



OFFICE OF THE AUDITOR-GENERAL FOR THE FEDERATION
PERFORMANCE AUDIT REPORT OF THE AUDITOR-GENERAL
FOR THE FEDERATION ON
MONITORING OF THE MAINTENANCE OF FEDERAL ROADS IN NIGERIA

BY
THE FEDERAL ROADS MAINTENANCE AGENCY (FERMA)



SEPTEMBER, 2020

AUDITOR-GENERAL'S MESSAGE

22nd October, 2020.

**The President of the Senate,
The Speaker, House of Representatives,**
Federal Republic of Nigeria,
National Assembly Complex,
Abuja.

Performance audit on Monitoring of the Maintenance of Federal Roads in Nigeria by the Federal Roads Maintenance Agency for the period 2016 – 2018: Submission of Audit Report

In accordance with Section 85(2) of the Constitution of the Federal Republic of Nigeria, 1999, as amended, and the Financial Regulations 109(d), 2009, I have undertaken a performance audit on Monitoring of the Maintenance of Federal Roads in Nigeria by the Federal Roads Maintenance Agency (FERMA) for the period 2016 – 2018 and hereby submit the report. We conducted our audit in accordance with the International Standards of Supreme Audit Institutions for Performance Auditing (ISSAI 3000). This standard requires that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

My Office intends to carry out a follow-up audit at an appropriate time in future regarding actions taken in relation to the recommendations in this report.

I would like to thank my staff: The Team members made up of: Mr Stephen Uwamah (Team Lead), Mrs Salome Kalba, and Mr. Maro Ojaide; the Supervisor, Mr Shaakaa K. Chira; and the Director, Programmes and Performance Audit Department, Dr Adewale Owolo, FCA, who undertook this audit. I would also like to thank the staff of FERMA for the assistance offered to my staff during the period of the audit.

**ANTHONY MKPE AYINE, FCA
AUDITOR-GENERAL FOR THE FEDERATION**



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LIST OF ABBREVIATIONS AND ACRONYMS

A&HRD	- Administrations and Human Resources Department
DFID	- Department for International Development
F&A	- Finance and Accounts
FERMA	- Federal Roads Maintenance Agency
FRME	- Federal Roads Maintenance Engineer
FMW&H	- Federal Ministry of Works and Housing
FMPW&H	- Federal Ministry of Power, Works and Housing
FRSC	- Federal Road Safety Corps
JICA	- Japanese International Cooperation Agency
M&E	- Monitoring and Evaluation
MIS	- Management Information System
NARTO	- National Association of Road Transport Owners
NIAF	- Nigeria Infrastructure Advisory Facility
NURTW	- National Union of Road Transport Workers
RE	- Resident Engineer
RMMS	-Road Maintenance Management Services
RSDT	- Road Sector Development Team
RTEAN	- Road Transport Employers Association of Nigeria
ZC	-Zonal Coordinator

DEFINITION OF TERMS

Constituency Project:	Any project that is conceived, designed or executed within a legislative constituency with the collaboration, input or influence of the legislator(s) representing that particular constituency in the legislature.
Direct Labour:	This consists of small scale works executed directly by staff of the Agency's field offices using money remitted to them for that purpose by the Agency Headquarters; they are usually cost effective.
Evaluation:	An analysis or interpretation of the collected data which delves deeper into the relationships between the results of the project/programme, the effects produced by the project/programme and the overall impact of the project/programme.
Geo-political zone:	The six geopolitical zones of Nigeria is a major division in modern Nigeria. Nigerian economic, political and educational resources are often shared across the zones.
Inspection:	Physical examination of the road and assessment of its condition.
Inventory:	A record of the basic characteristics of each section of the road network or other assets being managed.
Management:	This refers to the executive arm that is responsible for the running of the day to day activities of the Agency, including executing its mandate.
Monitoring:	A periodically recurring task of systematically checking the condition of federal roads before, during, and after maintenance. Monitoring involves checking progress against plans. The data acquired through monitoring is used for evaluation.
Pavement:	This refers to the portion of a highway surfaced with asphalt or concrete and designed to accommodate many vehicles. It consists of the carriageway and shoulder.
Periodic Maintenance:	Maintenance activities which are required only at intervals of a number of years
Planning:	This involves an analysis of the road system as a whole, typically requiring the preparation of long term, or strategic or estimates of expenditure for road development.

Road Condition Survey: This involves the collection of road surface, pavement and appurtenances, information on the entire network for the purposes of road maintenance in accordance with some well-defined criteria and the processing of the field data to rate the condition of the network as a means of evaluating the effect of the maintenance intervention on the road network condition. Road Survey and/ or inspection have been interchangeably used in this report.

The Act: FERMA (Establishment) Act, 2002, as Amended.

The Agency: This refers to the Federal Road Maintenance Agency (FERMA). It is used interchangeably with the acronym FERMA in this report.

Work Supervision: This involves supervision for quality of work and reporting of work accomplished. It entails using set out techniques for work measurement and determination of quantities of work accomplishment.

EXECUTIVE SUMMARY

Road infrastructure is a catalyst for economic diversification and inclusive National Development. Out of the estimated 194,200km national road network, 34,120 kilometres (representing 17.6%) are Federal roads with asset value of N2.214tn¹ (representing over US\$7 Billion). In order to ensure an efficient and effective road maintenance management, the Federal Government, through the Federal Roads Maintenance Agency (FERMA) (Establishment, Etc.) Act, 2002, relieved the then Federal Ministry of Works, now known as the Federal Ministry of Works and Housing (FMW&H), of the duty of maintenance of all federal roads in Nigeria and established FERMA to carry out that function. By its mandate and functions, FERMA is responsible for monitoring and maintenance of all Federal roads in Nigeria.

Over the years, FERMA has been faced with performance problems leading to calls by the Federal Legislature to scrap the Agency. This is mainly because to date, out of the three (3) main categories of road maintenance (namely, Routine Maintenance, Emergency Repairs, and Periodic Maintenance) to be primarily undertaken by the Agency as provided in FERMA's Operations Manual, FERMA has been basically undertaking Emergency maintenance, i.e. maintenance work was carried out to repair sudden failures on the road. This is despite government's effort, through different interventions, such as the amendment of FERMA Act to provide additional funding through a 5% user charge on the pump price of petrol and diesel, of which 40% will accrue to FERMA, and the procurement of numerous maintenance equipment and asphalt plants located at the six (6) geo-political zones of the country and the FCT, the monitoring and maintenance of federal roads by FERMA has been basically on emergency basis, thereby leaving out the routine and periodic maintenance functions that would have prevented sudden failures of the federal highways.

Road infrastructure development, including construction and maintenance is one of the four (4) key United Nations (UN) Sustainable Development Goals (SDG)-influencing programmes/activities of the Federal Government of Nigeria as encapsulated in its Economic Recovery and Growth Plan (ERGP) for 2017-2020. Sequel to this, the Federal Government has in recent years embarked on some Federal road interventions to restore degraded sections of the

¹ FERMA Operations Manual, First Edition (Page 3, Distribution of National Road Network)

Federal highway network to improve connectivity and thus, enhance economic activities across the different regions of the country.

In view of some key Federal Government road intervention programmes over time, the Auditor-General for the Federation decided to undertake a performance audit on the area of monitoring of road conditions and the maintenance of Federal roads in Nigeria to ascertain challenges faced by FERMA and recommend possible measures to address them.

The overall objective of the audit was to assess to what extent FERMA has achieved its mandate of proper and efficient monitoring of the maintenance of all federal roads in Nigeria. The audit covered the period of three financial years from 2016 to 2018, while the main audited entity was the Federal Roads Maintenance Agency (FERMA). The audit focused on the federal road maintenance activities undertaken by the Agency, with special emphasis on Monitoring of road conditions and Evaluation of road maintenance projects.

The audit reviewed the performance of FERMA, focusing on the areas of Planning, Process, and Procedure; Human Resources with Technical Skills; Deployment of Equipment for Monitoring and Maintenance of Federal Roads in Nigeria; as well as Monitoring and Evaluation of Maintenance of Federal Roads in Nigeria.

Three main methods were used to make the evidence collected more substantial and reliable. They are: document reviews, interviews, and physical inspection/observations.

Specific Audit Findings

The following specific areas were identified as needing urgent improvement in the Agency's road maintenance management operations.

- a) Planning, Process, and Procedures for Monitoring and Maintenance of Roads
- b) Human Resources with Technical Skills
- c) Project vehicles
- d) Deployment of Monitoring Equipment
- e) Needs Assessment for the procurement of Asphalt Plants
- f) Ineffective Monitoring and Reporting

- g) Prioritization of Federal Roads for Maintenance
- h) Utilization of Road and Observation Service Camps
- i) Access to Statutory Funding of 5% User Pump Price of Petrol and Diesel

General Audit Findings

Road maintenance is of three (3) main categories, namely: Routine Maintenance, Emergency Repairs, and Periodic Maintenance. Responses from interviews of staff and management of FERMA and document reviews revealed that FERMA, rather than carrying out the full scale road maintenance works as provided in its Operations Manual, most commonly carried out Emergency maintenance for the years 2016 to 2018, i.e. maintenance work was carried out to repair sudden failures on the road. The Agency attributed this to poor funding by the Federal government. However, inability of the Agency to provide reliable operational and financial reports of Monitoring and Evaluation activities for the years under audit proved that there was no proper routine monitoring to forestall sudden failures of the federal roads.

Specific Audit Conclusions

Plans, Processes, and Procedures for Monitoring the Maintenance of Federal Roads

FERMA's road maintenance projects will lack quality and Value for Money if:

- ❖ Management fails to develop strategic plans, with measurable goals and targets and
- ❖ FERMA does not have a Road Monitoring and Evaluation Policy guideline.

Human Resources with Technical Skills

FERMA's road maintenance operations nationwide will suffer poor execution due to poor Monitoring and Evaluation if the MD/CEO fails to promptly obtain the necessary clearance to recruit the approved number of technical staff with requisite competences.

Project vehicles

If FERMA Management does not prioritise its investment in Federal road assets maintenance to include ensuring that there is a minimum of two (2) serviceable project vehicles for each State office and one (1) serviceable project vehicle for each Zonal office, the officers at the State and Zonal offices sampled, each of which had only one serviceable project vehicle, will be unable to

conduct effective pre- and post- maintenance monitoring and the Management will continue to lack reliable data on the condition of Federal roads for effective planning and decision making.

Deployment of Monitoring Equipment

FERMA will lose stakeholders' and international development partners' support due to a largely qualitative and subjective method of monitoring and evaluation and lack of reliable and up-to-date road inventory and road condition database that can facilitate efficient decision making, if the Agency does not have sufficient monitoring equipment and fails to fully and effectively deploy the donated equipment in monitoring road condition and maintenance.

Needs Assessment carried out in procuring Asphalt Plants

The current actions being taken by FERMA on the sum of over N1,085,000,000 (One Billion and eighty-five Million Naira) wasted on procurement of Asphalt plant not needed, will not yield sustainable result and Nigerians will continue to suffer ineffective and poor quality monitoring and evaluation of the maintenance of Federal roads and bridges in Nigeria due to misplacement of priority, except the MD/CEO unveils the parties responsible for the loss of government funds in the failed procurement and ensures that they are prosecuted to serve as a deterrent.

Ineffective Monitoring and Reporting

- ❖ FERMA will better ensure Value for Money in its maintenance of Federal roads and bridges across Nigeria if the Agency establishes Monitoring and Evaluation strategy that drives overall road maintenance operations.
- ❖ FERMA will attract stakeholders' partnership and support with a Monitoring and Evaluation strategy founded on Performance Measurement and Multi-level monitoring and reporting

Prioritisation of Federal Road Maintenance

Proper and effective Monitoring of Federal Trunk roads in Nigeria will continue to suffer if FERMA does not stop the use of Federal Government funds to maintain State and Local Government roads.

Utilization of Road and Observation Service Camps

FERMA will continue to face sudden failure of federal roads due to lack of timely and reliable data and information on the condition of federal roads and bridges across Nigeria, except it fully utilises the road camps constructed across the States of the Federation, by deploying technical

personnel to man them and to produce weekly road condition reports to aid Management planning for efficient service delivery.

Access to Statutory Funding of 5% User Pump Price of Petrol and Diesel

FERMA will continue to lack adequate funding to carry out proper monitoring and evaluation, if its Board and Management fail to take practical steps to follow up on Mr President's 2011 Approval and directives for the implementation of the deduction of the 5% user's charge of petrol and diesel pump price.

Audit Recommendations

Planning, Processes, and Procedures for Monitoring and Maintenance of roads.

FERMA Managing Director/CEO should:

- a) Immediately develop a strategic plan with significant buy-in from major stakeholders, especially the parent ministry, FMW&H.
- b) Ensure a needs-based planning and programming of activities; and
- c) Ensure strict compliance with set plans and procedures for road maintenance.

Human Resources with Technical Skills

The MD/CEO should obtain the necessary clearance from the Budget Office of the Federation and ensure strict compliance with the other conditions stated in the Approval for the recruitment of the new staff with technical skills and competences.

Project vehicles

FERMA and FMW&H should prioritize investment in Federal road assets maintenance to include procuring and deploying a minimum of two (2) project vehicles for each State office and one (1) for each Zonal office for effective pre- and post- maintenance monitoring and reporting on Federal roads across the country.

Deployment of Monitoring Equipment

- ❖ As a maintenance Agency, FERMA should be a role model in maintenance of government assets in its custody. It should, therefore, repair, maintain and fully deploy equipment acquired or donated to it for a more structured, quantitative evaluation that will facilitate efficient decision making.
- ❖ FERMA Management should fast-track the transition from a largely qualitative road condition assessment to a more structured quantitative approach.

