

TERMS OF REFERENCE

CONSULTANTING SERVICE FOR THE COLLECTION OF THE BASELINE
DATA AND DEVELOPMENT OF A SPATIAL DATABASE FOR THE PUBLIC
ROADS NETWORK OF MAINLAND TANZANIA

TECHNICAL ASSISTANCE TO THE ROADS FUND BOARD

AUGUST, 2020

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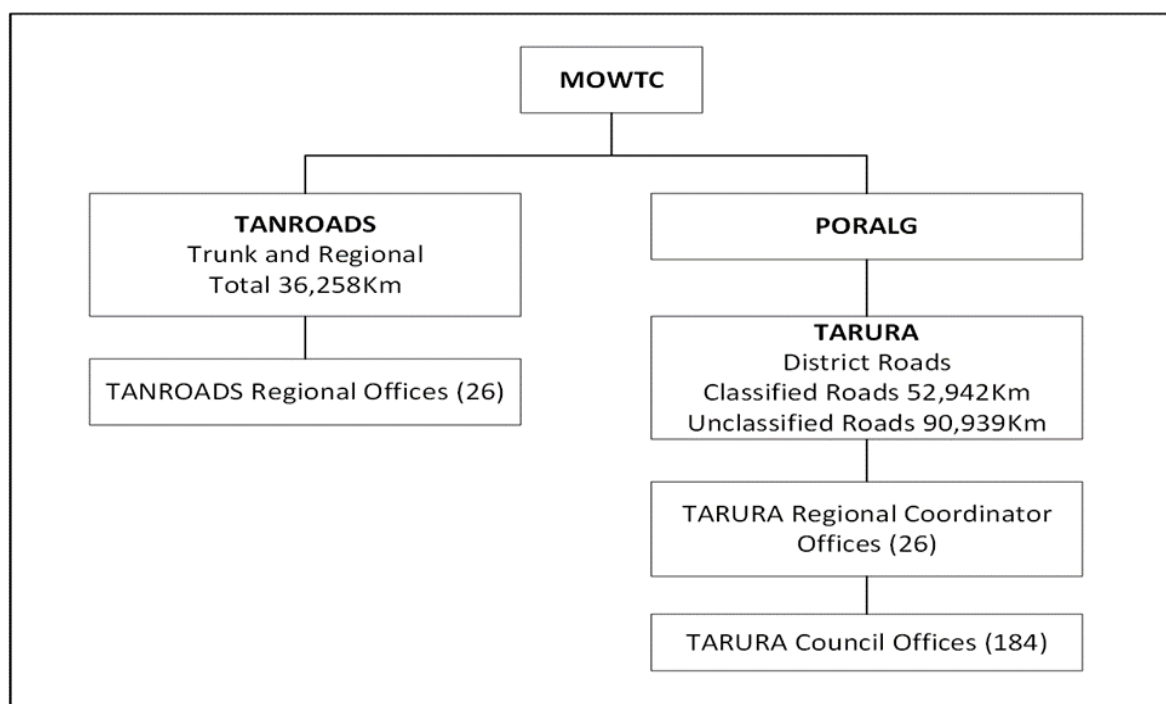
1.0 INTRODUCTION

The United Republic of Tanzania received a Grant from the Department for International Development of United Kingdom (DFID-UK) through the World Bank (WB) in the Roads to Inclusion and Socioeconomic Opportunities (RISE) program and intends to use the proceedings to carry out Consultancy Services for Development of a Spatial Database for The Road Network of Mainland Tanzania. The Roads Fund Board under the Ministry of Works, Transport and Communication is the Client for this project.

2.0 BACKGROUND INFORMATION

The United Republic of Tanzania is located in the eastern part of Africa, has a land area of about 945,000 km² and a population of about 45 million in the 2012 census. The United Republic represents a Union of the former Tanganyika (Mainland Tanzania) and Zanzibar (Unguja and Pemba islands). The road network in the Mainland Tanzania is administered by the Ministry of Works, Transport and Communication (MoWTC) and day to day administration of the roads network is done through TANROADS and TARURA, the Agency under the President's Office Regional Administration and Local Government (PO-RALG) as illustrated in Figure 1 below.

