Terms of Reference for Empanelment of Urban Designers

1. Introduction

Well-designed streets are a critical element of a safe and efficient mobility system. At present, poor design and management of streets in [CITY] is contributing to increased congestion, pollution, road safety risks, and maintenance requirements. Going forward, the IMPLEMENTING AGENCY seeks to establish a network of streets that offer convenience and safety to all users. Under the Model Roads Programme, IMPLEMENTING AGENCY will implement streets with high quality walking and cycling facilities, improved access to public transport, organised parking, and streamlined junctions.

A key aim of the Model Roads Programme is to ensure equitable allocation of road space to walking and cycling—collectively known as "non-motorised transport" (NMT). NMT modes provide basic mobility and affordable transport, and bring significant health and recreation benefits. Improving conditions for NMT reduces the demand for travel by motorised vehicles and associated issues such as pollution and safety. NMT also provides crucial first- and-last mile connectivity to public transport.

In the first phase, IMPLEMENTING AGENCY plans to redevelop seven streets with a combined length of 9.1 km. Additional streets will be selected in subsequent phases. IMPLEMENTING AGENCY (hereinafter "Client") seeks to empanel firms (hereinafter "Consultant") to prepare detailed street designs that improve comfort, safety, and convenience for all street users. These designs should facilitate, support, and prioritise the role of walking, cycling, and public transport as key components of the overall transport system, resulting in better efficiency, reduced transport costs, lower pollution levels, and less time spent in congestion.

This document outlines the scope of work for empaneled Consultants along with details about the empanelment process.

2. Objectives

The main objectives of the Model Roads Programme are as follows:

- To provide better facilities for sustainable modes such as walking, cycling, and public transport.
- To employ a holistic approach to street design, incorporating mobility elements—e.g. footpaths, cycle tracks, carriageways—as well as additional elements such as trees, bus stops, street furniture and organised vending spaces in an integrated design.
- To ensure that street design is based on scientific assessment of needs and behaviour of street users, as observed in the surveys as part of this study.
- To ease road congestion through improved intersection design and more efficient use of the existing public right-of-way in lieu of major capacity additions.
- To employ traffic calming measures to ensure pedestrian safety on all streets.

- To ensure that all spaces, including footpaths, refuge islands, and pedestrian crossings, are accessible to differently abled persons as per the Persons with Disabilities Act of 1995. To improve access for persons with disabilities, the designs should employ at-grade crossings rather than foot over bridges and subways.

3. Scope of Work

The Scope of Work includes:

1. Review of existing public transport and land use plans
2. Definition of study area
3. Survey of land uses
4. Survey of pedestrian facilities
5. Survey of pedestrian movements
6. Parking survey
7. Survey of street vending and related activities
8. Analysis of crash data
9. Preparation of detailed street designs
10. Bill of quantities
11. Preparation of Terms of Reference (TOR) for contractors for construction

3.1 Review of existing transport and land use plans

The Consultant is required to compile spatial information on plans for bus priority/bus rapid transit (BRT) networks, cycling networks, pedestrian networks, and pedestrian zones presented in the reports given by the Client. Particular attention must be given to the Sustainable Cities through Transport strategic plan. The Consultant will also compile information on underground utility networks as per information available with the Client and urban local bodies. These engineering parameters should be mapped using the GIS platform. The Consultant should also identify transport system goals that are stated in these reports.

3.2 Definition of study area

The selected streets listed in Annexure 1 will make up the Study Area. All streets in the Study Area, along with their legal ROWs, should be mapped using GIS. Data collection and survey activities will be carried out (including survey forms and proposed survey locations) by the Consultant. The Client must approve the Inception Report before the Consultant proceeds to the next step.

3.3 Survey of land uses

The Consultant will compile land use information to help inform street design decisions. A land use survey must be carried out for every building adjoining Study Area streets. In cases where the ground floor use is different from that of rest of the floors, the surveyors should make a note. The number of floors per structure also must be noted. Important activity generators adjacent to all Study Area streets, such as shopping areas, theatres, and housing developments, should be identified. All land use data should be recorded using the GIS platform.

