



UNITED NATIONS  
ECONOMIC AND SOCIAL COUNCIL



Distr.  
LIMITED

E/CN.14/TRANS/80  
22 September 1972

Original: French

ECONOMIC COMMISSION FOR AFRICA  
Meeting to determine assistance  
from the Industrialized countries  
for the feasibility studies of  
the Transafrican Highway

Addis Ababa, 9-12 October 1972

STATUS OF THE TRANSATRICAN HIGHWAY PROJECT  
IN THE FEDERAL REPUBLIC OF NIGERIA

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### Introduction

1. This study has been based on documents available at the Economic Commission for Africa, and those completed on a short mission effected to Nigeria in August 1972. The information contained herein is therefore up-to-date.

2. The different sections of the Transafrican Highway in the Federal Republic of Nigeria have been classified into four categories:

Category A : roads for which the following programme is to be completed:

- feasibility studies 1/
- engineering studies 1/
- construction work.

Category B : roads for which the following programme is to be completed:

- engineering studies
- construction work.

Category C : those roads for which only construction work remains to be done.

Category D : roads already completed which require maintenance.

3. In Nigeria, out of the 855 km of the Transafrican Highway, 649 km were asphalted in the past and only 206 km are earth roads. But because of heavy automobile traffic and the effects of the civil war, all of these roads require reconstructing or rehabilitating. The sections of the Transafrican Highway are sections of the federal road network on the majority of which, since they have been given priority, work has already begun.

Section: Lagos -- Shagamu. 54 km, category C.

#### 1) Present state

4. This section of the Transafrican Highway is one of the routes from Lagos to Ibadan. The other is to be a four-lane highway (two in each direction) which is at present under study and will also provide a link with Shagamu.

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1/ The feasibility studies are pre-project studies and the engineering studies belong to the implementation phase of the project.

5. This road is 7 wide and is asphalted, but bears the mark of heavy traffic.

2) Studies and works

6. All of the studies required have been completed and work has already been begun by the MM. Dumez company. These include the complete reconstruction of the whole road and those bridges which are too narrow. The cost of this is approximately 2 million Nigerian pounds and the work is to be completed in 1974.

3) Traffic

7. On this section 7,700 vehicles pass per day in 1972.

Section: Shagamu - Benin City. 264 km, category C.

1) Present state

8. The road is asphalted, but the pavement bears the mark of heavy traffic. Almost all the bridges are too narrow and some were damaged during the civil war.

2) Studies and works

9. The work which is at present being carried out includes the reconstruction of four major bridges, at a cost of 1.5 million Nigerian pounds; and 41 minor bridges at a cost of approximately 3 million Nigerian pounds. Tenders are soon to be invited and the work should be completed during 1974.

10. Laying an addition layer of asphalt over the entire length of the road is also planned and is to cost approximately 1.5 million Nigerian pounds. Tests are being carried out to establish the thickness required for each section.

11. The total cost of the work to be undertaken on the section is therefore approximately 6 million Nigerian pounds, and is to be completed by 1974.

3) Traffic

12. Automobile traffic on the Shagamu - Benin road is 1952 vehicles per day in 1972.

Section: Benin -- Asaba. 137 km, category C.

1) Present state

13. This section is asphalted, but it is one which has suffered the greatest wear and tear in recent years, and is therefore in urgent need of repair.

2) Works

14. Work has already been begun by the MM. Dumez Company. These include the total reconstruction of the road and all the bridges, and is to cost 4.391.000 Nigerian pounds (contract price). The work is to be completed in November 1973.

3) Traffic

15. Automobile traffic on this section is 1950 vehicles per day in 1972.

Section: Asaba -- Onitsha Bridge.

1) Present state

16. The large bridge over the Niger was partially destroyed during the civil war and traffic is now restricted.

2) Works

17. The reconstruction in particular of the spans which were damaged is planned, and tenders have been invited.

Section: Onitsha -- Enugu. 108 km, category B.

1) Present state

18. This route has a good asphalt pavement which seems adequate for the needs of present traffic but both vertical and horizontal realignment are necessary. In addition, the developments planned for the region will cause a rapid increase in traffic on this road. The Federal Government is, therefore, to carry out feasibility studies on this section under present Development Plan (1970-1974).

2) Studies and works

19. The present position is to drop the studies planned so far and to begin the reconstruction or rehabilitation programmes section by section. These projects should be started in 1973 so that they can be completed in 1974.

3) Traffic

20. Automobile traffic on the Onitsha - Enugu route is estimated at 4270 vehicles per day in 1972.

Section: Enugu - Abakaliki. 85 km, category C.

1) Present state

21. This section is asphalted but it has deteriorated in recent years. Its alignment is quite good.

2) Works

22. Complete reconstruction of the 85 km of the road has been planned and is to cost approximately 2.500.000 Nigerian pounds. Tenders are soon to be invited and the work should be completed in 1975.

3) Traffic

23. Automobile traffic on the Enugu - Abakaliki was estimated at 1190 vehicles per day in 1971.

Section: Abakaliki - Ekok. 206 km, category A.

