Terms of Reference

Pre-feasibility study for the [CITY] Bus Rapid Transit System

IMPLEMENTING AGENCY
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1. Introduction

The IMPLEMENTING AGENCY (IMPLEMENTING AGENCY) intends to implement a high quality bus rapid transit (BRT) system as a key component of a comprehensive effort to expand the use of sustainable transport. IMPLEMENTING AGENCY hereby seeks proposals from interested consultants to carry out preliminary planning for the [CITY] BRT system. The final deliverable from the study will be a detailed service planning and infrastructure design that IMPLEMENTING AGENCY will use to seek funding from domestic and/or international sources.

1.1. Background

[CITY] is the second largest city in [STATE] state with a population of XX lakhs in the greater metropolitan area. [CITY]’s population is expected to increase to XX lakhs over the next five years, resulting in increasing demand for transport infrastructure. Studies conducted in [CITY] show a dramatic increase in private vehicle trips as the existing public transport is overburdened and there is little infrastructure for walking and cycling.

IMPLEMENTING AGENCY has set a goal of reversing this scenario and achieving an increase in the use of sustainable modes, namely walking, cycling, and public transport. Table 1 shows two representative scenarios for [CITY]. If business continues as usual (“20XX: Status quo”), deteriorating public transport service quality will result in a sharp increase of private vehicle usage. This trend can be changed if the city makes substantial investments in sustainable transport facilities and services. Sustainable modes can become the preferred modes for travel. Besides facilitating increased mobility of city residents, this scenario will result in significant co-benefits including reduced traffic congestion, avoided pollution, and healthier lifestyles.

Table 1. Transport scenarios for [CITY].

<table>
<thead>
<tr>
<th>Mode</th>
<th>2013</th>
<th>2018: Status quo</th>
<th>2018: Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk</td>
<td>XX%</td>
<td>XX%</td>
<td>XX%</td>
</tr>
<tr>
<td>Cycle</td>
<td>XX%</td>
<td>XX%</td>
<td>XX%</td>
</tr>
<tr>
<td>Bus</td>
<td>XX%</td>
<td>XX%</td>
<td>XX%</td>
</tr>
<tr>
<td>Paratransit</td>
<td>XX%</td>
<td>XX%</td>
<td>XX%</td>
</tr>
<tr>
<td>Private vehicles</td>
<td>XX%</td>
<td>XX%</td>
<td>XX%</td>
</tr>
</tbody>
</table>

IMPLEMENTING AGENCY has identified BRT as a mass transit option that can provide high quality public transport service to the majority of the city residents at a reasonable cost. As part of [STATE]’s Sustainable Cities through Transport planning process, IMPLEMENTING AGENCY has identified a XX km BRT network covering major arterial corridors including [CORRIDOR1], [CORRIDOR2], [CORRIDOR3], and [CORRIDOR4] (Figure 1). The proposed BRT network covers major demand corridors in the city, establishing high quality public transport between residential locations and major commercial and institutional destinations.
1.2. **Objective**
The objective of the Pre-Feasibility Study is to develop a concept plan for a BRT system on the proposed corridors (Figure 1), including required services and infrastructure. The proposed BRT system should be able to accommodate existing and future public transport demand and help [CITY] achieve its mode share goals. The outcome delivered by the Consultant will inform the detailed design of the BRT system.

![Figure 1. Proposed BRT corridors in [CITY]](image)

1.3. **BRT system features**
The [CITY] BRT system will follow international best practices in BRT design. The following design characteristics should be assumed for all planning activities during preparation of the Pre-Feasibility Study:

- **Median busway alignment.** The busway will be located where conflicts with other traffic are minimised. Median alignment reduces conflicts with turning vehicles at intersections and property access points. The central verge is largely free of obstructions such as delivery vehicles or auto rickshaws that require access to the kerb.

- **Dedicated right-of-way.** All BRT trunk corridors must have a dedicated right-of-way with physical segregation to ensure that buses can move quickly and are unimpeded by congestion.
• **Off-board fare collection.** To reduce travel times, improve customer experiences, and prevent revenue leakage, the system will employ electronic off-board fare collection at all BRT stations. On-board fare collection should only be used on direct service extensions.

