

## South African Road Federation Conference

*2 - 4 September 2014, CSIR International Convention Centre, Pretoria, South Africa*

## Conference Report

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**This project was funded by the Africa Community Access Programme (AFCAP) which promotes safe and sustainable access to markets, healthcare, education, employment and social and political networks for rural communities in Africa.**

Launched in June 2008, this UK government (DFID) funded programme supports research and knowledge sharing between participating countries to enhance the uptake of low cost, proven solutions for rural access that maximise the use of local resources.

The programme is active in Ethiopia, Kenya, Ghana, Malawi, Mozambique, Tanzania, Zambia, South Africa, Democratic Republic of Congo and South Sudan and is developing relationships with a number of other countries and regional organisations across Africa.

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For further information visit <https://www.afcap.org>

## Executive Summary

This report provides feedback on the experiences of the AFCAP (African Community Access Programme) delegation attending the South African Road Federation (SARF) 5<sup>th</sup> Regional Conference for Africa, 2014, held in association with the International Road Federation (IRF), at the CSIR International Convention Centre, Pretoria, South Africa from 2 to 4 September 2014. The theme of the conference was “Better Roads Moving Africa – Improving capacity and safety for road transport in Africa”.

The full feedback reports from the delegates are shown in the respective Appendices with a feedback summary provided in Section 3 of the report. In addition, Appendix 3 provides a record of the outcomes of a Round Table discussion on Road Safety.

Comments received at the exhibition stand are also presented along with recommendations for the management of exhibitions stands that may be commissioned by AFCAP at future conference to promote the activities of AFCAP.

## Table of Contents

1.	Introduction	1
2.	Papers and Presentation	1
3.	Feedback from AFCAP Delegates	2
4.	AFCAP Exhibition Stand	5
4.1	Recommendations for Future Exhibitions	5
Appendix 1: List of Delegates		6
Appendix 2: AFCAP Delegate's Reports		
	2A: Andrew Otto	13
	2B: Tom Bishop	16
	2C: Simon Kalolo	18
	2D: Yetimgeta Asrat	21
	2E: Benson Masila/Simon Maddrell	25
Appendix 3: Notes from the Roundtable Discussions on Road Safety		24
Appendix 4: Photographs of the Exhibition Stand		31

## List of Terms and Acronyms

AFCAP	Africa Community Access Programme
CSIR	Council for Scientific and Industrial Research
DFID	Department for International Development, UK
ERA	Ethiopian Roads Authority
IRF	International Road Federation
LVR	Low Volume Roads
LVRR	Low Volume Rural Roads
LVSR	Low Volume Sealed Roads
PMU	Programme Management Unit
RRCs	Road Research Centres
SARF	South African Road Federation
TRL	Transport Research Laboratory
UK	United Kingdom

## 1. Introduction

This report provides a record of the experiences of the AFCAP (African Community Access Programme) delegation attending the South African Road Federation (SARF) 5<sup>th</sup> Regional Conference for Africa, 2014, held in association with the International Road Federation (IRF), at the CSIR International Convention Centre, Pretoria, South Africa from 2 to 4 September 2014. The theme of the conference was “Better Roads Moving Africa – Improving capacity and safety for road transport in Africa”.

The conference was attended by approximately 440 delegates comprising the 365 people registered as shown on the attendance list (Appendix 1) handed out at the conference at registration, plus, according to the organisers, an additional 75 delegates that registered on the first day of the conference. While the majority of delegates were from South Africa, the following countries were also represented, but not limited to: Australia; Botswana; Cameroon; China; Denmark; Ethiopia; France; Ghana; India; Italy; Kenya; Malawi; Namibia; New Zealand; Nigeria; South Korea; Switzerland; Tanzania; The Netherlands; Uganda; UK; USA and Zimbabwe.

The AFCAP delegation participated in the conference as a platform for the dissemination of knowledge generated through its research projects conducted since 2008. The AFCAP contribution to the conference included four peer reviewed papers and presentations plus an additional presentation by Nkululeko Leta on the first day of the conference which provided an overview of AFCAP activities and achievements since 2008. Some delegates, including Nkululeko Leta of the AFCAP PMU, also participated in a Round Table discussion on Road Safety on the afternoon of 4 September, organised by TRL.

The conference also provided an ideal opportunity for mentorship, training and capacity building of young researchers from AFCAP member countries in the writing and presentation of peer reviewed papers at a prestigious international conference. The experience gained through networking and being exposed to a large international audience cannot be overlooked and is further highlighted in the short delegate reports that will be discussed in Section 3.

The conference programme can be downloaded from the following link:

<http://www.sbs.co.za/sarf-irf2014/programme.php?page=programme>

## 2. Papers and Presentation

The following papers and presentation were provided by AFCAP at the conference:

- Overview of the Africa Community Access Programme (AFCAP) and a vision for the future – Nkululeko Leta, AFCAP Regional Manager for Southern and Eastern Africa.
- Maintenance Hitch through innovative construction techniques on low volume roads in Mozambique – Andrew Otto, TRL, UK
- Cross-sectional study of crashes among motorcycle taxi drivers in Tanzania – Thomas Bishop and Simon Kalolo, Amend, Tanzania
- Low volume road research into practice: The Ethiopian Experience – Les Sampson, Sampson Consulting and Yetimgeta Asrat, Ethiopian Roads Authority, Ethiopia
- The potential for sand dam road crossings – Simon Maddrell, Excellent Development, UK and Benson Masila, Ministry of Roads, Kenya.

All the papers and presentations are available on the AFCAP web site and the presentations can also be accessed through the following conference links;

### **3. Feedback from AFCAP Delegates**

As part of the AFCAP support for delegates to attend the conference, the participants were requested to provide a short report on their experiences and lessons-learned from the conference. The full reports received from Andrew Otto, Tom Bishop, Simon Kalolo, Yetimget Asrat and Benson Masila/Simon Maddrell are shown in Appendix 2A to 2E.

The following summary of the comments and observations of the AFCAP team are highlighted based on the reports:

- The AFCAP related presentations were well received by the delegates and the value that AFCAP has added to the road and transport sectors was appreciated. These are especially true for the areas of generating knowledge through research in materials utilisation; building capacity through production of manuals; and road safety.
- Delegates appreciated that despite the problems of materials shortage to meet current specifications, engineering solutions exist that can be tested through research and if cost effective can be implemented on a wider scale.
- In most of the presentations made by other delegates, three messages seems to be coming across that are relevant to AFCAP's mandate; asset management, sustainability and transport safety:
  - Regarding asset management, this is particularly focussed on low volume roads and how this important component of the network can be managed in such a way that access is guaranteed throughout the year at reasonable speeds and levels of safety. Most delegates noted that asset management practice is currently viewed as an issue for only trunk roads and is digressing from sound engineering practices by incorporating a large amount of "accounting" practices. AFCAP must therefore look into capacity building and development of country specific systems to ensure that the low-volume roads are always passable and maintained efficiently.
  - In the area of sustainability, the question of how to utilise materials in a manner that does not adversely affect the environment was intrinsic in many of the presentations.
  - As regards transportation and road safety, the figures presented for Africa are quite alarming. If the same figures had been generated through war or disease there would have been clamour for action. A typical example of about 33 persons per 100,000 dying every year in road accidents in Uganda is alarming. On this basis, AFCAP must ensure certain projects are geared towards ensuring safer roads.
- In order for the impact of AFCAP 2 to build on the success of AFCAP 1 and provide an even bigger impact, there should be large multi-country projects that focus on the three areas of capacity building in asset management, materials sustainability and transport safety. Large projects that are carried out either as a single project in many countries or as a series of small projects in different countries enrich the extent and quality of knowledge and experience sharing well before dissemination at regional conferences.
- AFCAP 2 should also facilitate cross-continent knowledge sharing so that Africa is not left behind in development. In this regard, countries in South America and Asia have similar environmental and socio-economic conditions where experiences could be shared and knowledge gained on the most appropriate solutions to rural access.

