
CHAPTER 12

IMPLEMENTATION PLAN

12.1 Way Forward for Implementing the Project

On receipt of the Detailed Project Report, following action will be required for implementing the East-West and North-South Corridor of Ahmedabad Metro:

- Approval of the Detailed Project Report by Gujarat State Government and the Central Government, both the Governments committing to an investment decision.
- Signing of an MOU between Gujarat State Government and the Central Government for firming up arrangements for equity and other related items pertaining to this project.
- Setting up of a Special Purpose Vehicle (SPV) for implementing the project on the pattern of Delhi Metro Rail Corporation (DMRC).
- Providing legal cover for construction as well as operation and maintenance stages of the project.
- The two Governments to agree to financing of the debt portion of the project and also the time frame for its implementation.

Normally above actions will require about 6 to 8 months. During this period the implementing agency can go ahead with the following preliminary work.:-

- Preliminary action for diversion of utility and preparation of estimates thereof.
- Reservation of land along the corridors, identification and survey for acquisition.

12.2 Institutional Arrangements

To enable the Ahmedabad Metro rail project to be implemented without any loss of time and cost-over run, effective institutional arrangements need to be set up. Details of these arrangements are explained below:

12.2.1. Setting up of SPV

Experience of implementing Delhi Metro project has shown that Special Purpose Vehicle (SPV), vested with adequate powers, is an effective

organizational arrangement to implement and subsequently operate a Metro Rail project. An SPV should, therefore, be set up for the Ahmedabad Metro rail project and registered under the Companies Act, 1956. This SPV should be on the same lines as Delhi Metro Rail Corporation Ltd. and may be named as Ahmedabad Metro Rail Corporation (AMRC) or any other name as State Government may decide. Since it has been recommended earlier in this Report that equity in the SPV for this project should be contributed in equal proportions by the State and the Central Governments, the SPV will have equal number of Directors on its Board from these two Governments. While the Managing Director of AMRC should be a nominee of the State Government, its Chairman should be the nominee of the Central Government. In order to avoid delays usually associated with bureaucratic process of decision making, the Board of Directors (BOD) of AMRC should be vested with full powers needed to implement the project. The BOD, in turn, should delegate adequate powers to the Managing Director of AMRC to enable him to take all decisions on day to day matters. The Managing Director should be a technocrat with proven track record and of impeccable integrity. A Railway background would be an added advantage. A Metro background would be most desirable.

12.3 Organizational Set up of AMRC

Implementing a metro project in a congested metropolis is indeed a challenge. In sheer size, magnitude and technical complexity there are no parallels to metro projects. Further, these projects are to be carried out in difficult urban environment without dislocating city life, while at the same time preserving the environment. The project involves integration of a number of complex technical systems – some of these technologies used in these systems are totally new to the country – each one of which is a major project by itself. Interfacing various system contracts is a difficult and highly skilled exercise. Side by side, timely and adequate funds have to be assured for implementation and lands, without encumbrances, have to be taken possession of in time. Clearances from the local authorities have to be taken permission to cut trees, diversion of utilities, management of road traffic, etc., all of which will call for an efficient and competent project implementing agency.

Metro projects cannot be executed the way Government agencies execute projects in this country. Timely completion is very important to safeguard the financial viability. Competent and skilled technical personnel to man such an organisation are difficult to mobilize. In fact such experienced persons are not readily available in the country. Being a rail based project, for most of the systems such as rolling stock, signaling, telecommunication, traction power supply, etc., persons with railway background would be necessary. It is therefore, impossible to have a single organisational set up which can be responsible for all aspects of metro implementation, namely investigation, planning, designs, drawing up of specifications, preparation of tender documents, fixing of contractors, supervising the contractor's works, ensuring

interface fusion between different contractors, ensuring quality and safety during constructions, planning and supervising integration system trials and getting the project commissioned in time.

It is, therefore, suggested that a two-tier organisation with well-defined responsibilities for getting the project executed be set up. At the apex will be the AMRC itself. It should be a lean but effective organisation with full mandate and total power – with accountability- free from political and bureaucratic control. The second level will be a project management team called “General Consultants” who will be engaged by the AMRC on contract basis and who will fully be responsible for planning, design and full project management. In fact they will be the “Engineer” for the implementation the project for the AMRC, who is the “client“. The General Consultants will have no role in the Operation and Maintenance of the lines after it is commissioned for traffic.

