

IMPORTANCE OF DATA IN ROAD SAFETY MANAGEMENT: THE NIGERIA EXPERIENCE



FEDERAL ROAD SAFETY CORPS
Road Traffic Crash Information System (RTCIS)

Welcome

Key amongst the dictates of the Federal Road Safety Corps is the Prevention / Minimization of Accidents on the nation's highway. In addition to Rescue Efforts during Road Traffic Crashes, the Commission has a Continuous Enlightenment programme for Road Users, the commission has been working with various Government Agencies both at the National and State level on ways to minimize Road Traffic Crashes. Aiding the provision of this advisory function, the commission mines in on Road Traffic Crashes which the commission mines in on Road Traffic Crashes. This system is designed to make the process of reporting Road Traffic Crashes more effective, efficient and user friendly.

by

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July, 2018

- **Introduction**
- *Why Crash Data Management System*
- *Crash Data Management Tools in FRSC*
- *Current Crash Data Management System in FRSC*
- **Challenges**
- *Way forward*
- **Conclusion**

INTRODUCTION

- The Federal Road Safety Commission is Nigeria's Lead Agency for road traffic administration and safety management
- FRSC main mandate is road traffic crash prevention and making roads safe for all categories of users



FRSC- VISION AND MISSION

Vision

Eradication of road crashes and create safe motoring environment in Nigeria

Mission

Regulate, Enforce and Coordinate all Road Traffic and Safety Management activities through:

- Sustained public enlightenment
- Promotion of stakeholder's cooperation
- Robust data management
- Improved vehicle administration
- Prompt rescue services
- Effective patrol operation



FRSC is also responsible for the establishing a reliable and credible database on road traffic administration and safety management in Nigeria.

In 2010, the United Nations launched the Decade of Action for Road Safety 2011-2020, aiming at stabilizing and then reducing global road accident fatality trends by 2020 has five strategic pillars to accomplish set goals

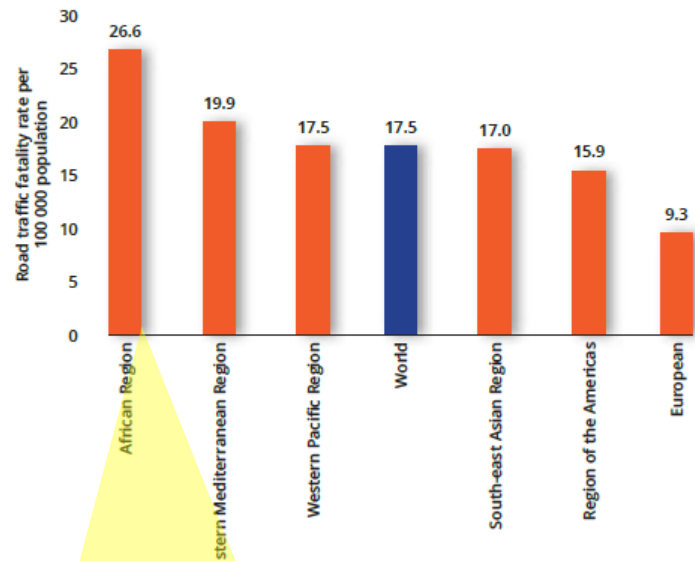
One of the strategic goals is Road Safety Management which necessarily is dependent on data management, and it is on this pillar that other goals are easily achievable.



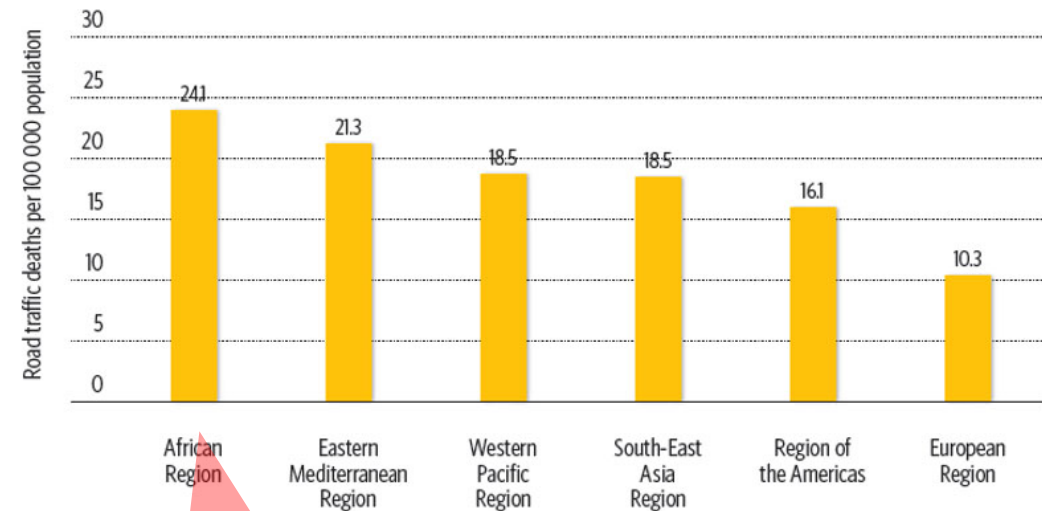
RTI - LESS DEVELOPED COUNTRIES (LDCs) MOST AFFECTED