Needs Assessment for the Procurement of Asphalt Plant

- a) The MD/CEO of FERMA should further investigate the circumstances surrounding the project with a view to unveiling those responsible for the loss of over N1,085,000,000 (One Billion and eighty-five Million Naira) government funds.
- b) The MD/CEO should ensure that all the parties responsible for the loss of government fund are prosecuted in order to recover government fund.
- c) The Board and Management of FERMA should ensure that no capital project is embarked upon without needs assessment and evaluation.

Ineffective Monitoring and Reporting

FERMA should institutionalise Value for Money Principle and Monitoring and Evaluation Strategy by:

- ❖ fast-tracking the approval of a Monitoring and Evaluation Manual that will govern the monitoring and evaluation functions of the Agency,
- ❖ as a matter of policy, establishing what exactly constitutes the Agency's Performance Indicators, to enable more specific and measurable assessment of the Agency's performance,
- ❖ ensuring a multi-level monitoring and reporting, and
- ❖ ensuring that monitoring reports include critical indicators such as Traffic Crash Data, Travel Times Records, comparative records of Planned and Actual length of roads repaired/maintained, etc.

Prioritization of road maintenance

FERMA should stop spending funds meant for federal roads on those that are not.

Utilization of Road and Observation service camps

FERMA MD/CEO should put measures in place to deploy adequate number of technical personnel to properly man the road/observation camps, with weekly road condition reports submitted to Federal Roads Maintenance Engineers (FRMEs) to aid planning for efficient service delivery.

Access to statutory funding of 5% User Pump Price of petrol and diesel

FMW&H and the Board of FERMA should prevail on PPPRA to implement the provisions of Section 14(1)(h) of FERMA (Amendment) Act, 2007, to enable the Agency to carry out proper, effective monitoring and evaluation of full-scale routine, periodic, and emergency maintenance of federal roads in Nigeria.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Audit

Roads are important national assets and must be regularly maintained because they are essential for movement of people, goods and services, which contribute to overall economic growth by providing jobs through facilitating commerce and industry. According to Nigeria Highway Manual, Highway maintenance is the preservation of a road in safe and satisfactory condition for conveyance of traffic at all times. Thus, a good road, according to FERMA's Head Monitoring and Evaluation Unit, is measured by these key indicators, namely: Safety, Comfort, and Timeliness.

FERMA's Operations Manual (First Edition), states that, out of the "estimated 194,200km national road network with an estimated asset value of N4.567tn, 34,120km (representing 17.6%) is Federal roads with asset value of N2.214tn (representing over US\$7 Billion). The State roads account for 30,500km (15.7%) with estimated asset value of N1.261tn while the local and rural road cover 129,580km (66.7%) for N1.092tn. The Federal roads network carries 70% of freight and services 90% of the socio-economic activities in the country." However, according to an Editorial in the Punch Newspaper of 21st July, 2019, "of Nigeria's 195,000 kilometres of roads, says the Infrastructure Concession Regulatory Commission, 135,000km are un-tarred; 32,000 km of the total are federal roads; 31,000km are owned by the State Governments and the rest by the Local Governments."

The major part of federal road infrastructure development in Nigeria took place between 1970 and 1982. Most of the roads were constructed with a life span of between 10 and 15 years without a follow-up maintenance structure to keep the roads in good and safe condition. By 1982, those roads that were constructed in 1970 had completed their functional lifespan while those completed in 1982 ended their optimal performance lifecycle between 1992 and 1995. In other words, by 1995, most of the roads constructed during the oil boom years had collapsed. According to the Editorial in the Punch Newspaper of 21st July, 2019, "Nigeria's roads are not only inadequate; they are in a terrible shape, epitomising the ugliness of dilapidated national

infrastructure. The World Bank says only about 30,000km of all roads in Nigeria are actually paved.”²

According to Engineer Kabir Abdullahi, FNSE, former Managing Director/Chief Executive Officer of the Federal Roads Maintenance Agency (FERMA), in an interview granted on February 1, 2011 to the Economic Confidential, an Abuja-based Nigerian News Magazine, “there was a maintenance department (Highways Department of the then Federal Ministry of Works) which was responsible for the maintenance of federal roads, but the problem started when the money meant for maintenance was being diverted to construction.” In order to ensure fast response to road damage by bypassing the red tape of the Ministry, and to make it a separate entity for the maintenance of federal roads, the Agency was created. As at the time the Agency was established, about 70 per cent of the federal roads were totally in very bad shape, therefore the Agency had to engage in some repairs and also their maintenance.³

Road maintenance generally involves routine and periodic maintenance of roads, monitoring whether there are stresses on the roads and bridges, and repairing and maintaining them. The works involved include preventive, corrective, routine, or programmed. They include pothole patching, pavement strengthening, crack sealing, etc.⁴ Road monitoring is essential to ensure that the originally constructed condition of the road is preserved, adjacent resources and user safety are protected, and efficient, convenient travel along the routes is provided. Monitoring and Evaluation is supposed to provide the framework for effective feedback (reporting) on FERMA’s mandate of maintenance of Federal roads and bridges across the country.

1.2 Motivation for the Audit

According to a Punch Newspaper Editorial published on 21st July, 2020, “road infrastructure, according to World Highways, makes a crucial contribution to economic development and growth; provides access to employment, social, health and educational services; helps fight poverty and stimulates social development. The World Economic Forum says “roads are the routes through which the economy thrives.” Nigeria especially relies on road transport by over

² <https://punchng.com/ferma-poor-funding-poor-road-maintenance/>

³ <https://economicconfidential.com/2011/02/funding-is-major-challenge-to-road-maintenance-md-ferma>
<https://punchng.com/ferma-poor-funding-poor-road-maintenance/>

⁴ FERMA Deputy Director/Head, Monitoring and Strategy (Response to audit interview, 3rd June, 2019)

75 per cent, the Federal Road Safety Commission reported, and should therefore maintain its roads.” <https://punchng.com/ferma-poor-funding-poor-road-maintenance/>.

According to a Sun Newspaper online column by Ben Okezie, “every year, unsubstantiated statistics of road accidents and casualties are released by the FRSC despite the fact that many of such deaths are never reported. Thousands are also maimed due to bad roads. The common man makes use of public transport for every trip, and to evacuate agricultural products. The road is the only way for the masses to move from one point to another. Today, the roads have become a death trap. The roads have become a harbinger of insecurity across the country.” <https://www.sunnewsonline.com/bad-roads-and-insecurity/> 3rd October, 2019. **“Everybody is paying for this: from the bent rims and broken springs of vehicles, to the high cost of transportation, to high level of insecurity and to the subtle cost of loss of foreign investment.”** <https://punchng.com/ferma-poor-funding-poor-road-maintenance/>

The Road Traffic Crashes (RTCs) and fatalities across the country, as reported by the Federal Road Safety Corps (FRSC) for the years under audit, have been agitating over the years and call for concerted effort to curb the trend. There were 9,694 reported road traffic crashes in 2016; 9,383 in 2017; and 9,741 in 2018. Those crashes resulted in 5,053; 5,121; and 5,181 deaths for the respective years above. According to the FRSC analyses of the causative factors of the crashes in the 3 years above, an average of 1% of the RTCs was caused by bad roads.

The National Assembly between 2016 and 2018 made moves to scrap the Federal Roads Maintenance Agency (FERMA). Apart from national media reports of motions by the Senate and House of Representatives in The Guardian of 6th December, 2016 and Africa Independent Television (AIT), on 28th November, 2017 to scrap FERMA for lack of capacity, and faulting the process of awarding contracts for road projects, saying that most of the Agency’s equipment were lying fallow; the National Assembly enacted the Federal Roads Authority Bill, 2017 (still awaiting Mr President’s assent), for an Act to repeal the FERMA (Establishment, Etc.) Act, 2002 (As Amended) and to establish the Federal Roads Authority to provide for the ownership, regulation, Management, and development of the federal roads network.

It was against this background that the Auditor-General for the Federation decided to carry out a Performance Audit on FERMA’s Federal roads maintenance operations for the years 2016 to

2018 to ascertain challenges faced and suggest possible recommendations to address these challenges.

1.3 Audit Objective

The overall objective of the audit was to assess the extent FERMA has achieved its mandate of proper and efficient monitoring of the maintenance of all Federal roads in Nigeria.

- To ascertain whether FERMA has established plans and processes for proper monitoring of Federal roads.
- To assess to what extent FERMA's Monitoring and Evaluation is carried out by staff with technical skills, such as Professional Engineers and Road Technicians.
- To assess whether FERMA has the required equipment to monitor all federal roads in Nigeria and are able to put them into use.
- To ascertain whether FERMA has actually been reporting its monitoring activities in accordance with established plans, principles, and procedures, providing necessary data/information to support effective road maintenance management.

1.4 Audit Scope

The audit centred on the Federal Roads Maintenance Agency, with main focus of assessing measures put in place by FERMA over the years for monitoring and evaluation of pre and post maintenance work of Federal Roads in the country. The areas covered were the 6 geo-political zones of the country and FERMA's twelve (12) operational zones and thirty-eight (38) field offices. The period covered by the audit was 2016 to 2018. These financial years were selected because they are most recent to provide the auditors with current information and data about the Agency's activities.

1.5 Audit Criteria

The major Audit criteria against which the performances of FERMA were assessed include:

Plan, Process, and/or Procedure for Monitoring and Maintenance of Roads

Section 4.4 of FERMA's Operations Manual, states that "Monitoring and Evaluation is an important responsibility and strategy which the Agency shall adopt for forward planning and

monitoring of the Federal roads, as the best way to keep road maintenance costs low and timely....” Section 8(d) of FERMA Establishment Act, as amended, requires that the Agency “shall plan and develop strategies towards ensuring efficient and effective movement of traffic on the federal trunk roads and ensure their implementation.”

Human Resources with Technical Skills

Section 1(4) of FERMA’s Establishment Act, 2002, as amended, requires that “The Agency shall maintain Operational Offices in each State of the Federation, which shall establish road camps for proper monitoring and maintenance of all Federal Roads.” Similarly, Section 5.5.1 – 5.5.4 of FERMA Operations Manual states that, in the execution of road maintenance project, the Agency’s supervisory team for any of these road maintenance modes shall consist of the Resident Engineer; Support team, comprising Engineers and Technical assistants; FRME; and the Zonal Coordinator, who is responsible for ensuring that the maintenance objectives are achieved.

Project vehicles and other road Monitoring and Maintenance equipment

Project vehicles

Section 5.7.2 of FERMA’s Operations Manual requires that “A minimum of two (2) Project vehicles shall be provided for each State office and 1 for each Zonal office for monitoring of roads maintenance projects within their State and Zone. Provision shall be made for hiring additional vehicles when need arises.”

Deployment of Monitoring Equipment

The international best practice for road condition monitoring and pavement/road testing is an objective machine measurement. This approach uses the International Roughness Index (IRI), which categorizes road condition into Excellent 0 - <2, Good 2.0 – 3.5, Fair 3.5 – 5.0, Poor 5.0 – 8.0, and very bad >8.0. This approach automatically tells the right quality of the pavement.

Needs Assessment for Procuring Asphalt Plants

Section 18(a - d) of the Public Procurement Act, 2007 states that “a procuring entity shall plan its procurement,

- Preparing the needs assessment and evaluation;
- Identifying the goods, works or services required;
- Carrying appropriate market and statistical surveys and on that basis prepare analysis of the cost implications of the proposed procurement;
- Aggregating its requirements whenever possible, both within the procurement entity and between procuring entities, to obtain economy of scale and reduce procurement cost.”

Monitoring and Evaluation of Federal Roads

Reporting of Monitoring and Evaluation activities

Section 4.4 of FERMA’s Operations Manual states that Monitoring and Evaluation shall give up-to-date details and Knowledge of the road system and their maintenance needs.

Prioritisation of Federal Roads for Maintenance

Section 6.3. FERMA Operations Manual states that the Federal roads shall be prioritized using the following criteria: Trunk/interstate, Access road to Airports, ports, railway stations, depots, Refineries, and Average Daily Traffic on the trunk and condition score.

Utilisation of Road and Observation Service Camps

Section 1(4) of FERMA’s Establishment Act, 2002, states that “The Agency shall maintain Operational Offices in each State of the Federation, which shall establish road camps for proper monitoring and maintenance of all Federal Roads.”

Access to Statutory Funding of 5% User Pump Price of Petrol and Diesel

Section 14(1)(h) of the Federal Roads Maintenance Agency (Amendment) Act, 2007, expanded FERMA’s sources of funding to include 5% user charge on pump price of petrol, diesel and of which 40% will accrue to FERMA and 60% to be utilized by established State Roads Maintenance Agencies. In order to ensure effective implementation of the statutory provision, Section 2(2)(iv) of the same Act adjusted the composition of the Board of FERMA to include a representative of the Petroleum Products Pricing Regulatory Agency (PPPRA).

1.6 Audit Methodology

1.6.1 Sampling methods Used

The audit team used non-probability sampling method⁵ to select Directors and Management staff interviewed at FERMA Headquarters, as well as FERMA State offices visited for physical inspection and interview. This method was used because it was impracticable to conduct probability sampling, considering the security challenges (insurgency, banditry, and kidnapping) in Zones/States of the country and the fact that not all the Management staff or operations staff were directly involved in the subject matter being audited. Thus, a combination of quota and purposive/judgmental sampling methods were adopted in selecting the Zones and States visited for data collection and the FERMA officers who were interviewed and to whom questionnaires were administered, based on their technical skills and experience in monitoring of maintenance of federal roads. In-depth interviews were held with FERMA MD/CEO and 12 Directorate Staff, including 2 Zonal Co-ordinators; 12 FRMEs; 15 REs; 46 Operational Staff; 4 contractors; and 3 FRSC officers, making a total of 93 interviews (see Appendix 3). The quantitative data from the questionnaires, interview, and documents reviewed were analysed using descriptive statistics to show the trends and patterns of the budgeting and funding of FERMA, Federal road conditions, staff distributions, etc. and to make conclusions on the state of Monitoring and Evaluation of road maintenance by FERFMA. Qualitative data from the interviews were analysed qualitatively and used to interpret/explain the quantitative data/information from questionnaires, documents reviewed, etc.