• **Platform-level boarding.** In order to reduce boarding and alighting times, the bus-station platform must be at the same level as the bus floor. This is particularly helpful for the elderly, disabled, or people with suitcases or strollers.

• **Central stations.** Centrally positioned stations will serve both busway directions. Central stations allow for easier integration between different BRT services, particularly when two routes cross on perpendicular streets. Central stations also reduce construction and operating costs.

• **Excellent NMT access.** High quality pedestrian and cycle facilities along the corridor help ensure that passengers can reach BRT stations safely.

These fundamental elements of BRT will form basis of the Pre-Feasibility Study. The consultant is encouraged to make use of the BRT Standard, a technical tool that describes the components that make up high quality BRT systems.¹ The BRT Standard establishes gold, silver and bronze rankings, which are determined by the project’s compliance with key elements. IMPLEMENTING AGENCY’s aim is to achieve at least a gold or a silver standard BRT, incorporating international best practises to ensure that the system contributes to the city’s goal of expanding the use of sustainable transport.

2. **Scope of work**

The Consultant will build on the work already undertaken by IMPLEMENTING AGENCY in corridor identification and prepare a Pre-Feasibility Study for the [CITY] BRT system. The end product will be a viable proposal enabling the IMPLEMENTING AGENCY to proceed with detailed service and infrastructure planning. Consultant submissions will include:

• **Inception Report.** This report will review existing secondary data and outline all data collection activities proposed by the consultant.

• **Corridor Demand Analysis:** This report will form basis for the Pre-Feasibility Study. It will include detailed surveys, analysis, and modelling to establish the need for a BRT system.

• **Concept Plan.** This report will establish the service typologies on proposed corridors along with street sections, alignments, and intersection designs.

• **Service Plan:** This report will detail the types of trunk, complementary, and feeder services; the fare collection system; IT systems; institutional structure, and other elements of BRT operations.

• **Infrastructure Plan.** Based on the findings of the Service Plan, the consultant will develop an infrastructure plan covering corridor design, station design, bus design, the station-bus interface, terminals, and depots.

• **Financial, social, and environmental analysis.** This report will include analysis of capital costs, operating costs and revenues, social impacts, and environmental impacts.

¹ The BRT Standard is available at <http://www.brtstandard.org>.
The methodology of the study is detailed below.

### 2.1. Inception report

At the commencement of the project the Consultant will collect and review all relevant reports, with particular attention to the City Development Plan (CDP), Master Plan, Comprehensive Mobility Plans, Comprehensive Traffic and Transport Studies, City Corporate plans, transport-related DPRs, and other plans. Data on socio–economic characteristics, vehicle ownership, and transport policies shall be collected. Based on this information, the Consultant will prepare a brief profile of the planning area including population and demographic data, land area, regional linkages, and socio-economic information. Collection of secondary data can be done in consultation with relevant state and corporation authorities such as the State Transport Corporation (STC), the Regional Transport Office (RTO), etc.

The Consultant will also compile information on existing public transport operators, including the current institutional and permitting relationship between the operators and the relevant oversight agencies. The Consultant will identify relevant agencies and institutions with a role in public transport and traffic management.

The Consultant will compile spatial information on plans for other related projects such as existing, planned, and proposed cycling networks, pedestrian networks, and pedestrian zones to understand how they would complement the BRT. In addition, information on underground utility networks as per information available with the Client and urban local bodies also should be compiled. This information should be mapped using a GIS platform.

Finally, the Consultant should prepare a plan for all surveys to be conducted in the subsequent planning phases, including survey forms and locations.

### 2.2. Corridor demand analysis

The Consultant will prepare a Corridor Demand Analysis report for the [CITY] BRT system including the results of primary surveys and documentation of the travel demand model for the [CITY] public transport system.

#### 2.2.1. Surveys

The Consultant will conduct travel demand and traffic surveys to inform the service plan, corridor designs, and other elements of the Pre-Feasibility Study:

- **Documentation of public transport network.** The Consultant will compile a complete database of public transport services in [CITY], including stop names and locations, route definitions, headway, running time, dwell time and fare structures. All data should be collected for city buses (both publicly and privately operated) and share autos.

