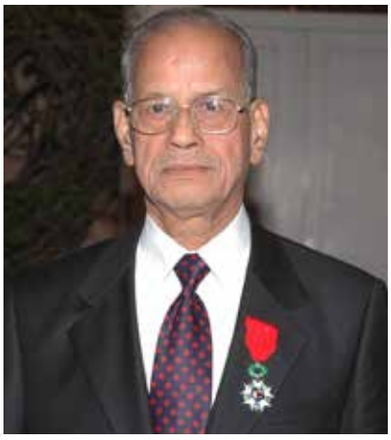
METRO BOOKLET

Japan International Cooperation Agency



"More than the generous funds received from Japan, what I feel more satisfied about is the work culture and ethics that we brought during the making of the metro. People stand in queue, they offer seat to those who need it more than them, clean platforms and soft-spoken, hard-working staff – these are my rewards too."

Dr. E. Sreedharan,
Former Managing Director of Delhi Metro,
Popularly known as the ***Metro Man***

The quote was cited at a reception hosted in his honour by the Embassy of Japan in India on March 08, 2014, after he was conferred the Order of the Rising Sun, Gold and Silver Star award by the Government of Japan in November 2013.

*The quote was published in PSU Connect Website on 8th March 2014. http://www.psuconnect.in/news/metro-man%60-e.-sreedharan-felicitated/2965

Foreword

Mr. Katsuo Matsumoto,
Chief Representative, JICA India

JICA has been actively contributing to the improvement of public transportation systems in India, in collaboration with our Indian partners, to ensure sustainable growth and environmental conservation. JICA's activities seek to achieve accelerated development of Indo-Japan ties.

India has become the world's fastest growing major economy. It shall also become home to the world's largest population by 2024. In this context, India's development is of utmost importance. India has immense potential to emerge as an economic powerhouse and its strength is expected to bring stability and prosperity to the world at large.

To meet the rising aspirations of people, we would sincerely like to support the creation and expansion of world-class infrastructure in this country. We offer Japan's expertise in the transportation sector, to help this revolution move forward.

Metro projects in India are a shining example of Indo-Japanese partnership, and are an integral part of the legacy of JICA's operations in India. As the largest bilateral development partner to India, JICA has been actively working towards development of transportation in India. The Metro Rail projects help reduce traffic congestion, ease travel and decrease pollution.

JICA has extended ODA loans of over 1.3 trillion Japanese yen (approximately INR 81,000 crores) to develop metro systems in Delhi, Bengaluru, Kolkata, Chennai, Mumbai and Ahmedabad. These JICA supported projects are to meet India's growing demand for mobility by building a Mass Rapid Transit System that helps mitigate worsening vehicular traffic, curbs pollution, is timely and safe, and leads to sustainable urban development in the mega-cities of India.

As friendship between India and Japan has deepened, cooperation between the two countries is expected to increase further. JICA would continue to contribute to the creation of world-class infrastructure in India, both technically and financially.

This booklet provides an overview of JICA-supported Metro projects in India. It highlights the best practices implemented in various projects.

These projects have been implemented through active collaboration between India and Japan, and have been executed by the Government of India. We sincerely hope that experiences from these JICA-supported metro projects would facilitate the development of other mobility projects in India. JICA is committed to continue supporting India's transportation sector in the years to come.

Message

Mr. Rajat Kumar Mishra,
Joint Secretary (Bilateral Cooperation and International Economic Relations), Department of Economic Affairs, Ministry of Finance, Government of India

Urbanization is an important indicator for any country, as overall development of cities and towns act as major hub of economic activities, knowledge, technology, investment, skills and jobs. India is one of the rapidly urbanizing nations of the 21st century and it has led to inevitable challenges of urban mobility, with resultant congestion and pollution, being its most visible manifestation. Comprehensive framework to addresses the issue holistically requires creation of a network of affordable, safe, reliable and environmentally friendly transport system.

Mass Rapid Transit Systems have emerged as an effective, sustainable and green urban mobility network which not only facilitate easy and quick movement of people but also mitigate challenges of traffic congestion and reduction in pollution, leading to a positive impact on quality of life in our cities though comparatively costly. Metro rail projects provide high capacity public transit and are technology intensive. However, considering the pace of urbanization and the impending need for augmenting mobility in cities through metro rail, it is imperative to explore alternative sources of funds to supplement the budgetary resources.

JICA has been a committed partner in creating a robust network of Mass Rapid Transit Systems across the country and helping in re-designing the urban landscape through world class infrastructure, technology and green transportation systems.

I am happy to note that JICA is bringing out a publication on JICA-supported Metro projects in India. I am hopeful that this booklet would serve as an important communication tool to spread information about success stories and best practices for development of urban mobility projects in India.

We express our sincere appreciation for Government of Japan and JICA for being instrumental in helping India climb up the ladder in sustainable urban development. There has been significant deepening of Indo-Japan bilateral relations in recent past with growing convergence in our strategic and developmental interests. This partnership holds tremendous promise for further growth and in years to come, we hope to build this relationship for mutual benefit in key sectors of sustainable development.

