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## 1 Introduction

### 1.1 Background

With rapid urbanisation, industrial growth in Jamshedpur, the population and vehicles have increased rapidly in the recent past years. This has resulted in various transport problems mainly traffic congestion in Jamshedpur. With a view to tackle the present transport related problems and future planning of transport infrastructure in Jamshedpur Urban Agglomeration area, Urban Development Department, Government of Jharkhand, Ranchi (hereinafter referred to as the Client) has invited tenders for the project titled “**Comprehensive Mobility Plan (CMP) for Jamshedpur UA**” (herein after referred to as the Project), as part of Cluster D towns with an objective to enhance the mobility of the people within the city.



Based on the competitive bidding process, Client has selected and awarded the Project to **L&T-Infrastructure Engineering Limited** (herein after referred to as the Consultant) vide Letter of Award (Ref. No: पत्रांक- 06ए/नवि0 / CMP-04/ 2014-4492 dated October 22, 2014). Further to Consultant's acceptance of Letter of Award (LOA), the tripartite contract agreement among Urban Development Department, L&T Infrastructure Engineering Limited and Jamshedpur Urban Local Bodies (Jamshedpur Notified Area Committee, Mango Notified Area Committee, Jugsalai Municipal Council and Adityapur Nagar Parishad) was signed on February 12, 2015 at Ranchi.

As part of the study deliverable schedule, Consultant has submitted Inception Report vide reference LNTIEL-C1142503-009-L-DSR dated March 17, 2015. After submission of Inception report, Consultant has submitted Interim report vide reference LNTIEL-C1142503-027-L-DSR dated August 10, 2015 describing the findings from analysis of the secondary and primary surveys and results of base year travel demand model.

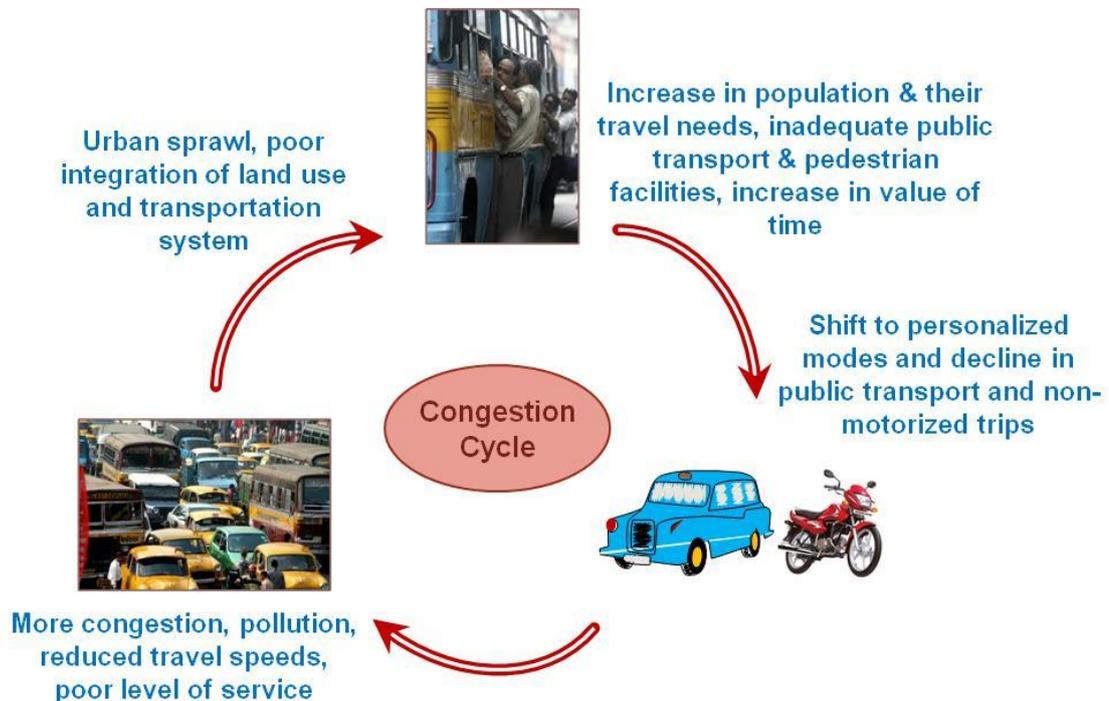
The current report is the Draft Comprehensive Mobility Plan for Jamshedpur UA which covers the analysis of existing transport scenario, review of city development plan, travel demand model development to forecast the future demand, suggestion of transport improvement proposals, institutional measures and implementation strategy.