- **Frequency-occupancy survey.** The Consultant will survey frequencies and passenger loads along major public transport corridors. The survey should be conducted in at least 30 locations along the proposed BRT corridors and on other important public transport demand corridors. The selected cordon points should be selected such that 95 per cent of bus and share auto routes pass through at least one cordon.

- **Boarding-alighting surveys.** The Consultant should determine the number of boardings and alightings at each stop along bus and share auto routes that coincide with the proposed BRT corridors.
• **Transfer surveys.** The Consultant will conduct transfer surveys at key stops and terminals to determine gaps in the existing bus route network. This analysis will facilitate the planning of BRT routes that provide continuous service between major origin-destination pairs and reduce the need for transfers.

• **Traffic counts.** The Consultant will conduct 16-hour classified turning movement counts at key junctions along the planned BRT corridors, using specific vehicle classification is clearly distinguish buses, 2-wheels, 4-wheeler, share-auto etc., for off-peak and peak periods. The purpose of this task is to optimise the layout and dimensions of the junctions and to permit the development of timing plans for the traffic signals at these junctions.

### 2.2.2. Modelling

For a comprehensive analysis, the Consultant is required to construct and calibrate a transport model using a modelling software or spreadsheet analysis. The key modelling tasks are:

- Code the public transport network, including public transport stops, routes, fares, and speeds.

- Model peak hour passenger demand for each route. Use the data from frequency-occupancy and traffic counts to calibrate the model to ensure that the model accurately reflects existing bus and paratransit operations and demand. (The Consultant should present calibration results, including corridor volumes on public transport, boardings and alightings per stop, and boardings per route.)

- Forecast origins and destinations for trips by public transport users and other road users at the time of opening of the BRT system and 5 and 10 years after implementation. Prepare forecasts for demand for BRT services, feeder services and non-BRT services. Estimate the shift of passengers from other modes, such as private vehicles, autos, to the new BRT system.

- Prepare detailed estimates of BRT demand, including directional boardings and alightings at each proposed BRT station. The demand estimates will inform the service planning process and the dimensioning of physical infrastructure.

The output from these tasks will be used as inputs for the concept plan and infrastructure design, including stations, terminals, and corridors.

### 2.3. Concept plan

Based on the Corridor Demand Analysis Consultant will prepare a concept plan with roadway configuration for the BRT system, including the following:

- Service typology: initial network plan for trunk, complementary, and feeder services. This section also should discuss how non-BRT services will be handled along the BRT corridors. The Consultant will develop the network plan through an iterative process with the demand and financial modelling results. The network should be displayed in a GIS-based map.

- Fare collection. The Consultant will present a concept plan for fare collection on BRT services.

- Street sections. Conceptual street cross sections showing the alignment of BRT lanes, mixed traffic lanes, NMT facilities, and other street elements. Sections should be prepared for the major ROWs that are found along the corridors.
2.4. **Service Plan**

The Consultant will develop an operating strategy for the BRT services, including trunk, feeder, and complementary services, as well as required adjustments to regular city bus services in the corridors where BRT is introduced. The Service Plan will provide information on BRT service components, including fare collection, ITS, and institutional structure. The Consultant will prepare a Service Plan including (but not limited to) the following components:

- BRT services.
- Bus fleet requirements.
- Fare system.
- ITS.
- Management information system.
- Institutional model.
- Service contracts.

2.4.1. **BRT services**

The Consultant is required to develop a service plan for the BRT network including the following:

- Analyse of the existing bus routes by categorising them as: (1) fully affected by BRT introduction; (2) partially affected by BRT; (3) not affected by BRT. This analysis will help identify how existing routes should be modified to complement BRT services.

- Propose an efficient network of BRT services, including trunk, complementary, and feeder services to include multiple routes along each corridor, with service itineraries optimised to minimise travel times and the need to transfer. Transfers, if required, should be planned in locations with decent waiting areas and minimal walking distances (e.g. formal BRT terminals) and so as to ensure that at least one leg of the journey has high frequency service. Present GIS-based maps showing the proposed BRT services and station locations.

