

## INDIA – COUNTRY REPORT

India is a federal country. Centre and States are managing transportation collectively. Available modes of transportation are rail, road, air and water. Air transportation and Rail is managed by Central Govt. through Ministry of Civil Aviation and Ministry of Railways respectively, Road transportation jointly by Central and State Govt. Nodal ministry of water transportation is Ministry of Shipping.

Urban Transport system is jointly looked after by Ministry of Urban Development (MoUD), Ministry of Railways (MoR) and Ministry of Road Transport and Highways at central. However, the major responsibility for urban transport infrastructure and service delivery rests with State Governments and local bodies. State Govt. have state owned state transport corporation to manage urban transportation.

### **National Urban Transport Policy (NUTP), 2006**

In order to deal with the emerging problems, the Government of India formulated a National Urban Transport Policy in April, 2006. The objective of the policy is to ensure accessible, safe, affordable, quick, comfortable, reliable and sustainable mobility for all. The policy seeks to promote integrated land use and transport planning, greater use of public transport and non-motorized modes of travel, use of cleaner technologies. It offers Central Government's financial support for investments in public transport, infrastructure for greater use of non-motorized modes, as well as in the construction of parking facilities, including demonstrative pilot projects. It encourages capacity building at institutional and individual levels, innovative financing mechanisms, institutional coordination, association of the private sector and need for public awareness and cooperation.

To encourage public transport, the Central Government has taken up various projects such as financing of buses and Bus Rapid Transit Systems (BRTS) under Jawaharlal Nehru National Urban Renewal Mission (JnNURM), preparation of Urban Bus Specifications (UBS) to promote use of comfortable buses equipped with latest Intelligent Transport System (ITS) and technology, encouraging reforms in urban transport administration and management at both city and state level by requiring setting up of Urban Metropolitan Transport Authority (UMTA), Urban Transport Fund etc., organizing annual conference and exhibition on urban transport for knowledge sharing amongst experts and stakeholders, recognizing the exemplary achievements in the field of urban transport through awards, spearheading the Sustainable Urban Transport Project (SUTP) to encourage sustainable transport systems and capacity building, financing of various traffic/transportation studies and surveys under the Scheme for Urban Transport Planning to encourage cities to better plan and manage their urban transport systems etc.

Besides these measures, the Central Govt. has been playing an active role in financing Metro Rail projects which transform the urban transport radically by providing a very comfortable, accessible and environment-friendly means of

public transport. Metro Rail projects provide the network which carries the maximum number of riders in any city in minimum time and on schedule. For example, Delhi Metro carries more than 2 million passengers every day to different destinations.

### **Status of Metro Rail Projects in the Country**

#### **Already operational Metro Rail/ MRTS: Total Length – 311 km**

- Delhi & NCR (212.23 km)
- Bangalore (27 km)
- Kolkata Metro(27.23 km)
- Chennai (10.15 km)
- Jaipur (9.0 km)
- Mumbai Metro Line 1 (11.4km) –PPP project of MMRDA
- Rapid Metro Gurgaon (5.1km) – Private initiative

#### **Under Construction Metro/MRTS Projects: 517 KM**

Delhi (113 km), Bangalore (81.4 km), Chennai (34.89 km), Kochi (28 km), Jaipur (2.789 km), Hyderabad (71.16 km), Mumbai Line-3 (33.5 km), Nagpur (38.215 km), Rapid Metro Gurgaon (7.0 km), Ahmadabad (35.96 km), Lucknow (22.89 km), Kolkata East West Metro (16.55 km), Mumbai metro Line II/ PPP Mode (31.871 KM)

#### **Under consideration -- Metro Rail (450 KM)**

Delhi & NCR (159 km), Pune (31 km), Chennai Extn. (9.05 km), Vijayawada (26.03 km), Visakhapatnam (43 km), Bhopal (28 km), Indore (32 km), Kochi (11 km), Patna (31km) Light Metro In Kerala (35 km), Rapid Metro Gurgaon (7 km), Chandigarh (38 km)

#### **Under Consideration--RRTS Phase-1 (381 kms):**

Delhi-Sonapat - Panipat (111 km), Delhi-Gurgaon - Alwar (180 km) & Delhi-Ghaziabad-Meerut (90 km).

