

REVIEW OF METRO RAIL POLICY- 2017



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No Metro Rail Policy in existence till August 2017

- National Urban Transport Policy of 2006 & 2014.



- Triggerring of Metro Idea: 2 fold rise in Delhi's population and a 5 fold rise in the number of vehicles between 1981 and 1998.
- Traffic congestion and pollution : dependence on private vehicles

- Existing bus system : Insufficient.
- Privatisation of the bus transport system in 1992 : inexperienced operators, poorly maintained, noisy and polluting buses on lengthy routes, unreliable service, extreme overcrowding, reckless driving.



Remedial Measures

- The Govt of India and Delhi jointly set the Delhi Metro Rail Corporation (DMRC) in 1995, with E. Sreedharan as the M.D (till 2011).
- Construction of First Phase started on 1 October 1998.
- Target: Scheduled completion: **2009**
- First line inaugurated by the then Hon'ble PM Atal Bihari Vajpayee on 24 December 2002.
- Second underground rapid transit system in India, after the Kolkata
- Actual Operations: **2006** : Business Week described "nothing short of a miracle"



DELHI METRO



- Phase - I : 58 stations and 65.0 km
- Phase II : 85 stations and 124.6 km (completed in August 2011)
- Phase III : 69 stations 103 km (Started in 2011, target 2016 now March 2018)
- Phase IV : 113.2 km (2021)
- Daily Ridership: Around 30 lakhs .

Already operational Metro Rail/Mono Rail: Total Length – 378.5 km

- Delhi & NCR (217 km)
 - Bangalore (42.3 km)
 - Kolkata Metro (27.39 km)
 - Chennai (27.366 km)
 - Jaipur (9.0 km)
 - Kochi metro (18.2km)
 - Lucknow metro (8.5km)
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- Mumbai Metro Line 1 (11.4 km) –PPP Project of MMRDA@
 - Rapid Metro Gurgaon (11.6 km) – Private initiative
 - Mumbai Monorail Phase-1 (9.0 km) – MMRDA initiative

Under Construction Metro/MRTS Projects

529 KM

- Delhi (142 km), Bangalore (72 km), Chennai (17.63 km), Kochi (**8** km), Jaipur (2.5 km), Hyderabad (71 km), Mumbai Line-3 (33.5 km), Nagpur (38 km), *Rapid Metro Gurgaon (7.0 km), Ahmadabad (36 km), Lucknow (14.4 km) **Mumbai Monorail Phase-2 (11 km) **Chennai Monorail Phase-1 (20 Km), Kolkata (16.5 km), Extn. of Chennai Phase-1 (9.051 km) Pune (31.25 km)), Pune (31.25 km),
- **Under consideration – Metro Rail (595 KM)**
- Delhi & NCR , Vijayawada , Visakhapatnam ,Bhopal , Indore , Kochi Metro Phase-2 , Greater Chandigarh Region Metro Project , Patna etc .

- It is from the learnings from the above Projects/ Policies that the Metro Rail Policy -2017 has been formulated.
- Combined effort of consultation through many meetings/ workshops of all stake holders especially the metro companies
- Rationale of the Policy:
 - Enhancing mobility in cities through metro rail.
 - Explore alternative and innovative sources of funds
 - Comprehensive appraisal speedy implementation .
 - Social, Economic and environmental sustainability

Indicates existing Models:

- Existing 50:50 Joint Venture model (Centre+State) eg: Delhi , Mumbai Line-3, Chennai, Bangalore, Nagpur, Lucknow, Kochi Ahmedabad and Pune
- Full Central funding eg Kolkata
- Full State Govt. funding; eg Jaipur and Monorail in Mumbai.
- Public Private Partnership (PPP). Mumbai Metro Line-1 and Hyderabad metro rail with Viability Gap Funding (VGF) from GOI.
- Full Funding by the private concessionaire eg: The Rapid Metro in Gurugram

Benefits of Mass Rapid Transit Systems

- Reduction in traffic congestion, road and parking cost, time & transport cost, per-capita traffic accidents, vehicle ownership, cost of production of goods and services.
- Substantial reduction in per capita pollution emission preventing chronic diseases
- Walkable development pattern & public health benefits.
- Safety, Security , Gender & Disability Friendly – Promotes Metro Culture- Equality.

SALIENT FEATURES OF THE POLICY:

- URBAN TRANSPORT - STATE GOVERNMENT SUBJECT:
- System Approach:
- Planning of multi-modal Transport
- Interactions between land use, traffic and transport
- Comprehensive Mobility Plan (CMP)- Predict future requirements, evaluate alternative modes.
- Population of two million and more - for mass transit systems including metro rail
- Integration of roadway, railways, non-motorized transport etc.
- Seamless integration between the various modes.

- State Governments to constitute Unified Metropolitan Transport Authority (UMTA) as a **statutory body** for preparing CMP, organize investments in urban transport infrastructure, establish coordination of transport agencies, manage the Urban Transport Fund (UTF) etc.
- Local bodies eg municipal corporations or city development authorities to be a stakeholder/ shareholder in Metro Rail Project.

Alternatives Analyses: Unbiased analysis of different alternatives

- Spatial pattern, high population, with adequate density to justify investments in a metro.
- Demand projections over the project life cycle and cost effective- 30 years horizon.
- The economic internal rate of return : 14% and above for consideration of its approval.
- Incentivize modal shift from private vehicles.
- Proposals for additional metro lines in a city, appraised keeping in view the state governments efforts in ensuring financial viability of the existing lines.