The team visited 13 out of the 38 field offices across the six geopolitical zones of the Country (see Appendix 4). These field offices were selected because the Federal Roads that pass through them have huge economic importance and benefit to the country. The team also inspected two Asphalt plants located in Wajari in Gombe State and Ijora in Lagos State to verify their existence and condition against the information contained in the documents provided to auditors and reviewed at FERMA Headquarters.

⁵ Non-probability sample does not involve random selection. Auditor relies on his own professional judgment when choosing members of population to participate in the study (e.g. quota and purposive sampling).

1.6.2 Methods for Data Collection

The audit team collected both qualitative and quantitative data in order to provide strong evidence regarding the monitoring and maintenance of federal roads in Nigeria by FERMA. The team used different methods to gather information from audited entity in assessing whether the monitoring and maintenance of federal roads in Nigeria were properly and efficiently carried out. The audit team used document review, interviews, and physical inspection/observation as detailed below:

(a) Document Review

The audit team reviewed various documents from the Agency, the FMPW&H, and the Federal Roads Safety Commission. Although, the audit specifically covered 2016 – 2018, reviewed documents were not restricted to the period. This was deliberately done in order for the audit team to have understanding of relevant historical and current issues affecting the subject matter of the audit. This method was used to corroborate information received from other Sources. The documents included Policies, Manuals/Guidelines, Reports, Proposals, Researches and Evaluations. Categories of documents reviewed and reasons for their reviews are detailed in **Appendix 2**.

(b) Interviews

A total of ninety-three (93) interviews were conducted with key management staff of the Agency at the Headquarters, including the Managing Director/Chief Executive Officer, and the State field offices, The interview was conducted with the aim of understanding how monitoring and evaluation worked in the Agency, with special emphasis on the technical skills of staff of the Agency, deployment of modern monitoring and maintenance equipment, and reporting of both pre- and post-monitoring of works carried out. See details in **Appendix 3**.

(c) Physical inspection/ observation

The audit team observed the maintenance works by the Agency at the Abuja-Keffi road, Nasarawa State and Lagos-Badagry-Seme Dual Carriage way, Lagos State. The team also inspected FERMA's Asphalt plants at Wajari in Gombe State and Ijora-Olopa, Lagos State. Physical inspection of roads was to establish the process of monitoring maintenance, while observation of the asphalt plant and equipment was adopted in order to gather first hand

evidence of their existence, establish their status, and to ascertain their impact on the efficient and effective monitoring of maintenance of federal roads.

1.6.3 Methods for Data Analysis

The audit team analysed data gathered through document review, interview, and physical inspection, by separating and grouping them into qualitative and quantitative data so that they could be easily analysed using different approaches.

Quantitative data were analysed by organising, summarising and compiling using software for data analysis such as spreadsheets and different statistical methods of data computations. The analysed data were presented using data tabulations in tables, graphs, charts and percentage distribution. The presented data were then explained to answer the 'what' and 'how many' questions.

Qualitative data were described, compared and related so that they could be extracted and explained in order for the data to be contended. The analysis involved looking for categories such as events, descriptions, consistencies or variances so as to develop theory from the gathered data.

CHAPTER TWO

MONITORING OF THE MAINTENANCE OF FEDERAL ROADS BY FERMA

2.1 Background

Prior to the establishment of the Federal Roads Maintenance Agency (FERMA), the Federal Ministry of Works, now known as the Federal Ministry of Power, Works, and Housing (FMPW&H) was responsible for the entire road management, including designing, planning, construction, and maintenance of federal roads. However, in order to ensure an efficient and effective road maintenance management, the Federal Government established the Federal Roads Maintenance Agency (FERMA) on the 30th day of November, 2002, through FERMA (Establishment) Act, 2002. The Agency is a parastatal under the Federal Ministry of Works and Housing (FMW&H). It is responsible for monitoring and maintenance of all Federal trunk (about 36,000km)⁶ roads in Nigeria.

FERMA started implementing its mandates in 2003. The primary function of the Agency, according to the Act, is to ensure efficient and effective maintenance of all federal roads in Nigeria. The Agency is required by its establishment Act to maintain Operational offices in each State of the Federation, which shall establish road camps for proper monitoring and maintenance of the roads.

FERMA's Operations Manual broadly categorised the Agency's road maintenance works into the following:

- Routine/Preventive Maintenance,
- Emergency Repairs, and
- Periodic/corrective Maintenance.

The road maintenance activities of the Agency are implemented by two (2) major means, namely: by Contract and by Direct Labour.

⁶ Repositioning FERMA: Plans and Progress by Engr Nuruddeen A. Rafindadi FNSE, FA Eng

Vision and Mission Statements

Vision

“To become the most efficient road maintenance management organization that will enhance the economic wellbeing of Nigerians and promote their interests locally and internationally.”

Mission

“To efficiently administer road maintenance with the objective of keeping all federal roads in good, safe and comfortable condition for the best value in road transport.”

2.2 Functions and Powers of FERMA

Outlined below are the functions and powers of FERMA as provided by FERMA (Establishment, Etc.) Act, 2002, as Amended.

- i. ensure efficient and effective maintenance of all existing Federal trunk roads or such other roads as may be declared, from time to time, as Federal trunk roads by the National Assembly,
- ii. shall:
 - enter into road concession contracts for the purpose of executing relevant projects;
 - set guidelines for the working of concessions contracts;
 - plan and manage the development and implementation of the road safety standards;
 - plan and develop strategies towards ensuring efficient and effective movement of traffic on the Federal trunk roads and ensure their implementation;
 - make policy recommendations to the Federal Government on matters relating to the maintenance of Federal trunk roads;
 - establish road camps for proper monitoring and maintenance of all Federal roads, and
 - carry out such other activities as appear to it necessary or expedient for the full and efficient discharge of its functions under the FERMA establishment Act.

2.3 Administrative Structure

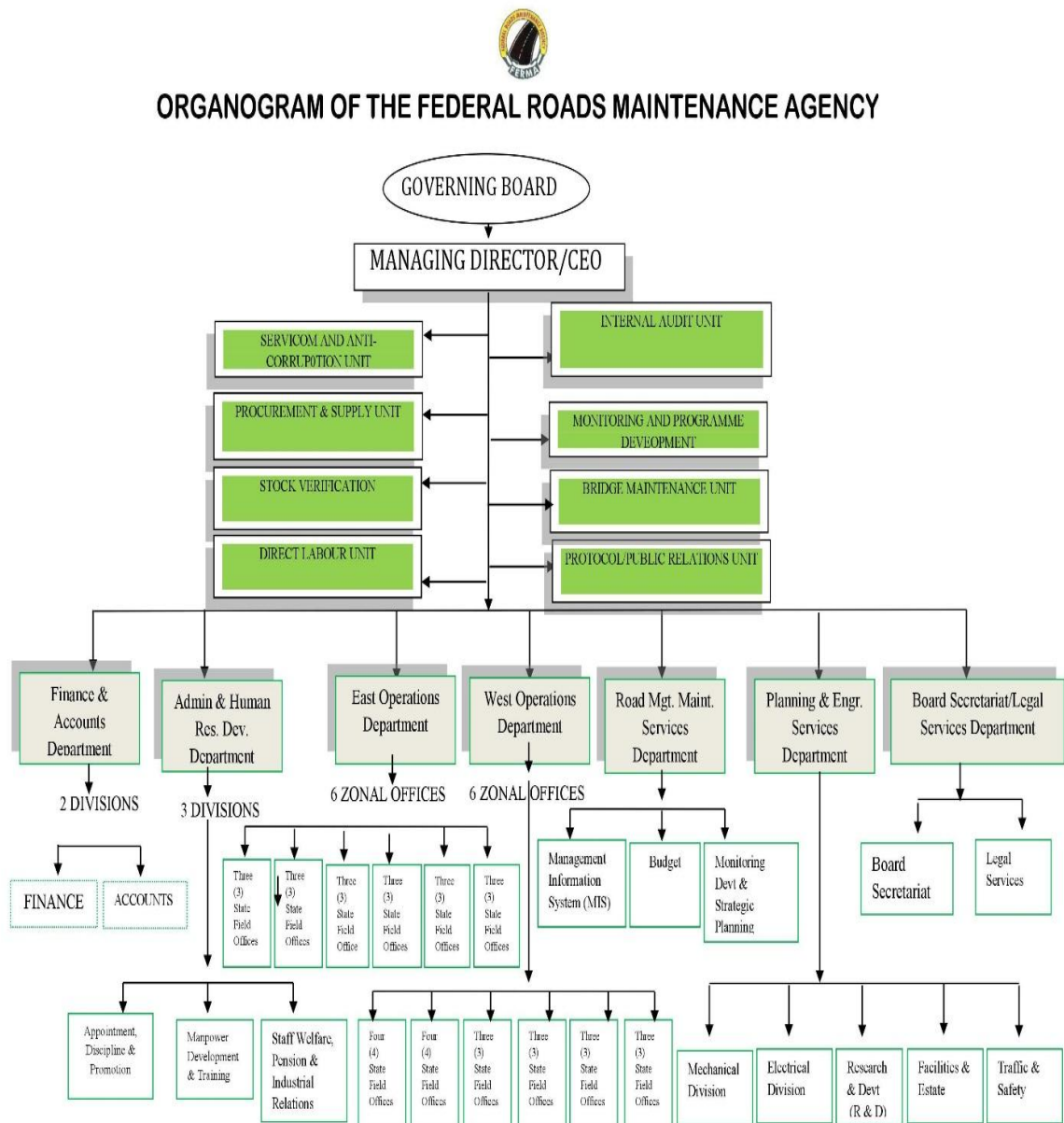
FERMA has a 3-tier management structure, with the Governing Board at the top, followed by the Executive Management, and then the Regional/Zonal/State Management at the bottom⁷. These 3 management tiers drive the operations of a national collection of roads maintenance and management operatives, ranging from engineers, builders, technicians, administrators, accountants, lawyers etc. The Agency has an office in each of the 36 states of the Federation, with each headed by a Federal Roads Maintenance Engineer (FRME), who is expected to be a senior engineer.

For operational expediency, however, FERMA divided the Federation into twelve (12) operational zones, each managed by a Zonal Director overseeing a minimum of three (3) States each. Zonal Directors are (expected to be) very Senior Engineers in the Directorate Cadre. They supervise the Federal Road Maintenance Engineers (FRMEs), who directly report to them.

Each of the Zonal Directors reports to a Head of Department (HoD) in charge of their operations. FERMA has two (2) Heads of Departments in charge of its operations, one for the East Operations and the other for the West Operations. These two HoDs, alongside other HoDs, with the Director of Legal Services, Director of Procurement, and Secretary to the Board, constitute the Executive Management of the Agency. See **Figure 2.1** for details.

⁷ FERMA Operations Monitoring Report 2018, page 4

Figure 2.1: Organogram of the Federal Roads Maintenance Agency (FERMA)



Source: FERMA Operations Manual, page 25

2.4 System and Process Description

Maintenance and repairs of federal roads are carried out by the Agency's road maintenance team at the various State Field Offices, while maintenance works of bigger magnitude are contracted out to contractors/firms who are registered with the Agency.

The FRME of the different States are responsible for identifying, and thereafter assessing the scope of the maintenance works required to be executed on the federal roads within their

domain. Proposals for the repairs are forwarded to the Agency's Headquarters through the respective ZC for approval. When approval is granted, the maintenance works commence by whatever procurement type chosen, with the FRME supervising such works.