- Road safety in Africa was given a particularly high profile at the conference in many of the presentation, including the keynote address by Dr Peter Freeman and at the roundtable discussion session on the third day. The following was noted:
  - From this evidence presented at the conference, it seems that the global advocacy initiatives for road safety – in particular the UN’s Decade of Action for Road Safety – are starting to have an impact on policies and practices governing development in Africa. For example, the World Bank has committed to mainstream road safety in all its projects and has pledged not to fund unsafe roads. Other development banks and development partners are expected to follow the World Bank’s lead.
  - However, while there are some examples of good road safety ‘projects’ in Africa, it appears that examples of serious political commitment by African governments are few and far between. It is recognised that further advocacy for political commitment is required. To this end, the IRF announced plans to develop a competition to encourage African leaders to commit to road safety, to identify high-profile continent-wide champions, and to share the lessons of those countries that do well with other countries.
  - Alongside advocacy for increased political commitment for road safety, advocacy for increased funding for road safety is also necessary.
  - Taking the example of Tanzania, several years of advocacy by development partners have resulted in the soon-to-be-complete formation of a National Road Safety Agency. Funding for this has been secured through the National Road Fund. However, the National Road Safety Agency will need the support of experts, such as through AFCAP and wider through DFID programmes, to develop effective road safety programmes. This will involve piloting, evaluating and scaling.
  - Africa will only see a real change in the road safety statistics if Governments accept at the highest level that improving road safety is important and urgent. African leaders need to show commitment similar to that shown by the Japanese Prime Minister himself by chairing their national road safety initiative.
  - Every country needs a road safety agency, a road safety plan and an action agenda to fight road accidents.
  - There needs to be mandatory road safety audits which are linked to road loans and the credits and community consultation on road safety aspect of road projects.
  - The approach to road safety needs to be more holistic; better policies, better accidents records, better vehicle inspections and better legal framework to prevent the importation of the sub-standard vehicles.
  - For all road projects funded by donors such as the World Bank, road safety should be mainstreamed where feasible.
  - Road safety initiatives are complex problems which require both hard and soft engineering solutions.
  - Conventional solutions to road safety are not generally enough and creative solutions that deal with specific social realities are required.
  - When initiatives are put in place, they will need to be evaluated periodically to see if they have impact, and if not, then solutions need to be amended.
  - The papers presented on rural road safety did not only improve awareness on how critical is the issue but also gave insights into innovative approaches for the provision of safety facilities on rural roads.
- The following recommendations for further areas of AFCAP research include:

- Continuing research into motorcycle taxi safety, covering both engineering and driver behaviour, including the piloting and evaluating of a motorcycle safety programme;
  - Continuing research into the safety of communities living alongside roads;
  - Undertaking research into securing high-level political commitment for safety.
- Examples of how the conference provided opportunity for AFCAP delegates to network and interact with each other and with other conference delegates to identify areas of mutual interest and benefit were:
  - Several African countries were keen to learn more from the experience of Ethiopia both in developing their series of design manuals and specifications; and their use in the implementation of their Universal Rural Road Access Programme. One of those discussions has now matured and a team of consultants and government officials from the Kenya Rural Road Authority will have an official visit to Ethiopia in the third week of November 2014.
  - The opportunity to discuss with officials from India about the Pradhan Mantri Gram Sadak Yojana (PMGSY) Program, which was launched by the Government of India to provide connectivity to unconnected habitations as part of a poverty reduction strategy was particularly relevant to the Ethiopian situation and will be followed up.
  - The lessons learnt from the case of South African National Roads Authority in promoting SME development in its road projects was indispensable.
  - Overall, the conference was a valuable experience and AFCAP delegates were very grateful to AFCAP for arranging the opportunity. The interaction with the whole AFCAP team was amazing and memorable. It is strongly recommended that the next phase of AFCAP should continue with initiatives of this nature as they are effective ways of knowledge dissemination and their contribution is immense to professional development and networking.
- Currently a detailed study has not been carried out on how to design and construct sand dam road crossings. There needs to be development of a design and construction manual for sand dam road crossings. The current design is based on the draft design work carried out in Makueni County by Eng. Benson Masila.
- The knowledge of construction and maintenance of sand dam roads crossings needs to be disseminated to the various development agencies such as the Ministries of Water; Agriculture; and Roads; including County Governments and Provincial Administrations. The collaborative efforts by these departments will enable the full realisation of the benefits associated with sand dam road crossings.
- The sand dam road crossing technology was shared with conference delegates from Tanzania, Ethiopia and Swaziland among others. The delegates felt that it is very appropriate to enhance rural road connectivity and provides increased income-generating activities as a result of the water source availability. The communities can engage in production of maize; beans; vegetable and other crops through small scale irrigation; brick making etc.
- Possible areas of future AFCAP involvement in Sand Dam technology were:
  - Help with engaging Southern Africa Governments to attend the Sand Dams Workshop in Tete in November 2014 - in particular the rural roads mini-workshop. (Interest has already been shown by ANE in Mozambique as well as confirmed attendance from Swaziland Government and UNDP Swaziland);
  - Undertake a study of the 100 crossings in Makueni and Kitui in order to document the design process and produce a manual for LV Road Crossings.

- Undertake a life-cycle cost benefit analysis of sand dams as rural road crossings using Makueni as a case study.
- Join Excellent and the Kenyan Government in an African Water Facility application to repair the 125 broken road crossings over 3-5 years;
- Engage service providers to investigate the integration of sand dams into conventional road bridge designs as a flood mitigation and water supply opportunity.

#### **4. AFCAP Exhibition Stand**

An AFCAP exhibition stand was also available at the conference to promote the work that has been undertaken under AFCAP since 2008. Many compliments were received on the design and contents of the stand, which generated much interest amongst delegates visiting the stand. Photographs of the stand are shown in Appendix 4.

The following is a summary of the comments/questions and observations during the exhibition:

- The exhibition stand and five presentations supported by AFCAP as part of the conference programme raised the awareness of AFCAP to new levels in South Africa and worldwide. Based on the comments received from many delegates, they were generally unaware of the work that is being done through AFCAP prior to the conference. There is no doubt that the profile of AFCAP was greatly enhanced by having an exhibition stand as part of the conference.
- Without exception, every delegate visiting the stand requested hand-outs related to AFCAP in terms of what it provides, what it has done to date, and what its plans are for the future.
- The main attraction was the manuals that were on display from Ethiopia, Malawi and South Sudan. Many delegates asked to browse through them, and every person showing interest in the stand asked for details of where they could obtain the manuals. In the absence of promotional material, delegates were advised that the manuals were freely downloadable from the AFCAP website, or in the case of Ethiopia, from the Ethiopian Roads Authority website.
- Having all the AFCAP presentation from the conference displayed on a TV screen on a continual loop provided an opportunity for the AFCAP team to have more detailed discussions on their particular paper/presentation with other interested delegates.

##### **4.1 Recommendations for Future Exhibitions**

Based on the experience from manning the stand during the exhibition and the comments from delegates, the following recommendations are made for future AFCAP exhibition stands:

- Appropriately branded brochures and promotional material for AFCAP need to be developed.
- Generic business cards, containing the AFCAP website address, names and contact information of the core management group, were requested on several occasions and need to be developed. In many instances, delegates only requested the relevant contact information.
- New exhibition stand posters need to be developed with the appropriate AFCAP/UKAID branding that are generic and can be used irrespective of the core management group.
- Posters need to be developed on materials that can be rolled up for ease of transport, but will lie flat when opened and attached to the walls of the exhibition stand. Problems were

encountered with the current posters which had to be mounted on feather board to ensure they stayed flat and could be attached to the walls of the exhibition stand.

- It is important that the person who manages the stand has an intimate knowledge of AFCAP and has technical support from other AFCAP representatives at the conference.
- The provision of all the conference presentations on a looped DVD provided opportunity for the presenters to discuss in more detail the contents of their presentation at the exhibition stand. In this particular conference, questions and discussions on the various papers during the plenary sessions were limited.

**Appendix 1**  
**List of Delegates**

SARF/IRF 2014 DELEGATES as at Saturday 30th August 2014

Name	Surname	Position	Company
Akram	Ahmedi		TRL Limited
James	Alam		Ministry of Transport, Roads and Bridges
Nduwayo	Alexis	General Secretary	Société Nationale de Sécurité Routière
Seif	Ally	NRCC Member	RFB
Taru	Amla	Chief Scientist	Central Road Research Institute
Godwin	Arosanyin	Lecturer	University of Ilorin
Felix	Atume	Principal Partner	Adteam Consulting Engineers
Mehboob	Babamia	Director	City of Tshwane
Stewart	Bain	Chief Engineer	Transport and Public Works
Yeshveer	Balaram	Civil Engineer	VNA Consulting
Anton	Barnard		Aurecon SA (Pty) Ltd
John	Barrell	Principal Consultant	TRL Limited
Jacquie	Berry		TRL Limited
Christo	Bester	Emeritus Professor	Stellenbosch University
Girma	Bezabeh	Principal Transport Engineer	African Development Bank
Shakendra	Bhagwandin	Regional Manager	Ingerop South Africa (Pty) Ltd
Lovemore	Bingandadi	Transport Corridor Advisor	SADC
Hagai	Bishanga	Manager	Tanzania Transportation Technology Transfer Centre
Thomas	Bishop	Africa Director	Amend
Charles	Blok	Director: SSMA: Infrastructure	City of Johannesburg
Johan	Bosman	Director	Nomea Consulting
Bertie	Brits	Senior Technologist	SMEC South Africa (Pty) Ltd
Itumeleng	Bulane	Director	Department of Roads & Public Works
Geoffrey	Bulayi	Director	African Automotive Industry Alliance (AAIA)
Duncan	Butterworth	Engineer	Royal HaskoningDHV
Bill	Cameron	BRT Advisor	Department of Transport
Gugu	Cele	CET	KwaZulu-Natal Department of Transport
Suzy	Charman	Head of International Road Safety	TRL Limited
Phillippe	Chirnside	Commercial Manager	SprayPave (Pty) Ltd
William	Chitsa	Associate	Arup (Pty) Ltd
Uven	Chong	Research Analyst	Millennium Challenge Corporation & Arizona State University
Liam	Clarke	Commercial Manager	Bakwena Platinum Corridor Concessionaire
Minette	Coetsee	Engineer	ITS Engineers
Jan	Coetzee	Managing Director	ITS Engineers
Helene	Coetzer	Engineer	Trans African Concessions (Pty) Ltd
Peter	Copley	Co-ordinator	SARF
Barney	Curtis	CEO	FESARTA
Booi	Dandashe	Managing Member	Lotshephe Development Engineers
Dillip	Das	Senior Lecturer	Central University of Technology
Willem	Davel	Technical Director	Aurecon SA (Pty) Ltd
Carla	Davis	Traffic Engineer	Trans African Concessions (Pty) Ltd
Morris	De Beer	Principal Researcher	CSIR Built Environment
Emile	de Preez	Project Engineer	SANRAL
Andrew	de Souza	Senior Manager: Roads Design	eThekweni Municipality
Adama	Deen		NEPAD
Barend	Deminey	Executive Manager	Ekurhuleni Metro Municipality
Craige	Dewar	CC Manager	KwaZulu-Natal Department of Transport
Edward	Dikgale	Manager	Ranti & Associates
Sphelele	Dlamini	Civil Engineer	AM Consulting Engineers (Pty) Ltd
Carlos	dos Santos	Associate	AECOM
Wynand	Dreyer	Director	Dreyer Project Dynamics (Pty) Ltd
Mike	Dreznes		IRF Washington
Jan	Droege		Volkmann & Rossback GmbH u. Co KG
Raelize	Du Plooy	Engineer	Aurecon South Africa (Pty) Ltd
Chris	du Preez		Colas
George	du Tertre	CET	KwaZulu-Natal Department of Transport
George	Duku		Ministry of Transport, Roads and Bridges
Sthembile	Dumakude	Lecturer	Durban University of Technology
Fezikile	Duze		SANRAL
Lucas	Ebels	Head of Transport Division	UWP Consulting Pty Ltd
Lukas	Edwards	Project Engineer	Bakwena Platinum Corridor Concessionaire
Nezar	Eldidy	Executive Director	Sobek (Pty) Ltd
Stephanus	Engelbrecht	Managing Director	Tau Pele Construction (Pty) Ltd
Dawie	Erasmus	Function Head	SMEC South Africa
Ismail	Essa	Regional Manager	SANRAL
Milohim	Fidele		Ministry of Public Works

