



AfCAP
Africa Community Access Partnership



Identification of hazardous sites and the recommendation of remedial measures on selected rural roads

1st Stakeholders' Workshop Report



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Identification of hazardous sites and the recommendation of remedial measures on selected rural roads

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Cover Photo: A scene at the 1st Stakeholders' Workshop at the Department of Feeder Roads conference room

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ABSTRACT

In fulfillment of Milestone 2 of the ToR, the first stakeholders' workshop for the ReCAP project was held on August 11, 2016 at the Conference Room of the Department of Feeder Roads (DFR), Head Office, Accra at 10:00 am. The main objective for the workshop was to discuss the project methodology contained in the approved Inception Report and to agree on the way forward in the successful implementation of the project. Mr. F.O.M. Digber, Director of DFR, chaired the meeting, which was attended by 31 participants. After his welcome address, Dr. Paulina Agyekum, AfCAP Regional Technical Services Manager, delivered a short address on the project background, the expectations of the ReCAP project and solicited the support of all the stakeholders to ensure a successful project.

The Project Team Leader made a power-point presentation of the contents of the approved Inception Report highlighting the project objectives, comments on the ToR, the partnership between the BRRI and TRL to bring international experience into the implementation of the project and the activities to be carried out at the project inception phase. The research nature of the project was stressed and how the Task No. 1 encouraged the Consultant to review the international blackspot management systems to assess their suitability for Ghana as part of the inception phase and also to provide detailed methodology for executing the project. The participants were taken through the various stages of the project activities stressing the proposed ABMS framework for the DFR, the detailed tasks to be performed and associated deliverables.

Discussions held after the presentation were centred on why the class of the feeder roads was limited to only the connectors and inter-district roads for the project; traffic crash location referencing; weighting scores agreed for ranking crash severity; data collection process by the police; the evaluation of remedial measures for the identified blackspots and un-coded feeder roads. Recommendations from the stakeholders have also been incorporated in this report.

Key words: stakeholders workshop report; ReCAP project background; project deliverables; connectors and inter-district roads; traffic crash location referencing; strip maps; GPS; iMAAP

AFRICA COMMUNITY ACCESS PARTNERSHIP (AfCAP)

Safe and sustainable transport for rural communities

AfCAP is a research programme, funded by UK Aid, with the aim of promoting safe and sustainable rural access for all people in Africa. The AfCAP partnership supports knowledge sharing between participating countries in order to enhance the uptake of low cost, proven solutions for rural access that maximise the use of local resources. The AfCAP programme is managed by Cardno Emerging Markets (UK) Ltd, under the overarching Research for Community Access Partnership (ReCAP).

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ABBREVIATIONS AND ACRONYMS

ABMS	Accident Blackspot Management System
AfCAP	Africa Community Access Partnership
BRRRI	Building and Road Research Institute
DFR	Department of Feeder Roads
DUR	Department of Urban Roads
FYRR	First Year Rate of Return
GHA	Ghana Highway Authority
GIS	Geographical Information System
GPS	Global Positioning System
iMAAP	Internet-based Microcomputer Accident Analysis Package
MAAP	Microcomputer Accident Analysis Package
MRH	Ministry of Roads and Highways
NRSC	National Road Safety Commission
ReCAP	Research for Community Access Partnership
RSU	Road Safety Unit
ToR	Terms of Reference
TRL	Transport Research Laboratory
UK	United Kingdom
WHO	World Health Organisation

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EXECUTIVE SUMMARY

In response to Milestone 2 in the contract, the first stakeholders' workshop for the ReCAP project was held on August 11, 2016 at the Conference Room of the Department of Feeder Roads (DFR), Head Office, Accra at 10:00 am. The main objective for the workshop was to discuss the project methodology contained in the approved Inception Report and to agree on the way forward in the successful implementation of the project. The meeting, which was attended by 31 participants, was chaired by Mr. F. O. M. Digber, Director of DFR who delivered the welcome address. Dr. Paulina Agyekum, AfCAP Regional Technical Services Manager, also delivered a short address on the project background, the expectations of the ReCAP project and solicited the support of all the stakeholders to ensure a successful project.

The Project Team Leader made a power-point presentation of the contents of the approved Inception Report stressing that the project objectives included capacity building of a minimum of 5 DFR staff through a "train-the-trainer" programme and that these would later be required to train other staff members to ensure the uptake and embedment of road safety management within the DFR. Comments on the ToR were made by the Team Leader highlighting the partnership between the BRRI and TRL to bring international experience into the implementation of the project and the activities to be carried out at the project inception phase. The research nature of the project was stressed and how the Task No. 1 encouraged the Consultant to review the international blackspot management systems to assess their suitability for Ghana as part of the inception phase and also to provide detailed methodology for executing the project. The participants were taken through the various stages of the project activities stressing the proposed ABMS framework for the DFR, the detailed tasks to be performed and associated deliverables.