The General Consultants should be fixed on the basis of competitive bidding, the way General Consultants were fixed for the Delhi Metro Project. If any further detailed design consultants are needed, the same should be engaged by the General Consultants as their sub-consultants within their own contract responsibilities.

Learning from the Delhi Metro experience, we would recommend that major contracts are awarded on “construct basis” based on designs and specifications finalised by the General Consultants. In certain system contracts such as signalling, tele-communication, automatic fare collection, etc. it may be desirable to go in for “design and construct” contracts based on broad technical specifications and performance requirements drawn up by the General Consultants. International Consultants are very expensive and should be engaged only in areas where Indian experts cannot manage and they should invariably be part of the General Consultants’ team.

Since AMRC will not have the required expertise and experienced manpower to check and monitor the General Consultants it may be necessary to engage proof Consultants from the very start who will do this job on behalf of AMRC.

Generally the General Consultants will cost about 2.0% and the Proof Consultants about 0.5% of the project cost.

The AMRC Organisation, as stated earlier, should be very lean but effective. It will consist of a non-executive Chairman, a Managing Director with full Executive Powers and four Functional Directors including Director (Finance). All the four Functional Directors will be full members of the Management Board. The Directors will be assisted by Heads of Departments in each of the major disciplines and they in turn will have Deputy Heads of Departments. The organisation should be basically officer-oriented with only Personal Assistants

and Technical Assistants attached to senior officers by eliminating unproductive layers of staff such as Peons, Clerks, etc. We strongly recommend that the total organisational strength is limited to 45 to 50 eliminating too many tiers to enable faster decision-making.

It is necessary for the AMRC officers to get exposed to the Metro technology and Metro culture through study tours of some of the selected foreign Metros and Delhi Metro.

12.4 High Power Committee

During the implementation of the project several problems with regard to acquisition of land, diversion of utilities, shifting of structures falling on the project alignment, rehabilitation of project affected persons, etc. are likely to arise. For expeditious resolution of these problems, an institutional mechanism needs to be set up at the State Government level. Towards this end, it is recommended that a High Power Committee under the chairmanship of Chief Secretary, Gujarat should be set up. Other members of this Committee should be Secretaries of the concerned Departments of the State Government and Heads of civic bodies who will be connected in one way or the other with the implementation of the project. This Committee should meet once a month and sort out all problems brought before it by AMRC. For Delhi Metro also such a High Power Committee was set up and it proved very useful in smooth implementation of the Delhi Metro rail project.

12.5 Empowered Committee

At the Central Government level an Empowered Committee, under the chairmanship of Cabinet Secretary, is presently functioning for Delhi Metro project. Other members of this Committee are Secretaries of Planning Commission, Ministry of Home Affairs, Ministry of Urban Development, Ministry of Surface Transport, Ministry of Environment and Forests, Department of Expenditure, Chief Secretary of Delhi Government and a representative from the PMO. The Empowered Committee meets regularly and takes decisions on matters connected with inter-departmental coordination and overall planning, financing and implementation of the Delhi Metro project. It is suggested that the role of this Empowered Committee should be enlarged to include Ahmedabad Metro project also and the Chief Secretary, Gujarat should be inducted as a member of this Committee.

12.6 Group of Ministers

Union Cabinet had set up a Group of Ministers (GOM) to take decisions on behalf of the Cabinet on policy matters concerning Delhi Metro project. The Group of Ministers is chaired by the Home Minister. Other members of the

GOM are Minister of Urban Development, Minister of Railways, Minister of Finance and Company Affairs and Deputy Chairman Planning Commission. Chief Minister, Delhi and Lt. Governor, Delhi, are permanent invitees to all meetings of the GOM. The GOM meets whenever any problem requiring decision on behalf of the Union Cabinet is to be taken. It is suggested that the role of this GOM should be enlarged to include Ahmedabad Metro. The Chief Minister, Gujarat should be inducted as a member and should attend the meetings of GOM whenever any issue concerning Ahmedabad Metro is to be deliberated upon.

12.7 IMPLEMENTATION

12.7.1 Implementation Schedule

Once the SPV is formed, it has to take action for appointment of General Consultants for project management including preparation of tender documents. Till the General Consultants are in position, AMRC should appoint an interim Consultant for all preliminary and enabling jobs such as land acquisition, detailed design of civil structures, utility diversions, etc.

