
PPP in Rail Infrastructure

March 24, 2007

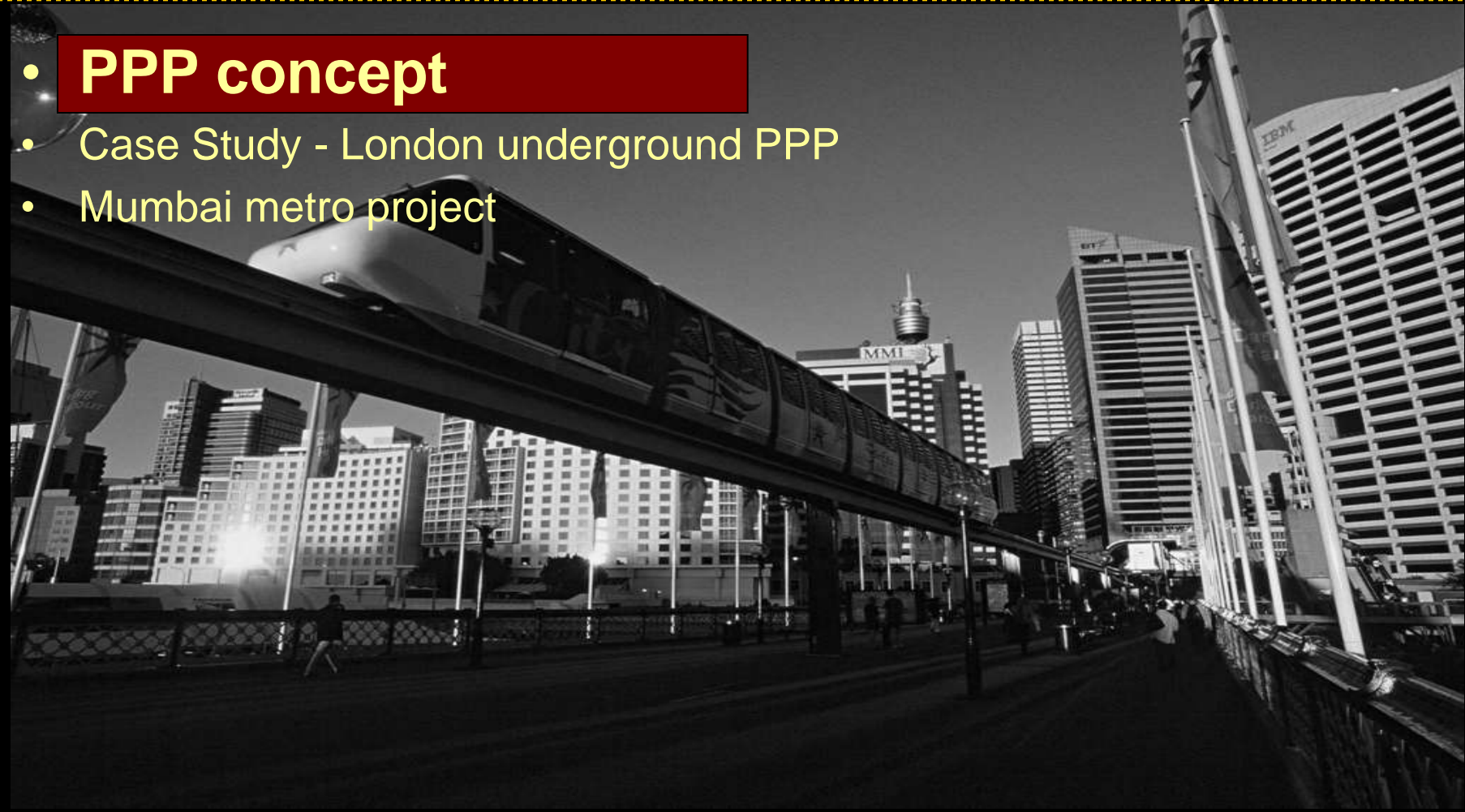


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AGENDA

- **PPP concept**
- Case Study - London underground PPP
- Mumbai metro project



Concept of PPPs

- A Public-Private Partnership is a contractual agreement between a **public agency** (federal, state or local) and a **private entity**.
- Characteristics of PPP
 - Available public funding inadequate for Infrastructure growth
 - The skills and assets of each sector are shared in delivering a service or facility for the general public.
 - In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility

