



# **SaferAfrica**

## **Evidences & Recommendations**

George Yannis, Stergios Mavromatis, Alexandra Laiou, Katerina Folla  
NTUAthens

1<sup>st</sup> Management Board, April 27<sup>th</sup> 2018, Athens

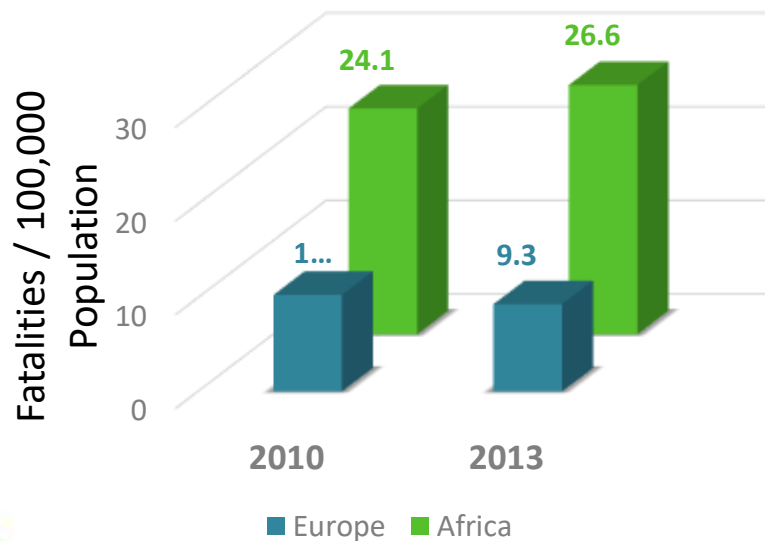


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African-European Dialogue Platform on Road Safety

# Road Safety in Africa

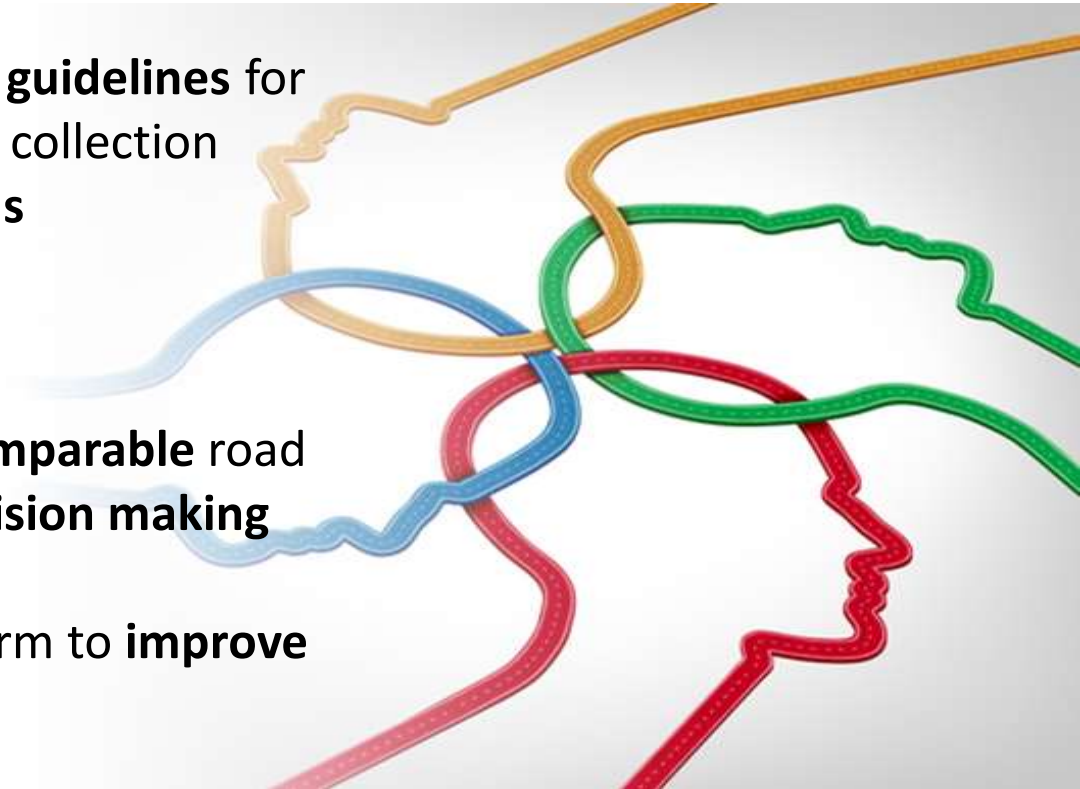
- Road traffic fatality rates per 100,000 population (WHO 2015)



