



THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF WORKS AND TRANSPORT

TANZANIA NATIONAL ROADS AGENCY

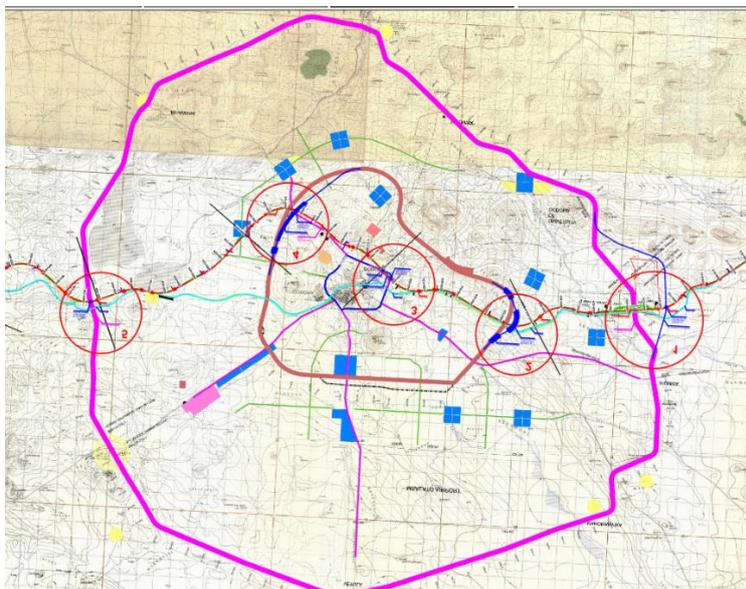


TANZANIA TRANSPORT INTEGRATION PROJECT (P165660)

TERMS OF REFERENCE (TOR)

FOR

**CONSULTANCY SERVICES FOR DEVELOPMENT OF AN INTEGRATED TRANSPORT
MASTERPLAN FOR DODOMA, TANZANIA**



JANUARY 2023

Contents

1. Project Context.....	1
2. Scope of Work.....	4
<i>Purpose of the Assignment</i>	4
<i>Strategic focus areas</i>	4
<i>Tasks</i>	7
3. Deliverables and timelines	9
4. Required skills.....	11
5. Criteria for Selection.....	Error! Bookmark not defined.
6. Terms of Assignment	13
7. Annexure A – List of reports/ studies to be considered for project execution....	15

TERMS OF REFERENCE (TOR)

FOR

CONSULTANCY SERVICES FOR DEVELOPMENT OF AN INTEGRATED TRANSPORT MASTERPLAN FOR DODOMA, TANZANIA

1. Project Context

- 1.1 Rapid urban population growth in Tanzania has made urban areas key to national economic growth and poverty reduction. Urban population is growing on average 5% per year. One of the fastest growth rates among Sub-Saharan African (SSA) countries with similar urban share of the population is Tanzania which however ranked third after Rwanda and Burkina Faso. It is estimated that by 2050 more than half of all Tanzanians will be living in urban areas. In 2012, four Tanzanian cities produced approximately half of the country's GDP, and it is expected that by 2030 the four largest Tanzanian cities will account for almost 60% of the country's GDP. With a population of about 6.7 million as per 2022 census Dar es Salaam concentrates 40% of the urban population. An additional 20% of the urban population lives in Mwanza, with more than 1 million inhabitants, and Zanzibar City, Arusha, and Dodoma, with more than 500,000 people. Urban population is rapidly growing in most intermediate cities with population growth between 3% and 9% per year.
- 1.2 Dodoma, specifically, is expected to see significant population growth and investment following the shift of the National Capital from Dar es Salaam. Capital investments and the reallocation of public servants to Dodoma has triggered new economic opportunities and attracted many new migrants to the city with an associated number of vehicles resulting in significant pressure on urban services including transportation. As economic opportunities and income grow, people are likely to increase their expenditure on transport which is shifting too faster and in more convenient modes. Pedestrians switch to either public or private transport and those riding public transport switch to motorcycles and automobiles. This transition is proven to happen faster in Tanzania than is typical. While cross-country data show that demand for motorized vehicles is associated with an average increase of 9.2% for every 10% increase in GDP per capita. This relationship is at least three times stronger in Tanzania. Between 2013 and 2017, the motorization rate increased 11% per year, from 28 to 43 vehicles per 1,000 inhabitants, while GDP per capita only increased 3% per year. Though rapid motorization is currently concentrated in Dar es Salaam, cities like Dodoma are likely to follow this pattern.
- 1.3 The Tanzanian Government has a window of opportunity to arrest this trend within Dodoma by shifting its mobility paradigm to favour people and avoid being trapped in the cycle of automobile dependence. Cars and motorcycles impose a direct financial cost on the Government in the form of demand for roads and indirect financial cost to health services and others. Roads are a form of subsidy for private transport. So, meeting this increased demand will induce yet greater demand for cars and motorcycles. Once a city is car-dependent, there is no quantity of roads that can be built to meet demand. The only intervention is the development of sustainable urban transport systems that is characterised, in practice, by: dense, liveable, and people-oriented cities; high quality public transport systems; and non-