Benefits of PPPs

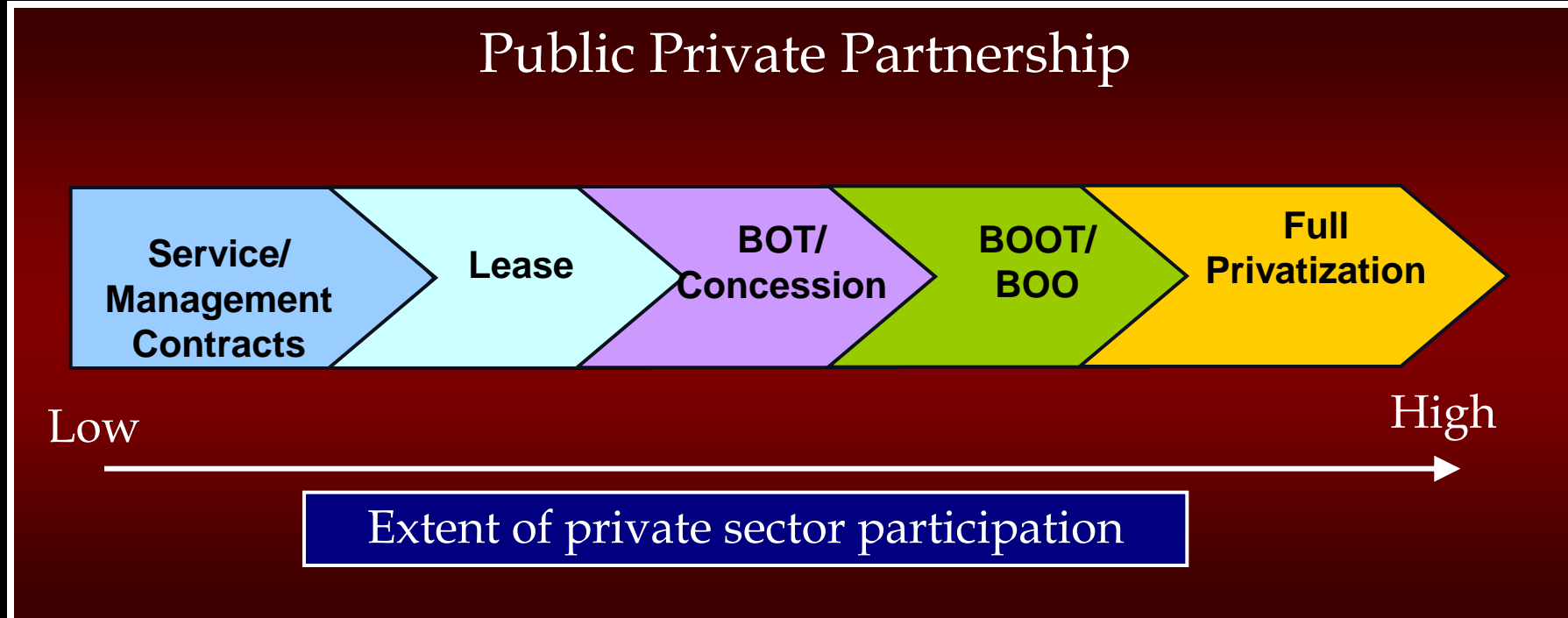
- Freeing scarce public funds for other uses
- Optimal risk allocation
- Increasing efficiency in the execution of projects
- Access to international financing through private sector
- Technological innovations and upgradation
- Reducing risk for the public sector

- Rationale for concessions
 - When markets can be served efficiently by several firms ordinary competition usually works well.
 - In market monopolies ordinary, head-to-head competition does not operate.

- Competitively auctioned concessions allow some of the benefits of competition to be brought to bear

Types of PPPs

- The graphic below shows the kinds of PPPs based on extent of Private Sector Participation