- Africa presents the **highest traffic fatality rates** globally, with almost three times higher fatality risk than Europe

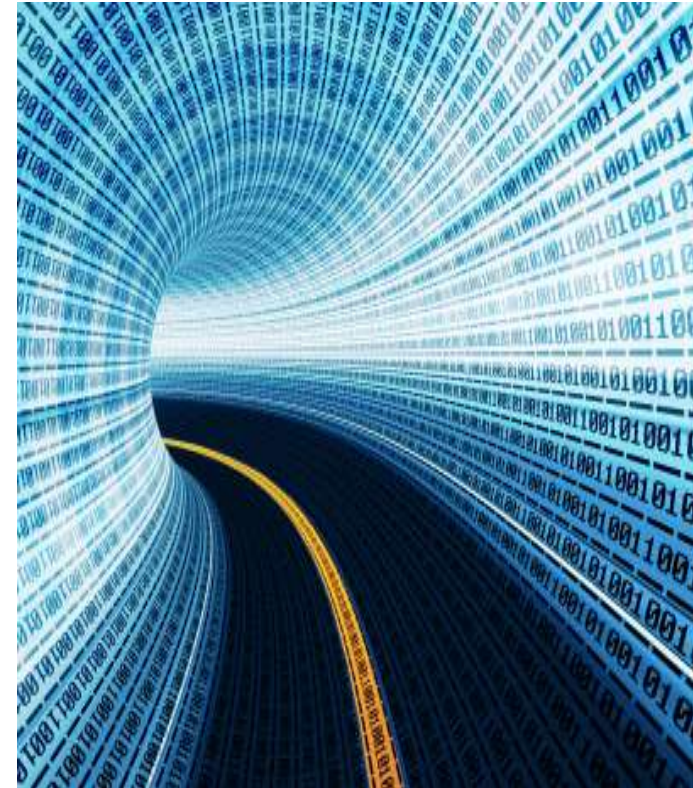
# WP4 Objectives

- Provision of **recommendations** and **guidelines** for a minimum set of **harmonised data** collection procedures and **standard definitions**
  - minimum set of data elements
  - common collection system
- Attempt to deliver **accurate** and **comparable** road safety data for **evidence-based decision making**
- Applied in the short- to medium term to **improve** African data collection systems



# Methodology

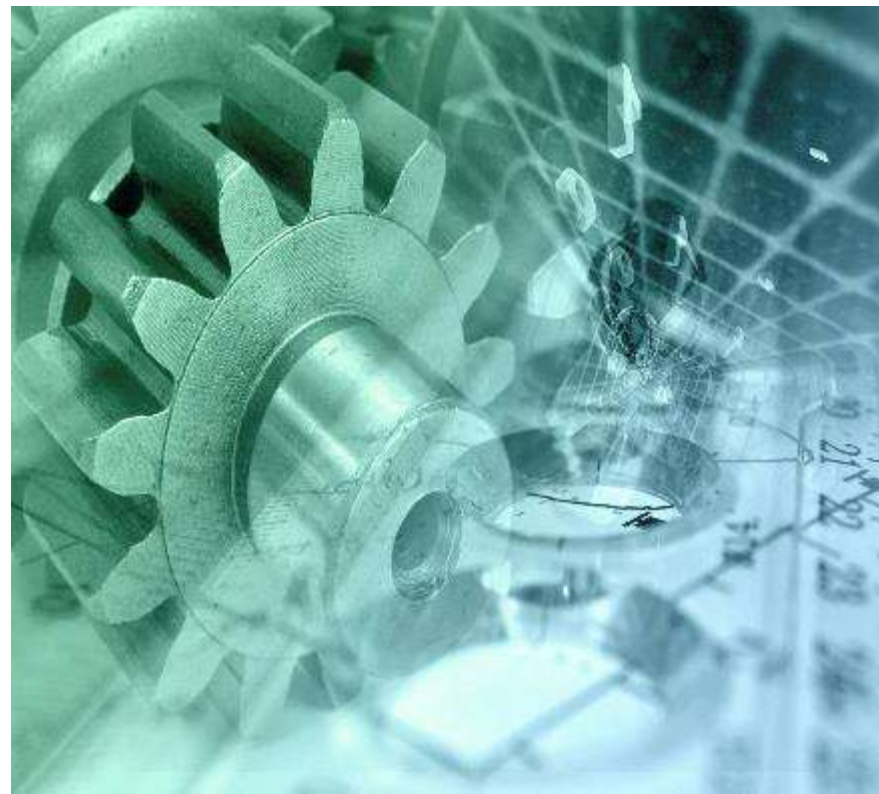
- Analysis of existing systems and of the findings of the survey in Africa
  - Manual of the WHO on Data Systems (2011)
  - EC CARE/CADAS Protocol (2018) and SafetyNet (2008) and Dacota (2012) results
  - US-NHTSA FARS – NASS Systems
  - Survey in the context of Safer Africa project
    - road safety data
    - data collection systems
    - definitions