METRO ODA LOANS TIMELINE

DELHI | MUMBAI | KOLKATA | CHENNAI | BENGALURU | AHMEDABAD

ODA Loan Projects

1983
Calcutta Metro Railways (Phase II) Construction Project

1997
Delhi Mass Rapid Transport System Project

2001
Delhi Mass Rapid Transport System Project (II)

2002
Delhi Mass Rapid Transport System Project (III)

2008
Delhi Mass Rapid Transportation System Project (Phase 2) (III)

2009
Delhi Mass Rapid Transport System Project (Phase 2) (IV)

2010
Kolkata East-West Metro Project (II)

2010
Chennai Metro Project (II)

2010
Delhi Mass Rapid Transport System Project (Phase 2) (V)

2011
Bangalore Metro Rail Project (II)

2012
Delhi Mass Rapid Transport System Project Phase 3

2013
Chennai Metro Project (III)

2018
Chennai Metro Project (Phase 2) (I)

2003
Delhi
Mass Rapid
Transport System
Project (IV)

2004
Delhi
Mass Rapid
Transport System
Project (V)

2005
Delhi
Mass Rapid
Transport System
Project (VI)

2006
Bangalore
Metro Rail Project

2006
Delhi
Mass Rapid
Transport
System Project
(Phase 2) (I)

2007
Delhi
Mass Rapid
Transport
System Project
(Phase 2) (II)

2008
Chennai
Metro Project

2008
Kolkata
East-West
Metro Project

2013
Mumbai
Metro Line 3
Project

2014
Delhi
Mass Rapid
Transport
System Project
(Phase 3) (II)

2016
Ahmedabad
Metro Project (I)

2016
Chennai
Metro Project (IV)

2017
Chennai
Metro Project (V)

2018
Mumbai
Metro Line 3
Project (II)

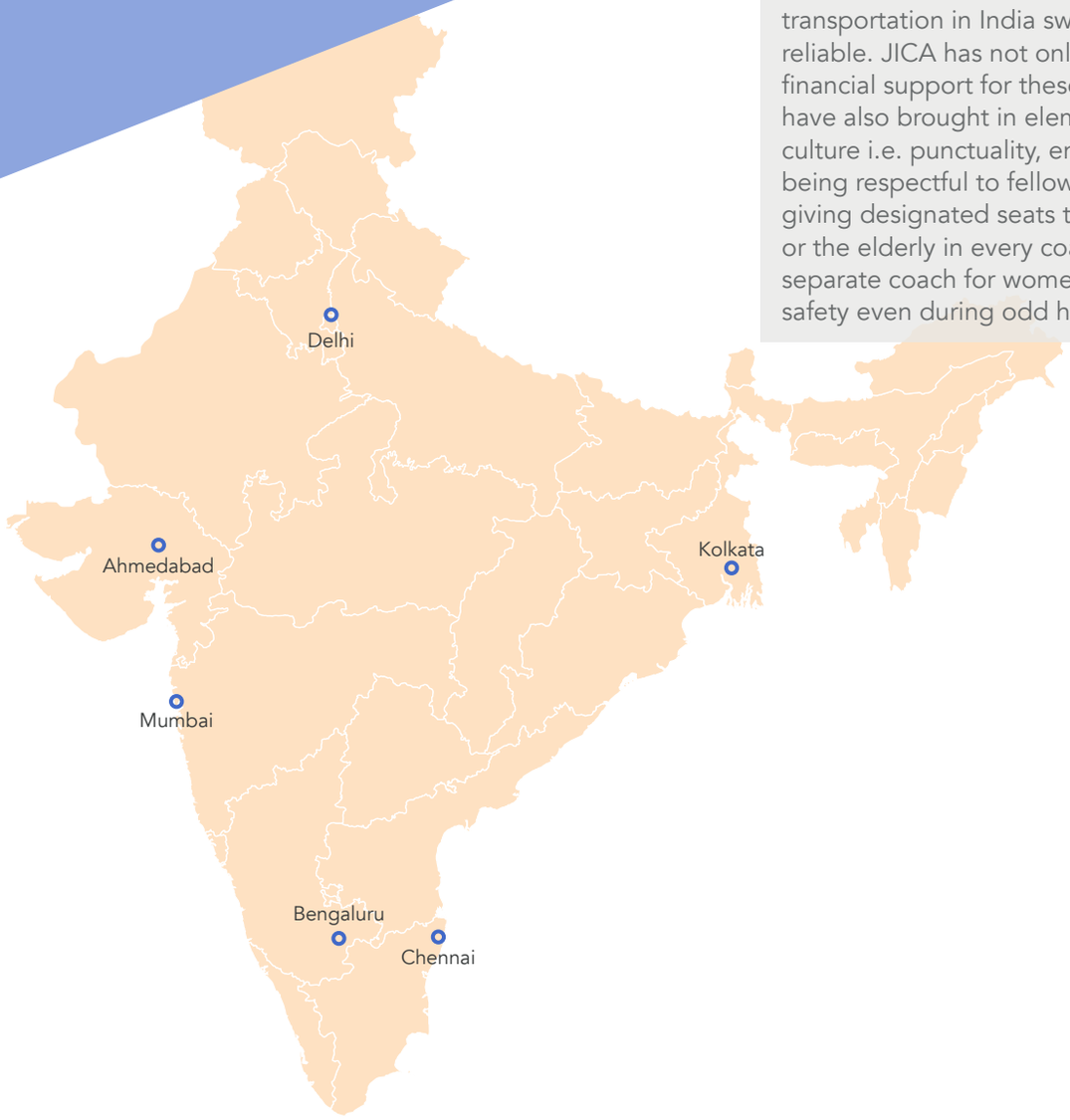
2018
Kolkata
East-West
Metro Project (III)