A suggested project implementation schedule is given below. This schedule has been developed for the 43.55 km length for both the lines. The proposed dates of commissioning of the project with suggested dates of important milestones are given in **Table 12.1**.

Table 12.1
Implementation Schedule through SPV

S. No.	Item of Work	Completion Date
1	Approval of DPR	31.07.2005
2	Obtain Government Clearances	30.11.2005
3	Appoint interim Consultant for preliminary works	31.08.2005
4	Sanction Project	31.12.2005
5	Appointment of General Consultant	31.01.2006
6	Tender Finalisation for Civil Works for Viaduct	31.03.2006
7	Tendering, Execution of works and Procurement of equipments, coaches and installations	01.04.2006 - 01.02.2010
8	Testing and Commissioning of 1st section	01.08.2009 – 01.10.2009
10	Testing and Commissioning of balance section	01.02.2010- 30.03.2010
9	Revenue Operation	31.03.2010

The whole project can be divided into 3 sections for the purpose of commercial opening in stages. The first section can be from Ahmedabad to Thaltej of East-West corridor, Second section will be from Ayakar Bhawan to Akshardham of North-South corridor and third section will be APMC/Vishala to Ayakar Bhawan. The first section can be opened for commercial operation, if alternative mother depot facilities is planned at Thaltej also other wise first and second section both will be opened by August 2009 with the mother depot facilities at Indroda circle. The whole project is to be opened in March 2010.

12.7.2 Civil Works

Civil contracts for elevated structures will be on “Construct” basis. Therefore all designs are to be finalised and progressed in advance.

The number of contracts can be decided when the detailed design work is in progress. Architectural finishes, fire fighting arrangements and general electrification, will form part of civil contracts.

12.7.3 System Contracts

These contracts will generally be on ‘design construct and installation’ basis. The number of contracts may be as under:-

- Design, construct and installation for Traction and Power Supply.
- Design, construct and installation of Signal and Telecommunication works.
- Design, construct and installation of lifts.
- Design, construct and installation of escalators.
- Design, construct and commissioning of Automatic Fare Collection System.
- Design, manufacture and supply of rolling stock.
- Installation of track in Depot and on main line.
- Design and installation of Signages.

12.7.4 Depot Contracts

Following contracts are proposed for Depot works:

- Design of Depot layout and buildings.
- Construction of Depot including general electrification.

For supply of Depot Equipment, the number of contracts may be decided as and when the work is in progress.

12.8 Legal Framework

Metro rail projects are undertaken in congested urban environment. Metro lines have, therefore, to pass through heavily built-up areas. As vacant land for laying these lines is seldom available, they have to be constructed either as elevated or underground. When elevated, the metro lines are generally located along the medians of the existing roads to obviate the need for acquiring land. Even in such cases, land is to be acquired for siting station buildings, traffic integration areas, etc. Whenever underground, metro lines may have to pass under privately owned buildings, involving use of underground space below such buildings. After construction of a metro line is complete, it has to be certified as 'safe' by a statutory authority before it can be opened for public carriage of passengers. For operation and maintenance of a metro line, which has been commissioned for traffic, several crucial issues having legal implications need to be taken care of. These include continued monitoring of safety of train operations, security of metro properties, maintaining law and order within metro premises, enquiries into accidents involving metro trains whenever they happen, deciding the extent of compensation payable for damages/injuries/casualties arising out of such accidents, laying down passenger fares and their subsequent revision etc. There has, therefore, to be a proper legal frame-work to take care of such problems encountered during construction as well as operation of metro rail lines. Hence there is a need for a comprehensive legislation on Metro Railways.

12.9 Existing legislations

The subject of 'Railways' as per the Seventh Schedule of the Constitution falls in the Central List. Metro Rail projects come under the category of Railways and are, therefore, today a central subject. Despite this position the Central Government has not so far enacted a comprehensive legislation to regulate construction, operation and maintenance of Metro Railways in various cities of the country.