Figure 1: Roads Network Administration



2.1 The Roads Fund Board and Its function

The Roads Fund Board (RFB), who is the Client for this assignment, was established by THE ROAD AND FUEL TOLLS ACT, CHAPTER 220. It is charged with the main functions of ensuring sustainable availability of funds for roads

maintenance, disbursement of the funds to roads implementing agencies and monitoring its utilization.

2.2 Current Situation

According to the Roads Act 2007, all classified roads in Tanzania Mainland are vested under the Minister for Works, Transport and Communication. The Tanzania mainland has a roads network of 180,139km including (89,200km classified and 90,939km unclassified). Out of which about 36,258km are National Roads, classified as trunk and regional roads managed by the Tanzania National Roads Agency (TANROADS), an executive agency under the Ministry of Works. The remaining 143,881km (52,942km classified and 90,939km unclassified) are District Roads managed by TARURA, a roads agency under the President's Office Regional Administration and Local Government (PO-RALG).

In discharging its role of managing the national roads network, TANROADS uses its head office and supported by Regional Manager's Offices located in all 26 administrative regions of the mainland Tanzania. The district roads, which include, collector, feeder and community roads, are managed by TARURA through 184 Councils Manager's Offices and 26 Regional Coordinator's Offices. PO-RALG fulfils a coordination and oversight function through the Directorate of Infrastructure Development (DID). The estimated length of the public roads network in 2019 is provided in Table 1:

Table 1: Roads Network on Tanzania Mainland in 2019 (km)

S/No.	Road Class	Paved (Km)	Unpaved (Km)	Total (Km)	% of paved
1	Trunk Roads	8,306.00	3,870.00	12,176.00	5%
2	Regional Roads	1,756.00	22,326.00	24,082.00	1%
3	District Roads (Classified)	2,025.00	50,917.00	52,942.00	1%
4	District Roads (Unclassified)	0.00	90,939.00	90,939.00	0%
	Total	12,087.00	168,052.00	180,139.00	7%

Source: TANROADS & TARURA

In 1990, in order to strengthen the management and financing of the roads sub sector, the first generation of reforms in the sector commenced with the aim of strengthening the maintenance of the roads sub sector. In 1991, the Roads Fund was established to finance roads routine maintenance and some of the periodic maintenance (rehabilitation), based on fees collected from road users. In 1998,

the Parliament enacted the Roads Toll (Amendment) No. 2 Act 1998 which established the Roads Fund Board (RFB) to strengthen the management of the funds raised from road users, by ring-fencing the collected funds for roads maintenance. The main functions of the RFB are to collect, disburse and monitor utilization of funds by the road agencies. The current sources of revenue for the Roads Fund are Fuel levy, Transit fees, Road reserve user charges and Vehicle overloading fees. These reforms have been successful, with the proportion of the national road network in good or fair condition estimated at 87 percent at the end of 2019, with only the remaining 13 percent in poor condition.

3.0 PROBLEM STATEMENT

The management of any roads network requires reliable up-to-date data to accurately identify a road segment, to ascertain the current traffic volume, its condition, and the location and condition of any associated structures therein, in a database format that can be utilized by the Roads Asset Management System (RAMS). Accurate road identification and traffic data is needed to determine the allocation of road funding by the Roads Fund Board to national and district roads network. Thereafter the detailed inventory, condition and traffic surveys is needed by the RFB and the agencies to prioritise the necessary activities (routine, spot improvement or periodic maintenance) to maintain the roads network including its associated structures. TANROADS has an operational RAMS for the portion of the network for which they are responsible and TARURA have RAMS which is still in developing stages.