2018
Delhi
Mass Rapid
Transport
System Project
(Phase 3) (III)

INDEX

METRO RAIL PROJECTS
of all cities

JICA is funding large scale Metro Projects in metropolitan cities with an aim to realize the Government's vision of making transportation in India swift, modern and reliable. JICA has not only provided financial support for these projects but they have also brought in elements of Japanese culture i.e. punctuality, entering in a queue, being respectful to fellow travelers by giving designated seats to women travelers or the elderly in every coach and building a separate coach for women ensuring their safety even during odd hours.



COMMON
features

- Increases connectivity
- Interconnection with other transportation modes
- Reduces noise level
- Provides safety via cameras
- Helps in reducing traffic congestion
- Utilizes solar energy

1 AHMEDABAD METRO

OBJECTIVE

The population of Ahmedabad metropolitan increased from 5.1 million in 2001 to 6.3 million in 2011, increasing conveyance requirements, resulting in the need for Ahmedabad Metro Project. JICA supported the 1st metro project in Gujarat, the nation's growth driver, which is intended to provide an alternate transportation choice to the city that will connect core districts of economic and cultural activities.

PARTICULARS

Executing Agency
Gujarat Metro Rail Corporation Limited

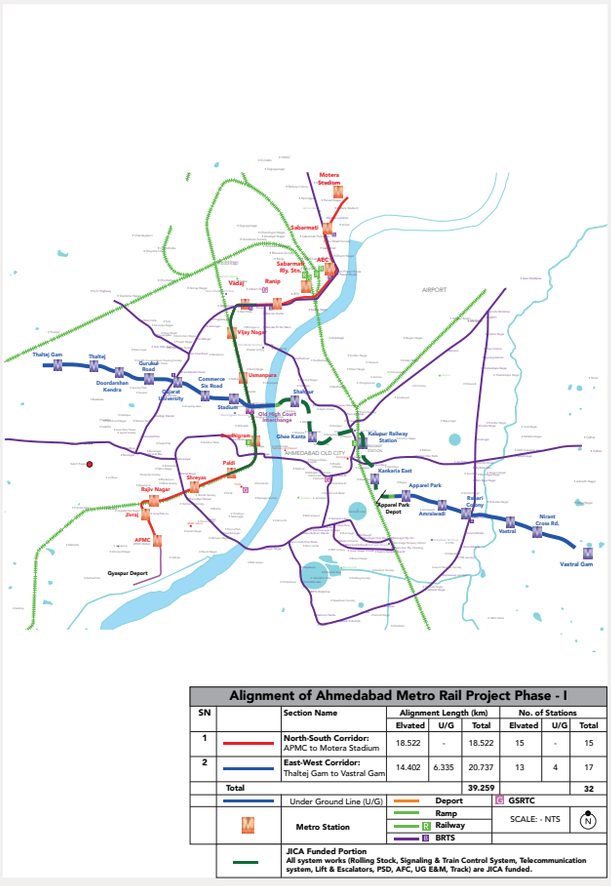
Estimated Project Cost
JPY 246,219 Million (Rs. 15,388 Crore)

Loan Amount
JPY 82,434 Million (Rs. 5,152 Crore)

Project Commencement
October 2015

Scheduled Project Completion
Priority Reach: March 2019
Entire Stretch: November 2020

Project Consultant
Consortium of SYSTRA S.A. (France), RITES Ltd. (India), Oriental Consultants Global Co. Ltd. (Japan), AECOM Asia Co. Ltd. (Hong Kong)



Alignment of Ahmedabad Metro Rail Project Phase - I

SN		Section Name	Alignment Length (km) Elvated	U/G	Total	No. of Stations Elvated	U/G	Total
1		North-South Corridor: APMC to Motera Stadium	18.522	-	18.522	15	-	15
2		East-West Corridor: Thaltej Gam to Vastral Gam	14.402	6.335	20.737	13	4	17
		Total			39.259			32

Under Ground Line (U/G)
Metro Station
Depot
Ramp
R Railway
B BRTS
G GSRTC
SCALE:- NTS
JICA Funded Portion
All system works (Rolling Stock, Signaling & Train Control System, Telecommunication system, Lift & Escalators, PSD, APC, UG E&M, Track) are JICA funded.