Calcutta (now Kolkata) Metro Railway was the first metro system undertaken in our country. To facilitate construction of Calcutta Metro Railway, a legislation under the title 'Metro Railways (Construction of Works) Act, 1978 was enacted. This Act was initially applicable to Calcutta but there is a provision in this Act that, by a notification in the Official Gazette, the Central Government may also extend it to the metropolitan cities of Mumbai, Chennai and Delhi. In fact, in the year 2000, the Central Government did extend this Act to the city of Delhi. This Act, however, suffers from several deficiencies. Firstly, there is no provision in this Act to extend it to cities, having population of a million or more other than the four metro cities mentioned above. Secondly, this Act covers only the construction stage of Metro Railways and does not provide legal cover to their operation and maintenance stage. When the first section of Calcutta Metro had to be opened for public carriage of passengers, the Central Government had to

hastily get an Ordinance titled 'Calcutta Metro (Operation and Maintenance) Temporary Provisions Ordinance, 1984' promulgated. This Ordinance was converted next year into Calcutta Metro Railway (Operation and Maintenance) Temporary Provisions Act, 1985. This latter Act also suffers from several deficiencies. As its very title indicates it is applicable to Calcutta Metro only, there is no provision in it to enable the Central Government to extend it to other cities of the country. Besides, it contains only bare minimum provisions, which were essential to enable commissioning of Calcutta Metro Railway for public carriage of passengers. The Central Government's intention probably was that after sufficient experience in operating and maintaining Calcutta Metro has been gained, many more provisions would be included in this Act to make it self-contained and the word 'Temporary Provisions' would be dropped there from. This has, however, not happened even after expiry of 18 years since the passing of this legislation by the Parliament.

Construction of Delhi Metro is being done under the Metro Railways (Construction of Works) Act, 1978, after the same was extended to the city of Delhi. The Central Government had, however, to enact another legislation titled 'Delhi Metro Railway (Operation and Maintenance) Act, 2002 before its first section from Shahdara to Tis Hazari could be opened for public carriage of passengers. This Act, though comprehensive in nature, is applicable to Delhi Metro only and cannot be extended to cover a metro railway in any other city of the country.

12.10 Legal Cover for Ahmedabad Metro

Construction of Ahmedabad Metro phase I is expected to commence soon. Out of its two corridors in phase I, the first corridor may be ready for commissioning in about three years and other corridors may be ready for commissioning after a further period of one year. Thus there is immediate need to have a legislation to provide legal cover to the construction stage of Ahmedabad Metro. Enactment of any new legislation is a time-consuming exercise. Experience has shown that it takes a minimum of two to three years from conceptualisation stage for a new legislation to be enacted. To enable construction of Ahmedabad Metro to commence in the year of early 2006, it has, therefore, become necessary to extend the Metro Railways (Construction of Works) Act, 1978 to Ahmedabad.

As for the legal cover to the operation and maintenance stage of Ahmedabad Metro, it is high time to go in for a comprehensive legislation which will cater to both construction as well as operation and maintenance stages of Metro Railways in all million plus cities. After that Act is enacted, the existing Acts, namely, Metro Railways (Construction of Works) Act, 1978 and Delhi Metro (Operation and Maintenance) Act, 2002 and the Calcutta Metro Railway (Operation and Maintenance) Temporary Provisions Act, 1985 can be repealed. The comprehensive legislation should, inter-alia, contain provisions for the following:

- Functions and powers of the organisation to be entrusted with the tasks of implementing a metro system and its subsequent operation and maintenance. This organisation should be conferred adequate powers to enable it to expeditiously implement the metro system and later to operate and maintain it without any problem.
- Acquisition of land for construction of a metro railway, including acquisition of rights to use underground space below privately owned buildings for laying a metro line.
- Safety organization for certifying safety of a metro line before it is opened for public carriage of passengers. This organization should also be entrusted with the role of enquiring into the causes of accidents involving metro trains and suggesting remedial measures for avoiding recurrence of such accidents.
- Statutory authority for deciding the compensation payable for losses, injuries, casualties, etc. arising out of accidents involving metro trains.
- Penalty for offences committed in metro trains or metro premises.

A draft Metro Act covering all aspects has been submitted by DMRC to MoUD for approval and further parliamentary legislation. Government of Gujarat may pursue the same.

12.11 CONCESSIONS FROM GOVERNMENT

Metro rail projects need very heavy investment. Loans have invariably to be taken to fund a part of the capital cost of the projects. These projects yield low financial internal rate of return though their economic internal rate of return is very high. With reasonable fair level, servicing of these loans often pose problems. To make the project financially viable, therefore, the fares need to be substantially increased to socially un-acceptable levels. This results in the ridership coming down significantly, as it is sensitive to increases in the fare level. Thus the very objective of constructing the metro rail system to provide an affordable mode of mass travel for public is defeated. It, therefore, becomes necessary to keep the initial capital cost of a metro project as low as possible so that the fare level of the metro system can be kept at reasonable level.