# Type of Data Assessed

- 3 types of data
  - Accident data
  - Exposure data
  - Road safety performance indicators
- Limitations in the collection process
  - experience
  - unavailability
  - lack of standardization
- 2-fold priorities scenario / data type proposed
  - usefulness
  - easeness to collect



# Accident Data

- **Common dataset**  
composed of minimum data elements  
(variables) acts as key tool  
for ensuring the appropriateness  
of data captured
- **Uniformity** of accident data crucial  
for subnational - international comparisons
- 2-step approach for developing  
common data collection system
  - improvement and harmonisation  
of existing data and methods  
collection of new harmonised data



# Common Accident Data Collection System

- Minimum set of standardised data elements makes available
  - comparable road accident data available in Africa
    - serve national needs (organizations, authorities, etc.)
    - compatible with international data
  - transferability of knowledge and best practices from developed countries
    - taking into account particular local needs and conditions





# Accident Data - Definitions and Standards

- Road fatalities
  - **international definition:**  
*“the persons who died within 30 days from the day of the accident”*
  - at present this definition is **used by a number of African countries** and is suggested to be adopted by the remaining ones
  - some countries have to **modify** the data collection process and **develop** appropriate conversion factors, **prior** to the adoption of the common definition





# Accident Data - Definitions and Standards

- Injury severity
  - **minimum injury** for which an accident is recorded by the Police is **different** in each country
  - **important differences** among countries between **seriously** and **slightly injured** persons



# Limitations for International Comparisons of Road Accident Data

- Incompatibility of data
  - **different collection procedures**
  - **different definitions** of the variables and values utilized
  
- Sources of data incompatibility:
  - missing or incomplete national definitions (e.g. for weather conditions)
  - different definitions in different countries (e.g. for road types)



# Limitations for International Comparisons of Road Accident Data

- Underreporting
  - issue of **general concern** in Africa
  - affects the **degree** to which the **statistical output** of a country's data system **reveals** the **actual situation** of road safety
  - road accident databases that **link Police and hospital data** may serve as a **potential solution**



# Limitations for International Comparisons of Road Accident Data

- Additional inaccuracies
  - **conditions** under which the primary **information** is **collected** by the police officer
  - the **way** this **information** is **filled-in** later on
  - **inadequate training** of the **Police** collecting the information





# Accident Data Collection Process

- Police reports
  - key role in the accident data collection process
  - responsible for providing the authorities with the collected data
  - main tool: accident data collection form with clear instructions
    - filling process
    - data transmission process to the national data file
- Hospital data
  - necessity for clear guidelines on the collection and coding of variables to be included in Hospital data
  - identifiers should match hospital and police data
- In-depth accident investigations
  - high level of detail about each accident and how this can be related to a number of outcomes
  - aimed at the cause of the accident, not who was to blame



# Accident Data Collection Priorities

- Common road accident databases in a uniform format
  - continuously updated (compatible - comparable data)
  - allowing for more reliable analyses and assessments across the African countries
- Selection criteria for defining minimum data elements
  - data elements - values useful for road accident analysis at both national and international level
  - level of detail of the variables - values corresponds to all data useful for macroscopic data analysis
  - data elements - values comprehensive and concise
  - data difficult to collect should not be included
  - all variables and values refer to casualty road accident
- Data structure to follow the structure proposed in the WHO (2011) manual