motorised transport networks. Major hurdles to achieve these systems in Dodoma include i). fragmented Government Institutions with gaps in certain competencies related to Urban mobility, ii). lack of integrated and holistic transport vision and plans, and iii). no clear, rationalized and agreed pipeline of transport projects that will enable the development of these sustainable urban transport systems.

1.4 The Government of Tanzania (GoT) in January 2021 submitted a request for funding (\$217m USD) for the Dodoma Urban Transport and Decongestion Project.¹ The original objective of the project, as defined in the Government's concept note was to "support the GoT to increase efficiency of road transport sector, reducing negative impacts of inefficient transport links, accelerating socio-economic activities, ensuring higher quality of life for its citizens and also in reducing the overall poverty in the region and promote regional integration and cross border trade with Tanzania". Expected results included: Decongestion of Dodoma City, reduction in travel time, reduction in vehicle operating cost, improvement of road safety and enhancement of regional integration.

1.5 During a subsequent World Bank technical mission, it was agreed that to sustainably achieve the expected results for the Project, there was a need to broaden the scope from road expansion to sustainable decongestion, and to use the project to build the foundation for an urban mobility program for Dodoma. Accordingly, in April 2022 a key outcome of an on-site technical mission confirmed the need for an Integrated Transport Masterplan to guide the selection of high priority activities for financing under this program. The main aim of this masterplan is to develop a comprehensive multimodal transport plan that will identify all possible transport investments in the Dodoma area including public transport, non-motorized transport (NMT) and strategic road projects.

2. Project Objective

2.1 To develop an Integrated Transport Masterplan for Dodoma which will be the base for the identification of transport projects enabling the shift to a sustainable transport system in Dodoma.

2.2 **Figure 1** below shows the proposed Dodoma Land Use Master Plan prepared by PO-RALG.

¹ During a mission in September 2022, the project name was changed to Dodoma Integrated and Sustainable Transport (DIST) Project

