

## Project Summary Information (PSI)

Project No: 000029

Project Name	Mumbai Metro Line 4 Project (the “Project”)
Country	Republic of India
Sector	Transport/Urban Rail
Project No	000029
Borrower	Mumbai Metropolitan Region Development Authority (MMRDA)
Implementation Agency	MMRDA
Environmental and Social Category	Category A
Date of PSI prepared or updated	April 28, 2017
Estimated Date of Board Consideration	December 2017
Concept Decision	Approved on April 28, 2017

### I. Introduction

India is a fast growing and large developing economy, averaging around 7 percent growth per annum in the past few years. Its Gross Domestic Product (GDP) is US\$2.051 trillion in 2015, with a per capita GDP of around US\$1,584. Urban Indians now form about one-third of the population and they produce more than three-fifths of India’s GDP. It is estimated that by the year 2050, fifty percent of India will be living in the cities<sup>1</sup>. However, infrastructure remains a key constraint to growth and urban development.

Mumbai contributes to around 7% of the total Indian GDP and is the most populous city of India as per the 2011 Census. It is estimated by United Nations that Mumbai will be the world’s fourth most populous city by 2030 with population of 27.8 Million<sup>2</sup>. Despite Mumbai being a strong economic driver it still lags behind other major cities of the world on its infrastructure.

**Mumbai Metropolitan Region (MMR)** is one of the fast growing metropolitan regions in India. It comprises 7 municipal corporations, 13 municipal councils and 996 villages and extends over an area of 4,355 sq.km. MMR is projected to have population and employment as 34 million and 15.3 million respectively in the year 2031. Comprehensive Transportation Study (CTS) for MMR estimated total daily demand of 34.3 million trips by all transport modes – of which 60% are by walk. Among the total motorized trips, 73% trips are by public transport and 9% by para-transit modes and balance 18% by private transport mode. Therefore, the public urban transportation system in MMR plays a crucial role in the economic growth and development.

MMR has heavily relied on the Mumbai Suburban Railway for the long distance movements and Brihanmumbai Electricity Supply & Transport (BEST) buses for the short distance movements within

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<sup>1</sup> Country Profile: India, Population Division, Department of Economic and Social Affairs, United Nations

<sup>2</sup> Population Division, Department of Economic and Social Affairs, United Nations

MMR. In MMR, public transport systems are overcrowded and the road network is overly congested as demand outstrips supply. Today's major challenge is to provide connectivity and promote growth by providing adequate inputs to the public transportation infrastructure which would improve the mobility and the quality of life of the MMR residents.

As an entity of Government of the State of Maharashtra (GOM), the **Mumbai Metropolitan Region Development Authority (MMRDA)** is to secure the development of MMR in accordance with the plan prepared pursuant to the Maharashtra Regional and Town Planning Act, 1996 (Regional Plan). The broad responsibilities of MMRDA include preparation of regional developmental plans, providing financial assistance for significant regional projects, conceiving and monitoring key projects for developing new growth centers and promoting improvement in sectors such as transport, housing, water supply and environment in MMR.

MMRDA with the objective of enhancing the public transportation system in Mumbai, appointed Delhi Metro Rail Corporation (DMRC) in 2003 to prepare Mumbai Metro Master Plan to provide safe connectivity to regions and to reduce overcrowding on the existing suburban railway system and traffic on the roads. The proposed Project is an integral part of the Plan.

It is expected that the Project will be co-financed as a loan to MMRDA jointly by the Bank and other financial institutions, with the Bank taking the lead.

## **II. Project Objectives and Expected Results**

The Project will provide environmental friendly, safe and high-capacity North-South connectivity through a modern metro system between Mumbai and Thane district. The primary beneficiaries are the commuters that travel along the corridor, and the secondary beneficiaries are the residents and commercial establishments situated along the corridor. The expected results of the Project are improvement of the overall mobility of urban population and further economic growth through better connectivity.

## **III. Project Description**

The Project will run from Wadala through Ghatkopar, Mulund and Thane to Kasarvadavali of approximately 32 km. The Project consists of three components.

- (i) **Civil Works:** The component consists of the following subcomponents:
  - (a) constructing a 32-km elevated metro line with a standardized viaduct
  - (b) constructing 32 elevated metro stations along the metro line, of which 4 stations will be interconnected with other metro lines and the monorail
  - (c) constructing 2 depots (one main depot for heavy maintenance and one stabling depot for minor maintenance)
- (ii) **Systems:** The component consists of installing the following subcomponents:
  - (a) signaling
  - (b) telecommunication
  - (c) traction and power supply (25 KV AC)
  - (d) other systems related to the metro operation

For high level of safety and reliable operation, a service-proven Continuous Automatic Train Control System based on Communication Based Train Control System, including Automatic Train Protection, Automatic Train Operation and Automatic Train Supervision subsystems will be installed.

- (iii) **Rolling Stock:** A total of 216 modern coaches with air conditioning and service-proven equipment with high reliability will be procured. The important criteria for selection of rolling stock includes passenger safety features, energy efficiency, optimized scheduled speed, low life cycle cost, etc.

#### **IV. Environmental and Social Category**

The Project will involve land acquisition and resettlement, as well as intermittent infringements in relation to the metro construction and maintenance of the right of way along its alignment stretching for 32 km from Wadala to Kasarvadavali. A preliminary assessment suggested that about 250 structures are likely to be affected. Given the complex nature of the alignment and resettlement involved, the Project has been placed in Category A, per the Bank’s Environmental and Social Framework and Environmental and Social Standards.

As a Category A project, the Bank requires the Borrower to conduct a comprehensive environmental and social impact assessment based on which an Environmental and Social Management Plan (ESMP) will be developed. Given the complexity of environmental and social safeguard issues involved in the Project, the Borrower will be required to develop a resettlement policy framework and a citizenship engagement plan for the Project. Assessments, action plans prepared based on the assessments and the monitoring reports will be appropriately disclosed in the public domain. A comprehensive grievance redress mechanism and a detailed schedule for public consultations will be developed for the entire project life-cycle. A plan for regular monitoring of the implementation of the ESMP will be developed and executed by the Bank.

#### **V. Estimated Project Cost and Financing Source (in US\$ million)**

Total Project Cost:	2,224	Total AIIB Financing:	500
<b>Loans/Credits/Others</b>		<b>Amount</b>	
Borrower			1,524
AIIB			500
Co-financiers to be arranged by AIIB			200
Total			2,224

#### **VI. Implementation**

The Project will be implemented by the MMRDA.

Procurement will be conducted in accordance with the requirements of the Bank’s Procurement Policy and the Interim Operational Directive on Procurement Instructions for Recipients.

Expected project implementation period (Start Date and End Date): July 1, 2017 – June 30, 2021

Contact Points

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