Global traffic injuries is a worrisome health challenge
..... the situation is even worse in LDCs, with the situation very critical in Africa

Road traffic fatality rates per 100 000 population, by WHO region



26.6% of road traffic fatalities per 100,000 human population occurs in the African region - 2015 Global Status Report



24.1% of road traffic crashes per 100,000 human population occurs in the African region

TYPES OF DATA IN ROAD TRAFFIC MANAGEMENT

The data maintained by FRSC include ;

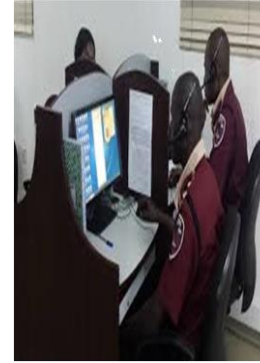
- Road Traffic Crash Data
- Road traffic law enforcement data
- Vehicle registration data
- Driver's Licence data
- Driving Schools data
- Fleet operators data
- Road Conditions and Traffic volume data
- Accident Investigation Data
- Road Safety Audit
- Hospital data

Data Management Tools in FRSC



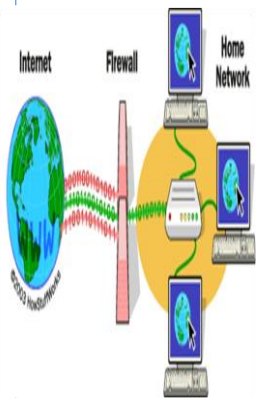
• Data Governance

Policies formulation and Decision making on analyzed data by FRSC Management



• Database operations management

Data Technology and support using different applications



• Data security management

using specific software solutions or hardware mechanisms to safe guard and maintain the integrity of FRSC Data



• Data sharing

Collaboration between relevant stakeholders for reconciliation and harmonization of Data

SYSTEM OF DATA COLLATION IN THE FRSC

Data in the FRSC is largely collated by the Patrol Teams and over 400 Data Information Officers (DIOs) nationwide.

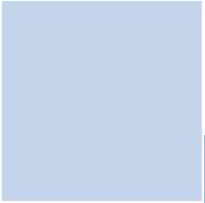
The Community first responder scheme is another initiative of the Corps to collate crash data from accident scenes through community volunteers.


The Corps has fashioned a system where - in the event of communication network or data failures - data could be captured and uploaded and later synchronised.


FRSC EFFORTS IN BUILDING ROBUST DATA MANAGEMENT SYSTEM IN NIGERIA

Having understood the importance of Data in achieving its mandate, The Corps consistently garner resources in building a robust data management system through reform programmes put in place.

CRASH DATA SYSTEM BEFORE REFORMS

- 
- Collation of data usually done annually, with little opportunity to identifying major situation requiring prompt interventions

- 
- Data usually collected in absolute figure , with scant regards for measurement in 100,000 population or per 10,000 vehicles

- 
- Data drilled down as to gender, time of crashes , types of casualties , not usually prioritized, thus making planning for specific interventions difficult

CRASH DATA REFORMS

REFORMS FOCUSED ON

Collection of data on daily basis and collated weekly, monthly, quarterly and annually, to aid prompt intervention before situation worsen

Data collation analyses made not only in absolute figure, but measured in 100,000 population or per 10,000 vehicles

Analysis to the nature of crashes in terms of routes most prominent, period when crashes are most frequent