1) Present state

24. This is the only section of the road which is not asphalted. It crosses an area which receives heavy rainfall and it is therefore impassable for long periods. It also crosses mountainous country where the terrain is rather broken.

25. It is an earth and gravel road about 9 metres wide. The present road from Ikom goes to the North-West to join up with the Enugu - Abakaliki - Ogoja road some forty km south of the latter township. The alignment is quite good, but nevertheless, requires some adjustment.

2) Studies

26. The construction of this road - road A 4-2 in the new Federal Road Classification - is included in the reconstruction/rehabilitation programme which is underway in Nigeria. The Government plans to carry out feasibility and engineering studies on this section before deciding what type of improvement is to be carried out.

A. Feasibility studies. Because of the economic importance of this part of Nigeria and the intensity of the traffic on the entire section of the Transafrican Highway in this country, feasibility studies should empha-

size the technical side of these studies and should cover the following:

- a) geometric characteristics of the road:
  - specification of the horizontal alignment, surveys of the curves to be adjusted;
  - specification of the longitudinal section particularly of those sections which are under water during the rainy season;
  - specification of the cross-section and a survey of those parts which require adjustment.
- b) Drainage and sanitary systems, bridges and culverts etc., study of the present drainage and sanitary system (canals, sewers), its efficiency, and modifications which are required.
- c) Pedological and geotechnical aspects of the road:
  - a study of the soils over which the route passes;
  - geotechnical study of the construction materials which exist in the region, description of the sites of existing materials and the conditions for working these sites.
- d) Study of traffic with projections for the future.

In conclusion the feasibility study must recommend a final alignment which should cover all the improvements which are required and should propose a road improvement standard (geometric characteristics of the road, system of drainage, construction materials, characteristics of various layers of pavement, type of crossing over for water courses, etc.)

Costs : Approximately 50.000 Nigerian pounds.

Duration: Field studies are likely to be long because of the heavy rainfall - the dry season very rarely exceeds four months - and the type of terrain. A conservative estimate would be 24 months.

B. Engineering studies. These studies which are based on the conclusions of the feasibility studies are used to prepare the technical plans for the execution of the project. They should include:

- a) The complete technical study of the road to be developed: road limits, foundation, shoulders, carriageway, base

composition and geometric characteristics), etc.

- b) The complete study of deviations and modifications of the present alignment.
- c) The complete study of drainage and sanitary systems used: canals, underground <sup>of</sup> sewers, etc.
- d) The study/crossing over water courses, and sags: plans of the sites, plans for bridges, culverts etc.

In conclusion, the engineering studies should cover:

- The quantitative evaluation of the work (earthwork, clearing, grubbing) as well as all the plans and blueprints which are necessary for executing the project.
- As accurate an estimate as possible of the work to be carried out on the basis of the existence of sites for construction materials in the region.
- The full schedule of execution of the different projects and that of the investment planned.

Costs: They should be approximately 160,000 Nigerian pounds.

Duration: This is estimated at 24 months including the preparation of the report.

### 3) Traffic

27. Automobile traffic on the Abakaliki - Ekok road was estimated in 1971 at 289 vehicles per day.

FEDERAL REPUBLIC OF NIGERIA SUMMARY TABLE

| Sections                           | Length<br>(km) | Studies carried out<br>or underway  | Studies required or work<br>underway  | Cost - LN<br>M-millions<br>t-thousands | Duration<br>(months)<br>Date of completion |
|------------------------------------|----------------|---|---|--|--|
| Lagos -<br>Shagamu<br>Category C   | 54             | All the technical studies<br>are completed  | Reconstruction work financed<br>by the World Bank (IBRD) is<br>underway                                   | LN 2M                                  | 1974                                       |
| Shagamu -<br>Benin<br>Category C   | 264            | The technical studies con-<br>cerning the rehabilitation<br>and reconstruction project<br>are underway. | The reconstruction of 45<br>bridges is underway.<br>-It has also been decided to<br>reaspalt the surface. | LN 6M                                  | 1974                                       |
| Benin -<br>Asaba<br>Category C     | 137            |   | Reconstruction of the road<br>and bridges.  | LN 4.4M                                | 1973                                       |
| Asaba-Onit-<br>sha Bridge          | -              |   | Tenders have been invited<br>for the reconstruction of<br>the bridge                                      | 1)                                     | 1973                                       |
| Onitsha-<br>Enugu<br>Category B    | 108            |   | Technical studies for the<br>rehabilitation work are<br>planned   | N-A 1)                                 | To be carried<br>out in 1973 and<br>1974   |
| Enugu-Abaka-<br>liki<br>Category C | 85             | All the studies have been<br>completed and tenders are<br>soon to be invited                            |   | LN 2.5M                                | 1975                                       |
| Abakaliki -<br>Ekok<br>Category A  | 206            |   | Feasibility studies<br>Engineering studies  | LN 50t 2)<br>LN 150t 2)                | 24 months<br>24 months                     |

1) N-A - Cost not available

2) Approximate cost.