Ahmedabad Metro
Map

ROUTE

Total Distance: 39.259 km

Line 1:
Number of Stations: 15, Route Length: 20.737 kms
Motera Stadium — APMC

Line 2:
Number of Stations: 17, Route Length: 18.522 kms
Thaltej Gam — Vastral Gam

Total Number of Stations: 32

The first Ahmedabad Metro got launched on March 4th 2019 from the Vastral Gam Station

Apparel Park Station

Exchange Rate: INR 1=JPY 1.6 Completed Ongoing

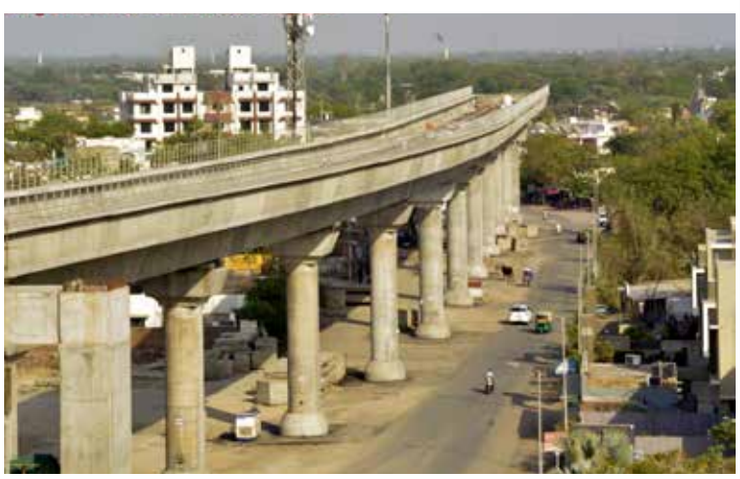
UNIQUE features

- Provision of half height platform screen door in elevated station and full height platform screen door in under ground station for passenger safety
- Integration of ticketing system with other mode of transport using open-loop systems
- Adopting CBTC signaling systems
- Full IP based telecom network- improves stability & availability

"Ahmedabad Metro Rail Project is being implemented by GMRCL with financial assistance from JICA to bring about environmental improvement and reduce travel time of commuters by introducing a Modern Mass Rapid Transit system in the city."

Dr. I.P. Gautam, IAS (Retd.)
Managing Director, Gujarat Metro Rail Corporation Limited (GMRCL)

East Bound Tunnel- Launching Shaft Underground Ground-1 From Apprarel Park Depot towards Kankaria East



Viaduct Construction work near Paldi Station (North-South Corridor)

"Ahmedabad Metro Project is unique in providing seamless multi-model connectivity and promoting efficient land use through construction of 8 kms of Metro on Railway corridor where Metro will pass above and below the Indian Railways. India's first integrated Railway and Metro Station at Gandhigram is unique feature of the project in addition to the interconnectivity with High Speed Rail (Bullet Train System) and Indian Railway at Ahmedabad Railway Station. The Metro will also provide a unique blend of heritage and modernity in India's first Heritage City."

Mr. Kengo Akamine,
Senior Representative, JICA India

2 BANGALORE METRO

OBJECTIVE

The population of Bengaluru has drastically increased from 6.5 million in 2001 to 9.6 million in 2011, increasing the number of people living per square kilometer in the city from 2,985 in 2001 to 4,378 in 2011. The Bangalore Metro Project aims at transferring the advanced technology from Japan, including project management, safety management, low energy consumption, etc. so that the citizens in Bengaluru can enjoy safe, timely and comfortable travel with high reliability of mobility services.

PARTICULARS

Executing Agency
Bangalore Metro Rail Corporation Limited

Estimated Project Cost
JPY 306,809 Million (Rs. 19,175 Crore)

Loan Amount
JPY 19,832 Million (Rs. 1,239 Crore)

Project Commencement
January 2007

Scheduled Project Completion
June 2017

Project Consultant
Consortium of RITES Ltd. (India), Oriental Consultants Global Co. Ltd. (Japan), Parsons Brinckerhoff International Inc (USA), SYSTRA S.A. (France)

Bangalore Metro Rail Project Phase-1
Map

ROUTE

Total Distance: 42.3 km

Purple Line:
Number of Stations: 17, Route Length: 18.1 kms
Mysuru Road — Baiyappanahalli

Green Line:
Number of Stations: 24, Route Length: 24.2 kms
Nagasandra — Yelachenahalli

Total Number of Stations: 41

Commuters comfortably riding the metro

People approaching to board the metro at MG Metro Station

Exchange Rate: INR 1=JPY 1.6 Completed Ongoing

UNIQUE features

- Advanced Training Centre for train operators, which can be utilized by other metros

- The first underground line in South India
- Successful tackling of rocky strata during underground construction

- First time in India, with real time train surveillance from operational control room

"With great sense of pride, Bangalore Metro acknowledges that JICA was the first bilateral financial institution to come forward to fund about 35% of the project cost in the form of sovereign loan as early as in 2006.