Determining which type of vehicles caused the most crashes

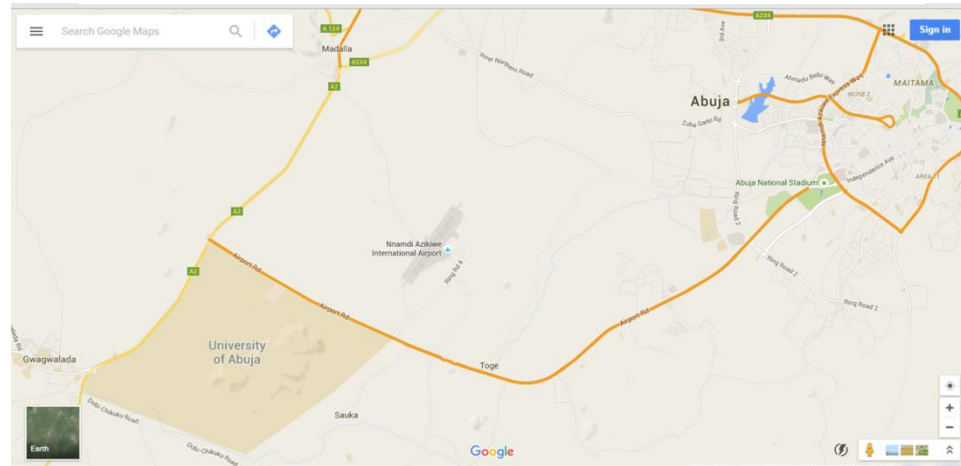
FRSC CRASH DATA SYSTEM

Measures
introduced in
building FRSC
Crash Data
System in
Nigeria

- Conscious effort made to build a modern crash data system
- Estab. of an ultra modern Call Centre & Toll Free number (122)
- Creation of Road Traffic Crash Information System
- Setting up of a Data Incident Management System
- Introduction of e- tablet for Enforcement & Traffic Crash Management
- Creation of Emergency Ambulances Point :31 Nos
- Building of Road Side Clinics : 27 Nos
- Infusion of FRSC into Primary Health Scheme & Training of Community Road Crash responders
- Introduction of System Application and Products (SAP)for data collection
- Introduction of a Business Intelligence Unit for analysis of traffic crash data for decision support

FRSC MODERN CALL AND DATA MANAGEMENT CENTER

Nigeria has over 204,394 km of road network and FRSC desires to be at every 50km radius of road network



Expanded Call Centre with State-of-the-Art technology

Incident Management Solution

122 FRSC Toll Free



112 National Emergency line

INCIDENT MANAGEMENT SYSTEM

The screenshot displays the Incident Management System (IMS) interface. At the top, there is a menu bar with options: File, View, Map, Asset, Help. Below the menu is a toolbar with icons for Properties, Send Msg, Poll, Configure, Outputs, Reports, Go To, Follow, Geofence, Track, Zoom Out, Zoom In, Back, Fwd, Icons, and Stops. A red banner at the top of the map area indicates "37457 New High Priority Messages" with options to "Show First New Msg" and "Show All".

The main map area shows a geographical view of West Africa, including Nigeria, Chad, Cameroon, Benin, Togo, and Ghana. The map is populated with numerous colored circular markers representing assets. A sidebar on the left lists the assets, with "HQ (20) BOARD CHAIRMAN" selected. The asset list includes:

- 5.5.38 (RE)
- HQ
- HQ (01-03) HOS ADIM
- HQ (02-02) DCM AHR
- HQ (03-02) DCM TSSD
- HQ (04) CLOG POOL
- HQ (04-04) RS
- HQ (05-02) DCM MVA
- HQ (08-03) ACM PRS
- HQ (11) PROTOCOL
- HQ (11-03) SACOMACE
- HQ (13-03) CS
- HQ (15) RS CMO
- HQ (20) BOARD CHAIRMAN**
- HQ (22-03) ACM F&A
- HQ (24) UTILITY BUS
- HQ (25) BOARD CHAIRMAN
- HQ (27) HOS MVA
- HQ (31) M/BENZ 1418 TRUCK
- HQ (32) CANTER TRUCK
- HQ (44) CPRO POOL

Below the asset list, the "Properties - HQ (20) BOARD CHAIRMAN" section shows the following details:

- Last Transmission: 01/12/2016 19:01:51
- Network: Cellular
- Last Position: 01/12/2016 19:01:51
- GPS Time: 01/12/2016 19:01:51
- GPS Signal: Estimated (old data)
- Speed: 0 km/h (old data)
- Heading: 000° (N) (old data)
- Latitude: 6.79950°
- Longitude: 3.43137°
- Location: 3333 km S of Algiers, Algeria

At the bottom of the interface, a status bar displays: "2016/12/02 14:41:14 (server) <RX> RS 09 P (415) ABAKILIK* Position Power Up".

Incident management solution at the Headquarters of FRSC help identify the nearest Ambulance close to the location of crash through 122

CRASH INFORMATION SYSTEM BUILT FOR COLLATION OF CRASH DATA

The Road Traffic Crash Information System (RTCIS)



FEDERAL ROAD SAFETY CORPS
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ELECTRONIC TABLET FOR ENFORCEMENT AND RESCUE ADMINISTRATION