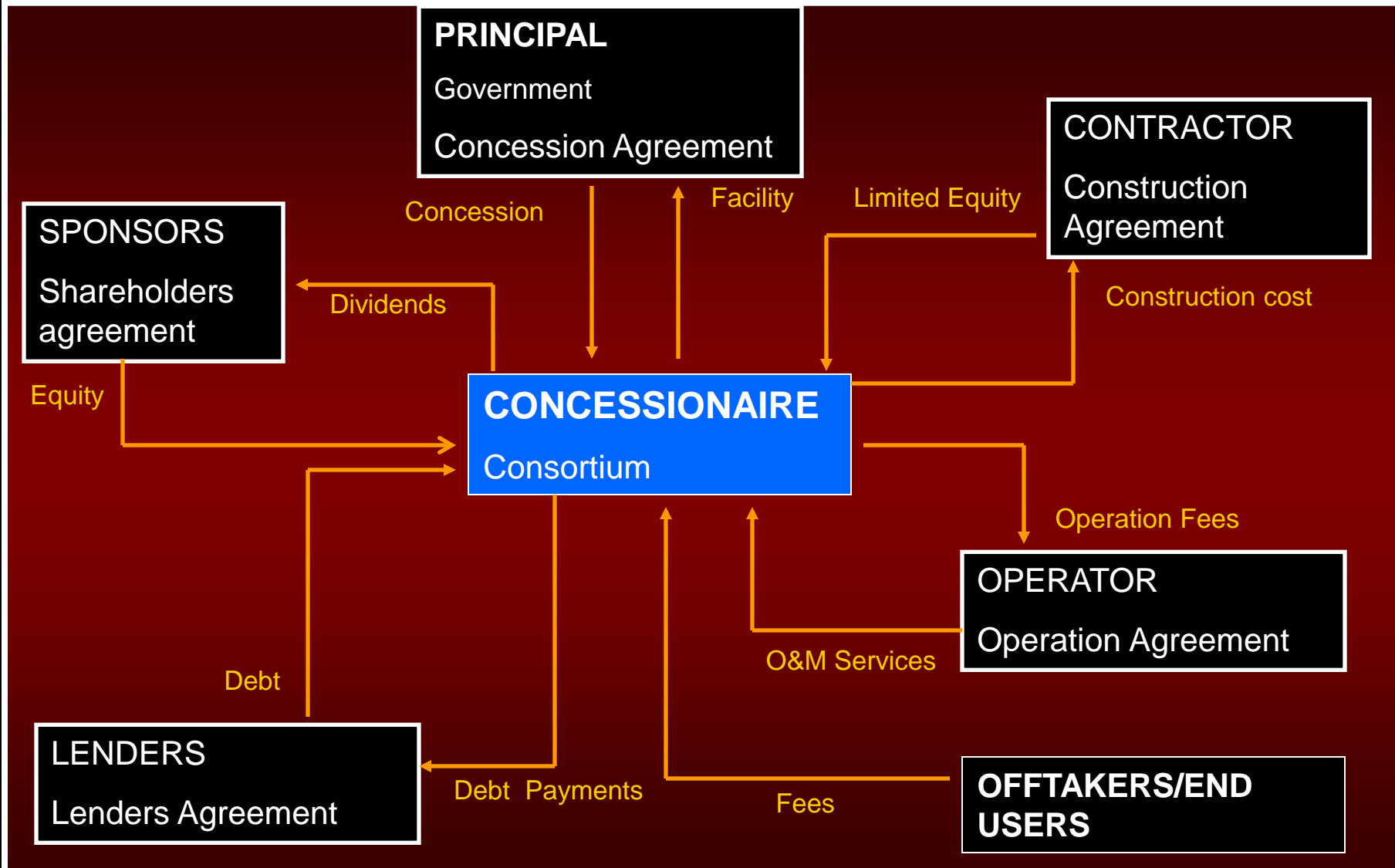
Agents in PPP transactions

- Investors.
 - The shareholders invest money in exchange for equity,
 - lenders support the concessionaire during negotiations with the principal with promises for loans
- Contractor
 - concessionaire commissions a contractor for construction of the facility
 - In some cases, the contractor is part of the concessionaire's consortium
 - contractor is responsible for the construction of the project and for hiring subcontractors, suppliers and consultants