SARF/IRF 2014 DELEGATES as at Saturday 30th August 2014

Name	Surname	Position	Company
Peter	Forrest	Principal	Royal Haskoning DHV
Gert	Fourie		AECOM
Peter	Freeman	Director	Peter Freeman Consulting
Pauline	Froschauer	Director	Namela Consulting
Msondezi	Futshane	Road Engineering Standards	Department of Transport
Lucky	Gamoo	Managing Director	Likhanyile Consulting Engineers & Project Managers
S	Gangopadhyay	Director	Central Road Research Institute
Chris	Geldenhuys	Dep Director Business unit Transport, Aviation & Planning	Royal Haskoning DHV
Chesney	Glossop	Branch Manager	Much Asphalt
Kingstone	Gongera		TRL Limited
Rianus	Gonteb	Regional Engineer	Roads Authority of Namibia
Andile	Gqaji	Project Manager	SANRAL
Nontozanele	Grey	DD: RES M&E	Department of Transport
Herman	Groenewald	Branch Manager	Colas
Anton	Groenewald	Engineer	Aurecon SA (Pty) Ltd
Musa	Gumede	Control Engineering Tech	KwaZulu Natal Dept of Transport
Satyakam	Gupta	Advisor	ICT PVT LTD
Grant	Hartzenberg	Technical Sales	Kaytech
Johan	Hattingh	Director	PH Bagale (Pty) Ltd
Joseph	Haule	Roads Fund Manager	Roads Fund Board
Abdulragmaan	Hay	Project Manager	SANRAL
Wayne	Heine	Branch Manager - Gauteng	Kaytech
Peter	Henderson	Principle Engineer	Hatch Goba (Pty) Ltd
Mervyn	Henderson	Specialist Engineer	WCG Dept of Transport & Public Works
Max	Hennion	Consultant	Free Lance Consultant
Craig	Henry	Vice-President	SAAMA
Paul	Herbison	Director	WalknRoll International Ltd
Johannes	Herbst	Engineer	Midfran Roads (Pty) Ltd
Sue	Hershon	Special Project Manager	Times Media Group
Trevor	Hiwa	CEO	Malawi Roads Authority
Philip	Hoffmann	Director	PH Bagale (Pty) Ltd
Emile	Horak	Engineer	Ndodana Consulting Engineers (Pty) Ltd
Brenda	Horne-Ferreira	Senior Corridor Advisor	Brenda Horne Advisory Service
Richard	Hutton	Engineer Maintenance	Department of Transport & Public Works
Jacob	Imbo	Senior Engineer	AECOM SA (Pty) Ltd
George	Inyensiko		Uganda National Roads Authority
Olusiyi	Ipingbemi	Lecturing/Research	University of Ibadan
Garth	James	Marketing Director	Kaytech
Abbas	Jamie	Industry Leader: Transport	Aurecon SA (Pty) Ltd
Lulama	Jezi	Stream Leader: Stakeholder Management	AM Consulting Engineers (Pty) Ltd
Tambe	John Bita	Civil Engineer	Ministry of Public Works
Fenella	Johns	Partner	Rubicon Solutions
Leslie	Johnson	Deputy Director	Department of Transport
Hans	Jones	Developer	Roadroid AB
Basil	Jonsson	Operations Director	SA Road Federation
Ilva	Jorgo		Sobek (Pty) Ltd
Gideon	Joubert	Engineer	Midfran Roads (Pty) Ltd
Dawie	Joubert	ITS Specialist	Namela Consulting
Kedumetse	Joubert	Traffic Safety Officer	Department of Transport - Botswana
Marc	Juhel	Practice Manager: Transport	The World Bank
Innocent	Jumo	Technical Director	ILISO Consulting
Angelina	Kabende	Senior Transport Economist	Roads Authority Namibia
Simon	Kalolo	Senior Programme Assistant	Amend
Louw	Kannemeyer	Road Network Manager	SANRAL
Kiran	Kapila	Chairman	International Road Federation (IRF)
Siksha	Kar	Scientist	Central Road Research Institute
Amit	Kar	Manager	Sterlite Technologies Ltd
Fanmueline	Karaerua	Engineer in Training	Namibia Roads Authority
Grant	Kendal	Associate	Royal Haskoning DHV
Gomotsengang	Khudu	Traffic Safety Officer	Department of Transport - Botswana
Frank	Kienhofer	Senior Lecturer	University of the Witwatersrand
Eduard	Kleyn	Consulting Civil Engineer	Eduard Kleyn
Marc	Knowles	Project Manager	Specialised Road Technologies (Pty) Ltd
Claydwin	Kobelli	Snr Civil Eng Technical	eThekweni Municipality
Clint	Koopman	CEO	ILISO Consulting
Sylvestre	Kotchofa	Managing Director	Road Fund