FERMA's Operations Manual provides that the Agency shall undertake the maintenance (Routine, Periodic, and Emergency maintenance) of all federal roads using any of the following modes of road maintenance:

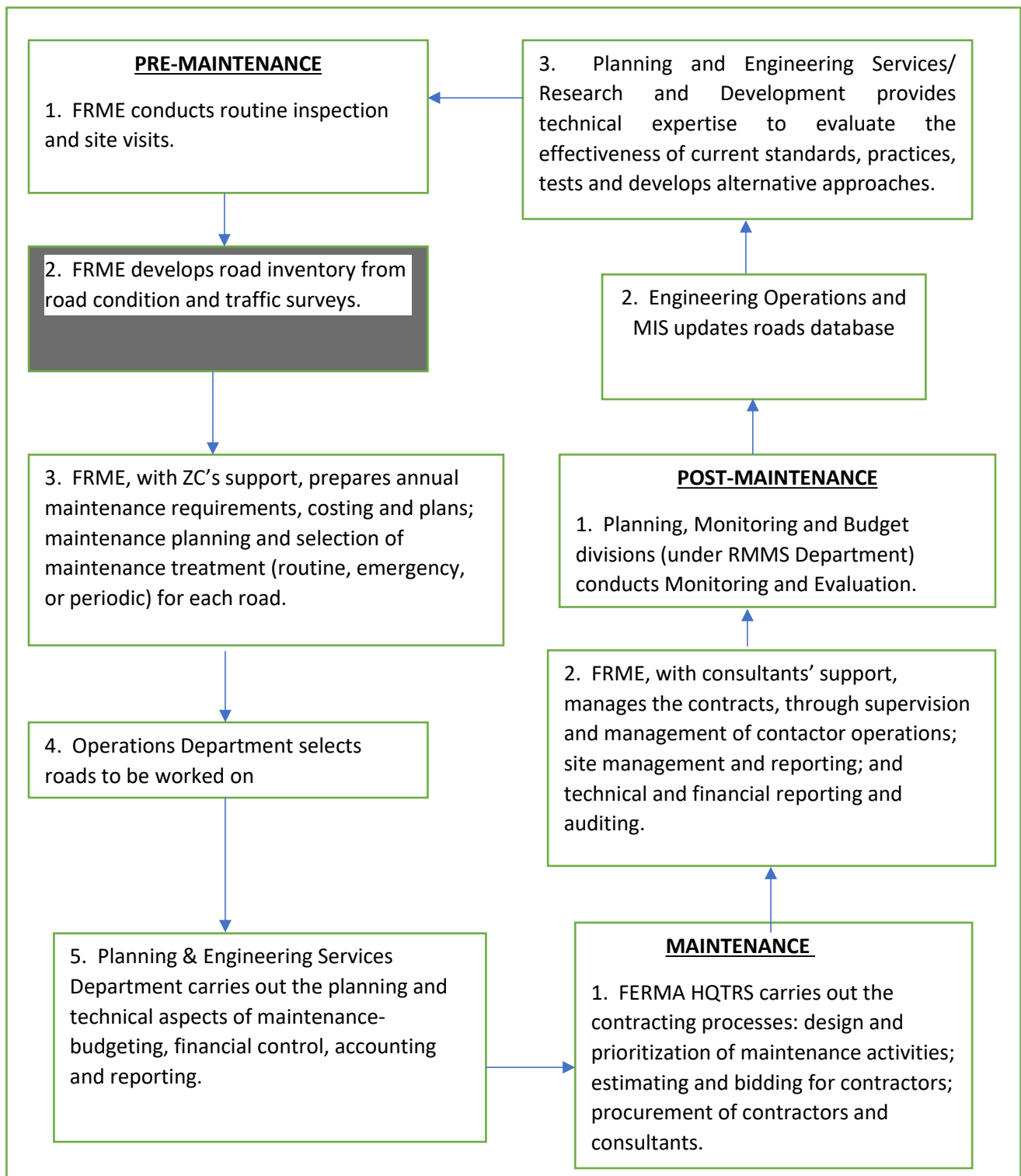
- i. Direct Labour;
- ii. Regular Contract;
- iii. Output and Performance-Based Road Maintenance;
- iv. Concession Programme.

All components of Road maintenance, such as road pavement, drainage, bridges, vegetation control, electrical, signage and road marking across the country, shall be assessed and prioritized on needs and funding bases⁸. Monitoring and Evaluation is at the centre of these components, whether the maintenance work is by Direct Labour or Contract and whether it is Routine, Periodic, or Emergency.

⁸ FERMA Operations Manual (First Edition, para. 7, page 66)

See Figure 2.2 below for FERMA’s Road Maintenance Process flowchart, with monitoring as an integral part.

Figure 2.2: FERMA’s ROAD MAINTENANCE PROCESS FLOWCHART



Source: Auditors’ analysis of Table 5, FERMA Operations Manual, page 67

Explanatory notes

The above flow chart depicts the processes involved in the maintenance of Federal roads, with monitoring and evaluation activities, starting from the Pre-maintenance stage to the Post-maintenance stage.

Pre-maintenance monitoring

Monitoring activities of FERMA originate from the State offices (including the FCT), where the Federal roads pass through. The Federal Roads Maintenance Engineers (FRMEs) are in charge of FERMA's State offices, and the Operations Manual provides that they conduct routine inspection of the Federal roads and site visits. The Manual also requires them to develop road inventory from their road condition and traffic surveys, which, with the input and support of the Zonal Co-ordinators (ZCs), forms the basis for the Agency's periodic road maintenance work plan, costing, and budgeting.

Maintenance Monitoring

Once roads to be worked, either by contract or direct labour, have been selected by the Operations Departments at FERMA HQTRS, FRME manages and supervises the maintenance works, as well as reports on the works and sites. Here, Monitoring is integral part of the Site management and reporting. The report is transmitted to the HQTRS through the Zonal Office.

Post-maintenance Monitoring

According to the Operations Manual, the Planning, Monitoring and Budget divisions of RMMS Department from FERMA HQTRS should conduct Monitoring and Evaluation after each maintenance work. The monitoring and Evaluation report generated should provide the information with which the Engineering Operations and MIS divisions develop road database which is transmitted to the Planning and Engineering Services Department for evaluation, analysis and/or interpretation for FERMA's operational and strategic planning for efficient service delivery.

From the above Flowchart, it can be seen that the Monitoring and Evaluation function of FERMA is a multi-level activity that should be carried out by many Units and Divisions.

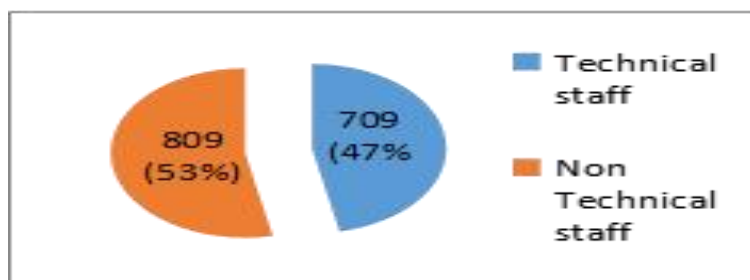
2.5 Staffing

Availability of the technical personnel is important, as it can be linked with the general technical performance of the system. Performance of the system is also influenced by the number of people assigned to operate and maintain it. FERMA had 1518 staff as at 31st May, 2018. Out of this number, 709 staff (representing 47%) are technical staff to monitor and maintain the federal roads across the 36 States in the country and the Federal Capital Territory (FCT), while 809 (representing 53%) are non-technical staff. See **Table 2.1 and Figure 2.3**.

Table 2.1: FERMA's Staff strength as at 2018

Total Number of Staff	Technical staff	Non-Technical staff
1518	709	809

Figure 2.3: Distribution of FERMA Staff Skills as at May, 2018



Source: Nominal Role of FERMA (2016 – 2018) and Repositioning FERMA: Plans and Progress by Engr. Nuruddeen Rafindadi.

2.6 Financing and Budgeting

The total amount appropriated by the Parliament (NASS) for FERMA to carry out Monitoring and Evaluation and Maintenance of Federal roads and bridges for the three (3) years 2016 – 2018 was N71,923,859,509.00 (Seventy-one billion, Nine hundred and twenty-three million, Eight hundred and fifty-nine thousand, Five hundred and nine naira). Of this amount, the sum of N978,785,147.00 (representing 1.36%) was budgeted for Monitoring and Evaluation. In addition, the sum of N721,592,135.00 (Seven Hundred and twenty-one million, five hundred and ninety-two thousand, one hundred and thirty-five naira) was Special intervention appropriated by the NASS for FERMA to execute Federal road maintenance projects at the various constituencies of the lawmakers. This special intervention did not specify how much was allocated for Monitoring and Evaluation out of the entire sum. Thus, the sum of

N72,645,451,644.00 (equivalent to \$238,181,809) was allocated to FERMA for Monitoring and Evaluation and Maintenance of roads and bridges for the years 2016 to 2018. See Table 2.2. However, actual funding (cash releases) to FERMA for its operations was different. While the budgetary Appropriation Act clearly spelt out allocations due to FERMA for Maintenance of roads and bridges and the allocations for Monitoring and Evaluations, the capital expenditure warrant for the actual releases to FERMA for the years 2016 – 2018 totalled N42,504,063,587.31 (Forty-two Billion, five hundred and four Million, sixty-three thousand, five hundred and eighty-seven naira, thirty-one kobo) for all capital development projects, including fund for the Agency to carry out Maintenance of Federal roads and bridges and Monitoring & Evaluation and fund for general procurement of other capital projects. The Agency was expected to use its discretion to utilise the funds according to priority of needs. The Special intervention Appropriation of N721,592,135.00 for constituency road projects was, however, fully funded; thereby making a total cash release of N43,225,655,722.31 (Forty-three Billion, Two hundred and twenty-five Million, Six hundred and fifty-five thousand, Seven hundred and twenty-two naira, thirty-one kobo) for all FERMA’s capital projects for the years 2016 to 2018. See Table 2.3 below.

Table 2.2: FERMA's BUDGETARY APPROPRIATION FOR MONITORING AND MAINTENANCE OF ROADS & BRIDGES

YEAR	MAINTENANCE OF ROADS & BRIDGES (A)	MONITORING & EVALUATION(M&E) (B)	TOTAL APPROPRIATION (C) = (A) + (B)	SPECIAL ALLOCATION FOR CONSTITUENCY PROJECTS(D)	TOTAL BUDGETARY ALLOCATION (E) = (C) + (D)	% of M & E TO TOTAL APPROPRIATION (F) = (B/C X100)
	NGN	NGN	NGN	NGN	NGN	%
2016	20,826,998,448.00	828,334,111.00	21,655,332,559.00	171,000,000.00	21,826,332,559.00	3.83
2017	19,459,260,954.00	20,072,000.00	19,479,332,954.00	433,092,135.00	19,912,425,089.00	0.10
2018	30,658,814,960.00	130,379,036.00	30,789,193,996.00	117,500,000.00	30,906,693,996.00	0.42
Total	70,945,074,362.00	978,785,147.00	71,923,859,509.00	721,592,135.00	72,645,451,644.00	1.36

Source: Auditors’ analysis of Financial information of FERMA for 2016 to 2018

Table 2.3: ACTUAL FUNDING (CASH RELEASES) TO FERMA FOR ALL CAPITAL PROJECTS

YEAR	ALLOCATION FOR CONSTITUENCY PROJECTS	ALLOCATION FOR CAPITAL PROJECTS	TOTAL FUNDS RELEASED AND UTILISED
	NGN	NGN	NGN
2016	383,092,135.00	13,054,194,102.00	13,437,286,237.00
2017	221,000,000.00	11,441,240,670.56	11,662,240,670.56
2018	117,500,000.00	18,008,628,814.75	18,126,128,814.75
Total	721,592,135.00	42,504,063,587.31	43,225,655,722.31

Source: Auditors' analysis of Financial information of FERMA for 2016 to 2018

2.7 Roles and Responsibilities of key players and stakeholders

For the purpose of road maintenance and monitoring of Federal Roads, the following were identified as playing one role or the other to facilitate the work of the Agency:

Key Players

i. Federal Ministry of Power, Works and Housing (FMPW&H)

This is the supervising Ministry of FERMA. The FMPW&H constructs federal roads and hands over the completed and commissioned roads to FERMA for monitoring and maintenance. The Ministry is also responsible for presenting FERMA's budget to the Parliament for approval.

ii. The Parliament (National Assembly)

The National Assembly is responsible for making laws concerning FERMA. It also approves FERMA's annual budget.

iii. Federal Road Safety Corps (FRSC)

This is the body responsible for ensuring safety of roads. The FRSC supplies data/statistics of accident flashpoints and distress areas. The Agency also enforces guidelines for the use of roads to ensure that the roads achieve their optimal cycle of 15 to 20 years in good condition before rehabilitation.

iv. The Office of the Accountant General of the Federation (Federal Ministry of Finance)

This office releases approved budgetary allocations to FERRMA for it to deliver its mandate.

Stakeholders

i. Road Sector Development Team (RSDT)

This is an independent unit under the FMPW&H that manages funds from donor agencies for road development, maintenance and institutional capacity building.

ii. Transport Organisations (NARTO, NURTW, RTEAN, etc.)

These are transport Unions and Organizations whose members use the roads on commercial basis.

iii. International Bilateral and Multilateral bodies and Development Agencies

They include the World Bank, Department for International Development (DFID), African Development Bank (AfDB), Japanese International Cooperation Agency (JICA), USAID, ECOWAS, German Agency for International Cooperation (GIZ), European Development Fund (EDF), etc.

iv. State Governments.

The State Governments own the land in the States where Federal roads pass through. Some State Governments, such as Edo State, Kwara State, and Delta State, have entered into some partnership with FERMA for the maintenance of Federal roads within their States.

CHAPTER THREE

FINDINGS

3.1 Introduction

This chapter presents the findings of the audit. The findings focus on the extent to which FERMA has used the instrument of Monitoring to achieve efficient and effective maintenance of Federal roads in Nigeria.

3.2 Specific Findings

The following specific areas were identified as needing urgent improvement in the Agency's road maintenance management operations.

3.2.1 Plan, Process, and Procedure for Monitoring the Maintenance of Roads

Section 4.4 of FERMA's Operations Manual, states that "Monitoring and Evaluation is an important responsibility and strategy which the Agency shall adopt for forward planning and monitoring of the Federal roads, as the best way to keep road maintenance costs low and timely...." Section 8(d) of FERMA Establishment Act, as amended, requires that the Agency "shall plan and develop strategies towards ensuring efficient and effective movement of traffic on the federal trunk roads and ensure their implementation."

Audit noted through document reviews that FERMA neither developed a Road repair/maintenance plan nor had a specific standard or policy for Monitoring and Evaluation. There was, for instance, no road maintenance investment program/plan to be implemented for the next 5-10 years, showing the analysis of the impact on the environment, society, and community. Responses to interviews with management staff of FERMA, including the Head of Monitoring and Strategy, also revealed that the Agency's road maintenance operations were based on subjective evaluation rather than following from Strategic plan.

