

**Annexure I****Detailed Scope of Work for Viability Study & Preliminary Engineering****A. TASKS**

**1. Primary Tasks.** General scope of services shall include but not limited to the following major tasks:

- i. Review of all available reports and published information about the roads and the project influence area;
- ii. Environmental and social impact assessment, including such as related to cultural properties, natural habitats, involuntary resettlement etc;  
(a) public consultation including consultation with communities located along the road, other stakeholders and relevant Govt. Depts. at all the different stages of the assignment (such as inception stage, feasibility stage and preliminary design stage);
- iii. Detailed reconnaissance;
- iv. Identification of possible improvements in existing alignment and bypassing congested locations with alternatives, evaluations of different alternatives comparisons on techno – economic and other considerations and recommendations regarding most appropriate options;
- v. Traffic studies including traffic surveys and axle load survey and demand forecasting ;
- vi. Inventory and conditions survey of roads;
- vii. Inventory and condition survey for bridges, cross drainage structures and drainage provisions;
- viii. Pavement investigations;
- ix. Value analysis/value engineering and project costing;
- x. Economic and financial analysis;
- xi. Contract packaging and implementation schedule;
- xii. Financial viability of project and different PPP financing options (BOT, BOOT, BOLT, etc); Consultant shall demonstrate how thae arrived at the choices.
- xiii. Preparation of preliminary project report, cost of estimate, rate analysis, bill of quantities, bid documents for execution of civil works through PPP basis;
- xiv. Preparation of social plans for the project for the project affected people (PAP) as per policy of the lending agencies / Govt / State policy with following information
  - Objectives of the Project
  - The need for the Resettlement in the Project and evaluation of measures to minimize resettlement.
  - Description and results of public consultation and plans for continued participation of PAPs .

- Definition of PAPs and eligibility criteria.
- Census and survey results number affected, how are they affected and what impact will they experience.
- Legal and entitlement policy framework – support principles for different categories of Impact.
- Arrangement for monitoring and evaluation (internal and external)
- Implementation schedule for resettlement which is linked to the civil works contract.
- A matrix of scheduled activities linked to land acquisition procedures to indicate clearly what steps and actions will be taken at different stages and the time frame.
- The payment of compensation and resettlement during the acquisition process.
- An itemized budget (replacement value for all assets) and unit costs for different assets.

**2. Estimation of Costs.** The Transaction Advisor shall prepare preliminary project cost, including the cost of environmental and social safeguards proposed based on market rate for the inputs. The estimation of quantities, based on preliminary designs, and costs would be worked out separately for each road. The project cost estimates so prepared are to be checked against rates for similar on – going works in Nigeria under FMWH&UD financed road sector projects.

**3. Economic Analysis.** The Transaction Advisor shall carry out economic analysis for the roads. The analysis shall take in to account ongoing and planned road and transport infrastructure projects and future developments plans in the project areas. The benefits and cost streams should be worked out for the project using HDM-IV or other internationally recognized life–cycle costing model. The economic analysis shall cover but be not limited to the following aspects:

- i. asses the capacity of existing roads and the effects of capacity constraints on vehicle operating costs (VOC)
- ii. Calculate VOCs for the existing road situation;
- iii. Quantify all economic benefits, including those from reduced congestion, travel distance, road maintenances cost savings and reduced incidence of road accidents;
- iv. Estimate the economic internal rate of return (EIRR) for the roads. In calculating the EIRR, identify the tradable and non-tradable components of projects costs and the border price value of the tradable components;
- v. savings in time value.

Economic Internal Rate of Return (EIRR) and Net Present Value (NPV), “with” and “without time and accident savings” should be worked out based on this cost–benefit stream. Sensitivity of EIRR and NPV worked out for the different scenarios. Some indicative scenarios are given below:

Scenario-I	Base costs and base benefits
Scenario-II	Base costs plus 15% and base benefits
Scenario-III	Base costs and base benefits minus 15%
Scenario-IV	Base costs plus 15 % and base benefits minus 15%

**4. Financial Analysis and Financing Options.** The values of input parameters, assumptions and calibration methodologies for financial analysis, and the rationale for their selection, shall be clearly stated and approved by FMWH&UD. Financial sensitivity shall be carried out to reflect different user fee scenarios and funding options. The Transaction Advisor shall suggest positive ways of enhancing the project viability and furnish different financial models for implementing on DBOT (PPP) format.