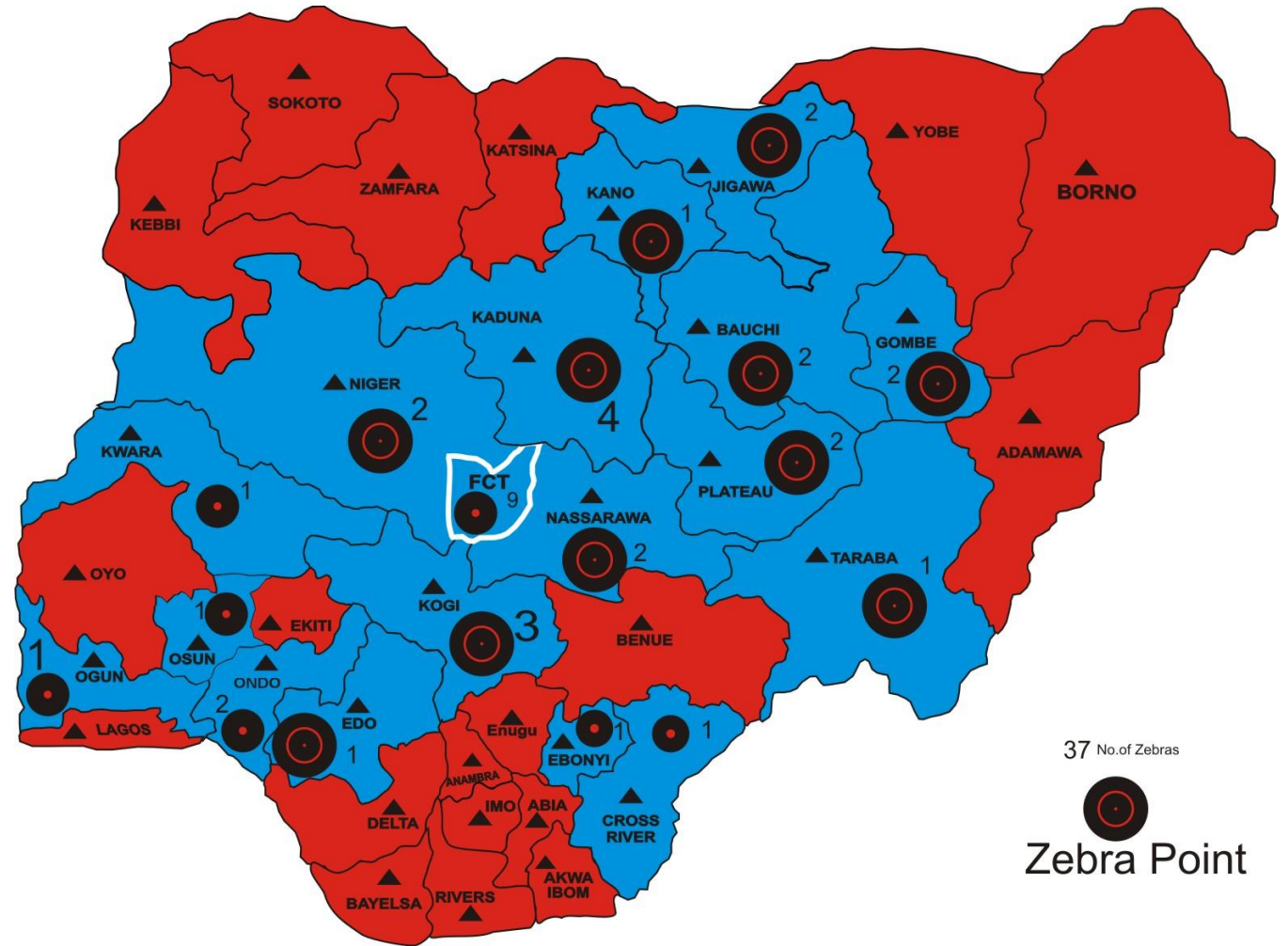
INTRODUCTION OF EMERGENCY AMBULANCES SYSTEM AND ROAD SIDE CLINICS

Each Ambulance point (Zebra) is supported by a dedicated team of Personnel and State of the Art Life Support Ambulance