3.4 Survey of pedestrian facilities

The Consultant will document the quality of existing pedestrian facilities on all streets in the Study Area, noting properties such as the clear width of the footpath on each side every 200m (if present), the number of obstructions per km in the clear width, and the presence of shade at 2 p.m. (from buildings or trees). These data should be stored and mapped using the GIS platform. If cycle tracks are present in the Study Area, a similar survey should be carried out wherever they are present.

3.5 Survey of pedestrian movements

Surveys shall be carried out to assess non-motorised transport (NMT) user flows at important locations in the study area. The survey shall be from 06:00 to 22:00 on a normal working day. The Consultant will record the number of pedestrians and cyclists moving along the road on important corridors. The Consultant also will conduct a tracking survey of pedestrian crossing movements at important intersections along each corridor in the Study Area. The actual pedestrian movement lines should be mapped as in the example shown in Figure 1. Before conducting the surveys, the Consultant must seek approval of the survey locations from the Client.

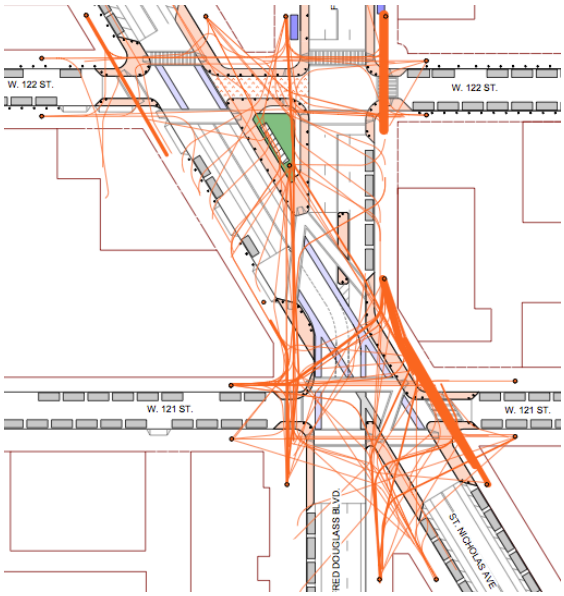

Figure 1. Example of a tracking survey diagram. The orange lines represent pedestrian movements. Thicker lines indicate higher pedestrian volumes.

3.6 Parking survey

A parking survey must be carried out on all corridors in the Study Area to identify parking patterns and occupancy rates. Parking demand should be established by a manual count, classified by vehicle type. The count should cover the Study Area streets plus streets within a buffer of 300 m–500 m to either side of the Study Area streets. The extent of the parking zones must be approved as part of the Inception Report (see Step 2). The survey shall be conducted for one hour during morning peak and one hour in the evening peak period in such areas. The survey should cover both on-street parking areas as well as off-street public or semi-public parking. Finally, parking fee levels should be noted. If the street falls under [CITY]'s parking management system, the consultant is required to consult the

Client to coordinate the design of parking slots with the Parking Management Plan. All parking data should be recorded using the GIS platform.

3.7 Survey of street vending and related activities

The surveyor must make note of all the vendors in the Study Area. The survey should note the type of vending and the physical typology of the vending structure (i.e. permanent or temporary structure). The survey should also note whether the vendor is an obstruction to pedestrian and cycle movement. The location and characteristics of each vendor should be recorded using GIS. The survey also should capture social gathering spaces and other activities found in the public ROW in the study area. The location and number of people engaged in the activities should be noted using GIS. This information will inform the placement of street furniture and other elements in the final design.

3.8 Analysis of crash data

The Consultant will obtain data from the Client on traffic crashes over the past 3 years. The crash location, type, and users involved (i.e. pedestrian, cyclist, two-wheeler, car, bus, etc) will be mapped using a GIS platform. This information will enable the Consultant to identify major traffic safety "black spots" and suggest traffic calming, intersection modifications, and other interventions to improve safety for vulnerable street users.