### 1.2 Need for CMP

Urban transportation is the key for the development of the city economy. At present, cities are in a huge deficit in urban transportation services and infrastructure both in quality and quantity. Jamshedpur is no exception in experiencing such traffic and transportation issues.

As per Census of India, the population of Jamshedpur UA in 2011 was 13, 37,131 whereas in 2001 the population was 11, 31,602 with decadal growth rate of 18%. Accordingly, the usage of private mode of vehicles i.e., cars and two wheelers for daily commuting is growing. Absence of well connected public transportation services further boosting the usage of private modes of

vehicles and auto rickshaws (share autos) for daily commuting. Hence, congestion is increasing, mobility is reducing, pollution and accidents are rising. The general congestion cycle explaining the relationship between travel demand, economic growth and congestion is presented in **Figure 1-1**.



**Figure 1-1: Congestion Cycle**

In the recent past, no city level planning or comprehensive study has been carried out to assess the traffic and transportation requirements of Jamshedpur whereas population and employment has been increased manifold. In order to cater to the travel demand of residents transport infrastructure needs to be augmented. Fragmented development of transport infrastructure without long term vision may lead to unsustainable development at high cost.

***Therefore, a Comprehensive Mobility Plan is needed to approach the urban transportation issues of Jamshedpur UA in a holistic manner which provides short term proposals to address the issues that require immediate attention with minimum investment along with long term proposals for next 20 years period with a vision to provide sustainable transportation solutions.***

### 1.3 Aim and Objectives of the Study

CMP represents an expansion of the traditional transport planning process, taking broader range of urban mobility options into account. The ultimate purpose of a CMP is to provide short, medium and long term strategies to provide accessibility and mobility to all the modes of transportation in the study area. To achieve this purpose the following key objectives are set out:

- To provide long-term vision(s) and goals
- To identify the proposed urban land use/ transport measures
- To suggest rapid action plan
- To identify feasible short, medium and long term investment programme to facilitate safe and efficient movement of people
- To ensure that the most appropriate, sustainable and cost effective implementation program is proposed in the urban transport sector

### 1.4 Scope of the Study

The scope of services for the present study is as per the guidelines and revised toolkit for CMP prepared by Ministry of Urban Development (MoUD). The broad scope of work is presented below:

- Delineation of planning area and horizon for preparation of mobility plan
- Assessment of existing problems and issues regarding mobility of people and goods within the study area
- Demand-supply gap analysis of transportation needs and related infrastructure over the planning horizon
- To define mobility vision and goals for the study area and identify Strategies and Action Plan for achieving the vision
- Identification of projects and policy measures that the city authorities would need to implement as part of the mobility plan
- Preparation of a mobility plan implementation program involving Stakeholders' consultation
- Assessment of CO<sub>2</sub> estimates from urban transport based on travel demand and technological changes
- Working out the mobility plan which is economically, socially and environmentally sustainable; and climate resilient to achieve the goal of low carbon emissions, incorporating the vision of development plans / master plans

### 1.5 Key Outcomes of the Study

Following are the key outcomes of the study in long term:

- Improvement in mobility for all socio-economic groups and genders
- Reduction in CO<sub>2</sub> emissions with reference to Business-as-usual (BAU) scenario
- Improvement in air quality with reference to the Business-as-usual scenario

- Improvement in safety and security for pedestrians and Non-motorized Transport (NMT)
- Achievement of desirable service level indicators and benchmarks

## 1.6 Study Area

The study area for the Project covers entire Jamshedpur Urban Agglomeration area. It is also popularly known as Steel City or Tatanagar. Jamshedpur Urban Agglomeration area includes Jamshedpur Notified Area, Mango Notified Area, Adityapur Nagar Parishad, Jugsalai Municipal Council and eight surrounding villages. The study area is spread over an area of about 149 sq. km. with population of 13, 37,131 according to 2011 census.

Jamshedpur is the headquarters of the East Singhbhum district. Jamshedpur is situated in the southern end of the state of Jharkhand and is situated between 22.80° north latitude and 86.30° east longitude.

