

CHAPTER 13 CONCLUSIONS

- 13.1 The Government of Gujrat is contemplating to take up the implementation of Ahmedabad Metro rail project in Ahmedabad and Gandhi Nagar the capital of Gujrat.
- 13.2 In full system of Ahmedabad Metro, the total network of 99.65Km with four lines has been recommended for implementation with two phases in horizon year of 2035.
- 13.3 The corridors presently under consideration are from Ahmedabad - Thaltej and APMC/Vasna – Akshardham of phase – I for a total route length of 43.55 km.
- 13.4 Metro rail systems are superior to buses because they provide much higher carrying capacity, require only 1/5th of the energy per passenger km compared to road-based systems, cause no air pollution, occupy no road space if underground and only about 2 metre width of the road if elevated. A metro system can carry the same amount of traffic as 7 lanes of bus traffic or 25 lanes of private motor cars and is more reliable, comfortable, safer than road-based systems and reduce journey time by anything between 50% and 75% depending on the road conditions. In view of this position, construction of Ahmedabad Metro should not be delayed. Any further delay in taking up the project would escalate its cost and impose avoidable heavy price for delaying a decision.
- 13.5 Experience of implementing Delhi Metro project has shown that a Special Purpose Vehicle (SPV), vested with adequate powers, is an effective organisational arrangement to implement and subsequently operate and maintain a metro rail project. An SPV should, therefore, be set up for Ahmedabad Metro and registered under the Companies Act, 1956. This SPV should be patterned on the lines of Delhi Metro Rail Corporation Ltd. (DMRC), with equal Equity participation by the State and the Central Governments and may be named as 'Ahmedabad Metro Rail Corporation Ltd.' (AMRC) or any other name that State Government decide. It will have equal number of Directors on its Board from these two Governments. While the Managing Director of AMRC should be the nominee of the State Government, its Chairman should be a nominee of the Central Government to ensure full involvement and support of the Central Government in the project. 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 to enable him to take all decisions in day to day matters.

- 13.6 For the successful implementation of Ahmedabad Metro project, it is essential that the Managing Director of AMRC should be very carefully chosen. He should be a technocrat of proven track record and impeccable integrity and should be preferably with a railway background since metro projects are with rail-based complex technology. A metro rail background with experience in underground and elevated construction would be most desirable. If the project is to be completed as scheduled and without any time or cost over-run, it would be necessary to allow the Managing Director to function without any bureaucratic or political interference. For ensuring accountability the tenure of the MD should be at least 5 years.
- 13.7 On receipt of the Detailed Project Report, following advance action would need to be taken urgently for implementing the Ahmedabad Metro project:
- Approval and acceptance of the Detailed Project Report by the State Government of Gujrat and the Central Government and both Governments committing to the investment decision.
 - Signing of an MOU between State Government Gujrat and the Central Government for firming up arrangements for equity, interest free subordinate debt and other related items pertaining to this project.
 - Setting up of a Special Purpose Vehicle (AMRC) for implementing the project and posting of its Managing Director.
 - Providing legal cover for construction as well as operation and maintenance stages of the project.
 - The two Governments to jointly decide on the financing of the debt portion of the project and also to the time frame for completing the project.
- 13.8 An implementation plan for Ahmedabad Metro project has been discussed in Chapter 12 of this Report.
- 13.9 If the actions listed as above are taken promptly by the two Governments, it should be possible to start physical work on this project in the financial year 2005-06 itself.
- 13.10 Procurement of rolling stock is generally the most critical activity in metro commissioning. Energy efficient, light-weight and reliable rolling stock are required to be made available in time for starting integrated trials before commercial opening. Imported rolling stock is generally very expensive. M/s BEML, Bangalore have the required facilities and capability for

- indigenous manufacture of rolling stock on account of the transfer of technology that would take place during the manufacture of metro coaches for Delhi. However, BOT operator is free to bring Rolling Stock from anywhere as long as the specifications are met.
- 13.11 Ahmedabad Metro will be a State-of-the-art Metro. It will have 25 KV OHE traction system & Automatic train protection (ATP). Ticketing will be through Automatic Fare Collection system.
- 13.12 For successful implementation of any metro project, which by its very nature is highly technical and complex, huge in size and to be executed in difficult urban environments, there should be a strong will and commitment. The decision making process has to be fast and the implementing agency must have the required work culture, commitment to targets, commitments to safety, quality and cost consciousness. Any time overrun will have adverse consequences by way of serious cost overruns.
- 13.13 Metro projects are highly capital intensive. On account of the high costs involved and the need to maintain a fare structure within the affordable reach of ordinary citizens, metro projects are not ordinarily financially viable. But considering the overwhelming economic gains to the society and the fact that cities with a population of more than five million cannot just survive without an efficient metro system, we strongly recommend the Ahmedabad Metro system to be taken up for implementation in the financial year 2005-2006 itself.
- 13.13 Capital cost of Phase – I of Ahmedabad Metro rail project at June, 2004 prices has been estimated at Rs. 3588 crores includes the land cost of Rs. 52.20 crores. The FIRR & EIRR have been calculated taking project construction cost as Rs. 4295 Crores (Excluding land cost) and they are 4.64 % and 26.95 % respectively.
- 13.15 In case the project is implemented on BOT basis, than with Rs. 1500 crores generated from property development and another Rs. 1500 crores as upfront grant, the return to the concessionaire is 14.32% on his investment.
- 13.15 This DPR is two corridors namely Ahmedabad to Thaltej and APMC/Vasna to Akshardham of Ahmedabad metro and will be implemented in Phase – I.