DODOMA NATIONAL CAPITAL CITY MASTER PLAN
PROPOSED LAND USE PLAN 2019-2039

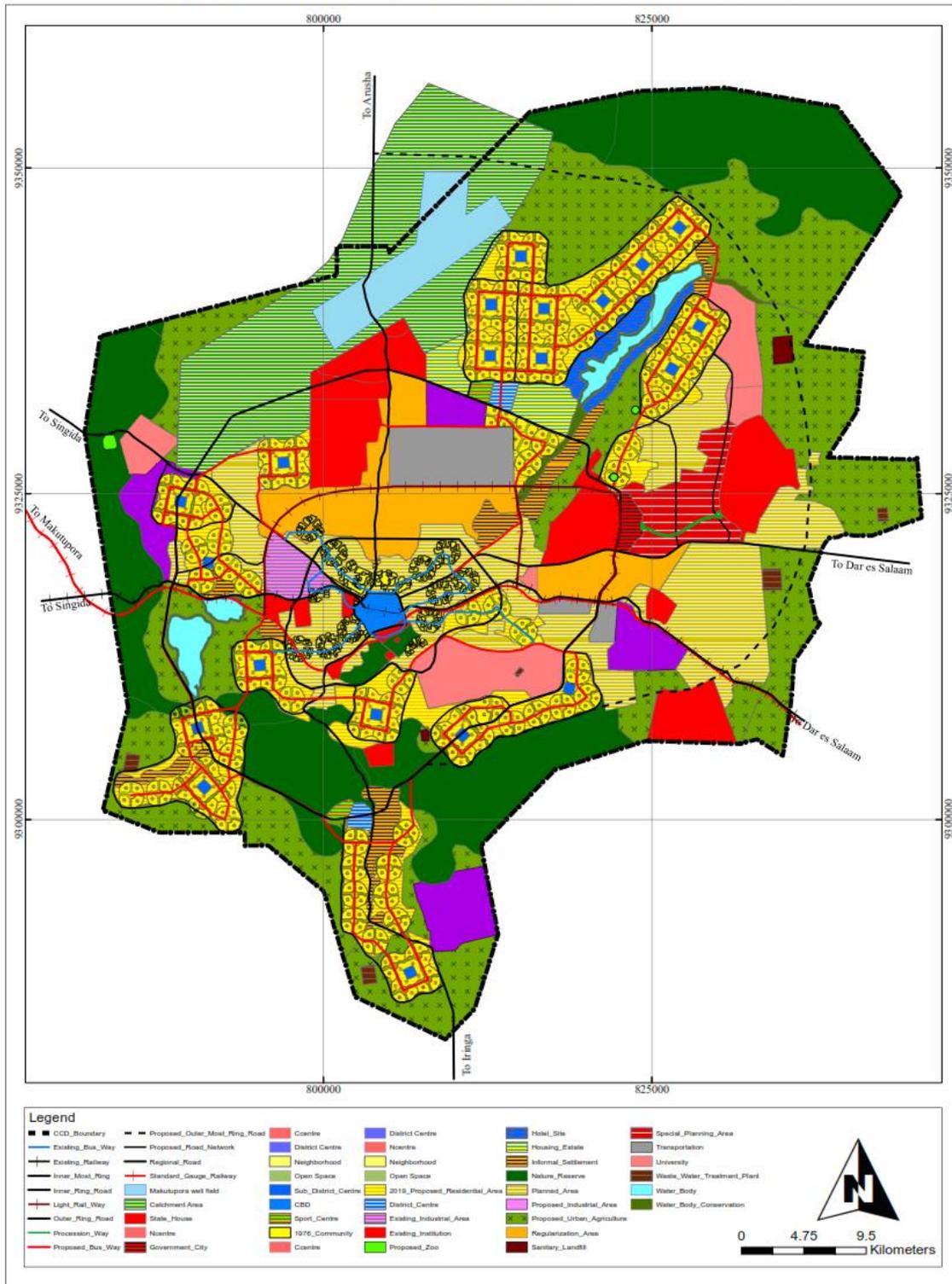


Figure 1: Dodoma Urban - Land Use Master Plan

3. Scope of Work

Purpose of the Assignment

3.1 The long-term objective of the overarching Dodoma Integrated and Sustainable Transport (DIST) project is to set Dodoma on a path towards integrated and sustainable (safe, resilient, and green) urban mobility for all users in an effective, efficient, and safe manner, contributing to the overall development of the city. Achieving these goals will require addressing a number of challenges regarding institutions (such as a lack of coordination between stakeholders, fragmented data, mode specific institutions, and institutional capacity constraints regarding planning and implementation); policies and regulations (including a lack of integration between land use planning and transport planning, informal public transport systems, and an implicit prioritization of vehicles over other road users); and missing links and bottlenecks in the existing transport infrastructure. To address these challenges, the DIST project will support strategic and integrated transport planning, establishment of an institutional enabling environment for urban mobility and tactical transport infrastructure investments to address missing links and bottlenecks while supporting a sustainable long-term vision.

Strategic focus areas

3.2 The development of the Integrated Transport Masterplan must respond to at least the following strategic principles as set out in the following strategies/ reports: -

a) The World Bank publication – Shifting the Mobility Paradigm of Intermediate Cities in Tanzania – Urban Transport for People²

Sustainable Transport strategies must involve shifting towards a more sustainable, people-centric approach. People-centred sustainable mobility is a first step for better transport in Dodoma, Tanzania which includes the following principles: -

- (i) Embracing all modes of travel, population income levels, ages, abilities, and genders, as well as all stages of a trip;
- (ii) Effectiveness and cost efficiency, ensuring that infrastructure and transport services respond to population needs equally and can be properly maintained and managed for optimum use;
- (iii) Facilitating the safe sharing of right of way space between all transportation users, and
- (iv) Resource efficiency and climate resilience.

The document expounds on four (4) key areas required to shift the mobility paradigm in Tanzanian cities, namely: set a new strategic vision for urban transport, improve urban transport governance, strengthen urban transport finance, and improve transport management and operations.