Jamshedpur is primarily located on hilly terrain with Dalma hills on north and Subarnarekha river running from north-west to south-east, which also divides Mango Notified Area with Jamshedpur Notified Area. Kharkai river flows from north to south across the study area and divides Adityapur Nagar Parishad from Jamshedpur Notified Area. The average altitude is 135 m above the sea level. The illustration showing the geographic location of the study area is presented in **Figure 1-2**.

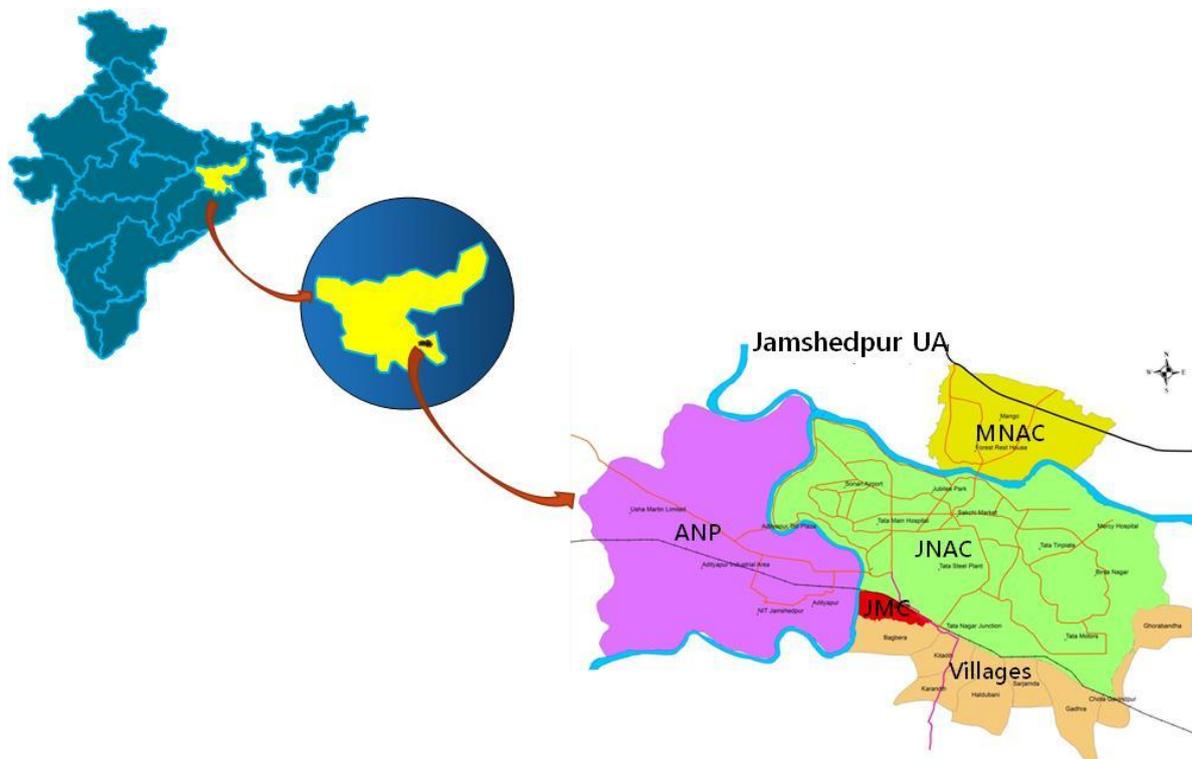


Figure 1-2: Location of Study Area

## 1.7 Our Approach

The study team will approach the project with the ultimate aim in mind. Project requirements will be presented in clear and concise manner so that informed decisions can be made. The approach to be adopted is structured in a logical manner and the same is presented in **Figure 1-3** as a flowchart.