This was attributed to the non-institutionalisation of the value for money principles in the operations of FERMA. As a result, operational plans/budgets were ad-hoc, contracts for road maintenance were awarded in unsystematic manner, and monitoring and evaluation was ineffective.

Management Comment

FERMA has strategic plans clearly spelt out in its Operations Manual and Policy Guidelines but the challenge is in the formalization of these documents for her use. The Management is in the middle of collating all relevant plans for the purpose of publishing an acceptable and implementable document that governs its operations.

Auditors' evaluation of Management comment

FERMA did not provide auditors with any strategic plan and or policy guidelines, clearly spelling out monitoring activities of the Agency for a given period. The Agency's Operations Manual only spells out the principles, processes and procedures for the administration and management of road maintenance operations in the country.

3.2.2 Human Resources with Technical Skills

Section 1(4) of FERMA's Establishment Act, 2002, as amended, requires that "The Agency shall maintain Operational Offices in each State of the Federation, which shall establish road camps for proper monitoring and maintenance of all Federal Roads." Similarly, Section 5.5.1 – 5.5.4 of FERMA Operations Manual states that, in the execution of road maintenance project, the Agency's supervisory team for any of these road maintenance modes shall consist of the Resident Engineer; Support team, comprising Engineers and Technical assistants; FRME; and the Zonal Coordinator, who is responsible for ensuring that the maintenance objectives are achieved.

Responses from the interviews administered to the staff of the State field offices and the Management staff revealed that the Agency has fairly enough staff with technical skills to efficiently carry out monitoring and maintenance. Audit physical inspection across the zones revealed that most of the road/observation camps were occupied by only staff of the Federal Road Safety Commission (FRSC). Audit noted, through document review, persistent decrease in the staff strength of the FERMA for the years 2016 through 2018 as shown in **Table 3.1**.

Table 3.1: Staff strength of FERMA (2016-2018)

Financial year	No. of staff	% Increase/ (decrease)
2016	1555	0.00%
2017	1540	(0.96%)
2018	1,518	(1.43%)

Source: Nominal Role of FERMA (2016 – 2018)

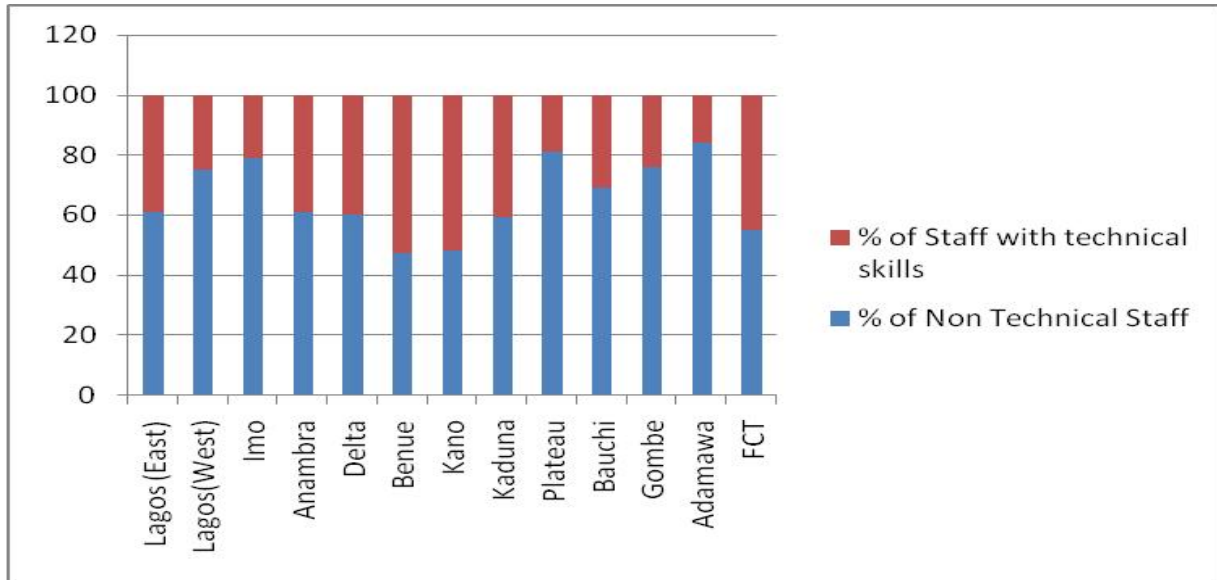
Audit analysis of Staff Nominal Roll revealed that 11 out of the 13 State field offices, including FCT, visited during audit inspection had less number of staff with technical skills (**See Table 3.2**), thereby limiting the ability of the Agency to perform its core mandate efficiently.

Table 3.2: The Distribution of FERMA staff skills at the sampled State field offices

S/N	Name of State/Field office	Total No. of staff	No. of Engineers	No. of Technical Assistants	No. of Engineers & Technical Assistants (Staff with technical skills)	% of staff with Technical skills to Total No. of Staff in State
1.	Lagos (East)	33	4	9	13	39.39
2.	Lagos(West)	32	2	6	8	25.00
3.	Imo	24	4	1	5	20.83
4.	Anambra	23	6	3	9	39.13
5.	Delta	43	3	14	17	39.53
6.	Benue	17	3	6	9	52.94
7.	Kano	25	4	9	13	52.00
8.	Kaduna	29	6	6	12	41.38
9.	Plateau	32	4	2	6	18.75
10.	Bauchi	26	4	4	8	30.77
11.	Gombe	25	4	2	6	24.00
12.	Adamawa	19	3	0	3	15.79
13.	FCT	38	8	9	17	44.74

Source: Analysis of Staff Nominal Roll at the State field offices during audit inspection Aug– Sept, 2019

Figure 3.1: The Distribution of FERMA staff skills at the sampled State field offices



Source: Analysis of Staff Nominal Roll at the State field offices during audit inspection Aug– Sept, 2019

From the table and the graph above, it can be seen that only 2 out of the 12 States and the Federal Capital Territory (FCT) sampled by auditors had up to 50% of their total staff strength made up of staff with technical skills.

The decrease in the staff strength of the Agency was as a result of staff retirement and death without replacement, while the inadequate number of staff with technical skills was due to the recruitment pattern of FERMA which, hitherto, had not given priority to technical skills in view of the nature of the service/operations of the Agency. As a result, there was inadequate technical skills to carry out monitoring and evaluation; hence, no monitoring Report from FRMEs, Zonal Coordinators, and Headquarters for the period 2016 to 2018 showing such critical indicators as Traffic Crash Data, Travel Times Records, comparative records of Planned and Actual length of roads repaired/maintained, etc., against which FERMA’s performance could be measured.

Management Comment

Having noted the disparity in the deployment of Technical staff as compared to non-engineering staff, the Management has concluded requisite formalities to correct the imbalance through the employment of 250 staff as approved by the office of the Head of the Civil Service of the Federation in July 2019. This effort shall culminate in the employment of 160

Technical/Engineering Staff and 90 non-technical/Complementary staff, thereby balancing out observed skewness in existing technical to no-technical staff ratios at the Agency. This new employment hopes to tilt the balance in favour of technical staff at the Agency.

Auditors' evaluation of Management comment

Although, approval of the Head of the Civil Service of the Federation has been obtained since 22nd July, 2019, to recruit 160 Technical/Engineering staff and 90 non-technical staff to fill a total of two hundred and fifty (250) positions in FERMA, the Agency was as at 27th March, 2020, yet to obtain the clearance of the Budget Office of the Federation as required by the approval before it can proceed with the recruitment.

3.2.3 Project vehicles and other road Monitoring and Maintenance equipment

3.2.3.1 Inadequate and unserviceable Project vehicles

Section 5.7.2 of FERMA's Operations Manual requires that "A minimum of two (2) Project vehicles shall be provided for each State office and 1 for each Zonal office for monitoring of roads maintenance projects within their State and Zone. Provision shall be made for hiring additional vehicles when need arises."

All the geo-political/operational zones visited during the audit, including the Federal Capital Territory (FCT), complained of inadequate serviceable vehicles for monitoring of roads maintenance projects. During the audit team's inspection of ongoing and completed road projects, the auditors experienced constant breakdown of the only project vehicle at the Benue State field office and at the Delta State office. **See Pictures 3.1(a) - (c).**

Picture 3.1(a): Broken down project vehicle on Aliade-Gboko-Yandev road, Benue State.

Picture 3.1(b): Broken down project vehicle at Benin-Asaba express Way, Delta State



Source: Pictures taken by audit team during inspection on 27th August, 2019



Pictures taken by audit team during inspection on 2nd September, 2019

Picture 3.1(C): Broken down project vehicle on Aliade-Gboko-Yandev road, Benue State



Source: Picture taken by audit team during audit inspection on 27th August, 2019

The breakdowns during the audit inspection delayed the joint site visit substantially.

As a result of inadequate and unserviceable project vehicles, monitoring work of those State offices was substantially limited.

Information gathered from interviews and Management representations to auditors revealed that most of those vehicles were purchased in 2006/2007 and had, therefore, outlived their useful economic lives.

Management Comment

FERMA procured operational vehicles in 2006/2007 and not 2003 as mentioned in the Observations. Again, FERMA is about concluding plans to procure more operational vehicles for its operations, even as it has already embarked on general broad-spectrum overhaul of old vehicles to facilitate prompt delivery on its mandate. Main challenge however, in this regard, has been inadequate funding.

Auditors' evaluation of Management comment

Based on the Federal Government of Nigeria's prevailing depreciation rates and the age (fair wear and tear) of those Operational vehicles sampled, the vehicles have become unserviceable.

Therefore, caution should be exercised in embarking on the “general broad-spectrum overhaul of the old vehicles” to avoid waste of public funds on repair of unserviceable vehicles.

3.2.3.2 Deployment of Monitoring Equipment

The international best practice for road condition monitoring and pavement/road testing is an objective machine measurement. Modern equipment such as the Falling Weight Deflectometer (FWD) and the Dynamic Cone Penetrometer (DCP) are used to test the pavement (road surface) to determine its structural strength, so as to know what maintenance action is required. Also, an Image collector (mounted on vehicle) is used to measure the roughness of a pavement and to capture images and other physical distress on the pavement. This approach uses the International Roughness Index (IRI), which categorizes road condition into Excellent 0 - <2, Good 2.0 – 3.5, Fair 3.5 – 5.0, Poor 5.0 – 8.0, and very bad >8.0. This approach automatically tells the right quality of the pavement.

Audit inspection and document review revealed that the Nigeria Infrastructure Advisory Facility (NIAF)/Department for International Development (DFID) donated few of the above modern road condition monitoring/testing equipment to FERMA between 2010 and 2016. Although, the Agency claimed to have deployed the equipment effectively during the period under review, a report of road condition survey conducted by FERMA in November, 2019 using the equipment covered only 600km of roads in Suleja, Niger State. FERMA’s roads condition monitoring and roads maintenance assessment, according to its field officers, was substantially based on visual inspection/observation, a subjective approach/assessment that categorized road conditions into Good, Fair, Poor, and Bad. Audit inspection of the donated equipment, however, revealed that the two (2) Image collectors and a set of the DCP, which were donated to FERMA in 2016 and 2010 respectively, were parked and covered with tarpaulin at FERMA’s car park at the Headquarters, while one (1) of the two (2) FWD, which was donated to FERMA in 2010, was also parked at the Agency’s car park at the Headquarters, substantially depreciated. See Pictures 3.2(a, b, & c) below.

The reasons adduced by FERMA Management for the partial, ineffective deployment of the donated equipment included the fact that the Agency’s current monitoring process does not accommodate the use of modern equipment in its decision making, that the equipment were not sufficient to go round FERMA’s Operational zones, and that the donated equipment needed

some repairs. For example, the FWD had one of its wheels damaged and had no tyre. As a result, there was no reliable and up-to-date road inventory and road condition database.

Picture 3.2(a): Two (2) Image collectors mounted on Hilux at FERMA Car Park



Picture 3.2(b): A set of DCP packed inside one of the Hilux at FERMA Car Park



Source: Pictures taken by audit team during inspection of donated equipment on 19/12/19

Picture 3.2(c): One (1) of the FWDs parked at FERMA Car Park at the Headquarters



Source: Picture taken by audit team during inspection of donated equipment on 19/12/19

Management Comment

i) There is need for further clarification of what modern equipment/road condition monitoring and Pavement/testing are. Refer to page 31 where you mentioned Falling Weight Deflector (FWD) and the Dynamic Cone Penetrometer (DCP) as well as image collector (mounted on Hilux vehicles) as Modern equipment. Also refer to page 32 where you cited the availability of these equipment in FERMA Headquarters (With photographs shown on pages 33 & 34).

ii) The Agency currently has two (2) FWD, Image Collector and DCP as rightly captured in your report. These equipment are in serviceable condition and have been deployed in the past to gather Information on the Federal road network. However, the equipment is not adequate to cover the entire network. Results from these surveys have been documented and presented in different for a including the paper cited on page 18 of your report (Repositioning FERMA: Plans and Progress by Engr. Nuruddeen Rafindadi FNSE, FAEng), presentation to the Governing Board

of FERMA among others where a Federal road condition map using these technologies have been presented.

iii) The Fact that these equipment cannot go round has not deterred their deployment as they are usually used on fair and good roads. A transition from visual road condition to technology-based evaluation is being proposed and when fully implemented, more of these equipment will be required to augment the existing two.

iv) The current process flow chart for the Agency cited on page 23 of the report does not accommodate the use of the modern equipment in decision making, but efforts are being made to incorporate technology-based evaluation as part of the transition program.

v) On-going efforts include the development of a central Road Asset Management Systems (RAMS) database in the Agency to be used in warehousing inventory and condition data of the federal road network. This data will be updated regularly and used for making informed decisions (planning, budgeting and implementation) by the Agency.