² (Ochoa, Agilar-Restripo, Herber, & Turk, 2021)

b) GIZ sustainable urban transport project – 10 principles for sustainable urban transport

The ten (10) principles for sustainable urban transport are shown in Figure 2 below, and range from dense and human scale city planning, fostering walking and cycling as well as public transport, to promoting clean vehicles and to improve the efficiency of transport operations³

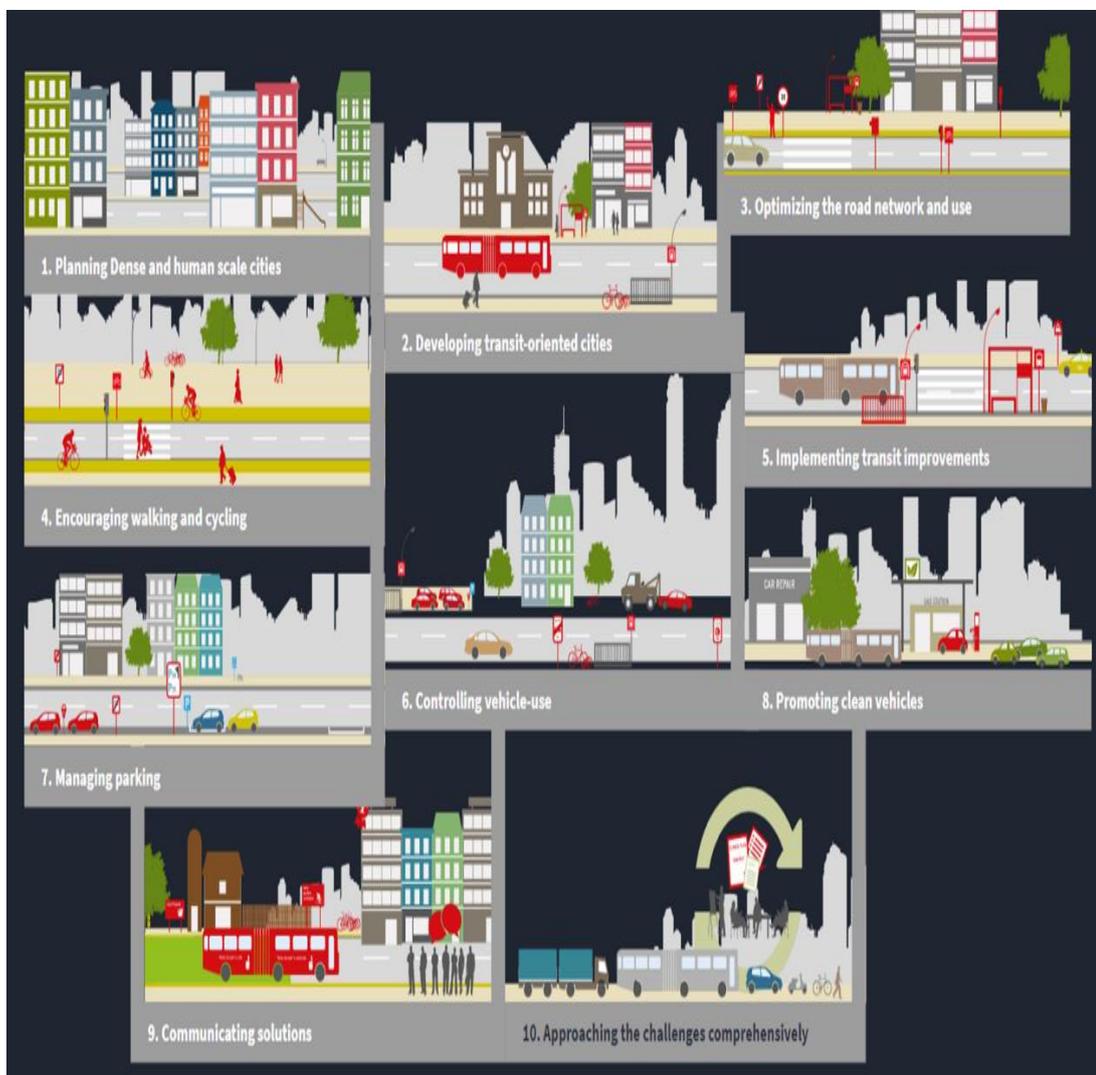


Figure 2: GIZ ten (10) principles for Sustainable Urban Transport

c) SSATP Africa Transport Policy Program – Policies for Sustainable Accessibility and Mobility in Urban Areas of Africa⁴

This policy guideline recommends an EASI conceptual framework to drive the sustainable transport agenda in African urban areas which highlights the 4 components of **Enable**, **Avoid**, **Shift**, and **Improve** as shown in **Figure 3**.

