



## Road Safety Engineering in Africa – Current Practices, Challenges and Recommendations

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## Objectives

- To highlight the extent to which key road safety practices (road safety audit, road safety inspection and blackspot analysis) are undertaken in Africa
- To describe common challenges faced with the implementation of these practices across Africa
- To provide recommendations on how these might be overcome through institutional and managerial initiatives





## Presentation Outline

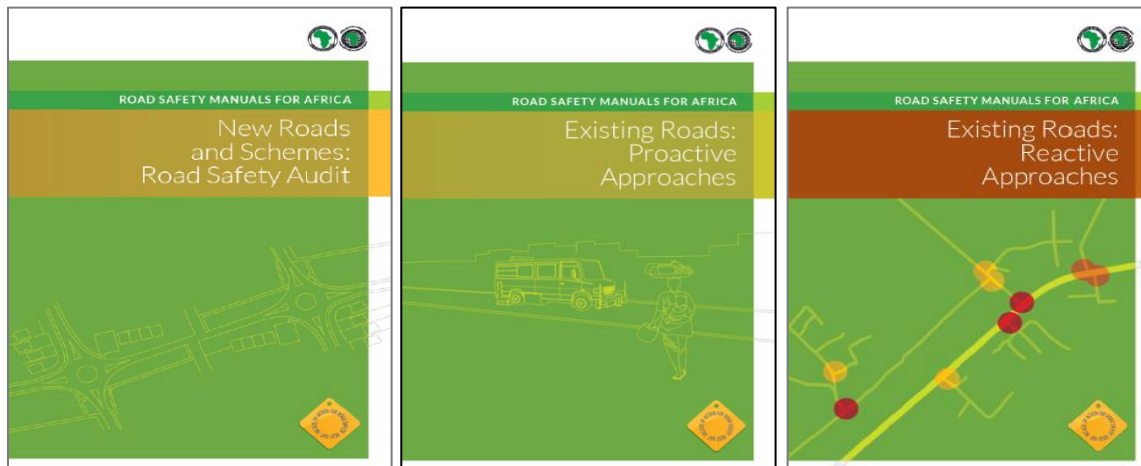
- 1 Objectives
- 2 Background
- 3 Survey and Consultation
- 4 Findings/Common Challenges/Good Practice
- 5 Summary/Recommendations





## Background - Road Safety Manuals for Africa

- Client – African Development Bank
- Project commenced in January
- Manuals and training materials delivered in June/July
  - More on these in next presentation





## Ensuring Relevance for Africa

- Wide range of situations
  - Both physically and institutionally
- Variety of current practices
  - Reliance on international practices
- Capacity for local delivery of road safety
  - Real or perceived?
- Need to understand the existing situation
  - Online survey and follow up telephone consultation
  - Combined with WHO Global Status Report on Road Safety 2013





## Survey and Consultation

- 2 step process: Survey and follow up consultation
- Survey – kept deliberately brief to:
  - Gain a snapshot of road safety practice in the region
  - Ensure the survey was completed by as many people as possible
  - Gain permission from respondents for follow up consultation by telephone/email
- Consultation:
  - Respondents selected for each country and interviewed
- Challenges:
  - Not all respondents were willing to be interviewed so not a complete picture
  - Sometimes not the right individuals
  - Some contradictory answers





## Survey

- Main country where you work in Africa?
- Other countries where you've worked?
- Contact information
- Questions about Road Safety Audit, Road Safety Inspection, Blackspot Analysis (next slide)
- Willing to be contacted for follow up consultation?





## Survey Structure: For Main Country

### Road Safety Audit

- Undertaken?
- On what basis:
  - Manual
  - Policy
  - Procedure
  - Guidance
  - System
  - No formal Documents
  - Don't know
- What agency?

### Inspection

- 3 types of inspection:
  - Maintenance
  - Assessment
  - Inspection
- On what basis?
  - Manual
  - Policy
  - Procedure
  - Guidance
  - System
  - No formal Documents
  - Don't know
- What agency?

### Blackspot Analysis

- Undertaken?
- On what basis:
  - Manual
  - Policy
  - Procedure
  - Guidance
  - System
  - No formal Documents
  - Don't know
- What agency?







## Survey and Consultation

- Survey:
  - 86 'completed' responses
  - 67 responses that could be used
  - Between them experience in 46 different countries in Africa
  - 4 unwilling to be contacted
  - 25 people contacted further between them covering 38 countries
- Combined with results from WHO Global Road Safety Status Report (2013) where our survey and consultation did not provide answers for a country





## Road Safety Audit Results

- According to our survey and WHO report combined:
  - 36 countries use RSA
  - 9 countries have some form of manual or guidance document to support this