Besides augmenting financial resources, BMRCL has tremendously benefitted by drawing upon JICA's expertise in developing capabilities and gaining understanding of the best practices in procurement and contracting, including drafting of tender conditions, technical and financial evaluation. JICA has also been flexible in their approach which enabled BMRCL to modulate its requirements to suit the project needs. Thus by associating with JICA, BMRCL project could achieve financial closure of the Phase 1 of the project in the beginning itself. With the support of JICA, Phase 1 of the project was fully completed in June 2017. The ridership has been on the rise. Thus, BMRCL is able to achieve its project objectives. BMRCL is thankful to JICA for all the support and cooperation. I wish JICA more such success in its future endeavor through participation in the growth and development of our country."

Mr. Ajay Seth,
Managing Director, Bangalore Metro Rail Corporation Limited (BMRCL)

"The lack of mass transit public transportation systems in Bengaluru, one of the fastest growing cities in the world, which houses prominent Japanese corporates, had been a major hurdle to Bengaluru's widespread economic growth and led to increased use of private vehicles. This in turn caused traffic delays, air pollution, wasteful fuel consumption, and economic losses through time wastage. JICA by providing advance technological support and financial assistance through long term financing structure supported BMRCL's efforts to provide safe, effective and affordable public transport systems, which is the connectivity backbone of Bengaluru's urban transport."

Mr. Sho Naya,
Representative, JICA India

3 CHENNAI METRO

OBJECTIVE

The population of Chennai Metropolitan Area increased from 7.1 million in 2001 to 8.7 million in 2011, resulting in the need for implementation of Chennai Metro Rail Project. Given the growing population, the objective of the Project was to provide improved access to public transport for dense population comprising of industrial workers to move towards the central business districts of the city for work.

ABOUT

Executing Agency
Chennai Metro Rail Limited (CMRL)

Estimated Project Cost
Phase 1: JPY 385,646 Million (Rs. 24,102 Crore)
Phase 2: JPY 725,415 Million (Rs. 45,338 Crore)

Loan Amount (JPY 306,809 Million)
Phase 1: JPY 183,595 Million (Rs. 11,474 Crore)
Phase 2: JPY 357,476 Million (Rs. 22,342 Crore)

Project Commencement Date
November 2008

Scheduled Project Completion Date
March 2020

Project Consultant
Consortium of Egis Rail S.A (France), Maunsell Consultants Asia Ltd. (Hong Kong), Yachiyo Engineering Co. Ltd. (Japan), Egis India Consulting Engineers Pvt. Ltd. (India) and Balaji Railroad Systems Ltd. (India).

ROUTE (Phase-1)

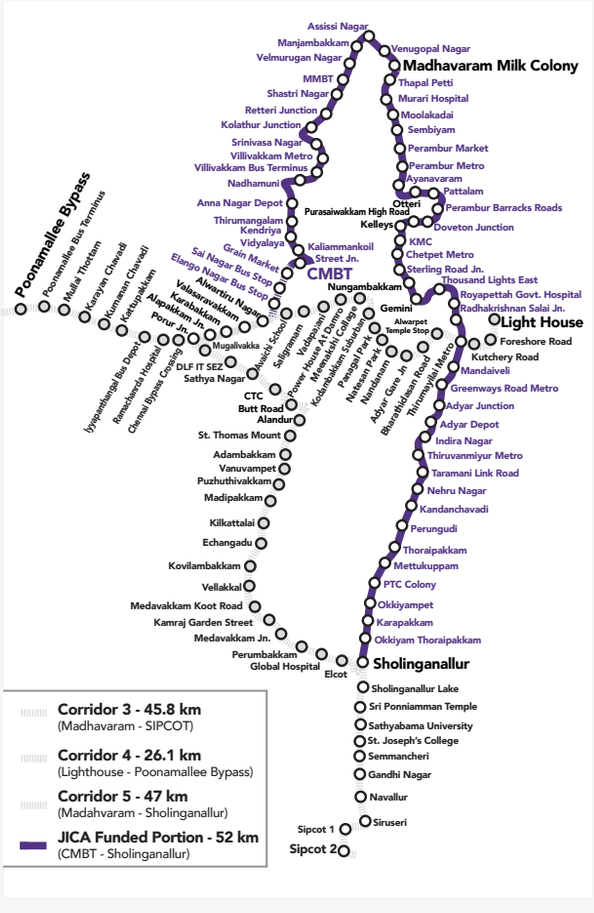
Total Distance: 52 km

Corridor 1:
Number of Stations: 25, Route Length: 31 kms
Wimco Nagar — Chennai Airport

Corridor 2:
Number of Stations: 17, Route Length: 22 kms
Chennai Central — St. Thomas Mount Metro

Total Number of Stations: 43

Chennai Metro Rail Project Phase-1
Map



Chennai Metro Rail Project Phase-2
Map

Exchange Rate: INR 1=JPY 1.6 Completed Ongoing

UNIQUE features

- Unlike other metro systems, this metro, in its first phase itself covers all the important landmarks in the city
- Chennai Metro Rail Project is a Green Project as it utilizes Solar Energy
- Provides free bicycle ride scheme for its customers

"JICA - assisted Chennai metro project is helping Chennai city to reduce congestion and bring down the transportation cost and pollution and also is safeguarding environment."