3.9 Preparation of detailed street designs

3.9.1 Conceptual designs

The Consultant shall prepare detailed street designs for all streets in the Study Area. The design must be consistent with relevant plans, including plans for BRT networks, cycling networks, pedestrian networks, and pedestrian zones with particular regards to the Sustainable Cities through Transport strategic plan. The designs shall be prepared following relevant Indian Roads Congress standards, especially IRC 103:2012, Guidelines for Pedestrian Facilities. The Consultant should also refer to street design manuals such as *Better Streets, Better Cities: A Guide to Street Design in Urban India* by the Institute for Transportation and Development Policy, the *Street Design Guidelines* prepared by UTTIPEC, and *Tender Sure: Specifications for Urban Roads Execution*, written by Bangalore City Connect and the India Urban Space Foundation.[1]

The pedestrian paths should meet the following standards:

- A minimum of 2m wide clear pedestrian zone
- A height of no more than 150mm
- Flat walking surface without abrupt level differences
- Continuous walking path
- Integrated with landscaping plan to ensure continuous shade

The cycle tracks should meet the following standards:

- At least 2.5 m wide for two-way movement
- Continuous cycling track

[1] <http://uttipec.nic.in/writereaddata/linkimages/7554441800.pdf>, <http://www.itdp.org/betterstreets>, <http://indiausp.org/?q=node/298>

- Smooth surface without abrupt level differences; concrete or bitumen surface (paver blocks are unacceptable)
- Maximum grade of 1:12
- Integrated with landscaping plan to ensure continuous shade

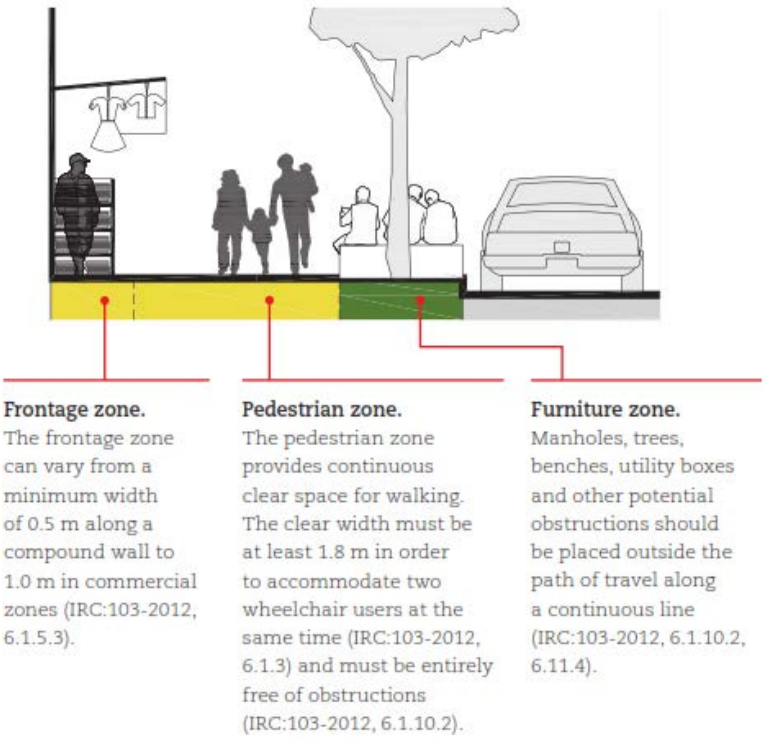

Figure 2. All footpaths must have separate zones for frontage, pedestrian movement, and furniture.