- **Busways and Bus Rapid Transit System (BRTS):** Physically demarcated bus, segregated corridor for movement of buses only. 10,000-15,000 PPHPD



- **Light Rail Transit (LRT):** LRT is generally at-grade rail based mass transit system, which is generally segregated from the main carriageway. 10,000 to 30,000 PPHPD
- **Tramways:** These are at-grade rail based system that are not segregated and often move in mixed traffic conditions.



- **Metro Rail:** Metro rail is a fully segregated rail based mass transit system, very high capacity of 40,000 – 80,000 passengers per hour per direction (PPHPD).
- **Regional Rail:** Regional rail caters to passenger services within a larger urban agglomerate or metropolitan area connecting the outskirts to the center of the city.



- Choice of Metro Rail as a Mode of Mass Transit: Variety of factors like demand, capacity, cost and ease of implementation.
- Choice of mode will depend on the overall feasibility of the transport system.



Enhancing Revenues

- Feeder System to Metro Rail: Feeder systems in catchment area of each metro station atleast to 5 kms.
- Last mile connectivity through pedestrian pathways, Non-Motorized Transport (NMT) infrastructure, and induction of facilities for para transit .

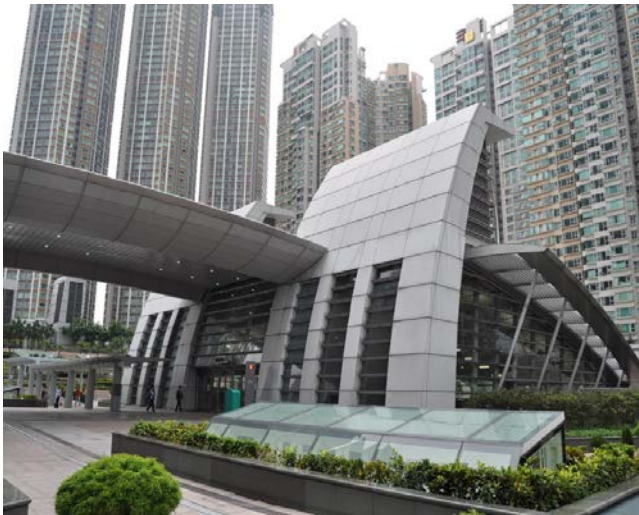


Transit Oriented Development (TOD) and Value Capture Finance (VCF):

- Commitment to transfer financial benefits accruing in the influence zone of the metro alignment on account of the TOD policies and VCF framework directly to the Special Purpose Vehicle (SPV)/agency implementing the metro rail project. The project report should specify the proposed quantum of such benefits being transferred to the project. This requirement would form a mandatory part of all metro rail project proposals.



- Commercial/property development at stations for maximizing revenues in metro rail eg Hong Kong and Tokyo.
- Commitment of State Govt :Enhancing non-fare box revenue by conventional & innovative means to facilitate the SPV.



- **Reducing Costs: Standardization, Indigenization and Inducing Competition: Guidelines**
- **Fare Fixation** as per the extant provisions of the Act governing the metro rail projects.
- **Issuance of Bonds by Metro Rail Companies**
- **Appraisal framework:** Rigorous appraisal by an independent agency/ agencies identified by the Government and framework to be defined in detail.
- **Monitoring of Performance** against established Key Performance
- **All the metro rail projects will have to be governed by the Central Metro Acts.**

Options of Central Assistance for Metro Rail Projects:

- **Public Private Partnership (PPP):** Viability Gap Funding (VGF) Scheme of Government of India .
- **10% Grant by the Central Government.**
- **Equity Sharing Model: Overall 20%.**
- **Mandatory to explore Private participation and Public Private Partnership (PPP):** Private participation either for complete provisioning of metro rail or for some unbundled components will form an essential requirement for all metro rail project proposals seeking central financial assistance. Various modes discussed in detail.



Some Facts of daily ridership:

- Bangalore Metro Ridership 42 Km
- Projected DR – 8.2 lakhs per day :
- Actual DR – 3.6 lakhs per day .
- Kochi Metro Ridership 18 km :
- Projected - 2,75,000.
- Actual - 30,000.
- Lucknow Metro Ridership 8 km :
- Projected - 1,70,000.
- Actual - 12,000.



- Conservative Policy – Practical Experience
- No new experiment or futuristic breakthrough
- Private Investments- No incentives- Tax reliefs
- No mention of Foreign Direct Investment
100% FDI
- No mention of funding by Alternatives means
eg BRTs
- Green Mobility – not a part of this Policy

- Does not tackle innovatively non-fare revenue- No independent powers with SPV for levying/collection of taxes- permitting more FAR against fees- dependent on local bodies- No statutory consultations with SPV.
- No Powers to SPV to modify (or even recommend) land use- Local Authority to decide land use- Consultation with SPV not mandatory.- State Subject.
- UMPTA- Role not defined precisely- State Subject- Constitution of Statutory UMPTA not a pre-condition for CMP and preparation of DPR.
- Lack of clarity on realistic projection of ridership- pre-audit check by two independent authority.
- Does not talk about research and development for innovation by the SPVs/ setting up such institution.

Suggestions

- Practical Issues regarding CMP
- Projected Ridership to be realistic- mechanism to be laid down – lessons from deviations
- Alternative Analysis- to be laid down precisely.
- Waste processing
- Green Metro – Use of Solar Energy.
- Stress on technology encouraging employment Generation
- Statutory UMPTA to precede DPR.
- Common Evaluation for Metro Projects: Independent authorities.