Thiru Pankaj Kumar Bansal,
Managing Director, Chennai Metro Rail Limited (CMRL)

The commuters boarding Chennai Metro

People queue after each other to access the token vending machine

"CMRL is incessantly aiming to ease mobility in this mega-city by bringing a modal shift in transportation. CMRL is an excellent example of what determined leadership and teamwork can achieve, given the constraints of implementation of the MRTS project in a time bound manner."

Ms. Charu Sharma,
Additional Lead Project Officer, JICA India

4 DELHI METRO

OBJECTIVE

The city expanded significantly resulting in a two-fold rise in population and a five-fold rise in the number of vehicles between 1981 and 1998.* Consequently, traffic congestion and pollution soared, as an increasing number of commuters took to private vehicles with the existing bus system unable to bear the load. To curb frequent traffic congestions, the Delhi Metro was born which aimed at promoting a modal shift in transportation, thereby bringing an era of smart, functional and economical transportation to India.

PARTICULARS

Executing Agency
Delhi Metro Rail Corporation Limited

Estimated Project Cost
Project JPY/Million
Phase 1: 695,565
Phase 2: 388,670
Phase 3: 277,952
Total: 1,362,187 (Rs. 85,136 Crore)

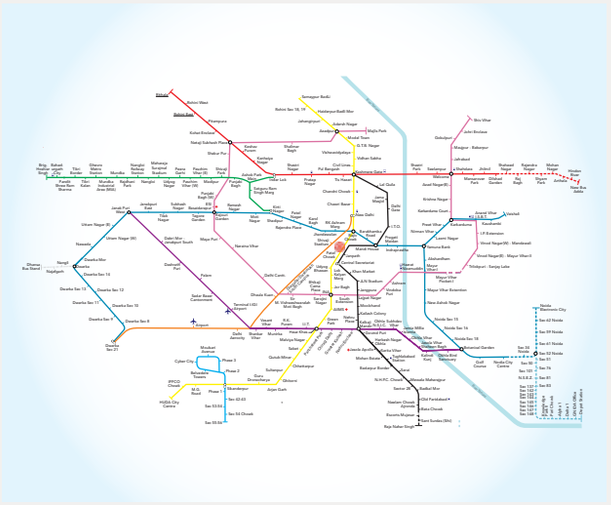
Loan Amount (As per Loan Agreement)
Project JPY/Million
Phase 1: 162,751
Phase 2: 211,976
Phase 3: 330,479
Total: 705,206 (Rs. 36,067 Crore)

Project Commencement
July 2013 (Phase 3)

Scheduled Project Completion
December 2021 (Phase 3)

Project Consultant
Phase 1: CONSORTIUM of PCI, JARTS, TONICHI, PBI & RITES
Phase 2: CONSORTIUM of PCI/OCC, JARTS, TONICHI, PBI & RITES
Phase 3: CONSORTIUM of OCC, TONICHI, PBI & RITES

Acronyms:
PCI - Pacific Consultants International (Japan)
JARTS - Japan Railway Technical Service (Japan)
TONICHI - Tonichi Engineering Consultants, Inc. (Japan)
PBI - Parsons Brinckerhoff International Inc. (USA)
RITES - Rail India Technical And Economic Services Ltd (India)
OCG - Oriental Consultants Global Ltd. (Japan)



Delhi Metro
Map

ROUTE

Total Distance: 259 km

Line 1:
Number of Stations: 21, Route Length: 25.9 kms
Rithala — Shahdara — Dilshad Garden

Line 2:
Number of Stations: 31, Route Length: 42.38 kms
Samaypur Badli — Vishwa Vidyalaya — Arjangarh (Haryana Border)

Line 3:
Number of Stations: 29, Route Length: 33.67 kms
Dwarka — Yamuna Bank — New Ashok Nagar

Line 4:
Number of Stations: 5, Route Length: 6.17 kms
Yamuna Bank — Anand Vihar

Line 5:
Number of Stations: 20, Route Length: 24.77 kms
Inderlok/Kirti Nagar — Mundka — Tikri Border

Line 6:
Number of Stations: 23, Route Length: 29.53 kms
Kashmeri Gate — Central Secretariat — Badarpur

Line 7:
Number of Stations: 38, Route Length: 58.42 kms
Mukundpur (Majlis Park) — Maujpur — Shiv Vihar

Line 8:
Number of Stations: 23, Route Length: 33.49 kms
Janakpuri West — Kalindikunj

Line 9:
Number of Stations: 4, Route Length: 5.48 kms
Dwarka — Najafgarh — Dhansa Bus Stand

