals</td>
<td>Ambulance in urban centers &amp; hospitals</td>
<td>Main cities</td>
<td>Yes</td>
</tr>
<tr>
<td>Extent of emergency medical service</td>
<td>Good</td>
<td>Fair</td>
<td>Bad</td>
<td>Bad</td>
<td>Fair</td>
</tr>
</tbody>
</table>
12 Conclusions

Road accidents are among the leading causes of fatalities, especially in the African countries, where the number of road accidents and fatalities have been increasing over the last decades. Based on the detailed analysis of the five investigated countries, many of these accidents are preventable and due to one or more of some recurrent risk factors: speeding, driving under the influence of alcohol, not wearing seat belts or helmets, roads and vehicles conditions. Therefore, building favourable conditions for an effective and efficient road safety management is a priority to prevent such avoidable losses.

The picture highlighted by the IRs is by definition only partial and needs to be completed with further analysis in the following steps of SaferAfrica project. However, based on the evidence collected so far, some important key issues can be highlighted for the five investigated countries.

Road safety data. Even if the majority of countries regularly investigate and record road accidents, road accident data are likely to be underestimated in Africa. A critical aspect for road safety management in Africa is the lack of a reliable data collection system and the problem of underreporting. This is confirmed by all the IRs in the five selected countries. Accident data are often incomplete, and it is unknown what proportion of road accident have been reported and recorded in official databases used. Modernizing the road safety data collection process seems to be a high priority to enable effective and efficient monitoring and evaluation of road accidents.

Road safety strategies. There are relevant differences in how road safety is planned and managed at local and central levels in each country. However, it can be said that a lead road safety agency, if established, is frequently missing the legal power and/or dedicated financial and human resources to be effective in defining a comprehensive national road safety strategy and coordinating responsible stakeholders for its implementation. It is a priority to create and/or strengthen the lead agencies by providing them with management autonomy and adequate financial resources to coordinate and implement the planned road safety policies and measures.

Road users. Driver licensing is regulated in all five countries. To acquire a driving license a theoretical and practical standardised driving tests is mandatory in all the five countries. However, it seems that no test is required to renew the driving license in all the five countries. This could be a problem especially for older drivers who experience elevated risk of road accident involvement. In general, a theoretical and practical driving training is also mandatory. While in some countries the license management system is well regulated (e.g. South Africa with the NaTIS system), in other countries this is not the case. A significant problem concerns driving schools and the process of obtaining driving licenses.

Regarding speed limit laws, these are present in every country (with related limits) but drivers rarely respect them meanwhile speeding is one of the main causes of road accidents. In all countries this problem emerges and to counter it, some actions are required such as road safety campaigns,
increased enforcement, increased penalties for speed violations, reducing the speed limits in specific areas such as around schools and increasing coverage of speed related issues in the media. In some countries (like Kenya and Burkina Faso) the government implemented a policy to realize these actions geared towards reducing driving speed. The results were positive with an increase in compliance with the speed limits. It would be appropriate for the other countries to implement such types of targeted actions.

Regarding the aspect of driving under the influence of alcohol or drugs, each of the 5 countries has a law that regulates it with their respective limits. However, drink driving is one of the main causes of road accidents in the 5 treated countries. A factor that aggravates this problem is lack of alcohol tests performed by the police on the national roads. In many countries like Cameroon and Burkina Faso awareness campaigns are regularly conducted to treat specific road safety problems. These actions are useful for educating the population and building a road safety culture and should be included (as is the case in some countries) in primary and secondary school programs.

Roads. Road standards are frequently poor with a high percentage of the total length of the network represented by unpaved roads. The main obstacles to the good management of road infrastructures seem to be human, financial and training resources to develop professionals in the road safety field.

Vehicles. There are vehicle safety standards of the vehicles in use, but the standards are limited, and the regulations are applied inadequately. To improve the situation regarding the quality of vehicles on the roads of the considered countries, the national authorities should define the appropriate standards for new and in-use vehicles entering in the country, ensure periodical and road-side inspection, develop the network and culture of vehicle maintenance, facilitate the import of the right spare parts, increase awareness of safer vehicles, and intensify the enforcement. In this way, perhaps we would have greater respect for the laws and the established standards.

Emergency services and post-crash care. The quality and coverage of the existing medical services are one of the biggest obstacles to an adequate post-crash care. Recommendations to improve emergency care can include the development of a digital trauma registry, the introduction of trauma training for healthcare workers and the development of trauma teams.
13 References


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WHO. (2012). Road safety in ten countries.