## Road Safety Audit - Issues

- Key issues reported during consultation:
  1. Shortfall in number of experienced local road safety auditors (11)
  2. No legal requirement for RSA – RSA is voluntary (8)
  3. Lack of training available to engineers (7)
  4. Not all schemes are subjected to RSA (6)
  5. Lack of funding (6)
  6. RSA is undertaken without a formal methodology in place (5)
  7. Recommendations are not always incorporated into designs (5)
  8. Fundamental road safety issues will not be addressed adequately through RSA (3)
  9. Addressing RSA comments is not considered mandatory by designers (3)
  10. Insufficient budget available to implement all recommendations (3)





## Road Safety Audit – Positive Findings

### Benin

- A road safety audit manual has been developed and validated along with three application guides
- Training has been provided on the basis of the manual
- A dedicated team has been appointed in the National Centre for Road Safety (CNSR)

### Morocco

- An RSA Manual was developed in 2003
- Training has recently been delivered
- The Ministry is intending to organize training for Engineers from all the regions in RSA

### Mauritius

- Road Traffic Act requires RSA on all new road schemes
- Undertaken by experienced Road Safety Auditors who were first trained in 2000
- Mauritius has guidance developed in 2000 and also draws upon checklists from other countries as required





## Road Safety Inspection Results

- According to our survey and WHO report combined:
  - 38 countries inspect their roads (maintenance, survey type or assessment)
  - 11 countries undertake proactive survey type inspections
  - 10 countries have some form of manual or guidance document to support inspections (maintenance, survey type or assessment)





## Road Safety Inspection - Issues

- Key issues reported during consultation:
  1. Lack of capacity of local staff (7)
  2. No legal requirement for RSI – RSI is voluntary (7)
  3. RSI is undertaken without formal manual/methodology in place (5)
  4. Lack of funding (5)
  5. RSI is not undertaken in a systematic manner (5)
  6. Cost of undertaking RSIs is considered to be high and low priority is given (4)
  7. Findings of inspections not always addressed (4)
  8. Manual exists only for maintenance inspections (4)
  9. Quality of RSIs undertaken is low (4)
  10. Lack of RSI training available to engineers (3)





### Benin

- Maintenance Inspections are carried out by (DGTP)
- Road safety evaluations and inspections are carried out by the CNSR through its RSA team
- The procedures for Road safety evaluations and inspections are currently under development and not yet validated

### Morocco

- RSIs are conducted by engineers from the Ministry of Equipment, Transport and Logistics
- The Ministry is intending to organise training for regional Engineers
- A central body conducts inspections for black spots; they are also undertaken when a new access is created

### Mauritius

- Although there is limited budget available for Road Safety Assessments/ Inspections these are undertaken on the most hazardous routes
- System in place for maintenance inspections and road safety assessments





## Blackspot Analysis Results

- According to our survey:
  - 10 countries undertake blackspot analysis
  - 5 countries have some form of manual or guidance document to support this







## Blackspot Analysis - Issues

- Key issues reported during consultation:
  1. Blackspot analysis is undertaken without formal manual/methodology in place (9)
  2. Precise crash coordinates are not recorded for all crashes (6)
  3. Crash data are poor quality and cannot support blackspot analysis (6)
  4. Accuracy of data could be improved (5)
  5. Blackspot analyses are undertaken by the Police but not shared with engineers (5)
  6. Lack of capacity of practitioners to undertake blackspot analyses (5)
  7. Crash data are not always made readily available to Engineers (4)
  8. Insufficient budget available to implement treatment programme (4)
  9. Lack of crash database (3)
  10. Blackspots are 'informally' identified (3)





## Blackspot Analysis – Positive Findings

### Benin

- Blackspot studies are carried out using the road accident database that includes localised accident data (by GPS)
- GIS is being used to identify high concentration areas

### Morocco

- Blackspot analyses, network screening and basic analyses of crash types/causations are carried out on part of the road network
- Blackspot locations are prioritised for treatment
- Blackspot analyses in urban areas is undertaken according to a fixed methodology (CNPAC's department)

### Mauritius

- Data available with precise crash coordinates (though for all crashes)
- Blackspot analyses are undertaken using MAAP crash database
- Data weightings are applied and a threshold set at 120 points over 5 years
- Corridor/route/area analyses are undertaken (1 per sq km grid analysis)





## Summary

### Road Safety Audit

- Concept generally well understood
- Building sustainable capacity of local practitioners is a key concern
- Funding
- Partial application only (types of schemes and stages of audit)

### Road Safety Inspection

- Road safety assessments undertaken on some roads
- Maintenance inspections more common than 'intrinsic' safety inspections
- Rarely systematically undertaken on a regular basis across network
- Funding

### Blackspot Analysis

- Few countries with data strong enough to support formal blackspot analysis
- Data are not readily shared with engineers
- Lack of budget to implement recommended measures





## Recommendations

- Consistent basis for applying internationally recognised techniques across Africa
- Development of local understanding, resources and training
- Structured implementation
- Knowledge sharing within regions





# Regional Collaboration

Regional Road Safety Centres of Excellence/'Observatories'





**Do You  
Have Any Questions?**





# Thank you

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