- Where room for passing lanes is available, develop proposals for limited/express services based on preliminary OD surveys and corridor demand analysis. This step must be carried out together with the infrastructure plan—the Consultant must determine how the corridors can accommodate passing lanes at stations.

- Present a detailed database and map of planned regular non-BRT services showing how these routes are to be modified, curtailed, or eliminated to reduce conflicts with the BRT system. The non-BRT route plan must minimise parallel service in mixed traffic lanes on BRT corridors.

- Produce a preliminary timetable for all BRT and non-BRT services, including frequency of service and actual journey times (with any variation by time of day), hours of operation, and number of runs operated per day particularly for those sections of the route that are common with the proposed BRT route. The timetable should indicate the number of buses required for each route.
• Based on the proposed service plan, the Consultant will estimate passenger demand, bus frequencies, and dwell times at all stations and terminals in the BRT network in the initial year of operations and after 5 and 10 years. This information will inform the design and sizing of facilities.

• Taking into account the changes in the public transport services proposed, the Consultant must develop a detailed signalisation plan for intersections along the BRT corridor. The purpose of this task is to ensure the layout and dimensions of the grade junctions are optimised for expected traffic flows. Micro-simulation at some of the keys junctions will also have to be carried out by the Consultant. This step must be carried out together with the geometric design of intersections in the Infrastructure Plan.

2.4.2. Bus fleet requirements
The Consultant will plan for the procurement of a high quality fleet of buses to meet expected demand in the initial year of operations and in subsequent years. As part of this exercise, the Consultant should:

• Determine number of new buses to be acquired, classified by vehicle type (e.g., 12 m trunk bus, articulated trunk bus, feeder bus, etc.), including a procurement timeline that is calibrated to estimated demand.

• Draft set of design guidelines for the buses with technical specifications, including provisions related to interior design, engine, and pollution standards.

• Develop a plan for vehicle acquisition and approval process.

2.4.3. Fare system
The Consultant is required to develop functional requirements for a BRT fare system this is compatible with the existing fare levels and other public transport fare systems, and the technical specifications for the procurement of the design, implementation and operation of the system, including the activities necessary for collection and disbursement of fare revenue. Thus, the consultant needs to:

• Review existing fare levels and tables used in [CITY], including overall government public transport fare policy, and the policy for discount (concession) fares, levels of subsidy (if any);

• Propose mechanisms for integration of fares between the BRT trunk, complementary, and feeder services and make recommendations on the preferred options;

• Develop a fare concept (distance-based, passenger-based, or mixed, or other) for the system and the technological implications of such a fare structure;

• Assess the level of fare affordability and the need for discounted (concession) fares for social reasons for various passengers (such as students, and garment factory workers);

• Define functional requirements for the fare system including arrangements for sale of fare cards, and collection and disbursement of revenue;

• Prepare a procurement plan for operation and maintenance of fare equipment.
2.4.4. ITS
The BRT service will be facilitated by the use of a number of intelligent transport system (ITS) applications and equipment. The aim is to develop and prepare for procurement of an integrated ITS system to support efficient operation of the BRT system. ITS components include:

- Passenger Information System (PIS) on vehicles and at stations to provide real-time information to passengers on their schedule time of arrival of buses;
- Automatic Vehicle Location (AVL) for real-time tracking of the position of the BRT vehicles along the routes;
- Automatic Fare Collection (AFC) using contactless smart cards and/or near-field communication-enabled phones;
- Access control system for the terminals and depots;
- Security systems for buses, stations, and terminals.
- Traffic signal control at BRT corridor junctions, including mechanisms for bus priority;
- BRT Control Centre (CC) to monitor PIS, AVL and AFC and to use real-time data to manage passenger flow at stations and terminals, monitor signals, and manage the traffic movements along the BRT corridor.
- Customer Service information centre.
- Management information system (MIS).

2.4.5. Institutional model
The Consultant will develop a structure for management of the BRT system through a dedicated special purpose vehicle (SPV). The Consultant will prepare detailed staffing and financial plans for the SPV.