Auditors' evaluation of Management comment

FERMA does not have sufficient road condition monitoring equipment and has not fully and effectively deployed the donated equipment in monitoring road condition and maintenance. The equipment which were donated to FERMA between 2010 and 2016 were only deployed in November, 2019 to gather information from only 600km out of about 36,000km Federal roads in Nigeria and one (1) out of twelve (12) FERMA operational zones in Nigeria. The equipment were parked at the Agency's HQTRS, instead of the field offices where road monitoring is supposed to be carried out. For a system that did not produce report from its visual observation/monitoring of the roads during the period under audit and does not accommodate the use of the modern equipment in decision making, one wonders how the maintenance works carried out during the period were certified completed.

3.2.3.3 No Needs Assessment carried out in procuring Asphalt Plants

Section 18(a - d) of the Public Procurement Act, 2007, states that "a procuring entity shall plan its procurement,

- Preparing the needs assessment and evaluation;

- Identifying the goods, works or services required;
- Carrying appropriate market and statistical surveys and on that basis prepare analysis of the cost implications of the proposed procurement;
- Aggregating its requirements whenever possible, both within the procurement entity and between procuring entities, to obtain economy of scale and reduce procurement cost.”

However, review of the Status Report of 7No 80TPH Asphalt Plant presented to auditors revealed that FERMA procured seven (7No.) 80 Ton Per Hour (TPH) Mobile Asphalt Batching Plants without carrying out Needs Assessment. Review of the Memorandum by the Minister of Works seeking the Federal Executive Council’s anticipatory approval for the procurement of plants revealed that the Agency’s request/memo included only N1,085,000,000 (One Billion and eighty-five Million Naira), being cost of the seven (7No.) 60-70 Ton Per Hour (TPH) Mobile Asphalt Batching Plants, without considering the need for securing them. The Memo also revealed that two teams headed by the Honourable Minister of State for Works and the Permanent Secretary visited various Plant manufacturers in Europe, America, and South Africa between 8th June to 5th July, 2004 to basically inspect the workshops and manufacturing capability of the companies and to establish the possibility of direct procurement of plants including quotations for delivery, installation, commissioning, training of technical personnel for operation and maintenance of the plants, etc. The plants were subsequently acquired, abandoned in open fields for up to 7 years, and highly vandalised before being leased out between 2010 and 2013. See **Pictures 3.3 (a) and (b)**.

Picture 3.3(a): Asphalt Plant procured, abandoned, and vandalised at Ijora Olopa, Lagos State.



Source: Picture taken at the FERMA Asphalt Plant leased to a Contractor in Lagos, South West Nigeria.

Picture 3.3(b): Asphalt Plant installed (10%) but abandoned in an open space since 2010



Source: Picture taken at the FERMA Asphalt Plant Yard in Gombe, North East Nigeria.

Reason adduced by FERMA Management for embarking on the project was to empower local contractors, so that they could have easy access to a major road maintenance raw material and thus be able to competitively bid for FERMA maintenance contracts. However, the huge amount of public funds that would have been used to procure needed project vehicles and monitoring equipment was wasted on procuring Asphalt plant not needed and which neither had value for money nor return on investment. For example, available records and our audit inspection revealed that the 5 years lease fee of N160,705,380.00 (equivalent of US\$52,690) (See **Table 3.3**) that would have accrued to Government from the Asphalt Plant in Lagos was lost, as the lease expired on 24th May, 2018 without any money being paid to Government till date.

Table 3.3: Seven (7) No. 80TPH Asphalt plant procured and leased out by FERMA

S/N	Plant location	Level of installation	Date of plant hand over as is	Projected Yearly lease fee receivable	Projected Five (5) years lease fee receivable
		%		N	N
1	Lagos	100	24/04/2012	32,141,076.00	160,705,380.00
2	Kuje	100	15/11/2011	38,668,377.46	193,341,887.30
3	Enugu	100	2/9/2010	31,938,969.60	159,694,848.00
4	Funtua	100	7/9/2010	30,400,000.00	152,000,000.00
5	Oshogbo	100	7/7/2010	30,200,000.00	151,000,000.00
6	Gombe	10	22/9/2010	30,000,000.00	150,000,000.00
7	Ikot Ekpene	10	18/10/2013	33,000,000.00	165,000,000.00
	Total			226,348,423.06	1,131,742,115.30

Source: Status

Report of 80TPH Asphalt plant submitted to audit team by FERMA

Management Comment

CONSTRAINTS.

There are series of unresolved problems. These problems comprise of:

- i) Vandalization of plants by hoodlums/vandals.
- ii) Non-resolution of lease managers' installation claims.
- iii) The lease managers abandoned the plant location due to poor patronage.
- iv) Missing of spare parts.

- v) Movement of the component parts were epileptic.
- vi) Some Plants designated location was not ready and land compensation were not paid but plant components were allowed to be dropped at site that caused complete vandalization of these plants.
- vii) Before the transfer of responsibilities of these plants to FERMA from FMW, some of these plants had been vandalised before commencement of installation that resulted the lease managers asking the Agency for refund of their expenditure incurred but the Agency did not reconcile these claims.
- viii) Five (5 No) plants were fully installed but having outstanding issues to be resolved.
- ix) The Agency had taken over two (2) plants from the Lease managers (Kuje and Osogbo).
- x) The lease agreement given to the lease manager did not concretise amount for installation hence Agency gave a verbal approval to Lease manager to incur expenditure.

ACTION TAKEN (THE WAY FORWARD)

The present Agency management has step-up revival mission for all the 7No 80TPH Asphalt plant which has started yielding good result in place of failure of the past.

- (i) The present MD/CEO set-up four (4) Members committee on 80TPH Asphalt plant headed by Director Legal, to reconcile all aggrieved lease managers.
- (ii) Series of meeting were held with the lease managers to reconcile their claims with documents.
- (iii) The Agency set-up committee to drive the payment of the yearly lease fees.
- (iv) The Agency had taken over two (2) plants (Kuje and Oshogbo).
- (v) The Agency had already invited the lease managers for reconciliation of their installation and repairs claim and to agree on the mode of payment of their balance.

Auditors' evaluation of Management comment

FERMA did not prioritise its needs for road monitoring and maintenance equipment, for instance, Project vehicles, and thus wasted resources in procuring equipment that it did not need. Actions taken by FERMA do not include practical plans and measures to recover Federal Government's wasted funds from all the Government officers who were responsible for dumping the Plants in unprotected environment, thereby exposing them to "Vandalism by hoodlums/vandals."

3.2.4 Monitoring and Evaluation of Federal Roads

3.2.4.1 Ineffective monitoring and reporting

Section 4.4 of FERMA's Operations Manual states that Monitoring and Evaluation shall give up-to-date details and Knowledge of the road system and their maintenance needs.

Auditors' review of FERMA's Operations Manual and the Organogram revealed that Monitoring and Programme development is a unit under the Managing Director/Chief Executive Officer. The same documents also provide that Monitoring Development and Strategic Planning should be carried out by the Road Maintenance Management Services Department. The Operations Manual, in addition, provides that the two (2) Operations Departments of the Agency carry out regular monitoring of roads and bridges with a view to identifying their maintenance needs as well as conducting condition surveys on all federal roads.

However, all the above Units and Departments responsible for Monitoring and Evaluation of FERMA's maintenance of roads and bridges could not produce timely and comprehensive reports of their monitoring activities from 2016 to 2018. The Directors of the two Operations Departments and sampled field engineers claimed that they monitored the maintenance works across the country, they could not provide any report in line with the Operations Manual to evidence such monitoring.

Responses from interview with FERMA management staff and audit review of the Agency's only Monitoring report for the period under audit (monitoring report 2018), presented by the Monitoring and Strategy Unit, indicated that the Agency has not done effective monitoring and evaluation of road maintenance for the period, as the report only made reference to Performance Indicators but did not define or determine what they were. The various units/departments required by the Operations Manual to carry out one form of monitoring and evaluation of the maintenance of roads and bridges did not produce multi-level/independent reporting that would have revealed the actual number of Federal roads that needed repairs and/ or rehabilitation and defects on maintenance works carried out. This was attributed to lack of institutionalization of Value for Money principle and Monitoring and Evaluation Strategy by FERMA, as evidenced by a proposal for FERMA Monitoring Strategy (M&S) that will govern the Monitoring and Evaluation functions of the Agency, submitted to the Management of the

Agency by the Head of M&S Unit since 2017, but still awaiting the approval of the Governing Board.

As a result, the over N26 billion maintenance work carried out for the period were either not properly monitored or not monitored at all, as could be evidenced by the various financial reports provided to auditors by FERMA. The summary of expenditure analysis (2016 to 2018) provided by FERMA showed only expenditure on Maintenance of roads and bridges for two (2) years 2017 and 2018 totalling N26,522,971,539.39 (Twenty-six billion, five hundred and twenty-two million, nine hundred and seventy-one thousand, five hundred and thirty-nine naira, thirty-nine kobo) but did not show expenditure on Monitoring and Evaluation. Also, the budget performance report for the years 2016 to 2018 provided to auditors did not report on Monitoring and Evaluation, even though, there was Appropriation for it.

Management Comment

- i) FERMA has a Monitoring & Evaluation Strategy (ref copy attached) which is awaiting the approval of the Governing Board. A copy of its proposed form was given to the Auditors on arrival at the Agency and at inception of Performance Audit. A Monitoring Reports of the Agency's activities in 2018 was produced and also made available to the Auditors, this report was a product of the M&E Strategy of FERMA. FERMA believes that activities of Performance Auditors in FERMA was greatly facilitated by and was driven by this report. FERMA however believes that monitoring strategies should not be generic but bespoke (per year and type of operations)
- ii) FERMA presently implements a multi-level monitoring strategy that involves the field offices (State and Zones), Operations Departments of the Headquarters Office and the Monitoring & Strategy Unit in the Office of the Managing Director.
- iii) If 'independence' means layers of tracking maintenance operations within the Agency by multiple departments of the Agency for demonstrated accountability, then, FERMA takes point made.

iv) Work has reached an advanced stage in FERMA to determine and define its Performance Indicators (as clearly indicated in its Monitoring Report 2018), a copy of which was presented to the Auditors.

Auditors' evaluation of Management comment

The system in FERMA during the period under audit, according to responses to audit interview, was that Operations Departments initiated contracts for maintenance of Federal roads and also conducted maintenance and post-maintenance monitoring of the roads. No independent verification from Monitoring and Strategy Unit was carried out, as provided in FERMA's organogram, in order to provide the MD/CEO an independent feedback of FERMA's road maintenance operations nationwide and to ensure that maintenance works were done according to specifications. It should be noted that 'Work not documented and/or reported' is Work not done.

3.2.4.2 Non-Prioritisation of Federal Roads for Maintenance

Section 6.3. FERMA Operations Manual states that the Federal roads shall be prioritized using the following criteria: Trunk/interstate, Access road to Airports, ports, railway stations, depots, Refineries, and Average Daily Traffic on the trunk and condition score.

Review of FERMA's Project Data Management System and audit inspection of roads constructed during the period under audit revealed that FERMA constructed new local government and rural roads, as well as carried out general maintenance/rehabilitation of existing Local government and rural roads which, at the time of Appropriation, had not been declared Federal Trunk "A" roads either by an update to the Federal Road Infrastructure Chart or by Federal Government Official Gazette. Those roads were also not contained in the FERMA's Roads Condition Survey Report based on which the Agencies' annual budget proposals were prepared. Review of FERMA's Appropriation Acts for the years under audit and interviews with staff and management of FERMA revealed that those roads were introduced as Constituency Projects at the time of Appropriation. However, no monitoring or evaluation report by the Agency reported those roads as not qualifying as Federal Trunk "A" roads and thereby violating FERMA'S mandate of monitoring and maintaining only Federal roads in Nigeria. See Pictures 3.4(a) and (b)

for some rural and local government roads constructed and rehabilitated by FERMA during the period under audit.



Source: Pictures taken by audit team during inspection at Anambra State, South East Nigeria.

As a result of this, resources that would have been utilised for monitoring and maintenance of Federal roads across the country have been used to construct and rehabilitate roads belonging to the States and/ or Local Governments. The implication is that economic activities between different parts of the country connected through the Federal trunk roads are negatively affected; and the attendant delay in maintenance worsened the Federal roads' condition which will only eventually be recovered through rehabilitation by the FMW&H with huge financial cost to the nation.

Management Comment

FERMA operates in some non-federal roads but these are Constituency Projects that demand serious consideration. Contemporary road maintenance cultures have been forced to recognize this as necessary.

Auditors' evaluation of Management comment

The State and Local Government roads constructed with Federal Government funds had not been officially gazetted as Federal Trunk "A" roads. States and Local Governments have their separate budgeting and financing and road maintenance agencies for their road construction and maintenance. However, since FERMA is willing and ready for partnership, interested State and Local Governments can partner with FERMA to maintain their roads, rather than the Agency maintaining State and Local Government roads at the expense of the Federal Government.

3.2.4.3 Non-utilisation of Road and Observation Service Camps

Section 1(4) of FERMA's Establishment Act, 2002, states that "The Agency shall maintain Operational Offices in each State of the Federation, which shall establish road camps for proper monitoring and maintenance of all Federal Roads."

Audit found out through interviews and inspection that road Camps constructed all over the States of the federation are yet to be fully put into use for efficient and effective monitoring and maintenance of federal roads. This has led to lack of relevant and reliable data about the federal roads' conditions and progress of roads maintenance works.

Audit physical inspection across the zones revealed that most of the road/observation camps were occupied by only staff of the Federal Road Safety Commission (FRSC). See pictures XXX.