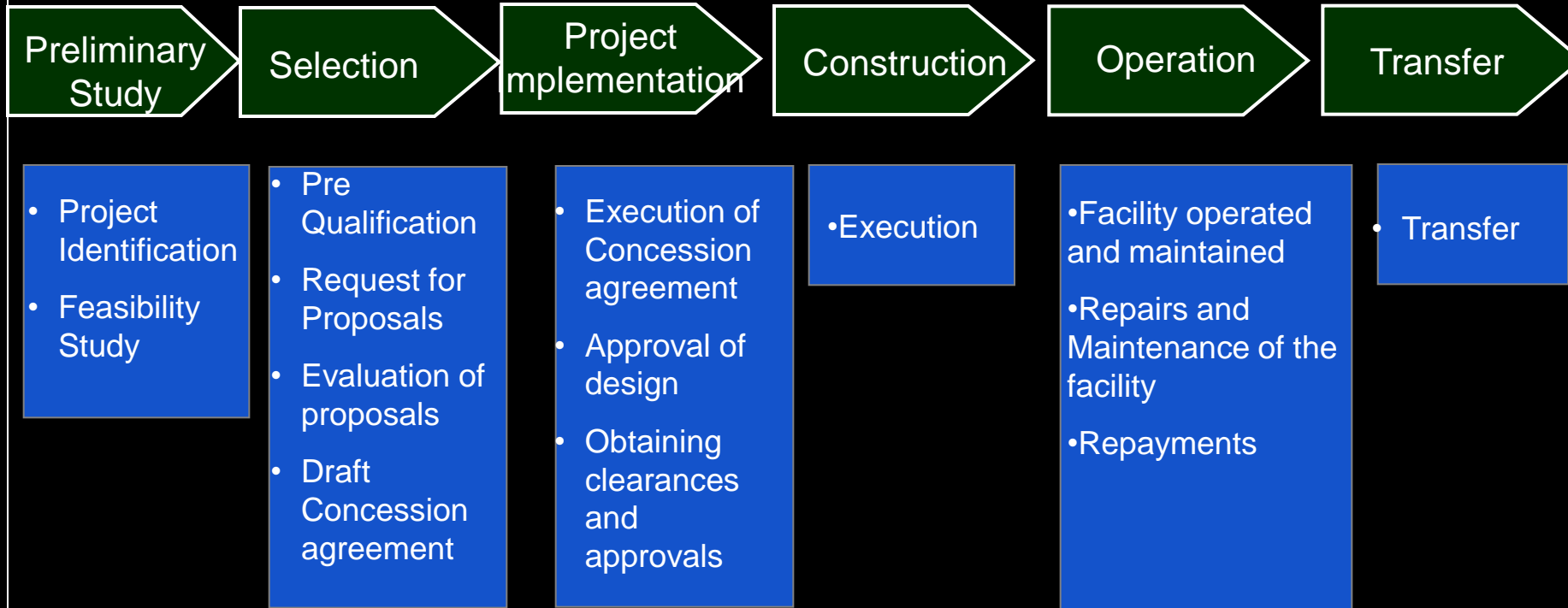
Agents in PPP transactions

- Operator
 - The operator is also in the concessionaire's service and manages the operational stage of the facility
 - the operator is usually part of the concessionaire's consortium
 - In addition, the importance of operating knowledge for programming, financing, design and construction is required
 - Often the operator is supported by a government agency or in some cases, is the agency

Example- BOT/BOOT Contracts



Stages in a BOT project



Concession Contract

- The concession contract is signed between the principal and the concessionaire.
- This contract runs from the initial design stage through the final transfer, and includes the allocation of risks.

Main issues

–The length of the concession period; the starting date and the transfer date

–The structure of the project company (concessionaire)

–Conditions Precedent

–Rights and Obligations

–Financial Guarantees (principal and concessionaire)

–Penalties and Incentives, Force Majeure Events

–Events of Default And Termination

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Case study – London Underground PPP

- Background
 - Government initiated PPP in Underground to reverse the deterioration of system caused by a sustained under funding over the last sixty years
 - By 1998, the value of the backlog of work arising from past under-investment was valued at £1.2 billion
- Objective of PPP
 - safeguard and improve service to passengers, with guaranteed safety standards
 - reduce and eliminate the Underground's investment backlog
 - deliver genuine transfer of risk to the private sector
 - provide value for money for the taxpayer through improved efficiency and management
 - contribute towards an integrated transport policy for London.