³ <https://sutp.org/publications/10-principles-for-sustainable-urban-transport/>

⁴ (Stucki, 2015)

Figure 6. EASI, a conceptual framework to steer public action towards sustainable accessibility and mobility in African urban areas

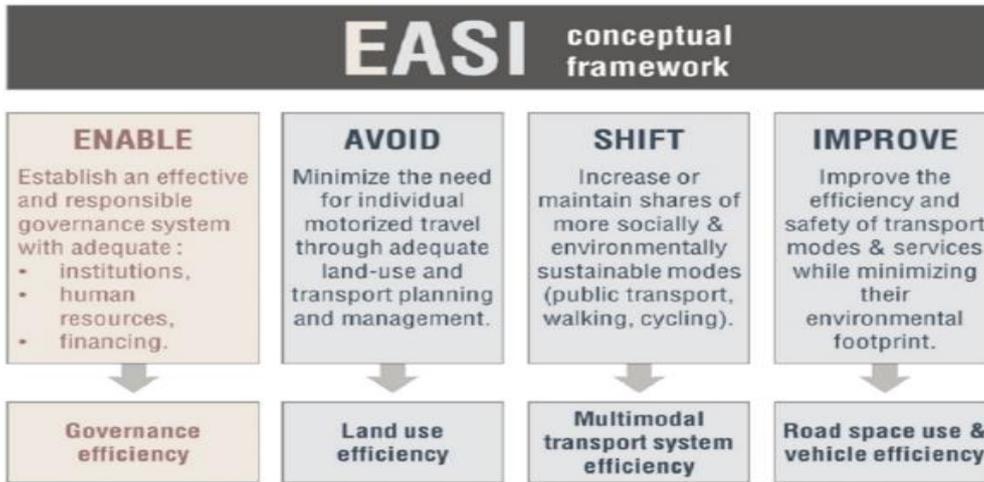


Figure 3: EASI Conceptual Framework

d) Five (5) principles of gender and transport (GIZ/TUMI)⁵

The principles below illustrate how to address women’s priorities in transport. The principles are diverse and go from collecting sex disaggregated data to addressing sexual harassment and promoting behavioural change.



Figure 4: Principles for woman and transport

⁵ GIZ and TUMI publication

Tasks

3.3 To develop the Integrated Transport Masterplan for Dodoma, the Consultant firm will:

-
- a) Review current national and sub national transport policy in the light of enabling sustainable urban transport projects and make amendment recommendations to the Ministry of Works and Transport (MoWT) and Presidents Office, Regional Administration and Local Government (PORALG) accordingly.
- b) Develop a Desktop review analysis of all the existing transport plans covering public transport, NMT and Roads. This will at least include 2019 Transportation System Plan, and the 2021 Analytical Study of Public Transport System in Dodoma City Council prepared under the World Bank Tanzania Strategic Cities Project. In addition, the Consultant will review the findings of a gap analysis report prepared by the World Bank in preparation of this assignment. Amongst others the analysis should also cover a review of transport plans and strategies covering public transport, NMT and Roads that refer to gender differences, priorities, or challenges in these topics.
- c) Review transport data collected and comment on its value, relevance, and applicability for this project, including if the data was disaggregated by sex or if it includes data on groups in a situation of vulnerability as people with disabilities. List of salient transport data to be discussed in this chapter is attached as **Annexure 1**.
- d) Collect additional data (if needed based on Task C above). While extensive data has been collected during the 2021 Analytical Public Transport Study, there might be a need to collect further data subject to the Consultant review of the current available data.
- e) Identify, with adequate substantiation, a list of *non-regret* projects that can be selected early in the process prior to the completion of the transport masterplan. Non-regret projects are projects with clear and obvious revealed benefit supported by current transport data, knowledge, and existing transport studies and if implemented provide a low risk of failure.

These projects could consist of, but are not limited to pedestrian connections and upgrades, public transport infrastructure like embayment's shelters and stops, and/or strategic road upgrades that have been identified in previous studies.

In addition to suggestions from TANROADS, TARURA, LATRA and the Local Council, the Consultant firm should do their own assessment based on existing transport data, local knowledge, and transport studies. Of key consideration within in this list are the upgrade of the four (4) major radial roads and it is expected from the Consultants to advise, review, and confirm the lengths, conceptual design and supporting cross section of each road corridor to effectively respond to the transport needs for all road users within these road corridors. Additional roads and pedestrian infrastructure as proposed by TARURA will be considered as well. In the inception report, the Consultant is

required to provide methodology and criteria for the selection of these non-regret projects.