2.5. Infrastructure Planning
The Consultant will prepare an Infrastructure Plan including conceptual designs of the following components:

- Corridors.
- Stations.
- Terminals.
- Depots.
- Control centre.

2.5.1. Corridor design
The Consultant is expected to inspect each corridor and prepare the following:

- A map of available rights-of-way on the proposed corridors, indicating the preliminary identification of locations where land acquisition will be required.
• Street sections. Conceptual street cross sections showing the alignment of BRT lanes, mixed traffic lanes, NMT facilities, and other street elements. Sections should be prepared for all ROWs that are found along the corridors. For each ROW, at least two sections should be prepared, showing the cross section with and without a BRT station.

• Conceptual designs for key intersections. The Consultant will indicate concept plans for managing BRT and mixed traffic movements at important junctions along the corridors. The Consultant will also need to provide estimates on number of kilometres for each based on the service and infrastructure type.

• Pavement design. Determine the pavement material requirements, noting cost, durability, and maintenance aspects of each option; amongst the options to be examined are existing pavements, concrete panels, continuously-reinforced concrete (CRC), modified asphalt, and concrete only at stations

• Utility management. The Consultant will identify locations where the project will necessitate relocation of utilities.

• Implementation plan. The Consultant will propose the phasing of the trunk network construction over a realistic timeline.

The design shall be prepared following the relevant guidelines and standards, including the BRT Planning Guide,\(^2\) the BRT Standard 2013, Better Streets, Better Cities: A Guide to Street Design in Urban India,\(^3\) and relevant Indian Roads Congress standards, especially IRC 103-2012.

2.5.2. Stations
BRT stations form an important interface between the passengers and the BRT system. Thus, it is essential for the station facilities to be convenient, comfortable, safe, and easily accessible for all age groups. To meet with these requirements, the Consultant must provide details as follows:

• Station layout, including distinct functional areas for fare payment, circulation, and waiting.

• Appropriate station sizing (including number of bays) based on passenger demand at the respective location. The width and length of the station must allow enough space for queuing. Multiple sub-stops can be provided at the highest-demand stations and where passing lanes are possible.

• Provisions for static signage, real-time information displays, external signage, and internal and external advertising.

• IT and mechanical equipment, including station computer, turnstiles, and automatic screen doors.

• Safe, convenient pedestrian access that minimises grade differences.

2.5.3. Terminals
The Consultant will prepare concept designs for bus terminals at route endpoints and major intermodal transfer locations. As part of the terminal design process, the Consultant must:

\(^2\) https://go.itdp.org/display/live/Bus+Rapid+Transit+Planning+Guide
\(^3\) http://www.itdp.org/betterstreets
• Determine the number of bus bays required for BRT and non-BRT services. The number of bays should inform the size of the terminal.

• Indicate how the BRT feeder and trunk services will be integrated for ease and safety of passenger transfers.

• The design should indicate how BRT services will be integrated with other modes (e.g. railway stations, intercity bus services, drop-off points for auto rickshaws, cycle parking, etc.).

• Determine facilities and amenities to be provided at terminals for an enhanced passenger experience.

• Identify potential for joint development of commercial or residential space at terminals to generate revenue for BRT operations.

• Identify opportunities for co-location of terminal and depot locations to reduce implementation costs and dead kilometres.

2.5.4. Depots
The Consultant will prepare conceptual designs for depots, including the following:

• The number and size of depots required for the BRT and non-BRT buses.

• The internal layout should indicate:
  o Location of bus entry and exit points
  o Adequate internal circulation and parking spaces
  o Space for administration and staff utilities area.
  o Areas for routine maintenance of buses including refuelling, washing, cleaning etc.

• Potential depot locations, preferably on land already owned by the government.

2.5.5. Control centre
The Consultant will prepare a conceptual design for a system control centre at a IMPLEMENTING AGENCY office that can handle management functions, including bus operations monitoring, financial management, and staff training. The design of the control centre should have the following capabilities:

• Real-time monitoring of bus speeds and location using GPS technology, with staff terminals and auditorium-style displays.

• Secure areas for initialisation of fare media and processing and reconciliation of financial data.