SARF/IRF 2014 DELEGATES as at Saturday 30th August 2014

Name	Surname	Position	Company
Werner	Kruger	Regional Manager Gauteng	Much Asphalt (Pty) Ltd
Mike	Krynauw	Deputy Director	City of Tshwane
Andrew	Lane	Manager	Department of Roads & Public Works
Eric	Lathleiff	Senior Manager Pave & Geotech Eng	eThekweni Municipality
Adriana	Lazarova	Chief Engineer	KwaZulu-Natal Department of Transport
Lebogang	Lelaka	Marketing & Sales	HR Groep
Tony	Lewis		VNA Consulting
Pitso	Likano	Deputy Director Infrastructure	AM Consulting Engineers (Pty) Ltd
Robert	Lisinge	Economic Affairs Officer	UNECA
Paul	Lombard	GM: Africa and MENA	Aurecon
Paul	Lombard		Aurecon SA (Pty) Ltd
Ronald	Lwakatane	Deputy Manager Technical Services	Roads Fund Board
Julian	Maastreht	Branch Manager - East London	Kaytech
Skhumbuzo	Macozoma	Managing Director	Johannesburg Roads Agency
Simon	Maddrell	Executive Director	Excellent Development
Elsie	Maeko	Stream Leader: Marketing & Communications	AM Consulting Engineers (Pty) Ltd
Rakesh	Maharaj	Managing Director	VNA Consulting
Gabriel	Makur		Ministry of Transport, Roads and Bridges
Leonard	Malapane	Director	Department of Transport
Maurice	Malinddzisa	Engineer	Ekurhuleni Metro Municipality
Richard	Malinga	Transport Engineer	African Development Bank
Kresen	Manicum	Regional Head	SMEC South Africa (Pty) Ltd
Deon	Manuel		Department of Transport Cape Town
Velile	Manyisane		Aurecon SA (Pty) Ltd
Whity	Maphakela	Director	Department of Transport
Clement	Maphanga		Ekurhuleni Metro Municipality
Herman	Marais	Director	Much Asphalt (Pty) Ltd
Molahlehi	Marate	Engineer	Ekurhuleni Metro Municipality
Gerhard	Maritz	Technical Director	Aurecon SA (Pty) Ltd
Andrew	Marsay	Transport Economist	Andrew Marsay
Dru	Martheze	Chief Engineer: Road Network Planning	Western Cape Government: Dept of Transport & Public Works
Yetimgeta	Maru	URRAP Co-ordinator	Ethiopian Roads Authority
Charles	Masawe	Senior Planning & Monitoring Engineer	Roads Fund Board
Reitumetse	Masemola	Transport	AM Consulting Engineers (Pty) Ltd
Thomo	Mashianoke	Design Engineer	Kago Consulting Engineers
Anna	Masigaro	NRCC Member	RFB
Benson	Masila	Regional Roads Engineer	Ministry of Roads
Duncan	Mason	Director Business Unit: Transport, Aviation & Planning	Royal Haskoning DHV
Edwin	Mathagu		Ekurhuleni Metro Municipality
Rabel	Matsoso	Engineer	Department of Roads & Public Works
Salomao	Matsule		Ministry of Transport & Communication
Goodwill	Mbatha	Chief Financial Officer	Johannesburg Road Agency
Amini	Mcharo	NRCC Member	RFB
Andrew	McKune	Section Manager	SMEC South Africa (Pty) Ltd
Craig	McLachlan	General Manager	Department of Roads & Public Works
Petunia	Mdakane	Engineer	Ekurhuleni Metro Municipality
Johan	Meyer		Department of Transport Cape Town
Martin	Mgangira	Principal Researcher	CSIR
Siya	Mhlali	Production Manager	Much Asphalt (Pty) Ltd
Emil	Miladinov	Engineer	Department of Transport
Garth	Miller		Much Asphalt (Pty) Ltd
Ayikai	Mills-Tetty	Traffic Engineer/Project co-ordinator	MTA
Malcolm	Mitchell	Professional Advisor	SARF
Sihle	Miya	CET	KwaZulu-Natal Department of Transport
Siphesihle	Mkhabela	Civil Engineering Technician	VNA Consulting
Bongani	Mncube	CET	KwaZulu-Natal Department of Transport
Phila	Mntungwa	Deputy Director	Department of Transport
Sanele	Mnyoni	ATE	KwaZulu-Natal Department of Transport
Rashid	Mohamed	General Manager Finance	Kenya Roads Board
Prasanth	Mohan	Director	Department of Transport
Thandi	Mokgalagadi	Regional Manager	Much Asphalt (Pty) Ltd
Jan	Moloiwane	CEO	Kabe Consulting Engineers
Shaun	Moodley		eThekweni Municipality
Ganasen	Moodley	Deputy Head	eThekweni Municipality
Logan	Moodley	Head of Road Safety	eThekweni Municipality
Altus	Moolman	Technical Director/Professional Engineer (Civil)	Aurecon South Africa (Pty) Ltd

SARF/IRF 2014 DELEGATES as at Saturday 30th August 2014

Name	Surname	Position	Company
Sedimogang	Moraka	Transport Unit	AM Consulting Engineers (Pty) Ltd
Harald	Mosboeck	Head of Sales	SWARCO AG
Tholang	Mosianedi	Materials Technologist	Free State Roads Department
Benjamin	Mosola	Surveillance Supervisor	Specialised Road Technologies (Pty) Ltd
Alan	Moss	Senior Manager	Ilifa Africa Engineering
Mohamed	Mostafa Hassan	Senior Lecturer	Central University of Technology
Vuyiso	Msipa	Technical Executive	GIBB (Pty) Ltd
Bonga	Mthembu	ATE	KwaZulu-Natal Department of Transport
Nkosinathi	Mthembu	Candidate Technitian	Department of Transport
Daniel	Mtimkulu	Area Project Technologist	eThekweni Municipality
Jacky	Mukuka	Snr Engineer	Namibia Roads Authority
Christian	Mulol	Candidate Engineer	eThekweni Municipality
Bruno	Musoke		Uganda National Roads Authority
Marshall	Muthen	Project Manager	SANRAL
Peter	Mwenya		RFB
Pieter	Myburgh		SARF
Sundran	Naicker	Director	Nyeleti
Krishna	Naidoo		eThekweni Municipality
Seelan	Naidoo	Area Project Technologist	eThekweni Municipality
Jogindra	Naidoo	SARF Zululand Chairman	Zululand Chamber of Commerce
Niall	Naidoo	Marketing Advisor	Aurecon SA (Pty) Ltd
Kersen	Naidoo	Project Manager	SANRAL
Dhruv	Nanda	Trading Manager	BITUMENA
Vikash	Narsai	CEO	VNA Consulting
Mzimkhulu	Nduna	Pavement Engineer	GIBB (Pty) Ltd
Ven	Ndyamukama	NRCC Member	RFB
Linela	Nekola	Transport Economist	Roads Authority of Namibia
Marlize	Nel-Verwey	Project Manager	SANRAL
Abe	Newmark		AECOM
Xolani	Ngcobo	CET	KwaZulu-Natal Department of Transport
Nonthuthuzelo	Ngonyothi	Control Engineer	Department of Transport
Thabiso	Ngozwana	Project Manager	SANRAL
Gugu	Ngubane	Project Manager	SANRAL
Sindisiwe	Ngubane	Control Engineer	Department of Transport
Felisberto	Nhabomba		Ministry of Transport & Communication
Klaus Verner	Nielsen		Grontmij Denmark
Dumisani	Nkabinde	Project Manager	SANRAL
Paul	Nordengen	Research Group Leader	CSIR
Wynand	Nortje	Technical Manager	National Asphalt (Pty) Ltd
Andile	Nqandela	Deputy Director	Department of Transport
Bongiwe	Ntombela	General Manager	KwaZulu-Natal Department of Transport
Deolinda	Nunes		Ministry of Transport & Communication
Eliud	Nyauhenga	Deputy Manager Resource Mobilisation	Roads Fund Board
Twahir	Nzallawahe		RFB
Michael	Ogola	Senior Engineer	AECOM SA (Pty) Ltd
Paul	Olivier	Director	Jeffares & Green (Pty) Ltd
Simon	Oloo	Professional Engineer	VNA Consulting
Andrew	Otto	Senior Research Engineer	Transport Research Laboratory
Olufemi	Oyekanmi	Civil Engineer	Fed. Min of Works, Nigeria
Philip	Paige-Green	Director	Paige-Green Consulting
William	Palmer	Consultant	Private (Mr William T Palmer)
Abraham	Papenfus	Managing Member	via Magna cc
Vinayak	Patankar	Director General	Ministry of Road Transport and Highways
Anthony	Pearce	Hon Life Member	IRF
Keith	Peel	Control Engineering Tech	KwaZulu Natal Dept of Transport
Bryan	Perrie		The Concrete Institute
Gerald	Perumal	Technical Manager	KwaZulu Natal Dept of Transport
Herbert	Phahlane	Deputy Director	City of Tshwane
Pine	Pienaar	CEO	Nyeleti
Ona	Pilane	Director	Mangaung Asphalt
Preggy	Pillay	Associate	Jeffares & Green (Pty) Ltd
Kollan	Pillay	Associate Director	Arup (Pty) Ltd
Anju	Prabdial-Narsai	Director	VNA Consulting
Derick	Pretorius	Technical Executive	GIBB (Pty) Ltd
Petrus	Pretorius	Chief Technical Officer	Bakwena Platinum Corridor Concessionaire
Jacques	Quinot	Workstream Leader: Infrastructure	George IPTN