# Proposed Data Structure of the Common Road Accident Data Set

Accident related variables		Road related variables		Vehicle related variables		Person related variables	
1 <sup>st</sup> priority	2 <sup>nd</sup> priority	1 <sup>st</sup> priority	2 <sup>nd</sup> priority	1 <sup>st</sup> priority	2 <sup>nd</sup> priority	1 <sup>st</sup> priority	2 <sup>nd</sup> priority
Accident ID	Impact type	Type of roadway	Speed limit	Vehicle number	Engine size	Date of birth	Person ID
Accident date		Road functional class	Road obstacles	Vehicle type	Vehicle special function	Gender	Occupant's vehicle number
Accident time		Junction	Road surface conditions	Vehicle make		Type of road user	Pedestrian's linked vehicle number
Accident region - municipality			Traffic control at junction	Vehicle model		Seating position	Safety equipment
Accident location			Road curve	Vehicle model year		Injury severity	Pedestrian manoeuvre
Accident type			Road segment grade	Vehicle manoeuvre		Driving licence issue date	Alcohol use suspected
Weather conditions						Age	Alcohol test
Light conditions							Drug use
Accident severity							

# Exposure Data

- Road traffic estimates
  - road length
  - vehicle kilometres
  - vehicle fleet
- Road user at risk estimates
  - person kilometres
  - population
  - number of trips
  - time in traffic
  - driver population
- Data recorded systematically by most countries
  - vehicle fleet, driver population and road length





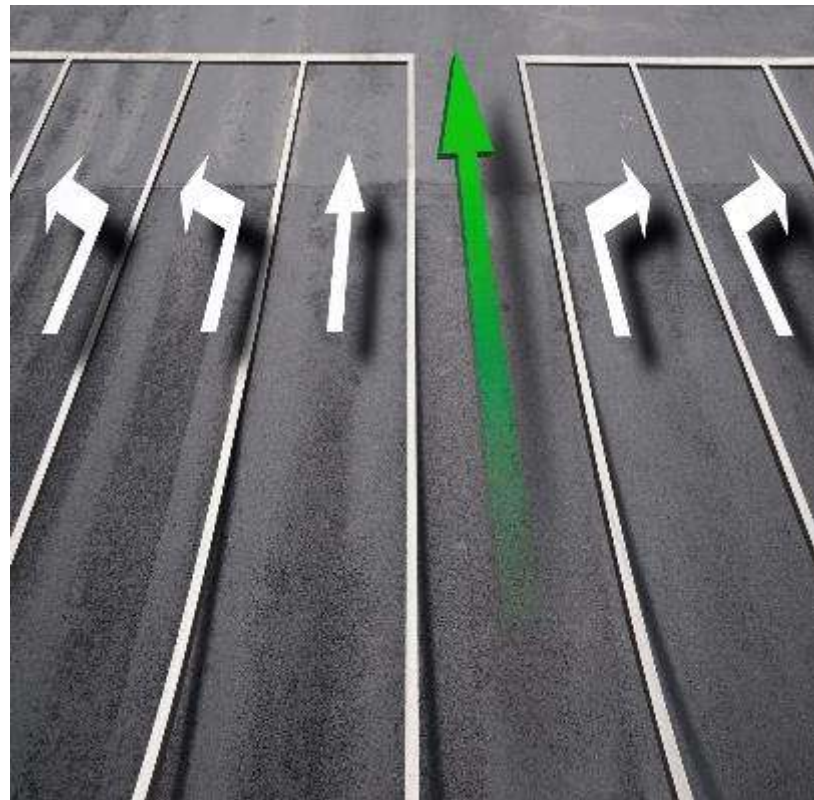
# Exposure Data

- Basic requirements
  - travel/mobility surveys
  - traffic counts
  - common vehicle classification
  - common method for calculating vehicle-kilometres
- In Africa, only 7 countries were found to have collected exposure data
- 2-step approach for developing common exposure data collection system
  - improvement and harmonisation of existing data and methods
  - collection of new harmonised data



# Exposure Data Collection Priorities

- Establishment of a common framework for collecting exposure data
  - consistent
  - comparableat both continent and international level
- Main methodologies expensive, difficult to organize, need time
- Certain exposure indicators more available
  - collection process is managed systematically from national governmental bodies



# Proposed Exposure Data Collection Structure

1 <sup>st</sup> priority	2 <sup>nd</sup> priority
Population	Road length
Driver population	Vehicle kilometres
Vehicle fleet	Person kilometres



# Road Safety Performance Indicators

- Measures, reflecting those operational conditions of the road traffic system, which influence the system's safety performance
- Serve as tools for
  - assessing current safety conditions of a road traffic system
  - monitoring the progress
  - measuring impacts of various safety interventions
  - making comparisons
- Divided into 4 pillars
  - road
  - vehicle
  - road user
  - post-accident care