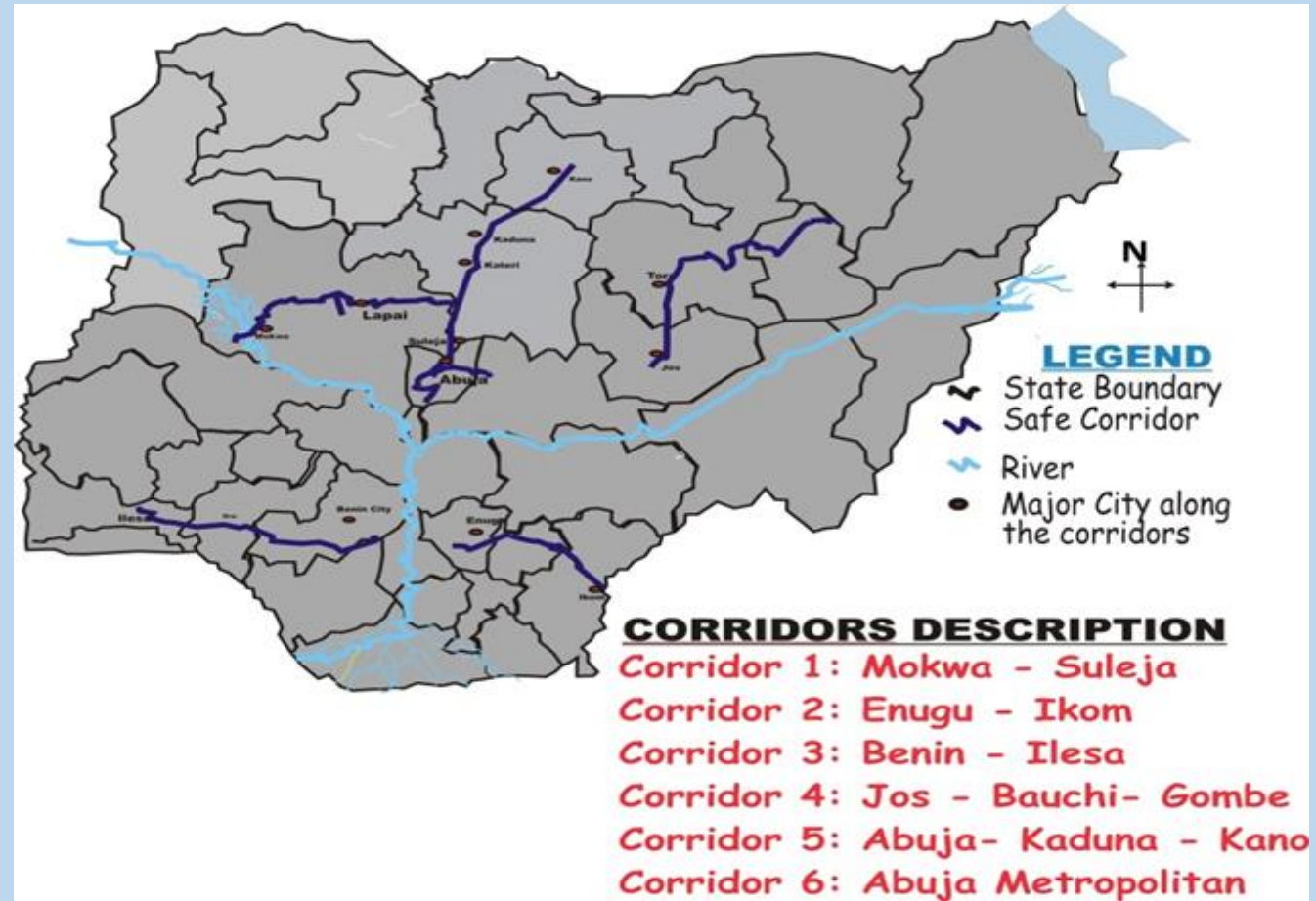


BUILDING A NETWORK OF AMBULANCES AND ROAD SIDE CLINIS - GOAL IS TO HAVE PRESENCE AT EVERY 50 KM APART

Following the successes recorded in the Pilot Scheme in Abuja, Emergency Ambulance Service Scheme (EASS) was replicated across the country



WORLD BANK SAFE CIRRIDOR PROJECT - GOAL IS TO REPLICATE PROJECT NATIOWIDE



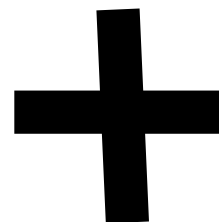
The Six (6) corridors was upgraded to 18 by the Corps

HARMONISING DATA THROUGH NARCIS

National Road Traffic Crash Information System (NARCIS) exists for data harmonisation



The National Bureau of Statistics takes lead in releasing national crash data



Efforts on to expand NARCIS to report all other injuries data like air , water and rail disasters

SUB-REGIONAL IMPACT OF DATA- THE CASE OF WARSO

Nigeria is a member of West Africa Road Safety Organization (WARSO) .

The organization has a target to reduce road crashes by 50%.

The first step towards achieving the target is to have credible and reliable data gathered by member states



MEMBERSHIP OF IRTAD TO MAKE NIGERIA CRASH DATA GLOBALLY RECOGNISED



**International
Transport Forum**



- To improve data collation and analysis , the World Bank secured a data expert to further work on improving road traffic data management in Nigeria with the introduction of the National Road Traffic Crash Data Management System (NRTCDMS)

Why Crash Data Management



For Africa, traffic injury is an escalating burden causing a vast amount of social and economic loss in terms of injuries, emotional harm, fatalities, loss of income and property damages, these can only be measured and mitigated through Data collection and analysis



Significant progress in road safety and crash reduction can be achieved through a comprehensive road safety information system. (Data Management)



A common factor of central importance in road safety management is the lack of accurate and comprehensive data related to road traffic crashes which is a prerequisite for accurate diagnosis of the road safety problems.

- Monitoring of trends in road traffic crashes to assess the effectiveness of new prevention policies.
- It allows for a useful account of the characteristics of traffic insecurity, helping the prioritization of effective interventions (identification of hot spots, vulnerable road users, regional variations, and so on).



- Examination of this detailed information can help identify key factors in crash causation, information that is critical in planning road safety actions.