SARF/IRF 2014 DELEGATES as at Saturday 30th August 2014

Name	Surname	Position	Company
Satish	Raghubir	Director	VNA Consulting
Colin	Raman	Director: transportation	ILISO Consulting
Masilonyana	Ramathebane	Engineer	Department of Roads & Public Works
Vimal	Ramdhani	Technical Sales Engineer	Kaytech
Bavusile	Ramekane	Deputy Director	City of Tshwane
Henrico	Range		Ndodana Consulting Engineers (Pty) Ltd
Mulalo	Ratshitanga	Manager	Ekurhuleni Metro Municipality
Ato Tekletsadik	Reba Ayane	African Ambassador fo the IRF	IRF (African Ambassador)
Hubrecht	Ribbens	Consultant	Dr H Ribbens
Michele	Righi	Regional Infrastructure Head	United Nations Office for Project Services
Rudolph	Rittmann	Engineering Manager: Maintenance	Roads Authority: Namibia
Gordon	Robertson	Technical Director	Aurecon SA (Pty) Ltd
Ravi	Ronny	Design & Construction Manager	SANRAL
Michael	Roux	Principal Civil Engineer	CSIR Built Environment
Stewart	Russell	Section Manager	SMEC South Africa (Pty) Ltd
Irafaan	Sambo	Associate	GIBB (Pty) Ltd
Les	Sampson	CEO	Sampson Consulting
John	Sampson	Consultant	TTT Africa
Garry	Savill	Chairman	SARTSMA
Andre	Schutte	Manager: Urban Roads & Rail	UMhlatuze Municipality
Ibrahim	Seedat	Director: Urban Transport Planning	Department of Transport
Leseilane	Sekhukhune	Civil Engineer	Sekhukhune & Associates
Odete	Semiao	Director	Ministry of Transport & Communication
Christaan	Serton	Director Roads	Hatch Goba (Pty) Ltd
Nono	Setai	Deputy Director Infrastructure	AM Consulting Engineers (Pty) Ltd
Logashri	Sewnarain	Regional Manager	SANRAL
Mmakanaganaga	Shai	Stream Leader: Industry Transition	AM Consulting Engineers (Pty) Ltd
Mark	Sibanda	Design Engineer	Kago Consulting Engineers
Peter	Sikalumba	NRCC Member	RFB
Prabeer	Sikdar	President	ICT PVT LTD
Wilfried	Silbernagl	Engineer	Department of Transport
Premala	Singh	Marketing Manager	Colas
Steven	Single	Managing Director	SprayPave (Pty) Ltd
Naresh	Sinha	President	ICT PVT LTD
Lyun-Mok	Song		Daewoo Industrial Company Limited
John	Sponneck	EC Regional Co-ordinator	SA Road Federation
Hein	Stander		AECOM
Lars	Starke	Chief Engineer	Department of Transport & Public Works
Riaan	Steenkamp	Section Manager	SMEC South Africa (Pty) Ltd
Aubrey	Stevens	Manager: Roads	Cape Winelands District Municipality
Wynand	Steyn	Professor	University of Pretoria
John	Stoltz	Dep Managing Director	NA Civil & Structural Engineers (Pty) Ltd
Garth	Strong	Managing Director	Deltabloc SA
David	Stuart-Watt	President	Roads Australia
Vicent	Tangoh	NRCC Member	RFB
Arthur	Taute	Functional General Manager	SMEC South Africa (Pty) Ltd
Dave	Thomas	Deputy Head: Roads Provision	eThekweni Municipality
Thebeetsile	Thupe	Engineer	Department of Roads & Public Works
Cornelis	Tolmie	CEO	N3 Toll Concession Proprietary Limited
Vusi	Tshabangu	Technical Manager	3M SA Pty Ltd
Bavuyile	Tshangana	Deputy Director	Department of Transport
Tim	Tusar	Key Account Manager	Volkman & Rossback GmbH u. Co KG
Manfred	Uken	Deputy Director Business Unit	Royal Haskoning DHV
André	Ungerer	Construction Engineer	Bakwena Platinum Corridor Concessionaire
Elsabe	van Aswegen	Engineer	Jeffares & Green (Pty) Ltd
Andre	van der Gryp	Engineer	Department of Transport
Fanie	Van der Linde	Unit Manager	Aurecon SA (Pty) Ltd
Adriaan	van der Merwe	Director: Civil/Transportation	Burmeister & Partners (Pty) Ltd
Carel	van der Merwe		AECOM
Gustav	Van Der Vyver	Contract Manager	Ilifa Africa Engineering
Nicolaas	van der Walt	Highway Engineer	Mr N van der Walt (Private)
Belinda	van der Wat	Lecturer	NMMU
Michael	van der Westhuizen	Engineer Project Manager	PH Bagale (Pty) Ltd
Cobus	Van Eeden	Unit Manager: Transport	Aurecon SA (Pty) Ltd
Andrew	van Gruting	Principal Engineer - Civil	Hatch Goba (Pty) Ltd
Stefan	Van Huyssteen	Professional Technologist	Nyeleti

SARF/IRF 2014 DELEGATES as at Saturday 30th August 2014

Name	Surname	Position	Company
Quinton	van Oudtshoorn		VR Road Safety Products
Francois	van Reenen		Aurecon SA (Pty) Ltd
Freek	van Renssen	Executive Department Manager	AECOM
Wim	van Schalkwyk	Development Planner	Aurecon
Michael	van Tonder	Service Line Leader	Aurecon SA (Pty) Ltd
Louis	van Wyk	Engineer	Midfran Roads (Pty) Ltd
Christiaan	van Wyk	Technical Sales Representative	Kaytech
Marlise	Van Wyngaardt		Aurecon SA (Pty) Ltd
Herman	Venter	Production Manager	Roadspan Surfaces
Soundrajen	Veramoothea	CEO	Lenash International Investments
Nico	Verstraete	Business Development Manager	FLIR ITS - (TRAFICON)
Johan	Viktor		Aurecon SA (Pty) Ltd
Phodiso	Volstruis	Engineer	Department of Roads & Public Works
Rudi	von Fintel	Principal	Royal Haskoning DHV
Hilton	Vorster	Executive Director	City of Tshwane Municipality
Paul	Vorster	CEO	ITS South Africa
Nkululeko	Vukile	Technical Manager	AFCAP
Clinton	Vurden	Business Development Manager	Times Media Group
Louis	Walstrand	Branch Manager	Specialised Road Technologies (Pty) Ltd
Ian	Webb	CEO	Roads Australia
Alex	Weideman	Regional Technical Manager	Much Asphalt (Pty) Ltd
Oliver	Wentley		Department of Transport Cape Town
Andre	Wepener		AECOM
Philip	Wijers	Director Government Affairs	GATSO
Nico	Wilcocks	Contracts Manager	Roadspan Surfaces
Derek	Wilson	Project Engineer	SANRAL
Richard	Wix	Technical Specialist: Systems Division	ARRB Group Ltd
Ileen	Wolmarans		Aurecon SA (Pty) Ltd
Robin	Workman	Senior Engineer	TRL Limited
Fanie	Xaba	Business Development Manager	Aurecon SA (Pty) Ltd
Susanna	Zammataro	Executive Director	IRF
Edoardo	Zannoni	Bus Unit Manager	Maccaferri
Ebrahim	Zoutenberg	Civil Eng Technician	eThekweni Municipality

**Appendix 2A**  
**AFCAP Delegate Report**

**Andrew Otto**

**SARF/IRF 2014 2<sup>nd</sup>-4<sup>th</sup> September Pretoria, South Africa: 5<sup>th</sup> Regional Conference for Africa: Better Roads Moving Africa.**

*Short Note by Andrew Otto, (TRL); written on 8<sup>th</sup> September 2014*

The conference was an opportunity to share knowledge, learn what others are doing and identify the current challenges that are yet to be addressed in the sector.

The AFCAP related presentations were well received by the delegates. The values that AFCAP has added into the road and transport sectors have been appreciated. These are especially true for the areas of generating knowledge through research in materials utilisation, building capacity through production of manuals and road safety.

My presentation on “Addressing Africa’s maintenance needs: Doing more with less in Mozambique” enabled delegates to appreciate that despite the problems of materials shortage to meet current specifications, engineering solutions exist that can be tested through research and if cost effective can be implemented on a wider scale.

In most of the presentations made by other delegates, three messages seems to be coming across that are relevant to AFCAP’s mandate; asset management, sustainability and transport safety.

Regarding asset management, this is particularly focussed on low volume roads and how this important component of the network can be managed in such a way that access is guaranteed throughout the year at reasonable speeds and levels of safety. Most delegates noted that asset management practice is currently viewed as an issue for only trunk roads and digressing from engineering by incorporating a large amount of “accounting” practices. AFCAP must therefore look into capacity building and development of country specific systems to ensure that the low-volume roads are always in use and maintained efficiently.

In the area of sustainability, the question of how to utilise materials in manner that we do not adversely affect the environment was intrinsic in many of the presentations.

As regards transportation and road safety, the figures for Africa are quite alarming. In comparison if the figures were through war or disease there would have been clamour for action. A typical example of about 33 persons per 100,000 dying every year in road accidents in Uganda is alarming. On this basis, AFCAP must ensure certain projects are geared towards ensuring safer roads.

In summary, in order for AFCAP 2 impact to be bigger than AFCAP 1, there should be large multi-country projects that focus on the three areas of capacity building in asset management, materials sustainability and transport safety. Large projects that are carried out either as a single project in many countries or as a series of small projects in different countries enrich the extent and quality of knowledge and experience sharing well before dissemination at regional conferences.

AFCAP 2 should also facilitate cross-continent knowledge sharing so that Africa is not left behind in development. Continents that currently have or that have recently had conditions similar to Africa include South America and Asia.

I highly appreciate AFCAP sponsoring me to attend this conference and I hope this trend continues under AFCAP 2.

**Appendix 2B**  
**AFCAP Delegate Report**

**Tom Bishop**

## SARF / IRF Conference, 'Better Roads – Moving Africa'

CSIR, Pretoria, South Africa, 2<sup>nd</sup> to 4<sup>th</sup> September 2014

*This 1-page summary report focuses on road safety and is based on information learned through the following:*

- *The main conference presentations*
- *The IRF Group of Experts on Road Safety side-meeting*
- *The TRL Road Safety Roundtable*
- *Informal discussions, including feedback on the presentation given by Simon Kalolo and Tom Bishop on Amend's AFCAP-sponsored study into the causes of motorcycle crashes on rural roads in Tanzania*

Road safety took centre stage at the conference, with Peter Freeman spending a significant part of his opening address discussing it, with a full day dedicated to presentations on it, including an incredibly powerful and passionate 1-hour presentation by Mike Dreznes, and with side meetings and much informal discussion dedicated to it.

From this evidence, it seems that the global advocacy initiatives for road safety – in particular the UN's Decade of Action for Road Safety – are starting to have an impact on policies and practices governing development in Africa. For example, the World Bank has committed to mainstream road safety in all its projects and has pledged not to fund unsafe roads. Other development banks and development partners are expected to follow the World Bank's lead.