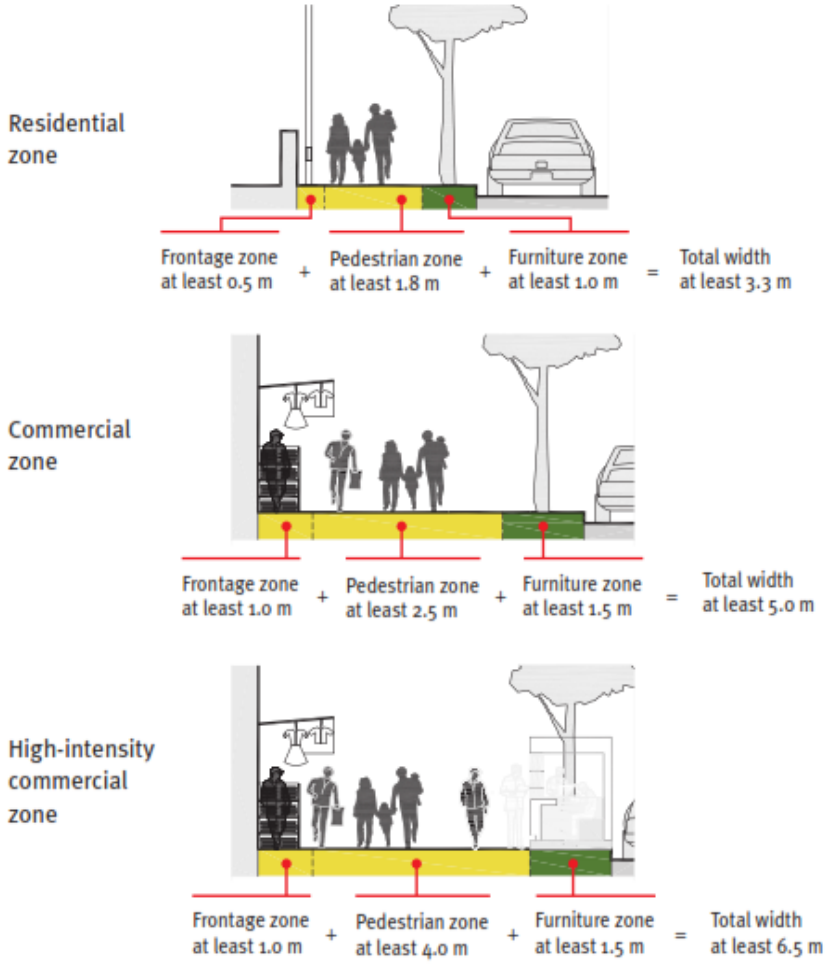

Figure 3. Minimum footpath zone dimensions for different land uses.

Street designs should include but are not limited to the following elements:

- Dedicated pedestrian footpaths.
- Dedicated cycle tracks (if the corridor falls on the cycle priority network).
- Dedicated bus lanes (if the corridor falls on a public transport priority network).
- Pedestrian crossings, including formal speed table crossings as well as median breaks that serve as informal crossing locations.
- Trees to provide shade for pedestrians and cyclists as well as decorative landscaping, including compensatory afforestation for the trees removed as part of the project.
- Bus stops and Para transit stops.
- Spaces for street vending.
- Medians.
- Traffic calming elements, where needed to reduce vehicle speeds.
- Physically demarcated on-street parking areas.
- Street furniture, including benches, stools, tables, and other seating arrangements.

- Signage locations.
- Pedestrian refuge islands.
- Carriageways, ensuring that the width remains uniform between intersections.
- Street lighting.
- Storm water drains.
- Utility access points.

Intersection designs should promote pedestrian safety through elements such as pedestrian refuge islands, reduced angles of approach, reduced turning radii, and traffic calming. The design of pedestrian crossings at intersections and in mid-block locations should ensure that pedestrians do not need to cross more than 2 lanes (6 m) at a time. Where extra ROW is available, the Consultant should identify opportunities to improve and/or create plazas, markets, and other public spaces.

The Consultant will submit a plan drawing as well as cross-sections at every 50m. The plans will be submitted in hard copy and electronic format. It must include at least three 3D renderings and photomontages of the design proposal.

3.9.2 Review of Conceptual Designs

The designs will be evaluated by a Review Committee (see below) before preparing the final working drawings. The Consultant may be asked to present the designs to the Review Committee.

The Consultant may be required to present the plans at a public stakeholder meeting.

3.9.3 Revised Conceptual Designs

The Consultant will prepare Revised Conceptual Designs based on the feedback received from the Review Committee and stakeholders. The Revised Conceptual Design must be submitted to the Client for approval.