• Sound proof cabins and general staff cabins.

• Security management to prevent unauthorised entry.

• Alternative off-site office as a back-up for system operations to enable system recovery.
2.5.6. Representation of infrastructure elements
The Consultant will need to develop a high-quality simulation video of at least 2 minutes demonstrating the operation of the BRT system. In addition, the Consultant shall provide 3D renderings of each major infrastructure design component:

- Busways (at least 3 perspectives)
- Intersections (at least 2 perspectives)
- Integration facilities (at least 2 perspectives)
- Trunk stations (at least 3 perspectives)
- Feeder stations (at least 2 perspectives)
- Depots (at least 2 perspectives)

2.6. Financial, Social, and Environmental Analysis

2.6.1. Capital cost
The Consultant will need to provide the preliminary cost estimate on infrastructure components including:

- Planning and design of BRT corridors
- Corridor construction, including utility relocation, property acquisition (if necessary), and resettlement (if necessary)
- Stations, depots, and control centre

2.6.2. Operating costs and revenues
Costs for the BRT service and corridor operation and maintenance will be estimated depending on various fare models. The operating costs analysis will detail out financial impacts on the government, city bus operators, paratransit industry and other stakeholders. In addition, the operating analysis will include but is not limited to the following:

- Bus operations contract (purchase, operations, and maintenance of buses)
- Fare collection and IT contract(s) (purchase and operations of hardware/software)
- Station service contract (security, cleaning, landscaping, maintenance, etc.)
- Infrastructure maintenance cost (busways, depots, stations)
- Costs associated with institutional management of the system by the SPV

The Consultant is required to model the estimated revenue from the system. Revenue components will projected include, but are not limited to:

- Fare income from all trunk, direct and feeder services
- Advertising income from station and vehicle advertising contracts;
• Land value capture of property development;

The Consultant can propose other potential revenue sources.

2.6.3. Cost-benefit analysis

The Consultant will conduct a cost-benefit comparing the expected cost of system to the total expected benefits, which are expected to include the following:

• Decrease in travel time for public transport passengers due to dedicated bus lanes and potentially for private vehicle users due to improved efficiency of intersection management.

• Decrease in travel costs for the BRT users.

• Increase in local employment.

• Reduction injuries, loss of life, and economic productivity due to improved road safety along the BRT corridors.

• Impact of system on environmental quality and quantifiable public health benefits.

• Evaluate the costs and benefits of the different options, in particular with respect to affordability, likelihood of attracting passengers from other modes and level of government (or business community) subsidy (if any) required, and government payments for fares discounted for social reasons, and recommendations on a preferred option.

2.6.4. Social impacts

The Social Assessment Report will include an initial screening for social impacts, identifying type and nature of impacts and required mitigations measures as per the ESF entitlement matrix. The Social Assessment Report also will outline a process for public consultation with the identified projected affected persons, public disclosure, implementation arrangements, and mechanisms for land acquisition, resettlement, and rehabilitation. The Consultant will prepare a Resettlement Action Plan (RAP), if applicable, that should take into account of policy provisions and entitlements available in the National Rehabilitation and Resettlement Policy of 2007. The Consultant should explore design options to minimize negative social impacts.

The Social Impact Assessment will also identify expected positive impacts of the project, especially those that will affect vulnerable populations. This analysis will highlight impacts for women and low-income populations, including time savings, safety, and access to services and employment.

2.6.5. Environmental impacts

The Environmental Assessment Report will identify impacts of the BRT project on local air pollution and greenhouse gas emissions. The Report will also examine additional environmental impacts during construction and operations.

2.6.6. TORs for detailed planning

The Consultant will develop the detailed terms of reference (TOR) for the major components in the next phase of the system planning. Amongst the TORs to be developed are:

• Project Management

• Operations Plan
• Business and Institutional Plan
• Communications and Marketing Plan
• Preliminary and Detailed Infrastructure Design

3. Review Committee
A Review Committee consisting of following will evaluate consultant deliverables:

• City Engineer, IMPLEMENTING AGENCY
• Representative, Commissionerate of Municipal Administration
• Representative, Transport Department
• Representative, Highways Department
• Representative, District Collectorate
• Representative, Police (Traffic)
• Representative, Local Planning Authority
• Representative, __________________

4. Timeline
The following table includes a representative timeline for the project. The Consultant is expected to present each major deliverable in person to the Review Committee.