However, while there are some examples of good road safety 'projects' in Africa, it appears that examples of serious political commitment by African governments are few and far between. It is recognised that further advocacy for political commitment is required.

To this end, the IRF announced plans to develop a competition to encourage African leaders to commit to road safety, to identify high-profile continent-wide champions, and to share the lessons of those countries that do well with other countries.

Alongside advocacy for increased political commitment for road safety, advocacy for increased funding for road safety is also necessary.

Taking the example of Tanzania, several years of advocacy by development partners have resulted in the soon-to-be-complete formation of a National Road Safety Agency. Funding for this has been secured through the National Road Fund. However, the National Road Safety Agency will need the support of experts, such as through AFCAP and wider DFID, to develop effective road safety programmes. This will involve piloting, evaluating and scaling.

Tanzania, together with numerous other African countries, faces the challenge of improving the safety of motorcycles used as public transport. Motorcycle taxis are changing mobility and accessibility, but currently injury rates are very high. Conference delegates from Nigeria, Ghana, Uganda, Kenya and South Sudan explained that the situation in their countries is similar to that in Tanzania. They expressed interest in Amend's AFCAP-sponsored study into the causes of motorcycle crashes in Tanzania, saying that similar work is required in their countries.

Broad recommendations for further areas of AFCAP research include:

- Continuing research into motorcycle taxi safety, covering both engineering and driver behaviour, including the piloting and evaluating of a motorcycle safety programme
- Continuing research into the safety of communities living alongside roads
- Undertaking research into securing high-level political commitment for safety

*Tom Bishop, Amend Africa Director, [tbishop@amend.org](mailto:tbishop@amend.org)*

*12<sup>th</sup> September 2014*

**Appendix 2C**  
**AFCAP Delegate Report**

**Simon Kalolo**

# SARF/IRF 5<sup>th</sup> Regional Conference

## Pretoria - South Africa

### Background

Between 2<sup>nd</sup> and 4<sup>th</sup> September 2014, the South African Road Fund (SARF), International Road Federation (IRF) and SBS conferences hosted a 5<sup>th</sup> Regional conference for Africa on the theme of “Better Roads - Moving Africa” in Pretoria, South Africa, the conference aimed to focus on improving Capacity and Safety for Road Transport in Africa. I was sponsored by the African Community Access Programme (AFCAP) to attend this conference.

These notes detail what I learned at the workshop, questions/comments on my presentation and my advice to AFCAP with a focus on road safety. I have compiled these notes to provide feedback to AFCAP.

### Lessons learned

Dr. Peter Freeman - World Bank

- Especially in Africa, we will see real change if the governments accept at the highest level that improving road safety is important and urgent. African leaders should show commitment like that shown by the Japanese Prime Minister himself by chairing the national road safety initiative.
- Every country needs road safety agency, a road safety plan and an action agenda to fight road accidents.
- There needs to be mandatory road safety audits which are linked to road loans and the credits and community consultation on road safety aspect of road projects.
- Approach to road safety needs to be more holistic; better policies, better accidents records, better vehicle inspections and better legal framework to prevent the importation of the sub-standard vehicles.
- For all road projects funded by the World Bank, road safety should be mainstreamed where feasible.

John Burrell - TRL Ltd

- Road safety initiatives are complex problems which require both hard and soft engineering solutions.
- Conventional solutions to road safety are not generally enough, creative solutions that deal with specific social realities are required.
- When initiatives are put in place, they will need to be evaluated periodically to see if they have impact, and if not, then solutions need to be amended.

### Questions and comments

**Question:** As suggested in this presentation, when a road is improved there is going to be an increase in speeds, but for the four-wheeled vehicle once the road is widened then there is a possibility of head to head collision. Has this been a concern in this particular analysis?

Another aspect has been pedestrians, to what extent do pedestrians use these roads and are there dedicated facilities for pedestrians and motorcycles that have been considered as far as this particular assessment is concerned?

**Answer:** The kinds of roads we have been working on are very low volume rural roads. The numbers of four wheeled vehicles using these roads are low between 15 and 20 a day while motorcycle are over 100 per day so the design event we are proposing needs to be that of one four-wheeled vehicle passing a motorcycle. Also, because there are few four-wheeled vehicles and the budget for these roads is not high, building very wide roads cannot be justified and is not cost effective. However, there is a need for providing proper training to motorcycle drivers, education and awareness to pedestrians on how to safely walk, how to judge the speeds of moving vehicles and more.

**Comment:** In India, there have been successful programs that have involved and educated community members along rural roads about road safety.

This analysis is recommending that road width is increased while in India we are recommending that 3.75m width is enough for low volume rural roads, so instead, have you considered that maintaining good condition of shoulders by clearing of the bushes and vegetation either by the community members probably can easily get rid of crashes among motorcycle drivers and problems of road safety?

**Answer:** Mostly on these roads the shoulders are often hard to define and that is why this analysis is recommending the design event of 4.5m width minimum which also includes the shoulders. Yes, we are recommending that these shoulders need to be free from overgrown vegetation.

### **Recommendations**

As AFCAP is looking to continuing with research activities, there is an urgent need to set measurable safety objectives and dedicated road safety projects, more of understanding how different behaviors of road users cause accidents, particularly motorcycle drivers. Motorcycles are a fast growing mode of transport in many Sub Saharan countries and therefore we will keep seeing a high increase in road traffic incidents related to motorcycle if no holistic measures are taken. There is a need to investigate existing structures of training, testing and licensing for motorcycle drivers but also provide proper training to community members as it has been successfully done in India and Argentina.

*Simon Kalolo, Senior Programme Assistant, Amend*

[skalolo@amend.org](mailto:skalolo@amend.org)

12<sup>th</sup> September 2014

**Appendix 2D**  
**AFCAP Delegate Report**

**Yetimgeta Asrat/Les Sampson**

Report on the SARF/IRF Regional Conference for Africa 2<sup>nd</sup> - 4<sup>th</sup> September 2014

CSIR International Convention Centre, Pretoria, South Africa

**Prepared by: Yetimgeta Asrat**

## **Introduction**

The SARF and IRF Regional Conference for Africa, organized by the International Road Federation took place from 2nd September to the 4th September 2014 at the CSIR International Convention Centre in Pretoria, South Africa. The conference covered areas like Funding for Roads, Safer Roads & Mobility, Environmental Management for Roads, Government, Risk & Compliance, Implementation of Road Infrastructure Projects, Managing Road Freight, Asset Management, Rural Access Roads, etc.

The theme of the conference was **“Better Roads Moving Africa”** and it has attracted more than 400 delegates from the entire African region, Middle East, India and Australia around an extremely rich and varied program and exhibition.

As it is known, part of the remit of AFCAP is to support knowledge transfer and sharing across different organizations and countries. As such it arranged our attendance to speak at the 5<sup>th</sup> SARF/IRF Regional Conference on Low Volume Road Research into Practice: The Ethiopian Experience.

## **About the Paper Presented as Part of AFCAP Project**

The paper on Low Volume Road Research into Practice: The Ethiopian Experience presents the experiences gained as part of an AFCAP project to develop a Design Manual for Low Volume Roads and associated documentation for the Ethiopian Roads Authority. It was submitted as a contribution by L R Sampson\*, R N Geddes, Bekele Negussie and Yetimgeta Asrat.

The main assertion made by this paper is that the process and methodology developed and used in this project provides a tested framework for future development; customization; and implementation of manuals related to the design standards and associated documentation for low volume, mainly rural roads. The process can be facilitated by funding and expertise provided by programs such as AFCAP. However, for the sustainable success of the project it is critical that a partnership is developed between funders such as AFCAP and the national authority (or authorities) responsible for the provisions of rural low volume roads. In the case of Ethiopia this important role was fulfilled by the Ethiopian Roads Authority.

## **Presentation Management**

The presentation was delivered jointly by Les Sampson and Yetimgeta Asrat. Les covered the first part of the presentation which mainly focuses on the process and approach developed to produce LVR Design Manuals in Ethiopia while Yetimgeta explained about implementation of the manuals in the Universal Rural Road Access Program.

## **Feedback from Participants**

The presentation was attended by nearly 100 participants from different countries. Though everyone looked very impressed by the presentation, unusually we received no questions and/or comments during the time allowed for discussion. Rather we had informal discussion with some participants from Africa and Asia during breaks. Particularly there were interests from some African countries to learn from the experience of Ethiopia both in adopting the manuals and implementing a universal rural road program. Even one of those discussions has now matured and a team of consultants and government officials from Kenya Rural Road Authority will have an official visit to Ethiopia in the third week of November.

On top of this, Yetimgeta, from Ethiopian Roads Authority, also had the opportunity to discuss with officials from India. Particularly the discusses about the Pradhan Mantri Gram Sadak Yojana (PMGSY) Program, which was launched by the Government of India to provide connectivity to unconnected Habitations as part of a poverty reduction strategy.