- f) Develop a transport demand macro- model including reviewing and updating the previously developed model under PoRALG as it will give guidance on extent of work required on this task to both assess the existing transport network and the proposed network scenarios to enable the identification of a preferred multi-modal transport network that adequately responds to the future demand for Dodoma. During the 2021 Analytical Public Transport Study, a VISSUM macro transport demand model was developed.
- g) Develop an overarching integrated transport vision, objectives, goals, time horizon and targets that will enable both the Dodoma City Masterplan and implement the globally accepted sustainable transport mobility agenda establishing a prominent role for Public Transport and NMT within its integrated plans.
- h) Prepare Status Quo report for transport movements within Dodoma for all existing modes of transport. This report must show existing performance (score card) against the established goals and targets.
- i) Develop a multi-modal transport network for Dodoma city through the following steps: -
 - (i) Develop Modal Network Scenarios where each scenario provides proposed plans for the road network, all public transport options including rail and NMT covering Dodoma. At least four (4) scenarios should be prepared which will also include the Do – Nothing scenario. Development of these scenarios should be discussed with local transport and urban planning Government officials and stakeholders. The scenarios should incorporate elements to address the mobility patterns of different groups including women and men, and people in a situation of vulnerability including low-income populations and those living with disability.
 - (ii) Land-use scenarios should be gleaned from the Dodoma Masterplan and be discussed and approved by the appropriate GOT officials.
 - (iii) Technical (transport modelling) analysis of these network scenarios must focus on optimising the agreed goals and targets plus an economic/ social and environmental evaluation to arrive at a sustainable multi-modal transport network.
 - (iv) Transport Economic Evaluations. In addition to the technical evaluations, the Consultant must also perform an economic evaluation that will also consider social, gender and environmental criteria to comprehensively assess the identified scenarios. This will enable the identification of a preferred multi-modal transport network that will enhance sustainable development in Dodoma.
 - (v) Culminate with a recommended integrated and multi-modal transport plan for Dodoma. For each transport mode (road, public transport and NMT)

provide city wide plan characterising rights of way that distinguishes between appropriate mobility and accessibility functions effectively responding to the surrounding urban environment, thus enabling sustainable integrated transport corridor development. In support, also provide typical cross sections.

- j) Develop a prioritised pipeline of transport projects with timelines from the preferred multi-modal transport plan for Dodoma.
- k) Assess various opportunities for sustainable funding sources to support the multi-modal plan.
- l) Prepare and facilitate guided workshops to be attended by key stakeholders to stimulate active debate to solicit input for the areas described in the Scope of Works. The following workshops is envisaged:
 - (i) Workshop 1: Vision goals and objectives & current transport network performance. This will also include a focus group discussion about the mobility challenges that different groups face such as women, men, people with disabilities and people with different income levels.
 - (ii) Workshop 2: Development of Transport Network Scenarios and agree on the Evaluation Criteria.
 - (iii) Workshop 3: Preferred Multi-modal Transport Network.

While three workshops are envisaged, the Consultant is invited to offer variations to this approach.

- m) Provide the GoT with strategic advice and other support (as needed) for the deliverables associated with the project mentioned above, such as aide memoires, review documentation, etc.

4. Deliverables and timelines

4.1 The duration of the study is estimated to be approximately **8 months** from the project launch with a schedule of deliverables provided below.

Deliverables	Timing
1. Project inception report clarifying project deliverables, methodology and timelines.	1 month from commencement date.
2. Desktop review analysis report covering: <ul style="list-style-type: none"> • National and Sub- National Transport Policy review report, (Task 3.3 a) • Existing Transport plans and strategies (Task 3.3 b), and • Transport Data and information (Tasks 3.3 c & d) 	2 months from commencement

<p>3. Report on the early identification of non-regret projects prior to the completion of the Masterplan (Task 3.3 e). For the road related non-regret projects, the report must confirm the lengths, conceptual design and supporting cross section of each proposed radial road corridor projects to effectively respond to the transport needs for all road users within these road corridors.</p>	<p>3 months from commencement</p>
<p>4. Integrated and multi-modal transport report covering following key subjects:</p> <ul style="list-style-type: none"> a. Transport vision, goals, and objectives, b. Transport status quo report. Performance/ Report card against objectives, c. Desk Review Report of historical reports and studies, d. Transport network development scenarios: Road, Public Transport and NMT. e. Transport Modelling Results: Do- nothing and future scenarios, f. Transport Economic Evaluation results, g. Preferred Integrated and multi-modal Transport Network. For each transport mode (road, public transport and NMT) provide city wide plan characterising rights of way that distinguishes between mobility and accessibility functions. In support, also provide typical cross sections. h. Implementation plan, and funding plan. 	<p>Item 4a– 4c: 3months from commencement</p> <p>Item 4d: 4 months from commencement</p> <p>Item 4e–4g: 6 months from commencement</p> <p>Item 4h: 8 months from commencement</p>
<p>5. PowerPoint (PPT) presentations and strategies for the workshops and consultation process.</p>	<p>Continuous as directed by GoT</p>
<p>6. Summary notes of the process and outcomes.</p>	<p>Continuous as directed by GoT</p>

4.2 The Consultant firm will respond to the requirements from the Client. The deliverables will be recordings/ minutes of participation in the missions, the documents and tools requested on the Scope of Work chapter of the present Terms of Reference, as well as related tasks specified by Client as the need arise.