<table>
<thead>
<tr>
<th>Consultant output</th>
<th>Description</th>
<th>Calendar days after approval of previous submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inception Report</td>
<td>To be presented to Review Committee</td>
<td>15</td>
</tr>
<tr>
<td>Draft Corridor Demand Analysis</td>
<td>To be presented to Review Committee</td>
<td>45</td>
</tr>
<tr>
<td>Final Corridor Demand Analysis</td>
<td>To be reviewed by the Committee</td>
<td>15</td>
</tr>
<tr>
<td>Draft Concept Plan</td>
<td>Conceptual designs to be presented to the Review Committee and the Client</td>
<td>30</td>
</tr>
<tr>
<td>Final Concept Plan</td>
<td>Revisions incorporating feedback from the Client and Review Committee</td>
<td>15</td>
</tr>
<tr>
<td>Draft Service and Infrastructure Plan</td>
<td>To be presented to the Client and Review Committee</td>
<td>30</td>
</tr>
<tr>
<td>Final Service and Infrastructure Plan</td>
<td>Revisions incorporating feedback from the Client and Review Committee</td>
<td>15</td>
</tr>
<tr>
<td>Financial, Social, and Environmental Analysis</td>
<td>To be presented to the Client and Review Committee</td>
<td>20</td>
</tr>
<tr>
<td>Financial, Social, and Environmental Analysis</td>
<td>Revisions incorporating feedback from the Client and Review Committee</td>
<td>10</td>
</tr>
</tbody>
</table>
5. Selection Process
The bidding process and selection criteria are based on the World Bank’s Quality and cost Based Selection (QCBS) process.

5.1. Eligibility Criteria
The applicant shall meet the following criteria:

- Successful completion of similar BRT planning and design services including service planning, infrastructure design, and financial analysis for at least one full BRT system that is currently in operation.\(^4\) A certificate from the appropriate authority shall be enclosed to substantiate the fact. Only works performed by the applicant directly for the respective clients shall be considered.

- Consortiums are eligible to apply.

5.2. Skill requirements
The following key professionals are to be engaged by the Consultant along with required support staff. The CVs of the following professionals will be reviewed as part of the technical evaluation.

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>1 Project Lead</td>
<td>At least ten (10) years of experience in major infrastructure initiatives transport planning, project management, or transport engineering. Experience in BRT corridor design, street design, and BRT system planning required.</td>
</tr>
<tr>
<td>2 Urban Transport Planner</td>
<td>At least eight (8) years of experience in public transport service and infrastructure planning.</td>
</tr>
<tr>
<td>3 Transport Modeller</td>
<td>At least five (5) years of experience in travel demand modelling and transport surveys. Specific experience in BRT service planning preferred.</td>
</tr>
<tr>
<td>4 Business strategist</td>
<td>At least five (5) years of experience in major planning and implementation of major business initiatives. Preference will be given to experience in a public transport environment and especially in a BRT or other technologically advance transport environment.</td>
</tr>
<tr>
<td>5 Urban designer</td>
<td>Master’s degree in urban design (M Arch or equivalent) from a reputed university. S/he shall have at least five (5) years of experience in street design. Experience in the design of BRT, walking, and cycling facilities preferred.</td>
</tr>
<tr>
<td>6 Architect</td>
<td>Master’s degree in architecture (M Arch or equivalent) from a reputed university. S/he shall have at least five (5) years of experience in architectural design. Experience in the design of public transport facilities preferred.</td>
</tr>
<tr>
<td>7 Intermodal designer</td>
<td>At least five (5) years of experience in the design of intermodal transport facilities.</td>
</tr>
</tbody>
</table>

\(^4\) A full BRT system is defined as a system achieving a Gold or Silver ranking per the BRT Standard. At present, the following cities have qualifying full BRT systems: Ahmedabad, Barranquilla, Bogotá, Brisbane, Cali, Cape Town, Cleveland, Curitiba, Goiania, Guadalajara, Guangzhou, Guatemala City, Jakarta, Johannesburg, Lanzhou, León, Medellin, Mexico City, Pereira, Quito, Quito, Rio de Janeiro (Transoeste), Rouen, Sao Paulo (Expresso Tiradentes), State of Mexico.
Project Manager

At least three (3) years of experience in project management for surveying, design, and construction projects.