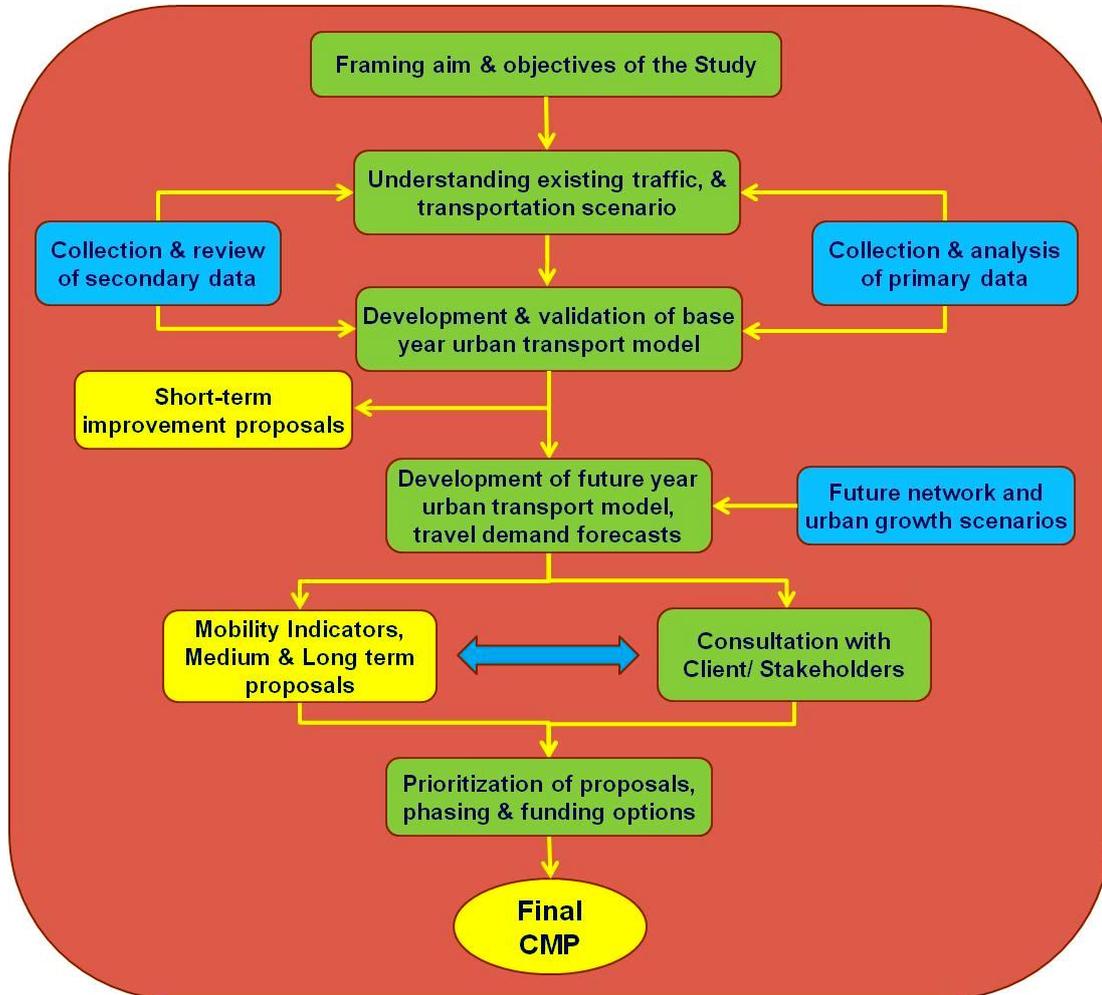


Figure 1-3: Flowchart of Study Approach

## 1.8 Organisation of the Report

This Draft Comprehensive Mobility Plan is organised in eleven chapters as described below:

**Chapter 1: Introduction** - introduces the study and its background, objective and scope of the work

**Chapter 2: Study Area Profile** - discusses about the demographics, road network characteristics etc. of the study area

**Chapter 3: Secondary and Primary Data Collection** - discusses the details of secondary and primary data collected, type and location details of traffic surveys

**Chapter 4: Traffic and Transportation Characteristics** - describes the existing traffic and transportation characteristics of the study area, results of secondary and primary data analysis

**Chapter 5: Service Level Benchmarks** – discusses the service level benchmarks that are used to assess the performance of existing infrastructure facilities of the study area

**Chapter 6: Vision, Goals & Strategies** – describes vision, goals and strategies for the study area

**Chapter 7: Travel Demand Forecast**- discusses about the forecasting parameters, future network and urban development transportation strategies, structure of transport demand model development, travel demand forecasting, validation and calibration of future year travel demand model for the study area

**Chapter 8: Transportation Improvement Proposals** – suggests various transport development proposals i.e. short-term, medium-term and long-term proposals for the study area

**Chapter 9: Cost Estimates, Finance & Implementation** – discusses the preliminary cost estimates and financing options

**Chapter 10: Preliminary Social and Environmental Impact Assessment** – discusses the preliminary social and environmental impacts of the project proposals

**Chapter 11: Institutional Measures and Implementation Strategy** – suggests the institutional measures to strengthen various agencies/ authorities responsible for implementation of CMP proposals as well as implementation strategy