**Terms of Reference Summary**

**Jordan’s Road Asset Management System**

**Background**

The Ministry of Public Works and Housing (MoPHW) is responsible for the management of the road network in Jordan which comprises of approximately 10,000 kilometers. The Ministry is responsible for the planning, development, operation and maintenance of the road network. Jordan is unable to provide sufficient resources for the optimal maintenance of its road network, which are long-term assets that require regular maintenance. At the same time, rapid traffic growth and normal wear and tear exert pressure on the road network's capacity and performance.

The development, operation and maintenance of the roads system is a national priority in Jordan. Despite a close to US$ 2.00 billion of investments in the road sector over the past decade and a half, negligible resources have been allocated to maintain the new road assets as well as existing ones. This has resulted in a nearly 40-50% of the road network in poor condition that require urgent maintenance. It is essential to note that poorly maintained roads are contributing to road traffic accidents, an issue of deep concern to the government of Jordan.

Current planning for road maintenance investment depends on the availability of funds. Due to lack of funds and the absence of efficient planning, roads are let to deteriorate to the point that cost-effective technical solutions are not an option. Besides the absence of institutional structure for road asset management and decision-making tools, current road maintenance planning lacks clear and well-defined strategy for the MOHPW’s road maintenance department to plan for road maintenance investments.

**MOPWH Organization**

The Road Administration under the MOPWH is the government’s agency is responsible for the day-to-day management of the operations and maintenance of the road network. It manages road maintenance and execution contracts throughout The main roads network in Jordan. Road preservation works are classified as (i) routine maintenance works; or (ii) preventive maintenance works. The Road Administration's role is to manage the construction, operation, and maintenance

of the road network, collects roads condition and traffic data Whereas, the GIS department is the responssible for operating the GIS.

Currently, there is no road asset management system in place in the MOPWH, and maintenance contracts are carried out based on availability of funds. However, the MOPWH does have limited road inventory and condition database that needs to be assessed, and if in good quality, to be utilized and migrated from the existing database to the new RAMS, and a full new database must be collected and developed and utilized.

The MOPWH has an IT Division responsible for management and administration of the MOPWH’s communications network and IT infrastructure. The MOPWH also uses an existing GIS system in the ArcGIS Platform that is capable of displaying the road inventory information. (Extent of capabilities and design need to be assessed and included in this TOR).

**Scope of Work-Summary**

This Terms of Reference (TOR) is to undertake the following tasks:

1. **Review and assessment of the MOPWH’s roads data inventory, as well as the institutional, and IT technology infrastructures and systems for the purpose of establishing a Road Asset Management System (RAMS) within MOPWH.**
2. **Undertake road inventory and road condition data collection.**
3. **Assist the MOPWH in Supply, installation, proving and handing-over of the RAMS as follows:**

A. Develop the required technical specifications, bidding document for supply and installation of RAMS that shall include software, hardware, processes, as well as data analysis and reporting.

B. Assist in the evaluation of bids received as a result of the above bid invitation by the MOPWH

C. Supervise the supply, installation, implementation, operation and handing over of RAMS.

1. **Institutional and technical capacity building and training for the MOPWH’s Road administration and RAMS Unit.**

The RAMS will be utilized to process road data such as inventory, condition, road traffic, road accidents, climate and hazard risks and unit costs for capital and maintenance investments and other related data, for road planning and life-cycle cost analysis purposes. A dedicated RAMS Unit already had been established within the MOPWH hierarchy, staffed with qualified and motivated staff, and strengthened with clear responsibilities and sustainable budget.

**Data Collection**

The Consultant’s work under this TOR includes the data collection to survey *up to 3,000* Kilometers of Primary and Secondary roads under the responsibility of MOPWH (both sides of the road from the central line until the end of the embankment).

The Consultant will provide qualified staff and all equipment needed to complete the surveys. All equipment provided for the data collection will remain the property of the consultant. As part of the technology transfer, the consultant is required to train the MOPWH's RAMS Unit staff on the use, maintenance, and calibration procedure of these equipment.

**Jordan’s Road and Highway Map and Inventory**

**Jordan Roads and Map-2021 (as following)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Region** | **Governorate** | **Primary, Km** | **Secondary, Km** | **Rural, Km** |
| North | Irbid | 236 | 335 | 351 |
| Ramtha | 41 | 55 | 15 |
| Al Mafraq | 520 | 270 | 580 |
| Jerash | 95 | 108 | 235 |
| Ajloun | 50 | 142 | 56 |
| **Sub. Total** | **942** | **910** | **1237** |
| Middle | Amman | 306 | 190 | 529 |
| Al Balqa | 227 | 136 | 287 |
| Al Zarqa | 350 | 153 | 154 |
| Madaba | 131 | 120 | 188 |
| **Sub. Total** | 1014 | 599 | 1158 |
| South  | Al Karak | 295 | 175 | 207 |
| At Tafilah | 260 | 166 | 165 |
| Ma'an | 566 | 300 | 63 |
| Al Petra | 5 | 39 | 27 |
| Al Aqaba | 321 | 172 | 51 |
| **Sub. Total** | **1447** | **852** | **513** |
|  | **G. Total** | 3403 | 2361 | 2908 |

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