The above team should be supported by adequate support staffs and other experts/specialists with adequate experience to ensure that the objectives of the project are achieved within the time lines.

5.3. **Evaluation criteria for technical bid**

Table 1 indicates the criteria for the technical scoring of applicants.

### Table 2. Scoring criteria

<table>
<thead>
<tr>
<th>Methodology and experience</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach and methodology of work for the [CITY] BRT project</td>
<td>10</td>
</tr>
<tr>
<td>Number of BRT service plans of similar scale completed to date</td>
<td>20</td>
</tr>
<tr>
<td>Number of BRT infrastructure plans of similar scale completed to date</td>
<td>20</td>
</tr>
</tbody>
</table>

**Team composition and experience**

<table>
<thead>
<tr>
<th>Role</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Lead</td>
<td>10</td>
</tr>
<tr>
<td>Urban Transport Planner</td>
<td>8</td>
</tr>
<tr>
<td>Transport Modeller</td>
<td>7</td>
</tr>
<tr>
<td>Business strategist</td>
<td>6</td>
</tr>
<tr>
<td>Urban designer</td>
<td>6</td>
</tr>
<tr>
<td>Architect</td>
<td>5</td>
</tr>
<tr>
<td>Intermodal designer</td>
<td>4</td>
</tr>
<tr>
<td>Project Manager</td>
<td>4</td>
</tr>
<tr>
<td>Total technical score</td>
<td>100</td>
</tr>
</tbody>
</table>

5.4. **Submission of proposal**

The submission envelope must be clearly marked with the following text: “Consulting Services for BRT Planning and Design for the IMPLEMENTING AGENCY.” The Consultant should include two separate envelopes in the main submission envelope: one containing the Technical Bid and another with the Financial Bid. The sub-envelopes must be marked with the project name and the type of bid. The Technical Bid envelope should contain the following information:

- Name, address, and contact details of the Project Lead.
- Company profile.
- List of technical staff employed full time with the applicant (part time staff shall not be considered).
- Detailed CVs of the technical staff.
• Proof of professional affiliations of staff.

• List of facilities (office space, computers, software, printers/scanners etc.) available with the firm for performing the activities of the TOR, including an indication of which facilities are available in cities in ____________ state.

• Description of approach and methodology for the current TOR.

• Portfolio of previous works.

Applicants may be requested to make presentation to the Client indicating the following:

• Experience with similar BRT/public transport design projects

• Proposed approach and methodology for the current project

The Financial Bid envelope should include the Consultant’s monetary bid for the project.

Applicants shall submit all materials before date mentioned in the notice.

5.5. **Financial proposal**

Financial Bids of applicants with a total Technical Bid score of 75 and above shall only be opened. For Consultants who do not qualify per the Technical Bid, the Financial Bids shall be returned unopened.

The score for each Financial Proposal, $F$, will be computed as follows:

$$ F = 100 \times \frac{F_m}{F_c} $$

where $F_m$ is the total price of the lowest Financial Proposal and $F_c$ is the total price of the Financial Proposal under consideration. The lowest Financial Proposal will receive the maximum score of 100 marks.

5.6. **Combined evaluation of technical and financial bids**

The Client reserves the right to reject, at its sole discretion, any or all evaluated Financial Proposals and if necessary, call for submission of new Financial Proposals. In order to allow comparison on a common basis, each proposal will be carefully scrutinised in accordance with the procedure outlined above and technically eligible proposals will be scored on the basis of following formula:

$$ \text{Score} = 0.75 \times T + 0.25 \times F $$

Where $T$ is technical score and $F$ is financial score. The Bidder with the highest Score will be selected.