Experience of Delhi Metro project has shown that the taxes and duties constitute about 16 – 18% of the project cost. Following are the taxes and duties, which have to be borne by a metro project:

- Custom Duty on all imported rolling stock and other equipment needed for the project.
- Excise Duty on all indigenously manufactured rolling stock and other indigenously finished goods required for the project.

- Sales Tax on all purchases made for implementation of the project whether directly by the project implementation authority or by the contractors executing the project.
- Sales Tax on works contracts to be executed for the implementation of the - project.
- Tax on electricity required for operation and maintenance of the metro system.
- Municipal Taxes.

In the case of Delhi Metro project, the Union Government has granted exemption from payment of Custom Duty and Excise Duty while the Delhi Government has agreed to give exemption from payment of Sales Tax and Sales Tax on works contracts. Delhi Metro Rail Corporation is also pursuing with the Government for exemption from tax on electricity being consumed by Delhi Metro for its operation and maintenance.

It is recommended that for Ahmedabad Metro similar exemptions from taxes and duties be granted by the Central Government/Gujarat Government for Ahmedabad Metro. In this connection it may be mentioned that the Central Government has been encouraging infrastructure projects in the country through fiscal and non-fiscal concessions. Cities have emerged as the engines of growth and mass transport systems today are one of the most important pre-requisites for the balanced growth of the city. The Government can demonstrate the importance it attaches to this sector by granting the above concessions which would not only help reduce the initial cost of the project so that Ahmedabad Metro remains commercially viable during its operation phase but also send strong signals to the effect that it is committed to a safer and pollution free city. Moreover, public transport is employment-friendly and favours social balance in a sustainable way since it allows access to jobs and services to all.

Union Finance Minister in his budget speech for 2005-06 has bestowed status of mega city to Ahmedabad and his

12.12 NEED FOR DEDICATED FUND FOR METRO PROJECTS

Metro Rail projects, being capital intensive projects, have to be funded jointly by the Central Government and the State Government. In order to facilitate funding of these projects, the Central Government should set up a non-lapsable 'National Metro Transport Fund' for financing its share of metro rail projects. The 10th Plan document has also recommended creation of such a Fund with an initial seed money contribution of Rs.3,000 crores by the Central Government, with another contribution of Rs.3,000 crores to be raised during the 10th Plan period through dedicated taxes. This Fund should be utilized to meet the Central Government's share towards equity contribution in the Special Purpose Vehicles to be set up to implement the metro rail projects for various

cities. The Central Government may consider imposing of surcharge on petrol, diesel and CNG to raise resources for this Fund.

To enable the State Governments to provide their share of equity in the Special Purpose Vehicles set up for such projects, it would be necessary to constitute a Special Metro Fund at the State Government level also. The State Governments should resort to imposition of dedicated levies for raising resources for these Funds. Following dedicated levies may be considered by the State Governments for this purpose:

- Additional cess on the tax levies for registration of road vehicles.
- A Surcharge on fuel (petrol, diesel and CNG).

The above two levies would also assist to discourage the use of personalised vehicles and encourage the use of public transport, which would not only reduce the pollution level in the city but also reduce traffic congestion on the road.

- Metro Tax @ 2% on pay rolls of all establishments having more than 100 employees. Such cess is in existence in a number of Western countries for raising resources for metro rail. The employer's benefit a good deal by good Metro System.
- Surcharge @ 10% on luxury tax on the earning of all Star Hotels. At present level, the luxury tax is 10%. The surcharge will raise the level to only 11%. Chinese cities have adopted this scheme.

12.13 Security Arrangement

Law and order within premises of Ahmedabad Metro (North-South Corridor, East-West Corridor of phase – I and other additional Corridor(s) to be added in future) should be the responsibility of the State Police. Security of the assets of Ahmedabad Metro should be the responsibility of the Metro Administration. For this purpose, services of private security agencies should be hired. In these arrangement there will be no need for RPF personnel. A similar arrangement was adopted on Delhi Metro and has proven highly successful.