## **B REPORTS**

The Transaction Advisor shall submit to FMWH&UD **six copies each** of the reports and documents in bound volumes after completion of each stage of work as per the schedule listed. Further, the reports shall also be submitted in CDs / DVDs addition to the hard copies.

### **1. Quality Assurance Plan (QAP) Document**

Immediately upon the award of contact, the Transaction Advisor shall submit QAP document covering all aspects of field studies, investigations design and economic/financial analysis. The quality assurance plans/procedures for different field studies, engineering surveys and investigation, documentation activities should be presented as separate sections; identification, checking, approval and filing of calculations, identification and tractability of project documents etc. The staff plan shall be furnished and include the details of people who shall be responsible for carrying out/preparing and checking/verifying various activities forming part of feasibility study and project preparation, since inception to the completion of work. The field and design activities shall start after the QAP is approved by FMWH&UD.

The data formats proposed by the Transaction Advisor for use in field studies and investigations shall be submitted within 14 days after the commencement of services and be approved by FMWH&UD.

### **2. Inception Report (IR)**

The report shall cover at least following major aspects:

- (i) Project appreciation;
- (ii) Detailed methodology to meet the requirements of the TOR, finalized in consultation with the PPP UNIT officers; including scheduling of various sub-activities to be carried out for completion of various stages of the work; stating out clearly their approach & methodology for project

- preparation after due inspection of the entire project stretch and collection / collation of necessary information;
- (iii) Task assignment and Manning Schedule;
  - (iv) Work programme;
  - (v) Proforma for data collection;
  - (vi) Design standards and proposed cross-sections;
  - (vii) Key plan and Linear plan;
  - (viii) Development plans being implemented and / or proposed for implementation in the near future by the local bodies and the possible impact of such development plans on the overall scheme for field work and design for the study;
  - (ix) Quality Assurance Plan (QAP) finalized in consultation with FMWH&UD;
  - (x) Draft design standards; and
  - (xi) The requirements, if any, for the construction of bypasses should be identified on the basis of data derived from reconnaissance and traffic studies. The available alignment options should be worked out on the basis of available maps. The most appropriate alignment option for bypass should be identified on the basis of site conditions and techno-economic considerations.

### **3. Technical Feasibility Report**

The Transaction Advisor shall commence the Technical Feasibility Study of the project in accordance with the accepted IR and the report shall contain the following:

- Executive summary
- Project description
- Socioeconomic profile of the project areas
- Indicative design standards, methodologies and specifications
- Traffic surveys and analysis
- Environmental screening and preliminary environmental assessment
- Initial social assessment and preliminary land acquisition/resettlement plan
- Cost estimates
- Economic and financial analysis inclusive of financial modeling succinctly presented
- Conclusions and recommendations

The basic data obtained from the field studies and investigations shall be submitted in a separate volume as an Appendix to Feasibility Report. The Final Feasibility study Report incorporating comments, revisions and modifications suggested by FMWH&UD shall be submitted within 15 days of receipt of comments on draft feasibility study report.

### **4. Land Acquisition Report**

The Land acquisition report shall be prepared and submitted. The report shall include detail schedules about acquisition of land holdings as per revenue records and their locations in a strip plan and also the costs as per district authorities.

Details shall be submitted in land acquisition proforma to be supplied by FMWH&UD.

The land acquisition report should be prepared in consultation with affected persons, non-governmental organizations and concerned government agencies and should cover land acquisition and resettlement plan and costs of resettlement and rehabilitation of such affected persons. It should also include plan of compensating afforestation, its land requirement with specific locations and cost involved for undertaking all activities in this regard.

## **5. Preliminary Project Report-PPR**

The Draft PPR shall be prepared separately for each road and shall contain the following:

### **Volume-1: Preliminary Project Report**

- Executive summary
- Project description
- Summary of EIA/IEE and Action Plan
- Summary of Resettlement Plan
- Updated cost estimates
- Updated economic and financial analysis
- Conclusions and recommendations

**Volume –II:** Environment Impact Assessment or Initial Environmental Examination and Environmental Management Plan

**Volume – III:** Resettlement Plan and Resettlement Action Plan

The basic data obtained from the field studies and investigations and input data used for the preliminary design shall be submitted in a separate volume as an Appendix to PPR. The Final PPR incorporating comments, revisions and modifications suggested by FMWH&UD shall be submitted within 15 days of the receipt of comments of FMWH&UD on the Draft PPR.