While the subject of planning and coordination of all urban transport systems including Rail based systems (Metro Railway) came to MoUD in 1986, technical planning of Metro Railways is with the Ministry of Railways (MoR) and safety certification with the Commissioner of Metro Rail Safety (CMRS) under Ministry of Civil Aviation.

#### **Financing models for metro rail projects:**

Various metro rail projects have already been taken up after appraisal and review of the DPR by experts and based on the availability of funds. Projects have been taken up under various financing models as listed below:

### **50:50 Central-State Government Ownership:**

Govt. of India (GoI) provides support through equity, subordinate debt and Pass through Assistance (PTA) and the state government also provides support through equity and sub-debt. The projects taken up under this model are as under:

- [i] Delhi Metro (DMRC)
- [ii] Bangalore Metro (BMRCL)
- [iii] Chennai Metro (CMRL)
- [iv] Kochi Metro (KMRL)
- [v] Mumbai Metro Line-3
- [vi] Jaipur Metro Phase-1
- [vii] Nagpur Metro Rail Project
- [viii] Ahmedabad Metro Rail Project
- [ix] Lucknow Metro Rail Project Ph-1A

### **100% State Government ownership:**

Entire funding is by state government through equity, subordinate debt and loans raised by the State Government. Jaipur Metro Phase-1A was taken up under this model. However, Govt. of Rajasthan later decided to bring this project under 50:50 Central-State Government model.

### **100% Central Government ownership:**

Entire funding is by GoI through equity, subordinate debt and pass through assistance. KMRCL and the erstwhile Kolkata Metro are two such projects. While KMRCL is a project with equity participation in the ratio of 26:74 by Ministry of Urban Development (MoUD) & Ministry of Railways (MoR) and Kolkata Metro is fully owned by MoR.

### **Public Private Partnership (PPP) models:**

(a) Delhi Airport Express Line has been taken up with the capital cost of civil construction provided by the GoI and State Government and systems, rolling stock and O&M given to a concessionaire on PPP. Support from GoI is through Viability Gap Funding (VGF) under the VGF Scheme of Ministry of Finance.

(b) Mumbai Metro Line-1 project has been taken up as a joint venture between the State Government and concessionaire on Build Operate Transfer (BOT) format. Mumbai Metro Line-2 and Hyderabad Metro Rail projects have been taken up on a BOT basis with State Government holding only a golden share in the SPV for implementing the projects. The support from GoI and the State Government is through Viability Gap Funding (VGF) up to a maximum of 40% of the project cost. Cost of land and shifting of utilities is borne by the State Government. Concession period is for 35 years.

### Private Sector Mode:

Rapid Metro Rail Gurgaon has been taken up as a completely private initiative with no funding support from the State Government or Gol. The cost of land and utility shifting is also borne by the concessionaire. The concession period is 99 years.

### Bus Rapid Transit System (BRTS) Projects assisted by Central Govt.:

In order to provide bus-based transit system which allows higher speed, capacity and safety of buses by segregating them from other traffic on a roadway into a separated bus way, Central Govt. provides financial assistance for construction of BRTS corridors which is an economical alternative to Metro Rail. More than 150 cities in the world now have implemented / are implementing BRTS projects. They provide the required capacity and are cost effective. Apart from this, the technology is simple.

Proposals for BRTS were approved for 11 cities under the JnNURM, covering a total length of 504.52 km (approx.) at a total estimated cost of Rs. 5,530 crore. Admissible Additional Central Assistance (ACA) is about Rs. 2,522 crore. Out of this, Rs. 1,972.80 crore has been released so far. BRTS projects assisted by Central Govt. are:

(Rs. in crore)						
Sl. No.	City	Length (in km)	Total Estimated cost	ACA Admissible	ACA Released	Physical Progress
1	Ahmedabad	88.50	962.63	336.92	303.23	Completed
2	Bhopal	42.19	357.20	160.26	117.34	85%
3	Indore	11.65	155.62	77.81	51.45	Completed
4	Jaipur	39.45	335.55	167.77	85.91	Package 1B – completed. Package IIIA & IIIB - 72%
5	Pune-Pimpri-Chinchwad	156.95	1788.63	851.71	798.47	30.9 km completed. 104.85 km – more than 90% work completed. 11.20 km – 65% completed.
6	Rajkot	29.00	110.00	55.00	49.50	Completed.
7	Surat	29.90	469.02	234.51	211.06	Completed
8	Vijayawada	15.18	151.00	75.50	67.95	70%
9	Visakhapatnam	45.20	451.70	225.85	203.82	76%
10	Kolkata	15.50	252.91	88.52	22.13	40%
11	Amritsar	31.00	495.54	247.77	61.94	47%
	<b>Total</b>	<b>504.52</b>	<b>5529.8</b>	<b>2521.62</b>	<b>1972.80</b>	

## Urban Transport Planning & Capacity Building Scheme

Under the 'Urban Transport Planning & Capacity Building scheme' the Central Govt. provides financial assistance up to 80% for taking up Traffic and Transportation Studies, feasibility studies, Comprehensive Mobility Plan (CMP), preparation of DPR for Mass Rapid Transport System (MRTS)/ Light Rail Transit (LRTS) which are originated by the State Governments/ Union Territories/ Urban Local Bodies (**limited to 50% in case of MRTS**) in the following manner:

(i)	Mobilization Advance	10% of CFA
(ii)	Interim Report/Draft Final Report	45% of CFA
(iii)	Approval of Final Report	45% of CFA

No proposal from any State Govt./UTs is pending.

## Sustainable Urban Transport Project (SUTP)

**SUTP** was launched in **May 2010** and its closing is March 2018. A sequel to adoption of National Urban Transport Policy (NUTP), 2006, the SUTP aims at building capacity in Indian cities and pilot projects in the concept of priority for moving people over moving vehicles. Financed by the Government and aided by World Bank, Global Environment Facility (GEF) and United Nations Development Programme (UNDP) the project's resources, about INR 1,898 crore, are used in building capacity and demonstration of five projects in different cities.

## Efficient and Sustainable City Bus Service Project:

The proposed project is designed to complement the baseline project, Bus Funding Scheme of the Govt. of India under the National Urban Renewal Mission (JnNURM) through additional activities that would help realize its full potential. The focus of this project would be on improvement of Bus Transport infrastructure, fleet management, ITS and improvement in fuel efficiency.

## Suggestions

[a] Road congestion - As populations increase, the average travel distances as well as intensity are expected to increase as there is a direct correlation between the two indicators. This trend in trip length and frequency is only expected to increase with increasing income levels, migration, participation of women and a service-oriented economy. As more people travel over longer distances on regular basis for employment and education purposes, will inevitably lead to road congestion.

[b] Parking problems - The acute shortage of parking spaces both on and off the streets in Indian cities increases the time spent searching for a parking spot and induces traffic congestion. A high proportion of Indian streets are faced with on-street parking issue. This problem is especially acute in smaller, compact Indian cities. On-street parking is perversely incentivized because it is either free or priced lower than off-street parking. Parking issues need to be addressed through a

systematic planning process and strict enforcement, such issues will only exacerbate over time in Indian cities.

[c] Air pollution - The severity of air pollution in Indian cities is judged based on CPCB's (Central Pollution Control Board) air quality classification. There is a wide variation in the pollution concentration and severity across cities. Cities are considered critically polluted if the levels of criteria pollutants (namely PM10 and NO2) are more than 1.5 times the standard. This problem can be addressed from three fronts – facilitating a reduction in the emissions per unit of fuel used; fewer vehicle kilometres travelled in total; and less fuel use per vehicle kilometre travelled.

[d] Deteriorating road safety - The high dependence of migrants on non-motorised transport modes such as walking and cycling causes traffic mix in common roads where fast-moving motorised traffic shares the roads with slow-moving modes leading to an increasing number of fatalities and road accidents. In most Indian cities, non-motorised modes like cycling and walking presently share the same right of way as cars and two-wheelers leading to unsafe conditions for all. The number of fatalities is also increasing in relation to the increasing motorisation and higher slow-moving vehicles in the traffic stream. While progress has been made towards protecting people in cars, the needs of vulnerable groups of road users, primarily cyclists and pedestrians, are not being met. Pedestrian fatalities constitute a significant share of total fatalities and the magnitude is in fact much higher in cities that lack adequate pedestrian facilities.

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