Discussions held after the presentation bothered on why the class of the feeder roads was limited to only the connectors and inter-district roads for the project; crash location referencing; differentiation of the crash severity by the police; weighting scores agreed for the crash severity; application of First Year Rate of Return (FYRR); project delivery targets and un-coded feeder roads. Recommendations from the stakeholders have also been incorporated in this report.

1.0 PROCEEDINGS OF THE FIRST STAKEHOLDERS' WORKSHOP

1.1 Introduction

In fulfillment of Milestone 2, the first stakeholder workshop was organized after submission and approval of the inception report to discuss the project methodology contained in the inception report and to agree on the way forward in the successful implementation of the project. The workshop was held on 11th August, 2016 at the Conference Room of the Department of Feeder Roads (DFR), Head Office, in Accra.

The meeting started with an opening prayer by Mr. Herbert Koranteng, Chief Engineer/ Head, Road Safety Unit, DFR, at 10:10 am and there after the participants introduced themselves. The workshop was attended by 31 participants including the AfCAP Regional Technical Services Manager, the Management and key staff of DFR, the Project Team from the Building and Road Research Institute (BRRI), representatives from the Ministry of Roads and Highways (MRH), Department of Urban Roads (DUR), National Road Safety Commission (NRSC) and Ghana Highway Authority (GHA).

The Director of DFR, Mr. F.O.M. Digber, chaired the meeting. He welcomed all members to the meeting and was happy that the AfCAP/ReCAP projects had come to support the work of DFR and that this particular project focused on the improvement of traffic safety on rural roads under DFR's control. He then wished the Consultants well in the execution of the project. The AfCAP Regional Technical Services Manager, Dr. Paulina Agyekum, mentioned that in order to improve traffic safety on the rural roads, the project would develop an Accident Blackspot Management System (ABMS) using the iMAAP software by TRL, UK, to identify and treat hazardous locations on such roads. She remarked that developing such a database at the DFR for management of road traffic crashes on rural unsealed roads would be the first of its kind across the globe and therefore pleaded with all stakeholders to express interest in the project to ensure a successful implementation. The Chairman then requested the Project Team Leader, Mr. Francis Afukaar, to present the inception report.

The Project Team Leader made a power-point presentation of the Inception Report highlighting the project background, project objectives, comments on the ToR, the partnership between the BRRI and TRL to bring international experience unto the implementation of the project and the activities to be carried out at the project inception phase. He stressed the research nature of the project and how the Task No. 1 enjoined the Consultant to review the international blackspot management systems to assess their suitability for Ghana as part of the inception phase and also to provide detailed methodology for executing the project. He took the participants through the various stages of the project activities highlighting the proposed ABMS Framework for the DFR, the detailed tasks to be performed and associated deliverables.

Some of the issues discussed after the presentation by the Team Leader included why the class of the feeder roads was limited to only the connectors and inter-district roads for the project; crash location referencing; weighting scores to be used for ranking crash severity; data collection process by the police; evaluation of the remedial measures for the identified blackspots and some un-coded feeder roads. Recommendations from the stakeholders have also been incorporated in this report.

2.0 MAIN DISCUSSION POINTS OF THE WORKSHOP

The key discussion points of the workshop and the suggestions for the way forward are presented in the sub sections below.

2.1 Road Functional Class

The methodology for the study proposed to study the inter-district and connector roads, which have relatively high traffic levels within the feeder road functional classification system. However it was proposed to include some critical access roads though they are within the lowest functional class with relatively low traffic volumes. The reason was to take advantage of the opportunity offered by the study to assess the magnitude of road safety hazards associated with the design of those categories of roads. It was therefore suggested for the DFR to compile a list of accesses with high traffic crash records within the three study regions for prioritization.

2.2 Crash Location Referencing

The study methodology is to adopt strip mapping as schematic representation of road features to show kilometer posts, road side landmarks such as fuel stations, streams, schools etc. as crash location reference. Concern for the accuracy of crash referencing by the Police due to their inability to develop strip maps for reported crash location was considered as an issue for the study. This is especially so because police only describe the crash locations in words by indicating road names and nearby landmarks in general terms without providing actual kilometre post locations. It was explained that in the absence of any alternate system to immediately improve the situation, strip maps prepared by the project team will help locate the crashes in relation to the kilometre posts on the roads, since every crash occurs in space and must be clearly identified on the road. The BRRRI hopes to address the issue of accuracy by upgrading the secondary crash data from the police with the use of both strip maps to locate exactly the crashes with their kilometre positions complemented by a GPS to establish geographic coordinates to ensure accurate geographical positions of crashes.

2.3 Availability of Road Line Diagrams in DFR's GIS Database

It was informed that there were line diagrams incorporated already in the DFR's GIS-based maps, which could provide key road side features which could be used in place of the proposed strip maps for the candidate roads. Copies of these were to be made available to consultants for review and suitability to the study requirements.