Total Number of Stations: 194

*https://web.archive.org/web/20100925022045/http://www.delhimetrorail.com/needformetro/history.aspx

Exchange Rate: INR 1=JPY 1.6 Completed Ongoing

UNIQUE features

- Certified by the United Nations (UN) as the First Metro Rail system in the world to get carbon Credits for reducing Green House Gas Emissions

- Highest generator of solar power (23 MWp) in the transportation sector in India
- 1st project (phase 1) completed within the estimated cost and scheduled period

- All stations opened so far in Phase-3 have been rated as 'Platinum' by the Indian Green Building Council for adherence to Green Building norms

"The Delhi Metro has been instrumental in ushering a new era of Mass Rapid Transit System (MRTS) in country. JICA has supported us in all our projects and has helped us in transforming Delhi into a world class capital."

Dr. Mangu Singh,
Managing Director, Delhi Metro Rail Corporation (DMRC)

Woman coaches enable woman to travel comfortably even at odd hours of the day

Automatic ticket vending machines at the station

"The unique work culture of DMRC and its proven record of completing projects on time has motivated many other cities in India to come up with their own Metro systems. Right now, 10 Indian cities have operational Metro networks and many other cities are either planning or constructing their own Metro systems, buoyed by the success of the Delhi Metro."

Mr. M.P. Singh,
Chief Development Specialist, JICA India

5 KOLKATA METRO

OBJECTIVE

The city of Kolkata has 190 km² in area and 4,580,000 in population, making the population density of 32,500 per km², which is considered as one of the highest in the world. The Kolkata Metro Project aims at mitigating bottlenecks in the city by employing most advanced technology in the process. It will be the first metro in India that will have an underwater section which will help connect both sides of the river-divided city, responding to the growing traffic demands.

PARTICULARS

Executing Agency
Kolkata Metro Rail Corporation Limited

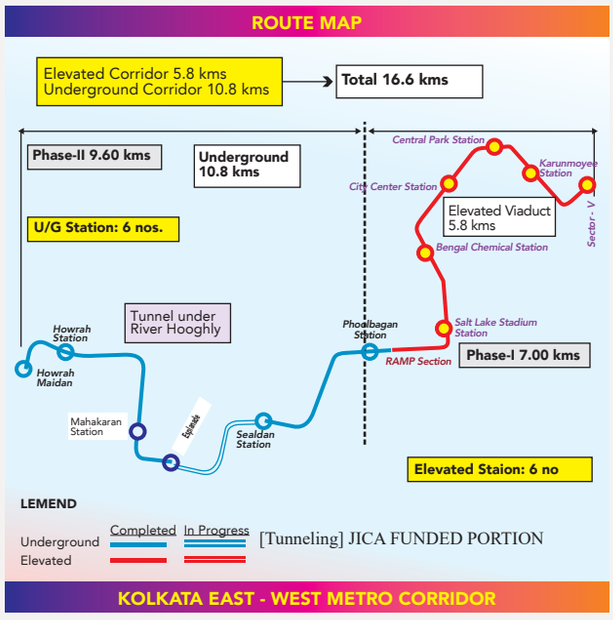
Estimated Project Cost
JPY 133,143 Million (Rs. 8,321 Crore)

Loan Amount
JPY 55,742 Million (Rs. 3,483 Crore)

Project Commencement Date
July 2008

Scheduled Project Completion Date
June 2021

Project Consultant
Consortium of
- Maunsell Consultants (Hong Kong)
- Egis Rail Ltd. (France)
- Consulting Engineering Services (India)
- Yechio Engineer Corporation (Japan)
- Lee Harris Pomeroy Architects (USA)



Kolkata East-West Metro Corridor
Map

ROUTE

Total Distance: 16.6 km

Corridor 1:

Howrah Maidan — Sector - V

Total Number of Stations: 12

Completed Tunnel in Phase-II

Completed Viaduct

Exchange Rate: INR 1=JPY 1.6 Completed Ongoing

UNIQUE features

- First transportation tunnel under any mighty river in India
- First tunneling project in Eastern India using earth pressure balancing tunnel boring machine
- Metro connecting mammoth railway terminals at Howrah and Sealdah which are two largest terminals in the country

"Kolkata is a city on the bank of river Hooghly which has been developed over the last three centuries in a sporadic manner. To get rid of the mobility problem in this megacity with ever-growing population, Mass Rapid Transit System [MRTS] is an effective solution for this region. 46% of the project cost is being funded by JICA, which is a substantial financial assistance for delivery of the project. This city proudly boasts the first MRTS in the country popularly known as North-South Metro which is successfully operated by Indian Railways for the last three decades. Govt. of India has initiated further MRTS development in east west direction from Salt Lake Sector-V in the east to Howrah Maidan in the west which traverses in the busy central district of Kolkata. This 16.6 km corridor encompasses the first transportation tunnel in the country under the mighty river Ganges."

