

Data-driven decision-making in road safety and infrastructure

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Day

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Outline of the presentation



Background: Africa and road accidents The structural challenge of road safety in Africa



Decisions Without Data: The Operational Challenges Why lack of data hurts policy



The CDDE model: collect, analyze, decide, evaluate A 4-step approach to decision-making



Benin's experience - CNSR Good practices and data-driven approach



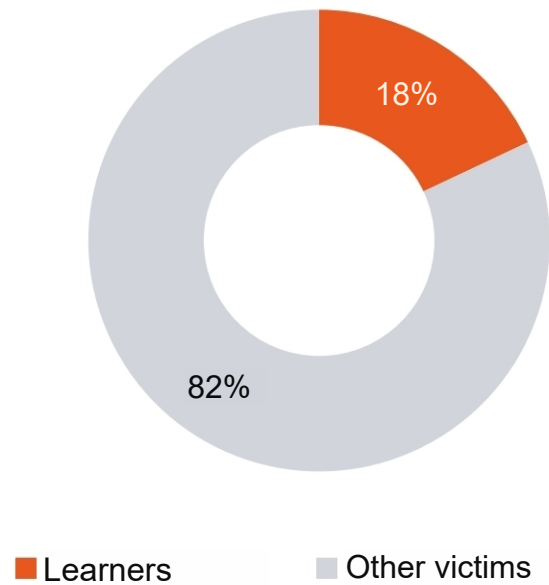
Recommendations and Conclusion
For Member States, AARSLA and Technical Partners



Executive Summary
A shared model for Africa

Africa: a structural road safety issue

Proportion of learners among overall victims



20%

of total crash victims occur in Africa (5% of global vehicles)

40-60% of African victims are pedestrians or cyclists

<30%

of African countries have at the time of the accident

"Without reliable data, the best intentions are not enough to produce effective road safety policies."

Decision-making without data: operational challenges

Four direct consequences of the lack of evidence



Policies with no real diagnosis

African national road strategies are based on partial or outdated data. We don't know where we're starting from, so we can't measure if we're making progress.



Poorly targeted investments

Without reliable geotagged data, road safety infrastructure is built where it is visible, not where it is needed. Blackheads remain untreated.



Invisible vulnerable users

Pedestrians and cyclists (40-60 percent of African victims) are virtually absent from official statistics on motorized vehicles.



Inability to advocate for budgets

Without evidence on real deaths and the economic cost of accidents (estimated at 1-5 percent of GDP), road safety officials arrive in budget negotiations without argument.

The EDSC model: a 4-step approach

Data-driven decision-making for vulnerable users



COLLECT

- Systematically record accidents: location, time, type of user, severity
 - Mobilize multiple sources: security forces, hospitals, insurance, field
- Integrate digital geolocation tools for surveys



ANALYZE

- Mapping black spots from consolidated data
- Profile victims: pedestrians, cyclists, women, children, elderly
- Identify dominant risk factors: speed, signage, lighting



DECIDE

- Prioritize infrastructure investments where risk is proven and documented
- Trade-off between interventions (bike lane, lighting, signage) on a cost-effective basis
- Integrate data into road project specifications from design stage



ASSESS

- Measure the real impact of each improvement on accident rates
- Feed the data base to improve future decisions
- Publish results to strengthen accountability and public trust

Why this model is suitable for the African context

Break with the empirical decision

- The majority of African road investments are still allocated based on political perceptions or pressures – not verified data.
- The model imposes discipline: no decision without proof. Every franc that is poorly invested has a direct human cost.
- Fit with resources: Prioritizing where risk is proven maximizes the impact of each investment.
- Technologically scalable: tablets + open source GIS + simple dashboards. Gradual deployment adapted to varying capacities.
- Aligned with international frameworks: UN Global Plan 2021-2030, PAAPAM, World Bank and AfDB standards.



Making the vulnerable visible

- The Analyze step builds detailed profiles of victims: pedestrians, cyclists, women, children, elderly.
- This is the only way to make visible the reality of those who represent 40-60% of the victims but are absent from official statistics.
- Countries such as Rwanda, Ghana, Morocco, Ethiopia, and Kenya are already using this model or similar approaches.
- The Evaluate phase introduces a culture of accountability that conditions institutional learning and continuous improvement.

Benin's experience - CNSR: central player in road safety

Data-driven best practices for vulnerable users



BAAC data system digitized

Complete overhaul of the Accident Analysis and Collection System (BAAC) with digitization and automated data extraction.



SECURROUTE Tool

Gradual structuring of a capacity for analyzing infractions to target control-sanction operations.



Geolocated National Registry

Gradual introduction of a national accident register linking police, health, civil protection, and insurance data.



National Road Observatory

Establishment of a national road safety observatory integrating data from all institutional actors.



Intelligent Transport Systems

Prioritization of infrastructure interventions based on statistics to effectively guide donors (AfDB, ENABEL, etc.).