4.3 The Consultant shall prepare and submit all reports in English and presented with detailed record of photographs. All reports shall be submitted initially as draft versions, which shall be finalized to accommodate Clients' comments. The deliverables will be approved by the Client.

4.4 At the discretion of the Client, the firm will present reports in face-to-face sessions or video conferences. The presentations shall be made at least 5 days after submission of the hard and soft copies of the reports. The presentations shall preferably be in PowerPoint.

5. Firm and Key Experts Qualification Requirements.

5.1 The Consulting Firm should have a general experience of at least ten (10) years in the construction sector and must have demonstrated capabilities of undertaking works of similar nature, volume and complexity. In addition, the firm must have experience with at least one (1) World Bank or Development Partners project. Supporting documents of at least four (4) projects of similar nature involving urban/ transportation master plans executed by the firm within the previous ten (10) years (2011-2021) is vital. The firm should be registered by any recognized Professional Board.

The professional staff to be provided by the Consultant is estimated at 28 staff-months covered by the services of Team Leader (Transport Planner); Public Transport Planner Expert, Transport Economist; Transport Demand Modelling expert, Transport Data Specialist, Environmentalist, the services are anticipated to be completed within 8 months from the Contract Effective Date. The desirable inputs of the key staff are provided as follows

S/no	Key Personnel	Person-months
1	<i>Team Leader (Transport Planner)</i>	8
2	<i>Public Transport Planner</i>	5
3	<i>Transport Demand Modelling Expert</i>	4
4	Transport Economist	4
5	<i>Transport Data Specialist</i>	4
6	<i>Environmentalist</i>	3

The duties/responsibilities and qualifications of the key staff are as indicated below:

1. **Team Leader (Transport Planner)**

The team leader shall be responsible for the overall management of the project and shall be the principal contact person with the client.

The Team Leader (Transport Planner) must have a degree in Transport Planning, Urban Design or Urban Management or Civil Engineering. Postgraduate qualification in Transport Planning, Urban Design or Urban Management is an added advantage.

S/he must have a minimum of ten years of cumulative experience related to Urban Transport Planning, Urban Design or Urban Management

The Team Leader (Transport Planner) must have served in a similar capacity on at least two (2) projects of similar magnitude and complexity in the past 10 years.

In addition, s/he must have a working experience of at least 3 years in Developing African countries. Proficiency in written and spoken English is mandatory.

2. A Public Transport Planner

The Public Transport Planner shall be responsible for Transport planning and design at various scales including experience with transit-oriented development, public transport planning policies and regulations, stakeholder workshops and consensus-building processes.

S/he must have a degree in Transport Planning/ Traffic Engineering. Postgraduate qualification in Transport Planning/Traffic Engineering is an added advantage.

S/he must have a minimum of ten years of cumulative experience related to Public Transport Planning, Transport Design or Transport Management.

S/he must have served in a similar capacity on at least two (2) projects of similar magnitude and complexity in the past 10 years.

In addition, s/he must have a working experience of at least 3 years in Developing African countries. Proficiency in written and spoken English is mandatory

3. Transport Demand Modelling Expert

The Transport Demand Modelling Expert shall be registered with relevant professional body with a bachelor's degree in Transportation. A Postgraduate qualification in Transportation is an added advantage.

S/he must have a minimum of eight years of cumulative experience related to Transportation demand modelling.

S/he must have served in a similar capacity on at least two (2) projects of similar magnitude and complexity in the past 10 years.

In addition, he/she must have a working experience of at least 3 years in Developing African countries. Proficiency in written and spoken English is mandatory

4. Transport Economist

The Transport Economist shall conduct the economic analysis for the entire project.

S/he shall have a minimum of first degree in Economics. A postgraduate qualification in transport economics is an added advantage.

S/he must have at least ten (10) years of working. S/he must have served on similar position in at least two (2) projects of similar magnitude within the last 10 years.

S/he must have at least 3 years working experience in Sub Sahara Africa. S/he must have proven knowledge and experience in use of HDM-4 model. Proficiency in both written and spoken English is essential.