Mr. Parashuram Singh,
Managing Director, Kolkata Metro Rail Corporation (KMRC)

Elevated Viaduct

Rollling Stock in Depot

"East West Metro Project 16.55 km system connects the east-west parts of the City of Joy, Kolkata. It passes below Hooghly River and commercial hub, and most populous areas. The interconnectivity with Howrah and Sealdah railway stations and existing Metro station Esplanade would decongest city by paradigm modal shift. The underground 10.81 kms tunnelling including 520 meters below the Hooghly river, got successfully completed in 66 days of record time. The project having most sophisticated signalling and traffic control systems has an extraordinary team of professionals from India and abroad. JICA team wished expeditious commissioning and revenue operation of the project."

Ms. Yuko Shinohara,
Representative, JICA India

6 MUMBAI METRO

OBJECTIVE

The population of Greater Mumbai increased from 11.91 million in 2001 to 12.48 million in 2011, subsequently increasing number of vehicles from 1.03 million in 2000 to 1.77 million in 2010, resulting in the need for Mumbai Metro Project. To curb frequent traffic congestions, the Project aims at abatement of pollution and mitigation of traffic congestions, ensuring overall ease of commuting for the people.

PARTICULARS

Executing Agency
Mumbai Metro Rail Corporation Limited

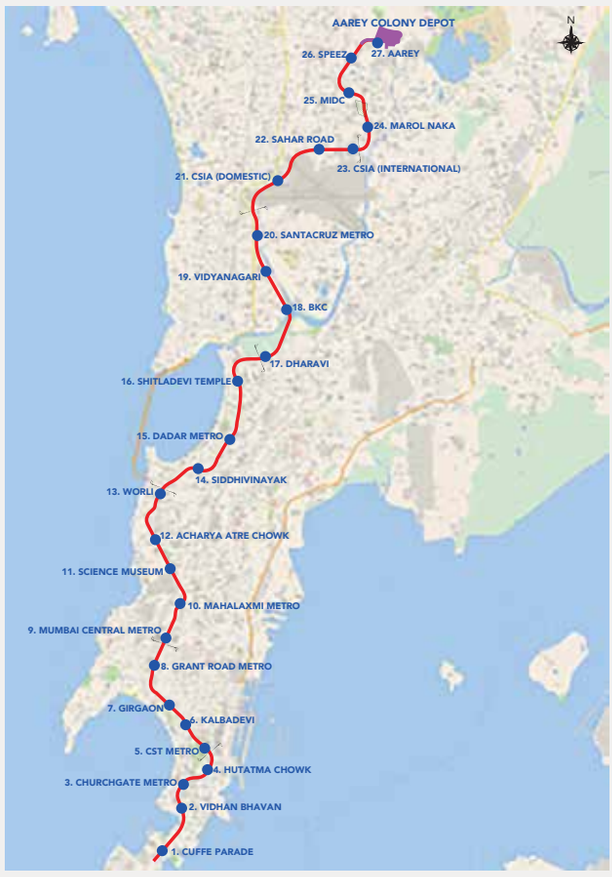
Estimated Project Cost
JPY 621,374 Million (Rs. 38,835 Crore)

Loan Amount
JPY 171,000 Million (Rs. 10,687 Crore)

Project Commencement Date
July 2013

Scheduled Project Completion Date
December 2021

Project Consultant
MAPLE (A consortium of AECOM Asia Co. Ltd. (Hong Kong), PADECO Co. Ltd. (Japan), Louis Berger Group Inc (USA) and Egis Rail (France))



Mumbai Metro Line - 3
Map

ROUTE

Total Distance: 33.5 km

Corridor 1:

Cuffe Parade — Aarey

Total Number of Stations: 27

Aerial view of North shaft at Bandra Kurla Complex

Casting yard

Exchange Rate: INR 1=JPY 1.6 Completed Ongoing

UNIQUE features

- 1st Fully underground metro in the country
- Interchanges at 6 locations with existing public transport, business and employment centers
- Connects areas not served by Suburban Rail

"Mumbai Metro Line 3 (Colaba-Bandra-SEEPZ) is a long-awaited project of Mumbai. Involvement of JICA funding agency has provided impetus to the project that is most challenging in the country. MMRC has received good cooperation from JICA for the the swift release of funds."

Mrs. Ashwini Bhide,
IAS, Managing Director, Mumbai Metro Rail Corporation (MMRC)

Bird-eye view of the Mumbai Metro's Churchgate Station

Construction work underway at the Mumbai Metro's Hutatma Chowk Station

"Mumbai Metro Line-3 is undoubtedly the most important transport corridor in Mumbai as it connects several major landmarks, key educational institutions and key business centers of the city. It is expected to become the Lifeline of Mumbai and to have greater ridership than any other metro rail line in India. The inspirational leadership at MMRCL has succeeded in imparting a sense of ownership to Mumbaikars through their innovative approach in public outreach and communication with stakeholders."

Mr. Mihir Sorti,
Principal Development Specialist, JICA India

Japan International
Cooperation Agency

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