

Hyderabad Metro Rail project in Public Private Partnership (PPP) mode

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To address the increasing traffic congestion and pollution levels in Hyderabad city, Government of Andhra Pradesh has undertaken the Hyderabad Metro Rail project. The Project covers three high density traffic corridors of the city spanning over 72 km. The Project is being executed in **Public Private Partnership (PPP)** mode on Design, Build, Finance, Operate and Transfer (DBFOT) basis. Of the total cost of Rs.14,132 crore (US \$ 2.3 bn), Government of India has sanctioned Rs.1,458 crore (10%) as one time capital grant on the basis of competitive bidding. The remaining Rs.12,674 crore is being invested by the Concessionaire M/s. L&T Metro Rail Hyderabad Ltd., a special purpose company of the Indian infrastructure and manufacturing giant L&T.

This is the **world's largest Metro Rail project being executed in PPP mode**. The ground works of the Project which started in June 2012 are going on at a brisk pace and the first stretch of 8 km between Nagole and Mettuguda will be commissioned for commuter traffic by March 2015. The whole Project is scheduled to be completed within 5 years i.e., by June 2017.

The Project works are being executed as per international standards with emphasis on design innovation, high quality and stringent safety standards. The pillars, viaduct and stations of this completely elevated Metro Rail are being designed aesthetically to enhance the beauty of the city. The station design is unique with special emphasis on sleek look, natural ventilation and energy conservation. The Project is being implemented not as a simple mass transit facility, but as an **urban redesign and rejuvenation effort** to transform Hyderabad into a people friendly green city with emphasis on inter-modal connectivity to main rail terminals, bus stations and dedicated feeder bus services for "**seamless travel**". The **pedestrian facilities, bicycle tracks, skywalks, walkways and street furniture** as incorporated in this Project will enhance the quality of life in Hyderabad and make it a **globally competitive city**.

Unlike most of the mass transit systems of the world which are heavily subsidised by the governments, efforts are being made to develop Hyderabad Metro as a financially viable project mainly through imaginative commercial exploitation of air space over the Metro Rail facilities like depots and stations and at the same time ensuring that the fares are kept at affordable levels suiting the common man pocket. Establishing a symbiotic relationship between property development at Metro stations/depots and "ridership" is another important component of

the viability strategy. TOD (Transit Oriented Development) along the mass transit corridors with emphasis on provision of public transportation access to maximum population within minimal distance is also incorporated in the city development plan of Hyderabad.

Salient Features of the Project

- It is an elevated metro rail, with two tracks (up and down lines) on a deck erected on pillars generally in the central median of the road, without obstructing the road traffic;
- Stations are located at an average interval of 1KM – elevated stations with passenger access through staircases, escalators and elevators;
- Adequate parking space and circulating areas are being provided for multi modal integration at the stations;
- With a frequency of 3 to 5 minutes during peak hours, the system is expected to carry about 17 lakh passengers per day by 2017 and 22 lakh by 2024;
- With a maximum speed of 80 kmph, the average speed of the trains will be 34 kmph – an international standard for MRT systems;
- The travel time by metro rail from one end to another is:
 - ✓ 45 minutes for Corridor I (Miyapur-L.B.Nagar; 29Km) as against 1 hr 50 minutes by bus;
 - ✓ 22 minutes for Corridor II (Jubilee Bus Station-Falaknuma; 15 Kms) as against 1 hr.10 minutes by bus;
 - ✓ and 39 minutes for Corridor III (Nagole-Shilpamam; 28 Kms) as against 1 hr. 30 minutes by bus;
- Rails will be continuously welded to minimize noise levels - special category “Head-Hardened Rails” which require minimal maintenance are being imported from France (Tata Corus);
- Power supply will be through 25 kV AC, 50 Hz overhead traction system with aesthetic design;
- Coaches will be air-conditioned with automatic door-closures and many other safety features – user friendly coaches are being supplied by Hyundai Rotem, South Korea;
- Sophisticated Signalling and Train Control system facilitates continuous communication between centralised Operating Control Centre (OCC), Metro trains and stations and ensures safety and speed control through automatic controls. State of the art “Communication Based Train Control” (CBTC) technology is being introduced for the first time in India in this Project.

- Good inter-modal integration will be provided at Main Rail terminals, important Bus Stations & MMTS (local trains) stations;
- Aesthetic stations within the approved road widths are being designed to reflect the local architecture, latest trends, and to avoid/minimize demolitions. Single pier (pillar) - based cantilever stations (vis-a-vis portal stations as elsewhere) are a unique feature of this Project; and
- Smart card-based Automatic ticketing & gate systems for passenger convenience and seamless travel – this state of the art AFC (Automatic Fare Collection) system is being supplied by Samsung, South Korea.



Hyderabad Metro Rail Corridors



Advantages of Metro Rail

- The Metro Rail System has proved to be the most efficient in terms of energy consumption, space occupancy and numbers transported.
- High-capacity carriers – very high volumes of peak hour peak direction trips.
- Eco-friendly – causes no air pollution, much lesser sound pollution.
- Low energy consumption – 20% per passenger km in comparison to road-based systems.

- Greater traffic capacity – carries as much traffic as 7 lanes of bus traffic or 24 lanes of car traffic (either way).
- Very low ground space occupation – 2 meter (7 feet) width only for elevated rail.
- Faster – reduces journey time by 50% to 75%.
- Reduces pollutants by about 3,100 tons per annum.

With several such unique features as innovative engineering design and financial structuring; state of the art technologies; TOD (Transit Oriented Development) - based city planning; and urban redesign/ rejuvenation approach, Hyderabad Metro Rail project is expected to catapult Hyderabad city into the league of globally competitive people friendly cities.

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