### Lessons Learnt

There were different papers presented on different topics. Among the papers presented, I was very much impressed by Sustainable Roads for Fragile African States by Dr Michele Righi, UNOPS, Kenya; Maintenance of Rural Roads under Pradhan Mantri Gram Sadak Yojana (PMGSY) in India by Rajesh Bhushan, National Rural Roads Development Agency, India; Road Asset Management - A new Paradigm Arthur Taute & Stewart Russell, SMEC, South Africa; and of course a series of other presentations on safety. The papers presented on rural road safety did not only improve awareness on how critical is the issue but also give insight on innovative approaches in providing safety facilities on rural roads.

The lessons learnt from the case of South African National Roads Authority in promoting SME development in its road projects was also indispensable.

### Concluding remarks

In conclusion, it was a valuable experience and we are very grateful to AFCAP for arranging the opportunity. The interaction with the whole AFCAP team was also amazing and memorable. We strongly recommend the next phase of AFCAP to strengthen similar trends as they are effective ways of knowledge dissemination and their contribution is immense in the eyes of participants.



**Appendix 2E**  
**AFCAP Delegate Report**

**Benson Masila/Simon Maddrell**

**SAF/IRF 2014**  
**5<sup>th</sup> Regional Conference for Africa, 2- 4 September 2014, Pretoria- South Africa**  
**Conference Report by Simon Maddrell and Benson Masila**  
Topic: **The potential of sand dam road crossings**

**Benson Masila**

**Introduction**

The above topic was presented in the 5<sup>th</sup> regional conference for Africa which was held in Pretoria South Africa from 2-4<sup>th</sup> September, 2014 whose theme was “**Multi- disciplinary approach to improve road capacity and safety for road transport in Africa**”. The objective of the conference was to share ideas among the African countries on how innovative measures which are cost effective can be utilised to develop and maintain road transport network which is safe and cost effective in terms construction and maintenance roads.

The above topic was presented in day 2 of the conference on 3<sup>rd</sup> September at 16:00 – 17:00 which was well attended.

The objective of the topic was to enlighten the delegates on how sand dams can be used as both road crossings to provide access in low volume rural roads as well as water harvesting structures for use by the rural communities living in arid regions of the world all year round.

The presentation covered the following areas of sand dam road crossings:

- Overview of the extent of isolation of the rural communities due to lack of access in terms of social participation, political and economic aspects
- The importance of reliable road network for social/economic development and environmental sustainability.
- The problems of the traditional vented culvert bridges in rural road network.
- Failure mechanisms for sand dams road crossings
- The design and construction of sand dam(drifts) roads crossings
- The methods of extraction of water from sand dam road crossings
- Sand dams as source of water for people and agriculture
- Conclusions and recommendations

**Comments/concerns raised by the delegates**

**1. The amount of water yield from a typical sand dam.**

**Response:** sand dams which have already been constructed have proved to yield adequate water for people in the surrounding areas all year round. Examples were given for Kako road crossing which provides piped water to seven villages in Makueni County.

**2. How long does it take for the flash flood water to subside so that people can cross the river?**

**Response:** rain in arid regions only occurs for a few hours and water collects in seasonal rivers which last for about 2- 3 hours before the levels of water can allow the people to pass.

**3. What are the environmental challenges associated with sand dam road crossings?**

**Response:** sand harvesting for commercial building purposes is highly noticed at the upstream side of the sand dam which may lead to wash out of the structure. The local communities are encouraged to form management teams to manage water and sand harvesting and ensure the sand dam facility is maintained.

**4. What are the Main causes of washout of the sand dam road crossing structures?**

**Response:**

- a. Poor construction materials and quality control.
- b. Undermining of the foundation due to sand harvesting at the downstream side of the structure
- c. Lack of robustness of the structure

**5. What are the main benefits of sand dam road crossings?**

**Response:**

- a. Provide all weather access to education and health facilities
- b. Provide water all year round for people, animals and agriculture
- c. Save time for water collecting which is used to do other economic activities
- d. Regenerate the environment by prevention of soil erosion and floods through tree planting.

**Recommendations on future activities that may be supported by AFCAP as a follow-up and development**

**1. Development of manual for design and construction of sand dam road crossings.**

Currently a detailed study has not been carried out on how to design and construct sand dam road crossings. There needs to be development of a design and construction manual for sand dam road crossings. The current design is based on the draft design work carried out in Makueni County by Eng. Benson Masila.

**2. Workshops & Seminars**

The knowledge of construction and maintenance of sand dam roads crossings needs to be disseminated to the various development agencies such as the Ministries of Water; Agriculture; and Roads; including County Governments and Provincial Administrations. The collaborative efforts by these departments will enable the full realisation of the benefits associated with sand dam road crossings.

**3. Funding sand dam road crossings projects in Makueni County**

Funding construction of sand dams road crossings in Makueni County so as to demonstrate a business case by quantifying the benefits of the structures and promote their use in other arid regions of the Africa.

**Personal account of lessons learnt, new understandings from participation at the conference**

1. The sand dam road crossing technology was shared with conference delegates from Tanzania, Ethiopia and Swaziland among others. The delegates felt that it is very appropriate to enhance rural road connectivity and have a markable increment of income generating activities as a result of the water source availability. The communities can engage in production of maize, beans, vegetable & other crops through small scale irrigation, brick making etc.

2. Through AFCAP funded road programmes in Ethiopia and South Africa, I learnt that there are already available design and construction manuals for construction of low cost bitumen roads for low volume roads.
3. Political support, leadership and collaboration is key to development of any nation.

### **Simon Maddrell**

Additional comments to Benson's summary

**Feedback received from participants after your presentation (questions raised) and any other received during separate conversations at the Conference;**

**1. What are the costs of building sand dam road crossings – in particular the ongoing maintenance and repair costs?**

Investment costs are clear but research is required to measure and compare the ongoing costs.

**2. Are they only suitable for sandy rivers?**

No – but of course the additional benefits of abstractable water are not available if the crossing is just a check dam rather than a sand dam.

**3. Have the road crossings been built with infiltration galleries for water abstraction?**

No – except for one where an NGO added one later and this now supplies seven villages with clean water. This needs co-operation between Public Works and Water ministries.

**4. How do you combat the issue of water flowing over the dam?**

In Makueni the rivers flow for very short periods so this is not so much of an issue. However, some seasonal rivers in some climates flow for many weeks or even several months and designs would need to be adapted for those conditions (e.g. pipes through the dam that are left to flow whilst the river is flowing – or stepping stones for people to cross).

**Any recommendations on future activities that may be supported by AFCAP as a follow-up, development and/or consolidation of findings from your work**

Some of the following options could be done alongside each other or independently - some are different ways to achieve the same thing. Some of them are funding options - others are ones we may be able to look at AFCAP funding and/or working with TRL:

1. Help with engaging Southern Africa Governments to attend the Sand Dams Workshop in Tete - in particular the rural roads mini-workshop. (We have had interest from ANE - the Mozambique roads authority - as well as confirmed attendance from Swaziland Government and UNDP Swaziland.)
2. Help with 1) to get Oil Companies involved to engage with this as a CSR programme.
3. Study of the 100 crossings in Makueni and Kitui in order to document the design process and produce a manual for LV Road Crossings (it appears nothing exists for the development of a wider range of design options to meet different dry-land climates (interest from the governments of Mozambique, Swaziland and South Sudan already registered)
4. To undertake a life-cycle cost benefit analysis of sand dams as rural road crossings using Makueni as a case study.
5. Deliver 4) above working with the UNCCD Economics of Land Degradation team - who have expressed an interest.
6. Join Excellent and the Kenyan Government in an African Water Facility application to repair the 125 broken road crossings over 3-5 years and also deliver 3) 4) and possibly 5) above

7. Engage with TRL and Engineering Consultancies to look at possibilities of integrating sand dams into conventional road bridge designs as a flood mitigation and water supply opportunity.
8. Possible UNCCD/Africa Dev Bank multi-country grant to forward all of the above - facilitated through UNCCD.

**Appendix 3**  
**Notes from the Roundtable Discussion on Road Safety**

## **Roundtable on Road Safety**

4<sup>th</sup> September 2014, 14:00-16:00

Emerald Suite, CSIR International Convention Centre, Pretoria

### **Attendance**

Anthony Pearce – Honorary Life Member of IRF (Chair)

Tom Bishop – Amend

David Stuart-Watt – Roads Australia

Karien Venter – CSIR

Peter Freeman – Consultant to World Bank

Michele Righi – UNOPS

Nkululeko Leta – AfCAP

Craig McLachlan – ECDRPW

Andrew Lane – DRPW: Escape

Peter Copley – SARF

John Sampson – TTT Africa

John Barrell – TRL

Suzy Charman – TRL

Akram Ahmedi – TRL

### **Apologies**

Marc Juhel – World Bank

Girma Bezabeh – African Development Bank

Richard Malinga – African Development Bank

Hilton Vorster - SARF

### **Background**

According to the World Health Organisation Global Status Report on Road Safety (2013) the African region has the highest road traffic fatality rate in the world (24.1 deaths per 100,000 population per year). Nearly mid-way through the Decade of Action for Road Safety, casualty rates in many African countries are continuing to rise. In the area of road safety engineering there are some significant challenges that must be overcome in order to achieve a step-change in practice and to help reduce casualty numbers. These include:

- A lack of high quality crash data to identify priorities, develop appropriate and targeted treatments, and evaluate their impact
- Limited numbers of qualified and experienced local practitioners to support a sustainable model for the introduction and roll-out of key approaches such as Road Safety Audit and Inspection

## **Aims and Objectives**

The aims and objectives of the round-table are to:

- Identify a model for the improvement of crash data collection and databases used across Africa
- Establish a mechanism for sustainable training/capacity building in road safety engineering approaches
- Develop mechanisms for the sharing of good practice and data on the effectiveness of road safety interventions relevant to African conditions
- Explore the concept of regional centres of excellence/road safety observatories and how these might contribute to a sustainable model for improvement
- Identify further funding streams to support improvements

## **Overview of Event**

The event was attended by delegates of the Better Roads Moving Africa conference and was facilitated by Anthony (Tony) Pearce former Director General, and lifelong honorary member, of the International Roads Federation (IRF).