This was attributed to lack of adequate manpower and logistics to man those road/observation camps. As a result, the Agency was unable to get firsthand information about road conditions to enable it carry out efficient, preventive maintenance of federal roads.

Management Comment

Some state field offices are making use of the Observation and Service camps for stockpiling materials, utilizing the camps as temporary accommodation when they have road works along the federal highway where the camps are located. However, we believe because of the security situation in the country, some states are not making adequate use of the facilities. The Agency is in the process of recruiting more skilled hands and will ensure staff are deployed to the Observation camps for effective utilization. Then again, the Agency has an ongoing collaboration nationwide, where the Federal Road Safety Corps (FRSC) occupies majority of these facilities as they administer the Nigeria Road for safety and comfort.

Auditors' evaluation of Management comment

The law setting up FERMA and FERMA's Operations Manual did not state that such camps should be used for stockpiling of working materials but for proper road condition monitoring and reporting, to avoid carrying out emergency road repairs all the time. More so, the "ongoing collaboration nationwide with the FRSC" is supposed to support FERMA with supply of complementary data/statistics of accident flashpoints and distress areas. One wonders why there was no monitoring Report from FRMEs, Zonal Coordinators, and Headquarters for the period 2016 to 2018 showing such critical indicators as Traffic Crash Data, Travel Times Records, etc.

3.2.5 Access to Statutory Funding of 5% User Pump Price of Petrol and Diesel

Following FERMA's persistent complaint of inadequate funds to properly and efficiently execute its mandate over the years, and in order to ameliorate the deplorable state of federal roads in Nigeria, the Federal government, through Section 14(1)(h) of the Federal Roads Maintenance Agency (Amendment) Act, 2007, expanded FERMA's sources of funding to include 5% user charge on pump price of petrol, diesel and of which 40% will accrue to FERMA and 60% to be utilized by established State Roads Maintenance Agencies. In order to ensure effective implementation of the statutory provision, Section 2(2)(iv) of the same Act adjusted the composition of the Board of FERMA to include a representative of the Petroleum Products Pricing Regulatory Agency (PPPRA). However, audit noted that twelve (12) years after the

enactment of the law, FERMA has not been able to access this fund. As a result, there is no sustainable funding for the Agency to institutionalise proper and effective monitoring and maintenance of federal roads in Nigeria. Although, the management of FERMA claimed to have made series of efforts to access the funding, it did not provide any verifiable evidence to the audit team to show that the Board and Management of FERMA have made effort to ensure the implementation of the law to enable it to carry out its mandate effectively. Audit team's repeated requests for documentary evidence of FERMA's effort to ensure access to the statutory funding yielded no result.

Management Comment

Action is in progress.

Auditors' evaluation of Management comment

No evidence was provided showing any significant effort made by the Board and Management of FERMA to follow up on the Approval and directives of the then President of the Federal Republic of Nigeria (dated January, 2011) for the Attorney General of the Federation, the Federal Minister of Finance, and the Federal Minister of Petroleum Resources to commence implementation of the Act and to meet to discuss the modalities for the deduction, despite the fact that PPPRA (an agency under Ministry of Petroleum Resources) is represented in the Board of FERMA.

3.3 General Findings

Road maintenance is of three (3) main categories, namely: Routine Maintenance, Emergency Repairs, and Periodic Maintenance⁹. Responses from interviews of staff and management of FERMA and document reviews revealed that FERMA, rather than carrying out the full scale road maintenance works as provided in its Operations Manual, most commonly carried out Emergency maintenance for the years 2016 to 2018, i.e. maintenance work was carried out to repair sudden failures on the road. The Agency attributed this to poor funding by the Federal government. However, inability of the Agency to provide reliable operational and financial reports of Monitoring and Evaluation activities for the years under audit proves that there was no proper routine monitoring to forestall sudden failures of the federal roads.

⁹ FERMA Operations Manual (First Edition, Para 3.3, page 35)

Management Comment

None

Auditors' evaluation of Management comment

FERMA Management did not provide any comment on this general finding.

CHAPTER FOUR

CONCLUSIONS

4.1 Introduction

This chapter provides conclusions of the audit. The basis for drawing the conclusions is the overall and specific objectives of the audit as presented in Chapter One of this audit report.

4.2 Specific Conclusions

The following are the specific conclusions:

4.2.1 Plan, Processes, and Procedures for Monitoring the Maintenance of Federal Roads

- ❖ FERMA does not have strategic plans, with measurable goals and targets. FERMA's operations will continue to be unsystematic and ad-hoc, and thus not deliver value for money, without a strategic plan.
- ❖ FERMA does not have a Road Monitoring and Evaluation Policy guideline. Without the guideline, the Agency will be unable to:
 - clarify project objectives;
 - facilitate close inspection, supervision and quality assurance of road maintenance projects; and
 - analyse why intended results were or were not achieved.

4.2.2 Human Resources with Technical Skills

FERMA's road maintenance operations nationwide will suffer poor execution and any set Key Performance Indicators (KPIs) will be difficult to achieve due to poor Monitoring and Evaluation if the MD/CEO fails to promptly obtain the necessary clearance from the Budget Office of the Federation and ensure that the approved number of technical staff with requisite competences are recruited.

4.2.3 Project Vehicles and other Road Monitoring and Maintenance Equipment

4.2.3.1 Inadequate and unserviceable Project Vehicles

With the current state of insecurity and condition of Federal roads across the country, if FERMA Management does not prioritise its investment in Federal road assets maintenance to include ensuring that there is a minimum of two (2) serviceable project vehicles for each State office and one (1) serviceable project vehicle for each Zonal office, the officers at the State and Zonal offices sampled, each of which had only one serviceable project vehicle, will be unable to conduct effective pre- and post- maintenance monitoring and the Management will continue to lack reliable data on the condition of Federal roads across the country.

4.2.3.2 Non-deployment of Road Monitoring Equipment

FERMA will lose stakeholders' and international development partners' support due to a largely qualitative and subjective method of monitoring and evaluation and lack of reliable and up-to-date road inventory and road condition database that can facilitate efficient decision making, if the Agency does not have sufficient monitoring equipment and fails to fully and effectively deploy the donated equipment in monitoring road condition and maintenance.

4.2.3.3 No needs Assessment carried out in procuring Asphalt Plants

The current actions being taken by FERMA on the sum of over N1,085,000,000 (One Billion and eighty-five Million Naira) wasted on procurement of Asphalt plant not needed, will not yield sustainable result and Nigerians will continue to suffer ineffective and poor quality monitoring and evaluation of the maintenance of Federal roads and bridges in Nigeria due to misplacement of priority, except the MD/CEO unveils the parties responsible for the loss of government funds in the failed procurement and ensures that they are prosecuted to serve as a deterrent.

4.2.4 Monitoring and Evaluation of Maintenance of Federal Roads

4.2.4.1 Ineffective monitoring and reporting

- ❖ FERMA will better ensure Value for Money in its works of maintenance of Federal roads and bridges across Nigeria if the Agency institutionalises Monitoring and Evaluation strategy.
- ❖ FERMA will attract stakeholders' partnership and support with a Monitoring and Evaluation strategy founded on Performance Measurement and Multi-level monitoring and reporting.

4.2.4.2 Non-Prioritisation of Federal Roads for Maintenance

Proper and effective Monitoring of Federal Trunk roads in Nigeria will continue to suffer if FERMA does not stop the use of Federal Government funds to maintain State and Local Government roads.

4.2.4.3 Non-utilisation of Road and Observation Service Camps

FERMA will continue to face sudden failure of federal roads due to lack of timely and reliable data and information on the condition of federal roads and bridges across Nigeria, except it fully utilises the road camps constructed across the States of the Federation, by deploying technical personnel to man them and to produce weekly road condition reports to aid Management planning for efficient service delivery.

4.2.5 Access to statutory funding of 5% User Pump Price of Petrol and Diesel

With the current trend and pattern of funding FERMA from Federal Government Consolidated Revenue Fund, the Agency will continue to lack adequate funding to carry out proper pre-maintenance, - maintenance, and post-maintenance monitoring and evaluation, if its Board and Management fail to take practical steps to follow up on Mr President's approval and directives for the implementation of the deduction of the 5% user's charge of petrol and diesel pump price.

4.3 General Conclusion

FERMA will significantly prevent sudden failures of the Federal highways and will be able to do full scale road maintenance, rather than only emergency repairs, if they carry out quality and effective pre- maintenance, - maintenance, and post- maintenance monitoring and evaluation of Federal roads and bridges in Nigeria.

CHAPTER FIVE

RECOMMENDATIONS

5.1 Introduction

The audit findings and conclusions pointed out weaknesses in the monitoring of the maintenance of federal roads by FERMA. Further rooms for improvements have been identified in areas such as Planning, Processes, and Procedures for Monitoring the Maintenance of roads; human resources with technical skills, project vehicles and road monitoring and maintenance equipment; and Monitoring and Evaluation of Federal roads.

5.2 Specific recommendation

Below are the specific recommendations

5.2.1 Plans, Processes, and Procedures for Monitoring the Maintenance of Federal roads.

FERMA should institutionalise the Value for Money principles in the operations of FERMA by:

- a) ensuring a needs-based planning and programming of activities;
- b) ensuring strict compliance with set plans and procedures for road monitoring and maintenance.
- c) immediately developing a strategic plan with significant buy-in from major stakeholders, especially, the parent ministry, FMW&H, to set out the Agency's direction for the immediate and medium-term, capturing the full range of areas of its development. The added benefit will be unity of purpose and better coordination; and
- b) developing Monitoring & Evaluation Policy Guidelines or Manual to facilitate implementation.

5.2.2 Human Resources with Technical Skills

The MD/CEO should obtain the necessary clearance from the Budget Office of the Federation and ensure strict compliance with the other conditions stated in the Approval for the recruitment of the new staff with technical skills and competences.

For an Agency with a mandate requiring manpower with technical skills, one would expect nothing less than a minimum of 50% of the staff across the country to be technical staff, going forward.

5.2.3 Project vehicles and other road monitoring and maintenance equipment

5.2.3.1 Project vehicles

- ❖ FERMA and FMW&H should prioritize investment in Federal road assets maintenance to include procuring and deploying a minimum of two (2) project vehicles for each State office and one (1) for each Zonal office for effective pre- and post- maintenance monitoring and reporting on Federal roads across the country.

5.2.3.2 Monitoring Equipment

- ❖ As a maintenance Agency, FERMA should be a role model in maintenance of government assets in its custody. It should, therefore, repair, maintain and fully deploy equipment acquired or donated to it for a more structured, quantitative evaluation that will facilitate efficient decision making.
- ❖ FERMA Management should fast-track the transition from a largely qualitative road condition assessment to a more structured quantitative approach.

5.2.3.3 Needs Assessment for procurement of Asphalt Plants

- a) The MD/CEO of FERMA should further investigate the circumstances surrounding the project with a view to unveiling those responsible for the loss of over N1,085,000,000 (One Billion and eighty-five Million Naira) government funds.
- b) The MD/CEO should ensure that all the parties responsible for the loss of government fund are prosecuted in order to recover government fund.
- c) The Board and Management of FERMA should ensure that no capital project is embarked upon without needs assessment and evaluation.

5.2.4 Monitoring and Evaluation of maintenance of federal roads

5.2.4.1 Monitoring and Reporting

FERMA should institutionalise Value for Money Principle and Monitoring and Evaluation Strategy by:

- ❖ fast-tracking the approval of a Monitoring and Evaluation strategy Manual that will govern the monitoring and evaluation functions of the Agency,
- ❖ as a matter of policy, establishing what exactly constitutes the Agency's Performance Indicators, to enable more specific and measurable assessment of the Agency's performance,
- ❖ ensuring a multi-level monitoring and reporting, and
- ❖ ensuring that monitoring reports include critical indicators such as Traffic Crash Data, Travel Times Records, comparative records of Planned and Actual length of roads repaired/maintained, etc.

5.2.4.2 Prioritization of Federal Roads for maintenance

FERMA should

- ❖ stop spending funds meant for federal roads on those that are not.
- ❖ prioritise all monitoring and maintenance works based only on existing gazetted Federal trunk roads or such other roads as may be declared, from time to time, as Federal trunk roads by the National Assembly.

5.2.4.3 Utilisation of Road and Observation Service Camps

FERMA MD should:

- ❖ put measures in place to deploy adequate number of technical personnel to properly man the road/observation camps, with weekly road condition reports submitted to Federal Roads Maintenance Engineers (FRMEs) to aid planning for efficient service delivery.
- ❖ ensure strict compliance with the Agency's mandate of proper and efficient monitoring and maintenance of Federal Roads in Nigeria, utilizing the road and observation camps, and taking advantage of the FERMA's collaboration with the FRSC.

5.2.5 Access to statutory funding of 5% User Pump Price of petrol and diesel

The Federal Ministry of Works and Housing (FMW&H) and the Board of FERMA should prevail on the Petroleum Products Pricing Regulatory Agency (PPPRA) to take necessary steps to implement the provisions of Section 14(1)(h) of FERMA (Amendment) Act, 2007, to enable the

Agency to carry out proper, effective monitoring and evaluation of full-scale routine, periodic, and emergency maintenance of federal roads in Nigeria.

5.3 General recommendation

The Auditor-General for the Federation hopes that FERMA should fully implement the recommendations that have been suggested in this report so as to ensure proper, effective pre-maintenance, - maintenance, and post- maintenance monitoring and evaluation of the maintenance of Federal roads and bridges in Nigeria. The recommendations will also ensure the entronement of the principle of value for money and the presence of the 3Es of Economy, Efficiency, and Effectiveness in the use of public resources.