Case study – London Underground PPP

- PPP structure
 - Division of Underground
 - Operating company – to be managed in public sector by London Underground Limited (LUL)
 - Three Infracos companies – to be transferred to private sector on PPP
 - Maintenance, renewal, enhancement and modernisation of the Underground's infrastructure, together with raising the financing required, is to be undertaken by the three Infracos in Private sector.
 - Private sector awarded a concession for 30 years
- Performance standards
 - Capability (the maximum capacity of the system)
 - Availability (the day-to-day ability of LUL to make use of this capacity)
 - Ambience (the quality and comfort of the system as experienced by passengers)

Case study – London Underground PPP

- **PPP payment structure**

- Four-weekly payment of Infrastructure Service Charges to infracos by LUL
- Built in incentives and penalties for superior/inferior performance
- Review of payment structure after every 7.5 years

- **Risk sharing**

Risk factor	Public Sector	Private Sector
Revenue risk	Yes	No
Cost risk	No	Yes
Event risk	High (Discriminatory change in law etc)	Low (Only post transfer events)
Default risk	No	Yes
Financing	No	Yes

AGENDA

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- Case Study - London underground PPP
- **Mumbai metro project**



Background

- Need for Metro in Mumbai
 - Existing suburban rail system under extreme pressure
 - Existing bus system's role limited to providing feeder services to railways
 - Constraints to expand the existing road and rail network capacity
 - Bus system alone cannot meet the future demand
- MMRDA as Project Implementing Agency
 - GoM appointed MMRDA as the nodal agency for implementing Mumbai Metro Project
 - MMRDA appointed Delhi Metro Rail Corporation (DMRC) to prepare Master Plan
 - DMRC prepared Master Plan of 146.5 Kms. For Mumbai Metro

Metro Master Plan

- PHASE-I (2006-2011)
 - Versova-Andheri-Ghatkopar
 - Colaba - Mahim - Charkop
 - Bandra - Kurla – Mankhurd
- PHASE-II (2011-2016)
 - Charkop - Dahisar
 - Ghatkopar – Mulund
- PHASE-III (2016-2021)
 - BKC - Kanjur Marg via Airport
 - Andheri(E) - Dahisar(E)
 - Hutatma Chowk - Ghatkopar
 - Sewri - Prabhadevi

Total Length: 146.5 km
Implementation in 3 Phases



Mumbai Metro corridor 1

- Versova-Andheri-Ghatkopar (VAG) Corridor Metro Project is the first MRTS Project in India to be developed on PPP
- First Metro project for Mumbai city
- Designed to carry about 6 lakhs Commuters per day
- Provides East to West Connectivity
- Reduces travel time from existing 1 Hr 30 Mins to about 20 mins
- Reduces vehicular traffic substantially along the corridor
- World-class facilities at affordable fare

Mumbai Metro corridor 1 - Salient features

- Alignment Length - about 11.5 km fully elevated
- Stations – 12 elevated stations
- Car Depot at D N Nagar, Versova
- World-class facilities
 - Improved traveling experience
 - Air-conditioned coaches
 - Frequency of 3.5 minutes
 - State-of-the-art passenger facilities
 - Provision of lifts for disabled
 - Escalators
 - Advanced ticketing facilities
 - Advanced safety provisions
 - signaling & telecommunication; automatic train protection etc.

Mumbai Metro corridor 1

- PPP Transaction structure
 - BOOT structure with a concession period of 35 years including 5 years of construction period
 - Design, construction, manufacturing, financing to be responsibility of private sector
 - MMRDA to hold 26% equity in the project SPV
 - Fares fixed upfront
 - Government to provide viability gap funding (selection criteria)

Mumbai Metro corridor 1

- Risk and responsibility Matrix**

Risk/ responsibility	MMRDA/ Government	Private Sector
Land and ROW	Yes	No
Utility shifting	Yes	No. However private sector is entrusted with the task and MMRDA to reimburse cost
Project Completion risk (design, finance, construct and operate)	No	Yes
Technological risk	No	Yes
Construction risk	No	Yes
Force majeure risk	Yes for political	Yes for non-political risks
Revenue risk	No	Yes
Financing	No (except providing viability gap funding)	Yes

MM1 – Key Takeaways

- Change in mind-set from Contracting to Partnerships
- Clear-cut legal authority to Public Agency for awarding PPP
- Augment institutional capacity for Public Agency
 - Delay in project procurement process
 - Delay in making decisions
 - Lack of trust on private sector
 - Higher interference in terms of approvals and clearances

MM1 – Key Takeaways

- Allocation of risk
 - Risk can never be eliminated, but can be minimised
 - Risk to be allocated to the party who is best able to manage it
- Winning trust and confidence of Common People
 - Common people are the ultimate beneficiaries
 - Public support needs to be enhanced through
 - Creation of awareness
 - Better information dissemination
 - Efficient Media management
 - Involving common people during project development stage
 - Both public and private sector need to act on this

- THANK YOU