In the case of TANROADS, the systems are the Road Maintenance Management System (RMMS), Traffic Information Database (TIDB) and the Bridges Management System (BMS). TANROADS Roads Asset management systems, RMMS, BMS and TIDB (used for Seasonal Adjustment Factors) are all separately interfaced with a GIS for data viewing and mapping. The RMMS is a relational database containing the road network information such as road referencing, inventory, traffic and condition data and is being updated regularly. The system has the maintenance planning and programming modules such as those for estimation and prioritization of annual Periodic and Routine and Recurrent maintenance, the contracts monitoring and has been interfaced with HDM-4 software for multi-year maintenance planning and programming.

It is envisaged that the functionality of the existing systems be redeveloped on a new Information and Communications Technology (ICT) platform to make use of cloud and mobile technology whilst retaining the solid engineering principles employed in the existing systems. The redevelopment of the TANROADS RAMS into an integrated web-based Road Asset Management System has been planned

under separate arrangement that will be preceded by feasibility study that will analyze and recommend the technological options. Since TANROADS is in the process of upgrading the RMMS, which will be compatible with the new Data Base system to be developed, a module will be created by TANROADS in the existing RMMS to support the data exchange with RFB.

Within TARURA, the RAMS is the District Roads Management System (DROMAS), which is being established with the support of the United Kingdom Department for International Development (DFID). DROMAS is still in development stage, designed and being built using layered architecture based on an open-source technology. Currently more than 143,000 km of geocoded roads data is recorded in DROMAS and are in the process of being cleaned. DROMAS is effective in capturing inventory and basic condition data. The system has a module for planning of maintenance. The functionality is expected to be enhanced to cater for improved planning system approaches such as optimization.

The RFB, to fulfil its monitoring and oversight function for all expenditures in the roads sub sector, now intends to undertake and complete the baseline public roads data for the whole roads network, and establish a spatial database to link to and inform the RFB. The priori intention is that the RFB will be linked with the asset management systems of TANROADS and TARURA, and updated simultaneously as those databases are updated by the respective agencies, to ensure up-to-date and timely reporting to the RFB. With that regards, the RFB is intending to engage a **Consultant or Consulting firm** which will provide a consultancy service to establish a baseline data and to develop a spatial database for the entire roads network of Tanzania Mainland.

4.0 OBJECTIVES OF THE TECHNICAL ASSISTANCE

In view of what has been described above, the RFB intends to engage a Consultant to establish a baseline data of entire public roads network in Tanzania Mainland and develop a Geospatial data base for the public roads network of mainland Tanzania. The Consultant who will be undertaking the assignment will need appropriate technical guidance, supervision and coordination so that the deliverables are fit for the purpose. Given the manpower set up and the capacity of the Roads Fund Board, the Board has decided to engage an independent individual as Technical Adviser (TA) who will supervise the Consultant for the assignment. The TA will provide the technical oversight throughout the Consultancy Services for establishment of baseline data and later Geospatial database and ensure the outcome meets the desired objectives.

5.0 SCOPE

Using Professional Competence, the TA shall clearly and timely respond to each of the following tasks and clearly present the same in the report for ease of reference. The tasks shall include but not be limited to;

- i. Facilitate coordination and manage overall inputs between Client and the Consultant;
- ii. Review project progress reports submitted by the Consultant and advise the Client accordingly;
- iii. Summarize and present project progress (Monthly/ Quarterly/ Annual) reports regarding implementation of the project;
- iv. Review payment requests from the Consultant and advise the Client accordingly;
- v. Provide oversight for overall sub-projects financial management and financial reporting on sub-projects expenditures;
- vi. Ensure that project is implemented as per its ToR.
- vii. Assist in developing strong working relationship with both agencies and stakeholders that may be involved with the project and project implementation, and ensure smooth coordination among them;
- viii. Assist in developing detailed time bound implementation schedules for all activities to be implemented in the project;
- ix. Help to ensure compliance with the relevant GoT and World Bank policies and guidelines;
- x. Initiate actions in the event of any adverse variances against the original plan;
- xi. Provide assistance to identify refresher training courses for the Client on World Bank procurement/ Contract management procedures and guidelines; and
- xii. Provide other general advice and assistance to the Client as may be necessary from time to time.