Appendices

Appendix 1: Audit Design Matrix

Overall Audit objective: To assess the extent FERMA has achieved its mandate of proper and efficient monitoring of the maintenance of all Federal roads in Nigeria.

Audit question and sub-questions <i>What we want to know</i>	Audit criteria <i>The standards we measure evidence against</i>	Data collection and analysis			Anticipated findings <i>The problems or shortcomings we expect to find</i>	Risks to the execution <i>What can go wrong?</i>
		Audit evidence needed <i>The evidence that will answer the question</i>	Methods for data collection <i>How we are going to get the evidence</i>	Methods for analyses <i>What we will do with it once we get it</i>		
<p>Focus Area 1: PLANNING, PROCESS, AND PROCEDURE To ascertain whether FERMA has established plans and processes for proper monitoring of federal roads</p>						
<p>1.1 What plans and procedures are in place for proper monitoring and evaluation of all the federal roads in Nigeria?</p>	<ul style="list-style-type: none"> • Section 4.4 of FERMA's Operations Manual, states that "Monitoring and Evaluation is an important responsibility and strategy which the Agency shall adopt for forward planning and monitoring of the Federal roads, as the best way to keep road maintenance costs low and timely...." • Section 8(d) of FERMA Establishment Act, 2002, requires that the Agency "shall plan and develop strategies towards ensuring 	<ul style="list-style-type: none"> • Testimonial evidence (interviews) from FERMA • FERMA's Strategic plan • FERMA's Road Repair Plan • FERMA's Work Plan • Budget for Monitoring and Evaluation (M&E) • Road Maintenance Activities Manual (See para. 5.5.1(i) FERMA Operations Manual 	<p>Document review.</p> <p>Testimonies (interviews) from staff and management of FERMA.</p>	<p>Compile, analyse and summarise information to describe process, criteria, and guidelines.</p>	<p>We will be able to state whether or not FERMA has specific criteria, laws, rules, regulations, etc. that guide its M&E.</p> <p>We will also be able to describe M&E by FERMA by creating a flow chart of the process from beginning to end.</p>	<ul style="list-style-type: none"> • FERMA may not have a policy guideline in place for monitoring and evaluation purposes against which we could benchmark their performance. • Also FERMA may not have a standard strategic plan or a road maintenance investment

	efficient and effective movement of traffic on the federal trunk roads and ensure their implementation.”					programme.
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Focus Area 2.0: HUMAN RESOURCES WITH TECHNICAL SKILLS

To assess to what extent FERMA’s monitoring and evaluation is carried out by staff with technical skills

<p>Q2. 1 To what extent does FERMA have the required human capacity to carry out monitoring and evaluation of all federal roads in Nigeria?</p>	<ul style="list-style-type: none"> • Sec. 1(4) of FERMA Establishment Act, 2002 states that “The Agency shall maintain Operational Offices in each State of the Federation, which shall establish road camps for proper monitoring and maintenance of all Federal Roads.” 	<ul style="list-style-type: none"> • Testimonial evidence (interviews) from FERMA staff and management, Federal Ministry of Works, and other critical stakeholders. • Reports by REs, FRMEs, ZCs, etc. • Staff nominal roll 	<p>Document reviews and interview of staff and management of FERMA</p>	<p>Compare skills of personnel used to carry out monitoring and evaluation works with planned/standard skills for carrying out the exercise.</p>	<p>We will be able to state whether or not FERMA has a recruitment policy, especially as it relates to ratio of technical to non-technical staff. We will also be able to state whether FERMA’s monitoring and evaluation was carried out by qualified operational staff or not.</p>	<p>FERMA may not have a standard policy on the human resources requirement against which auditors could assess staff skill content.</p>
<p>Q2.2 To what extent does FERMA’s recruitment policy promote efficient and effective monitoring and evaluation of federal roads in Nigeria?</p>	<ul style="list-style-type: none"> • Section 5.5.1 – 5.5.4 of FERMA Operations Manual states that, in the execution of road maintenance project, the Agency’s supervisory team for any of these road maintenance modes shall consist of the Resident 					

	<p>Engineer; Support team, comprising Engineers and Technical assistants; FRME; and the Zonal Coordinator, who is responsible for ensuring that the maintenance objectives are achieved.</p>					
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Focus Area 3.0: DEPLOYMENT OF EQUIPMENT FOR MONITORING

To assess whether FERMA has the required equipment to monitor all federal roads in Nigeria and are able to put them into use

<p>Q3.1 To what extent has FERMA deployed modern equipment for monitoring and evaluation of federal roads in Nigeria?</p> <p>Q3.2 What factors could affect maximum utilization of the equipment and machinery?</p>	<ul style="list-style-type: none"> • Section 5.7.2 of FERMA’s Operations Manual requires that “A minimum of 2 Project vehicles shall be provided for each State office and 1 for each Zonal office for monitoring of roads maintenance projects within their State and Zone. Provision shall be made for hiring additional vehicles when need arises.” • Section 18(a) of Public Procurement Act, 2007 states that “a procuring entity shall plan 	<ul style="list-style-type: none"> • Testimonial evidence (interviews) from FERMA, Federal Ministry of Works, and other critical stakeholders. • ICT/MIS infrastructure • Other monitoring equipment 	<ul style="list-style-type: none"> • Document reviews, • interview of staff and management of FERMA, • Physical observation of equipment, and • Inspection of project sites. 	<p>Compare the equipment and machinery that FERMA has deployed for its M&E with the standard equipment and machinery it has procured/acquired for effective M&E.</p>	<p>This will enable us to state to what extent FERMA is equipped with the required equipment to monitor federal roads in Nigeria. We will also be able to ascertain the factors, if any, that affect FERMA’s maximum utilization of the available equipment.</p>	
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	<p>its procurement, preparing the needs assessment and evaluation.”</p> <ul style="list-style-type: none"> • The international best practice for road condition monitoring and pavement/road testing is an objective machine measurement. 					
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Focus Area 4.0: MONITORING AND EVALUATION (M&E)

To ascertain whether FERMA has institutionalized monitoring and evaluation of roads maintained and/or for maintenance, by observing the rules guiding its monitoring and evaluation activities.

<p>Q4.1 To what extent does FERMA’s current monitoring and evaluation strategy provide the necessary data/information to enable effective road maintenance management?</p> <p>Q4.2 To what extent does FERMA follow its work plans, guidelines, and processes/procedures in</p>	<ul style="list-style-type: none"> • Section 5.8.1 of FERMA’s Operations Manual states that the road camps serve as points of gathering data to help in facilitating the operational demands of the Agency. • Section 7.2.4.2.2 of FERMA’s Operations Manual states that “the FRME shall hold regular site meetings with the contractor, at least once in a month, to be attended by all parties involved in the project, and shall produce and 	<ul style="list-style-type: none"> • Monitoring and evaluation reports on maintenance work carried out on federal roads • Daily work monitoring reports by the Resident Engineers (REs) • Performance reports by the FRMEs • Analysis of State and Zone performance reports by the ZCs • Zonal summary reports • Legal/regulatory limitations e.g. from supervisory ministry. 	<ul style="list-style-type: none"> • Document reviews, • interview of staff and management of FERMA, and • Physical Inspection of project sites 	<p>Compile and analyse information collected from interviews, review of documents and reports, inspection of sites and equipment. Analyse information gathered in structured interviews to determine how effectively FERMA</p>	<p>This will enable us to ascertain whether monitoring and evaluation (M&E) was actually carried out, and whether it was carried out in accordance with the M&E framework, as provided in FERMA’s Operations Manual and other examples of good practice.</p>	<p>Audit will be limited to only the documents and information made available to the team. We will review correspondences, memos, circulars, and queries, etc. in respect of proper monitoring and evaluation.</p> <p>However, we will be unable to review</p>
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<p>order to achieve proper monitoring?</p> <p>Q4.3 What factors could affect the institutionalisation of monitoring and evaluation of federal roads in Nigeria?</p>	<p>distribute copies of the minutes of those site meetings to all the interested parties</p> <ul style="list-style-type: none"> • Section 6.3. FERMA Operations Manual states that the federal road shall be prioritized using the following criteria: Trunk/interstate, Access road to Airports, ports, railway stations, depots, Refineries, and Average Daily Traffic on the trunk and condition score. • Section 7 of FERMA's Establishment Act, 2002, as amended, states that "The Agency shall ensure efficient and effective maintenance of all existing Federal trunk roads or such other roads as may be declared, from time to time, as Federal trunk roads by the National Assembly." 	<ul style="list-style-type: none"> • Evidence of political interferences. 		<p>has performed in monitoring and evaluation .</p>	<p>It will also help us to ascertain what factors, if any, affect FERMA's achievement of efficient and effective monitoring of the roads.</p>	<p>correspondences between FERMA and its staff or other critical stakeholders, such as FMPW&H, which might reveal sensitive information.</p>
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	<ul style="list-style-type: none"> • Section 14(1)(h) of the Federal Roads Maintenance Agency (Amendment) Act, 2007, expanded FERMA's sources of funding to include 5% user charge on pump price of petrol, diesel and of which 40% will accrue to FERMA and 60% to be utilized by established State Roads Maintenance Agencies. • Section 2(2)(iv) of the FERMA (Amendment) Act, 2007, adjusted the composition of the Board of FERMA to include a representative of the Petroleum Products Pricing Regulatory Agency (PPPRA). 					
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Appendix 2: Documents reviewed

S/N	Lists of Documents and information Reviewed	Reasons for the review
1.	FERMA (Establishment) Act, 2002, as amended.	Source of criteria
2.	FERMA Operations Manual (First Edition, 2006))	Source of criteria
3	Federal Roads Authority Bill, 2017	Formed part of motivation for the audit
4.	2016 - 2018 Appropriation Acts	To understand total federal government budgetary allocation to FERMA for the years under audit
5.	FERMA 2016 to 2018 budget performance	To understand the Agency's budget performance for the years under audit.
6.	Public Procurement Act, 2007.	Source of Criteria
7.	12 weeks intervention programme	To understand the Agency's performance under the programme
8.	Repositioning FERMA: Plans and Progress; by Engr. Nuruddeen A Rafindadi, FNSE, FA ENG.	To appreciate the Agency's current operations, Plans for the future, and way forward.
9.	FERMA Field office progress reports	To see how the Agency reported on the contracts and direct labour maintenance works executed.
10.	FERMA's nominal roll at Headquarters and all State offices visited	To review the staff strength and determine the number of technical and non-technical staff
11.	FERMA monitoring Report, 2018	<ul style="list-style-type: none"> To know whether FERMA's monitoring report captured pre- maintenance, -maintenance, and post-maintenance monitoring. To understand what road conditions were reported in the monitoring report. To assess the extent FERMA's road monitoring reports captured the critical indicators for the years under review.
12.	List of equipment at the States visited	To ascertain serviceable/ functional and unserviceable/ non-functional equipment for road monitoring and maintenance
13.	Project Data Management System	This gave the audit team details of some of the maintenance works carried out for the years under review, their locations, names of contractors, etc.
14.	Journal of Law, Policy and Globalization, ISSN 2224-3240 (Paper) ISSN 2224-3259 (Online), Vol.41, 2015, "Legislative Constituency Projects in Nigeria: A Matter of Constitutionality or Political Expediency?" by Orimogunje, Olusesan Olugbenga, LL.M. BL.	To understand the concept of legislative constituency projects in Nigeria from the point of view of constitutionality, legality, and practical application.
15	Federal Executive Council (FEC) Approval for the procurement of the	To understand the cost of the Plants on acquisition and the justification for the procurement of the

	7 Asphalt Plants.	Plants.
16	Status Report of 7No 80TPH Asphalt Plant	To understand the location of the Plants, yearly lease fee, Handover of Plant as is date, name of lease, percentage of installation, and other outstanding issues.
17	Honourable Attorney General of the Federation's letter to the President of the Federal Republic of Nigeria (dated 6 th December, 2010), requesting Mr President to approve and direct appropriate agencies to commence implementation of FERMA's amended Act (deduction of 5% user's charge on pump price of petrol and diesel).	To understand the extent of work done by the relevant stakeholders towards implementing the deduction of the 5% user's charge on pump price of petrol and diesel.

Appendix 3: Persons interviewed

S/N	Interviewee	No. of persons interviewed	Purpose of the interviews
1.	Managing Director	1	To better understand the operations, the challenges, and the prospects the Agency.
2.	All Directors and Heads of Departments	10	To understand their functionality in road maintenance management.
3.	Zonal Coordinators	2	To understand their functionality in road maintenance management
4.	Federal Road Maintenance Engineers	12	To understand their functionality in road maintenance management.
5.	Resident Engineers	15	To understand their functionality in road maintenance management
6.	Operational Staff	46	To understand the level of their functionality in road monitoring and maintenance
7.	Contractors	4	To ascertain their capability and capacity to carry out road maintenance work
8.	Road User Feed Back (Federal Road Safety Commission-FRSC)	3	To assess the relationship between FERMA and the FRSC for the purpose of road monitoring and maintenance.
	Total	93	

Appendix 4: Geopolitical/Operational zones visited

S/N	State Office	National Geo-political Zone	FERMA Operational Zones
1.	FCT	North- Central	North Central(West)
2.	Benue	North- Central	North Central (East)
3.	Plateau	North- Central	North Central (East)
4.	Bauchi	North - East	North East
5.	Gombe	North - East	North East
6.	Adamawa	North - East	North East
7.	Kano	North - West	North West
8.	Kaduna	North - West	North West
9.	Anambra	South - East	South East
10.	Imo	South - East	South East
11.	Delta	South - South	South South
12.	Lagos – East	South - West	Lagos
13.	Lagos – West	South - West	Lagos