Road Traffic Injury on Rural Roads in Tanzania:

Motorcycle crashes on low volume rural roads

SARF/IRF 2014, 5th Regional Conference for Africa
Wednesday 3rd September 2014
Presentation given by: Tom Bishop and Simon Kalolo
(tbishop@amend.org, +255 715 461 322)
(skalolo@amend.org, +255 718 079 550)
Introduction: Amend

• Non-Governmental Organization (NGO) focused on Road Safety from a Public Health Perspective

• Founded in 2005 in the United States

• Working in Tanzania since 2009

• Mission:

  – Amend works to reduce the incidence of road traffic injury among the most vulnerable road users while helping create an environment for long-term, sustainable injury reduction
Introduction: Road Traffic Injury

- Annually, over 1.2 million killed and 50 million injured on roads worldwide
- Africa has world’s most dangerous roads
- World’s vehicles forecast to triple by 2050. Two-thirds of growth in low and middle income countries
- Tanzania:
  - Motorcycles make up 90% of motorised vehicles on rural roads
  - Rural injury rates: General population – 5.5%, Motorcycle drivers – 63.3%
Rural Road Improvements in Tanzania

• Local Government Transport Programme 2 (LGTP2)
  – Upgrade 25,500km of rural roads from ‘non-motorable’ to ‘motorable’
  – Support agriculture and poverty reduction
  – Access to markets, schools, health facilities, etc.
  – Support for local government to address safety

• African Community Access Programme (AFCAP)
  – Research into low-cost solutions to provide rural access
  – Research piloting alternative surface types for rural roads
  – Environmentally Optimised Design and Spot Improvements
Road Surfaces Piloted

• Paved surfaces
  – Otta seals
  – Sand seals
  – Double surface dressing

• Concrete surfaces
  – Parallel concrete strip
  – Concrete geocells
  – Concrete slabs

• Block surfaces
  – Hand-packed stones
  – Paving bricks

• Gravel, and engineered and non-engineered natural earth
Motorcycle Crashes on Rural Roads

• Improved roads → Increased traffic and higher speeds
• Are crashes caused by behavior, road design and condition, other factors, or a combination?
• Research involved:
  – Motorcycle Crash Investigations
  – Motorcycle Safety Risk and Protective Factors Questionnaires
  – Motorcycle Safety Expert Risk Assessments
  – Roads Engineer Assessments of Surface Types & Cross Sections
  – Motorcycle Speed Surveys
  – Motorcycle Drivers’ Opinions of Road Surfaces Questionnaires
  – Motorcycle Passengers Questionnaires
  – Community Surveys
Photo: Wide Load
Photo: ‘Mishikaki’
Photo: Young Boys
Photo: Importance of Width
Photo: Importance of Shoulders
Photo: Deep Drains
Photo: Passing on Parallel Concrete Strips
Photo: Edge Drops on Concrete Sections
Photo: Slippery Sealed Surface
Photo: Heavily Scoured Concrete Surface
Photo: Community Speed Hump (July 2013)
Photo: Community Speed Hump (May 2014)
Photo: Speed Hump on Parallel Concrete Strips
Photo: Speed Hump on Gravel
Photo: Junction between Surfaces
Broad Summary of Findings and Recommendations

• Combination of factors contribute to crashes
• Road user behaviour is most common contributory factor
• Design and condition of roads are also common contributory factors
• Need improved training, testing and licensing systems
• Road safety interventions must take into account poverty and illiteracy
• Motorcycles should be considered in design and maintenance of low volume rural roads

Final report available from Amend or AFCAP.
Thank you

Tom Bishop
tbishop@amend.org
+255 715 461 322

Simon Kalolo
skalolo@amend.org
+255 718 079 550