

## Chennai Unified Metropolitan Transport Authority (CUMTA)

---

### Terms of Reference

#### Mobility and Spatial Data Development Architect

#### I. Introduction

The Chennai Unified Metropolitan Transport Authority (CUMTA) was established by the Government of Tamil Nadu (GoTN) through a Statutory Act provision during November 2010, and the Rules for CUMTA were notified during January 2019. The Act has been further amended in September 2020 proposing the Hon'ble Chief Minister of Tamil Nadu as Chairman of the of the CUMTA.

The creation of CUMTA was a step towards integrated and sustainable urban mobility initiative for Chennai. CUMTA is better placed to manage the existing institutional gaps and overlaps amongst various agencies in tackling urban transport issues at an optimum utilization of resources. The jurisdiction of CUMTA extends over the whole of Chennai Metropolitan Planning Area.

CUMTA is functioning under Housing and Urban Development Department under Member-Secretary, CUMTA (as well as the Chief Executive Officer). One of the key responsibilities of the Member Secretary is to carry out day-to-day functions undertaken by CUMTA and also to conduct meetings/ facilitating discussion for the authority to take multiple decisions under CUMTA. Hence, GoTN with the help of World Bank under Chennai City Partnership program is working towards strengthening the existing CUMTA to make it fully operational.

#### II. Name of the Post: Mobility and Spatial Development Data Architect

#### III. About Digital Chennai Project:

Chennai has witnessed rapid urbanization over the past decade, straining existing urban systems that are ill-suited to meet the scale or pace of emerging physical, economic and demographic demands. The compound challenges faced by public officials require new approaches to govern the urban ecosystem, and new tools to plan, implement, manage and monitor all the services.

The goal of this project, is to define the means and methods by which data will be compiled and integrated to inform planning and investment decisions, guide real-time urban management and operations, and allow for in-depth monitoring and evaluation of service delivery standards and other key performance indicators. Combining data from different



agencies and carefully chosen external sources, in one platform should provide a multi-sectoral, holistic understanding of city performance and the ability to make empirically informed choices between competing policies and programs.

Against this backdrop, the two technology solutions envisaged are as follows. The **Integrated Urban Data Exchange Platform (IUDP)** will comprise a platform that is able to integrate, store and share spatial and non-spatial (both structured and non-structured) data through a single data portal; and provide modular analytics that combine and analyze the data for a comprehensive tracking of city service performance. The **Urban Project Planning and Management (UPPM)** tool will facilitate planning, management, coordination, supervision, and monitoring of multi-agency urban projects.

#### **IV. Role & Responsibilities:**

- a) To monitor and guide the Digital Chennai project to achieve the usecases envisaged in the platform.
- b) Collaborate with multiple departments/agencies and to develop Digital Chennai and data strategy that meets the requirements of the Authority.
- c) Prepare requirement documents for Digital Chennai project and design systems that can support the use-cases
- d) Create an inventory of the data necessary to build and implement a data architecture.
- e) Envision data pipelines and how data will flow through the system.
- f) Maintain a repository of all data architecture procedures and artifacts.
- g) Evaluate current data management technologies and what additional tools are needed for efficient data management and analysis.
- h) Determine upgrades and improvements to current data architectures.
- i) Design, document, build and implement database architectures and applications.
- j) Build data models for database structures, analytics and AI applications.
- k) Develop and enforce database development standards.
- l) Integrate new systems and functions like security, performance, scalability, reliability and data recovery.
- m) Research new opportunities and create methods to acquire data.
- n) Develop measures that ensure data accuracy, integrity and accessibility.
- o) Continually monitor, refine and report data management system performance.



- p) Examine data sets, identify patterns and use that information to help the Authority/Government in decision making.
- q) To establish digital platform and protocols for data acquisition from various inter-state agencies.
- r) To build working applications that would be Proof of Concept for applications that can solve various urban mobility challenges
- s) To provide technical assistance to consolidate data, map and share data on urban mobility.
- t) To support policies and procedures enforced by the authority to ensure best practices of data architecture including accountability, governance, and transparency requirements.
- u) To ease means and measures to support operational use of data for facilitating various functions of CUMTA.
- v) To document, maintain data inventory and data flow diagrams to determine quantitative and qualitative analysis on the entries.
- w) Liaising with the different department for collating shared key information.
- x) To carry out such other functions and duties that are assigned to the position.
- y) Keep up to date with industry trends and emerging technologies related to data integration.

#### **V. Essential Qualifications and Experience**

- a. Post Graduate in Data Science/Computer Science/IT/Geo-informatics/Transport Engineering/Transport Planning/Urban Planning with certification in AI/ML/Data Science/Big data or equivalent.
- b. At least 05 years of work experience in the field of developing, system design, preparing user requirement documentation for large scale real-time platforms that are functioned with data collection, analysis and visualization, workflow integration and closed loop systems.
- c. Should have strong skillset in Python, SQL and cloud environment, etc.
- d. Should have experience in data processing, building & training ML/DL models for diverse applications.



**VI. Desirable Qualification & Experience:**

- a. Experience in Urban Mobility or Urban development related projects is desirable.
- b. Demonstrated experience with GIS tools and FME or similar spatial ETL tools. Developing knowledge of GIS portals and applications is desirable.

**VII. Age as on the closing date of application:**

Maximum 45 years

**VIII. Duty Headquarters**

The duty headquarters of the 'Mobility and Spatial Development Data Architect' will be in Chennai Unified Metropolitan Transport Authority, Chennai. He / she will be required to travel frequently within and outside the city and occasionally outside the state for project purposes.

**IX. Duration:**

Appointment to the post will be on contract basis initially for a period of two year and likely to be extended based on the performance.

**X. Reporting Arrangements**

The Mobility and Spatial Development Data Architect will report to the Member Secretary, CUMTA.

**XI. Remuneration**

*Consolidated Monthly remuneration* is in the range of Rs. 1,20,000 – Rs. 1,75,000

Interested candidates may apply on or before **2<sup>nd</sup> February 2026** through this google form link <https://forms.gle/FCzJKD82Edkh5yBNA>