Recommendations

For Member States, AARSLA and Technical Partners

A

For Member States

- Standardize accident data collection protocols nationwide
- Allocate a dedicated budget line for RH data systems in national agencies
- Make road safety impact assessment mandatory for any infrastructure project with a certain financial threshold



For AARSLA

- Advocate for the connection of national road safety databases between Member States
- Document and share successful experiences among member countries at reduced cost
- Establish a mechanism to monitor harmonized regional road safety indicators



For Technical Partners

- Train national managers in data analysis and operational use
- Support the development of interconnected national observatories
- Financing data systems as critical infrastructure, not as an add-on



Key message

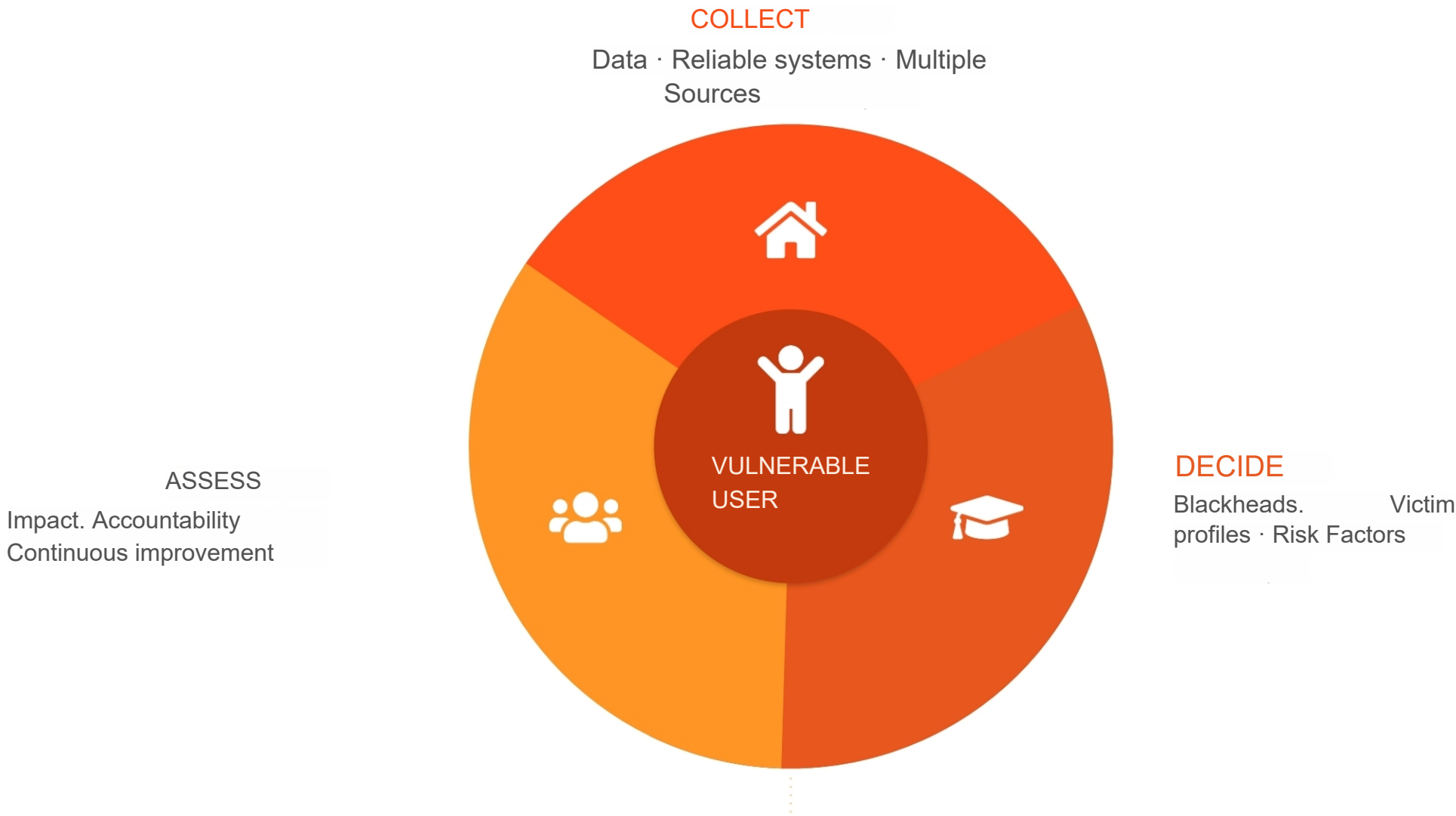
- Data is not an end – it is a tool to protect lives.
- Investing in data means investing in the lives of African pedestrians and cyclists.



Association Alinagnon: concrete example of the potential of Beninese civil society. It rehabilitates degraded infrastructure around schools, demonstrating that targeted community mobilization produces concrete results.

Investing in data is investing in lives

Road data infrastructure for vulnerable users in Africa



Key takeaways

1. 1 Africa accounts for 20 percent of global road deaths for only 5 percent of vehicles. Pedestrians and cyclists account for 40-60 percent of victims. Yet less than 30 percent of African countries have a reliable data system.
1. 2 Without evidence, decisions are based on perceptions. This leads to poorly targeted investments, invisible vulnerable users, and indefensible budgets. Good data breaks that cycle.
1. 3 The CDDE model (Collect + Analyze + Decide - Evaluate) makes it possible to prioritize investments where the risk is proven, to make vulnerable users visible and to measure the real impact of developments. Benin (score 71.6/100) is leading the way.
1. 4 The experience of the CNSR Benin (digitized BAAC, SECURROUTE, geolocated register, national observatory) shows that it is possible, with progressive means, to build a culture of evidence-based decision-making.
1. 5 The challenge is not only technical. It is also political and organizational: placing data at the heart of decision-making processes, making it a common good shared by all actors.
1. 6 "Investing in data is investing in the lives of African pedestrians and cyclists."

Thank you for your attention.