# Road Safety Performance Indicators

- In Africa, SPIs focus mainly on behavioural aspects
- Although highly prioritised by the questioned experts, rather limited data available
- Establishment of a common framework and areas for producing SPIs based on
  - survey results
  - minimum requirements from international practice (WHO, IRF)



# Road Safety Performance Indicators Collection Methodology

- Observational techniques
  - sampling customized to the available resources
- National statistics and data
  - collected centrally by national registers
  - more easy to implement
  - far more available in many African countries



# Proposed Road SPI Collection Structure

1 <sup>st</sup> priority	2 <sup>nd</sup> priority
Number of vehicles by year of manufacture (or registration year)	% of drivers over legal limits
Number of vehicles by vehicle type	% of severe or fatally injuries attributed to alcohol
	Speeding
	Daytime wearing rates of seat-belts
	Front seats (passenger cars+vans)
	Rear seats (passenger cars+vans)
	Child restraint systems (children <12 y.o.)
	Front seats (hgvs)
	Daytime wearing rates of helmets
	Motorcyclists
	Moped riders
	Cyclists

# Implementation Roadmap

- Establishment of capacity at the National Authorities
  - collect, process and analyse data
  - support decision making
- overall intention to develop a culture of substantiated decision making on all the organizations involved
- bodies to be involved
  - police
  - hospitals
  - public organizations involved in surveys for exposure data - SPIs
- special emphasis in the underreporting of road accident data
  - tackled by linking Police and hospital data





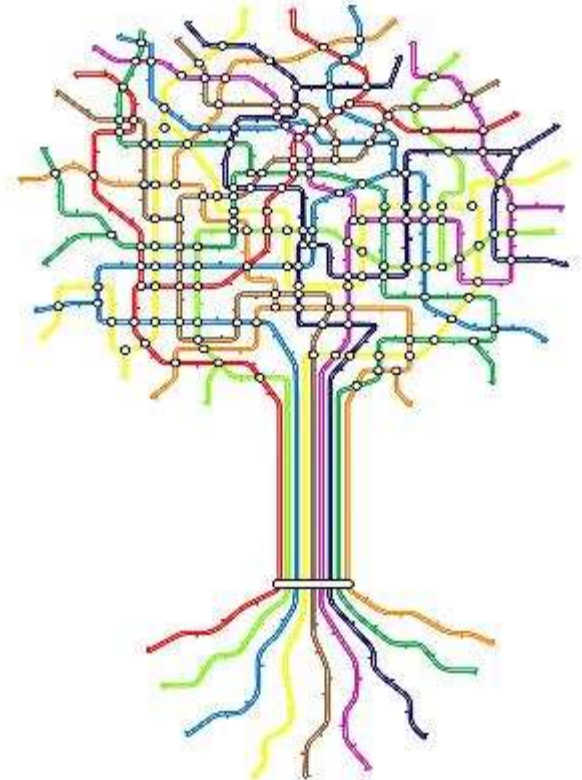
# Implementation Roadmap

- Sampling and costing
  - data elements should be comprehensive, concise, and refer to casualty road accidents
  - demanding data (time, cost, collection barriers etc.) to be avoided regardless of their value for road accident analysis
  - 2-stage priorities scenarios proposed
  - 1st priority data, no significant cost, data expected to be available in national databases
  - 2nd priority data, cost of surveys depends on country size
  - exposure and SPIs surveys required for the 2nd priority
    - alcohol survey
    - speed survey
    - use of protection systems survey



# Implementation Roadmap

- Adopt standard data definitions and standard data collection processes
  - data elements - values must be useful for road accident analysis
    - national level
    - international level
  - collection process performed and standardised
    - upon road accident (accident data)
    - on a periodic basis (exposure data – SPI surveys)



# Implementation Roadmap

- Dedicated budget
  - Countries with dedicated road safety budget usually demonstrate higher operational level of road safety
- Need for a Pan-African coordination organization
  - assess the standardization level of the data collection process
  - define data collection priority areas for further improvement
  - coordinate the data collection management
  - support monitoring, analysis and publishing process of the data



# SaferAfrica Implementation Roadmap

- Recommendations need to be rapidly conversed to the involved local authorities of each African country through a **network of national experts**
- SaferAfrica **coordinator** in charge to manage
  - distribution of recommendations
  - address needs of the other project activities
- Steps
  - identify data set needed as well as costs
  - secure funding
  - carry out regular data collection
  - process (data base) and analyse







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