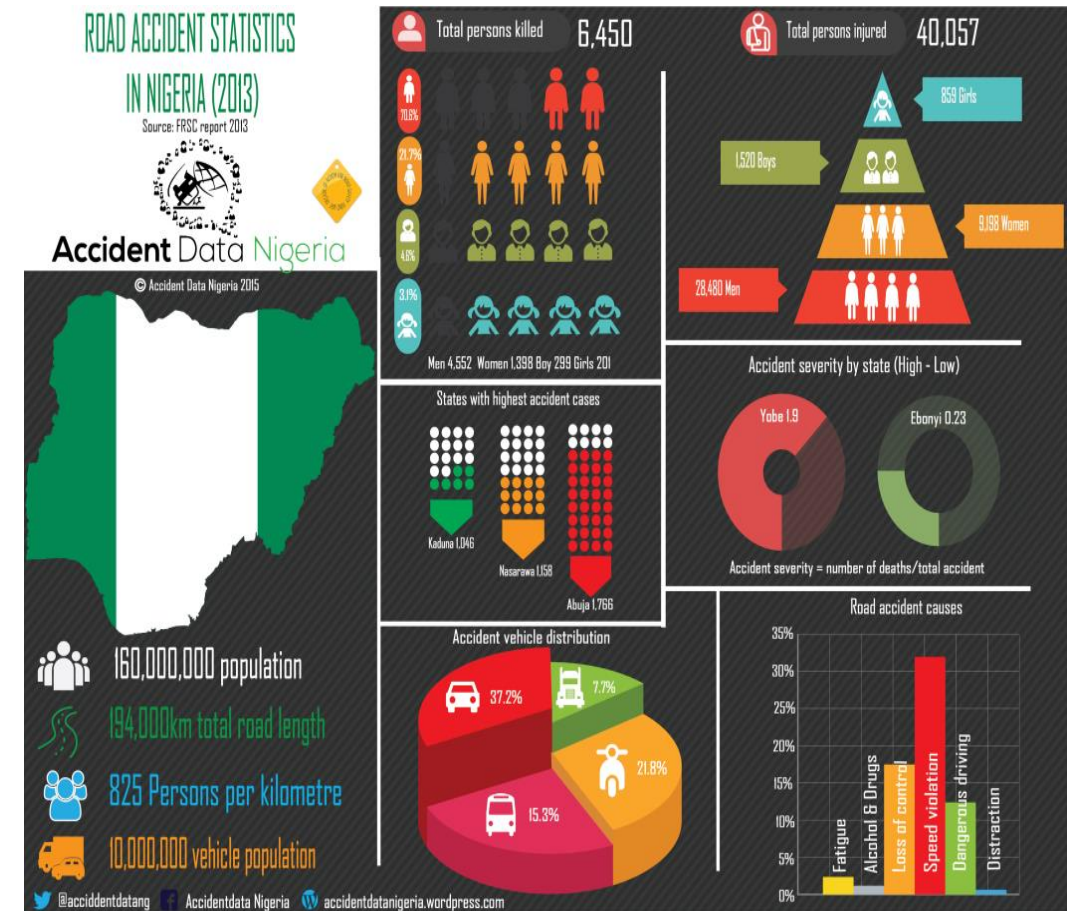
- Details of crashes at specific locations can also be used to plan engineering based solutions and enforcement initiatives.



National data is a major tool the WB, WHO and international donor agencies rely on to Determine the type and quantity of aid to offer to different countries.



- Issuing reliable figures through regular national or regional reports will help raise public awareness as well as advocating for the allocation of appropriate resources to road safety programmes.



Data assist in the development of remedial measures as well as evaluation of the effectiveness of road safety programs.



Different groups and organizations use road traffic crashes, related injuries and death data for various purposes.



CHALLENGES TRAFFIC DATA MANAGEMENT

Road Traffic data collection in Nigeria is hampered by the inability of all relevant agencies such as the Police, Hospitals, Ministries of health and the FRSC to harmonize the data collection templates employed by them.

**SCHEDULE 4
FORM MVA 24
FEDERAL REPUBLIC OF NIGERIA
ROAD TRAFFIC CRASH INFORMATION FORM
TO BE COMPLETED AT THE CRASH SCENE**

Regulation 192 (2)

1. COMMAND: ROUTE: LOCATION (BY 47 FOUR LANE): CO-ORDINATE: LONGITUDE: LATITUDE:

2. DATE: TIME OF CRASH: REPORT TIME: ARRIVAL TIME: CAUSE(S) OF RTC:

3. WEATHER CONDITION: 1. RAINY 2. CLOUDY 3. SUNNY 4. DUSTY 5. FOGGY 6. OTHER(S) (specify):

4. RTCTYPE: 1. RURAL 2. RIGID 3. RIGID ROAD TYPE: 1. STREET 2. SINGLE CARRIAGE 3. ONE-WAY 4. DUAL CARRIAGE DESCRIPTION OF LOCATION: 1. TRAFFIC SIGNAL 2. Y - JUNCTION 3. RING 4. MEDIAN 5. T - JUNCTION 6. ROUND ABOUT 7. CROSSROAD 8. SLOW 9. OTHER(S) (specify):

5. NATURE OF CRASH: 1. SINGLE 2. MULTIPLE

6. VEHICLE INFORMATION

S/N	VEHICLE CATEGORY	VEHICLE TYPE	VEHICLE MAKE	VEHICLE MODEL	REG. NUMBER	COMPANY/ORGANISATIONAL NAME
1.						
2.						
3.						
4.						
5.						