3.9.4 Draft working drawings

Following approval by the Client of the conceptual designs, the Consultant will prepare detailed construction drawings for the Study Area. The designs should include geometric and vertical profiles and should incorporate drainage designs (see below). The designs should include the following components:

- Typical sections at every 50m.
- Street plan.
- List of existing street elements to be demolished.
- Utility relocation plans (wherever necessary).
- Materials as per Clients specifications.
- Construction details for each element.

The Draft Working Drawings must be submitted to the Client for approval.

3.9.5 Final Working Drawings

The Consultant will prepare Final Working Drawings based on the feedback received from the Client. The Final Working Drawings must be submitted to the Client for approval.

The Consultant will submit all conceptual designs and final working drawings to the Client in hard copy and electronic format.

3.10 Bill of quantities

The Consultant is expected to prepare specifications, bills of quantities, cost estimates, and bid documents as per the TT Act and WB for the implementation of the proposed street improvements, including pavements, furniture, street lighting, landscaping and other components. Bid documents shall be given item-wise (i.e. streets, lighting, landscaping, road markings, etc.). The Consultant will work with the Client to include appropriate mechanisms in the bid documents to facilitate long-term maintenance, such as annuity-based compensation of contractors.

3.11 Preparation of TOR for contractors for construction

The Consultants will be required to prepare a TOR for contractors for the construction of street design. The Client will coordinate with the Consultants to prepare the joint TOR for contractors.

4. Working Modalities

4.1 Presence in [CITY]

The Consultant will be expected to have a local office in the same city as the proposed projects. Outstations consultants are required to set up a field office in the city or alternatively collaborate with a local architectural firm.

4.2 Payment structure

The payment schedule for the Consultants service will be structured as presented in Table 1.

Table 1. Payment schedule

Consultant output	Payment (% of total service fee)
Mobilisation fund	5
Inception report and survey results	10
Conceptual Designs	20
Consultation with review committee; revised conceptual design and draft working drawings	20
Final Working Drawings and Plans	30
Implementation monitoring	10
Post implementation	5

The Consultant may be required to attend several meetings leading up to the implementation of the proposal. The cost of attending meetings will be borne by the Consultant. Once these requirements are met, the Client will make payments as per the above structure to the Consultant.

5. Review Committee

The Review Committee will consist of following

1. City Engineer, from Respective ULBs
2. Zonal Officer, from Corporation
3. Representative from _____ Transport Corporation
4. Representative from District Collectorate
5. Representative from Police (Traffic)
6. Representative from Local Planning Authority
7. Representative from ITDP

The review committee will review the conceptual street designs. The comments or views on the various submissions shall be given to the Consultant within 15 days of submission.

6. Timeline

Consultant output	Description	Deadline
Inception Report	Study area and description of all data collection activities (including survey forms).	7 days after signing of contract
Survey Results	Raw data, analysis, and mapping of findings from: analysis of existing transport plans; analysis of topographic survey; survey of land uses and activities; survey of pedestrian facilities; traffic surveys; analysis of crash data; parking survey; identification of priority networks.	21 days after approval of Inception Report
Conceptual Designs	Conceptual designs for all street elements in the Study Area.	30 days after approval of Survey Results
Consultation with Review Committee	Preparation of presentation and hard copy drawings showing the Conceptual Designs.	Within 7 days of submission of Conceptual Designs
Revised Conceptual Designs	Revision of the Conceptual Designs based on feedback from the Review Committee.	15 days after receipt of comments from Review Committee members
Draft Working Drawings	Typical sections along various segments, horizontal control plan, demolition plan, utility relocation plans, material specifications, construction details for each element. Bill of quantities.	15 days after Client approval of the Revised Conceptual Designs
Final Working Drawings and Plans	Revisions incorporating feedback from the Client on the Draft Working Drawings.	21 days after receipt of Client comments on the Draft Working Drawings
TOR for contractors for construction	Preparation of TOR for contractors for the construction of street design.	15 days after submission of final working drawings and plans.
Implementation monitoring	On-site monitoring of construction accuracy. Site supervision and coordination	Up to the end of execution on site
Post implementation	Resolving of design issues post execution (if any). Documenting of street condition, before and after implementation (photographs).	Up to a duration of 3 months

7. Bidding process

7.1 Eligibility requirements

The Consultant team must include a Project lead who has at least 5 years of experience in urban design (or equivalent) and is expected to be familiar with NMT user needs, street design principles, street design standards, geometric design of streets, and traffic calming. The Project Lead should be registered with the Council of Architecture (proof to be submitted) and with the Institute of Urban Designers, India (proof to be submitted).