2.4 Clarifications on Road Traffic Crash Severity

It was clarified that the police have been trained on the basic definitions of what constituted either a fatal, serious, slight/minor or damage only crash with casualty follow-up's of about a month in hospitals before the final records on crash situations as fatal or injurious. Fatality crash in Ghana is reckoned as a crash where a victim dies on the spot or within 30 days from the occurrence of the crash and a serious crash as the one in which at least a crash victim is detained for treatment in the hospital for more than 24 hours. A minor crash, on the other hand, was that in which at least a crash victim was treated and discharged from the hospital within 24 hours of the crash. A damage only crash did not result in any injuries but only damage to property.

2.5 Consensus on Weighting on Crash Severity for Study Purposes

The house unanimously agreed on adopting the weighting scores of 5, 3 and 1 for fatal crashes, serious crashes and minor/damage only crashes respectively as proposed.

2.6 Application of First Year Rate of Return (FYRR)

The proposal to use the First Year Rate of Return (FYRR) in place of other methods to evaluate the proposed treatments was accepted on the basis of cost-effectiveness and simplicity as compared to other methods which are quite complicated, time consuming, requiring discount factors, sensitivity analysis, and the like.

2.7 Delayed Project Delivery Targets

The project is identified to be still on schedule despite a 4-week delay in the delivery of the workshop report since the workshop activity was not on the critical path. For example, the crash data collection from the police, coding and sorting of the data as well as strip mapping of the roads with crashes recorded on them are far advanced and are on course. The programme for the month of August had been submitted to the DFR management.

2.8 Un-coded Feeder Roads

It was brought to the fore that based on the work done so far by the BRRI it had been observed that some of the feeder roads did not have code numbers and that the Regional DFR Managers when contacted also could not be of assistance, since they did not have the codes. The DFR Management replied that where the Regional Managers were not able to deal with such challenges, the Head Office would be ready to assist in that regard. The DFR Director indicated that they have some list of overlapping roads being worked on by a Consultant and with the permission of the Ministry of Road and Highways (MRH), those lists could be given to the BRRI.

3.0 RECOMMENDED SUGGESTIONS AND CLOSING REMARKS

3.1 Some suggestions and recommendations

Some suggestions and/or recommendations made during the discussions included the following:

- Should the information on the GIS-based maps be adequate for the accident referencing and that if the strip maps were thus found to be no longer needed, then there should be a discussion with the DFR to consider incorporating the access roads identified with high road traffic crashes.
- To improve crash location referencing, a suggestion was made to equip the police (MTTD) personnel with smart phones with GPS applications to geo-reference future road traffic crash scenes. These GPS applications when enabled and connected to the phone's camera would establish the geo-coordinates of the crash locations when a photograph of the location is taken with the phone's camera.

4.0 CONCLUSION

The first stakeholders' workshop to discuss the inception report has duly taken place, albeit a little late. The Terms of Reference (ToR) are found to be comprehensive and adequate to address the road traffic safety management needs of DFR.

ANNEX 1 - List of participants at the Workshop

The list of those present at the workshop meeting is given below as:

1. F.O.M Digber	Director, DFR
2. Dr. K. Osafo Ampadu	Chief Engineer, Development, DFR
3. Dr. Paulina Agyekum	West Africa Regional Manager, AFCAP
4. Ing. Francis Kwaku Afukaar	Project Team Leader, BRRl
5. Ing. William Agyemang	Project Engineer, BRRl
6. Kwadwo Opoku Agyeman	Project Computer Analyst, BRRl
7. Simon Ntramah	Principal Technical Officer, BRRl
8. Herbert Koranteng	Chief Engineer/Head, Road Safety Unit, DFR
9. K.N. Akosah-Koduah	Chief Engineer, DFR
10. Nathan Odjao	Bridge Mat. Engineer, DFR
11. Jonathan Ofosuhene	Civil Engineer, DFR
12. Lanquaye Wellington	Civil Engineer, DFR
13. Kwabena Afrifa	Assistant Engineer, DFR
14. Eric Anyidoho	Quantity Surveyor, DFR
15. Mawusi Joseph Adekponya	Assistant Engineer, DFR
16. Kingsley OseiOwusu	Assistant Programmer, DFR
17. K. Omane-Brimpong	Principal Engineer, DFR
18. R.O. Otoo	Chief Engineer, DFR
19. S. Y. Banini	Principal Engineer, DFR
20. E. A. Gbadago	Principal Engineer, MRH
21. Balika Edmond M.	Assistant Engineer, MRH
22. Cynthia Anane	Principal Engineer, MRH
23. Randy Adu-Gyamfi	Quantity Surveyor, MRH
24. George Debrah	Principal Engineer, MRH
25. Neville Dodoo-Quartey	Engineer, DUR

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26. Inusah Adnan	Assistant Engineer, DUR
27. Charles Logan	Technician Engineer, DUR
28. Jones K. Duah	Assistant Engineer, DUR
29. Kwasi Tsibu Yirenkyi	Regional Manager, NRSC/Eastern Region
30. Linda Affotey-Annang	Planning Officer, NRSC/Central Region
31. S.R. Maison	Manager Road Safety Dept (RSD), GHA