The discussion was opened with a short presentation from Dr Suzy Charman outlining the background to the road safety issues in Africa. Anthony Pearce then facilitated a discussion around several key points. Finally a draft resolution was discussed and further developed.

Further details concerning the key comments and points of discussion can be found in Appendix A.

## **Draft Resolution**

In the context of:

- Decade of Action for Road Safety Global Plan Pillar 1, Activity 6:  
*Establish and support data systems for on-going monitoring and evaluation to include a number of process and outcome measures including: Establishing and supporting national and local systems to measure and monitor road traffic deaths, injuries and crashes.*
- Decade of Action for Road Safety Global Plan Pillar 2, Activity 5:  
*Encourage capacity building and knowledge transfer in safe infrastructure by: creating partnerships with development banks, national authorities, civil society, education providers and the private sector to ensure safe infrastructure design principles are well understood and applied; promoting road safety training and education in low-cost safety engineering, safety auditing and road assessment.*
- Moscow Declaration (2009) Resolution 4:  
*Make particular efforts to develop and implement policies and infrastructure solutions to protect all road users in particular those who are most vulnerable such as pedestrians, cyclists, motorcyclists and users of unsafe public transport, as well as children, the elderly and people living with disabilities*
- Moscow Declaration (2009) Resolution 10:  
*Improve national data collection and comparability at the international level, including by adopting the standard definition of a road death as any person killed immediately or dying within 30 days as a result of a road traffic crash and standard definitions of injury; and facilitating international cooperation to develop reliable and harmonized data systems*
- The Accra declaration (2007) Action 2:

*Improve the collection, management and use of data on road deaths and injuries so as to formulate evidence-based policies. In this regard, efforts would be made to address the non-reporting of accidents, and to harmonise data that originate from different sources.*

- The Accra declaration (2007) Action 6:

*Strengthen partnership and collaboration at sub-regional, regional and global level in advancing the road safety agenda*

This group believes:

- It is vital to get the commitment of the heads of state and relevant Ministers in the area of road safety.
- Good quality data are the foundation of a targeted road safety approach. The goal is to capture high quality data locally, in the meantime taking action based on known effective interventions.
- The legal or policy requirement for road safety practice is crucial to drive the widespread use of effective approaches and development of local capacity.
- The requirement for road safety engineering practice must be embedded in governments' institutional arrangements.
- In order to take a sustainable approach to safety it is necessary to improve local capacity through the training and mentoring of local staff.
- Road safety needs to be a recognised profession – through engineering councils/registration board/society – with standardised training and qualification requirements.
- Regional collaborative mechanisms (which could be centres of excellence, road research centres or road safety observatories) will allow experiences, research and data to be shared.

## **Appendix A: Key Comments and Points of Discussion**

### Institutional Arrangements and Commitment

Real change does not happen until there is political will. AfCAP works because of the good people who support it are at reasonably senior levels in national governments and it is focussed on local sustainable interventions, supported by low key research and monitoring.

Gaining high level, political buy-in will be essential before any progress can be made.

The Moscow declaration (2009) and Accra declaration (2007) has seen ministers of transport and health commit to road safety; however this needs to be followed through by practical action.

Success with health issues has partly been as a result of pharmaceutical industries having a commercial opportunity for drug treatments. No such commercial interest is present for road safety, except perhaps insurance companies.

Developed countries like Australia were 40 years ahead of places like India who wanted the latest systems, but had to be convinced to build up from basic principles. This started with the Ministers to get meaningful support and then implementing challenging and measurable KPI requirements for organisations together with the establishment of special RS units.

### Crash Data

There are essentially two tiers of safety across Africa with the highest rates in four countries; high-tech innovative solutions may not work in the poorest countries. They needed to implement simple solutions and a high-tech database may not be feasible.

Simple solutions are needed in the short term in order that action can be taken now.

Crash data are essential in order to make the case for road safety investment (scale of the issue), prioritise countermeasures, ensure targeted action and allow evaluation of initiatives.

There needs more publicity of case studies as to what works – and importantly (but less often publicised) what doesn't work and why.

Various examples of good data collection practice can be found in Africa, for example in Mauritius and Botswana where TRL has installed crash databases.

Without local data, the implementation of recognised international good practice can still get substantial improvement which can then be built upon with local data as they become available.

Community initiatives for the collection of 'big data' are becoming increasingly viable with so many people carrying smart phones (even in the poorer countries). Australia mobilised cyclists to use cell phones to report crash data and now encouraging pedestrians to do the same – problem is that they are now getting swamped with data.

Argentina is a good example where crash data collection has been a huge success. They are also hosts of the successful OEISEVI road safety observatory for the region. Their experience and success has now spread to neighbouring countries who are eager to take up the challenge. Therefore the focus needs to be on one or two countries or country regions that are committed to road safety and will publicise their work. Others are then eager to copy.

This can create a helpful 'competition', like that in Australian states who have been competing in this manner for many years; the consequence is continual improvement as states strive to be the best. It was suggested it may be possible to introduce an element of competition in Africa and to find a Minister willing to publicise their good work.

A comparison was made with the German post war experience where for many years 'life was cheap' and in many countries there are greater priorities than road safety. Statistics need to be personalised – behind every death is a personal story. The big numbers tend to lose impact. Increasing use of social media and 'big data' could help with understanding behaviour. If individuals could be encouraged to upload images of drivers behaving badly with GPS coordinates then this could start to build up a set of localised information. This has already been implemented by SANRAL in certain instances where tow truck drivers are providing crash location information. Need to motivate people to contribute and demonstrate that some action is being taken as a result.

It needs to be recognised that in SA there are a number of different agencies collecting data – but only on fatalities. Police have many competing duties and it is difficult to justify huge amounts of effort on crash data collection when the crime rate is so high.

The police collect crash data – and this often competes with other fundamental police activities. There needs to be a stronger policy against corruption and introduction of incentives to adhere to better practices – i.e. improved pay and conditions. The improvement in systems to cut down on corruption can have a substantial benefit on revenue collection that far outweighs the cost of the system improvements.

### Capacity Building

Demand is created by the need or requirement for a particular skill. If various processes are made mandatory, then the response for training will increase.

The World Bank is due to commit to a requirement for Road Safety Audit to be undertaken on all new road schemes that it finances. AfDB is also planning similar mandatory requirements.

The new president of WB has a health background and funding for road safety may triple. There is also recognition that RS needs to be treated at a community level with engagement on road safety issues as well as other impacts. Demand for local training and resources will be generated.

Road safety itself is not a recognised profession, but something that people start to specialise in. Many people who work in road safety don't have a good understanding of road safety.

Current road safety capacity building is piecemeal and the length of time over which the capacity building occurs is insufficient to bring staff up to the required standard (e.g. with the experience necessary for road safety audit for example).

So often those that are trained in road safety quickly move to other areas of specialism. It is important for road safety practice to become a recognised profession whereby practitioners can see an element of career progression ahead of them.

There is potentially a gender bias, in that women are more susceptible to – and passionate about – the road safety message, but majority of those involved in road safety are male (certainly as far as engineering is concerned).

This can be spread wider within national requirements if it is embedded within other existing legislation such as Health and Safety.

### Regional Centres of Excellence

AfCAP are already developing regional road research centres for road construction but all have identified a road safety need and there is no reason why these road research centres could not include road safety.

The research centres need to be spread around the regions with possibly one country taking the lead in a particular subject area. Again, there's a need to showcase existing good practice and centres of excellence to generate a wider interest.

It was suggested that twinning arrangements between developed and developing countries could be a very beneficial approach.

#### General Discussion Points

The role of enforcement was being overlooked and that a 'one size fits all' approach for Africa would not be effective.

The predominance of human factors could not be ignored. Engineers need to know how to respond to human factors such as distraction and interaction with drivers.

It was also suggested that African attitudes are different to many in terms being relatively short term and fatalistic. Therefore getting lasting changes can be more difficult. Using children to influence parents is still considered appropriate and the use of social media to influence young people.

An NGO Alliance for Africa has started online but is relatively new and not a lot of information is uploaded as yet.

A champion for road safety can be effective – e.g. sports personalities – in order to reach the public and change attitudes.

**Appendix 4**  
**Photographs of the Exhibition Stand**