A reference group called a Technical Committee with members from the Roads Fund Board, MoWTC, PO-RALG, MoLHSD, TANROADS, and TARURA has been established to oversee the day to day implementation of the project.

The TA will be managed by the Roads Fund Board (the Client), under the Guidance of the Steering Committee consisting of members from RFB, PO-RALG, MoWTC, MoLHSD, TARURA, TANROADS and the World Bank. The TA will be required to meet quarterly with the Steering Committee and present, among others, the work progress as well as issues encountered during the implementation of the assignment. The Client will provide guidance on the meeting schedule.

6.0 REPORTING

The TA shall prepare reports as follows:

- (i) **Inception Report** - Four (4) Copies of maximum 10 pages to be produced within two (2) weeks from the start of the assignment. In the report, the TA shall demonstrate and confirm the methodology, technical approach, timelines and milestones associated with the assignment.

The inception report will also inform comprehensively about first impressions and indicate risks of the assignment with their analyzed impact including proposed mitigation measures to reduce its impact and thus ensure to achieve the objectives of the assignment. The report must have an Executive Summary of maximum two (2) pages.

- (ii) **Progress Reports** - Four (4) copies to be submitted to the Client on a monthly, quarterly and annually basis to include information on the progress of the project and TA's recommendations. The format of the reports will be agreed between the TA and the Client during the Inception Stage.

- (iii) **Completion Report**

Four (4) copies to be submitted to the Client at the end of the assignment. The report shall communicate the final assignment results and compare these to the initial project scope requirements, schedule and budget. The report shall provide a final statement of record that summarizes and concludes all project activities and measure the achievement against the objective of the assignment and provide any recommendations as necessary. The format of the reports will be agreed between the TA and the Client during the Inception Stage

The TA will submit the reports in hard copies and soft copy both in PDF and in editable version.

7.0 DURATION OF THE ASSIGNMENT

The assignment duration is expected to be about two (2) years from the date of commencement of the assignment.

8.0 TECHNICAL ADVISER'S QUALIFICATIONS

The Technical Adviser is expected to have the following minimum qualifications: -

- (i) Minimum of Master's degree in Transport Economics, Civil Engineering, Transport Planning or related field.

- (ii) At least ten (10) years working experience in the roads maintenance planning with a proof of good performance in similar assignment in any country
- (iii) Familiarity with different categories of roads networks classification in Sub-Saharan Africa, their management and financing. Knowledge of the Tanzanian network is an added advantage.
- (iv) Proven experience in roads asset management with a demonstrated experience in planning roads condition surveys including evaluating and assessing the roads condition data.
- (v) Solid understanding of the principles of asset management and roads condition surveys including associated structures
- (vi) Familiar in functionality and processing of road asset data.
- (vii) Knowledge of Bridges maintenance management including Bridges Condition assessment
- (viii) Excellent written and spoken English

9.0 FACILITATION AND ASSISTANCE TO THE TA

Facilitation to the TA shall include but not be limited to Remuneration fees on monthly basis and Reimbursable at the agreed rate. The Reimbursable will cover Transport, accommodation and communications. The Technical Adviser will enter the Time Based Contract with RFB.

Also, office accommodation of a reasonable standard and space for the TA will be provided within the RFB office building in Dodoma city which will be the TA Duty Station.

The Roads Fund Board in liaison with MoWTC and PO-RALG will make available the following:

- (i) Necessary policy and legal documents including the Roads and Fuel Tolls Act cap 220.
- (ii) Relevant data, reports and materials readily available with MoWTC, TANROADS, PO-RALG, TARURA and RFB necessary for the assignment.

Any other requirements such as equipment (laptop, mobile phone, etc.) and secretarial services will be borne by the TA.