7. TYPE OF COLLISION: HEAD ON COLLISION REAR IMPACT LONG (CRASHED INTO AN OBJECT) LONG (CONFRONT) SIDE IMPACT

8. DRIVER(S) DETAILS

S/N	NAME	NOL No (s)	S/N	NAME	NOL No (s)
1.			1.		
2.			2.		

9. CASUALTY INFORMATION

AGE GROUP	+3		3 - 9		10 - 17		18 - 40		41 - 60		ABOVE 60		TOTAL	REMARKS*
	M	F	M	F	M	F	M	F	M	F	M	F		
DRIVER/RIDER														
PASSENGER														
PROSTRATEAN														
TOTAL														

AGE GROUP	+3		3 - 9		10 - 17		18 - 40		41 - 60		ABOVE 60		TOTAL	REMARKS*
	M	F	M	F	M	F	M	F	M	F	M	F		
DRIVER/RIDER														
PASSENGER														
PROSTRATEAN														
TOTAL														

10. ITEMS RECEIVED: See overleaf 11. NAMES OF CRASH VICTIMS: See overleaf

12. TYPE OF INJURY SUSTAINED: HEAD INJURY BURN SPINAL CORD INJURY LACERATION BRUISE FRACTURE SCALD OTHER(S) (specify):

13. FIRST AID ADMINISTRATION: No. of CASUALTY TREATED: HEMOSTASIS CARDIOPULMONARY RESUSCITATION(CPR)

14. HETEL REFERRALS: ROAD TRAFFIC CRASH CLINIC GENERAL HOSPITAL TEACHING HOSPITAL ORTHOPAEDIC OTHER(S) (specify):

15. PATROL/RESCUE TEAM LEADER: NAME: RANK: PIN: RSN: RSM No:

PHOTOGRAPH OF CRASH SCENE: (YES/NO)

COMMENTS/REMARKS:

Detach pic. HOSPITAL FOLLOW UP: ADDITIONAL DEATH AFTER

COMMAND: ROUTE: LOCATION (BY 47 FOUR LANE): NAME OF HOSPITAL: SCHEDULE 4 FORM MVA 24

DATE: TIME OF CRASH: REPORT TIME: ARRIVAL TIME: DEPT OF HOSPITAL:

1ST WC: 2ND WC: 3RD WC: TOTAL DEATHS WITHIN 30 DAYS:

No. of AMPUTEE: NAMES OF HOSPITALIZED VICTIMS: See overleaf HOSPITAL PHONE No:

(*) e.g Under-Age Driver, Physically Challenge Driver e.tc



❑ Multiple entries, by rescue teams of the FRSC and the Police, is another data issue experienced in Nigeria, especially as regards to crash data

❑ Low Technological Development in Patrol Operations: The Country ought to have reached the level of deploying speed and surveillance cameras in major towns, cities and on busy corridors nationwide to aid enforcement



□ We also presently rely on Cell phones as a form of communicating First Information Reports (FIRs) whereas VHF and UHF radios would have been cheaper and more effective.

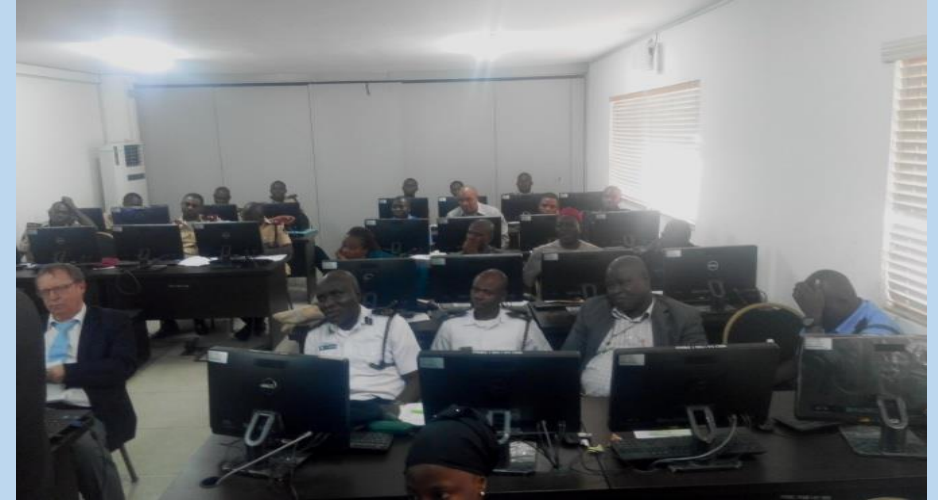


FINANCE : Finance is a major issue, the bulk of FRSC finance comes from Government budgetary provision and with many other competing needs of governance, the money is never enough. The private sector financing of road safety projects is still low



TACKLING DATA CHALLENGES IN NIGERIA: EFFORTS OF THE FEDERAL ROAD SAFETY CORPS

The National Crash Report Information System (NACRIS) is now harmonizing data from all the sources.