5. *Transport Data Specialist*

The Transport Data Specialist shall be responsible for conducting transport data analysis.

The Transport Data Specialist must have a degree in Transport planning, Data Science or Statistics. Postgraduate qualification in Transport planning, Data Science or Statistics is an added advantage.

S/he must have a minimum of eight (8) years of cumulative experience related to Transport Data Analysis.

S/he must have served in a similar capacity on at least two (2) projects of similar magnitude and complexity in the past 10 years. In addition, s/he must have a working experience of at least 3 years in Developing African countries. Proficiency in written and spoken English is mandatory

6. *Environmentalist*

S/he must be a graduate in Environmental Management Studies. A postgraduate qualification will be added advantage.

S/he must have a minimum of eight years of cumulative experience in dealing with environmental and social issues, initiatives and implementation of mitigation measures related to civil engineering infrastructure projects.

S/he must have served as an Environmentalist in at least two (2) projects of similar nature in the last ten years.

S/he must have at least 3 years of working experience in Developing countries. Fluency in written and spoken English is mandatory.

In addition to the above key staff the Consultant shall determine the Support and Backup staff deemed necessary to assist with successful completion of the assignment. However, their qualifications will not be considered in the evaluation of the proposals.

Their involvement shall be assessed by the Consultant and included in the proposal.

6. Terms of Assignment

Reporting The firm will report directly to TANROADS and coordinate closely with Government sectors as stipulated in the TOR.

Location & Travel The firm can be based remotely but is expected to travel to Tanzania for missions at least three times (dates to be confirmed) and will work in the field and be available for audio and video conferences with GoT as required. Additional work may be required but will be subject to agreement between GoT and the Consultants. Schedule approval shall be provided by the

Governments Project Lead in accordance with project overall schedule and needs.

Duration The expected duration of this assignment is 8 months from contract start date.

Payment The Consultant shall build up the costs for carrying out the assignment using the forms provided in the Request for Proposal (RFP).

Proposal The Consulting firm shall provide a proposal to demonstrate their understanding of the requirements of the brief and how key process steps will be delivered.

Payment (Lump-sum) under assignment shall be made according to the following schedule:

No.	Delivery of Outputs/Reports	Payment Percentage
1	Fifteen (15) per cent of the Contract Price shall be paid upon submission of Report 1 “Project Inception Report” clarifying project deliverables, methodology and timelines, acceptable to the Client;	15%
2	Twenty-Five (25) per cent of the Contract Price shall be paid upon submission of acceptable Draft and Final Version of Report 2 - “Desktop review analysis report covering: <ul style="list-style-type: none"> • National and Sub- National Transport Policy review report, (Task 3.3(a)) • Existing Transport plans and strategies (Task 3.3(b)), and • Transport Data and information (Task 3.3 c & d)” acceptable to the Client. 	25%
3	Twenty-Five (25) per cent of the Contract Price shall be paid upon submission of acceptable Report 3 – “Report on the early identification of non-regret projects prior to the completion of the Masterplan (Task 3.3 (e)). For the road related non-regret projects, the report must confirm the lengths, conceptual design and supporting cross section of each road corridor to effectively respond to the transport needs for all road users within these road corridors” acceptable to the Client.	25%

4	<p>Thirty –Five (35) per cent of the Contract Price shall be paid upon submission of acceptable Final Report 4 – “Integrated and multi-modal transport report covering following key subjects:</p> <ul style="list-style-type: none"> a. Transport vision, goals, and objectives, b. Transport status quo report. Performance/ Report card against objectives, c. Desk Review Report of historical reports and studies, d. Transport network development scenarios: Road, Public Transport and NMT. e. Transport Modelling Results: Do- nothing and future scenarios, f. Transport Economic Evaluation results, g. Preferred Integrated and multi-modal Transport Network. For each transport mode (road, public transport and NMT) provide city wide plan characterising rights of way that distinguishes between mobility and accessibility functions. In support, also provide typical cross sections. h. Implementation plan, and funding plan acceptable to the Client 	35%
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7. Annexure A – List of reports/ studies to be considered for project execution

- a. 2019 Transportation System Plan,
- b. 2021 Analytical Study of Public Transport System in Dodoma City Council
- c. Gap analysis report prepared by the World Bank in preparation of this assignment.
- d. List of available transport data
- e. Dodoma Master Plan
- f. Study report on project for Widening of Dodoma Trunk Roads: Prepared M/s Crown Tech Consult Ltd and M/s Beza Consult Ltd.
- g. The World Bank publication – Shifting the Mobility Paradigm of Intermediate Cities in Tanzania – Urban Transport for People