Consortiums are eligible to apply.

7.2 Evaluation criteria

7.2.1 Skill requirements

The qualifications of the Consultant's team members will be reviewed as part of the evaluation process. The key professionals listed in Table 2 are to be engaged by the Consultant along with support staff and specialists with adequate experience to ensure that the objectives of the project are achieved within the specified timelines. The CVs of the professionals listed in Table 2 will be reviewed as part of the evaluation.

Table 2. Required qualifications of Consultant team members

Specialisation	Requirement	Team members required
Project Lead	The project lead shall have a Masters Degree in Urban Design, Architecture, landscape Architecture or an equivalent degree. S/he shall have at least 5 years of experience in urban design (or equivalent) and is expected to be familiar with NMT user needs, street design principles, street design standards, geometric design of streets, and traffic calming. International experience shall be treated as merit.	1
Architect	Degree in Architecture or equivalent field with at least 3 years of experience.	2
Project Manager	At least 3 years of experience in project management for surveying, design, and construction projects.	1

7.2.2 Experience and methodology

The evaluation will depend on the applicant's experience and familiarity with street design, especially the design of NMT facilities. Expected areas of experience include:

- Successful completion of similar street design services in India involving the design of streets, public spaces, transport facilities (especially walking and cycling facilities) and amenities;
- Familiarity with NMT user needs, street design principles, street design standards, geometric design of streets, and traffic calming;
- International experience in urban design and/or similar street design project;

The applicant's approach to the current project also will be evaluated. Toward this end, the applicant is required to make a presentation to the evaluation committee explaining the applicant's approach to street design, using _____ Street in [CITY], from_____ to _____, as a case study. The presentation should include a broad concept design for _____ Street covering the following elements:

- A typical mid-block cross-section
- Pedestrian and cycle facilities, including pedestrian crossings
- Intersections
- Traffic calming interventions
- Landscaping elements
- Street furniture

7.2.3 Scoring system

Table 3 indicates the criteria for the technical scoring of applicants. Applicants must receive a minimum score of 60 in order to be empaneled.

Table 3. Scoring criteria

	Possible score
Methodology and experience	
Approach and methodology	40
Experience with similar street design projects	15
Number of projects of similar scale designed to date	15
Number of street design projects executed for government authorities	5
Team	
Project Lead (relevant experience and qualifications in urban design/street design)	10
Project Manager (with relevant experience and qualifications)	5
Architect/Landscape Architect (with relevance experience and qualifications)	7
Awards for public space design or street design	3
Total technical score	100

7.3 Submission of proposal

The submission envelope must be clearly marked with the following text: "Empanelment of Urban Designers for the IMPLEMENTING AGENCY."

7.3.1 Technical proposal

The envelope should contain the following information:

- Name, address, and contact details of the Project Lead.
- Package number of the bid.
- 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 staff and facilities (office space, computers, software, printers/scanners etc) available with the firm for performing the activities of the TOR, including an indication of which staff and facilities will be available in the [CITY] metropolitan area for the duration of the project.
- Portfolio of previous works.
- Description of approach and methodology for the current TOR.

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

- Proposed street design approach and methodology
- Analysis of and design concept for _____ Street, [CITY]

7.3.2 Financial proposal

Consultants should submit the required cost per km to fulfil the requirements in the scope of work. Separate rates should be quoted for each of the following ROWs:

- ≤ 20 m
- 21-36 m
- 36-60 m

8. Annexure 1: Model Roads Programme phase 1 packages

Table 4. Model Roads Programme phase 1 package details

Package	Street name	From	To	Length (km)	Width (m)
Package 1					
Package 2					
Package 3					