E-TABLETS FOR DATA COLLECTION IN REAL TIME

With the introduction of E-ticketing in 2013, the FRSC also launched the Road Traffic Crash information System (RTCIS) application for crash data collection in real time



E-DASHBOARD

- The e-dashboard is a weekly Executive Summary of FRSC operation which provides a concise report of activities of all components of the Corps


- The FRSC Dashboard is available only to people who have been given access to update data, amend data or view reports




NATIONAL ROAD TRAFFIC CRASH DATA MANAGEMENT SYSTEM:

The World Bank sponsored National Road Traffic Crash Data Management System (NRTCDMS) has helped in the development of a harmonized road traffic data in Nigeria.

Stakeholder Analysis

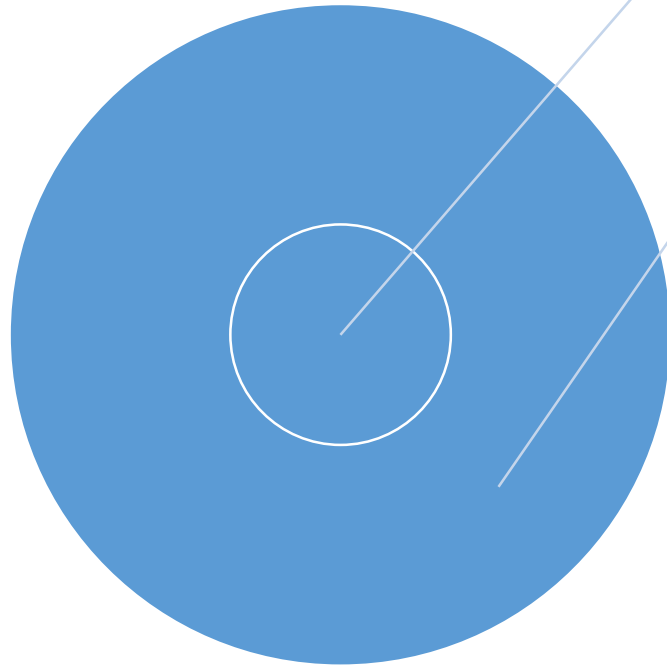


A stakeholder analysis involves identifying organisations and individuals who have (or should have) a role in the collection and use of road safety data.



Critical stakeholders include police, transport agencies, health departments and others.

Assessment of Data Sources



An assessment of data sources is required to determine what information is already collected, and the quality of the data.

This is often a significant problem in many countries.

End-user Assessment

An end-user assessment involves understanding who the key users are and, how these key stakeholders use the information.



This knowledge will help improve the usability of the data.

DATA AS VERITABLE TOOL FOR REGIONAL INTEGRATION

Since it is agreed that there is a strong synergies among transport, economic growth, and poverty reduction, an efficient and well-functioning transport sector that will facilitating transit of international imports and exports along regional corridors and integrating economic development in a holistic manner remains key to Africa's development efforts, road traffic data collection and banking becomes a major vehicle.

Therefore, there is need across board for:

- i. Improvement in data collection and management
- ii. Encouragement in establishment of more regional road safety blocs
- iii. Data and experience sharing among nations (8 Regional Economic Communities)
- iv. Technical exchanges
- v. Continuous assisted World Bank capacity development
- vi. Effective and efficient use of data for road safety management policy purposes
- vii. General developmental improvement and sustainability

CONCLUSION

The importance of Data, efficient analysis and deployment of outcomes for road safety management decision makers cannot be over-emphasized. Nigeria, through the FRSC, will ensure establishment of a comprehensive, reliable and dependable road traffic crash database in Nigeria.

Already, efforts are on-going to upgrade the FRSC Academy to a degree awarding institution and Center of Excellence in road safety management in Africa. The country is equally ready to give technical assistance to nations that so require.

It is hoped that, with continuous strides in road safety management, balanced and effective data management, Nigeria will certainly achieve the objectives of the UN Decade of Action 2011 – 2020 and other domestic economic targets, and place Nigeria among the league of nations with the safest roads in the world.

CONCLUSION

As we are gathered here once again to chart the way forward in road safety management, it is our hope that our efforts will yield desired fruit in no distant time.

Nigeria, through the FRSC will continue to ensure establishment of a comprehensive road crash database in Nigeria. Already, efforts are on-going to upgrade the FRSC Academy to a degree awarding institution and Center of Excellence in road safety management in Africa. The country is equally ready to give technical assistance to nations that so desire.

It is hoped that, with continuous strides in road safety management, balanced and effective data management, Nigeria will certainly achieve the objectives of the UN Decade of Action 2011 – 2020 and other domestic economic targets, and place Nigeria among the league of nations with the safest roads in the world.

CONCLUSION

As we move forward in good practice in road safety management therefore, we desire that the entire African continent move in unison for better regional socio-economic development.



Safety starts with
you

THANK YOU

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